Toray 3960 T1100GC 24K 71E Unidirectional Prepreg at 192 gsm & 33.5% RC Qualification Material Property Data Report

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1. Introduction

1.1 Scope

The test methods and results described in this document are intended to provide basic composite properties essential to most methods of analysis and are consistent with CMH-17-1H—Composite Materials Handbook for Polymer Matrix Composites. This report contains material property data of common usefulness to wide range of projects. The lamina and laminate material property data have been generated with NCAMP oversight in accordance with NSP 100 NCAMP Standard Operating Procedures; the test panels and test specimens have been inspected by NCAMP Authorized Inspection Representatives (AIR) and the testing has been witnessed by NCAMP Authorized Engineering Representatives (AER). However, the data may not fulfill all the needs of any specific company's program; specific properties, environments, laminate architecture, and loading situations may require additional testing.

The use of NCAMP material and process specifications do not guarantee material or structural performance. Material users should be actively involved in evaluating material performance and quality including, but not limited to, performing regular purchaser quality control tests, performing periodic equivalency/additional testing, participating in material change management activities, conducting statistical process control, and conducting regular supplier audits.

The applicability of NCAMP material property data, material allowables, and specifications must be evaluated on case-by-case basis by aircraft companies and certifying agencies. NCAMP assumes no liability whatsoever, expressed or implied, related to the use of the material property data, material allowables, and specifications.

This report contains material property data only. Statistical analysis of the data including the calculations of A-basis and B-basis values is given in a separate report Toray 3960 T1100GC 24K 71E Unidirectional Prepreg at 192 gsm & 33.5% RC Qualification Statistical Analysis Report NCP-RP-2024-004 Revision A. The qualification material was procured to NCAMP Material Specification NMS 397/1 Form 1 Revision A dated March 3, 2025, which contains specification limits that are derived from guidelines in DOT/FAA/AR-03/19. The qualification test panels were fabricated in accordance with NCAMP Process Specification NPS 83961 Revision A dated September 9, 2020 using “C” baseline Cure Cycle. The NCAMP Test Plan NTP 3961Q1 Revision B was used for this qualification program.

Part fabricators that wish to utilize the material property data, allowables, and specifications may be able to do so by demonstrating the capability to reproduce the original material properties; a process known as equivalency. More information about this equivalency process including the test statistics and its limitations can be found in Section 6 of DOT/FAA/AR-03/19 and Section 8.4.1 of CMH-17-1H. The applicability of equivalency process must be evaluated on program-by-program basis by the applicant and certifying agency. The applicant and certifying agency must agree that the

equivalency test plan along with the equivalency process described in Section 6 of DOT/FAA/AR-03/19 and Section 8.4.1 of CMH-17-1H are adequate for the given program.

Aircraft companies should not use the data published in this report without specifying NCAMP Material Specification NMS 397/1 Form 1. NMS 397/1 Form 1 may have additional requirements that are listed in its prepreg process control document (PCD), fiber specification, fiber PCD, and other raw material specifications and PCDs which impose essential quality controls on the raw materials and raw material manufacturing equipment and processes. *Aircraft companies and certifying agencies should assume that the material property data published in this report is not applicable when the material is not procured to NMS 397/1 Form 1.* NMS 397/1 Form 1 is a free, publicly available, nonproprietary aerospace industry material specification.

The data in this report is intended for general distribution to the public, either freely or at a price that does not exceed the cost of reproduction (e.g. printing) and distribution (e.g. postage).

1.2 Symbols

ν_{12}^{t}	major Poisson's ratio, tension
$\mu\varepsilon$	micro-strain
E_1^{c}	compressive modulus, longitudinal / warp direction
E_1^{t}	tensile modulus, longitudinal / warp direction
E_2^{c}	compressive modulus, transverse / fill direction
E_2^{t}	tensile modulus, transverse / fill direction
F_1^{cu}	ultimate compressive strength, longitudinal / warp direction
F_1^{tu}	ultimate tensile strength, longitudinal / warp direction
F_2^{cu}	ultimate compressive strength, transverse / fill direction
F_2^{tu}	ultimate tensile strength, transverse / fill direction
ν_{12}^{c}	major Poisson's Ratio, compression
ν_{21}^{c}	minor Poisson's Ratio, compression
F_{12}^{su}	in-plane shear ultimate peak strength
F_{12}^{smax}	in-plane shear peak strength before 5% strain
$F_{12}^{s5\% \text{ strain}}$	in-plane shear strength at 5% strain
$F_{12}^{s0.2\%}$	in-plane shear strength at 0.2% offset
G_{12}^{s}	in-plane shear modulus
α_{22}	Y direction
α_{33}	Z direction

Superscripts

c	compression
cu	compression ultimate
s	shear
su	shear ultimate
t	tension
tu	tension ultimate

Subscripts

1	axis; longitudinal / warp direction (parallel to warp direction of reinforcement)
2	axis; transverse / fill direction (parallel to fill direction of reinforcement)
12	in-plane

Acronyms and Definitions

ASTM	American Society for Testing and Materials
A – Basis	95% lower confidence limit on the first population percentile
B – Basis	95% lower confidence limit on the tenth population percentile
CBS	curved beam strength
CV	coefficient of variation
CTA	cold temperature ambient
CTE	coefficient of thermal expansion
CPT	cured ply thickness
DMA	dynamic mechanical analysis
ETA	elevated temperature ambient
ETW	elevated temperature wet
Gr/Ep	graphite/epoxy
ILT	interlaminar tension
norm	normalized
N/A	not applicable
RTA	room temperature ambient
SACMA	Suppliers of Advanced Composite Materials Association
SBS	short beam strength
SRM	SACMA Recommended Method
TMA	thermomechanical analysis
Tply	thickness divided by the number of plies provides the thickness average per specimen
wet	specimen with an “equilibrium” moisture content
Tg	glass transition temperature
T, RH	temperature, relative humidity
TMA	thermomechanical analysis

1.3 Specimen Naming Format

All panels and specimens must be uniquely identified by a 10 code reference system, cross referenced with descriptive identification information as follows:

Test Plan Document Number – Prepregger ID – Material Code – Fabricator ID – Intended Test Type – Batch ID – Cure Cycle Run ID – Test Panel ID – Test Condition – Specimen Number.

For example:

NTP3961Q1-TC-T01-TC-LT-A-C1-1-RTA-3									
Test Plan Document Number	Prepregger ID	Material Code	Fabricator ID	Intended Test Type	Prepreg Batch ID	Cure Cycle Run-ID	Test Panel ID	Test Condition	Specimen Number

The testing lab may assign a separate identification code but must reference and maintain traceability the 10 code reference system and uniquely identify the panels and specimens.

Panels to be manufactured are listed in Appendix 2 of test plan NTP 3961Q1 and will follow the same I.D. above, inherently omitting the actual test type, test condition and specimen number. The above parameters can have the following values:

Prepregger ID
Toray Composite Materials America: TC

Material Code	Material Name
T01	Toray 3960 T1100GC 24K 71E Unidirectional Prepreg

Fabricator ID (Company that layup, bag, and cure the test panels)
Toray Composite Materials America: TC
Bell Textron, Inc.: BT

Intended and Actual Test Types
DSC: Differential Scanning Calorimetry
CTE: Coefficient of Thermal Expansion
DMA: Dynamic Mechanical Analysis
TGA: Thermogravimetric Analysis
LT: Longitudinal Tension
TT: Transverse Tension
LC: Longitudinal Compression
TC: Transverse Compression
IPST: In Plane Shear Tension
IPSV: In Plane Shear V-notch
SBS: Short Beam Strength
UNT1, UNT2...: Un-notched Tension Layup 1, Layup 2, etc.
UNC0, UNC1...: Un-notched Compression Layup 0, Layup 1, etc.
OHT1, OHT2...: Open Hole Tension Layup 1, Layup 2, etc.
OHC1, OHC2...: Open Hole Compression Layup 1 etc.
FHT1, FHT2…: Filled Hole Tension Layup 1, Layup 2 etc.
FHC1, FHC2…: Filled Hole Compression Layup 1, Layup 2 etc.
SSB1, SSB2…: Single Shear Pin Bearing Layup 1, Layup 2…..etc.
SBS1: Short Beam Strength Layup 1
CAI1A: Compression After Impact Layup 1, impact energy 500 in.lb/in
CAI1B: Compression After Impact Layup 1, impact energy 1000 in.lb/in
CAI1C: Compression After Impact Layup 1, impact energy 1500 in.lb/in
CAI1D: Compression After Impact Layup 1, impact energy 2000 in.lb/in
ILT: Interlaminar Tension
SBSFS: Short Beam Strength - Fluid Sensitivity
OHC1FR: Open Hole Compression Layup 1- Freezer and Out Life Verification
OHT1FR: Open Hole Tension Layup 1 - Freezer and Out Life Verification
SBS1FR: Short Beam Strength Layup 1 - Freezer and Out Life Verification
UNC0FR: Un-notched Compression Layup 0 - Freezer and Out Life Verification
LTFR: Longitudinal Tension - Freezer and Out Life Verification

(Note that the layup numbers 1, 2 and 3 correspond to those designated as “quasi isotropic,” “soft” and “hard” respectively. In addition, the 0°/90° cross-plied laminates used for the unidirectional materials only are designated “Layup 0”).

Batch ID: A, B, C, D, E, F etc. (to be cross referenced with prepreg batch numbers as shown in Appendix 3 of test plan NTP 3961Q1)

Cure Cycle ID: C1, C2, C3, etc.: Cure Cycle Run 1, 2, 3, etc.

Note: Cure Cycle Run ID numbers 1, 2, 3, etc. in Appendix 2 of test plan NTP 3961Q1 are for reference only. Actual numbers may vary depending on the actual cure cycle runs.

Test Panel ID: 1,2,3,4,5,6,7,8,9,10,11….. etc. (restart from 1 for every Cure Cycle ID)

Test Condition: CTA, RTA, ETA, ETW, etc. (test conditions as defined in Section 1.5.5) FS11RT, FS12RT, FS13RT, etc. (fluid sensitivity test - see Table 5 of test plan NTP 3961Q1) 0/1, 0/5, 0/7, 0/10, etc. (Freezer and Out Life Verification – see Table 6b of test plan NTP 3961Q1) A, D, W (ambient dry, wet conditions for DMA)

Specimen Number: 1,2,3,4,5,6,7,8,9,10,11….. etc.

1.4 References

ASTM Standards

All testing was in accordance with nationally recognized standards, methods and procedures. Specific uncured Prepreg and resin testing, cured laminate physical testing, and mechanical property test methods applicable to the test program in this document include:

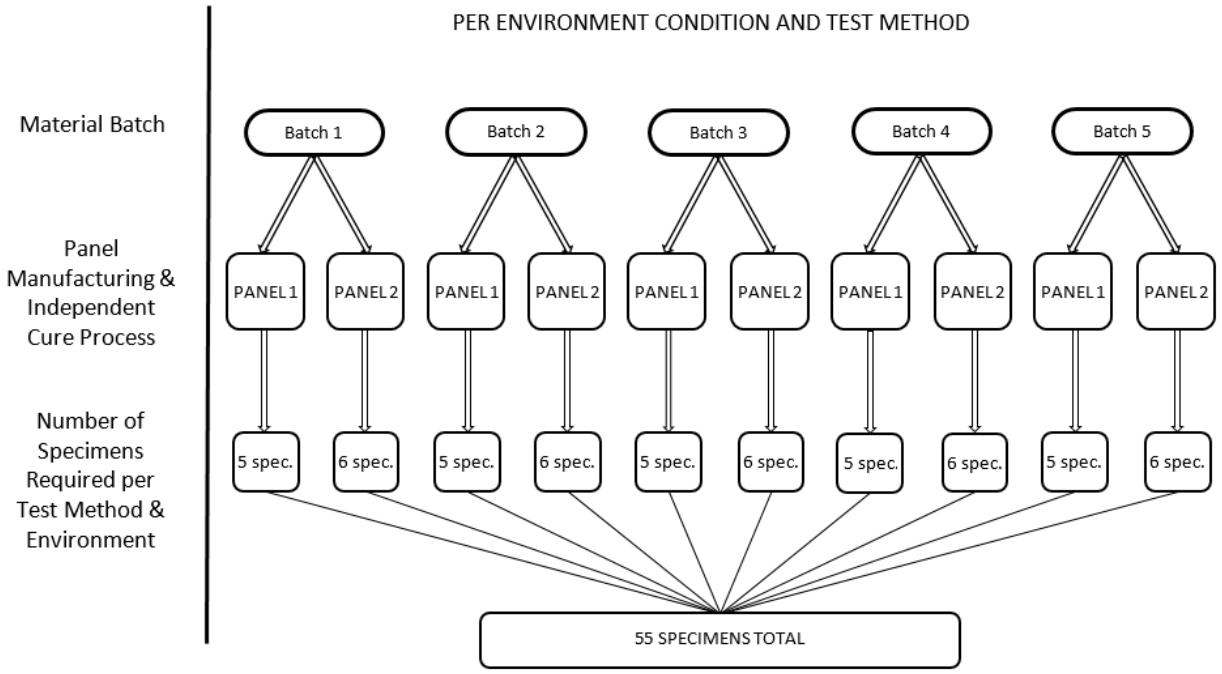
- ASTM D792-20 – Standard Test Methods for Density and Specific Gravity (Relative Density) of Plastics by Displacement
- ASTM D3171-15 – Standard Test Methods for Constituent Content of Composite Materials
- ASTM D3418-15 – Standard Test Method for Transition Temperatures and Enthalpies of Fusion and Crystallization of Polymers by Differential Scanning Calorimetry
- ASTM D3529 – Standard Test Methods for Constituent Content of Composite Prepreg
- ASTM D3530-97(2015) – Standard Test Method for Volatiles Content of Composite Material Prepreg
- ASTM D3531/D3531M-16 – Standard Test Method for Resin Flow of Carbon Fiber-Epoxy Prepreg
- ASTM D3532/D3532M-19 – Standard Test Method for Gel Time of Carbon Fiber-Epoxy Prepreg
- ASTM E168-16 – Standard Practices for General Techniques of Infrared Quantitative Analysis
- ASTM E831-19 – Standard Test Method for Linear Thermal Expansion of Solid Materials by Thermomechanical Analysis
- ASTM E1252-98(2013)e1 – Standard Practice for General Techniques for Obtaining Infrared Spectra for Qualitative Analysis
- ASTM E2580-17 – Standard Practice for Ultrasonic Testing of Flat Panel Composites and Sandwich Core Materials Used in Aerospace Applications
- ASTM D7028-07(2015) – Standard Test Method for Glass Transition Temperature (DMA Tg) of Polymer Matrix Composites by Dynamic Mechanical Analysis (DMA)
- ASTM D2344/D2344M-16 – Standard Test Method for Short-Beam Strength of Polymer Matrix Composite Materials and Their Laminates
- ASTM D3039/D3039M-17 – Standard Test Method for Tensile Properties of Polymer Matrix Composite Materials

- ASTM D3518/D3518M-18 – Standard Test Method for In-Plane Shear Response of Polymer Matrix Composite Materials by Tensile Test of a ± 45º Laminate In-Plane Shear Strength and Modulus
- ASTM D5379/D5379M-19 – Standard Test Method for Shear Properties of Composite Materials by the V-Notched Beam Method
- ASTM D5766/D5766M-11(2018) – Standard Test Method for Open Hole Tensile Strength of Polymer Matrix Composite Laminates
- ASTM D5961/D5961M-17 – Standard Test Method for Bearing Response of Polymer Matrix Composite Laminates
- ASTM D6415-06a(2013) – Standard Test Method for Measuring the Curved Beam Strength of a Fiber-Reinforced Polymer-Matrix Composite
- ASTM D6484/D6484M-14 – Standard Test Method for Open-Hole Compressive Strength of Polymer Matrix Composite Laminates
- ASTM D6641/D6641M-16e1 – Standard Test Method for Determining the Compressive Properties of Polymer Matrix Composite Laminates Using a Combined Loading Compression (CLC) Test Fixture
- ASTM D6742/D6742M-17 – Standard Practice for Filled-Hole Tension and Compression Testing of Polymer Matrix Composite Laminates
- ASTM D7136/D7136M-15 – Standard Test Method for Measuring the Damage Resistance of a Fiber-Reinforced Polymer Matrix Composite to a Drop-Weight Impact Event
- ASTM D7137/D7137M-17 – Standard Test Method for Compressive Residual Strength Properties of Damaged Polymer Matrix Composite Plates

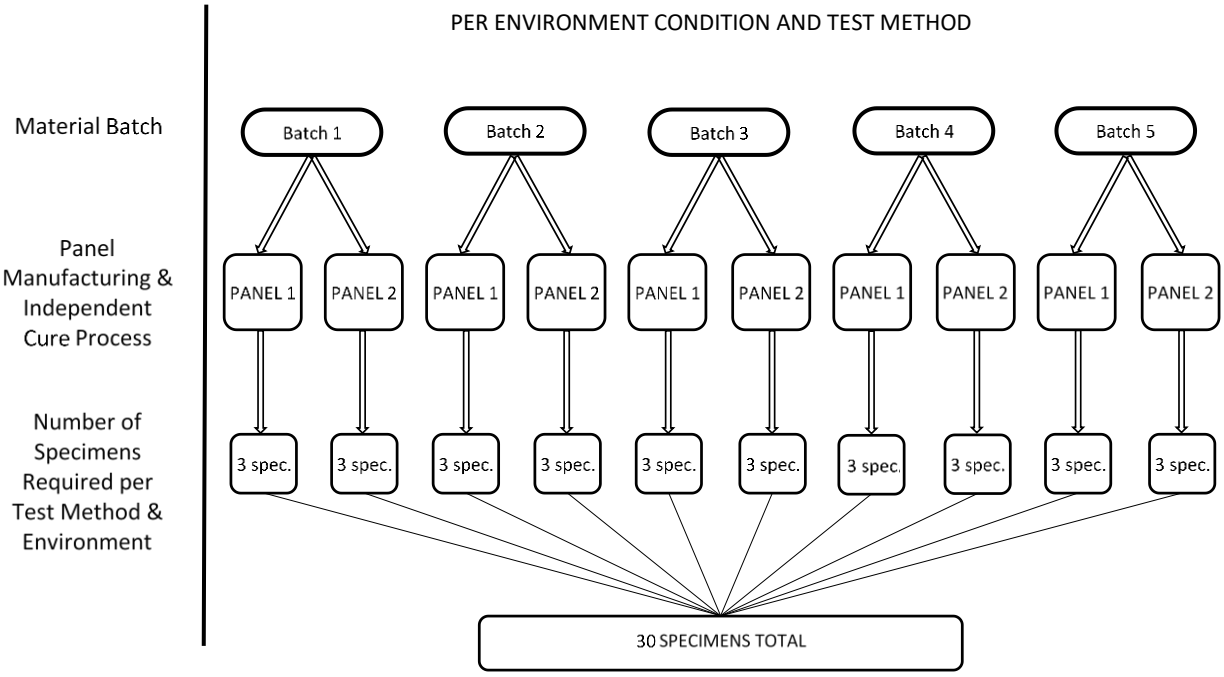
1.5 Methodology

1.5.1 Process Definition

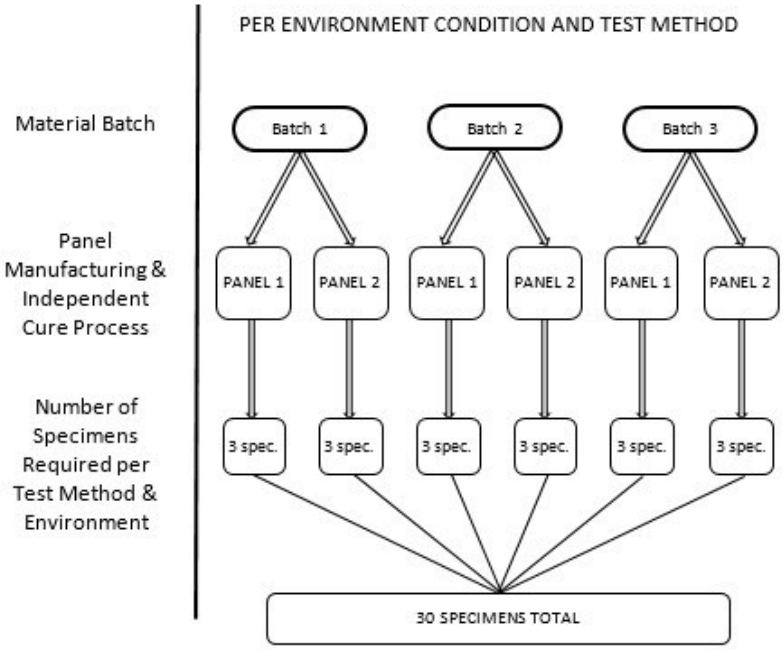
For each combination of test, batch and condition, the specimens were selected from minimum two separate panels cured separately as shown in Figure 1-1 unless otherwise specified.



Note: “5x2x5/6” terminology is used throughout this report



Note: “5x2x3” terminology is used throughout this report.



Note: “3x2x3” terminology is used throughout this report.

Figure 1-1: Specimen Selection Methodology

All panels were fabricated in accordance with NCAMP Process Specification NPS 83961 “C” baseline cure cycle.

In order to facilitate individual specimen trace ability, individual specimen numbering and/or skewed lines were written or drawn across each sub-panel as shown in Figure 1-2.

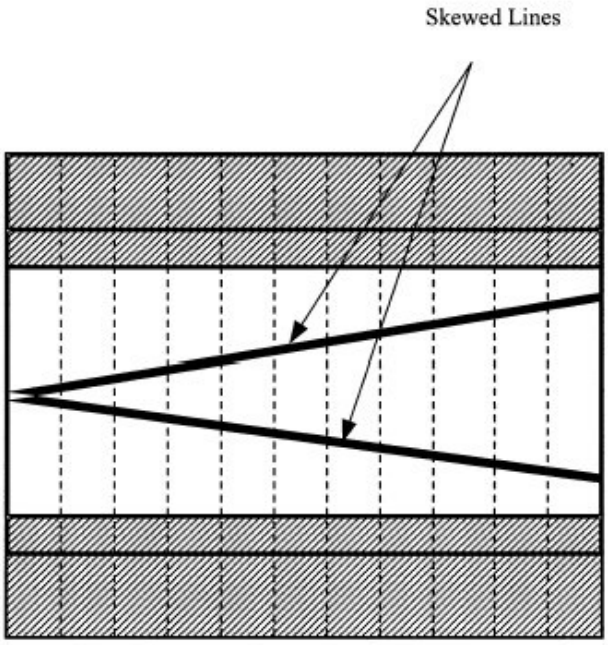


Figure 1-2: Specimen Traceability Line

1.5.2 Specimen & Testing Details

1.5.2.1 Tabbing

In-Plane Shear Tension coupons were not tabbed.

Longitudinal Tension coupons were tabbed with Toray FGF7781-07I cured glass fabric prepreg. The tabbing adhesive is variable, and listed in the table below.

Test Type	Condition	Batch ID				
		A	B	C	D	E
Compression	CTA, RTA	AF126-2	AF126-2	AF126-2	AF126-2	AF126-2
	ETA1, ETA2, ETW1, ETW2	FM300M	FM300M	FM300M	FM300M	FM300M
Tension	CTA, RTA	AF126-2	AF126-2	AF126-2	AF126-2	AF126-2
	ETA1, ETA2	FM300M	FM300M	FM300M	FM309	FM309
	ETW1	FM300M	FM300M and FM309*	FM300M and FM309*	FM309	FM309
	ETW2	FM300M	FM300M and FM309*	FM300M	FM309	FM309

*See individual testing tabs for details.

1.5.2.2 Specimen Dimensions & Test Configuration

For SBS specimens, a span of 4T was used where T was the average of each set of specimens.

Caul plate was used, but not for every test type, as the table below explains.

Test Method	Batch ID				
	A	B	C	D	E
All except ILT	Both*	Both*	No caul plate	No caul plate	No caul plate
ILT	Caul plate	Caul plate	Caul plate	Caul plate	Caul plate

*Caul plate was or was not used depending on test method (see panel conformity)

Unless otherwise specified, a tolerance of ±5°F applied to all temperature conditions specified in this document.

For filled-hole tension tests, the fasteners were installed to 85±5 in-lb. For filled-hole compression and bearing tests, the fasteners were installed to 30±5 in-lb. However, in some instances for filled-hole compression tests torque was reduced on an as needed basis when invalid failure modes were observed. As such, for filled-hole compression tests fasteners were torqued to 30-50 in-lb. Fasteners were installed after moisture conditioning.

For filled-hole and bearing tests, the hole diameter was 0.25 in -0.000 +0.003 in. The following fasteners were used:

Test	Fastener	Washers (bolt head)	Washers (collar)	Collar (nut)
SSB	NASM21297-04017	MS21206-C4	NAS1149C04(XX)R*	MS21043-4 MS21084L04
DSB	NASM21297-04010	MS21206-C4	NAS1149C04(XX)R*	MS21043-4 MS21084L04
FHT/FHC	NAS6304-4	MS21206-C4	NAS1149C04(XX)R*	MS21043-4

*"(XX)" is the code for washer thickness. 016, 032, and 063 thickness may be used.

1.5.2.3 Specimen Strain Device Used

Corresponding Gage ID can be obtained from Appendix 1 of NTP 3961Q1.

Uniaxial gages were used on:

All Transverse Tension (TT), Transverse Compression (TC), and Unnotched Compression 0 (UNC0) specimens.

All Unnotched Tension (UNT1, UNT2, UNT3) and Unnotched Compression (UNC1, UNC2, UNC3) specimens.

All Longitudinal Tension (LT) and Longitudinal Compression (LC) specimens for bending monitoring (opposite side of Biaxial gage).

All CAI specimens for bending monitoring.

Biaxial gages were used on:

All conditions of IPS and V-notch IPS specimens.

All conditions of Longitudinal Tension (LT) specimens.

All conditions of Longitudinal Compression (LC) specimens.

Uniaxial Extensometers were used on:

All of conditions of DSB and SSB specimens.

1.5.3 Test Matrix

The tables below show the lay-ups and test matrices used for lamina and laminate level testing.

Layup	Test Type Code	Test Type and Direction	Property	Number of Batches x Number of Panels x Number of Specimens					
				Test Temperature/Moisture Condition					
				CTA	RTA	ETA1	ETA2	ETW1	ETW2
$[0]_6$	LT	ASTM D3039 0° Tension (3)	Strength, Modulus and Poisson's Ratio	5x2x5/6	5x2x5/6	3x2x3	3x2x3	5x2x5/6	5x2x5/6
$[0]_{14}$	LC	ASTM D6641 0° Compression	Modulus and Poisson's Ratio	3x2x3	5x2x5/6 (1)	5x2x5/6	5x2x5/6	5x2x5/6	5x2x5/6
$[90]_{12}$	TT	ASTM D3039 90° Tension (3)	Strength and Modulus	3x2x3	5x2x5/6	5x2x5/6	5x2x5/6	5x2x5/6	5x2x5/6
$[90]_{14}$	TC	ASTM D6641 90° Compression (3)	Strength and Modulus	3x2x3	5x2x5/6 (1)	5x2x5/6	5x2x5/6	5x2x5/6	5x2x5/6
$[90/0/90]_5$	UNC0	ASTM D6641 Cross-Ply Compression (3)(4)	Strength and Modulus	3x2x3	5x2x5/6 (1)	5x2x5/6	5x2x5/6	5x2x5/6	5x2x5/6
$[45/-45]_{4S}$	IPST	ASTM D3518 In-Plane Shear Tension (2)(3)	Strength and Modulus	3x2x3	5x2x5/6	5x2x5/6	5x2x5/6	5x2x5/6	5x2x5/6
$[0/90]_{5S}$	IPSV	ASTM D5379 In-Plane Shear V-notch	Strength and Modulus	3x2x3	5x2x5/6	5x2x5/6	5x2x5/6	5x2x5/6	5x2x5/6
$[0]_{14}$	SBS	ASTM D2344 Short Beam	Strength	3x2x3	5x2x5/6	5x2x5/6	5x2x5/6	5x2x5/6	5x2x5/6

Notes:

1. Back-to-back strain gages were used on the first two specimens. If no buckling was observed, the remaining modulus specimens required a strain gage on one side of the specimens only.
2. Gripped (tab) length is 1.5±0.5" on each end of the 10" long specimen and $1^{+0.5"}_{-0}$ on each end of the 7" long specimen.
3. At least two specimens were gaged to obtain full stress-strain curve to failure. An appropriate extensometer may have been used in place of the strain gage for the remaining tension specimens.
4. Derived the 0° lamina compressive strength $F^{cu}_{0^\circ plies}$ as follows:

$$F^{u}_{0^\circ plies} = BF\frac{P^f}{wh}$$

$$BF = \frac{E_1\left[V_0 E_2 + (1-V_0) E_1\right] - \left(\nu_{12} E_2\right)^2}{\left[V_0 E_1 + \left(1-V_0\right) E_2\right]\left[V_0 E_2 + (1-V_0) E_1\right] - \left(\nu_{12} E_2\right)^2}$$

Where BF = Back-out factor obtained using linear classical lamination theory
P^f = Peak load carried by the test specimen (usually at failure)
w = specimen gage width, mm [in.]
h = specimen gage thickness, mm [in.]
V_0 = fraction of 0° plies in the cross-ply laminate (1/2 for [0/90]ns and 1/3 for [90/0/90]n)
E_1 = axial tensile or compressive stiffness of 0° plies, from an average of all batches
E_2 = transverse tensile or compressive stiffness of 0° plies, from an average of all Batches
ν_{12} = major Poisson's ratio of 0° plies, from an average of all batches

Table 1-1: Lamina Level Test Matrix

Table 1-2 below summarizes the laminate level tests carried out. The layup angles 0º, 45º, -45º, and 90º refer to the orientation of the warp/longitudinal fiber direction. The laminate stacking sequences in this program are not specific to any design. Therefore, careful consideration should be given to the validity of properties derived from this program based on the design specific laminates in a structure to be certified.

Table 1-2 also emphasizes those properties and test condition combinations believed to constitute the worst case, which in general is cold dry for tension and hot wet for compression and other matrix dominated properties.

(%0º/%±45º/%90º) Actual Test Type	Test Type and Layup (1)	Property	Number of Batches x Number. of Panels x Number of Test Specimens			
			Test Temperature/Moisture Condition			
			CTA	RTA	ETW1	ETW2
(25/50/25 - QI) UNT1	ASTM D3039 Un-notched Tension [45/0/-45/90]2S	Strength & Modulus	5x2x3	5x2x3 (4)	5x2x3	5x2x3
(10/80/10) UNT2	ASTM D3039 Un-notched Tension [45/-45/90/45/-45/45/-45/0/45/-45]S	Strength & Modulus	5x2x3	5x2x3 (4)	5x2x3	5x2x3
(50/40/10) UNT3	ASTM D3039 Un-notched Tension [45/90/-45/0/0/45/0/0/-45/0]S	Strength & Modulus	5x2x3	5x2x3 (4)	5x2x3	5x2x3
(25/50/25 - QI) UNC1	ASTM D6641 Un-notched Compression [45/0/-45/90]2S	Strength & Modulus		5x2x3 (3)(4)	5x2x3	5x2x3
(10/80/10) UNC2	ASTM D6641 Un-notched Compression [45/-45/90/45/-45/45/-45/0/45/-45]S	Strength & Modulus		5x2x3 (3)(4)	5x2x3	5x2x3
(50/40/10) UNC3	ASTM D6641 Un-notched Compression [45/90/-45/0/0/45/0/0/-45/0]S	Strength & Modulus		5x2x3 (3)(4)	5x2x3	5x2x3
(25/50/25 - QI) SBS1	ASTM D2344 Short Beam [45/0/-45/90]3S (specimens are taken from CAI1 panels)	Strength		5x2x3	5x2x3	5x2x3
(25/50/25 - QI) OHT1	ASTM D5766 Open Hole Tension [45/0/-45/90]2S	Strength	5x2x3	5x2x3	5x2x3	5x2x3
(10/80/10) OHT2	ASTM D5766 Open Hole Tension [45/-45/90/45/-45/45/-45/0/45/-45]S	Strength	5x2x3	5x2x3	5x2x3	5x2x3
(50/40/10) OHT3	ASTM D5766 Open Hole Tension [45/90/-45/0/0/45/0/0/-45/0]S	Strength	5x2x3	5x2x3	5x2x3	5x2x3
(25/50/25 - QI) FHT1	ASTM D6742 Filled Hole Tension (2) [45/0/-45/90]2S	Strength	5x2x3	5x2x3	5x2x3	5x2x3
(10/80/10) FHT2	ASTM D6742 Filled Hole Tension (2) [45/-45/90/45/-45/45/-45/0/45/-45]S	Strength	5x2x3	5x2x3	5x2x3	5x2x3
(50/40/10) FHT3	ASTM D6742 Filled Hole Tension (2) [45/90/-45/0/0/45/0/0/-45/0]S	Strength	5x2x3	5x2x3	5x2x3	5x2x3
(25/50/25 - QI) OHC1	ASTM D6484 Open Hole Compression [45/0/-45/90]3S	Strength		5x2x3	5x2x3	5x2x3
(10/80/10) OHC2	ASTM D6484 Open Hole Compression [45/-45/90/45/-45/45/-45/0/45/-45]S	Strength		5x2x3	5x2x3	5x2x3
(50/40/10) OHC3	ASTM D6484 Open Hole Compression [45/90/-45/0/0/45/0/0/-45/0]S	Strength		5x2x3	5x2x3	5x2x3
(25/50/25 - QI) FHC1	ASTM D6742 Filled Hole Compression (2) [45/0/-45/90]3S	Strength		5x2x3	5x2x3	5x2x3
(10/80/10) FHC2	ASTM D6742 Filled Hole Compression (2) [45/-45/90/45/-45/45/-45/0/45/-45]S	Strength		5x2x3	5x2x3	5x2x3
(50/40/10) FHC3	ASTM D6742 Filled Hole Compression (2) [45/90/-45/0/0/45/0/0/-45/0]S	Strength		5x2x3	5x2x3	5x2x3
(25/50/25 - QI) SSB1	ASTM D5961 Proc. C Single Shear Bearing [45/0/-45/90]2S	Strength & Deformation		5x2x3	5x2x3	5x2x3
(10/80/10) SSB2	ASTM D5961 Proc. C Single Shear Bearing [45/-45/90/45/-45/45/-45/0/45/-45]S	Strength & Deformation		5x2x3	5x2x3	5x2x3
(50/40/10) SSB3	ASTM D5961 Proc. C Single Shear Bearing [45/90/-45/0/0/45/0/0/-45/0]S	Strength & Deformation		5x2x3	5x2x3	5x2x3
(25/50/25 - QI) DSB1	ASTM D5961 Proc. A Double Shear Bearing [45/0/-45/90]2S	Strength & Deformation		5x2x3	5x2x3	5x2x3
(10/80/10) DSB2	ASTM D5961 Proc. A Double Shear Bearing [45/-45/90/45/-45/45/-45/0/45/-45]S	Strength & Deformation		5x2x3	5x2x3	5x2x3
(50/40/10) DSB3	ASTM D5961 Proc. A Double Shear Bearing [45/90/-45/0/0/45/0/0/-45/0]S	Strength & Deformation		5x2x3	5x2x3	5x2x3
(100/0/0) ILT	ASTM D6415 Interlaminar Tension [0]22	Strength	1x1x6	5x2x3	5x2x3	5x2x3

(%0º/%±45º/%90º) Actual Test Type	Test Type and Layup (1)	Property	Number of Batches x Number. of Panels x Number of Test Specimens			
			Test Temperature/Moisture Condition			
			CTA	RTA	ETW1	ETW2
(25/50/25 - QI) CAI1A	ASTM D7136 & D7137 Compression After Impact (500 in.lb/in) (5) [45/0/-45/90]3S	Strength and Damage area		1x1x6		
(25/50/25 - QI) CAI1B	ASTM D7136 & D7137 Compression After Impact (1000 in.lb/in) (5) [45/0/-45/90]3S	Strength and Damage area		1x1x6		
(25/50/25 - QI) CAI1C	ASTM D7136 & D7137 Compression After Impact (1500 in.lb/in) (5) [45/0/-45/90]3S	Strength and Damage area		5x2x3		
(25/50/25 - QI) CAI1D	ASTM D7136 & D7137 Compression After Impact (2000 in.lb/in) (5) [45/0/-45/90]3S	Strength and Damage area		1x1x6		

Notes:
1. Refer to NTP 3961Q1 Appendix 1 for specimen geometry.
2. Refer to NTP 3961Q1 Section 2 for fastener callout.
3. Back-to-back strain gages used on the first two specimens. If no buckling was observed, the remaining modulus specimens required strain gage on one side of the specimens only.
4. At least two specimens were gaged to obtain full stress-strain curve to failure. An appropriate extensometer may have been used in place of the strain gage for the remaining tension specimens.
5. Back-to-back strain gages on two locations (a total of four strain gages) were used for monitoring purposes for all specimens. The undamaged specimen should be equivalent to the test specimens in terms of material, layup, and geometry Repeated once per set-up or with internal procedure to ensure parallelism.

Table 1-2: Laminate Level Test Matrix

1.5.4 Cured Laminate Physical Testing

The properties in Table 1-3 were determined for each panel used for test coupons with the exception of Tg by DMA which were conducted on one laminate per batch from each oven cure conducted where that batch is present. The tests were performed by Toray Composite Materials America, Inc. test laboratory under the supervision of NCAMP.

Property	**Condition/Method** (Note 1)	**Min Replicates**
Cured Ply Thickness	ASTM D3171-15	All data from mechanical test specimens
Laminate Density	ASTM D792-20	Per Note 5
Fiber Volume, % by Volume	ASTM D3171-15 (Note 2)	3 per panel
Resin Content, % by Weight	ASTM D3171-15 (Note 2)	3 per panel
Void Content, % by Volume	ASTM D3171-15	Per Note 5
Ultrasonic Through Transmission, C-Scan	ASTM E2580-17 (Note 3)	1 per panel

Glass Transition Temperature, Tg by DMA flexural loading (Note 8)	Dry and Wet – ASTM D7028-07 (2015)	6 Dry, 6 Wet (Note 4) per batch
Coefficient of Thermal Expansion (CTE) via TMA (α_{11}, α_{22}, α_{33})	ASTM E831-19 (-67 to 248°F)	Per Note 6
		Per Note 6
		Per Note 6
Coefficient of Moisture Expansion (CME) (β_{11}, β_{22}, β_{33})	Per Note 7	2 per β direction

Notes:

1. Where the applicable standard allows variations in specimen form or test method, the specific parameters used were specified in the test work instructions and reported in the final test report.
2. Verified that Method II was accurate by testing a minimum of 4 panels per batch by Method I, Procedure B. If the average fiber volume results of Method I and Method II were within 2%, Method II may be deemed accurate and the remaining panels may use Method II only. Otherwise, used Method I, Procedure B for all the panels.
3. Five MHz is preferred for solid laminates. Panels with anomaly were segregated. Microscopy images and void content may be taken from questionable areas. NCAMP was involved in the review of all C-scans.
4. Minimum total of 30 dry specimens and 30 wet specimens (minimum 3 specimens x 2 cure cycles per batch).
5. Test frequency same as fiber volume test.
6. 2 specimens per α direction per temperature range. Required on one batch only. Analysis was performed at the following ranges: -67 to 68°F, 68 to 158°F, and 158 to 248°F.
7. 10 measurements were taken per specimen using micrometer before and after humidity condition per Section 6.1 of test plan NTP 3961Q1. Specimen surfaces were ground, flat and parallel to ensure measurements accuracy.
8. DMA was tested with three calibration procedures:
   (1) Manufacturer recommended calibration i.e single point room temperature,
   (2) ASTM E1867 Method C calibration procedure using tin and indium with oscillating mode, (3) DOT/FAA/TC-15/28, The Development of the Dynamic Mechanical Analyzer Calibration and Testing Procedures:
   a. NIST standards
   b. Standards weight and thickness requirement
   c. Static force
   d. Equilibration of 50°C below transition (30°C for ASTM E1867)
   e. Signal for analysis displacement (storage modulus for E1867)
   f. Very specific requirements for the transition curve quality
   g. Verification requirements

   There were three sets of DMA data per each calibration procedure.

Table 1-3: Physical Testing Matrix

1.5.5 Environmental Conditioning

The following tests were performed by Toray Composite Materials America, Inc. test laboratory under the supervision of NCAMP.

CTA = -65±5°F, ambient
RTA = 70±10°F, room temperature ambient
ETA1 = 180±5°F, ambient
ETA2 = 250±5°F, ambient
ETW1 = 180±5°F, wet (equilibrium moisture content per section 1.5.5)
ETW2 = 250±5°F, wet (equilibrium moisture content per section 1.5.5)

Within each test method and test environment, the failure mode was evaluated immediately after each test by an NCAMP staff engineer or NCAMP AER. All tested specimens were digitally photographed after each test in order to pictorially document failure modes.

For ambient testing, specimens were tested as-fabricated and stored at ambient condition prior to testing.

For dry DMA testing, specimens were dried at 250°F±5°F for at least 24 hours. After drying, specimens were kept in a desiccator until mechanical testing. Alternatively, the specimens may have been left ambient laboratory condition for a maximum of 14 days until mechanical testing (no drying was required if specimens were tested within 14 days from the date they were cured). Ambient laboratory condition is defined as 70°F±10°F. Since moisture absorption and desorption rate for epoxy is very slow at ambient temperature, there was no requirement to maintain relative humidity levels.

For wet conditioning, specimens were conditioned to equilibrium at 160°F±5°F and 85% ± 5%. Effective moisture equilibrium is achieved when the average moisture content of the traveler specimen changes by less than 0.02% for two consecutive determinations which are 7 ±0.5 days apart and may be expressed by:

$$\frac{W_i - W_{i-1}}{W_b} < 0.0002$$

Where:

W_i = weight at current time
W_{i-1} = weight at previous time
W_b = baseline weight prior to conditioning

When representative specimens could not be measured to determine the moisture content (due to size, fastener and tab effects), traveler coupons of at least 1” by 1” by specimen thickness and weighing at least 15 grams were used to establish weight gain measurements. If the specimens or traveler coupons pass the criteria for two consecutive readings which are 7±0.5 days apart, the specimens were kept in the

environmental chamber for up to an additional 90 days or as agreed by NCAMP. Alternatively, the specimens may have been removed from the environmental chamber and placed in a sealed plastic bag along with a moist cotton towel for a maximum of 14 days until mechanical testing. Strain-gaged specimens were removed from the controlled environment for a maximum of 2 hours for application of gages in ambient laboratory conditions.

1.5.6 Non-ambient Testing

The chamber was of adequate size so that all test fixtures and load frame grips were contained within the chamber.

For elevated temperature testing, the temperature chamber, test fixture, and grips were preheated to the specified temperature. Each specimen was heated to the required test temperature as verified by a thermocouple in direct contact with and taped to the specimen gage section. In some cases when the gage section was relatively small, the thermocouple was attached to a representative specimen near the actual specimen in the test chamber, the representative specimen was assembled in an identical fixture (2nd fixture) that was soaked in the same manner as the (first) fixture that was used to test the actual specimen. This was performed for all specimens except for SBS, where a second fixture does not exist, but the specimen is very small and can be placed near the tested specimen and fixture. The heat-up time of the specimen did not exceed 5 minutes, unless otherwise specified in individual test summary sheets. The test started 2^{+1}_{-0} minutes after the specimen reached the test temperature. During the test, the temperature, as measured on the specimen, was within ±5°F of the required test temperature.

For subzero temperature testing, each specimen was cooled to the required test temperature as verified by a thermocouple in direct contact with and taped to the specimen gage section or attached to a representative specimen near the actual specimen. The representative specimen was in an identical fixture that was soaked in the same manner as the fixture that is used for the actual specimen. The test started 5^{+1}_{-0} minutes after the specimen reached the test temperature. During the test, the temperature, as measured on the specimen, was within ±5°F of the required test temperature.

For wet specimens, the moisture loss was determined by subjecting representative specimens to the same amount of time required to heat-up and fail the specimens. For filled-hole or bearing specimens, fasteners were removed prior to conducting moisture loss measurements. For tabbed specimens, representative coupons without tabs and having the same number of plies were used to conduct the moisture loss measurements. A minimum of one specimen or representative coupon was used to measure the moisture loss for every combination of test temperature and stacking sequence.

1.5.7 Fluid Sensitivity Screening

Table 1-4 lists the requirements for fluid sensitivity screening, which requires ASTM D2344 Short Beam Strength testing on $[0°]_{14}$ lamina level specimens subjected to the conditions indicated, six replicates per fluid and one cure cycle. Specimens were cleaned with a dry towel prior to the tests. In addition to short beam strength, load versus displacement curves were plotted to aid in the identification of matrix/resin softening. Since load versus displacement curves are influenced by test machine and fixture compliance, all the tests were performed with the identical machine and fixture, through a single setup. Experience suggests that for the vast majority of epoxy resins, water is the fluid with the most deleterious effect on properties. Should screening tests for fluid sensitivity indicate this to be the case, further testing of this type might be unnecessary since exposure to water moisture to equilibrium level is an inherent part of the multi batch allowables test program. However, users must evaluate the applicability of the exposure conditions and time on case-by-case basis. For example, the exposure condition for jet fuel may not fully represent the condition of integral fuel tanks.

Extended Contact:	**Exposure**	**Test Condition**	**Code**
100 Low Lead Aviation Fuel (ASTM D910)	90 days min. @ 70°F±10°F	70°F	FS11RT
	90 days min. @ 70°F±10°F	180°F	FS11ET
ASTM D1655 Jet A Fuel	90 days min. @ 70°F±10°F	70°F	FS12RT
	90 days min. @ 70°F±10°F	180°F	FS12ET
MIL-PRF-5606 Hydraulic Oil	90 days min. @ 70°F±10°F	70°F	FS13RT
	90 days min. @ 70°F±10°F	180°F	FS13ET
MIL-PRF-83282 Hydraulic Oil	90 days min. @ 70°F±10°F	70°F	FS14RT
	90 days min. @ 70°F±10°F	180°F	FS14ET
MIL-PRF-7808 Engine Oil	90 days min. @ 70°F±10°F	70°F	FS15RT
	90 days min. @ 70°F±10°F	180°F	FS15ET
MIL-PRF-23699, Class STD Engine Oil	90 days min. @ 70°F±10°F	70°F	FS16RT
	90 days min. @ 70°F±10°F	180°F	FS16ET
Salt Water (ASTM D1141 or equiv.)	90 days min. @ 70°F±10°F	70°F	FS17RT
	90 days min. @ 70°F±10°F	180°F	FS17ET
Skydrol LD-4 (SAE AS1241, Type IV, Class 1)	90 days min. @ 70°F±10°F	70°F	FS18RT
	90 days min. @ 70°F±10°F	180°F	FS18ET
50% Water with 50% Skydrol LD-4 (SAE AS1241, Type IV, Class 1)	90 days min. @ 70°F±10°F	70°F	FS19RT
	90 days min. @ 70°F±10°F	180°F	FS19ET
Short Duration Contact:			
MEK washing fluid. ASTM D740	90 minutes min. @ 70°F±10°F	70°F	FS21RT
	90 minutes min. @ 70°F±10°F	180°F	FS21ET
Polypropylene Glycol Deicer (Type I) SAE AMS 1424	90 minutes min. @ 70°F±10°F	70°F	FS22RT
	90 minutes min. @ 70°F±10°F	180°F	FS22ET
Isopropyl Alcohol Deicing Agent (TT-I-735)	48±4 hours @70°F±10°F	70°F	FS23RT
	48±4 hours @70°F±10°F	180°F	FS23ET
Control Tests:			
Distilled Water	90 days min. at 70°F±10°F	70°F	FS31RT
	90 days min. at 70°F±10°F	180°F	FS31ET
Dry	Dry per section 1.5.5 (1)	70°F	FS32RT
	Dry per section 1.5.5 (1)	180°F	FS32ET
85% Relative Humidity	Per section 1.5.5 (1)	70°F	FS33RT
	Per section 1.5.5 (1)	180°F	FS33ET

Notes:

1. Lamina testing (Table 1-1) data may be used to fulfill fluid sensitivity matrix when conditions are identical.

Table 1-4: Fluid Sensitivity Screening

1.5.8 Normalization Procedures

Most lamina level tension and compression strength and modulus properties, and all laminate level properties were normalized according to nominal cured ply thickness. Lamina level properties that were not normalized include 90º tensile strength and modulus (unidirectional only), 90º compressive strength and modulus (unidirectional only), in-plane shear strength and modulus, Poisson's ratio, SBS, and ILT. After normalizing, data scatter reduced or remained the same. If data scatter increased significantly after normalizing, the reason was investigated. Wherever properties are normalized, both measured and normalized data were reported.

For unidirectional materials the fiber areal weight cannot be measured in advance of impregnation, hence Method I of ASTM D3171, utilizing acid digestion, will be used to verify the CPT method in accordance with note (2) of Table 1-3.

The theoretical nominal cured ply thickness of 0.007200 inches has been used as the nominal cured ply thickness (CPT) for normalization purpose. The following normalization formula was used:

Normalized Value = Measured Value x Measured CPT / Nominal CPT

1.5.9 Inspection Verification

The 5-batch qualification panels have been fabricated according to the requirements of the test plan and conformed by an NCAMP AIR. The test specimens and test setup have also been conformed by an NCAMP AIR.

Testing was witnessed by NCAMP. Witnessing was delegated to an AER. Mechanical testing was carried out at Toray Composite Materials America Inc. test laboratory.

1.5.10 Material Pedigree Information

The PMC Data Collection Template includes the material pedigree information required, such as material and batch information, as well as panel fabrication record, environmental conditioning, test equipment, and test procedures.

2. Test Results

2.1 Lamina Level Test Summary

Prepreg Material: Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Material Specification: NMS 397/1 Form 1
Process Specification: NPS 83961 and NTP 3961Q1 Rev B
Fabric: T1100G-24000-71E **Resin:** 3960

Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg Lamina Properties Summary

Tg(dry): 376.6 °F	**Tg(wet):** 332.2 °F	**Tg METHOD:** D7028/CMA TA-WI-0177
Tg(dry): 354.7 °F	**Tg(wet):** 308.4 °F	**Tg METHOD:** D7028/NIAR DOT/FAA/TC-15/28
Tg(dry): 355.4 °F	**Tg(wet):** 309.2 °F	**Tg METHOD:** D7028/ASTM E1867 Method C

Date of fiber manufacture	6/30/2018 - 10/31/2020	**Date of testing**	6/1/2020 - 6/2/2023
Date of resin manufacture	5/19/2020 - 2/19/2021	**Date of data submittal**	5/29/2025
Date of prepreg manufacture	5/30/2020 - 3/11/2021		
Date of composite manufacture	9/16/2020 - 5/28/2021		

LAMINA MECHANICAL PROPERTY SUMMARY
Data reported as: Normalized & Measured
(Normalized by CPT=0.007200 inch)

Properties	CTA (-65°F) Mean		RTA (70°F) Mean		ETA1 (180°F) Mean		ETA2 (250°F) Mean		ETW1 (180°F) Mean		ETW2 (250°F) Mean	
	Normalized	Measured	Normalized	Measured	Normalized	Measured	Normalized	Measured	Normalized	Measured	Normalized	Measured
F_1^{tu} [ksi]	548.0	544.7	547.7**	544.8**	554.8	544.2	541.2	533.5	535.0	533.5	489.7	487.3
E_1^t [Msi]	25.15	25.00	24.94	24.82	24.60	24.13	24.53	24.13	24.60	24.50	24.17	23.95
ν_{12}^t		0.3253		0.3428		0.3423		0.3385		0.3518		0.3701
F_2^{tu} [ksi]		9.186		9.890		9.048		7.728		5.303		3.623
E_2^t [Msi]		1.456		1.335		1.164		1.053		1.129		0.6963
F_1^{cu} [ksi] from UNC0*	313.9	307.0	298.9	293.6	284.6	279.0	272.7	268.0	273.8	269.6	199.5	196.5
E_1^c [Msi]	22.59	22.42	22.18	21.87	22.77	22.53	23.23	23.04	22.70	22.43	22.49	22.29
ν_{12}^c		0.3810		0.3751		0.3660		0.3815		0.3964		0.3795
F_2^{cu} [ksi]		50.42		37.53		28.23		23.03		23.68		16.03
E_2^c [Msi]		1.582		1.386		1.294		1.257		1.270		1.023
(0/90) UNC0 Strength [ksi]	119.1	116.6	111.9	110.1	105.6	103.6	100.6	98.98	101.4	99.93	72.49	71.45
(0/90) UNC0 Modulus [Msi]	8.383	8.208	8.272	8.137	8.640	8.481	8.809	8.665	8.611	8.487	8.557	8.434
(D3518) $F_{12}^{s0.2\%}$ [ksi]		11.54		8.176		6.012		4.980		5.618		2.873
(D3518) $F_{12}^{s5\%strain}$ [ksi]				13.01		9.487		7.279		8.080		4.617
(D3518) F_{12}^{su} [ksi]		16.83										
(D3518) G_{12}^s [Msi]		0.8764		0.7219		0.5424		0.4588		0.5127		0.2858
(D5379) $F_{12}^{s0.2\%}$ [ksi]		12.83		9.606		7.225		6.543		6.651		4.375
(D5379) $F_{12}^{s5\%strain}$ [ksi]		19.57		15.54		11.40		9.666		9.850		6.416
(D5379) G_{12}^s [Msi]		0.9156		0.7782		0.6172		0.5590		0.5747		0.3847
SBS [ksi]		22.45		16.47		12.26		9.015		10.78		6.853

*Derived from cross-ply using back-out factor.
**(-)18.4 ksi knockdown was applied to lower the specification limits as requested by material supplier. Adjusted values are used to calculate B-basis and should be used for Equivalency comparison.

Table 2-1: Lamina Summary Table

Prepreg Material: Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Material Specification: NMS 397/1 Form 1
Process Specification: NPS 83961 and NTP 3961Q1 Rev B
Fabric: T1100G-24000-71E **Resin:** 3960

Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg Laminate Properties Summary

Tg(dry): 376.6 °F **Tg(wet):** 332.2 °F **Tg METHOD:** D7028/CMA TA-WI-0177
Tg(dry): 354.7 °F **Tg(wet):** 308.4 °F **Tg METHOD:** D7028/NIAR DOT/FAA/TC-15/28
Tg(dry): 355.4 °F **Tg(wet):** 309.2 °F **Tg METHOD:** D7028/ASTM E1867 Method C

Date of fiber manufacture	6/30/2018 - 10/31/2020	**Date of testing**	6/1/2020 - 6/2/2023
Date of resin manufacture	5/19/2020 - 2/19/2021	**Date of data submittal**	5/29/2025
Date of prepreg manufacture	5/30/2020 - 3/11/2021		
Date of composite manufacture	9/16/2020 - 5/28/2021		

LAMINATE MECHANICAL PROPERTY SUMMARY
Data reported as: Normalized & Measured
(Normalized by CPT=0.007200 inch)

Properties	Layup	25/50/25 (Quasi)		10/80/10 (Soft)		50/40/10 (Hard)	
	Test Condition	Normalized	Measured	Normalized	Measured	Normalized	Measured
OHT Strength [ksi]	CTA (-65°F)	86.63	85.92	60.43	59.77	144.1	142.7
	RTA (70°F)	94.99	93.83	60.32	59.43	160.7	158.8
	ETW1 (180°F)	104.8	104.3	58.89	58.18	208.2	206.6
	ETW2 (250°F)	118.0	116.5	56.65	55.59	229.7	227.2
OHC Strength [ksi]	RTA (70°F)	48.79	48.17	41.43	40.98	67.66	66.70
	ETW1 (180°F)	43.11	42.68	33.95	33.48	61.36	60.66
	ETW2 (250°F)	35.72	35.24	26.92	26.59	50.88	50.22
UNT Strength [ksi]	CTA (-65°F)	158.9	157.5	91.09	90.15	278.1	275.2
	RTA (70°F)	177.2	175.0	85.55	84.33	297.6	293.7
	ETW1 (180°F)	169.3	166.7	78.51	77.49	301.4	297.2
	ETW2 (250°F)	155.5	153.1	70.91	69.87	290.9	287.8
UNT Modulus [Msi]	CTA (-65°F)	9.210	9.133	5.945	5.884	14.42	14.27
	RTA (70°F)	9.183	9.067	5.704	5.622	14.44	14.26
	ETW1 (180°F)	8.862	8.723	5.212	5.144	14.15	13.96
	ETW2 (250°F)	8.406	8.277	4.545	4.478	13.83	13.68
UNC Strength [ksi]	RTA (70°F)	114.3	112.8	75.67	74.80	174.8	172.3
	ETW1 (180°F)	94.16	92.89	61.74	60.85	144.7	142.9
	ETW2 (250°F)	68.77	68.00	44.28	43.50	99.26	97.54
UNC Modulus [Msi]	RTA (70°F)	8.217	8.098	5.051	4.992	12.63	12.46
	ETW1 (180°F)	8.363	8.247	4.802	4.733	12.89	12.73
	ETW2 (250°F)	8.089	7.997	4.451	4.373	12.67	12.50
FHT Strength [ksi]	CTA (-65°F)	93.64	92.77	66.35	65.68	146.0	144.6
	RTA (70°F)	99.65	98.71	63.81	62.98	153.8	152.1
	ETW1 (180°F)	106.6	105.1	58.72	58.08	173.4	172.0
	ETW2 (250°F)	109.8	108.2	50.57	49.89	197.2	195.2
FHC Strength [ksi]	RTA (70°F)	72.69	71.57	58.40	57.47	96.72	95.27
	ETW1 (180°F)	66.26	65.08	48.86	48.08	85.45	84.18
	ETW2 (250°F)	50.87	49.90	37.77	37.18	66.36	65.23

Table 2-2: Laminate Summary Data

Prepreg Material: Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Material Specification: NMS 397/1 Form 1
Process Specification: NPS 83961 and NTP 3961Q1 Rev B
Fabric: T1100G-24000-71E **Resin:** 3960

Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg Laminate Properties Summary

Tg(dry): 376.6 °F	**Tg(wet):** 332.2 °F	**Tg METHOD:** D7028/CMA TA-WI-0177
Tg(dry): 354.7 °F	**Tg(wet):** 308.4 °F	**Tg METHOD:** D7028/NIAR DOT/FAA/TC-15/28
Tg(dry): 355.4 °F	**Tg(wet):** 309.2 °F	**Tg METHOD:** D7028/ASTM E1867 Method C

Date of fiber manufacture	6/30/2018 - 10/31/2020	**Date of testing**	6/1/2020 - 6/2/2023
Date of resin manufacture	5/19/2020 - 2/19/2021	**Date of data submittal**	5/29/2025
Date of prepreg manufacture	5/30/2020 - 3/11/2021		
Date of composite manufacture	9/16/2020 - 5/28/2021		

LAMINATE MECHANICAL PROPERTY SUMMARY (CONTINUED)
Data reported as: Normalized & Measured
(Normalized by CPT=0.007200 inch)

Properties	Layup	25/50/25 (Quasi)		10/80/10 (Soft)		50/40/10 (Hard)	
	Test Condition	Normalized	Measured	Normalized	Measured	Normalized	Measured
SBS1 Strength [ksi]	RTA (70°F)		12.77				
	ETW1 (180°F)		8.204				
	ETW2 (250°F)		3.506				
DSB 2% Offset Strength [ksi]	RTA (70°F)	133.6	131.7	140.2	138.5	140.4	138.5
	ETW1 (180°F)	107.9	106.2	113.4	111.9	111.1	109.7
	ETW2 (250°F)	99.12	97.83	100.7	99.50	93.32	92.18
SSB 2% Offset Strength [ksi]	RTA (70°F)	124.1	122.6	124.2	122.4	124.8	123.1
	ETW1 (180°F)	108.0	106.6	109.2	107.5	108.4	107.3
	ETW2 (250°F)	97.49	96.19	98.52	97.01	92.76	91.50
SSB Initial Peak Strength [ksi]	RTA (70°F)	112.6	111.3	117.6	116.0	113.0	111.3
	ETW1 (180°F)	97.49	96.40	99.78	98.04	99.19	98.03
	ETW2 (250°F)	85.87	84.70	88.49	87.14	79.89	78.82
CBS* [lb]	CTA (-65°F)		665.0				
	RTA (70°F)		480.7				
	ETW1 (180°F)		226.8				
	ETW2 (250°F)		100.9				
ILT* [ksi]	CTA (-65°F)		19.50				
	RTA (70°F)		14.79				
	ETW1 (180°F)		6.915				
	ETW2 (250°F)		3.080				
CAI1A Strength [ksi]	RTA (70°F)	67.64	66.58				
CAI1B Strength [ksi]	RTA (70°F)	55.68	54.80				
CAI1C Strength [ksi]	RTA (70°F)	49.07	48.61				
CAI1D Strength [ksi]	RTA (70°F)	46.28	45.45				

***The actual layup for ILT is [0]22, (100/0/0).**

Table 2-3: Laminate Summary Data (Continued)

2.2 Individual Test Summaries

2.2.1 Longitudinal Tension Properties (LT)

Material: Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

Resin content: 33.68 % wt **Comp. density:** 1.576 g/cc
Fiber volume: 57.95 % vol
Ply count: 6

Test method: ASTM D3039-17 **Modulus calculation:** 1000-3000 microstrain

Normalized by: 0.007200 in. CPT

Tension, 1-axis
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
[0]6

		CTA		RTA		ETA1		ETA2		ETW1		ETW2	
Test Temperature [°F]		-65		70		180		250		180		250	
Moisture Conditioning		Ambient		Ambient		Ambient		Ambient		Equilibrium		Equilibrium	
Equilibrium at T, RH										160F,85%		160F,85%	
Source code: Prefixed by NTP3961Q1-TC-T01-		XX-LT-X-CX-X-CTA-X		XX-LT-X-CX-X-RTA-X		XX-LT-X-CX-X-ETA1-X		XX-LT-X-CX-X-ETA2-X		XX-LT-X-CX-X-ETW1-X		XX-LT-X-CX-X-ETW2-X	
		Normalized	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**
F_1^{tu} [ksi]*	**Mean**	548.0	544.7	547.7	544.8	554.8	544.2	541.2	533.5	535.0	533.5	489.7	487.3
	Minimum	493.9	480.5	499.2	487.0	510.5	511.4	501.9	483.1	491.2	488.4	410.9	408.5
	Maximum	593.5	588.5	594.4	606.3	579.4	583.8	597.5	590.0	576.3	581.7	558.3	562.0
	C.V.(%)	3.756	4.122	3.950	4.714	2.956	4.171	4.610	5.891	3.898	4.189	7.561	8.141
	No. Specimens	62		60		18		19		70		67	
	No. Prepreg Lots	5		5		3		3		5		5	
E_1^t [Msi]	**Mean**	25.15	25.00	24.94	24.82	24.60	24.13	24.53	24.13	24.60	24.50	24.17	23.95
	Minimum	24.04	22.86	23.42	22.85	24.00	22.65	22.91	22.38	23.58	23.50	22.38	21.48
	Maximum	27.22	27.82	27.00	27.54	25.16	25.41	27.10	26.42	26.80	26.03	26.05	26.48
	C.V.(%)	2.881	3.463	3.258	4.558	1.477	3.108	4.454	4.197	2.36	2.18	2.942	3.551
	No. Specimens	60		59		18		20		72		77	
	No. Prepreg Lots	5		5		3		3		5		5	
ν_{12}^t	**Mean**		0.3253		0.3428		0.3423		0.3385		0.3518		0.3701
	Minimum		0.2280		0.2850		0.2740		0.2490		0.2620		0.2710
	Maximum		0.5300		0.4340		0.4140		0.4230		0.4570		0.5050
	C.V.(%)		14.60		8.336		10.13		12.21		10.34		13.77
	No. Specimens	56		56		18		19		68		77	
	No. Prepreg Lots	5		5		3		3		5		5	

*For RTA only, (-)18.4 ksi knockdown was applied to lower the specification limits as requested by material supplier. Adjusted values are used to calculate B-basis and should be used for Equivalency comparison.

2.2.2 Transverse Tension Properties (TT)

Material: Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

Resin content: 33.66 % wt **Comp. density:** 1.575 g/cc
Fiber volume: 58.00 % vol
Ply count: 12

Test method: ASTM D3039-17 **Modulus calculation:** 1000-3000 microstrain

Normalized by: NA

Tension, 2-axis
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
[90]12

		CTA		RTA		ETA1		ETA2		ETW1		ETW2	
Test Temperature [°F]		-65		70		180		250		180		250	
Moisture Conditioning		Ambient		Ambient		Ambient		Ambient		Equilibrium		Equilibrium	
Equilibrium at T, RH										160F,85%		160F,85%	
Source code: Prefixed by NTP3961Q1-TC-T01-		XX-TT-X-CX-X-CTA-X		XX-TT-X-CX-X-RTA-X		XX-TT-X-CX-X-ETA1-X		XX-TT-X-CX-X-ETA2-X		XX-TT-X-CX-X-ETW1-X		XX-TT-X-CX-X-ETW2-X	
		Normalized	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**
	Mean		9.186		9.890		9.048		7.728		5.303		3.623
	Minimum		7.290		7.810		6.010		6.010		3.720		2.900
	Maximum		10.58		11.78		10.50		9.310		6.860		4.150
F_2^{tu} **[ksi]**	**C.V.(%)**		10.78		7.683		9.823		9.018		13.42		7.694
	No. Specimens	19		60		60		60		60		59	
	No. Prepreg Lots	3		5		5		5		5		5	
	Mean		1.456		1.335		1.164		1.053		1.129		0.6963
	Minimum		1.360		1.280		1.120		0.9700		1.080		0.6100
	Maximum		1.580		1.390		1.210		1.150		1.180		0.8200
E_2^t **[Msi]**	**C.V.(%)**		3.479		1.939		1.790		3.537		2.538		6.081
	No. Specimens	18		64		60		60		60		59	
	No. Prepreg Lots	3		5		5		5		5		5	

2.2.3 Longitudinal Compression Properties (LC)

Material: Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

Resin content: 33.84 % wt **Comp. density:** 1.575 g/cc
Fiber volume: 57.75 % vol
Ply count: 14

Test method: ASTM D6641-16e2 **Modulus calculation:** 1000-3000 microstrain

Normalized by: 0.007200 in. CPT

Compression, 1-axis
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
[0]14

		CTA		RTA		ETA1		ETA2		ETW1		ETW2	
Test Temperature [°F]		-65		70		180		250		180		250	
Moisture Conditioning		Ambient		Ambient		Ambient		Ambient		Equilibrium		Equilibrium	
Equilibrium at T, RH										160F,85%		160F,85%	
Source code: Prefixed by NTP3961Q1-TC-T01-		XX-LC-X-CX-X-CTA-X		XX-LC-X-CX-X-RTA-X		XX-LC-X-CX-X-ETA1-X		XX-LC-X-CX-X-ETA2-X		XX-LC-X-CX-X-ETW1-X		XX-LC-X-CX-X-ETW2-X	
		Normalized	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**
	Mean	22.59	22.42	22.18	21.87	22.77	22.53	23.23	23.04	22.70	22.43	22.49	22.29
	Minimum	21.92	21.79	21.26	20.67	21.51	20.82	21.21	21.35	21.69	21.43	20.58	20.22
	Maximum	23.55	23.02	23.55	23.10	24.45	23.99	25.72	25.50	24.02	23.59	25.26	24.62
E_1^c [Msi]	**C.V.(%)**	2.082	1.724	2.045	2.043	2.712	2.997	3.947	3.953	2.500	2.375	3.630	3.600
	No. Specimens	18		60		59		53		60		54	
	No. Prepreg Lots	3		5		5		5		5		5	
	Mean		0.3810		0.3751		0.3660		0.3815		0.3964		0.3795
	Minimum		0.2950		0.2380		0.1680		0.2790		0.2350		0.2160
	Maximum		0.6330		0.4770		0.4580		0.4630		0.5480		0.7390
ν_{12}^c	**C.V.(%)**		23.33		13.99		12.87		10.94		13.44		23.97
	No. Specimens	16		59		59		53		60		54	
	No. Prepreg Lots	3		5		5		5		5		5	

2.2.4 Longitudinal Compression (LC) Back-out Factor Properties

Material: Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

Compression, 1-axis, Back-out Factor
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
UNC0 Layup: [90/0/90]5

		CTA		RTA		ETA1		ETA2		ETW1		ETW2	
Test Temperature [°F]		-65		70		180		250		180		250	
Moisture Conditioning		Ambient		Ambient		Ambient		Ambient		Equilibrium		Equilibrium	
Equilibrium at T, RH										160F,85%		160F,85%	
Back-out Factor		2.633	2.636	2.666	2.670	2.694	2.697	2.708	2.710	2.698	2.701	2.750	2.752
		Normalized	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**
F_1^{cu} [ksi] from UNC0	**Mean**	313.9	307.0	298.9	293.6	284.6	279.0	272.7	268.0	273.8	269.6	199.5	196.5
	Minimum	291.7	286.5	260.4	257.0	256.1	250.1	239.4	232.7	249.9	244.5	152.7	150.6
	Maximum	340.3	334.7	319.7	317.2	304.6	296.9	299.9	296.2	302.5	299.7	242.0	241.5
	C.V.(%)	3.833	3.804	4.486	4.895	3.392	3.550	5.171	5.446	4.551	4.869	7.067	7.342
	No. Specimens	18		60		60		67		60		58	
	No. Prepreg Lots	3		5		5		5		5		5	

2.2.5 Transverse Compression Properties (TC)

Material: Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

Resin content: 33.69 % wt **Comp. density:** 1.575 g/cc
Fiber volume: 57.89 % vol
Ply count: 14

Test method: ASTM D6641-16e2 **Modulus calculation:** 1000-3000 microstrain

Normalized by: NA

Compression, 2-axis
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
[90]14

		CTA		RTA		ETA1		ETA2		ETW1		ETW2	
Test Temperature [°F]		-65		70		180		250		180		250	
Moisture Conditioning		Ambient		Ambient		Ambient		Ambient		Equilibrium		Equilibrium	
Equilibrium at T, RH										160F,85%		160F,85%	
Source code: Prefixed by NTP3961Q1-TC-T01-		XX-TC-X-CX-X-CTA-X		XX-TC-X-CX-X-RTA-X		XX-TC-X-CX-X-ETA1-X		XX-TC-X-CX-X-ETA2-X		XX-TC-X-CX-X-ETW1-X		XX-TC-X-CX-X-ETW2-X	
		Normalized	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**
	Mean		50.42		37.53		28.23		23.03		23.68		16.03
	Minimum		45.53		34.89		26.59		20.40		22.59		14.69
	Maximum		52.87		39.40		29.65		25.77		25.56		17.38
F_2^{cu} [ksi]	**C.V.(%)**		3.453		2.494		2.491		4.901		2.586		3.870
	No. Specimens		18		64		60		60		60		63
	No. Prepreg Lots		3		5		5		5		5		5
	Mean		1.582		1.386		1.294		1.257		1.270		1.023
	Minimum		1.510		1.340		1.250		1.170		1.190		0.9100
	Maximum		1.820		1.440		1.430		1.370		1.340		1.140
E_2^c [Msi]	**C.V.(%)**		4.223		1.528		2.844		4.067		2.652		4.261
	No. Specimens		18		57		61		61		60		67
	No. Prepreg Lots		3		5		5		5		5		5

2.2.6 “33/0/67” Unnotched Compression 0 Properties (UNC0)

Material: Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

Resin content: 34.11 % wt **Comp. density:** 1.570 g/cc
Fiber volume: 57.42 % vol
Ply count: 15

Test method: ASTM D6641-16e2 **Modulus calculation:** 1000-3000 microstrain

Normalized by: 0.007200 in. CPT

Unnotched Compression 0/90
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K
Unidirectional Prepreg
[90/0/90]5

		CTA		RTA		ETA1		ETA2		ETW1		ETW2	
Test Temperature [°F]		-65		70		180		250		180		250	
Moisture Conditioning		Ambient		Ambient		Ambient		Ambient		Equilibrium		Equilibrium	
Equilibrium at T, RH										160F,85%		160F,85%	
Source code: Prefixed by NTP3961Q1-TC-T01-		XX-UNC0-X-CX-X-CTA-X		XX-UNC0-X-CX-X-RTA-X		XX-UNC0-X-CX-X-ETA1-X		XX-UNC0-X-CX-X-ETA2-X		XX-UNC0-X-CX-X-ETW1-X		XX-UNC0-X-CX-X-ETW2-X	
		Normalized	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**
(0/90) UNC0 Strength [ksi]	**Mean**	119.1	116.6	111.9	110.1	105.6	103.6	100.6	98.98	101.4	99.93	72.49	71.45
	Minimum	110.7	108.8	97.52	96.41	94.96	92.83	88.33	85.92	92.49	90.62	55.48	54.77
	Maximum	129.1	127.1	119.7	119.0	113.0	110.2	110.7	109.4	112.0	111.1	87.93	87.81
	C.V.(%)	3.833	3.804	4.486	4.895	3.392	3.550	5.171	5.446	4.551	4.869	7.067	7.342
	No. Specimens	18		60		60		67		60		58	
	No. Prepreg Lots	3		5		5		5		5		5	
(0/90) UNC0 Modulus [Msi]	**Mean**	8.383	8.208	8.272	8.137	8.640	8.481	8.809	8.665	8.611	8.487	8.557	8.434
	Minimum	8.153	8.000	8.031	7.870	8.136	7.920	8.103	7.970	8.228	8.110	7.978	7.920
	Maximum	8.578	8.480	8.910	8.530	9.362	9.240	9.737	9.470	9.150	9.120	9.271	8.840
	C.V.(%)	1.584	1.584	1.993	1.882	2.992	3.228	4.483	4.321	2.393	2.181	2.909	2.232
	No. Specimens	18		60		59		59		60		59	
	No. Prepreg Lots	3		5		5		5		5		5	

2.2.7 In-Plane Shear Tension Properties (IPST)

In-Plane Shear Tension
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
[45/-45]4S

Material: Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

Resin content: 33.69 % wt **Comp. density:** 1.569 g/cc
Fiber volume: 57.88 % vol
Ply count: 16

Test method: ASTM D3518-18 **Modulus calculation:** 2000-6000 microstrain

Normalized by: NA

		CTA		RTA		ETA1		ETA2		ETW1		ETW2	
Test Temperature [°F]		-65		70		180		250		180		250	
Moisture Conditioning		Ambient		Ambient		Ambient		Ambient		Equilibrium		Equilibrium	
Equilibrium at T, RH										160F,85%		160F,85%	
Source code: Prefixed by NTP3961Q1-TC-T01-		XX-IPST-X-CX-X-CTA-X		XX-IPST-X-CX-X-RTA-X		XX-IPST-X-CX-X-ETA1-X		XX-IPST-X-CX-X-ETA2-X		XX-IPST-X-CX-X-ETW1-X		XX-IPST-X-CX-X-ETW2-X	
		Normalized	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**
	Mean		11.54		8.176		6.012		4.980		5.618		2.873
	Minimum		11.12		7.710		5.500		4.150		5.240		2.210
	Maximum		11.92		9.040		6.560		5.520		5.910		3.660
(D3518) $F_{12}^{s0.2\%}$ [ksi]	**C.V.(%)**		2.032		2.996		4.900		6.599		2.322		12.02
	No. Specimens	18		60		60		63		60		60	
	No. Prepreg Lots	3		5		5		5		5		5	
	Mean		16.83										
	Minimum		16.22										
	Maximum		17.46										
(D3518) F_{12}^{su} [ksi]	**C.V.(%)**		2.046										
	No. Specimens	18											
	No. Prepreg Lots	3											
	Mean				13.01		9.487		7.279		8.080		4.617
	Minimum				12.66		8.780		6.340		7.650		3.890
	Maximum				13.45		10.22		7.980		8.470		5.330
(D3518) $F_{12}^{s5\%strain}$ [ksi]	**C.V.(%)**				1.432		3.915		5.286		2.528		7.668
	No. Specimens			60		60		63		60		60	
	No. Prepreg Lots			5		5		5		5		5	
	Mean		0.8764		0.7219		0.5424		0.4588		0.5127		0.2858
	Minimum		0.8350		0.6570		0.4730		0.3970		0.4440		0.2100
	Maximum		0.9240		0.7610		0.5850		0.5330		0.5440		0.3990
(D3518) G_{12}^{s} [Msi]	**C.V.(%)**		2.346		2.320		4.672		5.345		3.460		16.48
	No. Specimens	18		60		60		63		60		60	
	No. Prepreg Lots	3		5		5		5		5		5	

2.2.8 In-Plane Shear V-notch Properties (IPSV)

Material: Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

Resin content: 33.73 % wt **Comp. density:** 1.572 g/cc
Fiber volume: 57.88 % vol
Ply count: 20

Test method: ASTM D5379-19 **Modulus calculation:** 2000-6000 microstrain

Normalized by: NA

In-Plane Shear V-Notched
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
[0/90]5S

		CTA		RTA		ETA1		ETA2		ETW1		ETW2	
Test Temperature [°F]		-65		70		180		250		180		250	
Moisture Conditioning		Ambient		Ambient		Ambient		Ambient		Equilibrium		Equilibrium	
Equilibrium at T, RH										160F,85%		160F,85%	
Source code: Prefixed by NTP3961Q1-TC-T01-		XX-IPSV-X-CX-X-CTA-X		XX-IPSV-X-CX-X-RTA-X		XX-IPSV-X-CX-X-ETA1-X		XX-IPSV-X-CX-X-ETA2-X		XX-IPSV-X-CX-X-ETW1-X		XX-IPSV-X-CX-X-ETW2-X	
		Normalized	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**
(IPS V-Notched) $F_{12}^{s0.2\%}$ [ksi]	**Mean**		12.83		9.606		7.225		6.543		6.651		4.375
	Minimum		11.63		9.180		6.630		6.220		6.180		3.550
	Maximum		13.63		10.38		7.880		6.880		7.200		5.310
	C.V.(%)		3.468		2.554		4.610		2.203		4.521		5.509
	No. Specimens	18		60		60		60		58		58	
	No. Prepreg Lots	3		5		5		5		5		5	
(IPS V-Notched) $F_{12}^{s5\%strain}$ [ksi]	**Mean**		19.57		15.54		11.40		9.666		9.850		6.416
	Minimum		17.94		15.16		10.71		9.300		8.910		5.960
	Maximum		20.34		16.08		12.13		10.06		10.53		7.110
	C.V.(%)		4.056		1.391		2.777		2.106		4.722		3.879
	No. Specimens	18		60		60		60		58		58	
	No. Prepreg Lots	3		5		5		5		5		5	
(IPS V-Notched) G_{12}^{s} [Msi]	**Mean**		0.9156		0.7782		0.6172		0.5590		0.5747		0.3847
	Minimum		0.8680		0.7410		0.5110		0.4900		0.5270		0.2890
	Maximum		1.022		0.8190		0.7820		0.6120		0.6070		0.4700
	C.V.(%)		5.034		2.109		5.225		4.375		3.329		6.922
	No. Specimens	18		60		60		60		58		58	
	No. Prepreg Lots	3		5		5		5		5		5	

2.2.9 Lamina Short-Beam Strength Properties (SBS)

Material: Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

Resin content: 33.65 % wt **Comp. density:** 1.575 g/cc
Fiber volume: 57.93 % vol
Ply count: 14

Test method: ASTM D2344-16

Normalized by: NA

Short-Beam Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
[0]14

		CTA		RTA		ETA1		ETA2		ETW1		ETW2	
Test Temperature [°F]		-65		70		180		250		180		250	
Moisture Conditioning		Ambient		Ambient		Ambient		Ambient		Equilibrium		Equilibrium	
Equilibrium at T, RH										160F,85%		160F,85%	
Source code: Prefixed by NTP3961Q1-TC-T01-		XX-SBS-X-CX-X-CTA-X		XX-SBS-X-CX-X-RTA-X		XX-SBS-X-CX-X-ETA1-X		XX-SBS-X-CX-X-ETA2-X		XX-SBS-X-CX-X-ETW1-X		XX-SBS-X-CX-X-ETW2-X	
		Normalized	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**
SBS [ksi]	**Mean**		22.45		16.47		12.26		9.015		10.78		6.853
	Minimum		21.42		15.52		11.70		8.440		9.780		6.140
	Maximum		23.63		17.28		12.97		9.530		11.42		7.500
	C.V.(%)		2.750		2.275		2.163		2.468		4.159		5.145
	No. Specimens	18		60		60		60		60		60	
	No. Prepreg Lots	3		5		5		5		5		5	

2.2.10 "25/50/25" Unnotched Tension 1 Properties (UNT1)

Material:	Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg		**Unnotched Tension 1** Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg [45/0/-45/90]2S
Resin content:	34.07 % wt	**Comp. density:** 1.569 g/cc	
Fiber volume:	57.48 % vol		
Ply count:	16		
Test method:	ASTM D3039-17	**Modulus calculation:** 1000-3000 microstrain	
Normalized by:	0.007200	in. CPT	

		CTA		RTA		ETW1		ETW2	
Test Temperature [°F]		-65		70		180		250	
Moisture Conditioning		Ambient		Ambient		Equilibrium		Equilibrium	
Equilibrium at T, RH						160F,85%		160F,85%	
Source code: Prefixed by NTP3961Q1-TC-T01-		XX-UNT1-X-CX-X-CTA-X		XX-UNT1-X-CX-X-RTA-X		XX-UNT1-X-CX-X-ETW1-X		XX-UNT1-X-CX-X-ETW2-X	
		Normalized	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**
	Mean	158.9	157.5	177.2	175.0	169.3	166.7	155.5	153.1
	Minimum	146.8	145.6	157.2	156.5	150.1	148.3	139.4	138.9
	Maximum	167.7	167.4	190.9	188.7	179.3	176.8	167.6	166.5
UNT1 Strength [ksi]	**C.V.(%)**	3.139	3.190	4.127	3.826	3.746	3.888	3.355	3.331
	No. Specimens	30		30		30		30	
	No. Prepreg Lots	5		5		5		5	
	Mean	9.210	9.133	9.183	9.067	8.862	8.723	8.406	8.277
	Minimum	8.493	8.420	8.947	8.750	8.659	8.390	7.961	7.910
	Maximum	9.657	9.600	10.74	10.57	9.142	9.110	8.898	8.650
UNT1 Modulus [Msi]	**C.V.(%)**	2.503	2.823	3.567	3.510	1.455	1.725	2.741	2.394
	No. Specimens	30		30		30		30	
	No. Prepreg Lots	5		5		5		5	

2.2.11 "10/80/10" Unnotched Tension 2 Properties (UNT2)

Material:	Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg		**Unnotched Tension 2** Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg [45/-45/90/45/-45/45/-45/0/45/-45]S
Resin content:	33.93 % wt	**Comp. density:** 1.573 g/cc	
Fiber volume:	57.66 % vol		
Ply count:	20		
Test method:	ASTM D3039-17	**Modulus calculation:** 1000-3000 microstrain	
Normalized by:	0.007200	in. CPT	

		CTA		RTA		ETW1		ETW2	
Test Temperature [°F]		-65		70		180		250	
Moisture Conditioning		Ambient		Ambient		Equilibrium		Equilibrium	
Equilibrium at T, RH						160F,85%		160F,85%	
Source code: Prefixed by NTP3961Q1-TC-T01-		XX-UNT2-X-CX-X-CTA-X		XX-UNT2-X-CX-X-RTA-X		XX-UNT2-X-CX-X-ETW1-X		XX-UNT2-X-CX-X-ETW2-X	
		Normalized	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**
	Mean	91.09	90.15	85.55	84.33	78.51	77.49	70.91	69.87
	Minimum	88.64	88.49	83.44	81.48	74.72	74.00	66.09	64.33
	Maximum	94.23	95.09	88.24	88.34	81.84	81.09	75.58	74.83
UNT2 Strength [ksi]	**C.V.(%)**	1.500	1.553	1.628	2.286	1.958	2.112	3.031	3.392
	No. Specimens	30		30		30		30	
	No. Prepreg Lots	5		5		5		5	
	Mean	5.945	5.884	5.704	5.622	5.212	5.144	4.545	4.478
	Minimum	5.604	5.490	5.541	5.440	4.953	4.880	4.335	4.260
	Maximum	6.184	6.240	5.898	5.760	5.329	5.310	4.934	4.830
UNT2 Modulus [Msi]	**C.V.(%)**	2.292	2.463	1.426	1.297	1.487	1.635	3.576	3.216
	No. Specimens	30		30		30		30	
	No. Prepreg Lots	5		5		5		5	

2.2.12 "50/40/10" Unnotched Tension 3 Properties (UNT3)

Material:	Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg		**Unnotched Tension 3** Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg [45/90/-45/0/0/45/0/0/-45/0]S
Resin content:	33.48 % wt	**Comp. density:** 1.571 g/cc	
Fiber volume:	58.09 % vol		
Ply count:	20		
Test method:	ASTM D3039-17	**Modulus calculation:** 1000-3000 microstrain	
Normalized by:	0.007200	in. CPT	

		CTA		RTA		ETW1		ETW2	
Test Temperature [°F]		-65		70		180		250	
Moisture Conditioning		Ambient		Ambient		Equilibrium		Equilibrium	
Equilibrium at T, RH						160F,85%		160F,85%	
Source code: Prefixed by NTP3961Q1-TC-T01-		XX-UNT3-X-CX-X-CTA-X		XX-UNT3-X-CX-X-RTA-X		XX-UNT3-X-CX-X-ETW1-X		XX-UNT3-X-CX-X-ETW2-X	
		Normalized	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**
UNT3 Strength [ksi]	**Mean**	278.1	275.2	297.6	293.7	301.4	297.2	290.9	287.8
	Minimum	253.3	251.3	255.6	257.4	277.8	274.5	273.5	273.9
	Maximum	299.8	297.8	313.6	310.5	320.6	315.7	311.7	310.2
	C.V.(%)	3.864	4.043	3.775	3.616	4.020	3.965	3.620	3.659
	No. Specimens	30		30		30		30	
	No. Prepreg Lots	5		5		5		5	
UNT3 Modulus [Msi]	**Mean**	14.42	14.27	14.44	14.26	14.15	13.96	13.83	13.68
	Minimum	13.48	13.19	13.91	13.68	13.62	13.42	12.96	12.98
	Maximum	15.20	15.03	15.85	15.67	14.90	14.82	14.86	14.72
	C.V.(%)	2.845	2.595	2.839	2.851	2.051	2.267	2.939	2.736
	No. Specimens	30		30		30		30	
	No. Prepreg Lots	5		5		5		5	

2.2.13 "25/50/25" Unnotched Compression 1 Properties (UNC1)

Material:	Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg							**Unnotched Compression 1** Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg [45/0/-45/90]2S		
Resin content:	34.17 % wt	**Comp. density:**	1.568 g/cc							
Fiber volume:	57.35 % vol									
Ply count:	16									
Test method:	ASTM D6641-16e2	**Modulus calculation:**	1000-3000 microstrain							
Normalized by:	0.007200	in. CPT								
		RTA		**ETW1**		**ETW2**				
Test Temperature [°F]		70		180		250				
Moisture Conditioning		Ambient		Equilibrium		Equilibrium				
Equilibrium at T, RH				160F,85%		160F,85%				
Source code: Prefixed by NTP3961Q1-TC-T01-		XX-UNC1-X-CX-X-RTA-X		XX-UNC1-X-CX-X-ETW1-X		XX-UNC1-X-CX-X-ETW2-X				
		Normalized	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**			
	Mean	114.3	112.8	94.16	92.89	68.77	68.00			
	Minimum	95.63	95.43	82.29	78.18	60.56	59.10			
	Maximum	122.8	120.3	102.8	102.2	73.62	73.70			
UNC1 Strength [ksi]	**C.V.(%)**	5.682	5.775	6.100	6.898	4.796	5.164			
	No. Specimens	31		30		31				
	No. Prepreg Lots	5		5		5				
	Mean	8.217	8.098	8.363	8.247	8.089	7.997			
	Minimum	7.950	7.900	7.828	7.730	7.787	7.670			
	Maximum	8.541	8.330	9.147	9.060	8.498	8.360			
UNC1 Modulus [Msi]	**C.V.(%)**	2.072	1.425	3.386	3.493	2.155	1.984			
	No. Specimens	30		30		32				
	No. Prepreg Lots	5		5		5				

2.2.14 "10/80/10" Unnotched Compression 2 Properties (UNC2)

Material:	Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg							**Unnotched Compression 2** Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg [45/-45/90/45/-45/45/-45/0/45/-45]S		
Resin content:	34.04 % wt	**Comp. density:**	1.573 g/cc							
Fiber volume:	57.52 % vol									
Ply count:	20									
Test method:	ASTM D6641-16e2	**Modulus calculation:**	1000-3000 microstrain							
Normalized by:	0.007200	in. CPT								
		RTA		**ETW1**		**ETW2**				
Test Temperature [°F]		70		180		250				
Moisture Conditioning		Ambient		Equilibrium		Equilibrium				
Equilibrium at T, RH				160F,85%		160F,85%				
Source code: Prefixed by NTP3961Q1-TC-T01-		XX-UNC2-X-CX-X-RTA-X		XX-UNC2-X-CX-X-ETW1-X		XX-UNC2-X-CX-X-ETW2-X				
		Normalized	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**			
	Mean	75.67	74.80	61.74	60.85	44.28	43.50			
	Minimum	69.49	68.75	59.50	58.35	39.71	38.94			
	Maximum	80.22	79.52	64.38	63.62	48.06	47.48			
UNC2 Strength [ksi]	**C.V.(%)**	3.553	3.700	1.974	2.187	5.353	5.278			
	No. Specimens	30		30		31				
	No. Prepreg Lots	5		5		5				
	Mean	5.051	4.992	4.802	4.733	4.451	4.373			
	Minimum	4.917	4.860	4.464	4.350	4.143	3.970			
	Maximum	5.258	5.160	5.101	5.090	4.800	4.740			
UNC2 Modulus [Msi]	**C.V.(%)**	1.506	1.499	3.089	3.464	3.911	4.150			
	No. Specimens	29		30		31				
	No. Prepreg Lots	5		5		5				

2.2.15 "50/40/10" Unnotched Compression 3 Properties (UNC3)

Material:	Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg							**Unnotched Compression 3** Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg [45/90/-45/0/0/45/0/0/-45/0]S		
Resin content:	34.12 % wt	**Comp. density:**	1.573 g/cc							
Fiber volume:	57.44 % vol									
Ply count:	20									
Test method:	ASTM D6641-16e2	**Modulus calculation:**	1000-3000 microstrain							
Normalized by:	0.007200	in. CPT								
		RTA		**ETW1**		**ETW2**				
Test Temperature [°F]		70		180		250				
Moisture Conditioning		Ambient		Equilibrium		Equilibrium				
Equilibrium at T, RH				160F,85%		160F,85%				
Source code: Prefixed by NTP3961Q1-TC-T01-		XX-UNC3-X-CX-X-RTA-X		XX-UNC3-X-CX-X-ETW1-X		XX-UNC3-X-CX-X-ETW2-X				
		Normalized	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**			
	Mean	174.8	172.3	144.7	142.9	99.26	97.54			
	Minimum	165.8	162.0	133.8	133.4	85.81	83.70			
	Maximum	181.5	180.0	155.9	153.8	115.3	113.2			
UNC3 Strength [ksi]	**C.V.(%)**	2.272	2.626	3.562	3.319	7.547	7.477			
	No. Specimens	30		30		35				
	No. Prepreg Lots	5		5		5				
	Mean	12.63	12.46	12.89	12.73	12.67	12.50			
	Minimum	12.25	11.97	12.27	12.10	12.04	11.98			
	Maximum	13.40	13.06	13.44	13.27	13.36	13.24			
UNC3 Modulus [Msi]	**C.V.(%)**	1.712	1.703	2.114	2.129	2.688	2.648			
	No. Specimens	30		30		36				
	No. Prepreg Lots	5		5		5				

2.2.16 Laminate Short-Beam Strength Properties (SBS1)

Material:	Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg						**Laminate Short-Beam Strength** Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg [45/0/-45/90]3S		
Resin content:	33.86 % wt	**Comp. density:** 1.574 g/cc							
Fiber volume:	57.73 % vol								
Ply count:	24								
Test method:	ASTM D2344-16								
Normalized by:	NA								
		RTA		**ETW1**		**ETW2**			
Test Temperature [°F]		70		180		250			
Moisture Conditioning		Ambient		Equilibrium		Equilibrium			
Equilibrium at T, RH				160F,85%		160F,85%			
Source code: Prefixed by NTP3961Q1-TC-T01-		XX-SBS1-X-CX-X-RTA-X		XX-SBS1-X-CX-X-ETW1-X		XX-SBS1-X-CX-X-ETW2-X			
		Normalized	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**		
SBS1 Strength [ksi]	**Mean**		12.77		8.204		3.506		
	Minimum		11.63		7.180		3.310		
	Maximum		13.30		8.680		3.830		
	C.V.(%)		3.413		5.348		3.880		
	No. Specimens		31		30		30		
	No. Prepreg Lots		5		5		5		

2.2.17 "25/50/25" Open-Hole Tension 1 Properties (OHT1)

Material:	Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg								
Resin content:	33.40 % wt	**Comp. density:** 1.573 g/cc							
Fiber volume:	58.15 % vol								
Ply count:	16								
Test method:	ASTM D5766-11(2018)								
Normalized by:	0.007200	in. CPT							
		CTA		**RTA**		**ETW1**		**ETW2**	
Test Temperature [°F]		-65		70		180		250	
Moisture Conditioning		Ambient		Ambient		Equilibrium		Equilibrium	
Equilibrium at T, RH						160F,85%		160F,85%	
Source code: Prefixed by NTP3961Q1-TC-T01-		XX-OHT1-X-CX-X-CTA-X		XX-OHT1-X-CX-X-RTA-X		XX-OHT1-X-CX-X-ETW1-X		XX-OHT1-X-CX-X-ETW2-X	
		Normalized	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**
	Mean	86.63	85.92	94.99	93.83	104.8	104.3	118.0	116.5
	Minimum	82.64	82.00	87.81	87.70	94.45	95.10	101.6	101.8
	Maximum	90.30	94.20	101.5	99.30	112.2	116.2	126.6	125.8
OHT1 Strength [ksi]	**C.V.(%)**	2.509	2.915	3.370	3.228	4.438	4.475	4.608	4.625
	No. Specimens	30		30		30		30	
	No. Prepreg Lots	5		5		5		5	

Open-Hole Tension 1
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
[45/0/-45/90]2S

2.2.18 "10/80/10" Open-Hole Tension 2 Properties (OHT2)

Material:	Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg		**Open-Hole Tension 2** Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg [45/-45/90/45/-45/45/-45/0/45/-45]S
Resin content:	33.55 % wt	**Comp. density:** 1.572 g/cc	
Fiber volume:	58.03 % vol		
Ply count:	20		
Test method:	ASTM D5766-11(2018)		
Normalized by:	0.007200	in. CPT	

		CTA		RTA		ETW1		ETW2	
Test Temperature [°F]		-65		70		180		250	
Moisture Conditioning		Ambient		Ambient		Equilibrium		Equilibrium	
Equilibrium at T, RH						160F,85%		160F,85%	
Source code: Prefixed by NTP3961Q1-TC-T01-		XX-OHT2-X-CX-X-CTA-X		XX-OHT2-X-CX-X-RTA-X		XX-OHT2-X-CX-X-ETW1-X		XX-OHT2-X-CX-X-ETW2-X	
		Normalized	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**
	Mean	60.43	59.77	60.32	59.43	58.89	58.18	56.65	55.59
	Minimum	57.31	56.90	58.36	57.90	55.79	54.60	47.83	47.80
	Maximum	63.21	63.10	62.59	61.50	61.86	62.20	59.49	59.20
OHT2 Strength [ksi]	**C.V.(%)**	2.250	2.294	1.754	1.562	2.224	2.664	3.714	3.607
	No. Specimens	30		30		30		30	
	No. Prepreg Lots	5		5		5		5	

2.2.19 "50/40/10" Open-Hole Tension 3 Properties (OHT3)

Material:	Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg		**Open-Hole Tension 3** Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg [45/90/-45/0/0/45/0/0/-45/0]S
Resin content:	33.21 % wt	**Comp. density:** 1.574 g/cc	
Fiber volume:	58.42 % vol		
Ply count:	20		
Test method:	ASTM D5766-11(2018)		
Normalized by:	0.007200	in. CPT	

		CTA		RTA		ETW1		ETW2	
Test Temperature [°F]		-65		70		180		250	
Moisture Conditioning		Ambient		Ambient		Equilibrium		Equilibrium	
Equilibrium at T, RH						160F,85%		160F,85%	
Source code: Prefixed by NTP3961Q1-TC-T01-		XX-OHT3-X-CX-X-CTA-X		XX-OHT3-X-CX-X-RTA-X		XX-OHT3-X-CX-X-ETW1-X		XX-OHT3-X-CX-X-ETW2-X	
		Normalized	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**
	Mean	144.1	142.7	160.7	158.8	208.2	206.6	229.7	227.2
	Minimum	130.5	129.3	151.6	150.3	190.2	189.4	203.2	201.2
	Maximum	155.2	153.3	172.5	171.4	224.7	229.5	240.5	238.0
OHT3 Strength [ksi]	**C.V.(%)**	3.669	3.797	3.401	3.411	4.715	5.065	3.130	3.248
	No. Specimens	30		30		30		30	
	No. Prepreg Lots	5		5		5		5	

2.2.20 "25/50/25" Filled-Hole Tension 1 Properties (FHT1)

Material:	Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg								
Resin content:	33.48 % wt	**Comp. density:** 1.574 g/cc							
Fiber volume:	58.04 % vol								
Ply count:	16								
Test method:	ASTM D6742-17								
Normalized by:	0.007200	in. CPT							

Filled-Hole Tension 1
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
[45/0/-45/90]2S

		CTA		RTA		ETW1		ETW2	
Test Temperature [°F]		-65		70		180		250	
Moisture Conditioning		Ambient		Ambient		Equilibrium		Equilibrium	
Equilibrium at T, RH						160F,85%		160F,85%	
Source code: Prefexed by NTP3961Q1-TC-T01-		XX-FHT1-X-CX-X-CTA-X		XX-FHT1-X-CX-X-RTA-X		XX-FHT1-X-CX-X-ETW1-X		XX-FHT1-X-CX-X-ETW2-X	
		Normalized	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**
	Mean	93.64	92.77	99.65	98.71	106.6	105.1	109.8	108.2
	Minimum	87.44	86.30	92.18	91.90	96.18	96.00	97.73	97.10
	Maximum	98.06	98.70	106.2	106.0	113.6	111.2	118.8	116.5
FHT1 Strength [ksi]	**C.V.(%)**	3.105	3.681	3.344	3.275	3.492	3.355	3.924	3.688
	No. Specimens	30		30		30		30	
	No. Prepreg Lots	5		5		5		5	

2.2.21 "10/80/10" Filled-Hole Tension 2 Properties (FHT2)

Material:	Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg		**Filled-Hole Tension 2** Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg [45/-45/90/45/-45/45/-45/0/45/-45]S
Resin content:	33.78 % wt	**Comp. density:** 1.574 g/cc	
Fiber volume:	57.75 % vol		
Ply count:	20		
Test method:	ASTM D6742-17		
Normalized by:	0.007200	in. CPT	

		CTA		RTA		ETW1		ETW2	
Test Temperature [°F]		-65		70		180		250	
Moisture Conditioning		Ambient		Ambient		Equilibrium		Equilibrium	
Equilibrium at T, RH						160F,85%		160F,85%	
Source code: Prefixed by NTP3961Q1-TC-T01-		XX-FHT2-X-CX-X-CTA-X		XX-FHT2-X-CX-X-RTA-X		XX-FHT2-X-CX-X-ETW1-X		XX-FHT2-X-CX-X-ETW2-X	
		Normalized	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**
FHT2 Strength [ksi]	**Mean**	66.35	65.68	63.81	62.98	58.72	58.08	50.57	49.89
	Minimum	64.42	62.80	60.73	59.50	56.64	56.20	48.67	47.80
	Maximum	68.46	68.40	66.21	65.10	61.25	60.20	52.86	52.30
	C.V.(%)	1.766	2.100	1.803	2.215	1.987	2.074	2.170	2.656
	No. Specimens	30		30		30		30	
	No. Prepreg Lots	5		5		5		5	

2.2.22 "50/40/10" Filled-Hole Tension 3 Properties (FHT3)

Material: Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

Resin content: 33.65 % wt **Comp. density:** 1.576 g/cc
Fiber volume: 57.85 % vol
Ply count: 20

Test method: ASTM D6742-17

Normalized by: 0.007200 in. CPT

Filled-Hole Tension 3
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
[45/90/-45/0/0/45/0/0/-45/0]S

		CTA		RTA		ETW1		ETW2	
Test Temperature [°F]		-65		70		180		250	
Moisture Conditioning		Ambient		Ambient		Equilibrium		Equilibrium	
Equilibrium at T, RH						160F,85%		160F,85%	
Source code: Prefixed by NTP3961Q1-TC-T01-		XX-FHT3-X-CX-X-CTA-X		XX-FHT3-X-CX-X-RTA-X		XX-FHT3-X-CX-X-ETW1-X		XX-FHT3-X-CX-X-ETW2-X	
		Normalized	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**
	Mean	146.0	144.6	153.8	152.1	173.4	172.0	197.2	195.2
	Minimum	134.2	132.5	144.0	145.7	162.3	160.5	154.0	152.4
	Maximum	157.5	157.9	165.0	164.8	187.6	189.6	219.3	217.4
FHT3 Strength [ksi]	**C.V.(%)**	4.129	4.280	3.023	3.094	3.457	4.391	9.159	8.665
	No. Specimens	30		30		30		30	
	No. Prepreg Lots	5		5		5		5	

2.2.23 "25/50/25" Open-Hole Compression 1 Properties (OHC1)

Material:	Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg							**Open-Hole Compression 1** Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg [45/0/-45/90]3S		
Resin content:	33.76 % wt		**Comp. density:** 1.573 g/cc							
Fiber volume:	57.83 % vol									
Ply count:	24									
Test method:	ASTM D6484-20									
Normalized by:	0.007200	in. CPT								
			RTA		**ETW1**		**ETW2**			
Test Temperature [°F]			70		180		250			
Moisture Conditioning			Ambient		Equilibrium		Equilibrium			
Equilibrium at T, RH					160F,85%		160F,85%			
Source code: Prefixed by NTP3961Q1-TC-T01-			XX-OHC1-X-CX-X-RTA-X		XX-OHC1-X-CX-X-ETW1-X		XX-OHC1-X-CX-X-ETW2-X			
			Normalized	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**		
	Mean		48.79	48.17	43.11	42.68	35.72	35.24		
	Minimum		46.47	46.09	41.21	40.12	32.29	32.07		
	Maximum		51.40	51.39	45.85	45.53	39.02	39.02		
OHC1 Strength [ksi]	**C.V.(%)**		2.321	2.767	2.801	3.053	4.727	4.662		
	No. Specimens		30		30		30			
	No. Prepreg Lots		5		5		5			

2.2.24 "10/80/10" Open-Hole Compression 2 Properties (OHC2)

Material:	Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg						**Open-Hole Compression 2** Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg [45/-45/90/45/-45/45/-45/0/45/-45]S		
Resin content:	33.94 % wt	**Comp. density:** 1.572 g/cc							
Fiber volume:	57.64 % vol								
Ply count:	20								
Test method:	ASTM D6484-20								
Normalized by:	0.007200	in. CPT							
		RTA		**ETW1**		**ETW2**			
Test Temperature [°F]		70		180		250			
Moisture Conditioning		Ambient		Equilibrium		Equilibrium			
Equilibrium at T, RH				160F,85%		160F,85%			
Source code: Prefixed by NTP3961Q1-TC-T01-		XX-OHC2-X-CX-X-RTA-X		XX-OHC2-X-CX-X-ETW1-X		XX-OHC2-X-CX-X-ETW2-X			
		Normalized	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**		
	Mean	41.43	40.98	33.95	33.48	26.92	26.59		
	Minimum	39.62	39.65	31.51	30.89	24.35	24.46		
	Maximum	44.06	42.96	35.47	35.18	29.54	29.54		
OHC2 Strength [ksi]	**C.V.(%)**	2.121	1.953	2.861	3.056	4.498	4.395		
	No. Specimens	30		30		30			
	No. Prepreg Lots	5		5		5			

2.2.25 "50/40/10" Open-Hole Compression 3 Properties (OHC3)

Material:	Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg						**Open-Hole Compression 3** Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg [45/90/-45/0/0/45/0/0/-45/0]S		
Resin content:	33.76 % wt	**Comp. density:** 1.573 g/cc							
Fiber volume:	57.80 % g/cc								
Ply count:	20								
Test method:	ASTM D6484-20								
Normalized by:	0.007200	in. CPT							
		RTA		**ETW1**		**ETW2**			
Test Temperature [°F]		70		180		250			
Moisture Conditioning		Ambient		Equilibrium		Equilibrium			
Equilibrium at T, RH				160F,85%		160F,85%			
Source code: Prefixed by NTP3961Q1-TC-T01-		XX-OHC3-X-CX-X-RTA-X		XX-OHC3-X-CX-X-ETW1-X		XX-OHC3-X-CX-X-ETW2-X			
		Normalized	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**		
	Mean	67.66	66.70	61.36	60.66	50.88	50.22		
	Minimum	61.54	61.19	53.96	52.56	41.87	41.68		
	Maximum	73.71	73.16	67.40	65.76	58.33	57.08		
OHC3 Strength [ksi]	**C.V.(%)**	4.443	4.290	5.520	5.445	8.133	8.234		
	No. Specimens	30		30		30			
	No. Prepreg Lots	5		5		5			

2.2.26 "25/50/25" Filled-Hole Compression 1 Properties (FHC1)

Material:	Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg							**Filled-Hole Compression 1** Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg [45/0/-45/90]3S		
Resin content:	33.53 % wt	**Comp. density:** 1.572 g/cc								
Fiber volume:	58.01 % vol									
Ply count:	24									
Test method:	ASTM D6742-17									
Normalized by:	0.007200	in. CPT								
		RTA		**ETW1**		**ETW2**				
Test Temperature [°F]		70		180		250				
Moisture Conditioning		Ambient		Equilibrium		Equilibrium				
Equilibrium at T, RH				160F,85%		160F,85%				
Source code: Prefixed by NTP3961Q1-TC-T01-		XX-FHC1-X-CX-X-RTA-X		XX-FHC1-X-CX-X-ETW1-X		XX-FHC1-X-CX-X-ETW2-X				
		Normalized	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**			
	Mean	72.69	71.57	66.26	65.08	50.87	49.90			
	Minimum	66.81	66.39	59.37	58.03	42.66	42.29			
	Maximum	78.81	77.75	71.56	70.62	63.83	61.97			
FHC1 Strength [ksi]	**C.V.(%)**	3.498	3.766	4.139	3.942	9.287	8.735			
	No. Specimens	30		30		30				
	No. Prepreg Lots	5		5		5				

2.2.27 "10/80/10" Filled-Hole Compression 2 Properties (FHC2)

Material:	Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg						**Filled-Hole Compression 2** Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg [45/-45/90/45/-45/45/-45/0/45/-45]S		
Resin content:	33.96 % wt	**Comp. density:** 1.574 g/cc							
Fiber volume:	57.59 % vol								
Ply count:	20								
Test method:	ASTM D6742-17								
Normalized by:	0.007200	in. CPT							
		RTA		**ETW1**		**ETW2**			
Test Temperature [°F]		70		180		250			
Moisture Conditioning		Ambient		Equilibrium		Equilibrium			
Equilibrium at T, RH				160F,85%		160F,85%			
Source code: Prefixed by NTP3961Q1-TC-T01-		XX-FHC2-X-CX-X-RTA-X		XX-FHC2-X-CX-X-ETW1-X		XX-FHC2-X-CX-X-ETW2-X			
		Normalized	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**		
	Mean	58.40	57.47	48.86	48.08	37.77	37.18		
	Minimum	54.46	53.15	45.31	44.95	33.02	32.82		
	Maximum	60.84	59.68	52.49	51.44	46.87	45.98		
FHC2 Strength [ksi]	**C.V.(%)**	2.815	2.818	3.166	3.190	10.30	10.28		
	No. Specimens	30		30		30			
	No. Prepreg Lots	5		5		5			

2.2.28 "50/40/10" Filled-Hole Compression 3 Properties (FHC3)

Material:	Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg						**Filled-Hole Compression 3** Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg [45/90/-45/0/0/45/0/0/-45/0]S		
Resin content:	33.75 % wt	**Comp. density:** 1.573 g/cc							
Fiber volume:	57.81 % vol								
Ply count:	20								
Test method:	ASTM D6742-17								
Normalized by:	0.007200	in. CPT							
		RTA		**ETW1**		**ETW2**			
Test Temperature [°F]		70		180		250			
Moisture Conditioning		Ambient		Equilibrium		Equilibrium			
Equilibrium at T, RH				160F,85%		160F,85%			
Source code: Prefixed by NTP3961Q1-TC-T01-		XX-FHC3-X-CX-X-RTA-X		XX-FHC3-X-CX-X-ETW1-X		XX-FHC3-X-CX-X-ETW2-X			
		Normalized	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**		
	Mean	96.72	95.27	85.45	84.18	66.36	65.23		
	Minimum	89.68	88.27	77.75	76.27	55.87	54.97		
	Maximum	103.9	102.0	94.18	90.90	85.09	83.24		
FHC3 Strength [ksi]	**C.V.(%)**	3.714	3.668	4.671	4.385	11.86	11.70		
	No. Specimens	30		30		30			
	No. Prepreg Lots	5		5		5			

2.2.29 "25/50/25" Single-Shear Bearing 1 Properties (SSB1)

Material:	Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg							**Single-Shear Bearing 1, Proc. C** Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg [45/0/-45/90]2S		
Resin content:	33.87 % wt	**Comp. density:** 1.571 g/cc								
Fiber volume:	57.67 % vol									
Ply count:	16									
Test method:	ASTM D5961-17, Proc. C									
Normalized by:	0.007200	in. CPT								
		RTA		**ETW1**		**ETW2**				
Test Temperature [°F]		70		180		250				
Moisture Conditioning		Ambient		Equilibrium		Equilibrium				
Equilibrium at T, RH				160F,85%		160F,85%				
Source code: Prefixed by NTP3961Q1-TC-T01-		XX-SSB1-X-CX-X-RTA-X		XX-SSB1-X-CX-X-ETW1-X		XX-SSB1-X-CX-X-ETW2-X				
		Normalized	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**			
SSB1, Proc. C 2% Offset Strength [ksi]	**Mean**	124.1	122.6	108.0	106.6	97.49	96.19			
	Minimum	116.9	115.6	80.93	80.37	69.85	69.01			
	Maximum	135.3	133.2	125.2	125.4	113.9	112.7			
	C.V.(%)	3.803	3.677	9.104	9.438	10.16	10.35			
	No. Specimens	31		32		30				
	No. Prepreg Lots	5		5		5				
SSB1, Proc. C Initial Peak Strength [ksi]	**Mean**	112.6	111.3	97.49	96.40	85.87	84.70			
	Minimum	103.6	102.8	76.41	75.88	66.77	65.91			
	Maximum	127.9	127.4	125.2	125.4	103.6	101.9			
	C.V.(%)	5.920	6.029	11.45	11.88	10.50	10.47			
	No. Specimens	30		27		19				
	No. Prepreg Lots	5		5		5				

2.2.30 "10/80/10" Single-Shear Bearing 2 Properties (SSB2)

Material:	Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg		**Single-Shear Bearing 2, Proc. C** Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg [45/-45/90/45/-45/45/-45/0/45/-45]S
Resin content:	33.68 % wt	**Comp. density:** 1.572 g/cc	
Fiber volume:	57.92 % vol		
Ply count:	20		
Test method:	ASTM D5961-17, Proc. C		
Normalized by:	0.007200	in. CPT	

		RTA		ETW1		ETW2			
Test Temperature [°F]		70		180		250			
Moisture Conditioning		Ambient		Equilibrium		Equilibrium			
Equilibrium at T, RH				160F,85%		160F,85%			
Source code: Prefixed by NTP3961Q1-TC-T01-		XX-SSB2-X-CX-X-RTA-X		XX-SSB2-X-CX-X-ETW1-X		XX-SSB2-X-CX-X-ETW2-X			
		Normalized	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**		
SSB2, Proc. C 2% Offset Strength [ksi]	**Mean**	124.2	122.4	109.2	107.5	98.52	97.01		
	Minimum	116.7	114.0	86.40	84.80	88.55	87.35		
	Maximum	131.8	129.1	128.3	125.2	112.7	111.0		
	C.V.(%)	2.962	3.037	7.590	7.619	6.172	6.183		
	No. Specimens	30		30		30			
	No. Prepreg Lots	5		5		5			
SSB2, Proc. C Initial Peak Strength [ksi]	**Mean**	117.6	116.0	99.78	98.04	88.49	87.14		
	Minimum	108.8	107.3	76.82	75.40	75.42	73.24		
	Maximum	126.3	124.6	111.0	108.0	99.91	98.64		
	C.V.(%)	3.881	4.072	8.725	8.535	8.153	8.509		
	No. Specimens	15		19		12			
	No. Prepreg Lots	5		5		5			

2.2.31 "50/40/10" Single-Shear Bearing 3 Properties (SSB3)

Material:	Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg		**Single-Shear Bearing 3, Proc. C** Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg [45/90/-45/0/0/45/0/0/-45/0]S
Resin content:	34.09 % wt	**Comp. density:** 1.573 g/cc	
Fiber volume:	57.45 % vol		
Ply count:	20		
Test method:	ASTM D5961-17, Proc. C		
Normalized by:	0.007200	in. CPT	

		RTA		ETW1		ETW2		
Test Temperature [°F]		70		180		250		
Moisture Conditioning		Ambient		Equilibrium		Equilibrium		
Equilibrium at T, RH				160F,85%		160F,85%		
Source code: Prefixed by NTP3961Q1-TC-T01-		XX-SSB3-X-CX-X-RTA-X		XX-SSB3-X-CX-X-ETW1-X		XX-SSB3-X-CX-X-ETW2-X		
		Normalized	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**	
SSB3, Proc. C 2% Offset Strength [ksi]	**Mean**	124.8	123.1	108.4	107.3	92.76	91.50	
	Minimum	117.0	114.8	92.8	90.63	84.24	82.91	
	Maximum	132.0	130.2	120.0	118.3	101.3	100.7	
	C.V.(%)	2.717	3.002	5.663	5.905	4.707	4.862	
	No. Specimens	30		30		30		
	No. Prepreg Lots	5		5		5		
SSB3, Proc. C Initial Peak Strength [ksi]	**Mean**	113.0	111.3	99.19	98.03	79.89	78.82	
	Minimum	101.3	99.85	76.97	75.40	71.56	71.07	
	Maximum	125.5	121.8	108.5	107.8	88.37	87.99	
	C.V.(%)	6.766	6.379	8.646	8.766	6.015	6.191	
	No. Specimens	14		15		8		
	No. Prepreg Lots	5		5		5		

2.2.32 "25/50/25" Double-Shear Bearing 1 Properties (DSB1)

Material:	Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg							**Double-Shear Bearing 1, Proc. A** Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg [45/0/-45/90]2S	
Resin content:	33.80 % wt	**Comp. density:** 1.573 g/cc							
Fiber volume:	57.76 % vol								
Ply count:	16								
Test method:	ASTM D5961 Proc. A								
Normalized by:	0.007200								
		RTA		**ETW1**		**ETW2**			
Test Temperature [°F]		70		180		250			
Moisture Conditioning		Ambient		Equilibrium		Equilibrium			
Equilibrium at T, RH				160F,85%		160F,85%			
Source code: Prefixed by NTP3961Q1-TC-T01-		XX-DSB1-X-CX-X-RTA-X		XX-DSB1-X-CX-X-ETW1-X		XX-DSB1-X-CX-X-ETW2-X			
		Normalized	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**		
DSB1 2% Offset Strength [ksi]	**Mean**	133.6	131.7	107.9	106.2	99.12	97.83		
	Minimum	119.1	116.4	76.84	75.02	49.78	49.20		
	Maximum	144.6	143.2	126.7	126.4	117.1	115.8		
	C.V.(%)	5.126	5.678	12.58	12.45	13.39	13.43		
	No. Specimens	30		38		32			
	No. Prepreg Lots	5		5		5			

2.2.33 "10/80/10" Double-Shear Bearing 2 Properties (DSB2)

Material:	Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg						**Double-Shear Bearing 2, Proc. A** Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg [45/-45/90/45/-45/45/-45/0/45/-45]S		
Resin content:	34.04 % wt	**Comp. density:** 1.571 g/cc							
Fiber volume:	57.48 % vol								
Ply count:	20								
Test method:	ASTM D5961 Proc. A								
Normalized by:	0.007200								
		RTA		**ETW1**		**ETW2**			
Test Temperature [°F]		70		180		250			
Moisture Conditioning		Ambient		Equilibrium		Equilibrium			
Equilibrium at T, RH				160F,85%		160F,85%			
Source code: Prefixed by NTP3961Q1-TC-T01-		XX-DSB2-X-CX-X-RTA-X		XX-DSB2-X-CX-X-ETW1-X		XX-DSB2-X-CX-X-ETW2-X			
		Normalized	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**		
DSB2 2% Offset Strength [ksi]	**Mean**	140.2	138.5	113.4	111.9	100.7	99.50		
	Minimum	131.0	128.7	82.00	81.09	87.13	85.67		
	Maximum	147.5	148.9	125.8	124.0	117.6	116.7		
	C.V.(%)	3.119	3.552	9.088	9.126	6.303	6.526		
	No. Specimens	31		31		30			
	No. Prepreg Lots	5		5		5			

2.2.34 "50/40/10" Double-Shear Bearing 3 Properties (DSB3)

Material:	Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg		**Double-Shear Bearing 3, Proc. A** Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg [45/90/-45/0/0/45/0/0/-45/0]S
Resin content:	33.68 % wt	**Comp. density:** 1.573 g/cc	
Fiber volume:	57.87 % vol		
Ply count:	20		
Test method:	ASTM D5961 Proc. A		
Normalized by:	0.007200		

		RTA		ETW1		ETW2			
Test Temperature [°F]		70		180		250			
Moisture Conditioning		Ambient		Equilibrium		Equilibrium			
Equilibrium at T, RH				160F,85%		160F,85%			
Source code: Prefixed by NTP3961Q1-TC-T01-		XX-DSB3-X-CX-X-RTA-X		XX-DSB3-X-CX-X-ETW1-X		XX-DSB3-X-CX-X-ETW2-X			
		Normalized	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**		
DSB3 2% Offset Strength [ksi]	**Mean**	140.4	138.5	111.1	109.7	93.32	92.18		
	Minimum	125.7	124.2	82.72	82.02	75.30	73.95		
	Maximum	146.8	146.2	124.0	123.4	109.5	109.2		
	C.V.(%)	2.869	2.922	10.08	10.08	8.850	9.267		
	No. Specimens	30		30		30			
	No. Prepreg Lots	5		5		5			

2.2.35 "25/50/25" Compression After Impact 1 Properties (CAI1A)

Material:	Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg		**Compression After Impact 1** Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg [45/0/-45/90]3S	
Resin content:	31.07 % wt	**Comp. density:** 1.588 g/cc		
Fiber volume:	60.55 % vol			
Ply count:	24			
Test method:	ASTM D7136-20/D7137-17			
Normalized by:	0.007200	in. CPT		

		RTA							
Test Temperature [°F]		70							
Moisture Conditioning		Ambient							
Equilibrium at T, RH									
Source code: Prefixed by NTP3961Q1-TC-T01-		BT-CAI1A-X-CX-X-RTA-X							
		Normalized	**Measured**						
CAI1A Strength [ksi] (500 in.lb/in)	**Mean**	67.64	66.58						
	Minimum	62.75	61.40						
	Maximum	71.52	69.90						
	C.V.(%)	4.965	4.763						
	No. Specimens	5							
	No. Prepreg Lots	1							

2.2.36 "25/50/25" Compression After Impact 1 Properties (CAI1B)

Material:	Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg		**Compression After Impact 1** Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg [45/0/-45/90]3S	
Resin content:	32.79 % wt	**Comp. density:** 1.578 g/cc		
Fiber volume:	58.70 % vol			
Ply count:	24			
Test method:	ASTM D7136-20/D7137-17			
Normalized by:	0.007200	in. CPT		
		RTA		
Test Temperature [°F]		70		
Moisture Conditioning		Ambient		
Equilibrium at T, RH				
Source code: Prefixed by NTP3961Q1-TC-T01-		XX-CAI1B-X-CX-X-RTA-X		

		Normalized	Measured
CAI1B Strength [ksi] (1000 in.lb/in)	**Mean**	55.68	54.80
	Minimum	53.89	52.70
	Maximum	58.13	56.80
	C.V.(%)	3.112	3.159
	No. Specimens	6	
	No. Prepreg Lots	1	

2.2.37 "25/50/25" Compression After Impact 1 Properties (CAI1C)

Material:	Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg		**Compression After Impact 1** Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg [45/0/-45/90]3S	
Resin content:	33.86 % wt	**Comp. density:** 1.574 g/cc		
Fiber volume:	57.73 % vol			
Ply count:	24			
Test method:	ASTM D7136-20/D7137-17			
Normalized by:	0.007200	in. CPT		
		RTA		
Test Temperature [°F]		70		
Moisture Conditioning		Ambient		
Equilibrium at T, RH				
Source code: Prefixed by NTP3961Q1-TC-T01-		XX-CAI1C-X-CX-X-RTA-X		

		Normalized	Measured
CAI1C Strength [ksi] (1500 in.lb/in)	**Mean**	49.07	48.61
	Minimum	42.71	42.60
	Maximum	53.82	53.00
	C.V.(%)	4.837	4.748
	No. Specimens	30	
	No. Prepreg Lots	5	

2.2.38 "25/50/25" Compression After Impact 1 Properties (CAI1D)

Material:	Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg		**Compression After Impact 1** Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg [45/0/-45/90]3S
Resin content:	32.95 % wt	**Comp. density:** 1.576 g/cc	
Fiber volume:	58.53 % vol		
Ply count:	24		
Test method:	ASTM D7136-20/D7137-17		
Normalized by:	0.007200	in. CPT	

		RTA							
Test Temperature [°F]		70							
Moisture Conditioning		Ambient							
Equilibrium at T, RH									
Source code: Prefixed by NTP3961Q1-TC-T01-		BT-CAI1D-X-CX-X-RTA-X							
		Normalized	**Measured**						
CAI1D Strength [ksi] (2000 in.lb/in)	**Mean**	46.28	45.45						
	Minimum	44.86	43.70						
	Maximum	49.29	48.00						
	C.V.(%)	3.700	3.280						
	No. Specimens	6							
	No. Prepreg Lots	1							

2.2.39 Interlaminar Tension Properties (ILT)

Material:	Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Resin content:	33.08 % wt **Comp. density:** 1.578 g/cc
Fiber volume:	58.64 % vol
Ply count:	22
Test method:	ASTM D6415-06a(2013)
Normalized by:	NA

Interlaminar Tension
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
[0]22

		CTA		RTA		ETW1		ETW2	
Test Temperature [°F]		-65		70		180		250	
Moisture Conditioning		Ambient		Ambient		Equilibrium		Equilibrium	
Equilibrium at T, RH						160F,85%		160F,85%	
Source code: Prefixed by NTP3961Q1-TC-T01-		XX-ILT-X-CX-X-CTA-X		XX-ILT-X-CX-X-RTA-X		XX-ILT-X-CX-X-ETW1-X		XX-ILT-X-CX-X-ETW2-X	
		Normalized	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**
CBS [lb]	**Mean**		665.0		480.7		226.8		100.9
	Minimum		540.2		243.4		152.2		77.81
	Maximum		767.9		565.6		293.1		123.9
	C.V.(%)		11.11		16.39		19.60		11.31
	No. Specimens	6		33		30		30	
	No. Prepreg Lots	1		5		5		5	
ILT [ksi]	**Mean**		19.50		14.79		6.915		3.080
	Minimum		15.68		7.415		4.643		2.326
	Maximum		22.62		17.63		9.175		3.701
	C.V.(%)		11.63		16.88		19.49		11.07
	No. Specimens	6		33		30		30	
	No. Prepreg Lots	1		5		5		5	

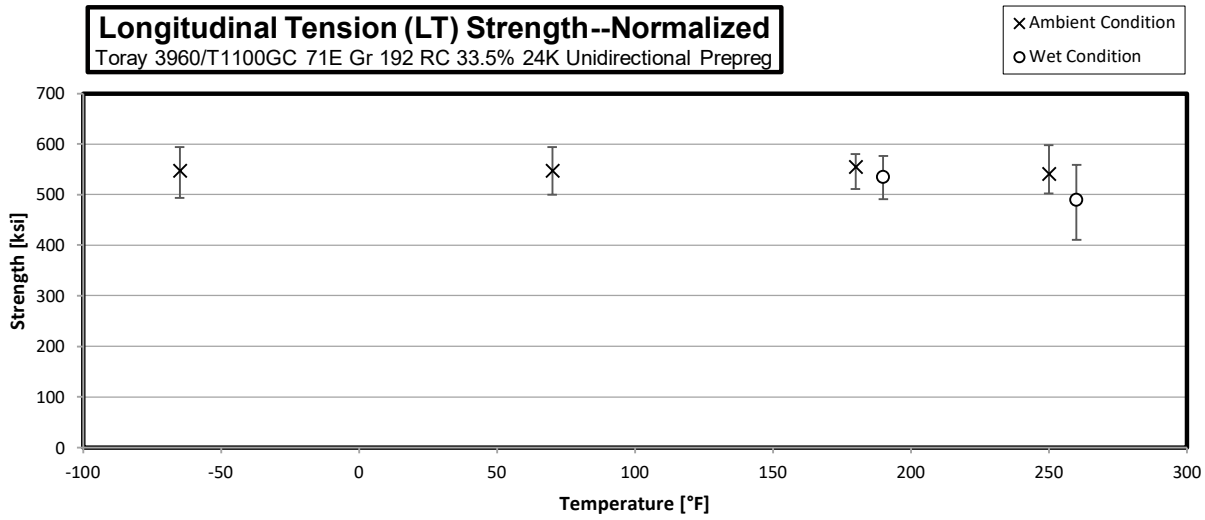
Note: Doublers were used

3. Individual Test Charts

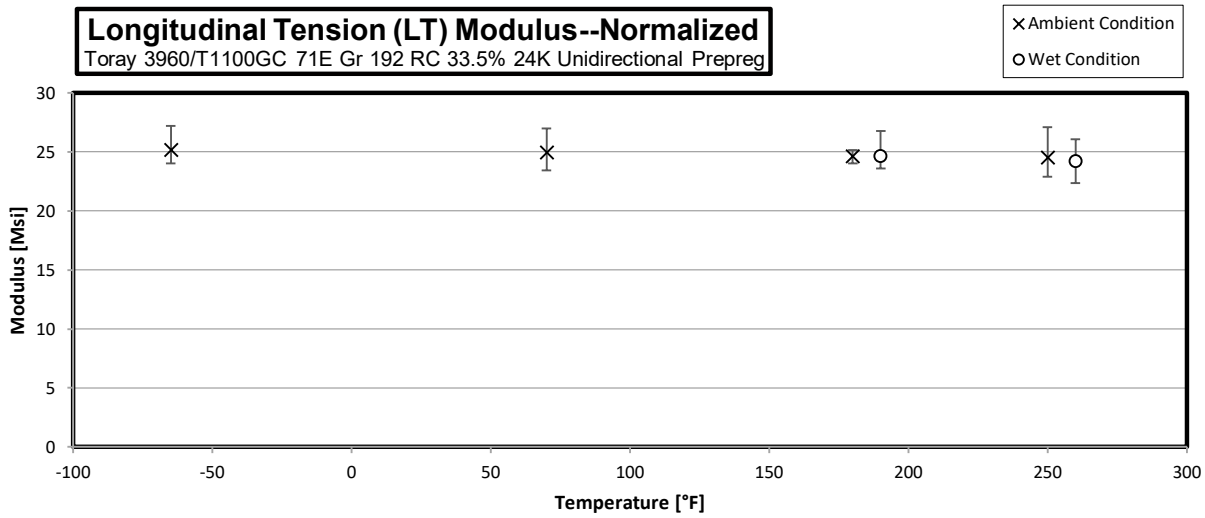
These charts combine all fives batches of data and plot the minimum and maximum modulus and strength range based on the test temperature.

Test temperatures for ETW1 and ETW2 are 180°F and 250°F, respectfully. However, they are offset to 190°F (ETW1) and 260°F (ETW2) in the charts below to provide clarity when reviewing plots.

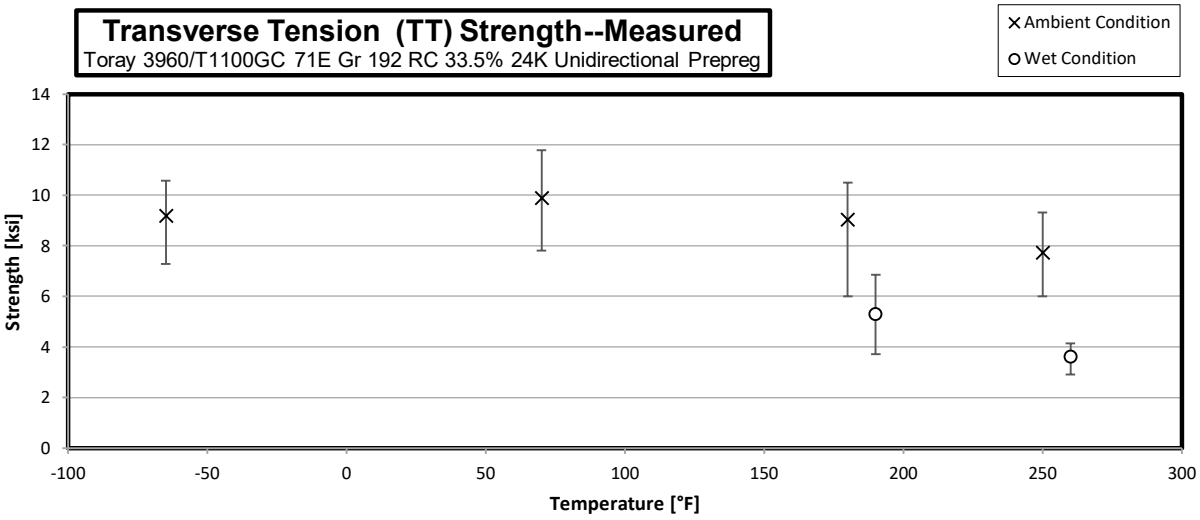
3.1 Longitudinal Tension Properties (LT)

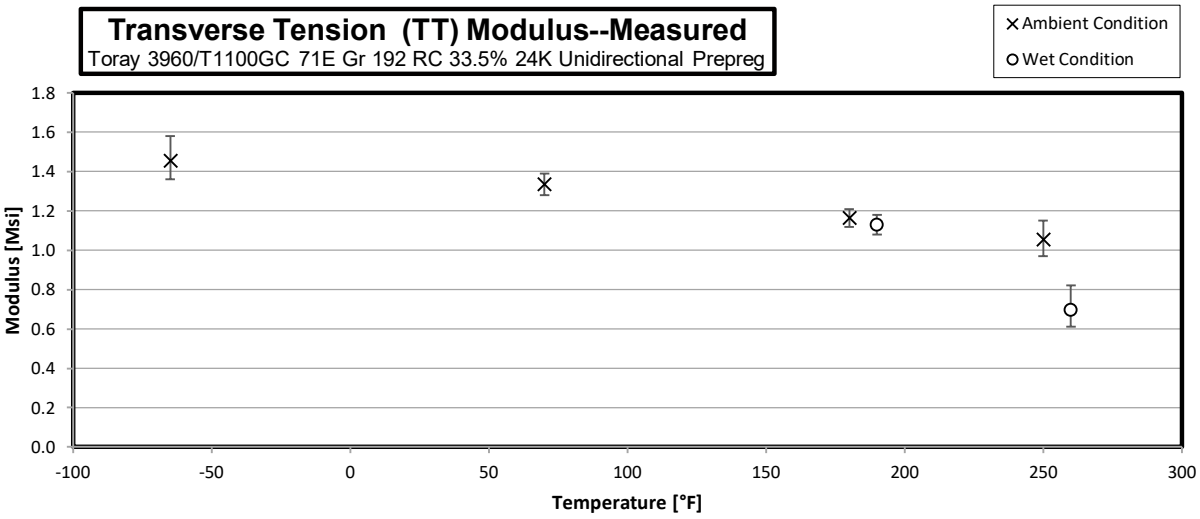


*For RTA (70°F) only, (-)18.4 ksi knockdown was applied to lower the specification limits as requested by material supplier. Adjusted values are used to calculate A-basis and B-basis, and should be used for Equivalency comparison.

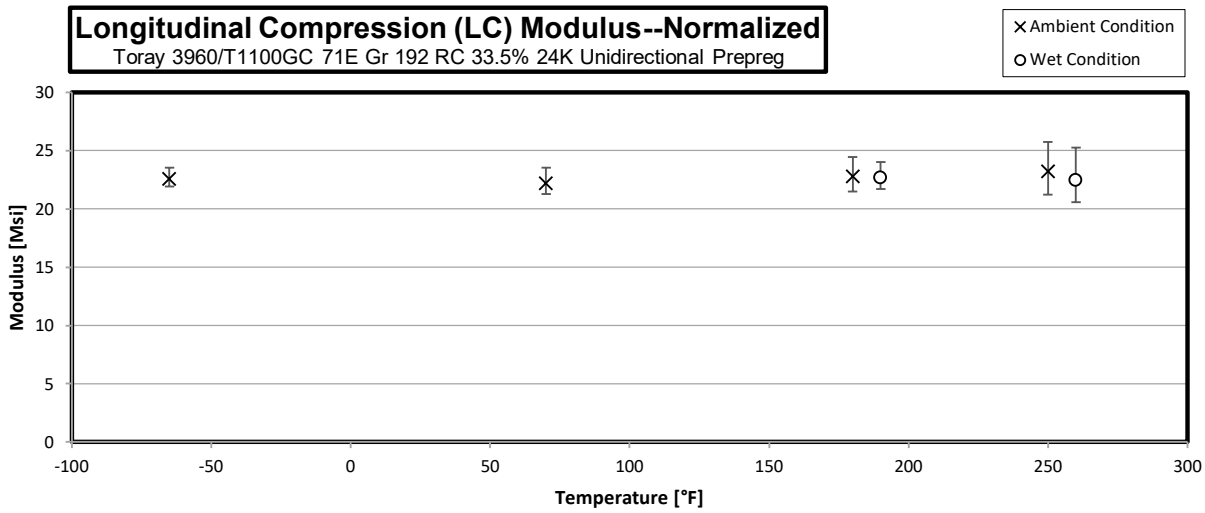


3.2 Transverse Tension Properties (TT)

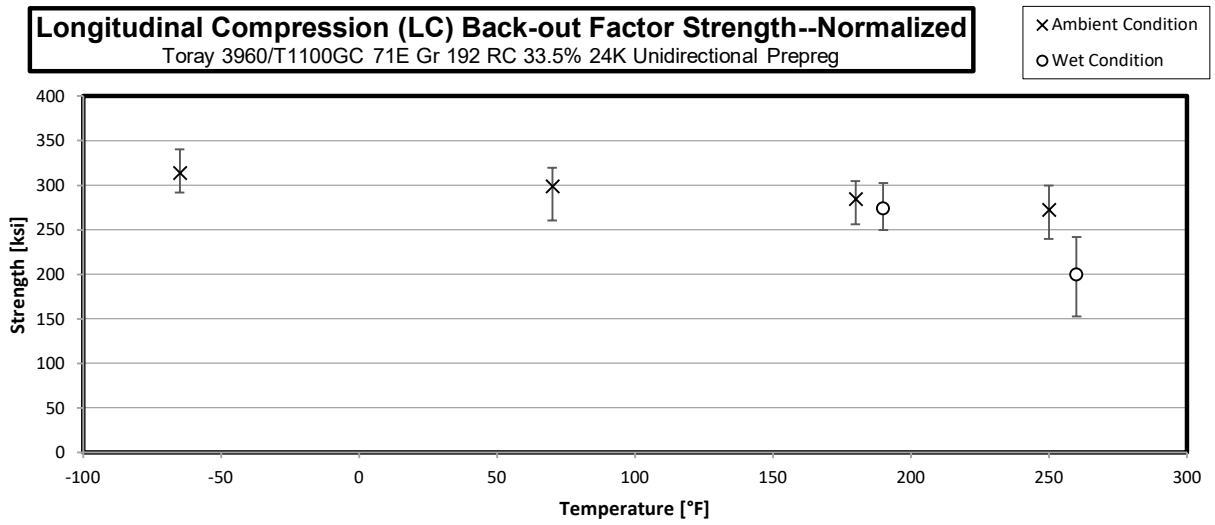




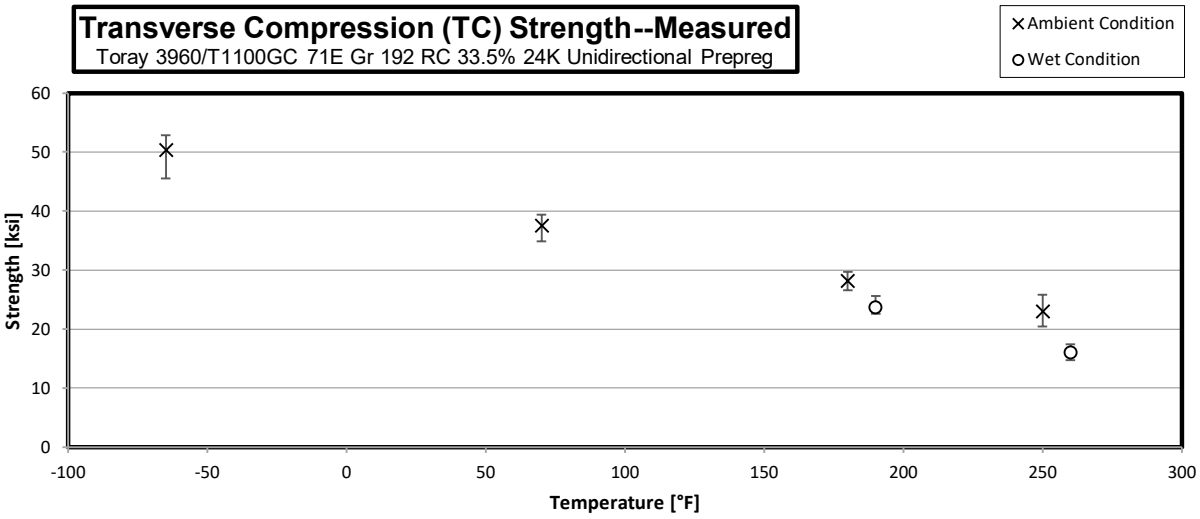
3.3 Longitudinal Compression Properties (LC)

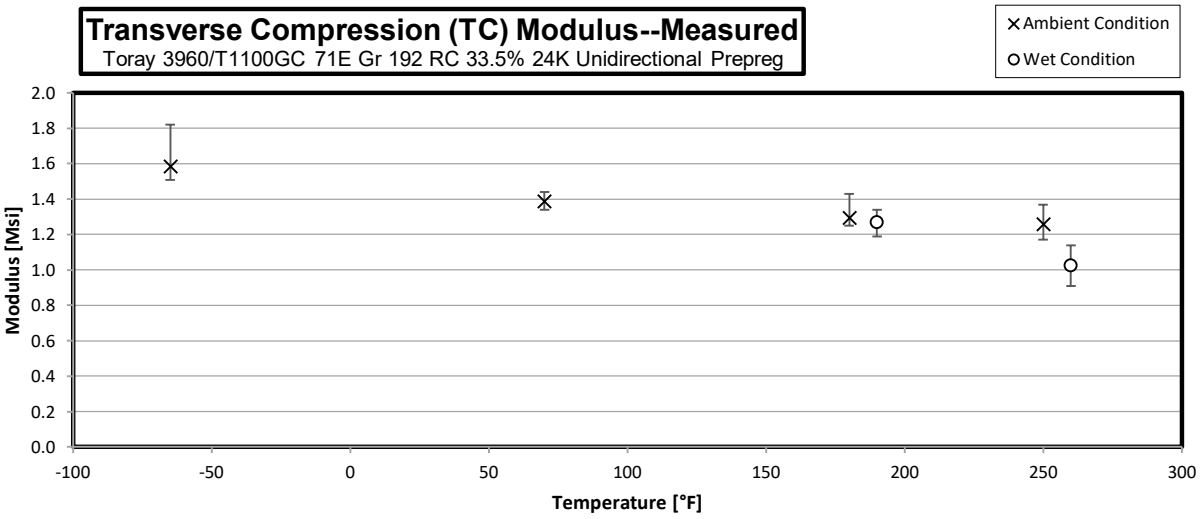


3.4 Longitudinal Compression (LC) Back-out Factor Properties

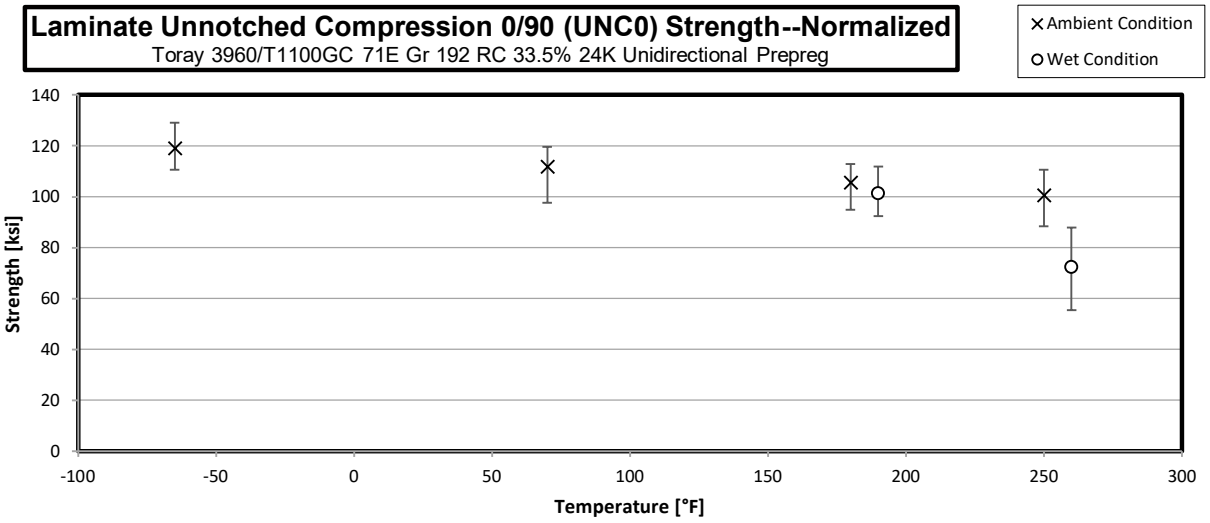


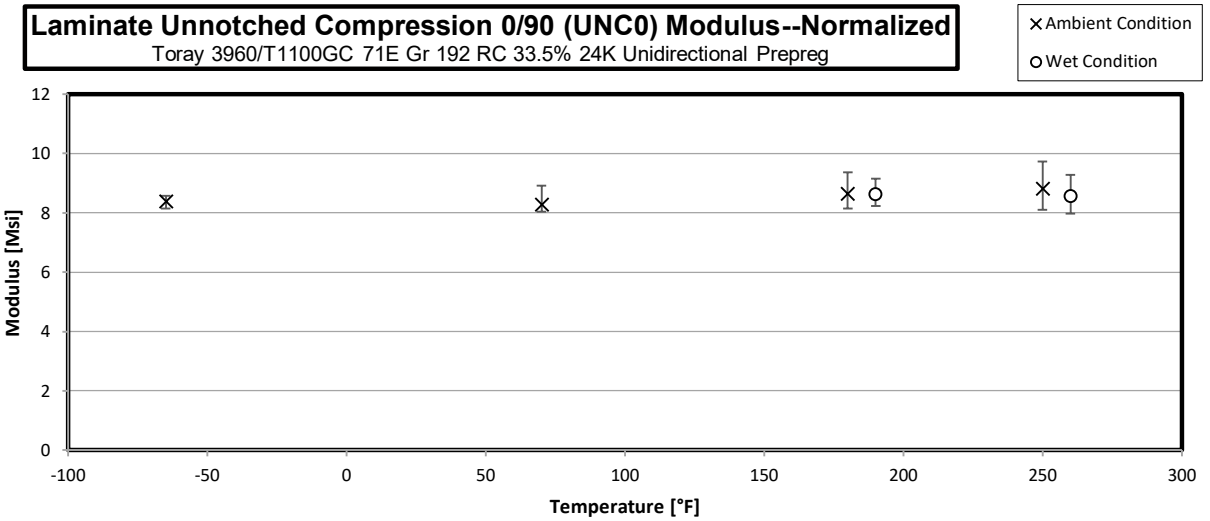
3.5 Transverse Compression Properties (TC)



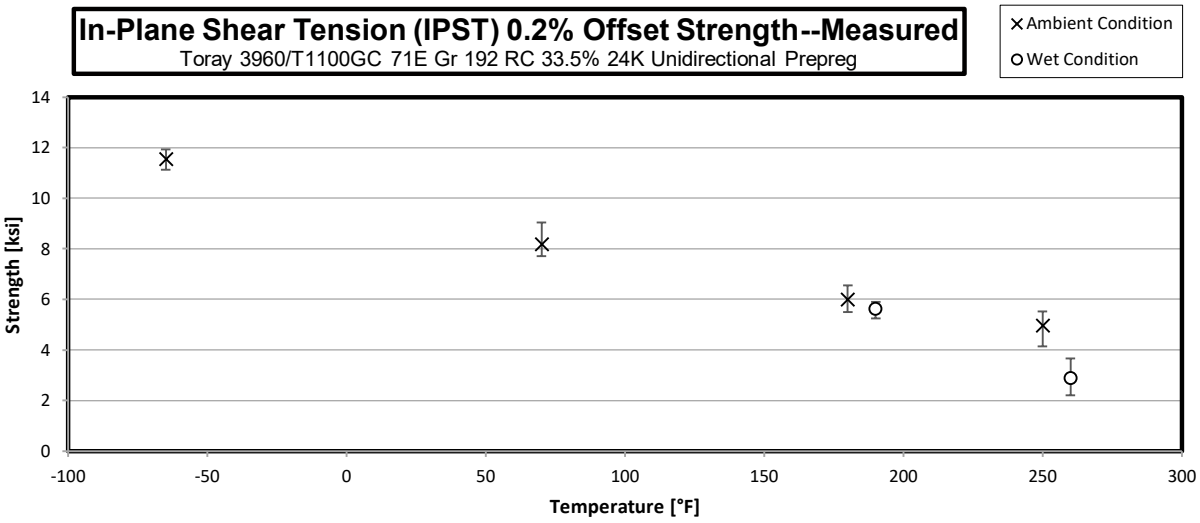


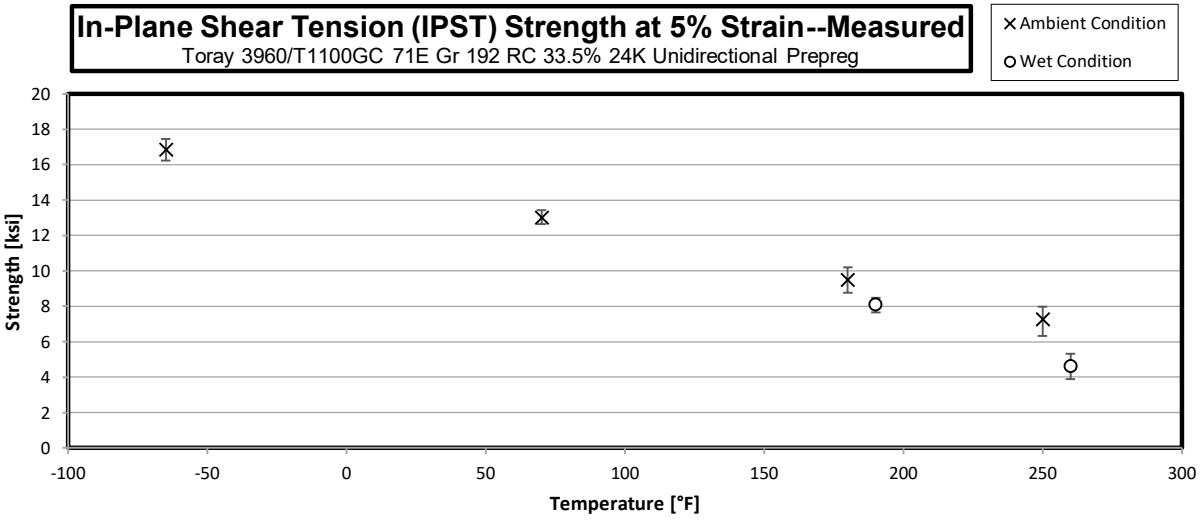
3.6 "33/0/67" Unnotched Compression 0 Properties (UNC0)



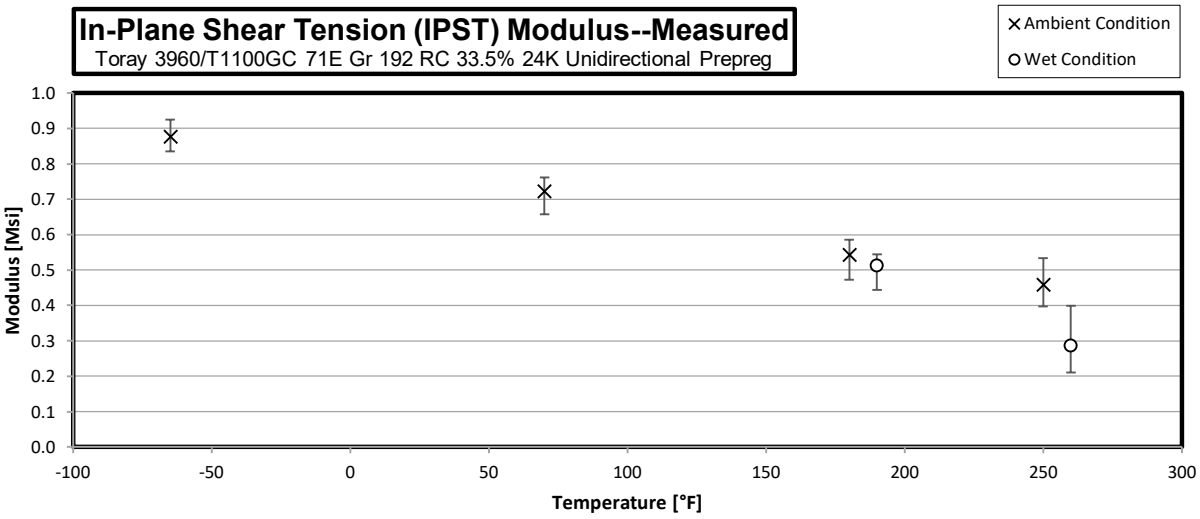


3.7 In-Plane Shear Tension Properties (IPST)

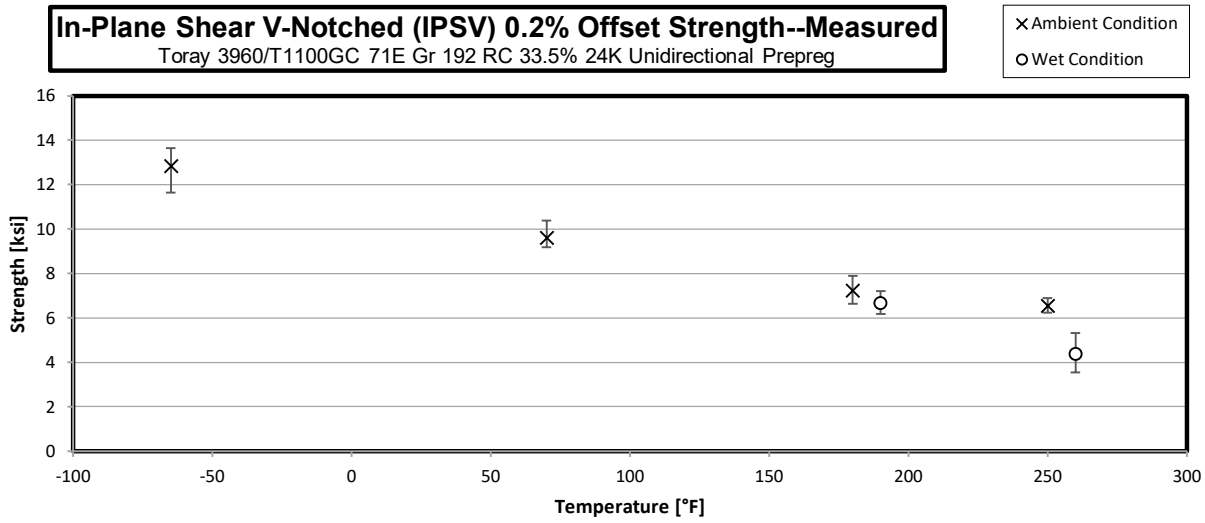


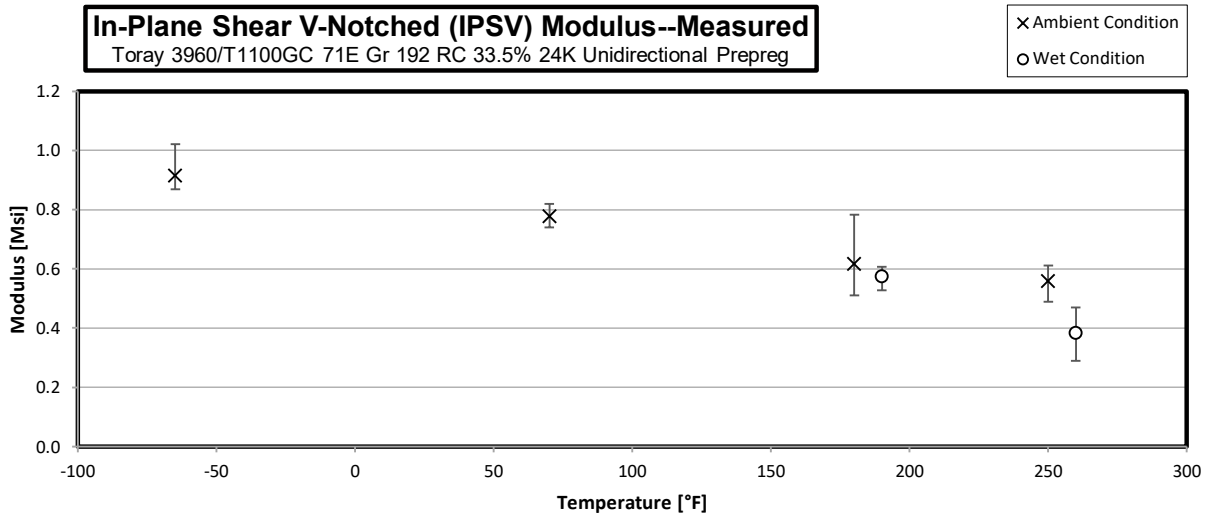


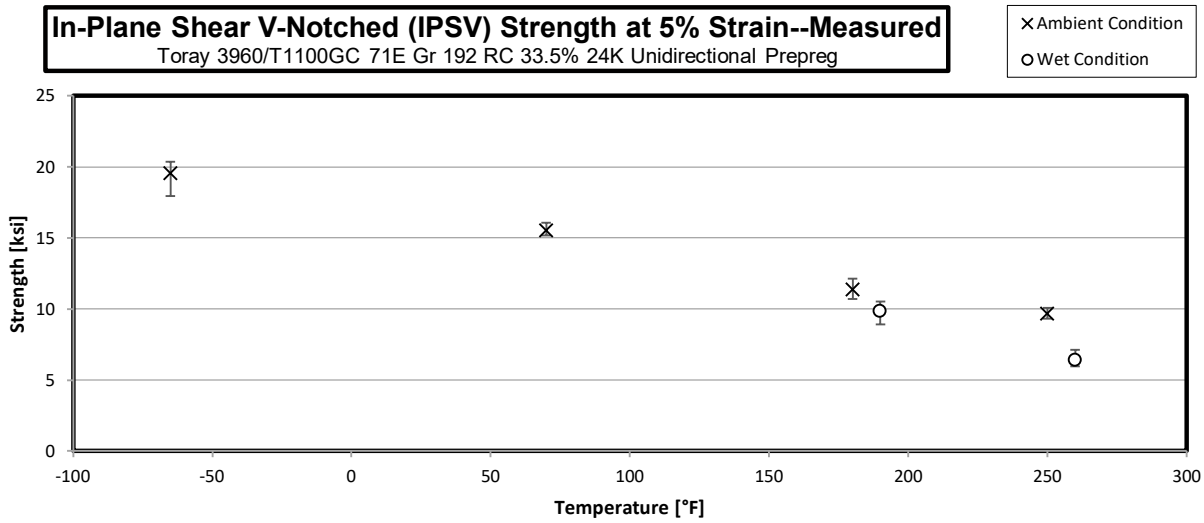
*CTA (-65°F) is ultimate shear strength


In-Plane Shear Tension (IPST) Modulus--Measured
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Ambient Condition
Wet Condition
Modulus [Msi]
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
-100
-50
0
50
100
150
200
250
300
Temperature [°F]

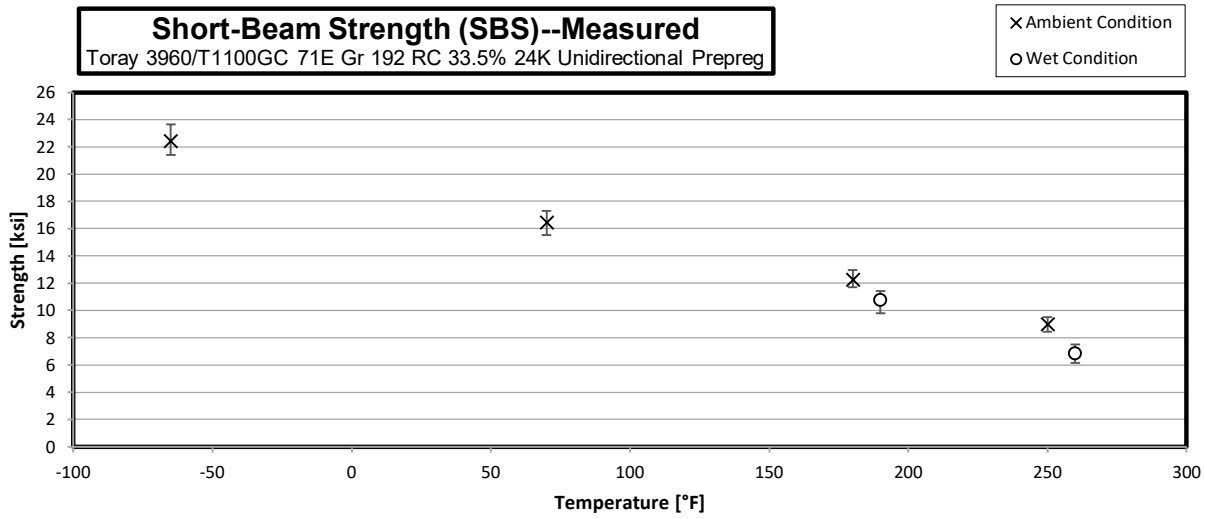
3.8 In-Plane Shear V-notch Properties (IPSV)



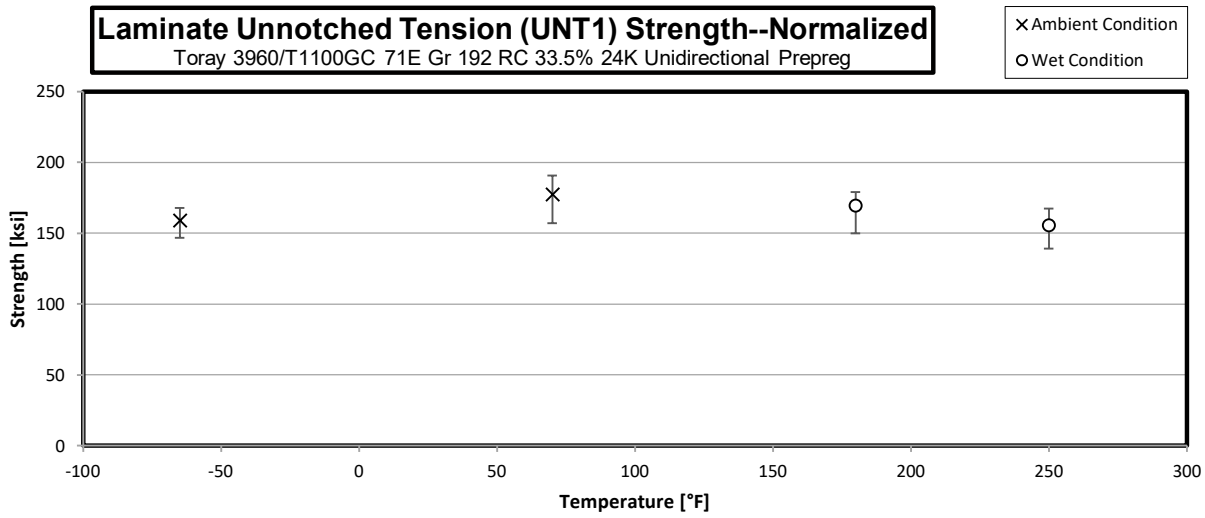


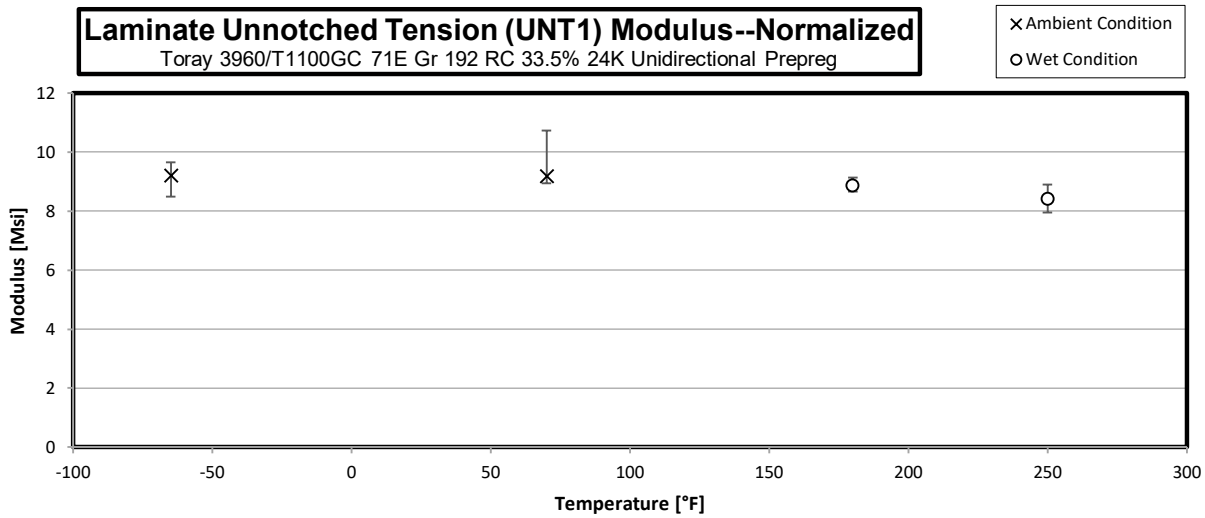

In-Plane Shear V-Notched (IPSV) Strength at 5% Strain--Measured
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Ambient Condition
Wet Condition
Strength [ksi]
25
20
15
10
5
0
-100
-50
0
50
100
150
200
250
300
Temperature [°F]

3.9 Lamina Short-Beam Shear Properties (SBS)

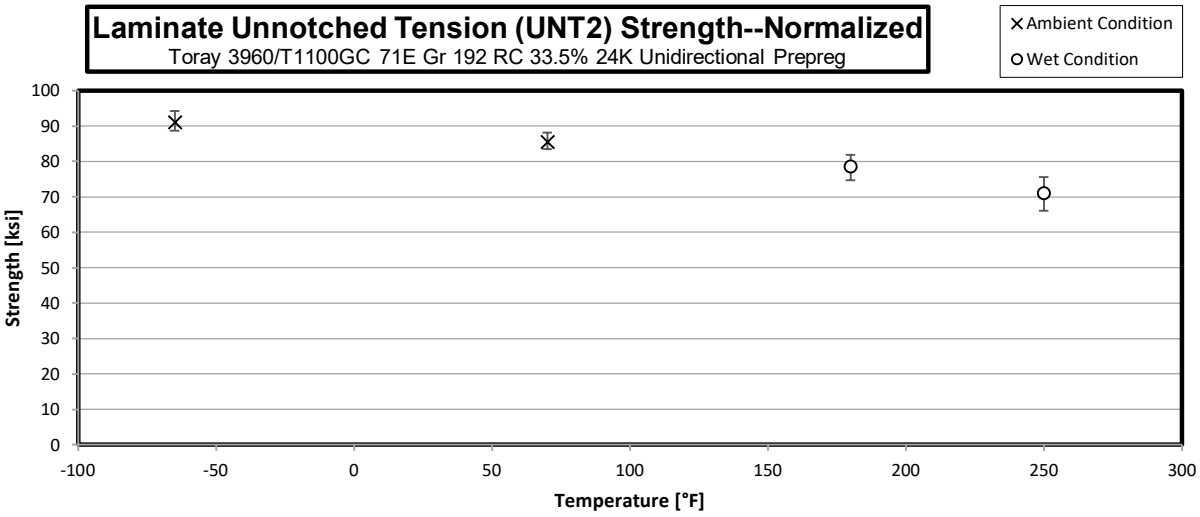


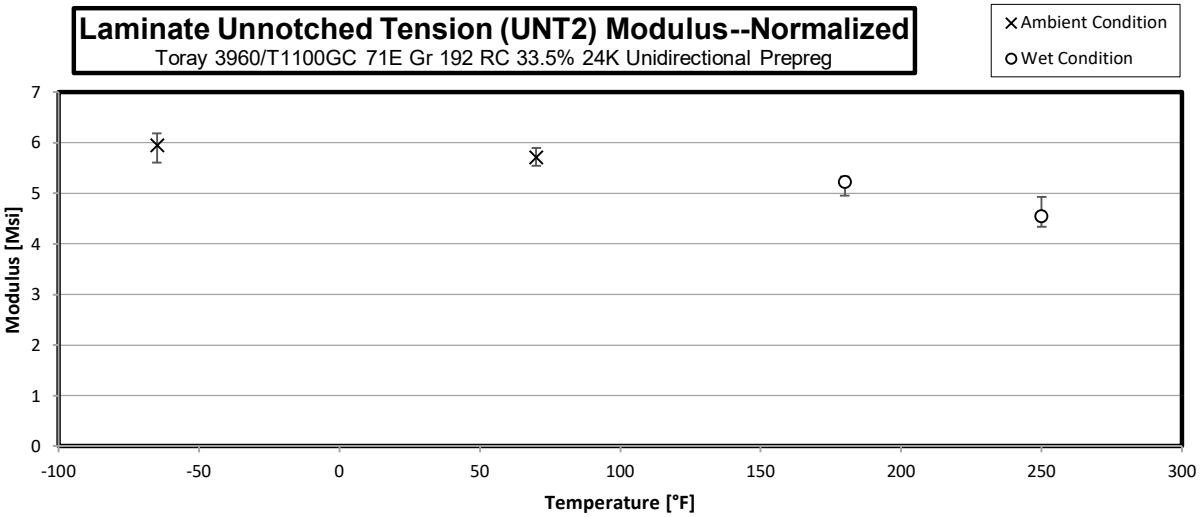
3.10 “25/50/25” Unnotched Tension 1 Properties (UNT1)



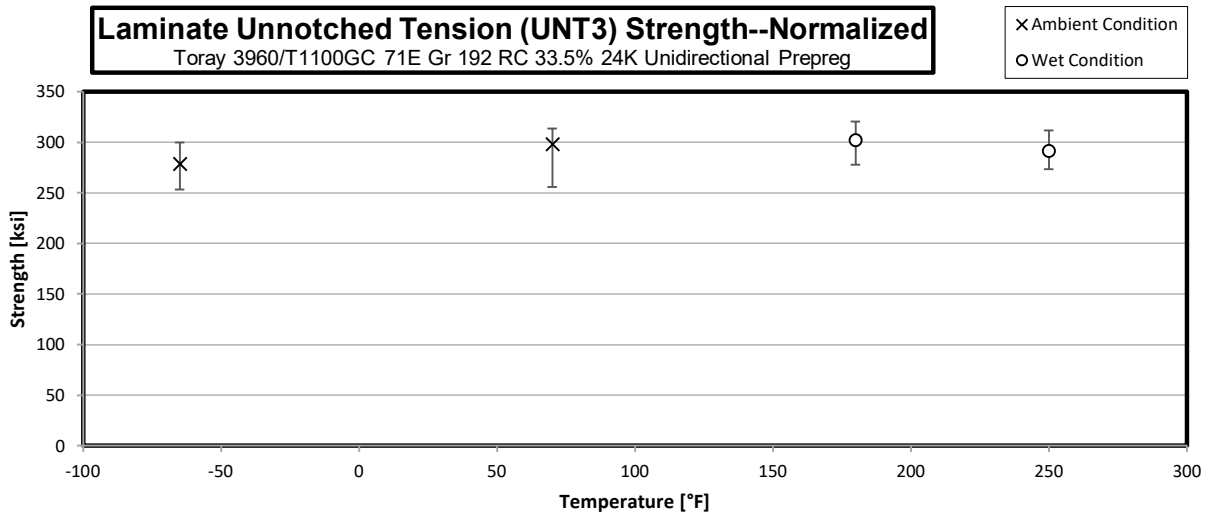


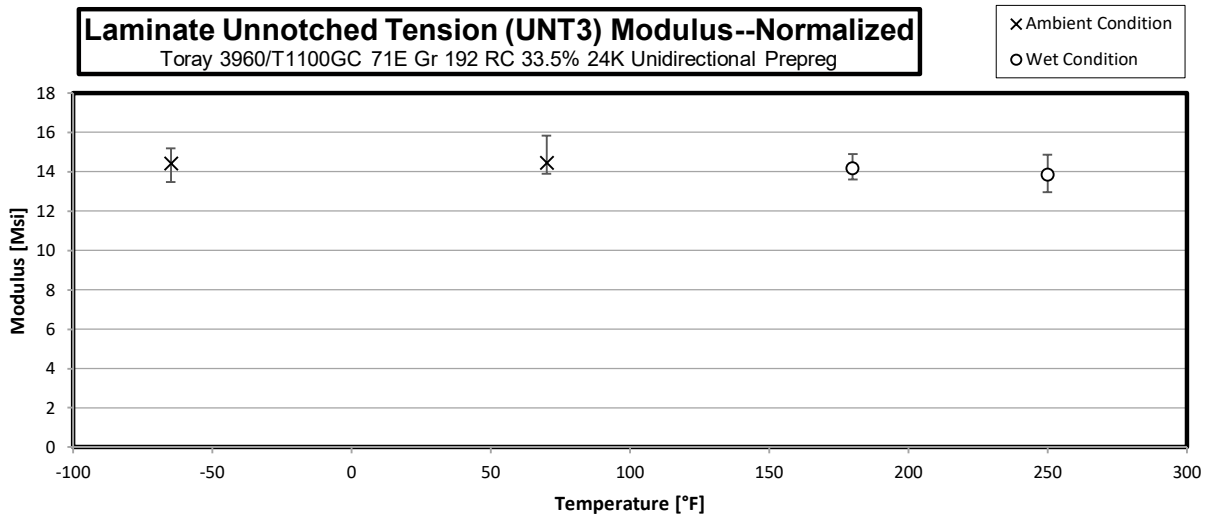
3.11 "10/80/10" Unnotched Tension 2 Properties (UNT2)



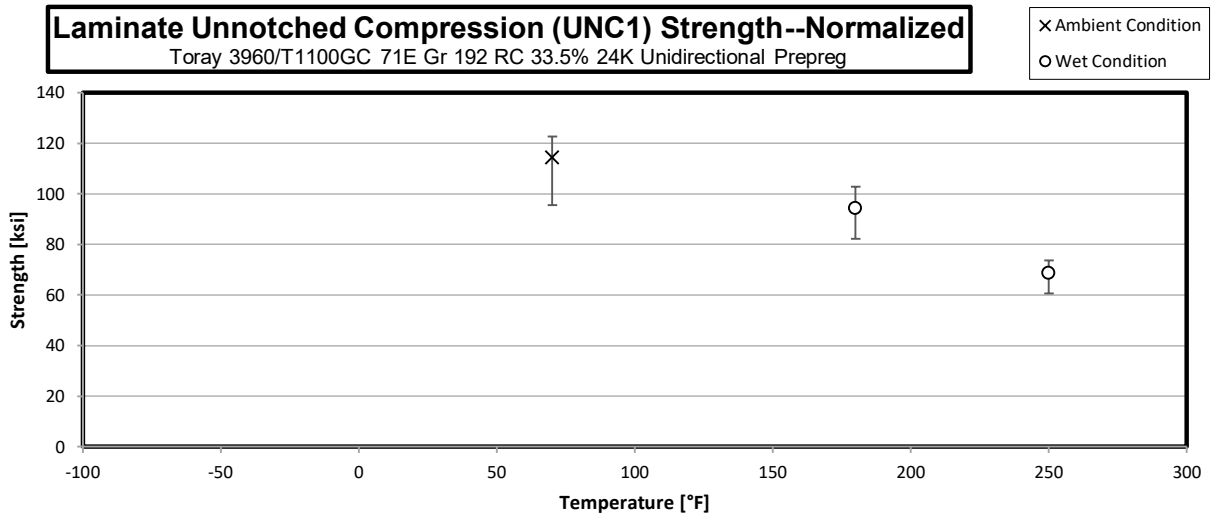


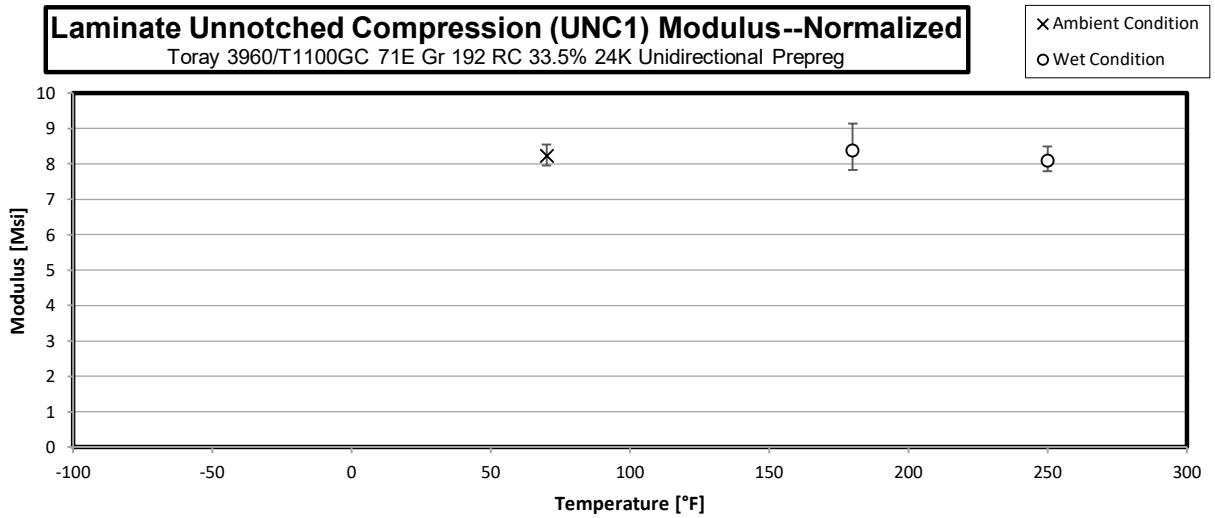
3.12 “50/40/10” Unnotched Tension 3 Properties (UNT3)



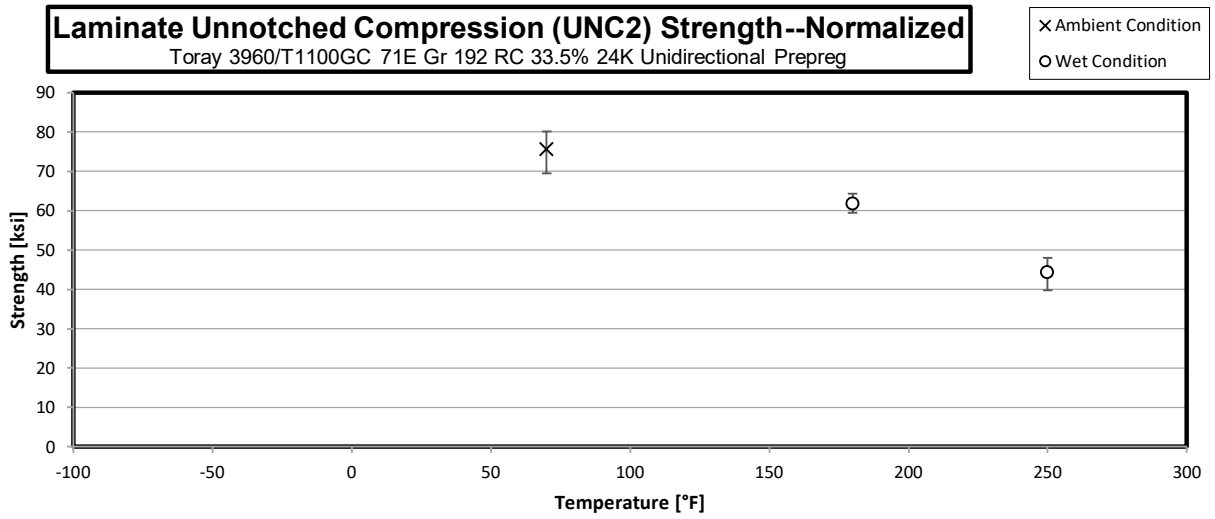


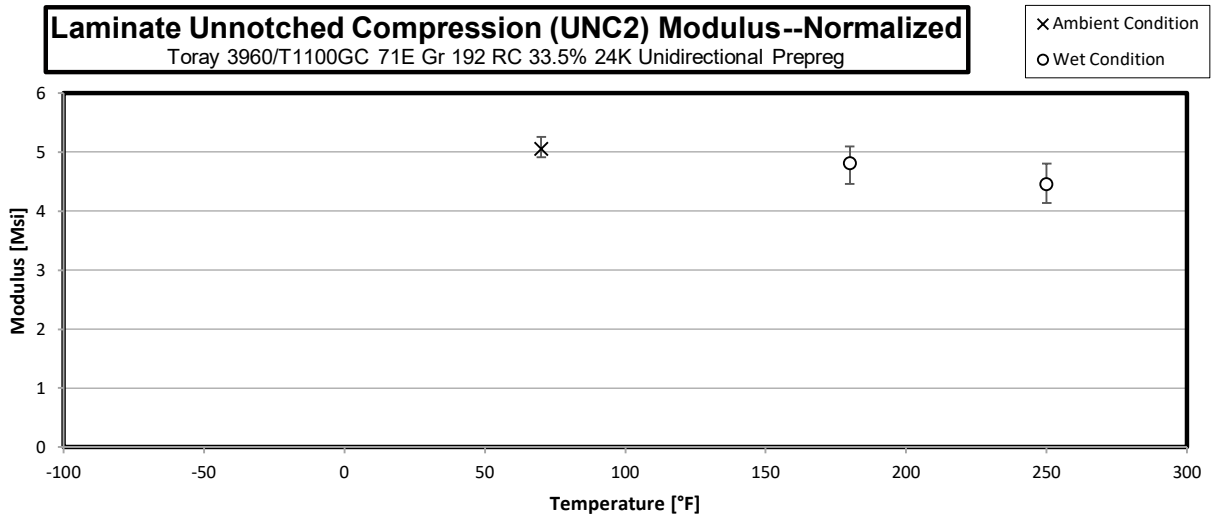
3.13 “25/50/25” Unnotched Compression 1 Properties (UNC1)



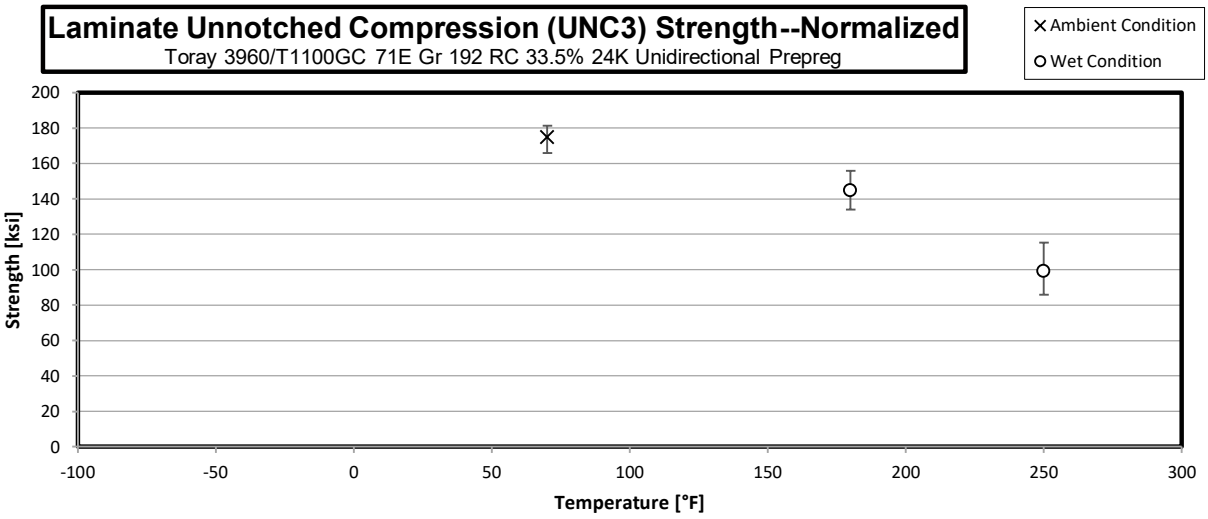


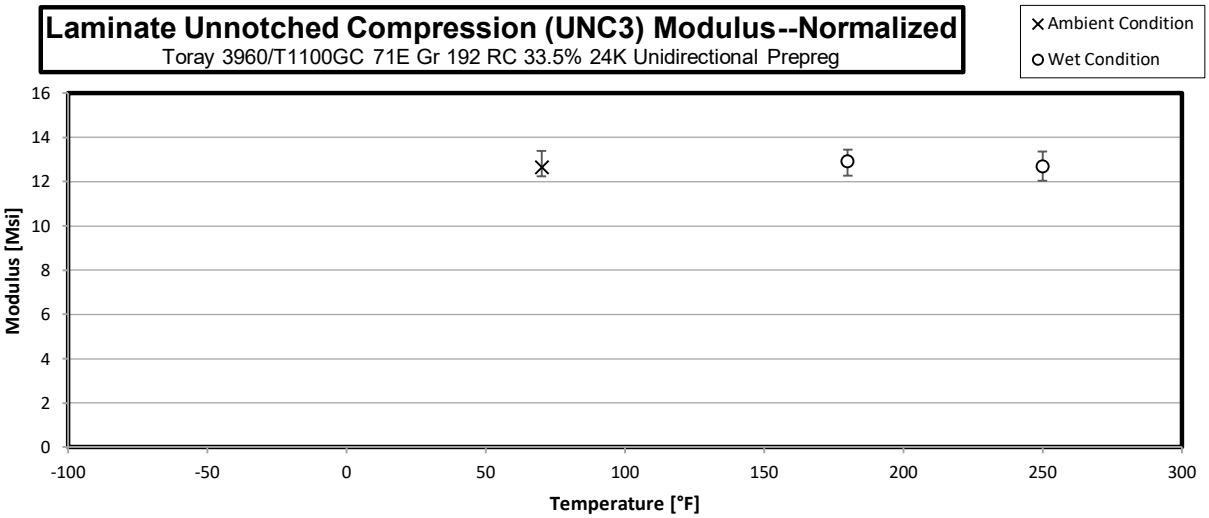
3.14 “10/80/10” Unnotched Compression 2 Properties (UNC2)



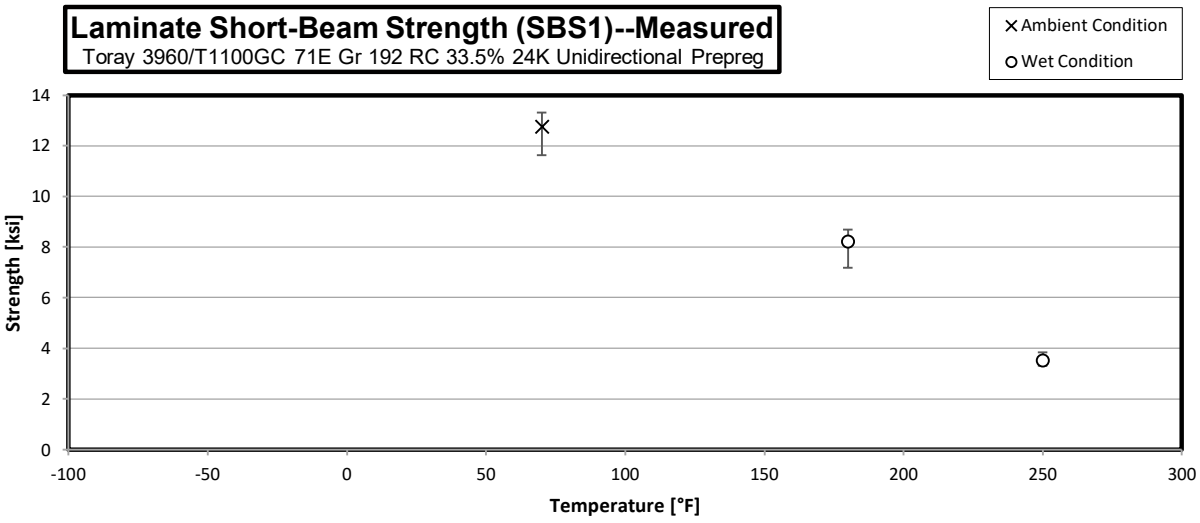


3.15 “50/40/10” Unnotched Compression 3 Properties (UNC3)

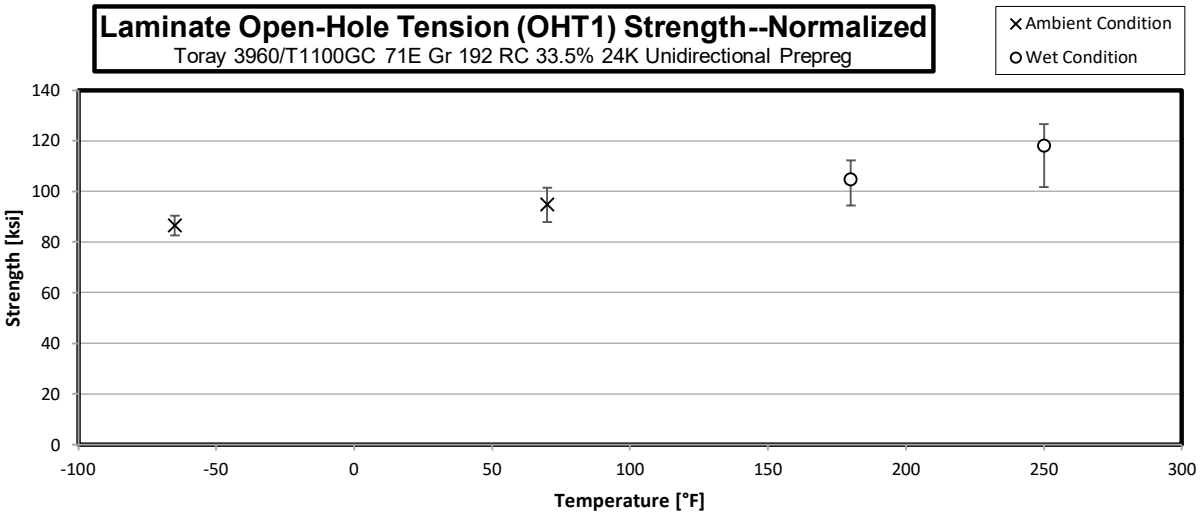




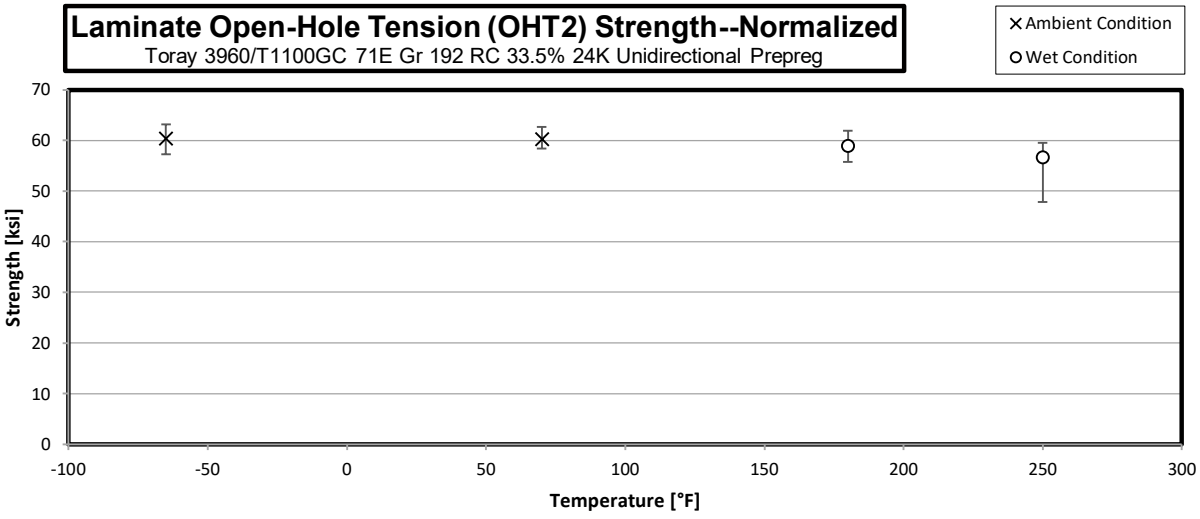
3.16 Laminate Short-Beam Strength Properties (SBS1)



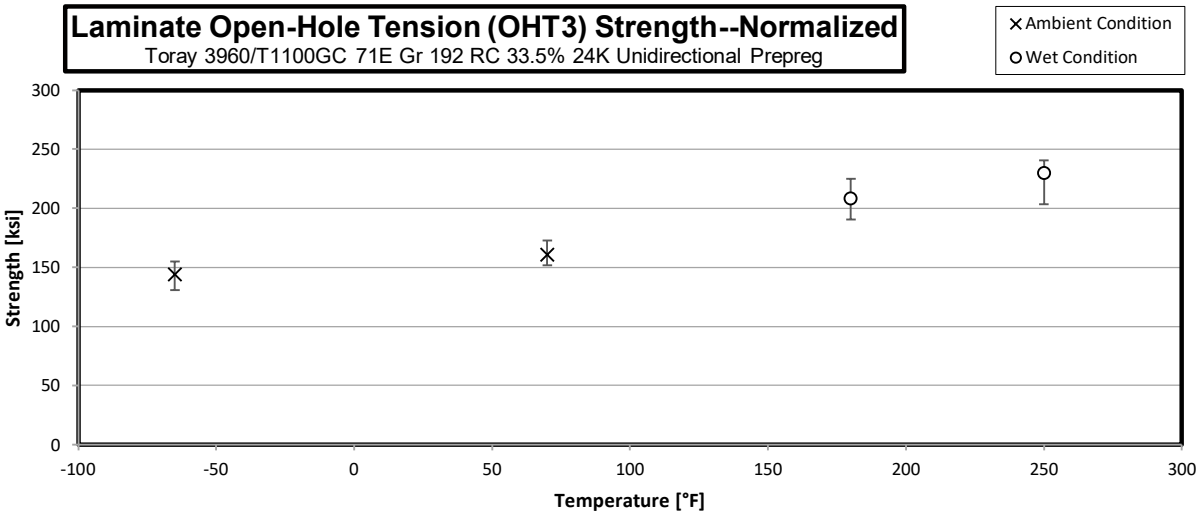
3.17 “25/50/25” Open-Hole Tension 1 Properties (OHT1)



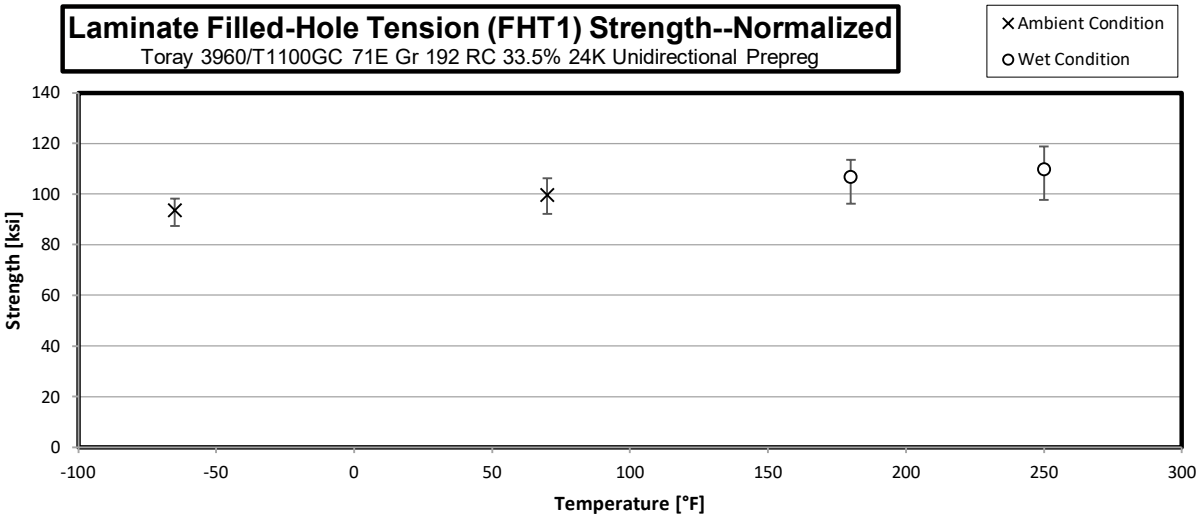
3.18 “10/80/10” Open-Hole Tension 2 Properties (OHT2)



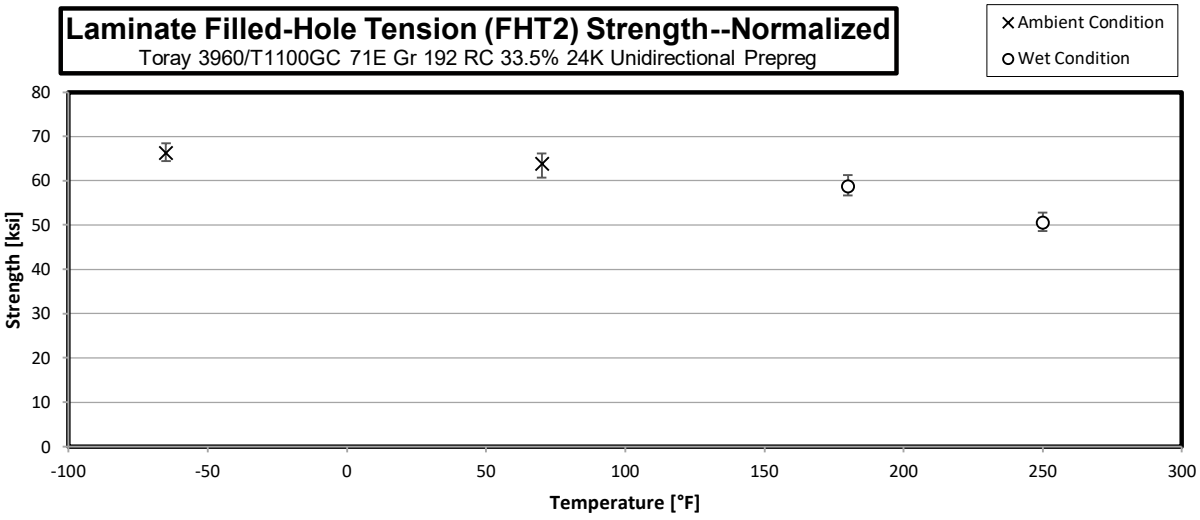
3.19 “50/40/10” Open-Hole Tension 3 Properties (OHT3)



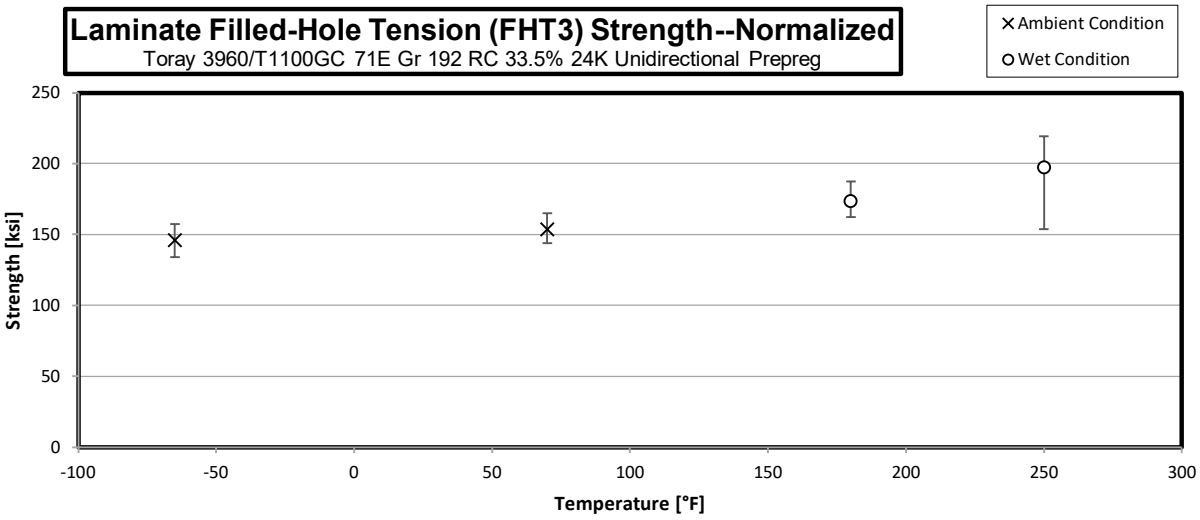
3.20 “25/50/25” Filled-Hole Tension 1 Properties (FHT1)



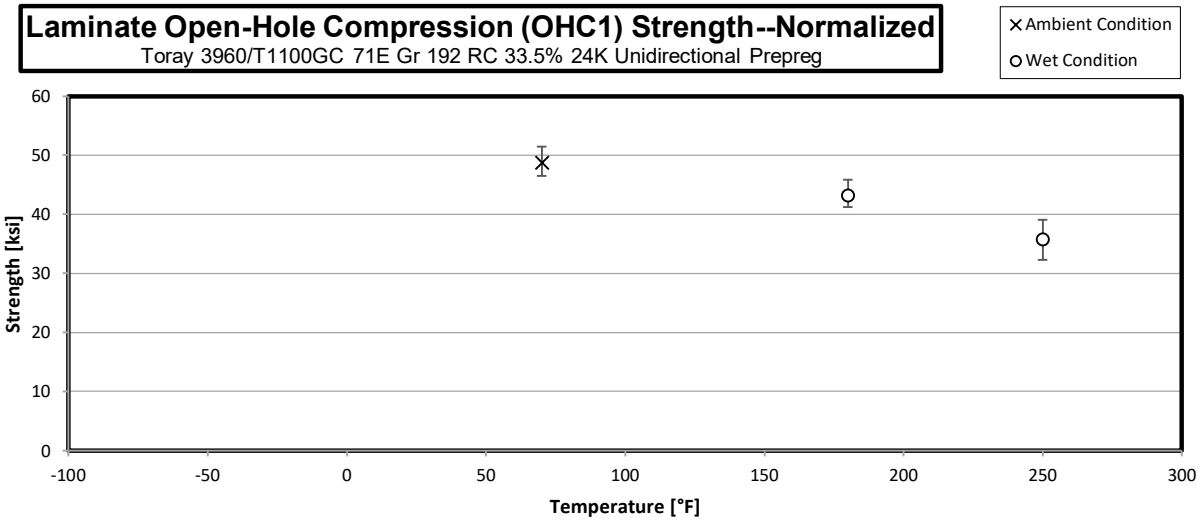
3.21 "10/80/10" Filled-Hole Tension 2 Properties (FHT2)



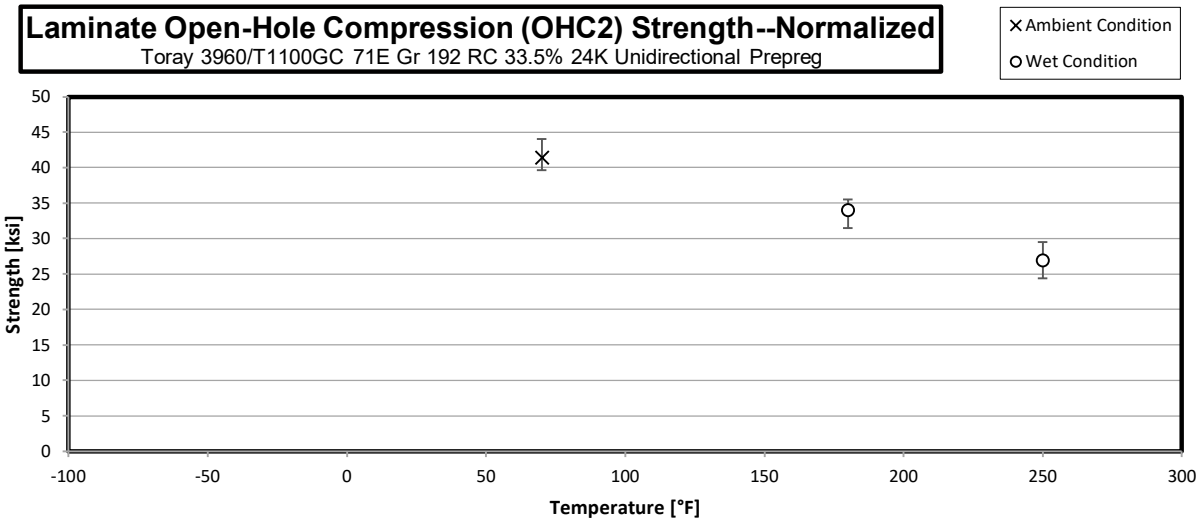
3.22 "50/40/10" Filled-Hole Tension 3 Properties (FHT3)



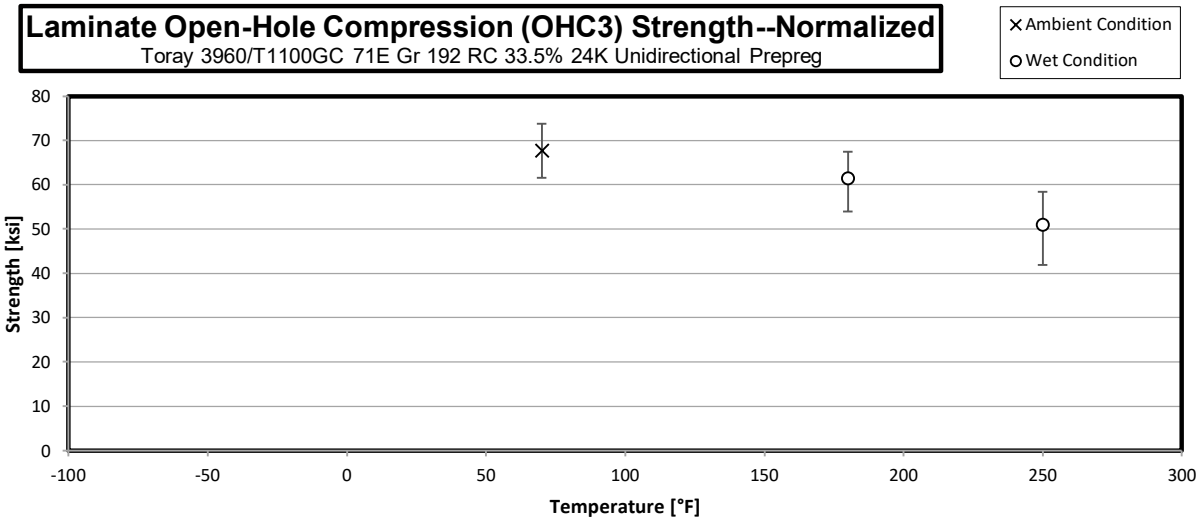
3.23 “25/50/25” Open-Hole Compression 1 Properties (OHC1)



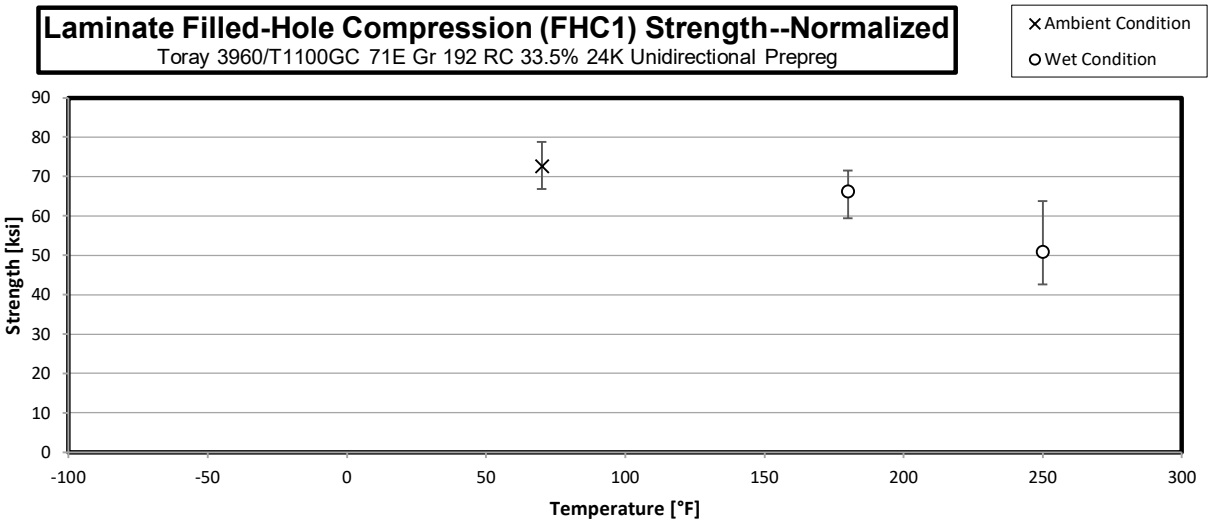
3.24 “10/80/10” Open-Hole Compression 2 Properties (OHC2)



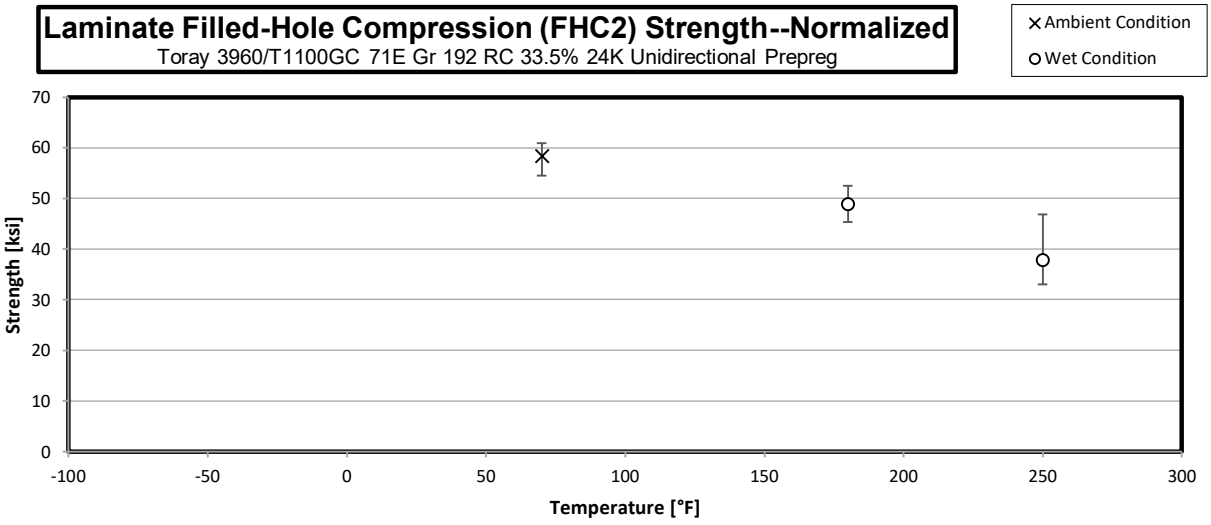
3.25 “50/40/10” Open-Hole Compression 3 Properties (OHC3)



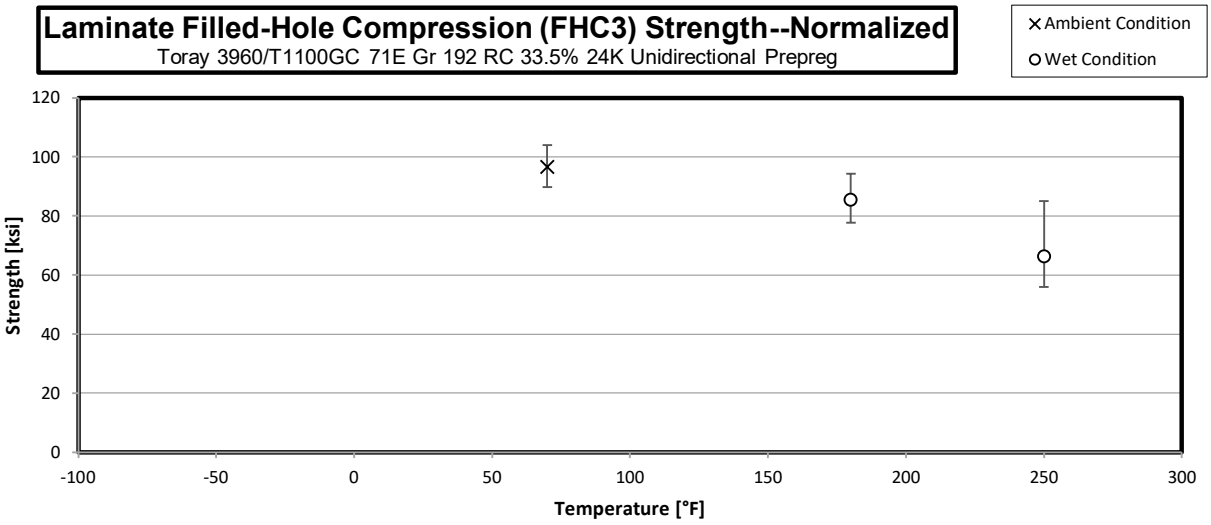
3.26 “25/50/25” Filled-Hole Compression 1 Properties (FHC1)



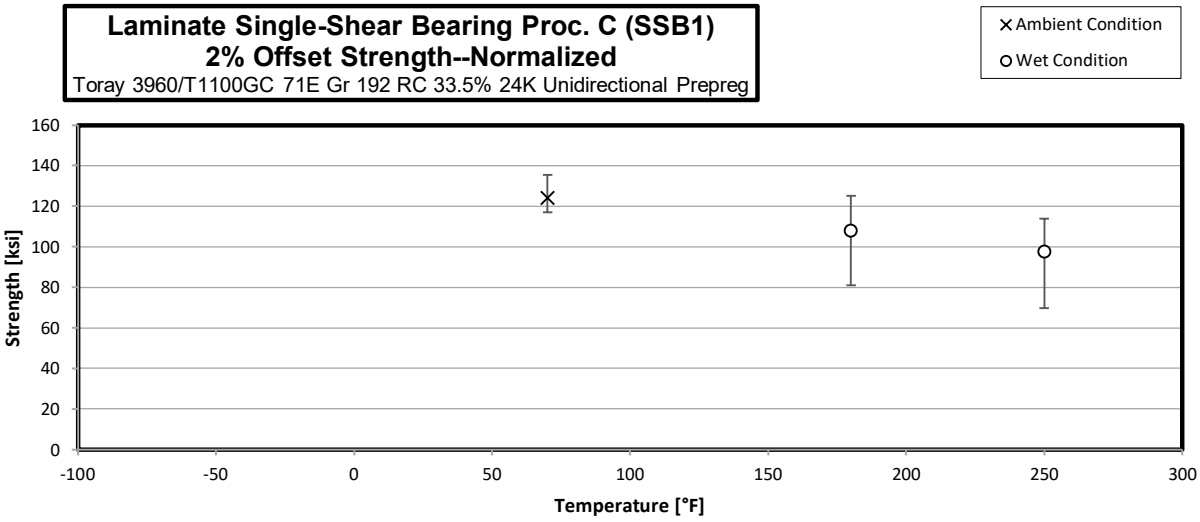
3.27 “10/80/10” Filled-Hole Compression 2 Properties (FHC2)

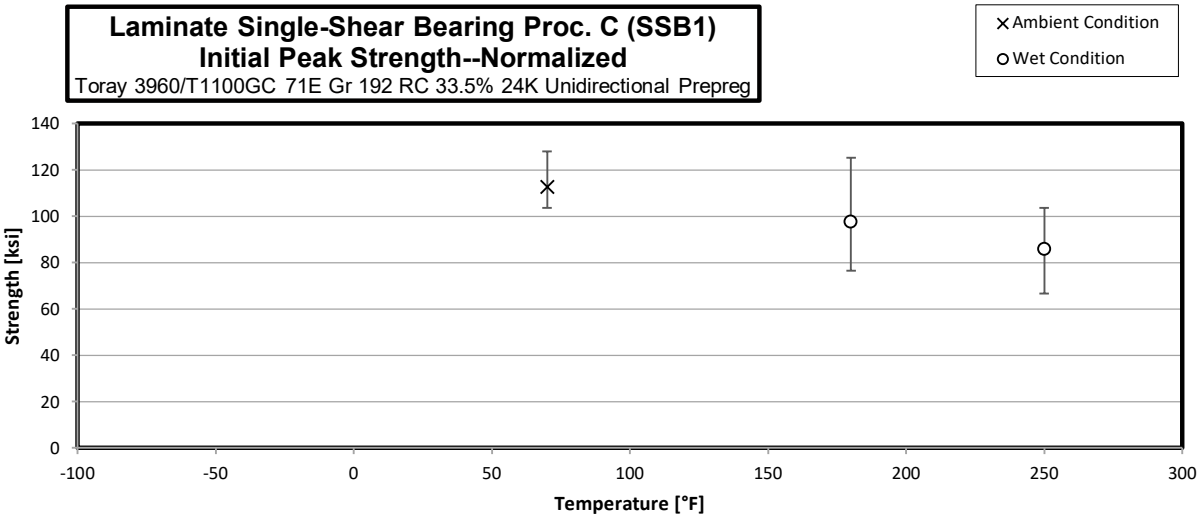


3.28 “50/40/10” Filled-Hole Compression 3 Properties (FHC3)

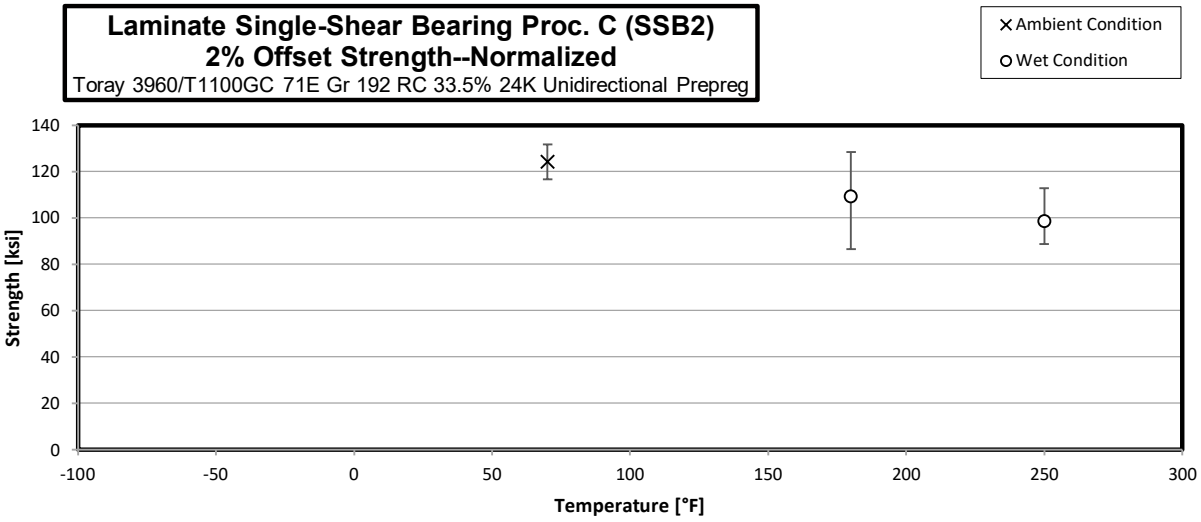


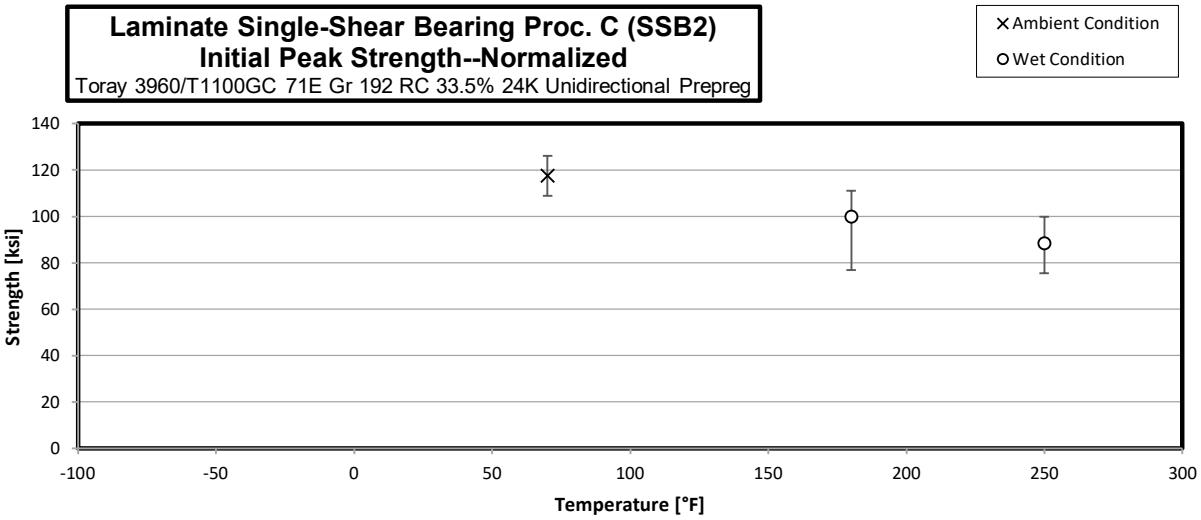
3.29 "25/50/25" Single-Shear Bearing 1 Properties (SSB1)



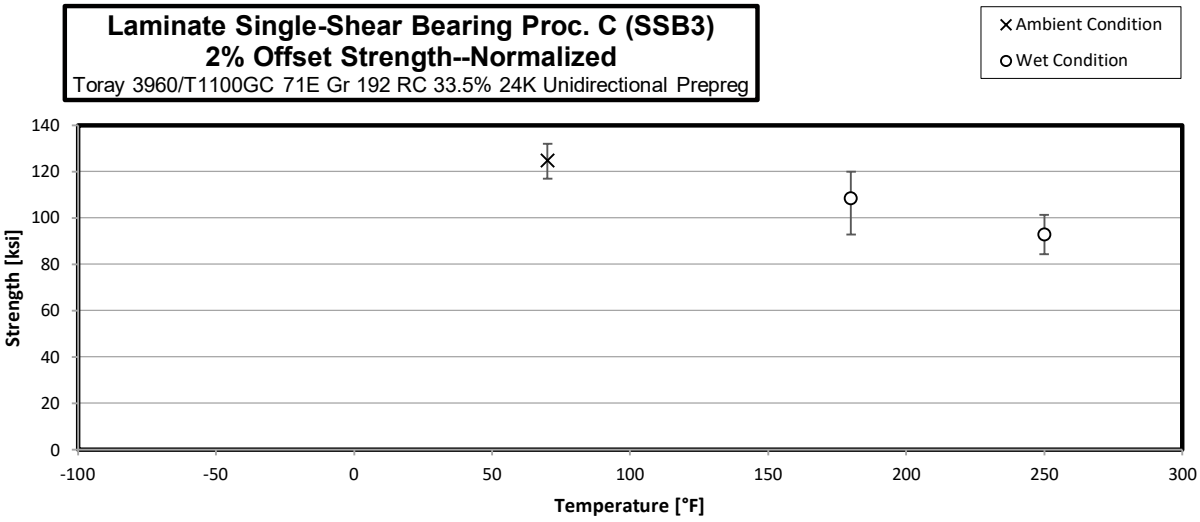


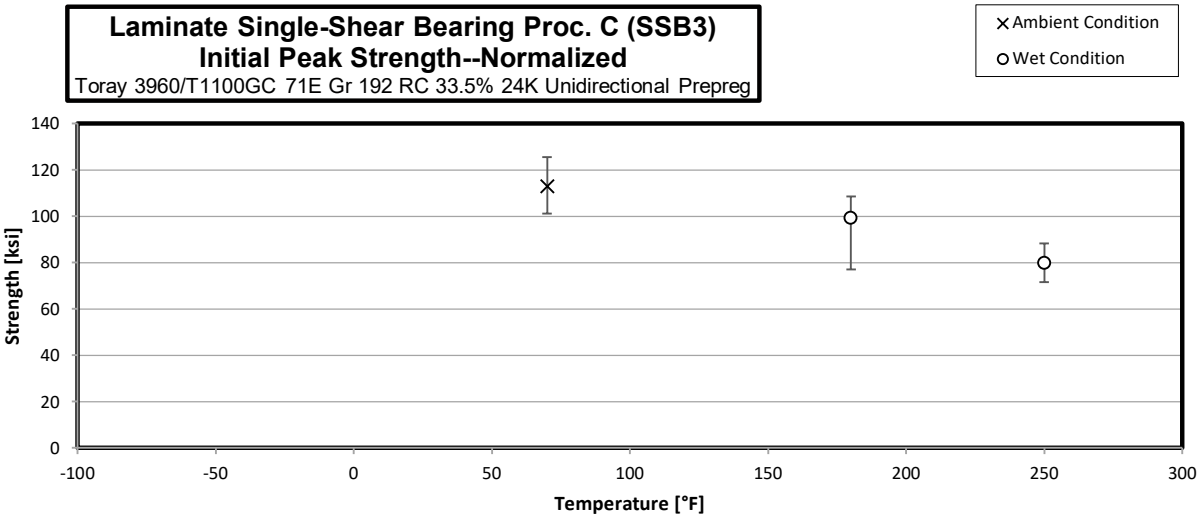
3.30 “10/80/10” Single-Shear Bearing 2 Properties (SSB2)



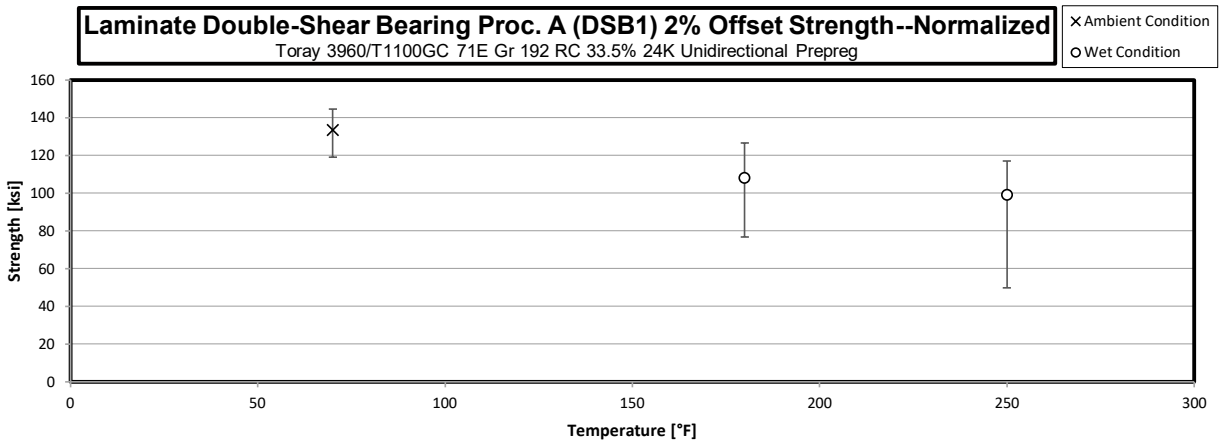


3.31 "50/40/10" Single-Shear Bearing 3 Properties (SSB3)

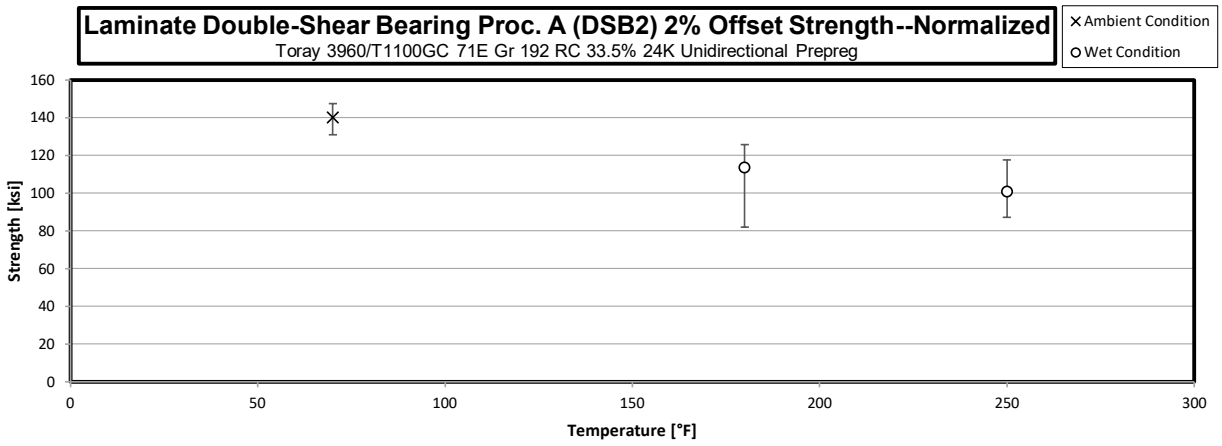




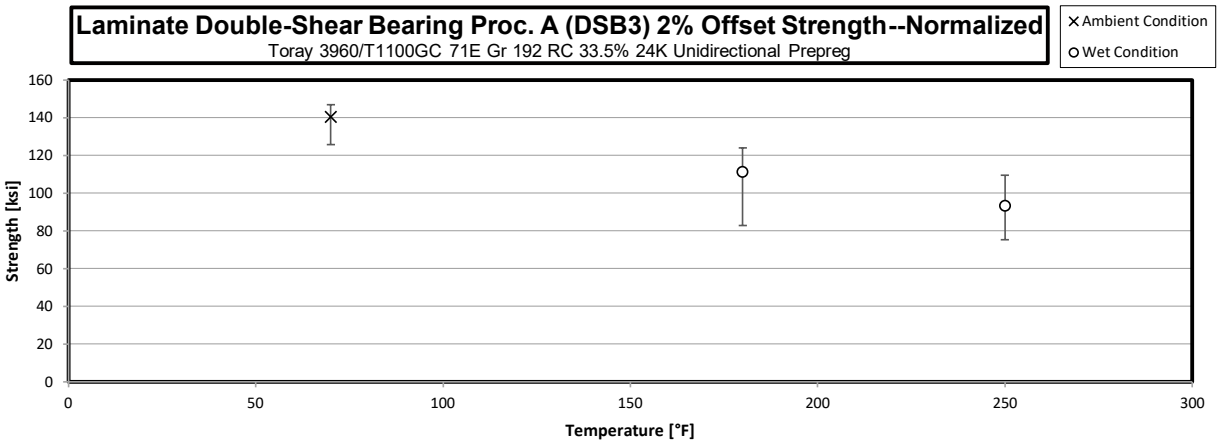
3.32 “25/50/25” Double-Shear Bearing 1 Properties (DSB1)



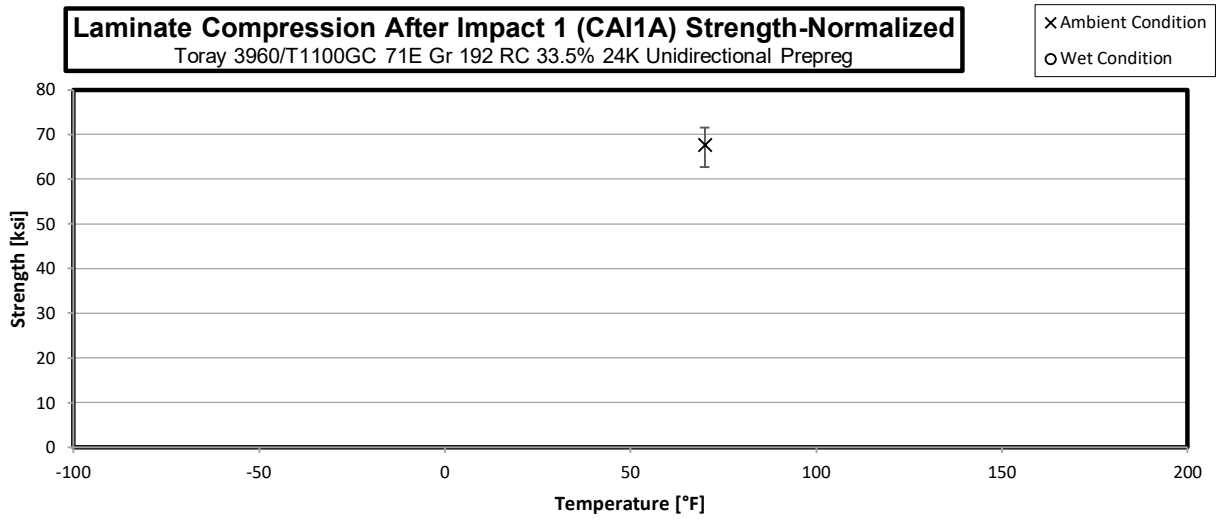
3.33 “10/80/10” Double-Shear Bearing 2 Properties (DSB2)



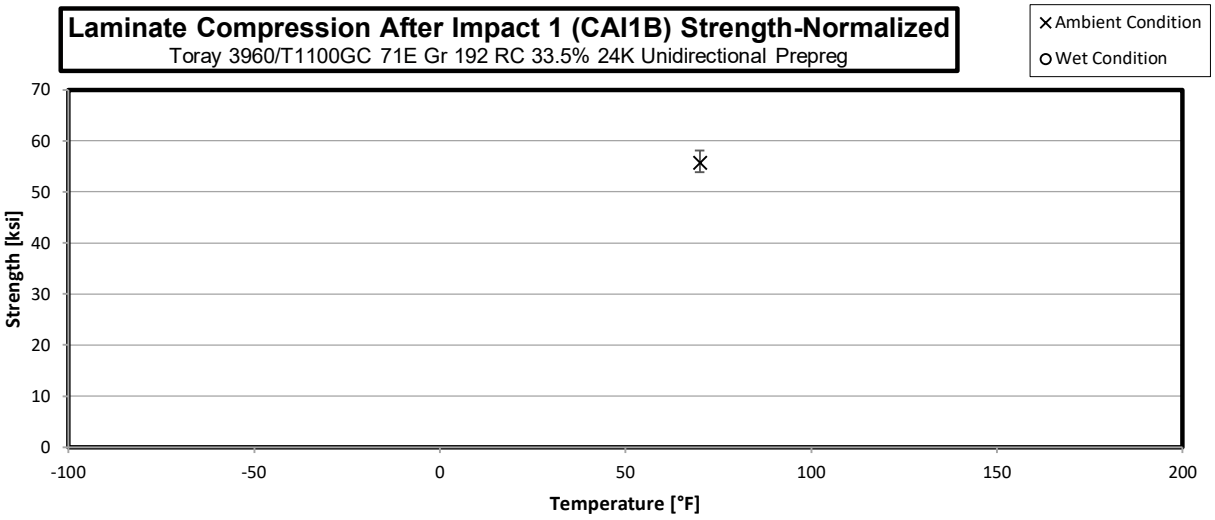
3.34 “50/40/10” Double-Shear Bearing 3 Properties (DSB3)



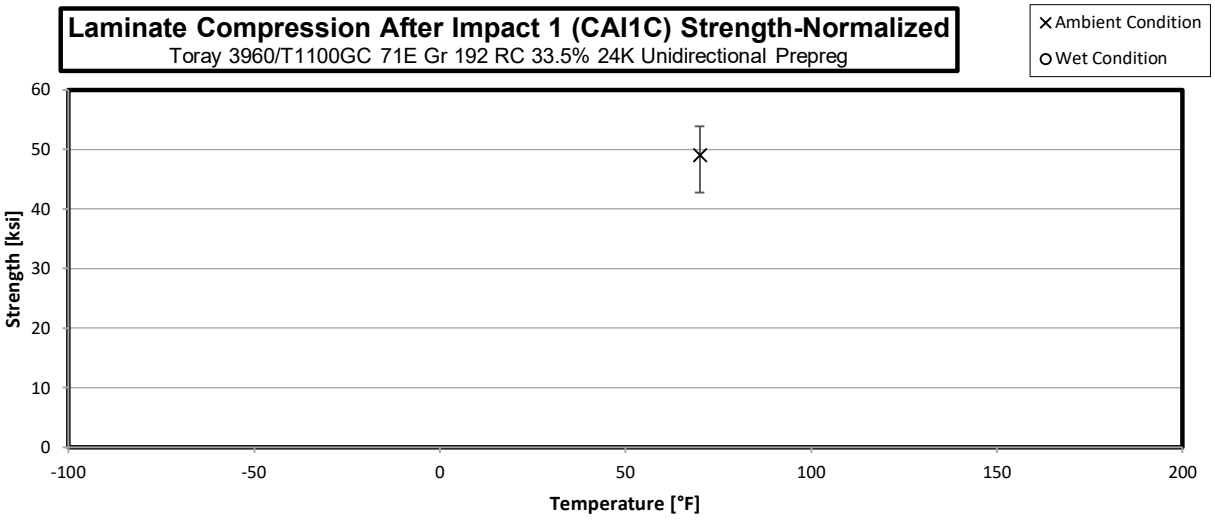
3.35 “25/50/25” Compression After Impact 1 Properties (CAI1A)



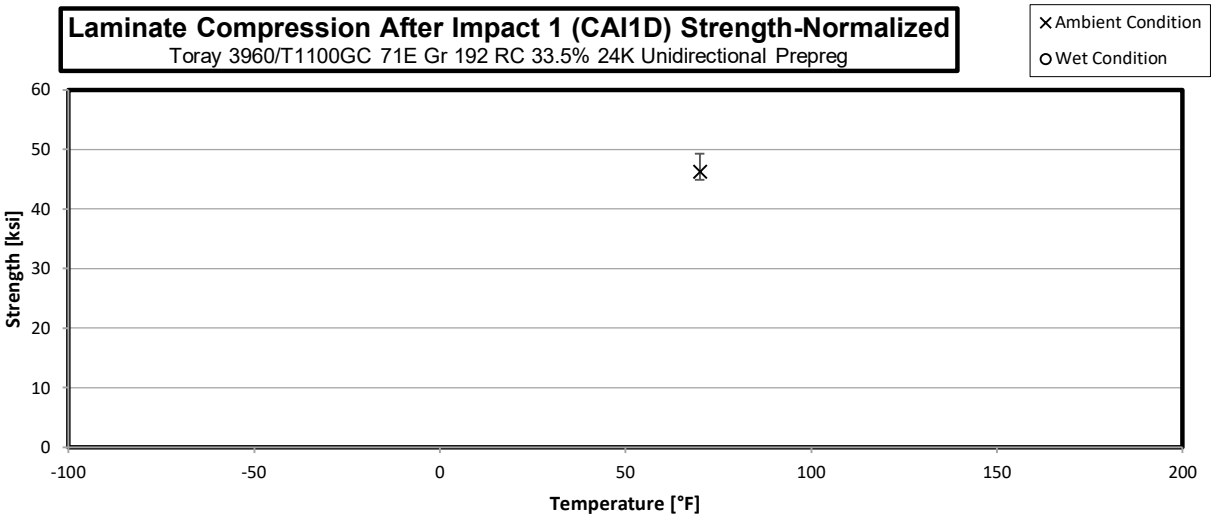
3.36 “25/50/25” Compression After Impact 1 Properties (CAI1B)



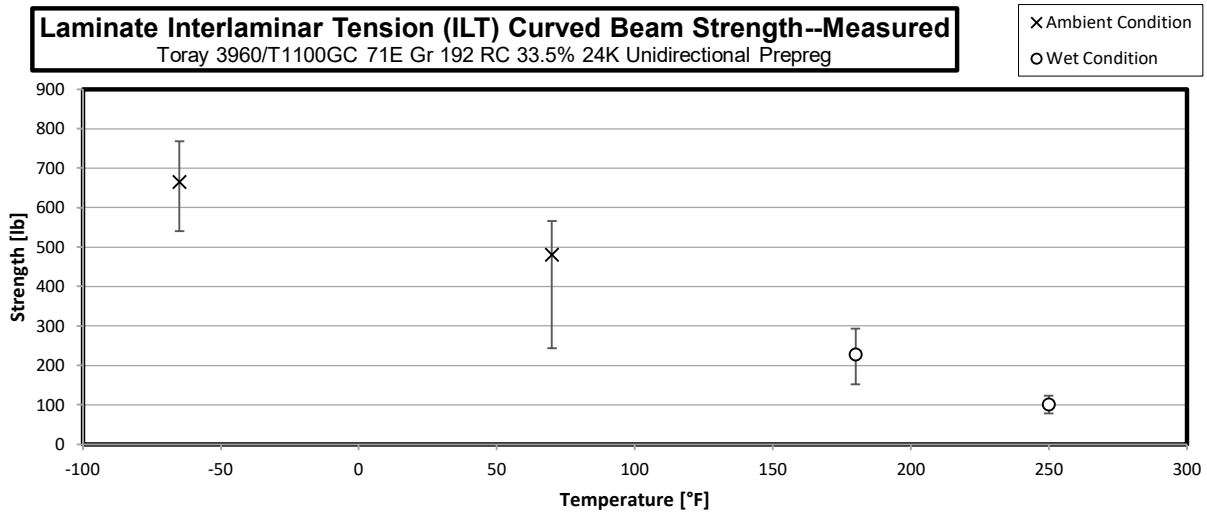
3.37 “25/50/25” Compression After Impact 1 Properties (CAI1C)

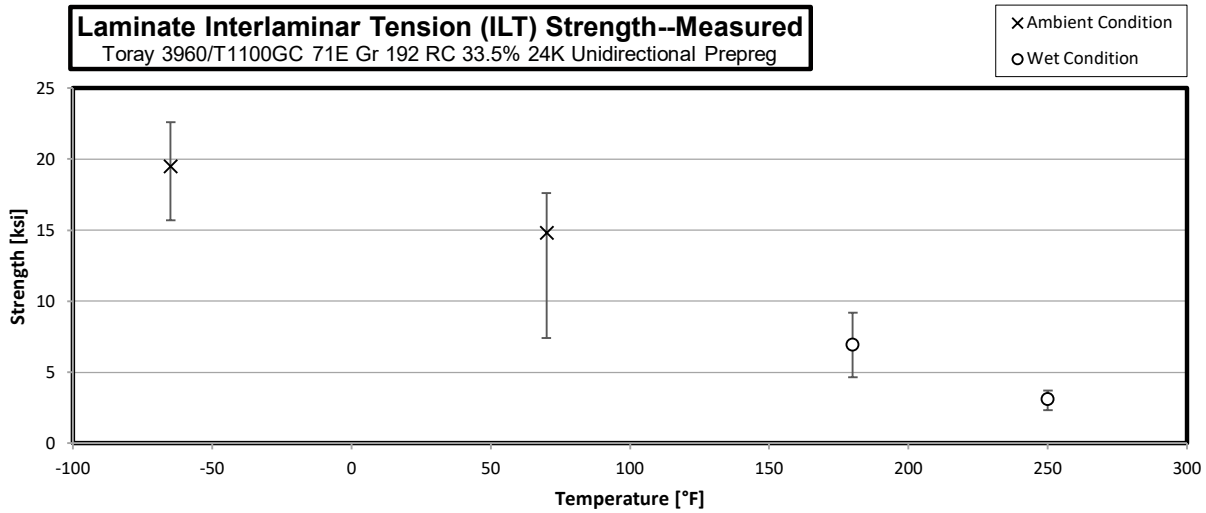


3.38 “25/50/25” Compression After Impact 1 Properties (CAI1D)



3.39 Interlaminar Tension Properties (ILT)





4. Raw Data

4.1 Longitudinal Tension Properties (LT)

Longitudinal Tension Properties (LT)--CTA (-65°F)
Strength & Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

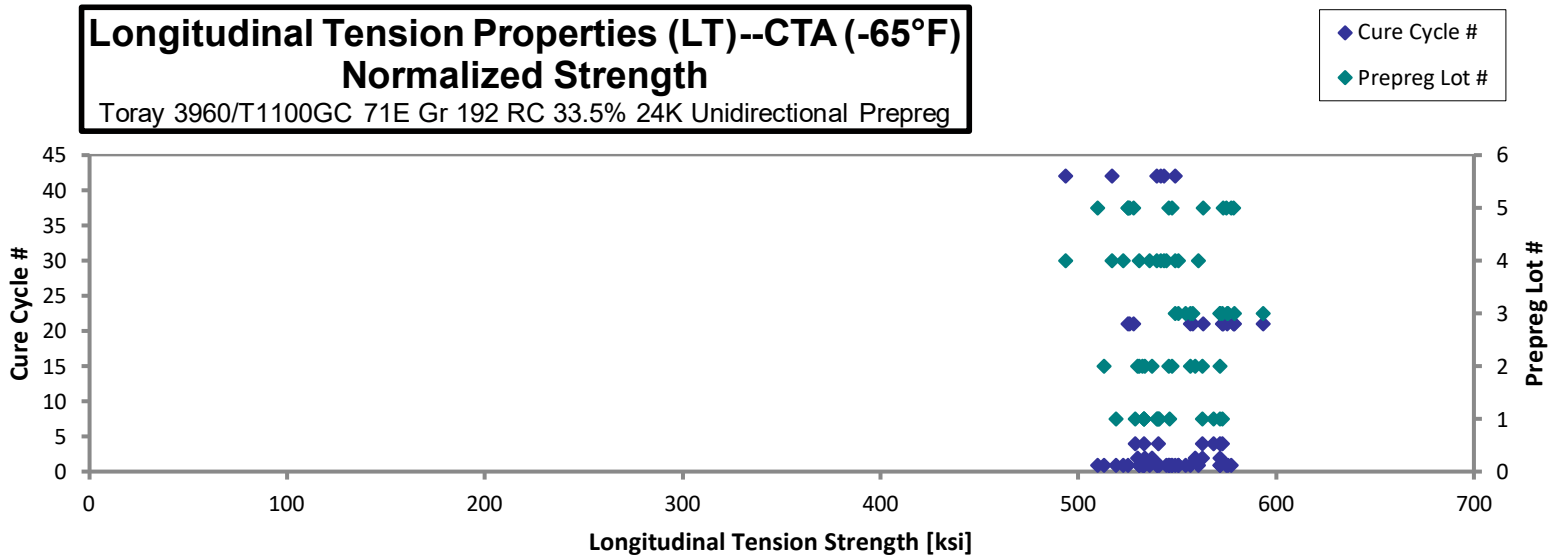
normalizing t_{ply} [in]: 0.007200

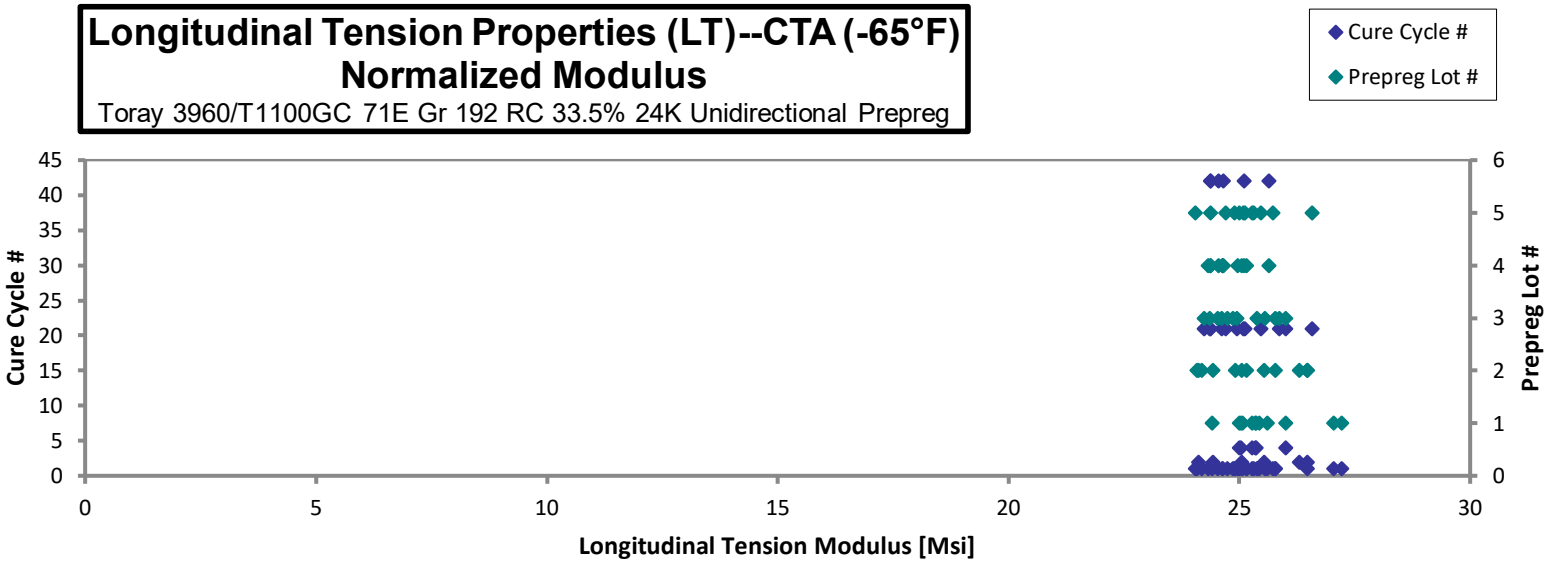
Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Modulus [Msi]	Poisson's Ratio	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
NTP3961Q1-TC-T01-BT-LT-A-C1-1-CTA-1	A	C1	1	1	540.6	27.59	0.3610	0.04262	6	XGV	0.007103	533.4	27.22
NTP3961Q1-TC-T01-BT-LT-A-C1-1-CTA-3	A	C1	1	1	561.9	27.82	0.3490	0.04200	6	XGV	0.007000	546.3	27.05
NTP3961Q1-TC-T01-BT-LT-A-C1-1-CTA-4	A	C1	1	1	551.0	26.45	0.5300	0.04182	6	XGV	0.006970	533.4	25.61
NTP3961Q1-TC-T01-BT-LT-A-C1-1-CTA-5**	A	C1	1	1	545.4			0.04277	6	XGV	0.007128	540.0	
NTP3961Q1-TC-T01-BT-LT-A-C1-1-CTA-6	A	C1	1	1	529.0	24.87	0.4350	0.04240	6	XGV	0.007067	519.2	24.41
NTP3961Q1-TC-T01-BT-LT-A-C1-1-CTA-7	A	C1	1	1	559.0	25.93	0.2830	0.04177	6	XGV	0.006962	540.4	25.07
NTP3961Q1-TC-T01-BT-LT-A-C1-1-CTA-8	A	C1	1	1	553.1	25.99	0.3020	0.04228	6	XGV	0.007047	541.3	25.44
NTP3961Q1-TC-T01-BT-LT-A-C4-1-CTA-1	A	C4	1	4	532.2	24.99	0.3110	0.04328	6	XGV	0.007213	533.2	25.04
NTP3961Q1-TC-T01-BT-LT-A-C4-1-CTA-2	A	C4	1	4	569.0	25.24	0.3090	0.04340	6	XGV	0.007233	571.7	25.36
NTP3961Q1-TC-T01-BT-LT-A-C4-1-CTA-3**	A	C4	1	4	558.7			0.04353	6	XGV	0.007255	563.0	
NTP3961Q1-TC-T01-BT-LT-A-C4-1-CTA-4	A	C4	1	4	567.7	25.96	0.3200	0.04328	6	XGV	0.007213	568.8	26.01
NTP3961Q1-TC-T01-BT-LT-A-C4-1-CTA-5	A	C4	1	4	535.3	24.75	0.3130	0.04363	6	XGV	0.007272	540.6	25.00
NTP3961Q1-TC-T01-BT-LT-A-C4-1-CTA-6	A	C4	1	4	581.0	25.63	0.2930	0.04260	6	XGV	0.007100	573.0	25.27
NTP3961Q1-TC-T01-BT-LT-A-C4-1-CTA-7	A	C4	1	4	538.5	25.81	0.3030	0.04243	6	XGV	0.007072	528.9	25.35
NTP3961Q1-TC-T01-BT-LT-B-C1-1-CTA-1	B	C1	2	1	480.5	23.54	0.2280	0.04615	6	XGV	0.007692	513.3	25.15
NTP3961Q1-TC-T01-BT-LT-B-C1-1-CTA-2*	B	C1	2	1	510.2	24.77		0.04495	6	XGV	0.007492	530.9	25.77
NTP3961Q1-TC-T01-BT-LT-B-C1-1-CTA-3*	B	C1	2	1	525.8	23.22		0.04500	6	XGV	0.007500	547.7	24.19
NTP3961Q1-TC-T01-BT-LT-B-C1-1-CTA-4	B	C1	2	1	534.9	23.58	0.3350	0.04410	6	XGV	0.007350	546.1	24.07
NTP3961Q1-TC-T01-BT-LT-B-C1-1-CTA-5*	B	C1	2	1	513.3	25.51		0.04483	6	XGV	0.007472	532.7	26.47
NTP3961Q1-TC-T01-BT-LT-B-C1-1-CTA-6	B	C1	2	1	546.2	24.42	0.4120	0.04405	6	XGV	0.007342	556.9	24.90
NTP3961Q1-TC-T01-BT-LT-B-C2-1-CTA-1	B	C2	2	2	503.2	22.86	0.2780	0.04615	6	XGV	0.007692	537.5	24.42
NTP3961Q1-TC-T01-BT-LT-B-C2-1-CTA-2	B	C2	2	2	546.2	24.39	0.3930	0.04522	6	XGV	0.007537	571.8	25.53
NTP3961Q1-TC-T01-BT-LT-B-C2-1-CTA-3	B	C2	2	2	530.1	24.92	0.4110	0.04557	6	XGV	0.007595	559.2	26.29
NTP3961Q1-TC-T01-BT-LT-B-C2-1-CTA-4*	B	C2	2	2	555.4	25.25		0.04125	6	XGV	0.006875	530.4	24.11
NTP3961Q1-TC-T01-BT-LT-B-C2-1-CTA-5	B	C2	2	2	517.4	24.27	0.3630	0.04457	6	XGV	0.007428	533.8	25.04
NTP3961Q1-TC-T01-BT-LT-B-C2-1-CTA-6	B	C2	2	2	531.0	24.97	0.3430	0.04580	6	XGV	0.007633	562.9	26.47
NTP3961Q1-TC-T01-TC-LT-C-C1-1-CTA-1	C	C1	3	1	550.8	24.81	0.3270	0.04308	6	XGV	0.007180	549.2	24.74
NTP3961Q1-TC-T01-TC-LT-C-C1-1-CTA-2	C	C1	3	1	559.2	24.63	0.3050	0.04450	6	XGV	0.007417	576.0	25.37
NTP3961Q1-TC-T01-TC-LT-C-C1-1-CTA-3	C	C1	3	1	554.9	25.81	0.3620	0.04315	6	XGV	0.007192	554.3	25.78
NTP3961Q1-TC-T01-TC-LT-C-C1-1-CTA-4	C	C1	3	1	567.0	25.32	0.3420	0.04358	6	XGV	0.007263	572.0	25.54
NTP3961Q1-TC-T01-TC-LT-C-C1-1-CTA-5	C	C1	3	1	554.5	24.70	0.2970	0.04290	6	XGV	0.007150	550.6	24.53
NTP3961Q1-TC-T01-TC-LT-C-C1-1-CTA-6	C	C1	3	1	549.0	23.86	0.3280	0.04500	6	XGV	0.007500	571.9	24.85
NTP3961Q1-TC-T01-TC-LT-C-C21-1-CTA-1	C	C21	3	21	559.2	24.27	0.3420	0.04312	6	XGV	0.007187	558.1	24.23
NTP3961Q1-TC-T01-TC-LT-C-C21-1-CTA-2	C	C21	3	21	575.0	24.34	0.3070	0.04323	6	XGV	0.007205	575.4	24.36
NTP3961Q1-TC-T01-TC-LT-C-C21-1-CTA-3	C	C21	3	21	588.5	24.73	0.3050	0.04357	6	XGV	0.007262	593.5	24.94
NTP3961Q1-TC-T01-TC-LT-C-C21-1-CTA-4	C	C21	3	21	573.7	25.76	0.3660	0.04360	6	XGV	0.007267	579.0	26.00
NTP3961Q1-TC-T01-TC-LT-C-C21-1-CTA-5	C	C21	3	21	562.9	24.87	0.2830	0.04275	6	XGV	0.007125	557.0	24.61
NTP3961Q1-TC-T01-TC-LT-C-C21-1-CTA-6	C	C21	3	21	566.8	25.59	0.3190	0.04367	6	XGV	0.007278	573.0	25.87
NTP3961Q1-TC-T01-TC-LT-D-C1-1-CTA-1	D	C1	4	1	534.2	24.54	0.2960	0.04336	6	XGV	0.007227	536.2	24.63
NTP3961Q1-TC-T01-TC-LT-D-C1-1-CTA-2	D	C1	4	1	538.5	24.97	0.2930	0.04260	6	XGV	0.007100	531.0	24.62
NTP3961Q1-TC-T01-TC-LT-D-C1-1-CTA-3	D	C1	4	1	553.1	25.27	0.2880	0.04301	6	XGV	0.007168	550.6	25.16
NTP3961Q1-TC-T01-TC-LT-D-C1-1-CTA-4	D	C1	4	1	517.4	24.79	0.2920	0.04366	6	XGV	0.007277	522.9	25.05
NTP3961Q1-TC-T01-TC-LT-D-C1-1-CTA-5	D	C1	4	1	546.1	24.29	0.2880	0.04438	6	XGV	0.007397	561.0	24.95
NTP3961Q1-TC-T01-TC-LT-D-C1-1-CTA-6	D	C1	4	1	540.8	24.15	0.3150	0.04350	6	XGV	0.007250	544.5	24.32
NTP3961Q1-TC-T01-TC-LT-D-C42-1-CTA-1	D	C42	4	42	545.8	24.75	0.3020	0.04303	6	XGV	0.007172	543.6	24.65
NTP3961Q1-TC-T01-TC-LT-D-C42-1-CTA-2	D	C42	4	42	543.0	24.51	0.3050	0.04296	6	XGV	0.007160	540.0	24.37
NTP3961Q1-TC-T01-TC-LT-D-C42-1-CTA-3	D	C42	4	42	487.6	25.31	0.3040	0.04376	6	XGV	0.007293	493.9	25.64
NTP3961Q1-TC-T01-TC-LT-D-C42-1-CTA-4	D	C42	4	42	517.3	25.11	0.3510	0.04318	6	XGV	0.007197	517.1	25.10
NTP3961Q1-TC-T01-TC-LT-D-C42-1-CTA-5	D	C42	4	42	537.5	24.17	0.3170	0.04355	6	XGV	0.007258	541.9	24.37
NTP3961Q1-TC-T01-TC-LT-D-C42-1-CTA-6	D	C42	4	42	555.5	24.82	0.3090	0.04271	6	XGV	0.007118	549.2	24.54
NTP3961Q1-TC-T01-TC-LT-E-C1-1-CTA-1	E	C1	5	1	565.6	25.29	0.3000	0.04393	6	XGV	0.007322	575.2	25.72
NTP3961Q1-TC-T01-TC-LT-E-C1-1-CTA-2	E	C1	5	1	530.2	24.99	0.3020	0.04155	6	XGV	0.006925	509.9	24.04
NTP3961Q1-TC-T01-TC-LT-E-C1-1-CTA-3	E	C1	5	1	530.3	25.11	0.3070	0.04281	6	XGV	0.007135	525.5	24.88
NTP3961Q1-TC-T01-TC-LT-E-C1-1-CTA-4	E	C1	5	1	582.3	25.49	0.3050	0.04283	6	XGV	0.007138	577.3	25.27
NTP3961Q1-TC-T01-TC-LT-E-C1-1-CTA-5	E	C1	5	1	538.2	24.87	0.2740	0.04395	6	XGV	0.007325	547.5	25.30
NTP3961Q1-TC-T01-TC-LT-E-C1-1-CTA-6	E	C1	5	1	542.6	24.84	0.3060	0.04346	6	XGV	0.007243	545.9	24.99
NTP3961Q1-TC-T01-TC-LT-E-C21-1-CTA-1	E	C21	5	21	587.0	25.44	0.3160	0.04260	6	XGV	0.007100	578.8	25.09
NTP3961Q1-TC-T01-TC-LT-E-C21-1-CTA-2	E	C21	5	21	518.3	24.00	0.3040	0.04386	6	XGV	0.007310	526.2	24.37
NTP3961Q1-TC-T01-TC-LT-E-C21-1-CTA-3	E	C21	5	21	568.0	24.92	0.3430	0.04283	6	XGV	0.007138	563.1	24.71
NTP3961Q1-TC-T01-TC-LT-E-C21-1-CTA-4	E	C21	5	21	563.6	26.11	0.4190	0.04395	6	XGV	0.007325	573.4	26.56
NTP3961Q1-TC-T01-TC-LT-E-C21-1-CTA-5	E	C21	5	21	530.3	25.21	0.3190	0.04303	6	XGV	0.007172	528.2	25.11
NTP3961Q1-TC-T01-TC-LT-E-C21-1-CTA-6	E	C21	5	21	522.8	25.35	0.3040	0.04340	6	XGV	0.007233	525.2	25.47

*Poisson's ratio is not reported due to strain error on transverse strain gage.
**Modulus and Poisson's ratio not reported due to strain error.

	Strength	Modulus	Poisson's Ratio
Average	544.7	25.00	0.3253
Standard Dev.	22.46	0.8656	0.04748
Coeff. of Var. [%]	4.122	3.463	14.60
Min.	480.5	22.86	0.2280
Max.	588.5	27.82	0.5300
Number of Spec.	62	60	56

	$Strength_{norm}$	$Modulus_{norm}$	
$Average_{norm}$	0.007246	548.0	25.15
Standard $Dev._{norm}$		20.58	0.7246
Coeff. of Var. $[\%]_{norm}$		3.756	2.881
Min.	0.006875	493.9	24.04
Max.	0.007692	593.5	27.22
Number of Spec.	62	62	60


Longitudinal Tension Properties (LT)--CTA (-65°F)
Normalized Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Longitudinal Tension Strength [ksi]
0
5
10
15
20
25
30
35
40
45
0
1
2
3
4
5
6
0
100
200
300
400
500
600
700


Longitudinal Tension Properties (LT)--CTA (-65°F)
Normalized Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Longitudinal Tension Modulus [Msi]
0
5
10
15
20
25
30
35
40
45
0
1
2
3
4
5
6

Longitudinal Tension Properties (LT)--RTA (70°F)
Strength & Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

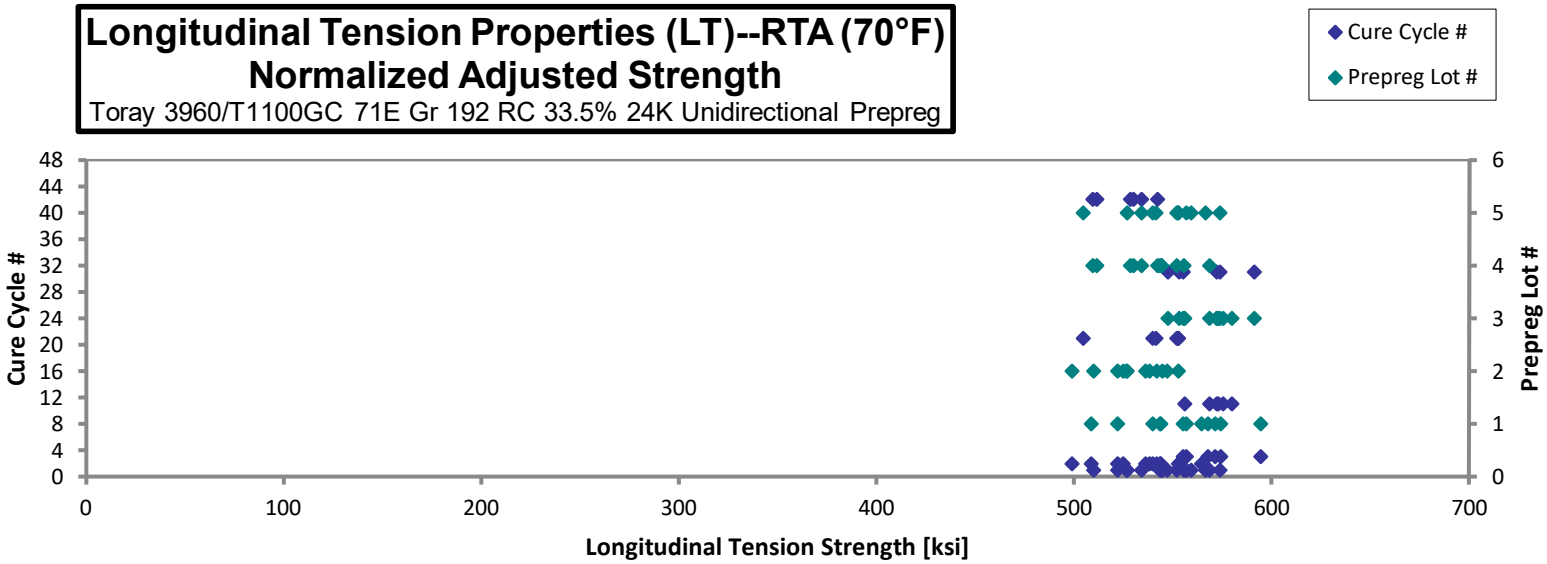
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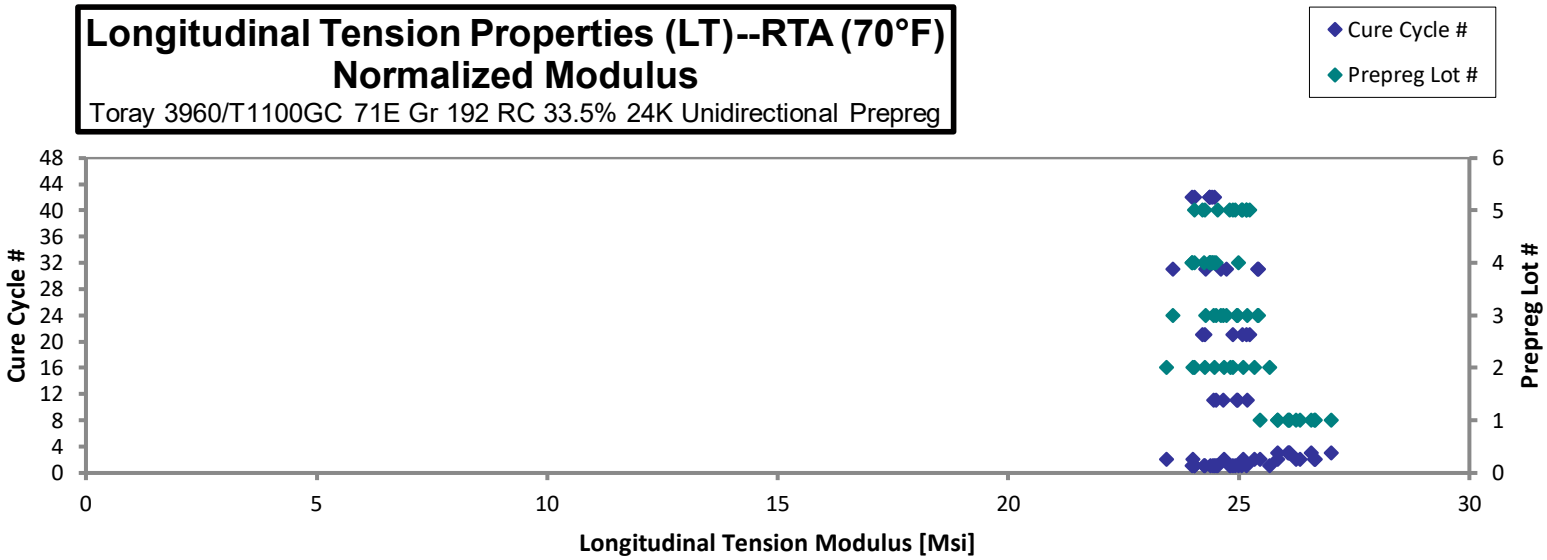
Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Adjusted Strength*** [ksi]	Modulus [Msi]	Poisson's Ratio	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	Adjusted $Strength_{norm}$ *** [ksi]	$Modulus_{norm}$ [Msi]
NTP3961Q1-TC-T01-BT-LT-A-C2-1-RTA-1	A	C2	1	2	550.8	532.4	26.34	0.3370	0.04237	6	XGV	0.007062	540.2	522.2	25.83
NTP3961Q1-TC-T01-BT-LT-A-C2-1-RTA-2	A	C2	1	2	538.2	519.8	27.21	0.3960	0.04230	6	XGV	0.007050	527.0	509.0	26.64
NTP3961Q1-TC-T01-BT-LT-A-C2-1-RTA-3	A	C2	1	2	569.2	550.8	26.87	0.3410	0.04233	6	XGV	0.007055	557.8	539.7	26.33
NTP3961Q1-TC-T01-BT-LT-A-C2-1-RTA-4	A	C2	1	2	577.5	559.1	26.17	0.3410	0.04202	6	XGV	0.007003	561.7	543.8	25.46
NTP3961Q1-TC-T01-BT-LT-A-C2-1-RTA-5	A	C2	1	2	596.3	577.9	27.26	0.3330	0.04220	6	XGV	0.007033	582.5	564.5	26.63
NTP3961Q1-TC-T01-BT-LT-A-C2-1-RTA-6	A	C2	1	2	569.3	550.9	26.59	0.3690	0.04263	6	XGV	0.007105	561.7	543.6	26.24
NTP3961Q1-TC-T01-BT-LT-A-C3-1-RTA-1	A	C3	1	3	607.0	588.6	27.03	0.4070	0.04167	6	XGV	0.006945	585.5	567.7	26.07
NTP3961Q1-TC-T01-BT-LT-A-C3-1-RTA-2	A	C3	1	3	601.6	583.2	26.37	0.3620	0.04232	6	XGV	0.007053	589.3	571.3	25.83
NTP3961Q1-TC-T01-BT-LT-A-C3-1-RTA-3	A	C3	1	3	624.7	606.3	27.54	0.3580	0.04235	6	XGV	0.007058	612.4	594.4	27.00
NTP3961Q1-TC-T01-BT-LT-A-C3-1-RTA-4	A	C3	1	3	588.1	569.7	26.70	0.3850	0.04223	6	XGV	0.007038	574.9	556.9	26.10
NTP3961Q1-TC-T01-BT-LT-A-C3-1-RTA-5	A	C3	1	3	603.0	584.6	26.52	0.3410	0.04245	6	XGV	0.007075	592.5	574.4	26.06
NTP3961Q1-TC-T01-BT-LT-A-C3-1-RTA-6	A	C3	1	3	583.4	565.0	27.02	0.3520	0.04247	6	XGV	0.007078	573.6	555.5	26.56
NTP3961Q1-TC-T01-BT-LT-B-C1-2-RTA-1*	B	C1	2	1	529.8	511.4	24.08		0.04453	6	XGV	0.007422	546.2	527.2	24.82
NTP3961Q1-TC-T01-BT-LT-B-C1-2-RTA-2	B	C1	2	1	548.4	530.0	24.84	0.4340	0.04462	6	XGV	0.007437	566.4	547.4	25.66
NTP3961Q1-TC-T01-BT-LT-B-C1-2-RTA-3	B	C1	2	1	526.2	507.8	23.36	0.2850	0.04443	6	XGV	0.007405	541.2	522.2	24.03
NTP3961Q1-TC-T01-BT-LT-B-C1-2-RTA-4*	B	C1	2	1	519.3	500.9	24.03		0.04398	6	XGV	0.007330	528.7	509.9	24.46
NTP3961Q1-TC-T01-BT-LT-B-C1-2-RTA-5	B	C1	2	1	533.6	515.2	23.74	0.3600	0.04415	6	XGV	0.007358	545.3	526.5	24.26
NTP3961Q1-TC-T01-BT-LT-B-C1-2-RTA-6	B	C1	2	1	545.7	527.3	24.07	0.3760	0.04462	6	XGV	0.007437	563.7	544.7	24.86
NTP3961Q1-TC-T01-BT-LT-B-C2-2-RTA-1	B	C2	2	2	536.8	518.4	23.11	0.3700	0.04485	6	XGV	0.007475	557.3	538.1	23.99
NTP3961Q1-TC-T01-BT-LT-B-C2-2-RTA-2*	B	C2	2	2	523.8	505.4	23.16		0.04727	6	XGV	0.007878	573.1	553.0	25.34
NTP3961Q1-TC-T01-BT-LT-B-C2-2-RTA-3	B	C2	2	2	535.5	517.1	23.94	0.3480	0.04528	6	XGV	0.007547	561.3	542.0	25.09
NTP3961Q1-TC-T01-BT-LT-B-C2-2-RTA-4	B	C2	2	2	533.1	514.7	23.68	0.3550	0.04502	6	XGV	0.007503	555.5	536.3	24.68
NTP3961Q1-TC-T01-BT-LT-B-C2-2-RTA-5**	B	C2	2	2	529.4	511.0			0.04438	6	XGV	0.007397	543.9	524.9	
NTP3961Q1-TC-T01-BT-LT-B-C2-2-RTA-6	B	C2	2	2	505.4	487.0	22.85	0.4080	0.04428	6	XGV	0.007380	518.0	499.2	23.42
NTP3961Q1-TC-T01-TC-LT-C-C11-1-RTA-1	C	C11	3	11	578.0	559.6	24.81	0.3330	0.04293	6	XGV	0.007155	574.4	556.1	24.65
NTP3961Q1-TC-T01-TC-LT-C-C11-1-RTA-2	C	C11	3	11	575.4	557.0	24.37	0.3510	0.04463	6	XGV	0.007438	594.5	575.5	25.18
NTP3961Q1-TC-T01-TC-LT-C-C11-1-RTA-3	C	C11	3	11	582.2	563.8	24.57	0.3750	0.04387	6	XGV	0.007312	591.2	572.5	24.95
NTP3961Q1-TC-T01-TC-LT-C-C11-1-RTA-4	C	C11	3	11	586.9	568.5	24.48	0.3340	0.04407	6	XGV	0.007345	598.7	579.9	24.97
NTP3961Q1-TC-T01-TC-LT-C-C11-1-RTA-5	C	C11	3	11	602.5	584.1	24.96	0.3340	0.04240	6	XGV	0.007067	591.4	573.3	24.50
NTP3961Q1-TC-T01-TC-LT-C-C11-1-RTA-6	C	C11	3	11	582.7	564.3	24.25	0.3510	0.04355	6	XGV	0.007258	587.4	568.8	24.45
NTP3961Q1-TC-T01-TC-LT-C-C31-1-RTA-1	C	C31	3	31	572.3	553.9	23.83	0.3610	0.04272	6	XGV	0.007120	565.9	547.7	23.57
NTP3961Q1-TC-T01-TC-LT-C-C31-1-RTA-2	C	C31	3	31	569.3	550.9	24.38	0.3360	0.04500	6	XGV	0.007500	593.1	573.9	25.40
NTP3961Q1-TC-T01-TC-LT-C-C31-1-RTA-3	C	C31	3	31	575.7	557.3	24.81	0.3260	0.04305	6	XGV	0.007175	573.7	555.4	24.72
NTP3961Q1-TC-T01-TC-LT-C-C31-1-RTA-4	C	C31	3	31	592.3	573.9	24.66	0.3390	0.04452	6	XGV	0.007420	610.4	591.4	25.41
NTP3961Q1-TC-T01-TC-LT-C-C31-1-RTA-5	C	C31	3	31	590.9	572.5	24.29	0.3410	0.04318	6	XGV	0.007197	590.6	572.2	24.28
NTP3961Q1-TC-T01-TC-LT-C-C31-1-RTA-6	C	C31	3	31	555.9	537.5	23.89	0.3430	0.04448	6	XGV	0.007413	572.4	553.4	24.60
NTP3961Q1-TC-T01-TC-LT-D-C1-1-RTA-1	D	C1	4	1	561.8	543.4	24.19	0.3440	0.04328	6	XGV	0.007213	562.8	544.4	24.23
NTP3961Q1-TC-T01-TC-LT-D-C1-1-RTA-2	D	C1	4	1	552.1	533.7	23.93	0.3100	0.04401	6	XGV	0.007335	562.4	543.7	24.38
NTP3961Q1-TC-T01-TC-LT-D-C1-1-RTA-3	D	C1	4	1	573.2	554.8	24.10	0.3200	0.04300	6	XGV	0.007167	570.6	552.2	23.99
NTP3961Q1-TC-T01-TC-LT-D-C1-1-RTA-4	D	C1	4	1	587.8	569.4	25.02	0.3040	0.04315	6	XGV	0.007192	587.1	568.7	24.99
NTP3961Q1-TC-T01-TC-LT-D-C1-1-RTA-5	D	C1	4	1	577.9	559.5	24.59	0.3440	0.04291	6	XGV	0.007152	574.0	555.7	24.42
NTP3961Q1-TC-T01-TC-LT-D-C1-1-RTA-6	D	C1	4	1	560.7	542.3	24.40	0.3520	0.04338	6	XGV	0.007230	563.0	544.5	24.50
NTP3961Q1-TC-T01-TC-LT-D-C42-1-RTA-1	D	C42	4	42	548.4	530.0	24.27	0.3530	0.04355	6	XGV	0.007258	552.9	534.3	24.47
NTP3961Q1-TC-T01-TC-LT-D-C42-1-RTA-2	D	C42	4	42	554.0	535.6	24.74	0.3200	0.04263	6	XGV	0.007105	546.7	528.5	24.41
NTP3961Q1-TC-T01-TC-LT-D-C42-1-RTA-3	D	C42	4	42	528.9	510.5	23.92	0.3040	0.04330	6	XGV	0.007217	530.1	511.7	23.98
NTP3961Q1-TC-T01-TC-LT-D-C42-1-RTA-4	D	C42	4	42	530.9	512.5	24.18	0.3520	0.04295	6	XGV	0.007158	527.8	509.5	24.04
NTP3961Q1-TC-T01-TC-LT-D-C42-1-RTA-5	D	C42	4	42	558.6	540.2	24.26	0.3260	0.04338	6	XGV	0.007230	560.9	542.5	24.36
NTP3961Q1-TC-T01-TC-LT-D-C42-1-RTA-6	D	C42	4	42	552.6	534.2	24.54	0.3420	0.04288	6	XGV	0.007147	548.5	530.2	24.36
NTP3961Q1-TC-T01-TC-LT-E-C1-1-RTA-1	E	C1	5	1	585.9	567.5	24.88	0.3220	0.04368	6	XGV	0.007280	592.4	573.8	25.16
NTP3961Q1-TC-T01-TC-LT-E-C1-1-RTA-2	E	C1	5	1	581.2	562.8	24.87	0.3140	0.04351	6	XGV	0.007252	585.4	566.8	25.05
NTP3961Q1-TC-T01-TC-LT-E-C1-1-RTA-3	E	C1	5	1	585.3	566.9	25.36	0.3210	0.04245	6	XGV	0.007075	575.1	557.1	24.92
NTP3961Q1-TC-T01-TC-LT-E-C1-1-RTA-4	E	C1	5	1	546.7	528.3	24.60	0.3180	0.04310	6	XGV	0.007183	545.4	527.0	24.54
NTP3961Q1-TC-T01-TC-LT-E-C1-1-RTA-5	E	C1	5	1	556.3	537.9	24.20	0.3180	0.04291	6	XGV	0.007152	552.5	534.2	24.04
NTP3961Q1-TC-T01-TC-LT-E-C1-1-RTA-6	E	C1	5	1	574.5	556.1	24.66	0.3520	0.04345	6	XGV	0.007242	577.9	559.4	24.80
NTP3961Q1-TC-T01-TC-LT-E-C21-1-RTA-1	E	C21	5	21	571.1	552.7	25.23	0.3300	0.04320	6	XGV	0.007200	571.1	552.7	25.23
NTP3961Q1-TC-T01-TC-LT-E-C21-1-RTA-2	E	C21	5	21	576.8	558.4	24.53	0.2860	0.04273	6	XGV	0.007122	570.5	552.3	24.26
NTP3961Q1-TC-T01-TC-LT-E-C21-1-RTA-3	E	C21	5	21	562.0	543.6	24.45	0.3230	0.04393	6	XGV	0.007322	571.5	552.8	24.86
NTP3961Q1-TC-T01-TC-LT-E-C21-1-RTA-4	E	C21	5	21	544.7	526.3	24.53	0.3130	0.04431	6	XGV	0.007385	558.7	539.8	25.16
NTP3961Q1-TC-T01-TC-LT-E-C21-1-RTA-5	E	C21	5	21	556.1	537.7	24.90	0.3350	0.04351	6	XGV	0.007252	560.1	541.6	25.08
NTP3961Q1-TC-T01-TC-LT-E-C21-1-RTA-6	E	C21	5	21	524.9	506.5	24.29	0.3130	0.04306	6	XGV	0.007177	523.1	504.8	24.21

*Poisson's ratio is not reported due to strain error on transverse strain gage.
**Modulus and Poisson's ratio are not reported due to strain error on longitudinal strain gage.
***(-)18.4 ksi knockdown was applied to lower the specification limits as requested by material supplier. Adjusted values are used to calculate B-basis and should be used for Equivalency comparison.

Average	**563.2**	**544.8**	**24.82**	**0.3428**
Standard Dev.	**25.68**	**25.68**	**1.131**	**0.02858**
Coeff. of Var. [%]	**4.560**	**4.714**	**4.558**	**8.336**
Min.	**505.4**	**487.0**	**22.85**	**0.2850**
Max.	**624.7**	**606.3**	**27.54**	**0.4340**
Number of Spec.	**60**	**60**	**59**	**56**

$Average_{norm}$	**0.007243**	**566.2**	**547.7**	**24.94**
Standard $Dev._{norm}$		**21.61**	**21.63**	**0.8125**
Coeff. of Var. $[\%]_{norm}$		**3.816**	**3.950**	**3.258**
Min.	**0.006945**	**518.0**	**499.2**	**23.42**
Max.	**0.007878**	**612.4**	**594.4**	**27.00**
Number of Spec.	**60**	**60**	**60**	**59**


Longitudinal Tension Properties (LT)--RTA (70°F)
Normalized Adjusted Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Longitudinal Tension Strength [ksi]
0
100
200
300
400
500
600
700
0
4
8
12
16
20
24
28
32
36
40
44
48
0
1
2
3
4
5
6

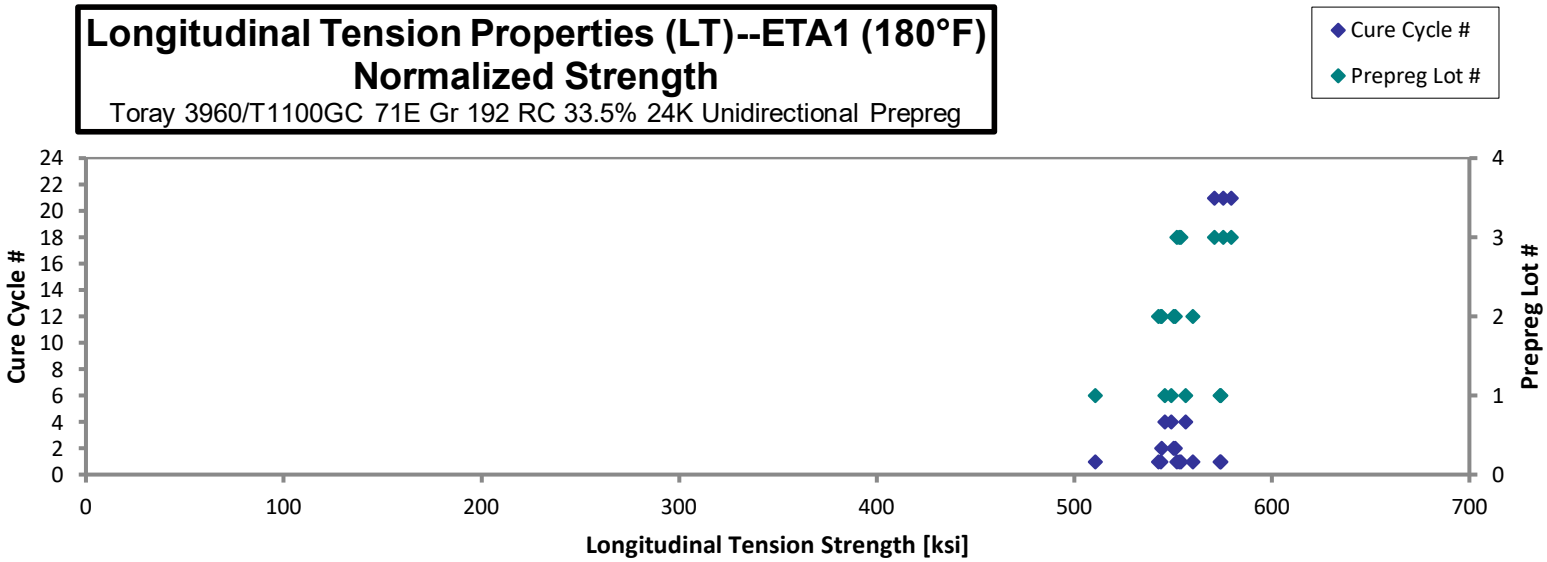

Longitudinal Tension Properties (LT)--RTA (70°F)
Normalized Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Longitudinal Tension Modulus [Msi]
0
4
8
12
16
20
24
28
32
36
40
44
48
0
1
2
3
4
5
6
0
5
10
15
20
25
30

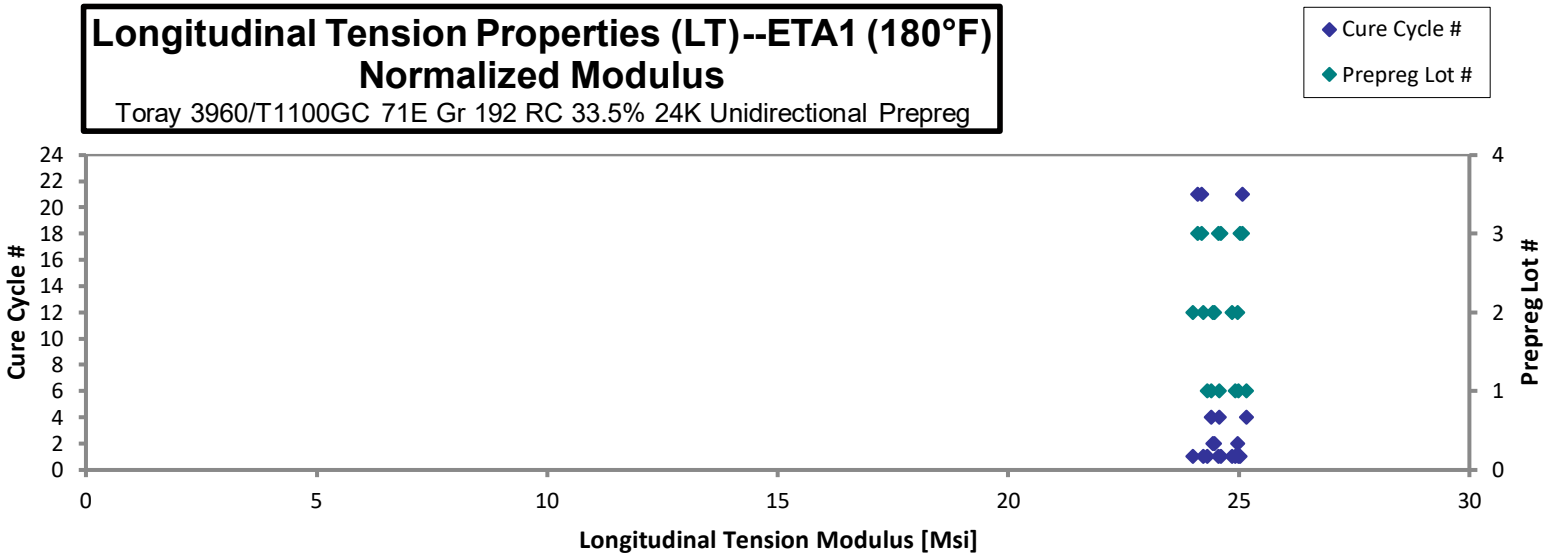
Longitudinal Tension Properties (LT)--ETA1 (180°F)
Strength & Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

normalizing t_{ply} [in]
0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Modulus [Msi]	Poisson's Ratio	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
NTP3961Q1-TC-T01-BT-LT-A-C1-1-ETA1-1	A	C1	1	1	583.8	25.41	0.3800	0.04248	6	XGV	0.007080	574.1	24.99
NTP3961Q1-TC-T01-BT-LT-A-C1-1-ETA1-2	A	C1	1	1	511.4	24.35	0.3460	0.04313	6	XGV	0.007188	510.5	24.31
NTP3961Q1-TC-T01-BT-LT-A-C1-1-ETA1-3	A	C1	1	1	581.1	25.23	0.2740	0.04267	6	XGV	0.007112	573.9	24.92
NTP3961Q1-TC-T01-BT-LT-A-C4-1-ETA1-1	A	C4	1	4	544.0	24.35	0.3220	0.04360	6	XGV	0.007267	549.0	24.58
NTP3961Q1-TC-T01-BT-LT-A-C4-1-ETA1-2	A	C4	1	4	544.0	24.32	0.3290	0.04335	6	XGV	0.007225	545.8	24.40
NTP3961Q1-TC-T01-BT-LT-A-C4-1-ETA1-3	A	C4	1	4	556.1	25.15	0.3400	0.04322	6	XGV	0.007203	556.3	25.16
NTP3961Q1-TC-T01-BT-LT-B-C1-1-ETA1-1	B	C1	2	1	544.6	24.17	0.3240	0.04442	6	XGV	0.007403	560.0	24.85
NTP3961Q1-TC-T01-BT-LT-B-C1-1-ETA1-2	B	C1	2	1	519.7	23.15	0.3110	0.04520	6	XGV	0.007533	543.7	24.22
NTP3961Q1-TC-T01-BT-LT-B-C1-1-ETA1-3	B	C1	2	1	512.0	22.65	0.3110	0.04578	6	XGV	0.007630	542.5	24.00
NTP3961Q1-TC-T01-BT-LT-B-C2-1-ETA1-1	B	C2	2	2	520.8	23.59	0.3340	0.04572	6	XGV	0.007620	551.2	24.97
NTP3961Q1-TC-T01-BT-LT-B-C2-1-ETA1-2	B	C2	2	2	523.5	23.28	0.4140	0.04540	6	XGV	0.007567	550.1	24.47
NTP3961Q1-TC-T01-BT-LT-B-C2-1-ETA1-3	B	C2	2	2	527.9	23.71	0.4000	0.04452	6	XGV	0.007420	544.0	24.43
NTP3961Q1-TC-T01-TC-LT-C-C1-1-ETA1-1	C	C1	3	1	535.9	23.79	0.3200	0.04460	6	XGV	0.007433	553.2	24.56
NTP3961Q1-TC-T01-TC-LT-C-C1-1-ETA1-2	C	C1	3	1	547.2	24.72	0.3630	0.04373	6	XGV	0.007288	554.0	25.02
NTP3961Q1-TC-T01-TC-LT-C-C1-1-ETA1-3	C	C1	3	1	542.7	24.19	0.3710	0.04393	6	XGV	0.007322	551.8	24.60
NTP3961Q1-TC-T01-TC-LT-C-C21-1-ETA1-1	C	C21	3	21	563.8	23.45	0.3140	0.04440	6	XGV	0.007400	579.4	24.10
NTP3961Q1-TC-T01-TC-LT-C-C21-1-ETA1-2	C	C21	3	21	572.8	24.27	0.3470	0.04307	6	XGV	0.007178	571.1	24.20
NTP3961Q1-TC-T01-TC-LT-C-C21-1-ETA1-3	C	C21	3	21	565.4	24.63	0.3610	0.04397	6	XGV	0.007328	575.5	25.07

	Strength [ksi]	Modulus [Msi]	Poisson's Ratio		$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
Average	**544.2**	**24.13**	**0.3423**	**$Average_{norm}$**	**0.007344**	**554.8**	**24.60**
Standard Dev.	**22.70**	**0.7500**	**0.03468**	**$Standard\ Dev._{norm}$**		**16.40**	**0.3634**
Coeff. of Var. [%]	**4.171**	**3.108**	**10.13**	**Coeff. of Var. [%]$_{norm}$**		**2.956**	**1.477**
Min.	**511.4**	**22.65**	**0.2740**	**Min.**	**0.007080**	**510.5**	**24.00**
Max.	**583.8**	**25.41**	**0.4140**	**Max.**	**0.007630**	**579.4**	**25.16**
Number of Spec.	**18**	**18**	**18**	**Number of Spec.**	**18**	**18**	**18**


Longitudinal Tension Properties (LT)--ETA1 (180°F)
Normalized Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Longitudinal Tension Strength [ksi]
0
100
200
300
400
500
600
700
0
2
4
6
8
10
12
14
16
18
20
22
24
0
1
2
3
4


Longitudinal Tension Properties (LT)--ETA1 (180°F)
Normalized Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Longitudinal Tension Modulus [Msi]
0
2
4
6
8
10
12
14
16
18
20
22
24
0
1
2
3
4
0
5
10
15
20
25
30

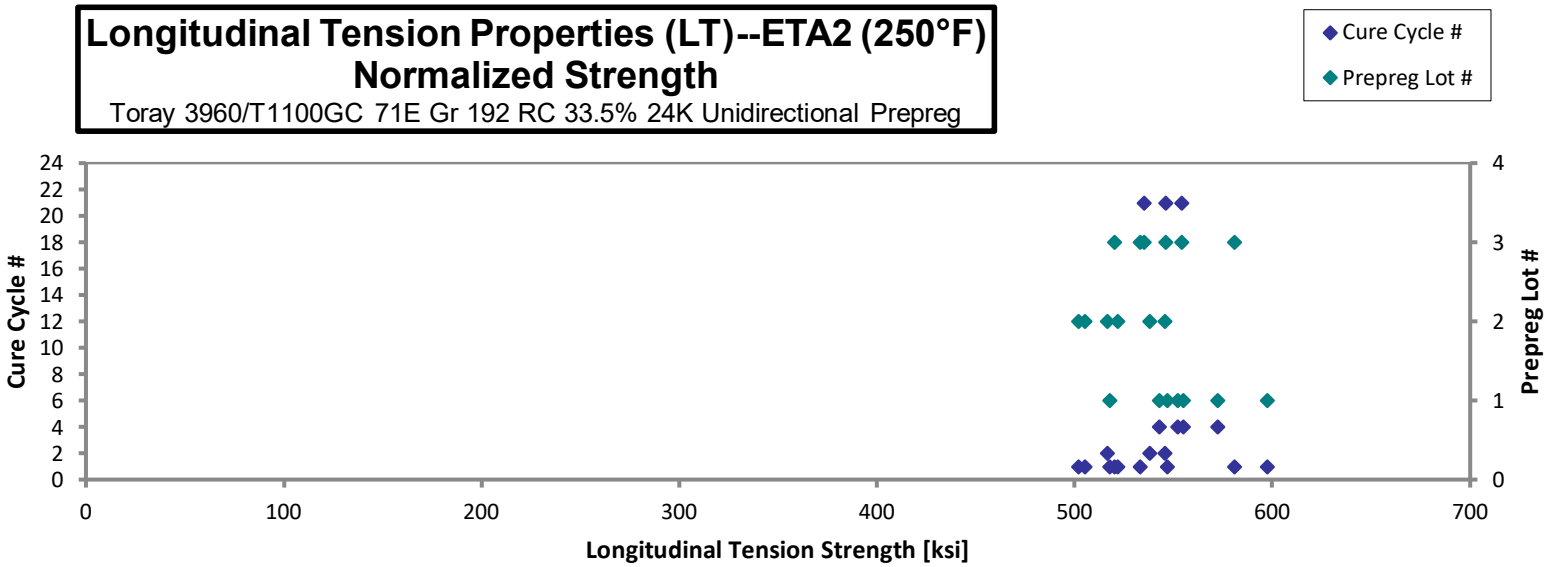
Longitudinal Tension Properties (LT)--ETA2 (250°F)
Strength & Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

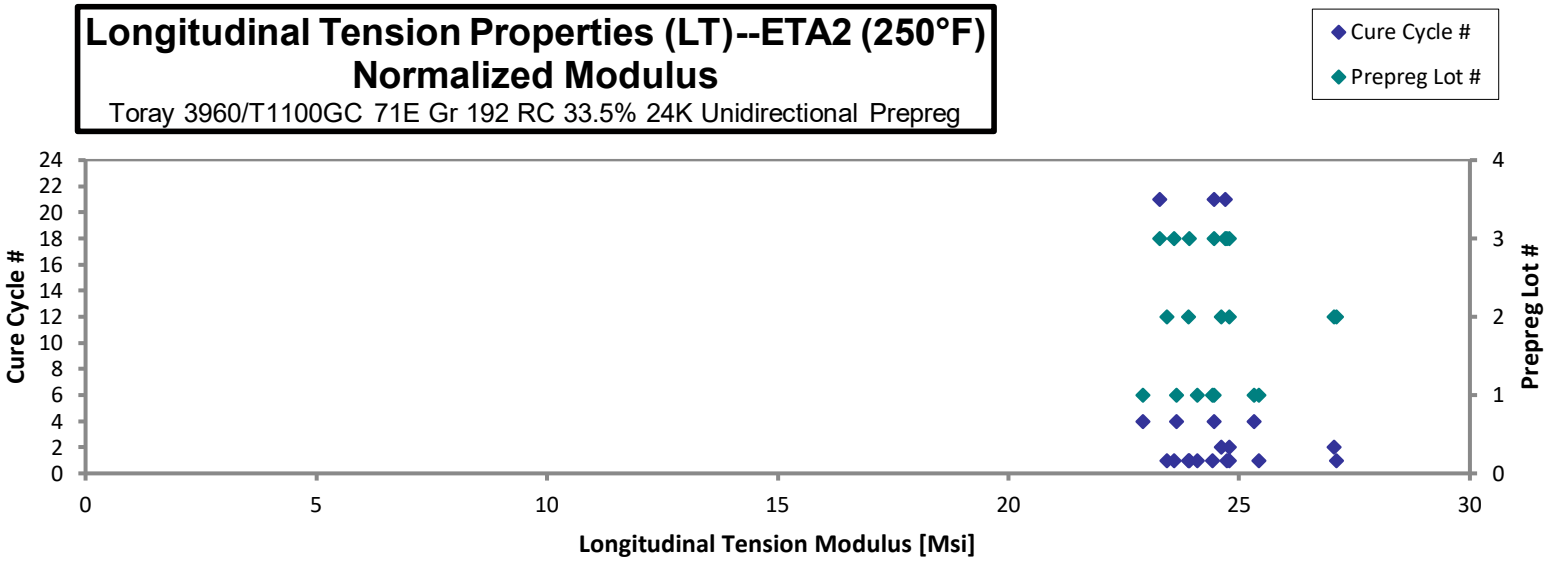
normalizing t_{ply} [in]
0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Modulus [Msi]	Poisson's Ratio	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
NTP3961Q1-TC-T01-BT-LT-A-C1-1-ETA2-1	A	C1	1	1	590.0	25.10	0.3040	0.04375	6	XGV	0.007292	597.5	25.42
NTP3961Q1-TC-T01-BT-LT-A-C1-1-ETA2-2	A	C1	1	1	551.7	24.65	0.3240	0.04280	6	XGV	0.007133	546.6	24.42
NTP3961Q1-TC-T01-BT-LT-A-C1-1-ETA2-3	A	C1	1	1	535.7	24.94	0.3700	0.04173	6	XGV	0.006955	517.5	24.09
NTP3961Q1-TC-T01-BT-LT-A-C4-1-ETA2-1	A	C4	1	4	588.5	24.31	0.3350	0.04200	6	XGV	0.007000	572.1	23.63
NTP3961Q1-TC-T01-BT-LT-A-C4-1-ETA2-2	A	C4	1	4	543.0	24.05	0.3490	0.04392	6	XGV	0.007320	552.0	24.45
NTP3961Q1-TC-T01-BT-LT-A-C4-1-ETA2-3*	A	C4	1	4	539.4	24.61		0.04445	6	XGV	0.007408	555.0	25.32
NTP3961Q1-TC-T01-BT-LT-A-C4-1-ETA2-4	A	C4	1	4	553.1	23.34	0.2980	0.04240	6	XGV	0.007067	542.8	22.91
NTP3961Q1-TC-T01-BT-LT-B-C1-1-ETA2-1	B	C1	2	1	492.5	26.42	0.3670	0.04432	6	XGV	0.007387	505.3	27.10
NTP3961Q1-TC-T01-BT-LT-B-C1-1-ETA2-2	B	C1	2	1	488.5	22.38	0.3490	0.04615	6	XGV	0.007692	521.8	23.91
NTP3961Q1-TC-T01-BT-LT-B-C1-1-ETA2-3	B	C1	2	1	483.1	22.55	0.2490	0.04488	6	XGV	0.007480	501.9	23.43
NTP3961Q1-TC-T01-BT-LT-B-C2-1-ETA2-1	B	C2	2	2	488.1	25.57	0.4230	0.04570	6	XGV	0.007617	516.3	27.05
NTP3961Q1-TC-T01-BT-LT-B-C2-1-ETA2-2	B	C2	2	2	521.3	23.85	0.3600	0.04458	6	XGV	0.007430	538.0	24.61
NTP3961Q1-TC-T01-BT-LT-B-C2-1-ETA2-3	B	C2	2	2	519.1	23.58	0.3240	0.04542	6	XGV	0.007570	545.7	24.79
NTP3961Q1-TC-T01-TC-LT-C-C1-1-ETA2-1	C	C1	3	1	522.7	24.04	0.2860	0.04298	6	XGV	0.007163	520.0	23.92
NTP3961Q1-TC-T01-TC-LT-C-C1-1-ETA2-2	C	C1	3	1	532.3	23.56	0.3710	0.04327	6	XGV	0.007212	533.2	23.60
NTP3961Q1-TC-T01-TC-LT-C-C1-1-ETA2-3**	C	C1	3	1		23.74	0.3250	0.04500	6	GAT	0.007500		24.73
NTP3961Q1-TC-T01-TC-LT-C-C1-1-ETA2-4	C	C1	3	1	576.6	24.60	0.3470	0.04352	6	XGV	0.007253	580.8	24.78
NTP3961Q1-TC-T01-TC-LT-C-C21-1-ETA2-1	C	C21	3	21	532.4	23.83	0.3190	0.04432	6	XGV	0.007387	546.2	24.45
NTP3961Q1-TC-T01-TC-LT-C-C21-1-ETA2-2	C	C21	3	21	539.2	24.89	0.4100	0.04287	6	XGV	0.007145	535.1	24.70
NTP3961Q1-TC-T01-TC-LT-C-C21-1-ETA2-3	C	C21	3	21	540.1	22.68	0.3210	0.04433	6	XGV	0.007388	554.2	23.27

*Poisson's ratio is not reported due to noise in transverse strain gage.
**Strength not reported due to invalid failure mode. Modulus and Poisson's ratio acceptable since tabbing adhesive slip occurred at or near failure.

Average	**533.5**	**24.13**	**0.3385**	**$Average_{norm}$**	**0.007320**	**541.2**	**24.53**
Standard Dev.	**31.43**	**1.013**	**0.04134**	**$Standard\ Dev._{norm}$**		**24.95**	**1.093**
Coeff. of Var. [%]	**5.891**	**4.197**	**12.21**	**$Coeff.\ of\ Var.\ [\%]_{norm}$**		**4.610**	**4.454**
Min.	**483.1**	**22.38**	**0.2490**	**Min.**	**0.006955**	**501.9**	**22.91**
Max.	**590.0**	**26.42**	**0.4230**	**Max.**	**0.007692**	**597.5**	**27.10**
Number of Spec.	**19**	**20**	**19**	**Number of Spec.**	**20**	**19**	**20**


Longitudinal Tension Properties (LT)--ETA2 (250°F)
Normalized Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Longitudinal Tension Strength [ksi]
0
2
4
6
8
10
12
14
16
18
20
22
24
0
1
2
3
4
0
100
200
300
400
500
600
700


Longitudinal Tension Properties (LT)--ETA2 (250°F)
Normalized Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Longitudinal Tension Modulus [Msi]
0
2
4
6
8
10
12
14
16
18
20
22
24
0
1
2
3
4
0
5
10
15
20
25
30

Longitudinal Tension Properties (LT)--ETW1 (180°F)
Strength & Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

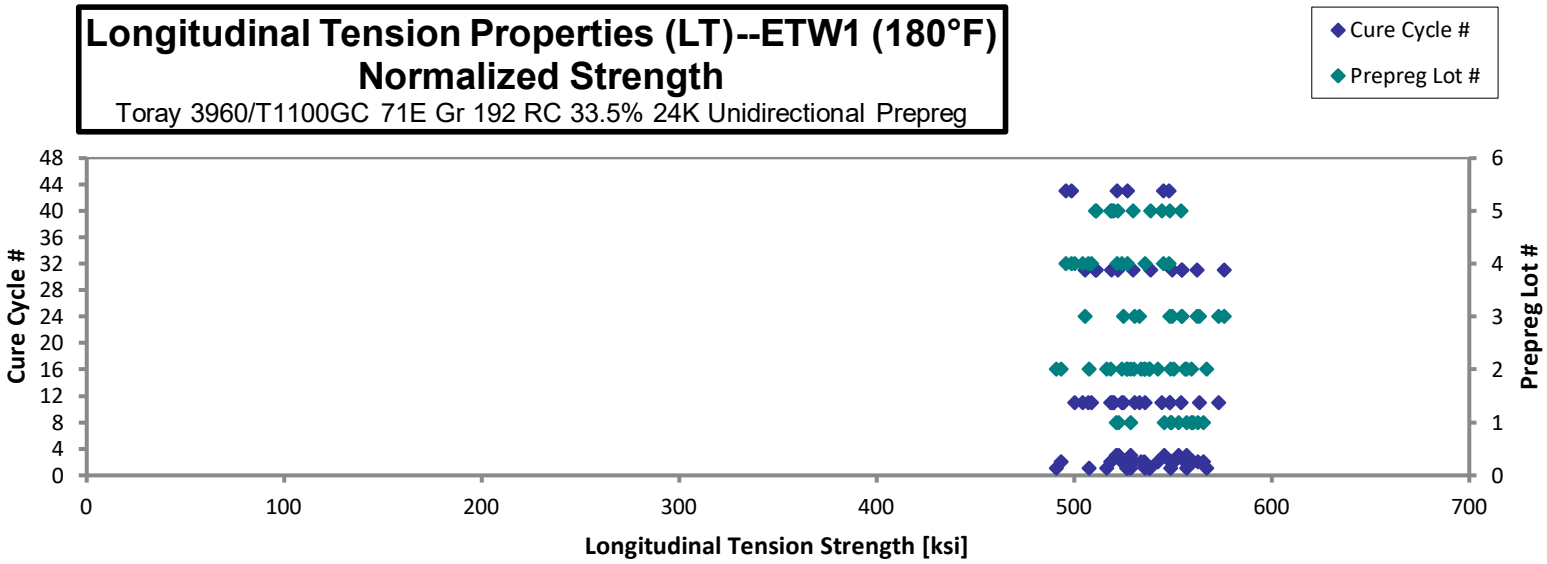
normalizing t_{ply} [in]: 0.007200

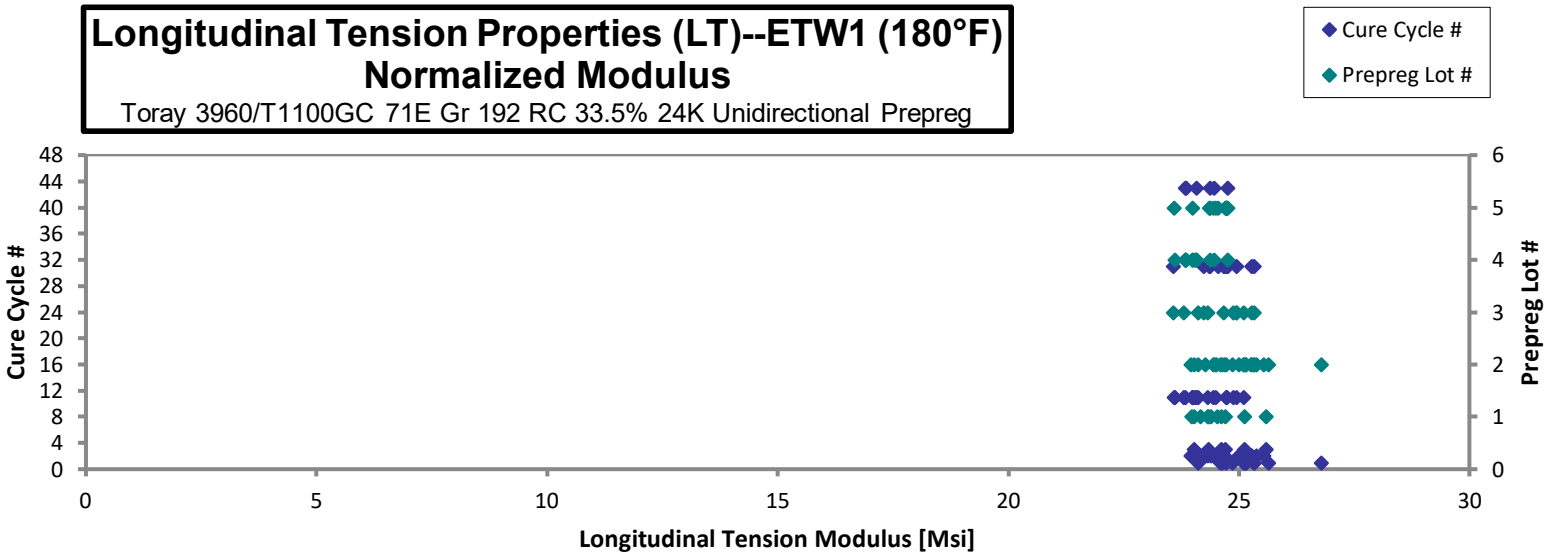
Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Modulus [Msi]	Poisson's Ratio	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
NTP3961Q1-TC-T01-BT-LT-A-C2-1-ETW1-1	A	C2	1	2	562.2	25.11	0.3310	0.04220	6	XGV	0.007033	549.2	24.53
NTP3961Q1-TC-T01-BT-LT-A-C2-1-ETW1-2*	A	C2	1	2	571.2			0.04240	6	XGV	0.007067	560.7	
NTP3961Q1-TC-T01-BT-LT-A-C2-1-ETW1-3	A	C2	1	2	569.3	24.74	0.3660	0.04247	6	XGV	0.007078	559.7	24.32
NTP3961Q1-TC-T01-BT-LT-A-C2-1-ETW1-4	A	C2	1	2	563.8	24.79	0.3230	0.04212	6	XGV	0.007020	549.7	24.17
NTP3961Q1-TC-T01-BT-LT-A-C2-1-ETW1-5**	A	C2	1	2	573.5	24.72		0.04262	6	XGV	0.007103	565.8	24.39
NTP3961Q1-TC-T01-BT-LT-A-C2-1-ETW1-6**	A	C2	1	2	578.8	24.66		0.04202	6	XGV	0.007003	563.0	23.99
NTP3961Q1-TC-T01-BT-LT-A-C3-1-ETW1-1	A	C3	1	3	553.7	25.14	0.3280	0.04317	6	XGV	0.007195	553.3	25.12
NTP3961Q1-TC-T01-BT-LT-A-C3-1-ETW1-2	A	C3	1	3	543.3	25.48	0.3810	0.04340	6	XGV	0.007233	545.9	25.60
NTP3961Q1-TC-T01-BT-LT-A-C3-1-ETW1-3**	A	C3	1	3	518.8	24.44		0.04353	6	XGV	0.007255	522.8	24.63
NTP3961Q1-TC-T01-BT-LT-A-C3-1-ETW1-4	A	C3	1	3	529.4	24.36	0.4370	0.04317	6	XGV	0.007195	529.0	24.34
NTP3961Q1-TC-T01-BT-LT-A-C3-1-ETW1-5	A	C3	1	3	552.4	24.49	0.3040	0.04358	6	XGV	0.007263	557.2	24.71
NTP3961Q1-TC-T01-BT-LT-A-C3-1-ETW1-6**	A	C3	1	3	524.5	24.15		0.04297	6	XGV	0.007162	521.7	24.02
NTP3961Q1-TC-T01-BT-LT-B-C1-2-ETW1-3	B	C1	2	1	515.5	23.98	0.3300	0.04433	6	XGV	0.007388	529.0	24.61
NTP3961Q1-TC-T01-BT-LT-B-C1-2-ETW1-4	B	C1	2	1	517.3	24.85	0.3710	0.04403	6	XGV	0.007338	527.2	25.33
NTP3961Q1-TC-T01-BT-LT-B-C1-2-ETW1-5	B	C1	2	1	524.0	23.99	0.3510	0.04343	6	XGV	0.007238	526.8	24.12
NTP3961Q1-TC-T01-BT-LT-B-C1-2-ETW1-6	B	C1	2	1	550.5	24.69	0.3320	0.04310	6	XGV	0.007183	549.2	24.63
NTP3961Q1-TC-T01-BT-LT-B-C1-2-ETW2-5***	B	C1	2	1	488.4	25.01	0.3410	0.04345	6	XGM	0.007242	491.2	25.15
NTP3961Q1-TC-T01-BT-LT-B-C1-2-ETW2-6***	B	C1	2	1	502.1	26.03	0.4130	0.04447	6	XGM	0.007412	516.9	26.80
NTP3961Q1-TC-T01-BT-LT-B-C1-2-ETW2-7***	B	C1	2	1	496.2	24.30	0.3470	0.04420	6	XGV	0.007367	507.7	24.86
NTP3961Q1-TC-T01-BT-LT-B-C1-2-ETW2-8***	B	C1	2	1	526.8	24.69	0.3480	0.04398	6	XGV	0.007330	536.3	25.14
NTP3961Q1-TC-T01-BT-LT-B-C1-2-ETW2-9***	B	C1	2	1	534.7	24.92	0.3650	0.04353	6	XGV	0.007255	538.7	25.11
NTP3961Q1-TC-T01-BT-LT-B-C1-2-ETW2-10***	B	C1	2	1	537.9	25.31	0.3610	0.04323	6	XGV	0.007205	538.2	25.33
NTP3961Q1-TC-T01-BT-LT-B-C1-2-ETW2-11***	B	C1	2	1	546.3	25.15	0.3010	0.04406	6	XGV	0.007343	557.2	25.65
NTP3961Q1-TC-T01-BT-LT-B-C1-2-ETW2-12***	B	C1	2	1	555.2	24.20	0.3460	0.04415	6	XGV	0.007358	567.5	24.73
NTP3961Q1-TC-T01-BT-LT-B-C2-2-ETW1-1****	B	C2	2	2		24.19	0.2960	0.04372	6	M(X,G)MV	0.007287		24.48
NTP3961Q1-TC-T01-BT-LT-B-C2-2-ETW1-2****	B	C2	2	2		23.50	0.3730	0.04495	6	M(X,G)MV	0.007492		24.45
NTP3961Q1-TC-T01-BT-LT-B-C2-2-ETW1-3****	B	C2	2	2		24.08	0.4570	0.04505	6	M(X,G)MV	0.007508		25.11
NTP3961Q1-TC-T01-BT-LT-B-C2-2-ETW1-4	B	C2	2	2	521.8	23.94	0.3820	0.04560	6	XGV	0.007600	550.8	25.27
NTP3961Q1-TC-T01-BT-LT-B-C2-2-ETW1-5	B	C2	2	2	549.8	24.69	0.3930	0.04373	6	XGV	0.007288	556.6	24.99
NTP3961Q1-TC-T01-BT-LT-B-C2-2-ETW1-6*	B	C2	2	2	523.1			0.04482	6	XGV	0.007470	542.7	
NTP3961Q1-TC-T01-BT-LT-B-C2-2-ETW2-5***	B	C2	2	2	526.2	25.04	0.4510	0.04258	6	XGM	0.007097	518.6	24.68
NTP3961Q1-TC-T01-BT-LT-B-C2-2-ETW2-6***[5]****	B	C2	2	2		24.15	0.2620	0.04298	6	SGM	0.007163		24.03
NTP3961Q1-TC-T01-BT-LT-B-C2-2-ETW2-16***	B	C2	2	2	535.9	24.46	0.4200	0.04511	6	XGV	0.007518	559.6	25.54
NTP3961Q1-TC-T01-BT-LT-B-C2-2-ETW2-17***	B	C2	2	2	512.4	24.24	0.3700	0.04503	6	XGV	0.007505	534.1	25.27
NTP3961Q1-TC-T01-BT-LT-B-C2-2-ETW2-18***	B	C2	2	2	500.7	24.24	0.4320	0.04525	6	XGV	0.007542	524.5	25.39
NTP3961Q1-TC-T01-BT-LT-B-C2-2-ETW2-19***	B	C2	2	2	534.9	24.72	0.3080	0.04285	6	XGV	0.007142	530.6	24.52
NTP3961Q1-TC-T01-BT-LT-B-C2-2-ETW2-20***	B	C2	2	2	491.1	23.84	0.2860	0.04341	6	XGV	0.007235	493.5	23.96
NTP3961Q1-TC-T01-BT-LT-B-C2-2-ETW2-21***	B	C2	2	2	520.0	23.57	0.3610	0.04450	6	XGV	0.007417	535.7	24.28
NTP3961Q1-TC-T01-TC-LT-C-C11-1-ETW1-1	C	C11	3	11	522.0	23.96	0.3200	0.04348	6	XGV	0.007247	525.3	24.12
NTP3961Q1-TC-T01-TC-LT-C-C11-1-ETW1-2	C	C11	3	11	548.6	25.11	0.3280	0.04320	6	XGV	0.007200	548.6	25.11
NTP3961Q1-TC-T01-TC-LT-C-C11-1-ETW1-3	C	C11	3	11	572.6	25.34	0.3340	0.04253	6	XGV	0.007088	563.7	24.95
NTP3961Q1-TC-T01-TC-LT-C-C11-1-ETW1-4	C	C11	3	11	581.7	25.24	0.3590	0.04258	6	XGV	0.007097	573.3	24.88
NTP3961Q1-TC-T01-TC-LT-C-C11-1-ETW1-5	C	C11	3	11	522.1	23.82	0.3260	0.04412	6	XGV	0.007353	533.2	24.33
NTP3961Q1-TC-T01-TC-LT-C-C11-1-ETW1-6	C	C11	3	11	545.0	24.45	0.3320	0.04207	6	XGV	0.007012	530.7	23.81
NTP3961Q1-TC-T01-TC-LT-C-C31-1-ETW1-1	C	C31	3	31	529.1	24.67	0.3310	0.04130	6	XGV	0.006883	505.8	23.58
NTP3961Q1-TC-T01-TC-LT-C-C31-1-ETW1-2	C	C31	3	31	569.4	24.66	0.3670	0.04372	6	XGV	0.007287	576.3	24.96
NTP3961Q1-TC-T01-TC-LT-C-C31-1-ETW1-3	C	C31	3	31	565.3	25.39	0.3530	0.04300	6	XGV	0.007167	562.7	25.27
NTP3961Q1-TC-T01-TC-LT-C-C31-1-ETW1-4	C	C31	3	31	544.9	24.88	0.3250	0.04398	6	XGV	0.007330	554.7	25.33
NTP3961Q1-TC-T01-TC-LT-C-C31-1-ETW1-5	C	C31	3	31	534.4	23.55	0.3500	0.04447	6	XGV	0.007412	550.1	24.24
NTP3961Q1-TC-T01-TC-LT-C-C31-1-ETW1-6	C	C31	3	31	537.0	23.88	0.3410	0.04463	6	XGV	0.007438	554.7	24.67
NTP3961Q1-TC-T01-TC-LT-D-C11-1-ETW1-1	D	C11	4	11	513.9	24.43	0.3420	0.04243	6	XGV	0.007072	504.7	23.99
NTP3961Q1-TC-T01-TC-LT-D-C11-1-ETW1-2	D	C11	4	11	507.9	24.00	0.3330	0.04328	6	XGV	0.007213	508.9	24.04
NTP3961Q1-TC-T01-TC-LT-D-C11-1-ETW1-3	D	C11	4	11	539.2	24.13	0.3710	0.04295	6	XGV	0.007158	536.1	23.99
NTP3961Q1-TC-T01-TC-LT-D-C11-1-ETW1-4	D	C11	4	11	500.3	23.51	0.3860	0.04380	6	XGV	0.007300	507.3	23.84
NTP3961Q1-TC-T01-TC-LT-D-C11-1-ETW1-5	D	C11	4	11	530.9	24.38	0.3530	0.04268	6	XGV	0.007113	524.5	24.09
NTP3961Q1-TC-T01-TC-LT-D-C11-1-ETW1-6	D	C11	4	11	504.8	23.81	0.3080	0.04285	6	XGV	0.007142	500.7	23.62
NTP3961Q1-TC-T01-TC-LT-D-C43-1-ETW1-1	D	C43	4	43	498.3	23.95	0.3530	0.04301	6	XGV	0.007168	496.1	23.84
NTP3961Q1-TC-T01-TC-LT-D-C43-1-ETW1-2	D	C43	4	43	501.1	23.96	0.3510	0.04300	6	XGV	0.007167	498.8	23.85
NTP3961Q1-TC-T01-TC-LT-D-C43-1-ETW1-3	D	C43	4	43	527.1	24.06	0.3200	0.04323	6	XGV	0.007205	527.4	24.08
NTP3961Q1-TC-T01-TC-LT-D-C43-1-ETW1-4	D	C43	4	43	541.1	24.17	0.3550	0.04356	6	XGV	0.007260	545.6	24.37
NTP3961Q1-TC-T01-TC-LT-D-C43-1-ETW1-5	D	C43	4	43	548.8	24.78	0.3700	0.04316	6	XGV	0.007193	548.3	24.76
NTP3961Q1-TC-T01-TC-LT-D-C43-1-ETW1-6	D	C43	4	43	530.7	24.86	0.3580	0.04251	6	XGV	0.007085	522.2	24.46
NTP3961Q1-TC-T01-TC-LT-E-C11-1-ETW1-1	E	C11	5	11	527.6	23.96	0.3530	0.04256	6	XGV	0.007093	519.8	23.61
NTP3961Q1-TC-T01-TC-LT-E-C11-1-ETW1-2	E	C11	5	11	509.3	24.05	0.3820	0.04401	6	XGV	0.007335	518.9	24.50
NTP3961Q1-TC-T01-TC-LT-E-C11-1-ETW1-3	E	C11	5	11	519.3	23.94	0.3390	0.04330	6	XGV	0.007217	520.5	24.00
NTP3961Q1-TC-T01-TC-LT-E-C11-1-ETW1-4	E	C11	5	11	549.9	24.55	0.3420	0.04355	6	XGV	0.007258	554.4	24.75
NTP3961Q1-TC-T01-TC-LT-E-C11-1-ETW1-5	E	C11	5	11	541.0	24.56	0.3440	0.04350	6	XGV	0.007250	544.8	24.73
NTP3961Q1-TC-T01-TC-LT-E-C11-1-ETW1-6	E	C11	5	11	554.0	24.68	0.3820	0.04280	6	XGV	0.007133	548.8	24.45
NTP3961Q1-TC-T01-TC-LT-E-C31-1-ETW1-1	E	C31	5	31	520.6	24.81	0.3420	0.04246	6	XGV	0.007077	511.6	24.39
NTP3961Q1-TC-T01-TC-LT-E-C31-1-ETW1-2	E	C31	5	31	532.0	25.33	0.3100	0.04216	6	XGV	0.007027	519.2	24.72
NTP3961Q1-TC-T01-TC-LT-E-C31-1-ETW1-3	E	C31	5	31	511.2	24.56	0.3470	0.04318	6	XGV	0.007197	510.9	24.55
NTP3961Q1-TC-T01-TC-LT-E-C31-1-ETW1-4	E	C31	5	31	538.8	25.12	0.3600	0.04250	6	XGV	0.007083	530.1	24.71
NTP3961Q1-TC-T01-TC-LT-E-C31-1-ETW1-5	E	C31	5	31	526.4	24.95	0.3200	0.04286	6	XGV	0.007143	522.3	24.75
NTP3961Q1-TC-T01-TC-LT-E-C31-1-ETW1-6	E	C31	5	31	546.0	24.67	0.3710	0.04266	6	XGV	0.007110	539.2	24.36

*Modulus and Poisson's ratio not reported due to strain gauge issue or strain error.
**Poisson's ratio is not reported due to strain error on transverse strain gage.
***ETW2 specimens were tested as ETW1 condition.
****Strength not reported due to invalid failure mode.

Average	**533.5**	**24.50**	**0.3518**
Standard Dev.	**22.35**	**0.5336**	**0.03636**
Coeff. of Var. [%]	**4.189**	**2.178**	**10.34**
Min.	**488.4**	**23.50**	**0.2620**
Max.	**581.7**	**26.03**	**0.4570**
Number of Spec.	**70**	**72**	**68**

$Average_{norm}$	**0.007230**	**535.0**	**24.60**
Standard $Dev._{norm}$		**20.86**	**0.5796**
Coeff. of Var. $[\%]_{norm}$		**3.898**	**2.357**
Min.	**0.006883**	**491.2**	**23.58**
Max.	**0.007600**	**576.3**	**26.80**
Number of Spec.	**74**	**70**	**72**


Longitudinal Tension Properties (LT)--ETW1 (180°F)
Normalized Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Longitudinal Tension Strength [ksi]
0
4
8
12
16
20
24
28
32
36
40
44
48
0
1
2
3
4
5
6
0
100
200
300
400
500
600
700


Longitudinal Tension Properties (LT)--ETW1 (180°F)
Normalized Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Longitudinal Tension Modulus [Msi]
0
4
8
12
16
20
24
28
32
36
40
44
48
0
1
2
3
4
5
6
0
5
10
15
20
25
30

Longitudinal Tension Properties (LT)--ETW2 (250°F)
Strength & Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

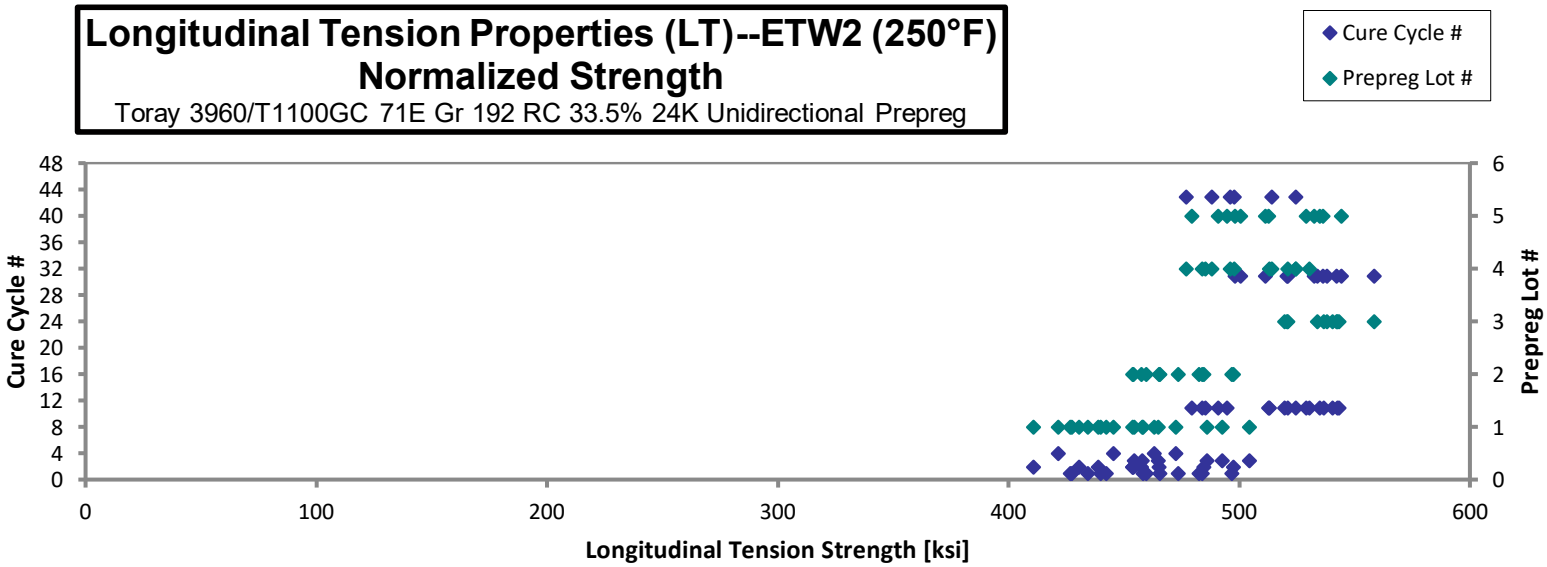
normalizing t_{ply} [in]: 0.007200

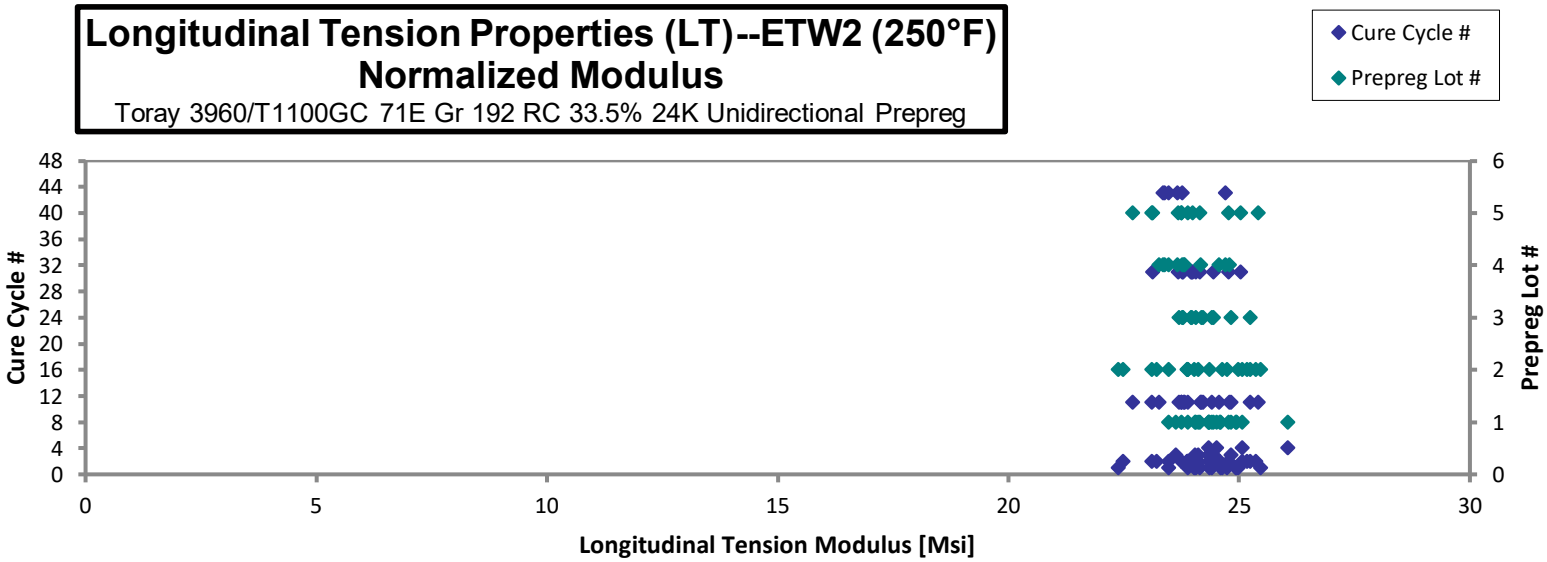
Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Modulus [Msi]	Poisson's Ratio	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
NTP3961Q1-TC-T01-BT-LT-A-C2-1-ETW2-1***	A	C2	1	2		24.30	0.3510	0.04368	6	GIT	0.007280		24.57
NTP3961Q1-TC-T01-BT-LT-A-C2-1-ETW2-2***	A	C2	1	2		24.53	0.3860	0.04362	6	GIT	0.007270		24.77
NTP3961Q1-TC-T01-BT-LT-A-C2-1-ETW2-3	A	C2	1	2	469.1	24.27	0.3360	0.04177	6	XGV	0.006962	453.6	23.47
NTP3961Q1-TC-T01-BT-LT-A-C2-1-ETW2-4	A	C2	1	2	451.7	24.44	0.3430	0.04197	6	XGV	0.006995	438.8	23.74
NTP3961Q1-TC-T01-BT-LT-A-C2-1-ETW2-5	A	C2	1	2	408.5	23.75	0.3380	0.04345	6	XGV	0.007242	410.9	23.89
NTP3961Q1-TC-T01-BT-LT-A-C2-1-ETW2-6	A	C2	1	2	418.0	23.65	0.3380	0.04447	6	XGV	0.007412	430.3	24.35
NTP3961Q1-TC-T01-BT-LT-A-C1-1-ETA1-4*	A	C1	1	1	437.7	23.93	0.4250	0.04342	6	XGV	0.007237	439.9	24.05
NTP3961Q1-TC-T01-BT-LT-A-C1-1-ETA1-5*	A	C1	1	1	447.6	24.68	0.3530	0.04270	6	XGV	0.007117	442.4	24.39
NTP3961Q1-TC-T01-BT-LT-A-C1-1-ETA1-6*	A	C1	1	1	432.2	24.46	0.3060	0.04342	6	XGV	0.007237	434.4	24.58
NTP3961Q1-TC-T01-BT-LT-A-C1-1-ETA2-4**	A	C1	1	1	471.1	24.81	0.4580	0.04203	6	XGV	0.007005	458.3	24.14
NTP3961Q1-TC-T01-BT-LT-A-C1-1-ETA2-5**	A	C1	1	1	432.2	25.20	0.4820	0.04272	6	XGV	0.007120	427.4	24.92
NTP3961Q1-TC-T01-BT-LT-A-C1-1-ETA2-6**	A	C1	1	1	431.2	25.21	0.2710	0.04273	6	XGV	0.007122	426.5	24.94
NTP3961Q1-TC-T01-BT-LT-A-C3-1-ETW2-1	A	C3	1	3	518.2	24.76	0.3950	0.04205	6	XGV	0.007008	504.4	24.10
NTP3961Q1-TC-T01-BT-LT-A-C3-1-ETW2-2	A	C3	1	3	466.6	24.43	0.3720	0.04303	6	XGV	0.007172	464.7	24.33
NTP3961Q1-TC-T01-BT-LT-A-C3-1-ETW2-3	A	C3	1	3	474.2	24.22	0.3740	0.04427	6	XGV	0.007378	485.9	24.82
NTP3961Q1-TC-T01-BT-LT-A-C3-1-ETW2-4	A	C3	1	3	456.7	24.17	0.3770	0.04297	6	XGV	0.007162	454.2	24.04
NTP3961Q1-TC-T01-BT-LT-A-C3-1-ETW2-5	A	C3	1	3	464.4	23.96	0.3380	0.04258	6	XGV	0.007097	457.8	23.62
NTP3961Q1-TC-T01-BT-LT-A-C3-1-ETW2-6	A	C3	1	3	495.2	24.57	0.3720	0.04298	6	XGV	0.007163	492.6	24.44
NTP3961Q1-TC-T01-BT-LT-A-C4-1-ETA1-4*	A	C4	1	4	459.4	23.84	0.4070	0.04442	6	XGV	0.007403	472.4	24.51
NTP3961Q1-TC-T01-BT-LT-A-C4-1-ETA1-5*	A	C4	1	4	456.0	24.67	0.3860	0.04388	6	XGV	0.007313	463.2	25.06
NTP3961Q1-TC-T01-BT-LT-A-C4-1-ETA1-6*	A	C4	1	4	445.3	24.33	0.3300	0.04320	6	XGV	0.007200	445.3	24.33
NTP3961Q1-TC-T01-BT-LT-A-C4-1-ETA2-5**	A	C4	1	4	428.4	26.48	0.4670	0.04250	6	XGV	0.007083	421.4	26.05
NTP3961Q1-TC-T01-BT-LT-B-C1-1-ETW2-1	B	C1	2	1	446.9	24.44	0.3180	0.04500	6	XGV	0.007500	465.6	25.46
NTP3961Q1-TC-T01-BT-LT-B-C1-1-ETW2-2	B	C1	2	1	455.7	22.69	0.2960	0.04573	6	XGV	0.007622	482.4	24.02
NTP3961Q1-TC-T01-BT-LT-B-C1-1-ETW2-3	B	C1	2	1	461.9	23.83	0.3820	0.04526	6	XGV	0.007543	483.9	24.97
NTP3961Q1-TC-T01-BT-LT-B-C1-1-ETW2-4	B	C1	2	1	461.7	23.74	0.3000	0.04430	6	XGV	0.007383	473.5	24.34
NTP3961Q1-TC-T01-BT-LT-B-C1-1-ETW2-5	B	C1	2	1	472.0	22.70	0.3990	0.04545	6	XGV	0.007575	496.6	23.88
NTP3961Q1-TC-T01-BT-LT-B-C1-1-ETW2-6	B	C1	2	1	449.5	21.88	0.3420	0.04418	6	XGV	0.007363	459.6	22.38
NTP3961Q1-TC-T01-BT-LT-B-C1-2-ETW2-1***	B	C1	2	1		22.62	0.4770	0.04483	6	SIT	0.007472		23.47
NTP3961Q1-TC-T01-BT-LT-B-C1-2-ETW2-2***	B	C1	2	1		22.94	0.4630	0.04638	6	SIT	0.007730		24.63
NTP3961Q1-TC-T01-BT-LT-B-C1-2-ETW2-4***	B	C1	2	1		23.58	0.4350	0.04530	6	LIT	0.007550		24.73
NTP3961Q1-TC-T01-BT-LT-B-C2-2-ETW2-1***	B	C2	2	2		24.10	0.4460	0.04493	6	SIT	0.007488		25.07
NTP3961Q1-TC-T01-BT-LT-B-C2-2-ETW2-2***	B	C2	2	2		22.27	0.4280	0.04480	6	SIT	0.007467		23.09
NTP3961Q1-TC-T01-BT-LT-B-C2-2-ETW2-3***	B	C2	2	2		22.31	0.3740	0.04492	6	SIT	0.007487		23.20
NTP3961Q1-TC-T01-BT-LT-B-C2-2-ETW2-4***	B	C2	2	2		22.91	0.4410	0.04502	6	SIT	0.007503		23.88
NTP3961Q1-TC-T01-BT-LT-B-C2-2-ETW2-7	B	C2	2	2	485.9	24.78	0.3410	0.04421	6	XGV	0.007368	497.2	25.36
NTP3961Q1-TC-T01-BT-LT-B-C2-2-ETW2-8	B	C2	2	2	463.1	21.48	0.3530	0.04521	6	XGV	0.007535	484.6	22.48
NTP3961Q1-TC-T01-BT-LT-B-C2-2-ETW2-9	B	C2	2	2	443.4	23.32	0.3390	0.04421	6	XGV	0.007368	453.8	23.87
NTP3961Q1-TC-T01-BT-LT-B-C2-2-ETW2-10	B	C2	2	2	424.1	23.40	0.5050	0.04660	6	XGV	0.007767	457.5	25.24
NTP3961Q1-TC-T01-BT-LT-B-C2-2-ETW2-11	B	C2	2	2	435.8	23.58	0.3760	0.04611	6	XGV	0.007685	465.1	25.17
NTP3961Q1-TC-T01-BT-LT-B-C2-2-ETW2-12	B	C2	2	2	442.4	23.49	0.4100	0.04433	6	XGV	0.007388	454.0	24.10
NTP3961Q1-TC-T01-TC-LT-C-C11-1-ETW2-1***	C	C11	3	11		25.19	0.3390	0.04327	6	LIT	0.007212		25.23
NTP3961Q1-TC-T01-TC-LT-C-C11-1-ETW2-2	C	C11	3	11	541.6	24.36	0.3560	0.04327	6	XGV	0.007212	542.5	24.40
NTP3961Q1-TC-T01-TC-LT-C-C11-1-ETW2-3	C	C11	3	11	538.3	23.99	0.3130	0.04360	6	XGV	0.007267	543.3	24.21
NTP3961Q1-TC-T01-TC-LT-C-C11-1-ETW2-4	C	C11	3	11	538.1	24.71	0.3640	0.04338	6	XGV	0.007230	540.3	24.81
NTP3961Q1-TC-T01-TC-LT-C-C11-1-ETW2-5	C	C11	3	11	554.4	24.98	0.3450	0.04182	6	XGV	0.006970	536.7	24.18
NTP3961Q1-TC-T01-TC-LT-C-C11-1-ETW2-6	C	C11	3	11	504.6	23.02	0.2800	0.04447	6	XGV	0.007412	519.4	23.70
NTP3961Q1-TC-T01-TC-LT-C-C31-1-ETW2-1	C	C31	3	31	537.6	24.14	0.3460	0.04290	6	XGV	0.007150	533.8	23.97
NTP3961Q1-TC-T01-TC-LT-C-C31-1-ETW2-2	C	C31	3	31	518.8	23.69	0.3380	0.04337	6	XGV	0.007228	520.8	23.78
NTP3961Q1-TC-T01-TC-LT-C-C31-1-ETW2-3	C	C31	3	31	507.6	23.45	0.4010	0.04432	6	XGV	0.007387	520.8	24.06
NTP3961Q1-TC-T01-TC-LT-C-C31-1-ETW2-4	C	C31	3	31	562.0	24.11	0.3810	0.04292	6	XGV	0.007153	558.3	23.95
NTP3961Q1-TC-T01-TC-LT-C-C31-1-ETW2-5	C	C31	3	31	537.9	23.76	0.4220	0.04320	6	XGV	0.007200	537.9	23.76
NTP3961Q1-TC-T01-TC-LT-C-C31-1-ETW2-6	C	C31	3	31	543.5	24.50	0.3580	0.04308	6	XGV	0.007180	542.0	24.43
NTP3961Q1-TC-T01-TC-LT-D-C11-1-ETW2-1	D	C11	4	11	478.3	24.20	0.3620	0.04383	6	XGV	0.007305	485.3	24.55
NTP3961Q1-TC-T01-TC-LT-D-C11-1-ETW2-2	D	C11	4	11	516.3	23.06	0.3660	0.04358	6	XGV	0.007263	520.9	23.26
NTP3961Q1-TC-T01-TC-LT-D-C11-1-ETW2-3	D	C11	4	11	528.3	24.07	0.4090	0.04336	6	XGV	0.007227	530.3	24.16
NTP3961Q1-TC-T01-TC-LT-D-C11-1-ETW2-4	D	C11	4	11	515.9	23.95	0.3420	0.04296	6	XGV	0.007160	513.0	23.82
NTP3961Q1-TC-T01-TC-LT-D-C11-1-ETW2-5	D	C11	4	11	526.2	23.88	0.3880	0.04306	6	XGV	0.007177	524.5	23.80
NTP3961Q1-TC-T01-TC-LT-D-C11-1-ETW2-6	D	C11	4	11	499.3	25.58	0.2770	0.04185	6	XGV	0.006975	483.7	24.78
NTP3961Q1-TC-T01-TC-LT-D-C43-1-ETW2-1	D	C43	4	43	480.0	23.52	0.3330	0.04293	6	XGV	0.007155	477.0	23.37
NTP3961Q1-TC-T01-TC-LT-D-C43-1-ETW2-2	D	C43	4	43	503.9	24.15	0.4050	0.04251	6	XGV	0.007085	495.9	23.76
NTP3961Q1-TC-T01-TC-LT-D-C43-1-ETW2-3	D	C43	4	43	489.0	23.70	0.3030	0.04311	6	XGV	0.007185	488.0	23.65
NTP3961Q1-TC-T01-TC-LT-D-C43-1-ETW2-4	D	C43	4	43	512.2	23.38	0.3300	0.04335	6	XGV	0.007225	513.9	23.46
NTP3961Q1-TC-T01-TC-LT-D-C43-1-ETW2-5	D	C43	4	43	495.0	23.21	0.3790	0.04345	6	XGV	0.007242	497.8	23.34
NTP3961Q1-TC-T01-TC-LT-D-C43-1-ETW2-6	D	C43	4	43	507.0	23.87	0.4170	0.04470	6	XGV	0.007450	524.6	24.70
NTP3961Q1-TC-T01-TC-LT-E-C11-1-ETW2-1	E	C11	5	11	488.4	25.09	0.3330	0.04375	6	XGV	0.007292	494.6	25.41
NTP3961Q1-TC-T01-TC-LT-E-C11-1-ETW2-2	E	C11	5	11	514.2	23.82	0.3780	0.04306	6	XGV	0.007177	512.6	23.74
NTP3961Q1-TC-T01-TC-LT-E-C11-1-ETW2-3	E	C11	5	11	500.9	24.38	0.3620	0.04233	6	XGV	0.007055	490.8	23.89
NTP3961Q1-TC-T01-TC-LT-E-C11-1-ETW2-4	E	C11	5	11	528.5	23.09	0.3740	0.04323	6	XGV	0.007205	528.8	23.11
NTP3961Q1-TC-T01-TC-LT-E-C11-1-ETW2-5	E	C11	5	11	527.4	23.41	0.4210	0.04380	6	XGV	0.007300	534.7	23.74
NTP3961Q1-TC-T01-TC-LT-E-C11-1-ETW2-6	E	C11	5	11	490.5	23.21	0.3590	0.04221	6	XGV	0.007035	479.2	22.68
NTP3961Q1-TC-T01-TC-LT-E-C31-1-ETW2-1	E	C31	5	31	497.9	25.01	0.2890	0.04323	6	XGV	0.007205	498.2	25.03
NTP3961Q1-TC-T01-TC-LT-E-C31-1-ETW2-2	E	C31	5	31	552.5	24.57	0.3370	0.04163	6	XGV	0.006938	532.4	23.68
NTP3961Q1-TC-T01-TC-LT-E-C31-1-ETW2-3	E	C31	5	31	513.7	23.24	0.4060	0.04298	6	XGV	0.007163	511.1	23.12
NTP3961Q1-TC-T01-TC-LT-E-C31-1-ETW2-4	E	C31	5	31	548.4	24.34	0.4330	0.04286	6	XGV	0.007143	544.0	24.15
NTP3961Q1-TC-T01-TC-LT-E-C31-1-ETW2-5	E	C31	5	31	502.8	24.87	0.2940	0.04301	6	XGV	0.007168	500.6	24.76
NTP3961Q1-TC-T01-TC-LT-E-C31-1-ETW2-6	E	C31	5	31	542.0	24.23	0.3300	0.04275	6	XGV	0.007125	536.3	23.98

*ETA1 specimens were tested as ETW2 condition.
**ETA2 specimens were tested as ETW2 condition.
***Strength not reported due to invalid failure mode.

	Strength [ksi]	Modulus [Msi]	Poisson's Ratio
Average	487.3	23.95	0.3701
Standard Dev.	39.67	0.8506	0.05095
Coeff. of Var. [%]	8.141	3.551	13.77
Min.	408.5	21.48	0.2710
Max.	562.0	26.48	0.5050
Number of Spec.	67	77	77

	t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
$Average_{norm}$	0.007268	489.7	24.17
$Standard\ Dev._{norm}$		37.03	0.7110
Coeff. of Var. $[\%]_{norm}$		7.561	2.942
Min.	0.006938	410.9	22.38
Max.	0.007767	558.3	26.05
Number of Spec.	77	67	77


Longitudinal Tension Properties (LT)--ETW2 (250°F)
Normalized Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Longitudinal Tension Strength [ksi]
0
4
8
12
16
20
24
28
32
36
40
44
48
0
1
2
3
4
5
6
0
100
200
300
400
500
600


Longitudinal Tension Properties (LT)--ETW2 (250°F)
Normalized Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Longitudinal Tension Modulus [Msi]
0
4
8
12
16
20
24
28
32
36
40
44
48
0
1
2
3
4
5
6
0
5
10
15
20
25
30

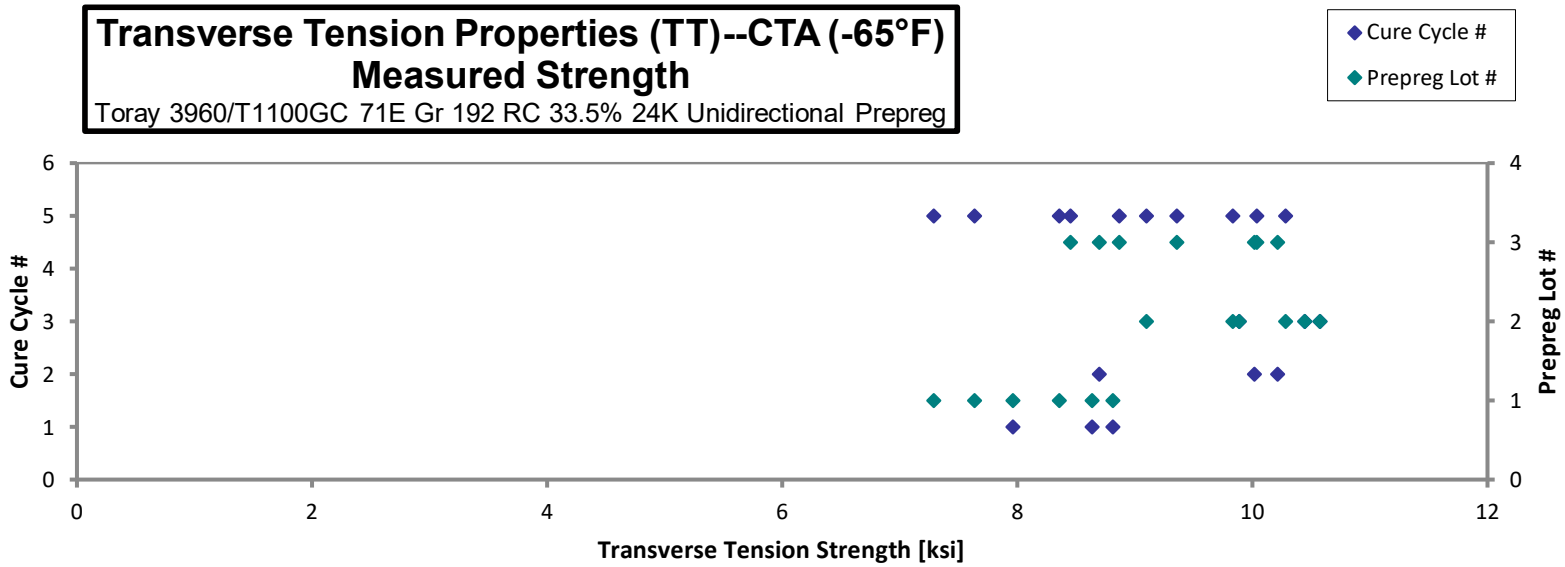
4.2 Transverse Tension Properties (TT)

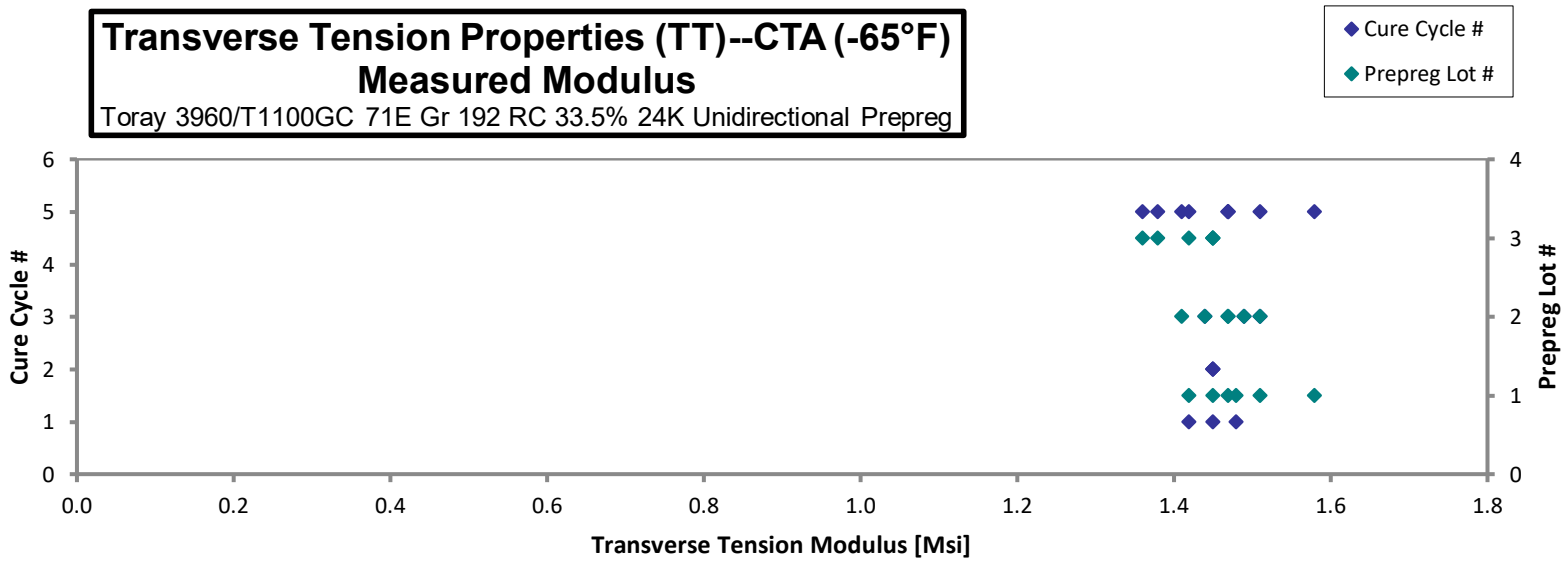
Transverse Tension Properties (TT)--CTA (-65°F)
Strength & Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Modulus [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Avg. t_{ply} [in]	Failure Mode
NTP3961Q1-TC-T01-BT-TT-A-C1-1-CTA-1	A	C1	1	1	8.820	1.450	0.08587	12	0.007156	LAB
NTP3961Q1-TC-T01-BT-TT-A-C1-1-CTA-2	A	C1	1	1	7.970	1.480	0.08680	12	0.007233	LAB
NTP3961Q1-TC-T01-BT-TT-A-C1-1-CTA-3	A	C1	1	1	8.640	1.420	0.08743	12	0.007286	LAB
NTP3961Q1-TC-T01-BT-TT-A-C5-2-CTA-1	A	C5	1	5	8.360	1.580	0.08535	12	0.007113	LAB
NTP3961Q1-TC-T01-BT-TT-A-C5-2-CTA-2	A	C5	1	5	7.640	1.470	0.08680	12	0.007233	LAT
NTP3961Q1-TC-T01-BT-TT-A-C5-2-CTA-3	A	C5	1	5	7.290	1.510	0.08735	12	0.007279	LAB
NTP3961Q1-TC-T01-BT-TT-B-C3-1-CTA-3	B	C3	2	3	10.45	1.440	0.08860	12	0.007383	LAT
NTP3961Q1-TC-T01-BT-TT-B-C3-1-CTA-4	B	C3	2	3	10.58	1.510	0.08906	12	0.007422	LAT
NTP3961Q1-TC-T01-BT-TT-B-C3-1-CTA-5	B	C3	2	3	9.890	1.490	0.08873	12	0.007394	LAB
NTP3961Q1-TC-T01-BT-TT-B-C5-2-CTA-1	B	C5	2	5	9.840	1.470	0.09035	12	0.007529	LAT
NTP3961Q1-TC-T01-BT-TT-B-C5-2-CTA-2	B	C5	2	5	10.29	1.410	0.08906	12	0.007422	LAT
NTP3961Q1-TC-T01-BT-TT-B-C5-2-CTA-3	B	C5	2	5	9.100	1.470	0.09031	12	0.007526	LAT
NTP3961Q1-TC-T01-TC-TT-C-C2-3-CTA-4	C	C2	3	2	8.700	1.450	0.08613	12	0.007178	LAB
NTP3961Q1-TC-T01-TC-TT-C-C2-3-CTA-5	C	C2	3	2	10.02	1.450	0.08760	12	0.007300	LAB
NTP3961Q1-TC-T01-TC-TT-C-C2-3-RTA-7	C	C2	3	2	10.22	1.450	0.08775	12	0.007313	LAT
NTP3961Q1-TC-T01-TC-TT-C-C5-3-CTA-1	C	C5	3	5	8.460	1.360	0.08761	12	0.007301	LAT
NTP3961Q1-TC-T01-TC-TT-C-C5-3-CTA-2*	C	C5	3	5	8.870		0.08790	12	0.007325	LAB
NTP3961Q1-TC-T01-TC-TT-C-C5-3-CTA-3	C	C5	3	5	9.360	1.380	0.08820	12	0.007350	LAB
NTP3961Q1-TC-T01-TC-TT-C-C5-3-CTA-4	C	C5	3	5	10.04	1.420	0.08718	12	0.007265	LAT

*Excluded modulus due to poor test lead connection (strain error)

Average	**9.186**	**1.456**		**0.007316**
Standard Dev.	**0.9904**	**0.05066**		
Coeff. of Var. [%]	**10.78**	**3.479**		
Min.	**7.290**	**1.360**		**0.007113**
Max.	**10.58**	**1.580**		**0.007529**
Number of Spec.	**19**	**18**		**19**


Transverse Tension Properties (TT)--CTA (-65°F)
Measured Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Transverse Tension Strength [ksi]
0
1
2
3
4
5
6
0
2
4
6
8
10
12

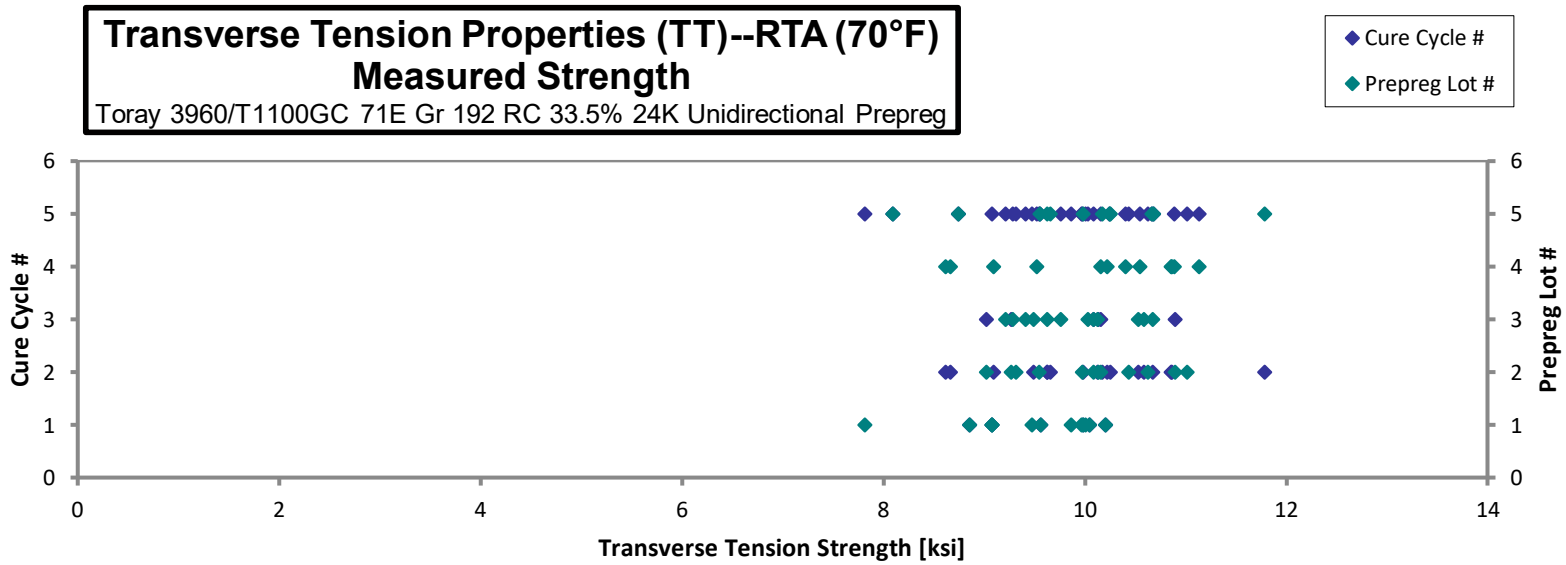

Transverse Tension Properties (TT)--CTA (-65°F)
Measured Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Transverse Tension Modulus [Msi]
0
1
2
3
4
5
6
0.0
0.2
0.4
0.6
0.8
1.0
1.2
1.4
1.6
1.8

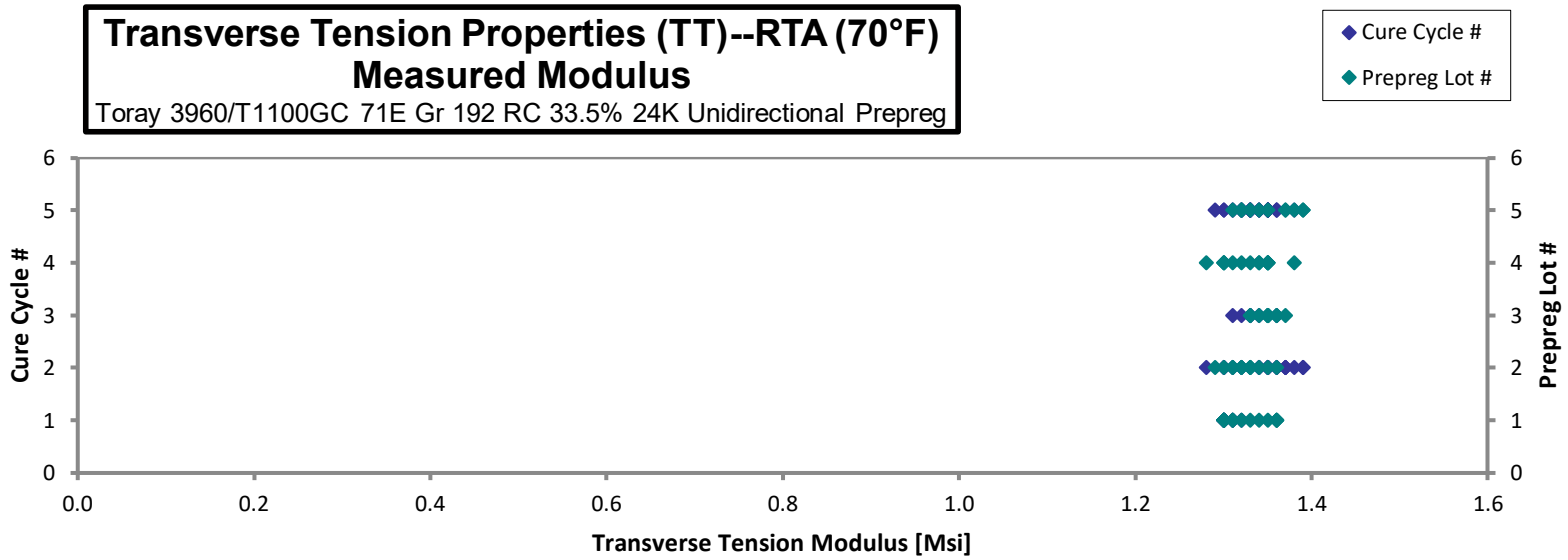
Transverse Tension Properties (TT)--RTA (70°F)
Strength & Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Modulus [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Avg. t_{ply} [in]	Failure Mode
NTP3961Q1-TC-T01-BT-TT-A-C1-1-RTA-1	A	C1	1	1	10.04	1.310	0.08638	12	0.007198	LAB
NTP3961Q1-TC-T01-BT-TT-A-C1-1-RTA-2*	A	C1	1	1		1.300	0.08753	12	0.007294	LIT
NTP3961Q1-TC-T01-BT-TT-A-C1-1-RTA-3	A	C1	1	1	9.070	1.300	0.08720	12	0.007267	LAT
NTP3961Q1-TC-T01-BT-TT-A-C1-1-RTA-4	A	C1	1	1	9.980	1.300	0.08768	12	0.007307	LGT
NTP3961Q1-TC-T01-BT-TT-A-C1-1-RTA-5	A	C1	1	1	9.560	1.300	0.08768	12	0.007307	LGT
NTP3961Q1-TC-T01-BT-TT-A-C1-1-RTA-6*	A	C1	1	1		1.300	0.08708	12	0.007257	LIB
NTP3961Q1-TC-T01-BT-TT-A-C1-1-RTA-7	A	C1	1	1	10.20	1.320	0.08640	12	0.007200	LAT
NTP3961Q1-TC-T01-BT-TT-A-C1-1-RTA-8	A	C1	1	1	8.850	1.310	0.08678	12	0.007232	LAT
NTP3961Q1-TC-T01-BT-TT-A-C5-2-RTA-1	A	C5	1	5	9.860	1.360	0.08692	12	0.007243	LAT
NTP3961Q1-TC-T01-BT-TT-A-C5-2-RTA-2	A	C5	1	5	9.470	1.340	0.08815	12	0.007346	LAT
NTP3961Q1-TC-T01-BT-TT-A-C5-2-RTA-3	A	C5	1	5	7.810	1.330	0.08892	12	0.007410	LAT
NTP3961Q1-TC-T01-BT-TT-A-C5-2-RTA-4	A	C5	1	5	9.070	1.360	0.08727	12	0.007273	LAT
NTP3961Q1-TC-T01-BT-TT-A-C5-2-RTA-5	A	C5	1	5	9.960	1.350	0.08665	12	0.007221	LAT
NTP3961Q1-TC-T01-BT-TT-A-C5-2-RTA-6	A	C5	1	5	10.00	1.360	0.08645	12	0.007204	LAT
NTP3961Q1-TC-T01-BT-TT-B-C3-1-RTA-1	B	C3	2	3	10.13	1.330	0.08880	12	0.007400	LGT
NTP3961Q1-TC-T01-BT-TT-B-C3-1-RTA-2	B	C3	2	3	10.08	1.340	0.08906	12	0.007422	LGT
NTP3961Q1-TC-T01-BT-TT-B-C3-1-RTA-3	B	C3	2	3	10.15	1.360	0.08840	12	0.007367	LGT
NTP3961Q1-TC-T01-BT-TT-B-C3-1-RTA-4	B	C3	2	3	10.89	1.320	0.08995	12	0.007496	LGB
NTP3961Q1-TC-T01-BT-TT-B-C3-1-RTA-5	B	C3	2	3	9.020	1.310	0.08940	12	0.007450	LGT
NTP3961Q1-TC-T01-BT-TT-B-C3-1-RTA-6	B	C3	2	3	9.260	1.330	0.08970	12	0.007475	LGT
NTP3961Q1-TC-T01-BT-TT-B-C5-2-RTA-1	B	C5	2	5	9.970	1.300	0.09071	12	0.007559	LGB
NTP3961Q1-TC-T01-BT-TT-B-C5-2-RTA-2	B	C5	2	5	10.62	1.290	0.09105	12	0.007588	LGT
NTP3961Q1-TC-T01-BT-TT-B-C5-2-RTA-3	B	C5	2	5	9.310	1.330	0.08971	12	0.007476	LGB
NTP3961Q1-TC-T01-BT-TT-B-C5-2-RTA-4	B	C5	2	5	11.01	1.310	0.09060	12	0.007550	LGB
NTP3961Q1-TC-T01-BT-TT-B-C5-2-RTA-5	B	C5	2	5	9.540	1.320	0.09023	12	0.007519	LGT
NTP3961Q1-TC-T01-BT-TT-B-C5-2-RTA-6	B	C5	2	5	10.43	1.350	0.08821	12	0.007351	LGT
NTP3961Q1-TC-T01-TC-TT-C-C2-3-RTA-1	C	C2	3	2	9.620	1.370	0.08645	12	0.007204	LAB
NTP3961Q1-TC-T01-TC-TT-C-C2-3-RTA-2	C	C2	3	2	10.12	1.350	0.08746	12	0.007288	LAB
NTP3961Q1-TC-T01-TC-TT-C-C2-3-RTA-3	C	C2	3	2	9.490	1.350	0.08783	12	0.007319	LAB
NTP3961Q1-TC-T01-TC-TT-C-C2-3-RTA-4	C	C2	3	2	10.58	1.360	0.08733	12	0.007278	LAT
NTP3961Q1-TC-T01-TC-TT-C-C2-3-RTA-5	C	C2	3	2	10.67	1.350	0.08755	12	0.007296	LAB
NTP3961Q1-TC-T01-TC-TT-C-C2-3-RTA-6	C	C2	3	2	10.53	1.360	0.08686	12	0.007238	LAT
NTP3961Q1-TC-T01-TC-TT-C-C5-3-RTA-1	C	C5	3	5	9.760	1.350	0.08843	12	0.007369	LAB
NTP3961Q1-TC-T01-TC-TT-C-C5-3-RTA-2	C	C5	3	5	10.08	1.350	0.08746	12	0.007288	LGB
NTP3961Q1-TC-T01-TC-TT-C-C5-3-RTA-3	C	C5	3	5	9.410	1.350	0.08716	12	0.007263	LAB
NTP3961Q1-TC-T01-TC-TT-C-C5-3-RTA-4	C	C5	3	5	9.210	1.330	0.08860	12	0.007383	LAB
NTP3961Q1-TC-T01-TC-TT-C-C5-3-RTA-5	C	C5	3	5	9.280	1.340	0.08808	12	0.007340	LAB
NTP3961Q1-TC-T01-TC-TT-C-C5-3-RTA-6	C	C5	3	5	10.03	1.330	0.08793	12	0.007328	LAT
NTP3961Q1-TC-T01-TC-TT-D-C2-3-RTA-1	D	C2	4	2	8.610	1.320	0.08830	12	0.007358	LAB
NTP3961Q1-TC-T01-TC-TT-D-C2-3-RTA-2*	D	C2	4	2		1.300	0.08950	12	0.007458	LIB
NTP3961Q1-TC-T01-TC-TT-D-C2-3-RTA-3	D	C2	4	2	10.85	1.300	0.08840	12	0.007367	LAB
NTP3961Q1-TC-T01-TC-TT-D-C2-3-RTA-4	D	C2	4	2	8.660	1.350	0.08770	12	0.007308	LAT
NTP3961Q1-TC-T01-TC-TT-D-C2-3-RTA-5	D	C2	4	2	10.22	1.280	0.08908	12	0.007423	LGT
NTP3961Q1-TC-T01-TC-TT-D-C2-3-RTA-6	D	C2	4	2	10.86	1.310	0.08781	12	0.007318	LGB
NTP3961Q1-TC-T01-TC-TT-D-C2-3-RTA-7	D	C2	4	2	9.090	1.340	0.08703	12	0.007253	LAT
NTP3961Q1-TC-T01-TC-TT-D-C5-3-RTA-1*	D	C5	4	5		1.300	0.08746	12	0.007288	LIT
NTP3961Q1-TC-T01-TC-TT-D-C5-3-RTA-2	D	C5	4	5	10.15	1.330	0.08743	12	0.007286	LAT
NTP3961Q1-TC-T01-TC-TT-D-C5-3-RTA-3	D	C5	4	5	10.54	1.340	0.08658	12	0.007215	LAT
NTP3961Q1-TC-T01-TC-TT-D-C5-3-RTA-4	D	C5	4	5	10.40	1.350	0.08631	12	0.007193	LAT
NTP3961Q1-TC-T01-TC-TT-D-C5-3-RTA-5	D	C5	4	5	11.13	1.350	0.08608	12	0.007173	LAB
NTP3961Q1-TC-T01-TC-TT-D-C5-3-RTA-6	D	C5	4	5	9.520	1.350	0.08688	12	0.007240	LAB
NTP3961Q1-TC-T01-TC-TT-D-C5-3-RTA-7	D	C5	4	5	10.88	1.380	0.08605	12	0.007171	LAT
NTP3961Q1-TC-T01-TC-TT-E-C2-3-RTA-1	E	C2	5	2	10.25	1.340	0.08730	12	0.007275	LAT
NTP3961Q1-TC-T01-TC-TT-E-C2-3-RTA-2	E	C2	5	2	11.78	1.390	0.08715	12	0.007263	LAT
NTP3961Q1-TC-T01-TC-TT-E-C2-3-RTA-3	E	C2	5	2	9.650	1.380	0.08643	12	0.007203	LAT
NTP3961Q1-TC-T01-TC-TT-E-C2-3-RTA-4	E	C2	5	2	10.17	1.370	0.08703	12	0.007253	LAB
NTP3961Q1-TC-T01-TC-TT-E-C2-3-RTA-5	E	C2	5	2	9.980	1.390	0.08685	12	0.007238	LAB
NTP3961Q1-TC-T01-TC-TT-E-C2-3-RTA-6	E	C2	5	2	9.620	1.370	0.08771	12	0.007309	LAB
NTP3961Q1-TC-T01-TC-TT-E-C5-3-RTA-1	E	C5	5	5	10.68	1.310	0.08771	12	0.007309	LAT
NTP3961Q1-TC-T01-TC-TT-E-C5-3-RTA-2	E	C5	5	5	9.550	1.320	0.08740	12	0.007283	LGT
NTP3961Q1-TC-T01-TC-TT-E-C5-3-RTA-3	E	C5	5	5	8.090	1.320	0.08725	12	0.007271	LGT
NTP3961Q1-TC-T01-TC-TT-E-C5-3-RTA-4	E	C5	5	5	10.24	1.350	0.08720	12	0.007267	LAB
NTP3961Q1-TC-T01-TC-TT-E-C5-3-RTA-5	E	C5	5	5	8.740	1.330	0.08746	12	0.007288	LAT
NTP3961Q1-TC-T01-TC-TT-E-C5-3-RTA-6	E	C5	5	5	10.66	1.320	0.08745	12	0.007288	LAB

*Excluded strength due to invalid failure mode

Average	**9.890**	**1.335**	**0.007317**
Standard Dev.	**0.7598**	**0.02588**	
Coeff. of Var. [%]	**7.683**	**1.939**	
Min.	**7.810**	**1.280**	**0.007171**
Max.	**11.78**	**1.390**	**0.007588**
Number of Spec.	**60**	**64**	**64**

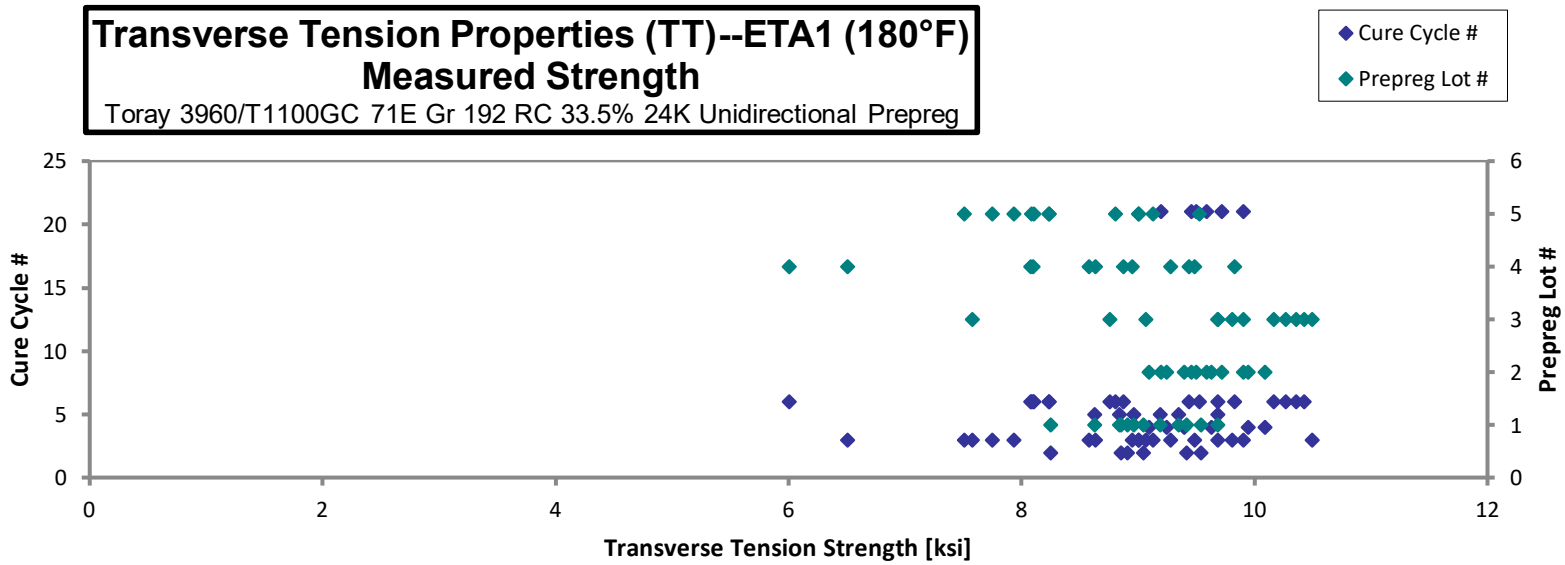

Transverse Tension Properties (TT)--RTA (70°F)
Measured Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Transverse Tension Strength [ksi]
0
1
2
3
4
5
6
0
2
4
6
8
10
12
14

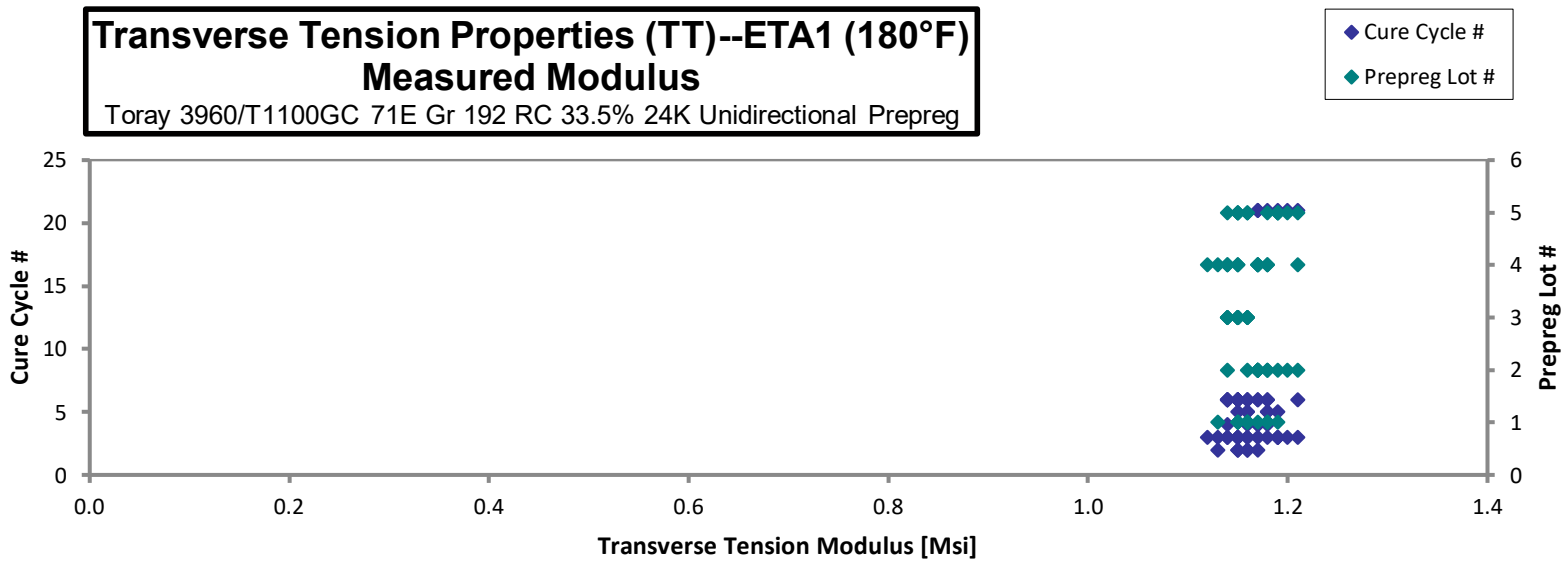

Transverse Tension Properties (TT)--RTA (70°F)
Measured Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
5
6
0.0
0.2
0.4
0.6
0.8
1.0
1.2
1.4
1.6
Transverse Tension Modulus [Msi]

Transverse Tension Properties (TT)--ETA1 (180°F)
Strength & Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Modulus [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Avg. t_{ply} [in]	Failure Mode
NTP3961Q1-TC-T01-BT-TT-A-C2-1-ETA1-1	A	C2	1	2	9.420	1.150	0.08567	12	0.007139	LWT
NTP3961Q1-TC-T01-BT-TT-A-C2-1-ETA1-2	A	C2	1	2	8.250	1.160	0.08638	12	0.007198	LAB
NTP3961Q1-TC-T01-BT-TT-A-C2-1-ETA1-3	A	C2	1	2	8.910	1.130	0.08738	12	0.007282	LAT
NTP3961Q1-TC-T01-BT-TT-A-C2-1-ETA1-4	A	C2	1	2	8.860	1.170	0.08635	12	0.007196	LAT
NTP3961Q1-TC-T01-BT-TT-A-C2-1-ETA1-5	A	C2	1	2	9.050	1.150	0.08720	12	0.007267	LAT
NTP3961Q1-TC-T01-BT-TT-A-C2-1-ETA1-6	A	C2	1	2	9.540	1.160	0.08735	12	0.007279	LWT
NTP3961Q1-TC-T01-BT-TT-A-C5-1-ETA1-1	A	C5	1	5	8.630	1.160	0.08585	12	0.007154	LAT
NTP3961Q1-TC-T01-BT-TT-A-C5-1-ETA1-2	A	C5	1	5	9.190	1.180	0.08608	12	0.007173	LAB
NTP3961Q1-TC-T01-BT-TT-A-C5-1-ETA1-3	A	C5	1	5	9.690	1.190	0.08608	12	0.007173	LGT
NTP3961Q1-TC-T01-BT-TT-A-C5-1-ETA1-4	A	C5	1	5	8.970	1.180	0.08595	12	0.007163	LAB
NTP3961Q1-TC-T01-BT-TT-A-C5-1-ETA1-5	A	C5	1	5	8.840	1.150	0.08632	12	0.007193	LGT
NTP3961Q1-TC-T01-BT-TT-A-C5-1-ETA1-6	A	C5	1	5	9.350	1.160	0.08638	12	0.007198	LWT
NTP3961Q1-TC-T01-BT-TT-B-C4-1-ETA1-1	B	C4	2	4	9.630	1.170	0.08928	12	0.007440	LGB
NTP3961Q1-TC-T01-BT-TT-B-C4-1-ETA1-2	B	C4	2	4	9.400	1.140	0.09030	12	0.007525	LGM
NTP3961Q1-TC-T01-BT-TT-B-C4-1-ETA1-3	B	C4	2	4	9.250	1.170	0.08963	12	0.007469	LGB
NTP3961Q1-TC-T01-BT-TT-B-C4-1-ETA1-4	B	C4	2	4	9.100	1.160	0.08946	12	0.007455	LAT
NTP3961Q1-TC-T01-BT-TT-B-C4-1-ETA1-5	B	C4	2	4	10.09	1.170	0.08856	12	0.007380	LWT
NTP3961Q1-TC-T01-BT-TT-B-C4-1-ETA1-6	B	C4	2	4	9.950	1.180	0.08838	12	0.007365	LGM
NTP3961Q1-TC-T01-BT-TT-B-C21-1-ETA1-1	B	C21	2	21	9.910	1.200	0.08710	12	0.007258	LGM
NTP3961Q1-TC-T01-BT-TT-B-C21-1-ETA1-2	B	C21	2	21	9.500	1.180	0.08913	12	0.007428	LWT
NTP3961Q1-TC-T01-BT-TT-B-C21-1-ETA1-3	B	C21	2	21	9.720	1.170	0.08961	12	0.007468	LAB
NTP3961Q1-TC-T01-BT-TT-B-C21-1-ETA1-4	B	C21	2	21	9.200	1.210	0.08758	12	0.007298	LWT
NTP3961Q1-TC-T01-BT-TT-B-C21-1-ETA1-5	B	C21	2	21	9.590	1.190	0.08863	12	0.007386	LWT
NTP3961Q1-TC-T01-BT-TT-B-C21-1-ETA1-6	B	C21	2	21	9.460	1.170	0.08871	12	0.007393	LWT
NTP3961Q1-TC-T01-TC-TT-C-C3-3-ETA1-1	C	C3	3	3	7.580	1.160	0.08703	12	0.007253	LAB
NTP3961Q1-TC-T01-TC-TT-C-C3-3-ETA1-2	C	C3	3	3	9.070	1.150	0.08806	12	0.007338	LAT
NTP3961Q1-TC-T01-TC-TT-C-C3-3-ETA1-3	C	C3	3	3	9.810	1.160	0.08766	12	0.007305	LAT
NTP3961Q1-TC-T01-TC-TT-C-C3-3-ETA1-4	C	C3	3	3	10.50	1.150	0.08831	12	0.007359	LAB
NTP3961Q1-TC-T01-TC-TT-C-C3-3-ETA1-5	C	C3	3	3	9.690	1.150	0.08731	12	0.007276	LAB
NTP3961Q1-TC-T01-TC-TT-C-C3-3-ETA1-6	C	C3	3	3	9.910	1.150	0.08765	12	0.007304	LA(TB)
NTP3961Q1-TC-T01-TC-TT-C-C6-3-ETA1-1	C	C6	3	6	9.690	1.140	0.08766	12	0.007305	LAB
NTP3961Q1-TC-T01-TC-TT-C-C6-3-ETA1-2	C	C6	3	6	8.760	1.150	0.08793	12	0.007328	LAT
NTP3961Q1-TC-T01-TC-TT-C-C6-3-ETA1-3	C	C6	3	6	10.43	1.160	0.08810	12	0.007342	LWB
NTP3961Q1-TC-T01-TC-TT-C-C6-3-ETA1-4	C	C6	3	6	10.27	1.140	0.08841	12	0.007368	LGB
NTP3961Q1-TC-T01-TC-TT-C-C6-3-ETA1-5	C	C6	3	6	10.36	1.140	0.08833	12	0.007361	LAT
NTP3961Q1-TC-T01-TC-TT-C-C6-3-ETA1-6	C	C6	3	6	10.17	1.150	0.08835	12	0.007363	LAB
NTP3961Q1-TC-T01-TC-TT-D-C3-3-ETA1-1	D	C3	4	3	6.510	1.140	0.08886	12	0.007405	LWB
NTP3961Q1-TC-T01-TC-TT-D-C3-3-ETA1-2	D	C3	4	3	8.640	1.170	0.08735	12	0.007279	LGT
NTP3961Q1-TC-T01-TC-TT-D-C3-3-ETA1-3	D	C3	4	3	9.280	1.120	0.08901	12	0.007418	LAT
NTP3961Q1-TC-T01-TC-TT-D-C3-3-ETA1-4	D	C3	4	3	9.490	1.140	0.08806	12	0.007338	LAB
NTP3961Q1-TC-T01-TC-TT-D-C3-3-ETA1-5	D	C3	4	3	8.580	1.130	0.08851	12	0.007376	LGT
NTP3961Q1-TC-T01-TC-TT-D-C3-3-ETA1-6	D	C3	4	3	8.950	1.150	0.08845	12	0.007371	LAT
NTP3961Q1-TC-T01-TC-TT-D-C6-3-ETA1-1	D	C6	4	6	6.010	1.180	0.08613	12	0.007178	LWB
NTP3961Q1-TC-T01-TC-TT-D-C6-3-ETA1-2	D	C6	4	6	8.880	1.210	0.08583	12	0.007153	LAB
NTP3961Q1-TC-T01-TC-TT-D-C6-3-ETA1-3	D	C6	4	6	8.100	1.150	0.08691	12	0.007243	LAT
NTP3961Q1-TC-T01-TC-TT-D-C6-3-ETA1-4	D	C6	4	6	9.440	1.170	0.08720	12	0.007267	LAB
NTP3961Q1-TC-T01-TC-TT-D-C6-3-ETA1-5	D	C6	4	6	8.080	1.170	0.08753	12	0.007294	LAB
NTP3961Q1-TC-T01-TC-TT-D-C6-3-ETA1-6	D	C6	4	6	9.830	1.180	0.08758	12	0.007298	LGM
NTP3961Q1-TC-T01-TC-TT-E-C3-3-ETA1-1	E	C3	5	3	9.010	1.190	0.08671	12	0.007226	LAT
NTP3961Q1-TC-T01-TC-TT-E-C3-3-ETA1-2	E	C3	5	3	7.940	1.190	0.08720	12	0.007267	LWB
NTP3961Q1-TC-T01-TC-TT-E-C3-3-ETA1-3	E	C3	5	3	7.510	1.200	0.08660	12	0.007217	LAB
NTP3961Q1-TC-T01-TC-TT-E-C3-3-ETA1-4	E	C3	5	3	7.750	1.180	0.08688	12	0.007240	LAT
NTP3961Q1-TC-T01-TC-TT-E-C3-3-ETA1-5	E	C3	5	3	9.130	1.210	0.08651	12	0.007209	LAB
NTP3961Q1-TC-T01-TC-TT-E-C3-3-ETA1-6	E	C3	5	3	9.010	1.190	0.08650	12	0.007208	LWT
NTP3961Q1-TC-T01-TC-TT-E-C6-3-ETA1-1	E	C6	5	6	8.110	1.150	0.08730	12	0.007275	LAT
NTP3961Q1-TC-T01-TC-TT-E-C6-3-ETA1-2	E	C6	5	6	9.530	1.150	0.08688	12	0.007240	LAT
NTP3961Q1-TC-T01-TC-TT-E-C6-3-ETA1-3	E	C6	5	6	8.240	1.160	0.08696	12	0.007247	LAT
NTP3961Q1-TC-T01-TC-TT-E-C6-3-ETA1-4	E	C6	5	6	8.810	1.140	0.08735	12	0.007279	LAT
NTP3961Q1-TC-T01-TC-TT-E-C6-3-ETA1-5	E	C6	5	6	8.090	1.150	0.08735	12	0.007279	LAT
NTP3961Q1-TC-T01-TC-TT-E-C6-3-ETA1-6	E	C6	5	6	8.240	1.160	0.08675	12	0.007229	LWT

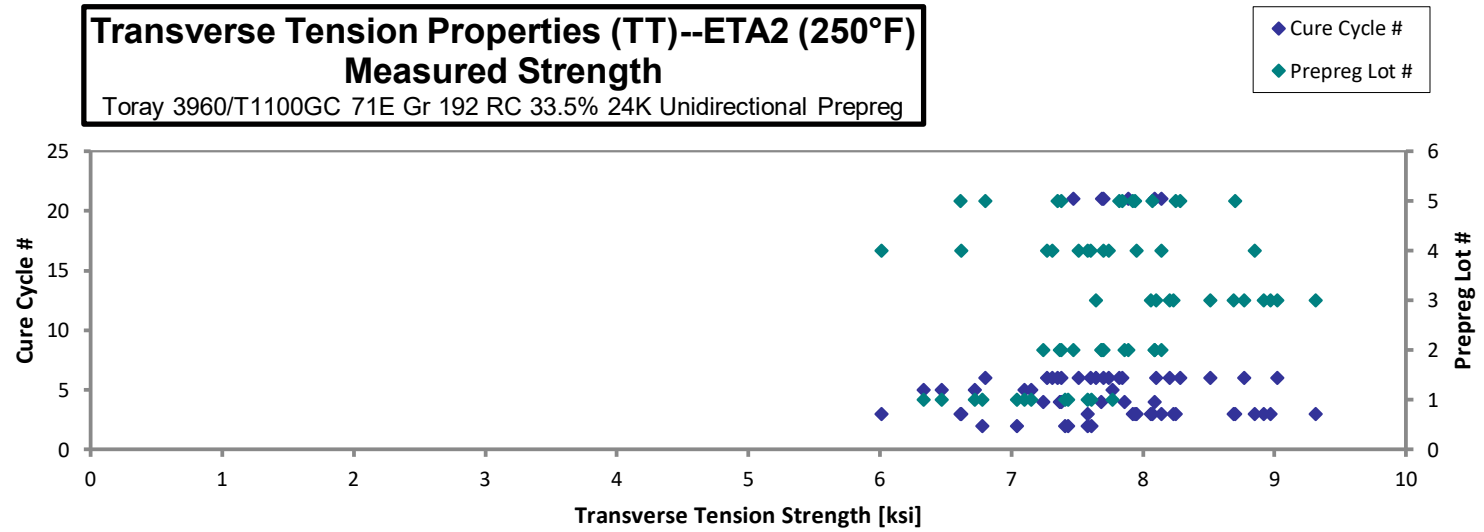
Average	**9.048**	**1.164**	**0.007295**
Standard Dev.	**0.8888**	**0.02084**	
Coeff. of Var. [%]	**9.823**	**1.790**	
Min.	**6.010**	**1.120**	**0.007139**
Max.	**10.50**	**1.210**	**0.007525**
Number of Spec.	**60**	**60**	**60**

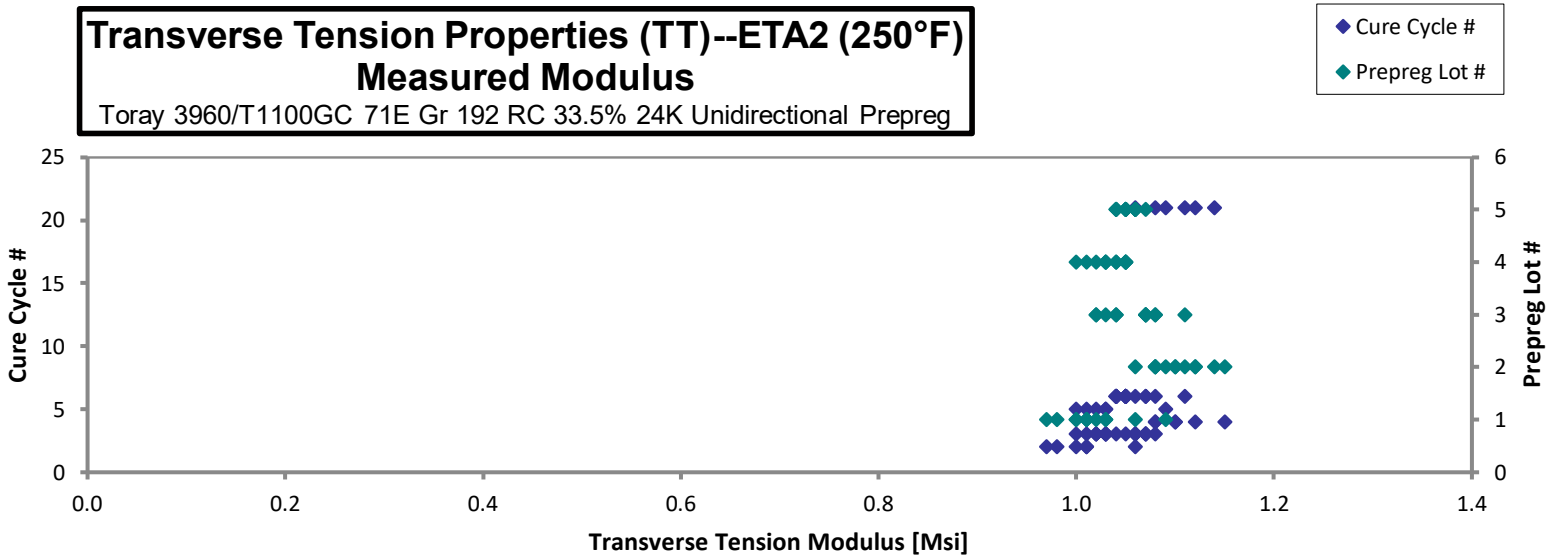

Transverse Tension Properties (TT)--ETA1 (180°F)
Measured Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Transverse Tension Strength [ksi]
0
2
4
6
8
10
12
0
5
10
15
20
25
0
1
2
3
4
5
6


Transverse Tension Properties (TT)--ETA1 (180°F)
Measured Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Transverse Tension Modulus [Msi]
0
5
10
15
20
25
0
1
2
3
4
5
6
0.0
0.2
0.4
0.6
0.8
1.0
1.2
1.4

Transverse Tension Properties (TT)--ETA2 (250°F)
Strength & Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

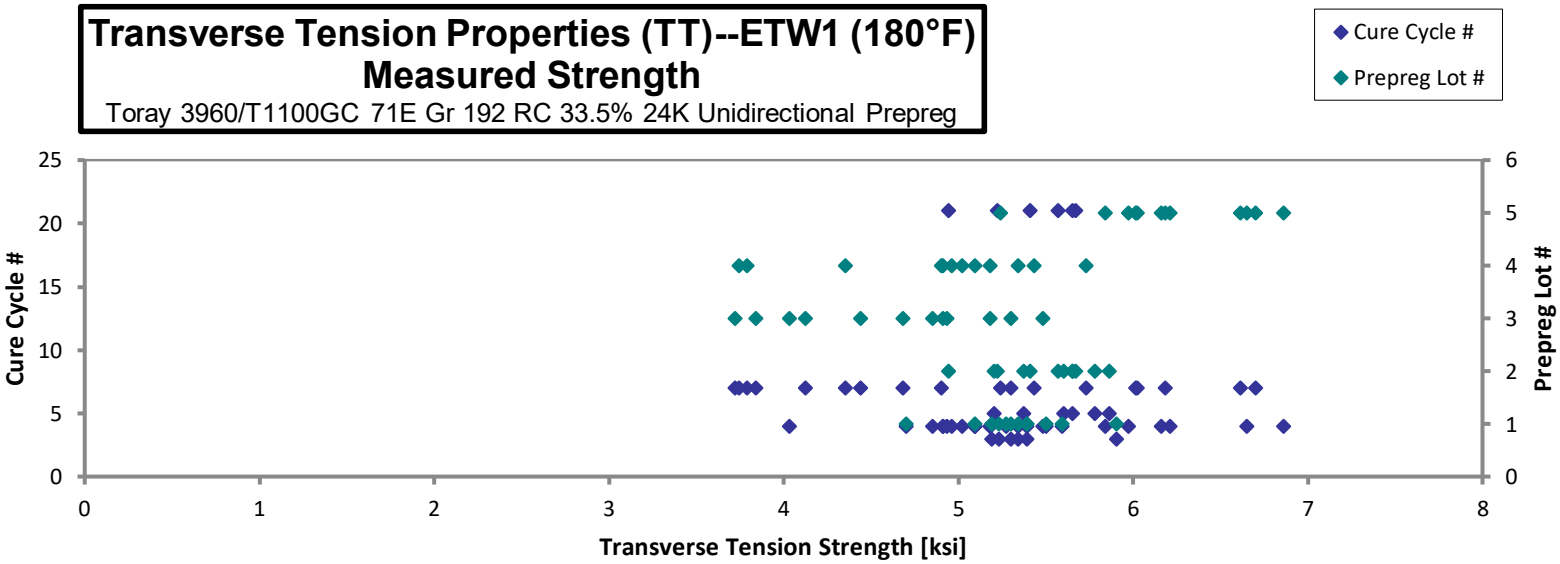
Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Modulus [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Avg. t_{ply} [in]	Failure Mode
NTP3961Q1-TC-T01-BT-TT-A-C2-1-ETA2-1	A	C2	1	2	7.040	0.9800	0.08700	12	0.007250	LGT
NTP3961Q1-TC-T01-BT-TT-A-C2-1-ETA2-2	A	C2	1	2	7.430	1.010	0.08620	12	0.007183	LGB
NTP3961Q1-TC-T01-BT-TT-A-C2-1-ETA2-3	A	C2	1	2	7.580	0.9700	0.08827	12	0.007356	LGT
NTP3961Q1-TC-T01-BT-TT-A-C2-1-ETA2-4	A	C2	1	2	6.780	1.060	0.08697	12	0.007248	LAT
NTP3961Q1-TC-T01-BT-TT-A-C2-1-ETA2-5	A	C2	1	2	7.610	1.000	0.08728	12	0.007273	LGT
NTP3961Q1-TC-T01-BT-TT-A-C2-1-ETA2-6	A	C2	1	2	7.410	1.010	0.08678	12	0.007232	LGT
NTP3961Q1-TC-T01-BT-TT-A-C5-1-ETA2-1	A	C5	1	5	6.470	1.030	0.08577	12	0.007148	LAT
NTP3961Q1-TC-T01-BT-TT-A-C5-1-ETA2-2	A	C5	1	5	6.720	1.010	0.08630	12	0.007192	LGT
NTP3961Q1-TC-T01-BT-TT-A-C5-1-ETA2-3	A	C5	1	5	7.770	1.030	0.08712	12	0.007260	LGM
NTP3961Q1-TC-T01-BT-TT-A-C5-1-ETA2-4	A	C5	1	5	7.150	1.000	0.08693	12	0.007244	LAT
NTP3961Q1-TC-T01-BT-TT-A-C5-1-ETA2-5	A	C5	1	5	7.100	1.090	0.08635	12	0.007196	LWT
NTP3961Q1-TC-T01-BT-TT-A-C5-1-ETA2-6	A	C5	1	5	6.330	1.020	0.08610	12	0.007175	LGT
NTP3961Q1-TC-T01-BT-TT-B-C4-1-ETA2-1	B	C4	2	4	7.680	1.080	0.08991	12	0.007493	LGM
NTP3961Q1-TC-T01-BT-TT-B-C4-1-ETA2-2	B	C4	2	4	8.090	1.150	0.08890	12	0.007408	LGT
NTP3961Q1-TC-T01-BT-TT-B-C4-1-ETA2-3	B	C4	2	4	7.370	1.120	0.09095	12	0.007579	LGT
NTP3961Q1-TC-T01-BT-TT-B-C4-1-ETA2-4	B	C4	2	4	7.860	1.100	0.09078	12	0.007565	LGB
NTP3961Q1-TC-T01-BT-TT-B-C4-1-ETA2-5	B	C4	2	4	7.240	1.100	0.08898	12	0.007415	LGT
NTP3961Q1-TC-T01-BT-TT-B-C4-1-ETA2-6	B	C4	2	4	7.380	1.080	0.08918	12	0.007432	LGB
NTP3961Q1-TC-T01-BT-TT-B-C21-1-ETA2-1	B	C21	2	21	8.140	1.120	0.08906	12	0.007422	LGB
NTP3961Q1-TC-T01-BT-TT-B-C21-1-ETA2-2	B	C21	2	21	7.470	1.060	0.08896	12	0.007413	LGM
NTP3961Q1-TC-T01-BT-TT-B-C21-1-ETA2-3	B	C21	2	21	7.690	1.090	0.08833	12	0.007361	LGB
NTP3961Q1-TC-T01-BT-TT-B-C21-1-ETA2-4	B	C21	2	21	7.890	1.110	0.08753	12	0.007294	LGB
NTP3961Q1-TC-T01-BT-TT-B-C21-1-ETA2-5	B	C21	2	21	7.700	1.080	0.08801	12	0.007334	LGM
NTP3961Q1-TC-T01-BT-TT-B-C21-1-ETA2-6	B	C21	2	21	8.090	1.140	0.08838	12	0.007365	LGM
NTP3961Q1-TC-T01-TC-TT-C-C3-3-ETA2-1	C	C3	3	3	9.310	1.080	0.08700	12	0.007250	LWB
NTP3961Q1-TC-T01-TC-TT-C-C3-3-ETA2-2	C	C3	3	3	8.920	1.070	0.08768	12	0.007307	LGM
NTP3961Q1-TC-T01-TC-TT-C-C3-3-ETA2-3	C	C3	3	3	8.970	1.020	0.08768	12	0.007307	LGM
NTP3961Q1-TC-T01-TC-TT-C-C3-3-ETA2-4	C	C3	3	3	8.230	1.020	0.08711	12	0.007259	LGM
NTP3961Q1-TC-T01-TC-TT-C-C3-3-ETA2-5	C	C3	3	3	8.690	1.070	0.08680	12	0.007233	LGM
NTP3961Q1-TC-T01-TC-TT-C-C3-3-ETA2-6	C	C3	3	3	8.060	1.030	0.08821	12	0.007351	LAB
NTP3961Q1-TC-T01-TC-TT-C-C6-3-ETA2-1	C	C6	3	6	8.200	1.040	0.08771	12	0.007309	LAB
NTP3961Q1-TC-T01-TC-TT-C-C6-3-ETA2-2	C	C6	3	6	8.100	1.080	0.08691	12	0.007243	LAB
NTP3961Q1-TC-T01-TC-TT-C-C6-3-ETA2-3	C	C6	3	6	7.640	1.040	0.08668	12	0.007223	LGM
NTP3961Q1-TC-T01-TC-TT-C-C6-3-ETA2-4	C	C6	3	6	9.020	1.110	0.08588	12	0.007157	LGM
NTP3961Q1-TC-T01-TC-TT-C-C6-3-ETA2-5	C	C6	3	6	8.510	1.070	0.08785	12	0.007321	LGM
NTP3961Q1-TC-T01-TC-TT-C-C6-3-ETA2-6	C	C6	3	6	8.770	1.070	0.08721	12	0.007268	LAB
NTP3961Q1-TC-T01-TC-TT-D-C3-3-ETA2-1	D	C3	4	3	7.950	1.000	0.08808	12	0.007340	LWT
NTP3961Q1-TC-T01-TC-TT-D-C3-3-ETA2-2	D	C3	4	3	8.140	1.010	0.08738	12	0.007282	LGM
NTP3961Q1-TC-T01-TC-TT-D-C3-3-ETA2-3	D	C3	4	3	7.580	1.020	0.08793	12	0.007328	LAT
NTP3961Q1-TC-T01-TC-TT-D-C3-3-ETA2-4	D	C3	4	3	6.010	1.030	0.08821	12	0.007351	LWB
NTP3961Q1-TC-T01-TC-TT-D-C3-3-ETA2-5	D	C3	4	3	8.850	1.030	0.08705	12	0.007254	LAB
NTP3961Q1-TC-T01-TC-TT-D-C3-3-ETA2-6	D	C3	4	3	6.620	1.030	0.08765	12	0.007304	LAB
NTP3961Q1-TC-T01-TC-TT-D-C6-3-ETA2-1	D	C6	4	6	7.600	1.040	0.08726	12	0.007272	LAT
NTP3961Q1-TC-T01-TC-TT-D-C6-3-ETA2-2	D	C6	4	6	7.270	1.040	0.08735	12	0.007279	LAT
NTP3961Q1-TC-T01-TC-TT-D-C6-3-ETA2-3	D	C6	4	6	7.740	1.050	0.08775	12	0.007313	LAT
NTP3961Q1-TC-T01-TC-TT-D-C6-3-ETA2-4	D	C6	4	6	7.700	1.050	0.08671	12	0.007226	LAT
NTP3961Q1-TC-T01-TC-TT-D-C6-3-ETA2-5	D	C6	4	6	7.510	1.050	0.08713	12	0.007261	LAT
NTP3961Q1-TC-T01-TC-TT-D-C6-3-ETA2-6	D	C6	4	6	7.310	1.050	0.08728	12	0.007273	LAB
NTP3961Q1-TC-T01-TC-TT-E-C3-3-ETA2-1	E	C3	5	3	7.920	1.040	0.08708	12	0.007257	LAT
NTP3961Q1-TC-T01-TC-TT-E-C3-3-ETA2-2	E	C3	5	3	7.940	1.060	0.08673	12	0.007228	LGM
NTP3961Q1-TC-T01-TC-TT-E-C3-3-ETA2-3	E	C3	5	3	8.070	1.050	0.08678	12	0.007232	LAT
NTP3961Q1-TC-T01-TC-TT-E-C3-3-ETA2-4	E	C3	5	3	6.610	1.070	0.08701	12	0.007251	LAT
NTP3961Q1-TC-T01-TC-TT-E-C3-3-ETA2-5	E	C3	5	3	8.250	1.060	0.08711	12	0.007259	LAT
NTP3961Q1-TC-T01-TC-TT-E-C3-3-ETA2-6	E	C3	5	3	8.700	1.060	0.08660	12	0.007217	LAT
NTP3961Q1-TC-T01-TC-TT-E-C6-3-ETA2-1	E	C6	5	6	7.350	1.040	0.08641	12	0.007201	LAB
NTP3961Q1-TC-T01-TC-TT-E-C6-3-ETA2-2	E	C6	5	6	6.800	1.050	0.08725	12	0.007271	LAB
NTP3961Q1-TC-T01-TC-TT-E-C6-3-ETA2-3	E	C6	5	6	7.380	1.040	0.08723	12	0.007269	LAV
NTP3961Q1-TC-T01-TC-TT-E-C6-3-ETA2-4	E	C6	5	6	8.280	1.050	0.08666	12	0.007222	LAB
NTP3961Q1-TC-T01-TC-TT-E-C6-3-ETA2-5	E	C6	5	6	7.820	1.050	0.08661	12	0.007218	LAT
NTP3961Q1-TC-T01-TC-TT-E-C6-3-ETA2-6	E	C6	5	6	7.840	1.060	0.08651	12	0.007209	LAB
				Average	**7.728**	**1.053**			**0.007290**	
				Standard Dev.	**0.6968**	**0.03724**				
				Coeff. of Var. [%]	**9.018**	**3.537**				
				Min.	**6.010**	**0.9700**			**0.007148**	
				Max.	**9.310**	**1.150**			**0.007579**	
				Number of Spec.	**60**	**60**			**60**	

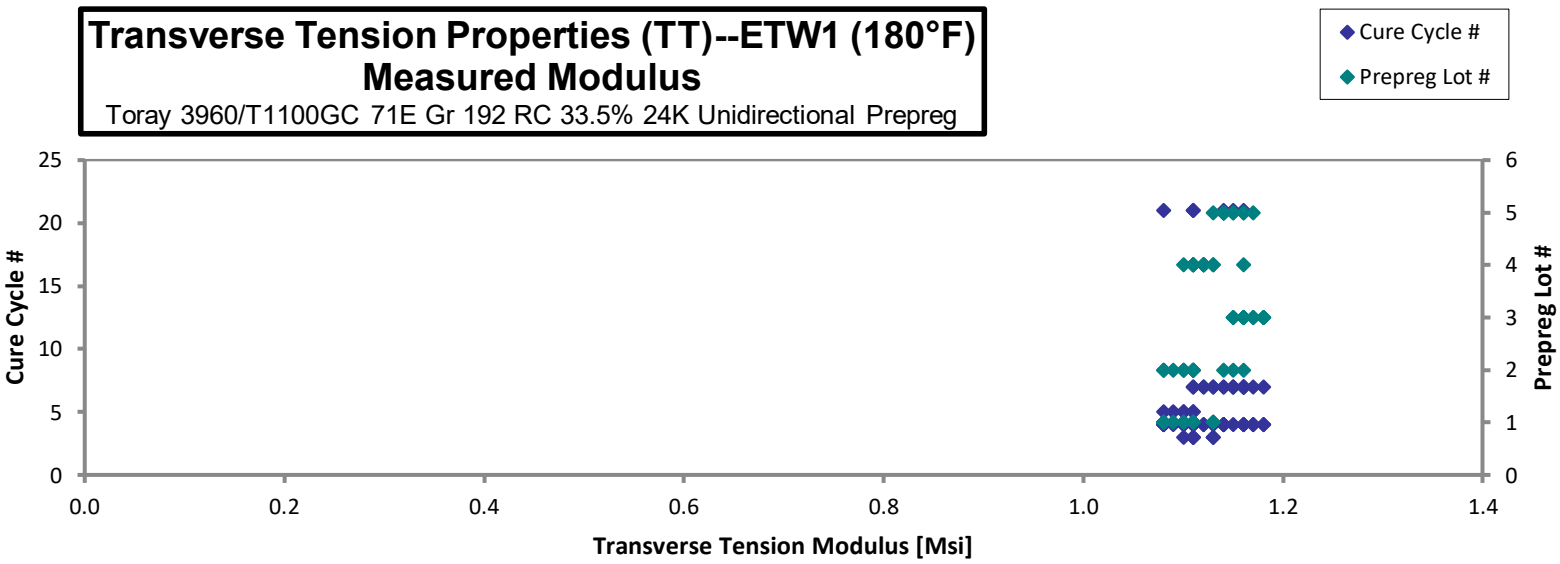

Transverse Tension Properties (TT)--ETA2 (250°F)
Measured Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Transverse Tension Strength [ksi]
0
1
2
3
4
5
6
7
8
9
10
0
5
10
15
20
25
0
1
2
3
4
5
6


Transverse Tension Properties (TT)--ETA2 (250°F)
Measured Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Transverse Tension Modulus [Msi]
0.0
0.2
0.4
0.6
0.8
1.0
1.2
1.4
0
5
10
15
20
25
0
1
2
3
4
5
6

Transverse Tension Properties (TT)--ETW1 (180°F)
Strength & Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

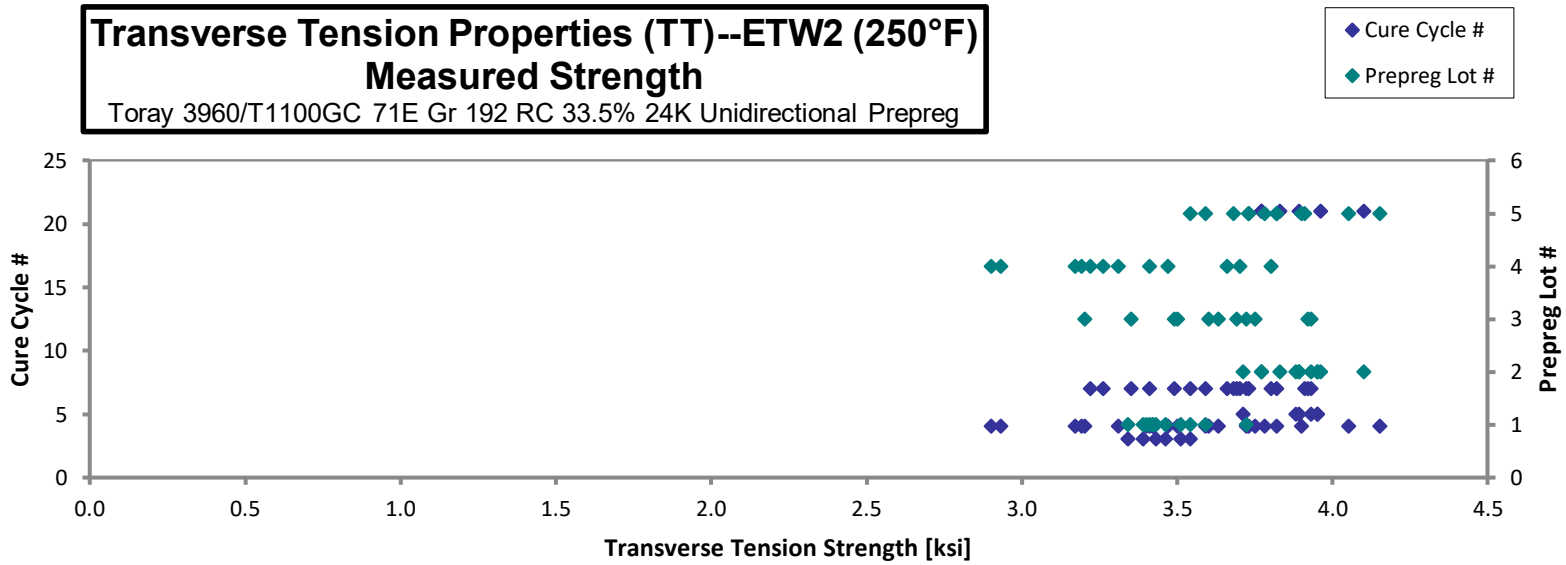
Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Modulus [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Avg. t_{ply} [in]	Failure Mode
NTP3961Q1-TC-T01-BT-TT-A-C3-1-ETW1-1	A	C3	1	3	5.230	1.100	0.08597	12	0.007164	LGM
NTP3961Q1-TC-T01-BT-TT-A-C3-1-ETW1-2	A	C3	1	3	5.340	1.130	0.08625	12	0.007188	LWT
NTP3961Q1-TC-T01-BT-TT-A-C3-1-ETW1-3	A	C3	1	3	5.390	1.110	0.08632	12	0.007193	LGM
NTP3961Q1-TC-T01-BT-TT-A-C3-1-ETW1-4	A	C3	1	3	5.900	1.130	0.08607	12	0.007173	LAT
NTP3961Q1-TC-T01-BT-TT-A-C3-1-ETW1-5	A	C3	1	3	5.190	1.110	0.08730	12	0.007275	LAT
NTP3961Q1-TC-T01-BT-TT-A-C3-1-ETW1-6	A	C3	1	3	5.300	1.110	0.08692	12	0.007243	LGM
NTP3961Q1-TC-T01-BT-TT-A-C4-1-ETW1-1	A	C4	1	4	4.700	1.090	0.08717	12	0.007264	LGB
NTP3961Q1-TC-T01-BT-TT-A-C4-1-ETW1-2	A	C4	1	4	5.090	1.080	0.08827	12	0.007356	LGB
NTP3961Q1-TC-T01-BT-TT-A-C4-1-ETW1-3	A	C4	1	4	5.270	1.080	0.08910	12	0.007425	LGB
NTP3961Q1-TC-T01-BT-TT-A-C4-1-ETW1-4	A	C4	1	4	5.390	1.080	0.08853	12	0.007378	LGM
NTP3961Q1-TC-T01-BT-TT-A-C4-1-ETW1-5	A	C4	1	4	5.590	1.110	0.08698	12	0.007248	LGM
NTP3961Q1-TC-T01-BT-TT-A-C4-1-ETW1-6	A	C4	1	4	5.500	1.100	0.08685	12	0.007238	LGM
NTP3961Q1-TC-T01-BT-TT-B-C5-1-ETW1-1	B	C5	2	5	5.860	1.080	0.08933	12	0.007444	LGM
NTP3961Q1-TC-T01-BT-TT-B-C5-1-ETW1-2	B	C5	2	5	5.370	1.100	0.08828	12	0.007357	LAB
NTP3961Q1-TC-T01-BT-TT-B-C5-1-ETW1-3	B	C5	2	5	5.780	1.090	0.08886	12	0.007405	LWB
NTP3961Q1-TC-T01-BT-TT-B-C5-1-ETW1-4	B	C5	2	5	5.600	1.100	0.08825	12	0.007354	LWB
NTP3961Q1-TC-T01-BT-TT-B-C5-1-ETW1-5	B	C5	2	5	5.650	1.110	0.08708	12	0.007257	LGM
NTP3961Q1-TC-T01-BT-TT-B-C5-1-ETW1-6	B	C5	2	5	5.200	1.110	0.08670	12	0.007225	LAT
NTP3961Q1-TC-T01-BT-TT-B-C21-2-ETW1-1	B	C21	2	21	5.570	1.160	0.08715	12	0.007263	LWB
NTP3961Q1-TC-T01-BT-TT-B-C21-2-ETW1-2	B	C21	2	21	5.410	1.150	0.08665	12	0.007221	LGM
NTP3961Q1-TC-T01-BT-TT-B-C21-2-ETW1-3	B	C21	2	21	5.650	1.110	0.08883	12	0.007403	LGM
NTP3961Q1-TC-T01-BT-TT-B-C21-2-ETW1-4	B	C21	2	21	5.670	1.140	0.08720	12	0.007267	LAT
NTP3961Q1-TC-T01-BT-TT-B-C21-2-ETW1-5	B	C21	2	21	4.940	1.110	0.08895	12	0.007413	LAB
NTP3961Q1-TC-T01-BT-TT-B-C21-2-ETW1-6	B	C21	2	21	5.220	1.080	0.09060	12	0.007550	LAB
NTP3961Q1-TC-T01-TC-TT-C-C4-3-ETW1-8	C	C4	3	4	5.180	1.180	0.08726	12	0.007272	LWB
NTP3961Q1-TC-T01-TC-TT-C-C4-3-ETW1-9	C	C4	3	4	4.850	1.180	0.08690	12	0.007242	LAT
NTP3961Q1-TC-T01-TC-TT-C-C4-3-ETW1-3	C	C4	3	4	4.930	1.170	0.08653	12	0.007211	LGM
NTP3961Q1-TC-T01-TC-TT-C-C4-3-ETW1-4	C	C4	3	4	5.480	1.160	0.08823	12	0.007353	LGV
NTP3961Q1-TC-T01-TC-TT-C-C4-3-ETW1-6	C	C4	3	4	4.910	1.170	0.08700	12	0.007250	LWB
NTP3961Q1-TC-T01-TC-TT-C-C4-3-ETW1-5	C	C4	3	4	4.030	1.160	0.08750	12	0.007292	LAT
NTP3961Q1-TC-T01-TC-TT-C-C7-3-ETW1-4	C	C7	3	7	3.720	1.180	0.08588	12	0.007157	LWT
NTP3961Q1-TC-T01-TC-TT-C-C7-3-ETW1-5	C	C7	3	7	4.120	1.150	0.08701	12	0.007251	LWT
NTP3961Q1-TC-T01-TC-TT-C-C7-3-ETW1-6	C	C7	3	7	3.840	1.160	0.08728	12	0.007273	LWT
NTP3961Q1-TC-T01-TC-TT-C-C7-3-ETW1-7	C	C7	3	7	5.300	1.150	0.08726	12	0.007272	LWB
NTP3961Q1-TC-T01-TC-TT-C-C7-3-ETW1-8	C	C7	3	7	4.440	1.160	0.08648	12	0.007207	LWT
NTP3961Q1-TC-T01-TC-TT-C-C7-3-ETW1-9	C	C7	3	7	4.680	1.160	0.08636	12	0.007197	LWT
NTP3961Q1-TC-T01-TC-TT-D-C4-3-ETW1-1	D	C4	4	4	5.020	1.130	0.08763	12	0.007303	LWB
NTP3961Q1-TC-T01-TC-TT-D-C4-3-ETW1-2	D	C4	4	4	5.340	1.110	0.08913	12	0.007428	LGM
NTP3961Q1-TC-T01-TC-TT-D-C4-3-ETW1-3	D	C4	4	4	5.180	1.110	0.08861	12	0.007384	LAB
NTP3961Q1-TC-T01-TC-TT-D-C4-3-ETW1-4	D	C4	4	4	5.090	1.120	0.08810	12	0.007342	LAT
NTP3961Q1-TC-T01-TC-TT-D-C4-3-ETW1-5	D	C4	4	4	4.960	1.120	0.08800	12	0.007333	LWT
NTP3961Q1-TC-T01-TC-TT-D-C4-3-ETW1-6	D	C4	4	4	4.910	1.100	0.08916	12	0.007430	LAT
NTP3961Q1-TC-T01-TC-TT-D-C7-3-ETW1-1	D	C7	4	7	4.900	1.110	0.08751	12	0.007293	LAB
NTP3961Q1-TC-T01-TC-TT-D-C7-3-ETW1-2	D	C7	4	7	5.430	1.120	0.08711	12	0.007259	LAT
NTP3961Q1-TC-T01-TC-TT-D-C7-3-ETW1-3	D	C7	4	7	3.790	1.120	0.08736	12	0.007280	LAT
NTP3961Q1-TC-T01-TC-TT-D-C7-3-ETW1-4	D	C7	4	7	5.730	1.110	0.08718	12	0.007265	LGT
NTP3961Q1-TC-T01-TC-TT-D-C7-3-ETW1-5	D	C7	4	7	3.740	1.130	0.08753	12	0.007294	LAT
NTP3961Q1-TC-T01-TC-TT-D-C7-3-ETW1-6	D	C7	4	7	4.350	1.160	0.08640	12	0.007200	LAT
NTP3961Q1-TC-T01-TC-TT-E-C4-3-ETW1-1	E	C4	5	4	5.840	1.140	0.08665	12	0.007221	LAT
NTP3961Q1-TC-T01-TC-TT-E-C4-3-ETW1-2	E	C4	5	4	6.650	1.140	0.08710	12	0.007258	LAB
NTP3961Q1-TC-T01-TC-TT-E-C4-3-ETW1-3	E	C4	5	4	5.970	1.140	0.08743	12	0.007286	LAB
NTP3961Q1-TC-T01-TC-TT-E-C4-3-ETW1-4	E	C4	5	4	6.160	1.140	0.08741	12	0.007284	LAB
NTP3961Q1-TC-T01-TC-TT-E-C4-3-ETW1-5	E	C4	5	4	6.860	1.160	0.08678	12	0.007232	LGT
NTP3961Q1-TC-T01-TC-TT-E-C4-3-ETW1-6	E	C4	5	4	6.210	1.150	0.08696	12	0.007247	LAB
NTP3961Q1-TC-T01-TC-TT-E-C7-3-ETW1-1	E	C7	5	7	6.020	1.170	0.08693	12	0.007244	LAB
NTP3961Q1-TC-T01-TC-TT-E-C7-3-ETW1-2	E	C7	5	7	6.180	1.150	0.08768	12	0.007307	LAT
NTP3961Q1-TC-T01-TC-TT-E-C7-3-ETW1-3	E	C7	5	7	6.700	1.160	0.08681	12	0.007234	LGT
NTP3961Q1-TC-T01-TC-TT-E-C7-3-ETW1-4	E	C7	5	7	5.240	1.140	0.08708	12	0.007257	LWB
NTP3961Q1-TC-T01-TC-TT-E-C7-3-ETW1-5	E	C7	5	7	6.010	1.130	0.08723	12	0.007269	LWT
NTP3961Q1-TC-T01-TC-TT-E-C7-3-ETW1-6	E	C7	5	7	6.610	1.140	0.08748	12	0.007290	LWT
				Average	**5.303**	**1.129**			**0.007287**	
				Standard Dev.	**0.7118**	**0.02866**				
				Coeff. of Var. [%]	**13.42**	**2.538**				
				Min.	**3.720**	**1.080**			**0.007157**	
				Max.	**6.860**	**1.180**			**0.007550**	
				Number of Spec.	**60**	**60**			**60**	

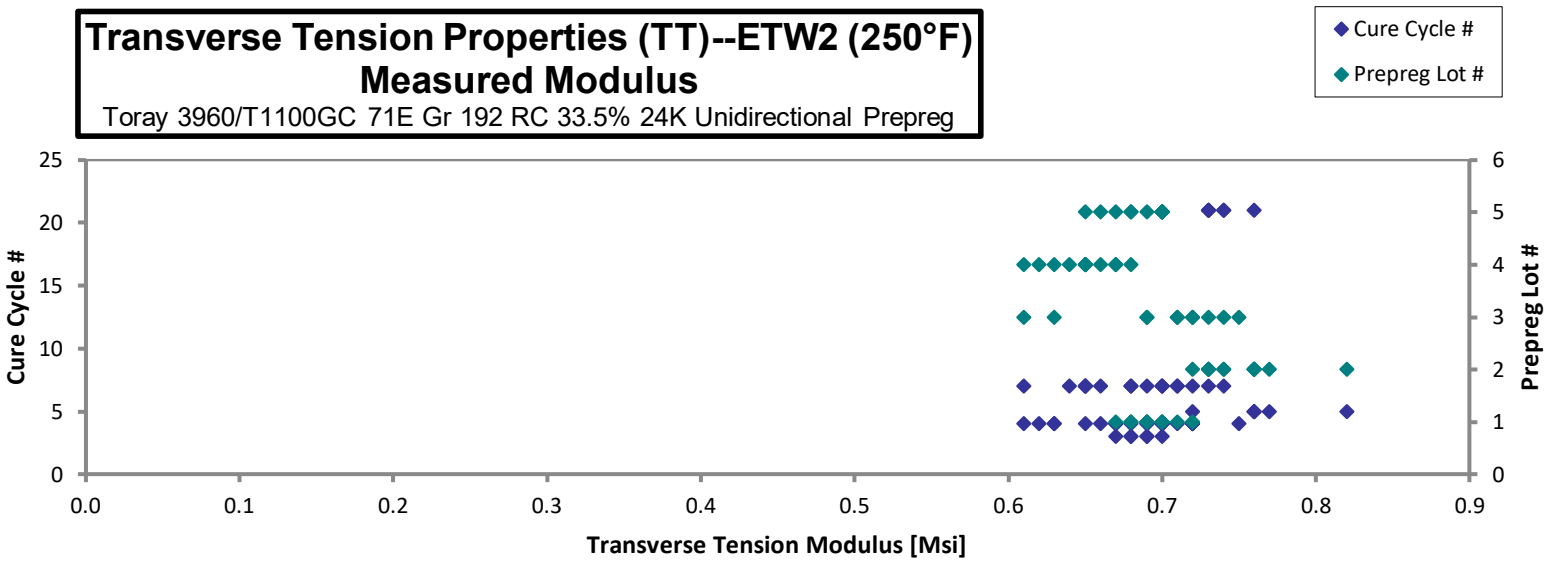

Transverse Tension Properties (TT)--ETW1 (180°F)
Measured Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Transverse Tension Strength [ksi]
0
5
10
15
20
25
0
1
2
3
4
5
6
7
8


Transverse Tension Properties (TT)--ETW1 (180°F)
Measured Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Transverse Tension Modulus [Msi]
0
5
10
15
20
25
0
1
2
3
4
5
6
0.0
0.2
0.4
0.6
0.8
1.0
1.2
1.4

Transverse Tension Properties (TT)--ETW2 (250°F)
Strength & Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Modulus [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Avg. t_{ply} [in]	Failure Mode
NTP3961Q1-TC-T01-BT-TT-A-C3-1-ETW2-1	A	C3	1	3	3.390	0.7000	0.08702	12	0.007252	LGM
NTP3961Q1-TC-T01-BT-TT-A-C3-1-ETW2-2	A	C3	1	3	3.540	0.6900	0.08747	12	0.007289	LGM
NTP3961Q1-TC-T01-BT-TT-A-C3-1-ETW2-3	A	C3	1	3	3.460	0.6800	0.08750	12	0.007292	LGM
NTP3961Q1-TC-T01-BT-TT-A-C3-1-ETW2-4	A	C3	1	3	3.510	0.6800	0.08817	12	0.007348	LGM
NTP3961Q1-TC-T01-BT-TT-A-C3-1-ETW2-5	A	C3	1	3	3.430	0.6700	0.08815	12	0.007346	LAT
NTP3961Q1-TC-T01-BT-TT-A-C3-1-ETW2-6	A	C3	1	3	3.340	0.6900	0.08752	12	0.007293	LAT
NTP3961Q1-TC-T01-BT-TT-A-C4-1-ETW2-1	A	C4	1	4	3.720	0.7200	0.08748	12	0.007290	LGM
NTP3961Q1-TC-T01-BT-TT-A-C4-1-ETW2-2	A	C4	1	4	3.410	0.7000	0.08693	12	0.007244	LGT
NTP3961Q1-TC-T01-BT-TT-A-C4-1-ETW2-3	A	C4	1	4	3.400	0.7100	0.08595	12	0.007163	LGT
NTP3961Q1-TC-T01-BT-TT-A-C4-1-ETW2-4	A	C4	1	4	3.420	0.7000	0.08652	12	0.007210	LAB
NTP3961Q1-TC-T01-BT-TT-A-C4-1-ETW2-5	A	C4	1	4	3.420	0.7200	0.08755	12	0.007296	LGT
NTP3961Q1-TC-T01-BT-TT-A-C4-1-ETW2-6	A	C4	1	4	3.590	0.6900	0.08742	12	0.007285	LGT
NTP3961Q1-TC-T01-BT-TT-B-C5-1-ETW2-1	B	C5	2	5	3.890	0.7700	0.08850	12	0.007375	LGT
NTP3961Q1-TC-T01-BT-TT-B-C5-1-ETW2-2	B	C5	2	5	3.950	0.8200	0.08853	12	0.007378	LAT
NTP3961Q1-TC-T01-BT-TT-B-C5-1-ETW2-3	B	C5	2	5	3.930	0.7600	0.08773	12	0.007311	LGM
NTP3961Q1-TC-T01-BT-TT-B-C5-1-ETW2-4	B	C5	2	5	3.950	0.7600	0.08828	12	0.007357	LGM
NTP3961Q1-TC-T01-BT-TT-B-C5-1-ETW2-5	B	C5	2	5	3.880	0.7200	0.08846	12	0.007372	LGM
NTP3961Q1-TC-T01-BT-TT-B-C5-1-ETW2-6	B	C5	2	5	3.710	0.7600	0.08946	12	0.007455	LGM
NTP3961Q1-TC-T01-BT-TT-B-C21-2-ETW2-6	B	C21	2	21	3.890	0.7400	0.08898	12	0.007415	LAT
NTP3961Q1-TC-T01-BT-TT-B-C21-2-ETW2-7	B	C21	2	21	3.960	0.7300	0.08868	12	0.007390	LGT
NTP3961Q1-TC-T01-BT-TT-B-C21-2-ETW2-8	B	C21	2	21	4.100	0.7300	0.08845	12	0.007371	LGM
NTP3961Q1-TC-T01-BT-TT-B-C21-2-ETW2-9	B	C21	2	21	3.770	0.7400	0.08973	12	0.007478	LGM
NTP3961Q1-TC-T01-BT-TT-B-C21-2-ETW2-10	B	C21	2	21	3.830	0.7600	0.08843	12	0.007369	LAT
NTP3961Q1-TC-T01-BT-TT-B-C21-2-ETW2-11	B	C21	2	21	3.770	0.7300	0.08733	12	0.007278	LGM
NTP3961Q1-TC-T01-TC-TT-C-C4-3-ETW2-1	C	C4	3	4	3.630	0.6100	0.08775	12	0.007313	LGM
NTP3961Q1-TC-T01-TC-TT-C-C4-3-ETW2-2	C	C4	3	4	3.500	0.6300	0.08720	12	0.007267	LGM
NTP3961Q1-TC-T01-TC-TT-C-C4-3-ETW2-3	C	C4	3	4	3.600	0.7500	0.08668	12	0.007223	LWB
NTP3961Q1-TC-T01-TC-TT-C-C4-3-ETW2-5	C	C4	3	4	3.200	0.6900	0.08703	12	0.007253	LWT
NTP3961Q1-TC-T01-TC-TT-C-C4-3-ETW2-6	C	C4	3	4	3.750	0.7200	0.08743	12	0.007286	LWB
NTP3961Q1-TC-T01-TC-TT-C-C7-3-ETW2-1	C	C7	3	7	3.350	0.7100	0.08725	12	0.007271	LWB
NTP3961Q1-TC-T01-TC-TT-C-C7-3-ETW2-3	C	C7	3	7	3.920	0.7300	0.08678	12	0.007232	LGM
NTP3961Q1-TC-T01-TC-TT-C-C7-3-ETW2-2	C	C7	3	7	3.490	0.7400	0.08576	12	0.007147	LWB
NTP3961Q1-TC-T01-TC-TT-C-C7-3-ETW2-4	C	C7	3	7	3.720	0.6900	0.08821	12	0.007351	LGM
NTP3961Q1-TC-T01-TC-TT-C-C7-3-ETW2-5	C	C7	3	7	3.690	0.7200	0.08715	12	0.007263	LWT
NTP3961Q1-TC-T01-TC-TT-C-C7-3-ETW2-6	C	C7	3	7	3.930	0.7100	0.08681	12	0.007234	LGM
NTP3961Q1-TC-T01-TC-TT-D-C4-3-ETW2-1	D	C4	4	4	3.190	0.6200	0.08748	12	0.007290	LAT
NTP3961Q1-TC-T01-TC-TT-D-C4-3-ETW2-2	D	C4	4	4	2.930	0.6500	0.08696	12	0.007247	LAT
NTP3961Q1-TC-T01-TC-TT-D-C4-3-ETW2-3	D	C4	4	4	3.470	0.6700	0.08705	12	0.007254	LAT
NTP3961Q1-TC-T01-TC-TT-D-C4-3-ETW2-4	D	C4	4	4	3.310	0.6300	0.08576	12	0.007147	LWT
NTP3961Q1-TC-T01-TC-TT-D-C4-3-ETW2-5	D	C4	4	4	2.900	0.6700	0.08610	12	0.007175	LAT
NTP3961Q1-TC-T01-TC-TT-D-C4-3-ETW2-6	D	C4	4	4	3.170	0.6600	0.08630	12	0.007192	LAT
NTP3961Q1-TC-T01-TC-TT-D-C7-3-ETW2-1	D	C7	4	7	3.220	0.6800	0.08593	12	0.007161	LAT
NTP3961Q1-TC-T01-TC-TT-D-C7-3-ETW2-2	D	C7	4	7	3.260	0.6500	0.08723	12	0.007269	LAT
NTP3961Q1-TC-T01-TC-TT-D-C7-3-ETW2-3	D	C7	4	7	3.800	0.6500	0.08691	12	0.007243	LGT
NTP3961Q1-TC-T01-TC-TT-D-C7-3-ETW2-4	D	C7	4	7	3.660	0.6400	0.08715	12	0.007263	LGT
NTP3961Q1-TC-T01-TC-TT-D-C7-3-ETW2-5	D	C7	4	7	3.700	0.6500	0.08763	12	0.007303	LWT
NTP3961Q1-TC-T01-TC-TT-D-C7-3-ETW2-6	D	C7	4	7	3.410	0.6100	0.08721	12	0.007268	LAT
NTP3961Q1-TC-T01-TC-TT-E-C4-3-ETW2-1	E	C4	5	4	3.730	0.6800	0.08736	12	0.007280	LGB
NTP3961Q1-TC-T01-TC-TT-E-C4-3-ETW2-2	E	C4	5	4	3.900	0.6700	0.08736	12	0.007280	LGB
NTP3961Q1-TC-T01-TC-TT-E-C4-3-ETW2-3	E	C4	5	4	3.820	0.7000	0.08648	12	0.007207	LWT
NTP3961Q1-TC-T01-TC-TT-E-C4-3-ETW2-4	E	C4	5	4	3.780	0.7000	0.08680	12	0.007233	LAT
NTP3961Q1-TC-T01-TC-TT-E-C4-3-ETW2-5	E	C4	5	4	4.150	0.7000	0.08646	12	0.007205	LAT
NTP3961Q1-TC-T01-TC-TT-E-C4-3-ETW2-6	E	C4	5	4	4.050	0.6900	0.08703	12	0.007253	LWT
NTP3961Q1-TC-T01-TC-TT-E-C7-3-ETW2-1	E	C7	5	7	3.590	0.6500	0.08691	12	0.007243	LAT
NTP3961Q1-TC-T01-TC-TT-E-C7-3-ETW2-2	E	C7	5	7	3.680	0.7000	0.08656	12	0.007213	LAT
NTP3961Q1-TC-T01-TC-TT-E-C7-3-ETW2-3	E	C7	5	7	3.730	0.6600	0.08758	12	0.007298	LGT
NTP3961Q1-TC-T01-TC-TT-E-C7-3-ETW2-4	E	C7	5	7	3.910	0.7000	0.08710	12	0.007258	LGB
NTP3961Q1-TC-T01-TC-TT-E-C7-3-ETW2-5	E	C7	5	7	3.540	0.6800	0.08668	12	0.007223	LWT
NTP3961Q1-TC-T01-TC-TT-E-C7-3-ETW2-6	E	C7	5	7	3.820	0.7000	0.08695	12	0.007246	LGT
				Average	**3.623**	**0.6963**			**0.007279**	
				Standard Dev.	**0.2788**	**0.04234**				
				Coeff. of Var. [%]	**7.694**	**6.081**				
				Min.	**2.900**	**0.6100**			**0.007147**	
				Max.	**4.150**	**0.8200**			**0.007478**	
				Number of Spec.	**59**	**59**			**59**	


Transverse Tension Properties (TT)--ETW2 (250°F)
Measured Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Transverse Tension Strength [ksi]
0
5
10
15
20
25
0
1
2
3
4
5
6
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3.5
4.0
4.5


Transverse Tension Properties (TT)--ETW2 (250°F)
Measured Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Transverse Tension Modulus [Msi]
0
5
10
15
20
25
0
1
2
3
4
5
6
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9

4.3 Longitudinal Compression Properties (LC)

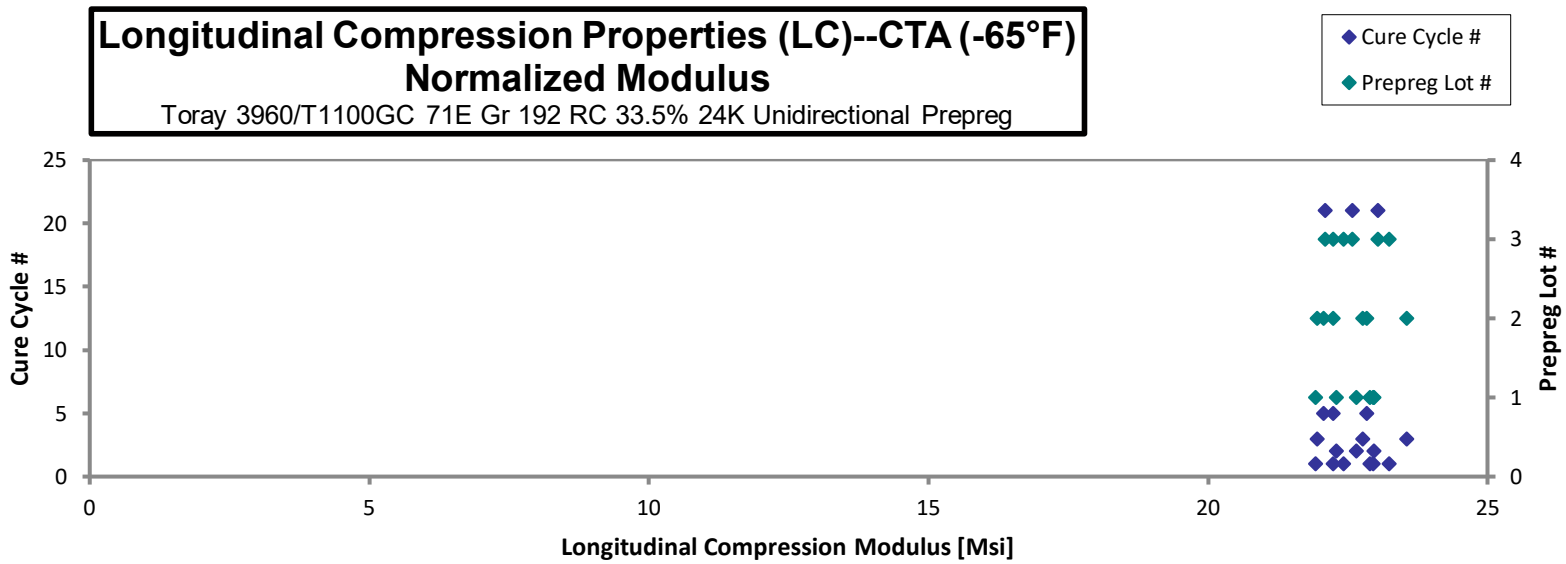
Longitudinal Compression Properties (LC)--CTA (-65°F)
Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

normalizing t_{ply} [in]
0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Modulus (avg.**) [Msi]	Poisson's Ratio	Avg. Specimen Thickness [in]	# Plies in Laminate	Avg. t_{ply} [in]	$Modulus_{norm}$ [Msi]
NTP3961Q1-TC-T01-BT-LC-A-C1-1-CTA-1	A	C1	1	1	22.45	0.4130	0.09843	14	0.007031	21.92
NTP3961Q1-TC-T01-BT-LC-A-C1-1-CTA-2*	A	C1	1	1	22.97		0.1005	14	0.007179	22.90
NTP3961Q1-TC-T01-BT-LC-A-C1-1-CTA-3	A	C1	1	1	23.02	0.3010	0.1005	14	0.007179	22.95
NTP3961Q1-TC-T01-BT-LC-A-C2-1-CTA-1*	A	C2	1	2	22.40		0.1003	14	0.007164	22.29
NTP3961Q1-TC-T01-BT-LC-A-C2-1-CTA-2	A	C2	1	2	22.35	0.6330	0.1022	14	0.007297	22.65
NTP3961Q1-TC-T01-BT-LC-A-C2-1-CTA-3	A	C2	1	2	22.64	0.4270	0.1023	14	0.007306	22.97
NTP3961Q1-TC-T01-BT-LC-B-C3-1-CTA-1	B	C3	2	3	21.83	0.3140	0.1014	14	0.007240	21.95
NTP3961Q1-TC-T01-BT-LC-B-C3-1-CTA-2	B	C3	2	3	22.12	0.3570	0.1038	14	0.007413	22.77
NTP3961Q1-TC-T01-BT-LC-B-C3-1-CTA-3	B	C3	2	3	22.94	0.3340	0.1035	14	0.007391	23.55
NTP3961Q1-TC-T01-BT-LC-B-C5-1-CTA-1	B	C5	2	5	21.79	0.2980	0.1021	14	0.007289	22.06
NTP3961Q1-TC-T01-BT-LC-B-C5-1-CTA-2	B	C5	2	5	22.11	0.4010	0.1014	14	0.007241	22.24
NTP3961Q1-TC-T01-BT-LC-B-C5-1-CTA-3	B	C5	2	5	22.03	0.2950	0.1045	14	0.007464	22.84
NTP3961Q1-TC-T01-TC-LC-C-C1-3-CTA-1	C	C1	3	1	22.72	0.3320	0.09948	14	0.007106	22.42
NTP3961Q1-TC-T01-TC-LC-C-C1-3-CTA-2	C	C1	3	1	22.94	0.4240	0.1021	14	0.007294	23.24
NTP3961Q1-TC-T01-TC-LC-C-C1-3-CTA-3	C	C1	3	1	22.11	0.4330	0.1014	14	0.007240	22.23
NTP3961Q1-TC-T01-TC-LC-C-C21-3-CTA-1	C	C21	3	21	22.46	0.3300	0.1034	14	0.007384	23.03
NTP3961Q1-TC-T01-TC-LC-C-C21-3-CTA-2	C	C21	3	21	22.32	0.3210	0.09980	14	0.007129	22.10
NTP3961Q1-TC-T01-TC-LC-C-C21-3-CTA-4	C	C21	3	21	22.38	0.4830	0.1017	14	0.007264	22.58

*Excluded Poisson's ratio due to strain error with transversive strain
**Average of back to back strain gages

	Modulus (avg.**) [Msi]	Poisson's Ratio		$Modulus_{norm}$ [Msi]
Average	**22.42**	**0.3810**	**Average$_{norm}$**	**0.007256**	**22.59**
Standard Dev.	**0.3866**	**0.08891**	**Standard Dev.$_{norm}$**		**0.4704**
Coeff. of Var. [%]	**1.724**	**23.33**	**Coeff. of Var. [%]$_{norm}$**		**2.082**
Min.	**21.79**	**0.2950**	**Min.**	**0.007031**	**21.92**
Max.	**23.02**	**0.6330**	**Max.**	**0.007464**	**23.55**
Number of Spec.	**18**	**16**	**Number of Spec.**	**18**	**18**


Longitudinal Compression Properties (LC)--CTA (-65°F)
Normalized Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Longitudinal Compression Modulus [Msi]
0
5
10
15
20
25
0
1
2
3
4

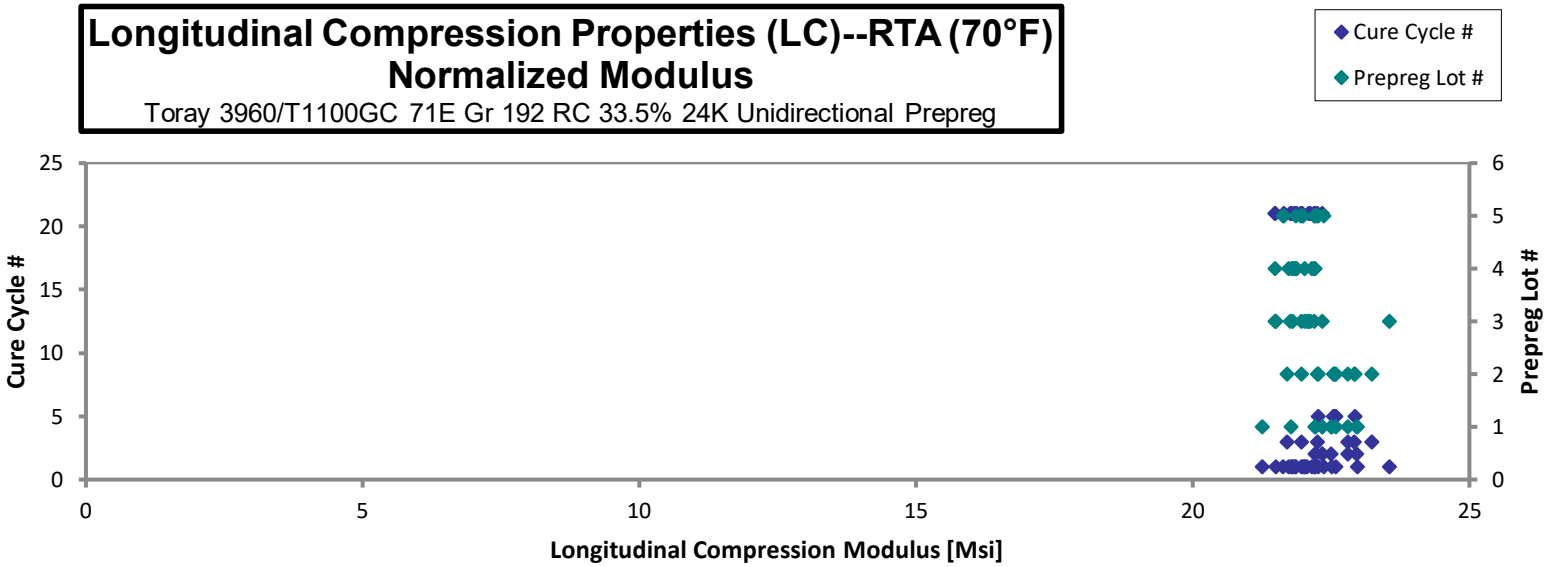
Longitudinal Compression Properties (LC)--RTA (70°F)
Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

normalizing t_{ply} [in]: 0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Modulus (avg.**) [Msi]	Poisson's Ratio	Avg. Specimen Thickness [in]	# Plies in Laminate	Avg. t_{ply} [in]	$Modulus_{norm}$ [Msi]
NTP3961Q1-TC-T01-BT-LC-A-C1-1-RTA-3	A	C1	1	1	22.00	0.4770	0.1035	14	0.007394	22.59
NTP3961Q1-TC-T01-BT-LC-A-C1-1-RTA-5	A	C1	1	1	20.67	0.4390	0.1037	14	0.007404	21.26
NTP3961Q1-TC-T01-BT-LC-A-C1-1-RTA-6	A	C1	1	1	21.87	0.4090	0.1038	14	0.007411	22.51
NTP3961Q1-TC-T01-BT-LC-A-C1-1-RTA-7	A	C1	1	1	21.21	0.4430	0.1035	14	0.007390	21.77
NTP3961Q1-TC-T01-BT-LC-A-C1-1-RTA-8	A	C1	1	1	21.56	0.4000	0.1039	14	0.007419	22.21
NTP3961Q1-TC-T01-BT-LC-A-C1-1-RTA-9	A	C1	1	1	22.21	0.3930	0.1043	14	0.007446	22.97
NTP3961Q1-TC-T01-BT-LC-A-C2-1-RTA-1	A	C2	1	2	22.48	0.3450	0.1002	14	0.007154	22.34
NTP3961Q1-TC-T01-BT-LC-A-C2-1-RTA-2	A	C2	1	2	22.33	0.4760	0.1029	14	0.007352	22.80
NTP3961Q1-TC-T01-BT-LC-A-C2-1-RTA-3	A	C2	1	2	22.11	0.4490	0.1013	14	0.007232	22.21
NTP3961Q1-TC-T01-BT-LC-A-C2-1-RTA-4	A	C2	1	2	22.69	0.3970	0.09995	14	0.007139	22.50
NTP3961Q1-TC-T01-BT-LC-A-C2-1-RTA-5	A	C2	1	2	21.91	0.4210	0.1028	14	0.007343	22.34
NTP3961Q1-TC-T01-BT-LC-A-C2-1-RTA-6	A	C2	1	2	22.53	0.4370	0.1027	14	0.007336	22.96
NTP3961Q1-TC-T01-BT-LC-B-C3-1-RTA-3	B	C3	2	3	21.62	0.3560	0.1024	14	0.007314	21.96
NTP3961Q1-TC-T01-BT-LC-B-C3-1-RTA-4	B	C3	2	3	21.63	0.4310	0.1037	14	0.007406	22.25
NTP3961Q1-TC-T01-BT-LC-B-C3-1-RTA-5	B	C3	2	3	22.34	0.2380	0.1034	14	0.007388	22.92
NTP3961Q1-TC-T01-BT-LC-B-C3-1-RTA-6	B	C3	2	3	21.17	0.4420	0.1033	14	0.007381	21.70
NTP3961Q1-TC-T01-BT-LC-B-C3-1-RTA-7	B	C3	2	3	22.81	0.4540	0.1027	14	0.007336	23.24
NTP3961Q1-TC-T01-BT-LC-B-C3-1-RTA-8	B	C3	2	3	22.52	0.3690	0.1021	14	0.007290	22.80
NTP3961Q1-TC-T01-BT-LC-B-C5-1-RTA-2	B	C5	2	5	22.10	0.3390	0.1030	14	0.007354	22.57
NTP3961Q1-TC-T01-BT-LC-B-C5-1-RTA-3	B	C5	2	5	21.64	0.4150	0.1038	14	0.007411	22.27
NTP3961Q1-TC-T01-BT-LC-B-C5-1-RTA-4	B	C5	2	5	21.93	0.3980	0.1036	14	0.007401	22.54
NTP3961Q1-TC-T01-BT-LC-B-C5-1-RTA-5	B	C5	2	5	22.06	0.4280	0.1031	14	0.007361	22.55
NTP3961Q1-TC-T01-BT-LC-B-C5-1-RTA-6	B	C5	2	5	22.64	0.2680	0.1021	14	0.007294	22.93
NTP3961Q1-TC-T01-BT-LC-B-C5-1-RTA-7	B	C5	2	5	22.15	0.3090	0.1028	14	0.007344	22.59
NTP3961Q1-TC-T01-TC-LC-C-C1-3-RTA-3	C	C1	3	1	21.42	0.4020	0.1039	14	0.007419	22.07
NTP3961Q1-TC-T01-TC-LC-C-C1-3-RTA-4	C	C1	3	1	23.10	0.4060	0.1028	14	0.007341	23.55
NTP3961Q1-TC-T01-TC-LC-C-C1-3-RTA-5	C	C1	3	1	21.63	0.3610	0.1026	14	0.007329	22.02
NTP3961Q1-TC-T01-TC-LC-C-C1-3-RTA-6	C	C1	3	1	21.29	0.3290	0.1032	14	0.007374	21.80
NTP3961Q1-TC-T01-TC-LC-C-C1-3-RTA-7	C	C1	3	1	21.70	0.3470	0.09985	14	0.007132	21.50
NTP3961Q1-TC-T01-TC-LC-C-C1-3-RTA-8	C	C1	3	1	21.22	0.3470	0.1044	14	0.007454	21.97
NTP3961Q1-TC-T01-TC-LC-C-C21-3-RTA-1	C	C21	3	21	21.31	0.3330	0.1016	14	0.007258	21.48
NTP3961Q1-TC-T01-TC-LC-C-C21-3-RTA-2	C	C21	3	21	21.85	0.3990	0.1021	14	0.007289	22.12
NTP3961Q1-TC-T01-TC-LC-C-C21-3-RTA-3	C	C21	3	21	21.92	0.4370	0.1021	14	0.007290	22.19
NTP3961Q1-TC-T01-TC-LC-C-C21-3-RTA-4	C	C21	3	21	22.14	0.3740	0.1017	14	0.007263	22.33
NTP3961Q1-TC-T01-TC-LC-C-C21-3-RTA-5	C	C21	3	21	22.00	0.3570	0.1012	14	0.007229	22.09
NTP3961Q1-TC-T01-TC-LC-C-C21-3-RTA-6	C	C21	3	21	21.58	0.3230	0.1016	14	0.007259	21.76
NTP3961Q1-TC-T01-TC-LC-D-C1-3-RTA-1*	D	C1	4	1	21.85		0.1016	14	0.007254	22.01
NTP3961Q1-TC-T01-TC-LC-D-C1-3-RTA-2	D	C1	4	1	21.79	0.3940	0.1025	14	0.007321	22.16
NTP3961Q1-TC-T01-TC-LC-D-C1-3-RTA-3	D	C1	4	1	21.72	0.3550	0.1014	14	0.007241	21.84
NTP3961Q1-TC-T01-TC-LC-D-C1-3-RTA-4	D	C1	4	1	21.74	0.3640	0.1011	14	0.007224	21.81
NTP3961Q1-TC-T01-TC-LC-D-C1-3-RTA-5	D	C1	4	1	21.65	0.4510	0.1034	14	0.007382	22.20
NTP3961Q1-TC-T01-TC-LC-D-C1-3-RTA-6	D	C1	4	1	21.54	0.3400	0.1017	14	0.007263	21.73
NTP3961Q1-TC-T01-TC-LC-D-C21-3-RTA-1	D	C21	4	21	22.15	0.3110	0.09948	14	0.007106	21.86
NTP3961Q1-TC-T01-TC-LC-D-C21-3-RTA-2	D	C21	4	21	21.56	0.3410	0.1019	14	0.007279	21.80
NTP3961Q1-TC-T01-TC-LC-D-C21-3-RTA-3	D	C21	4	21	21.97	0.3690	0.1004	14	0.007171	21.88
NTP3961Q1-TC-T01-TC-LC-D-C21-3-RTA-4	D	C21	4	21	21.91	0.2810	0.1022	14	0.007299	22.21
NTP3961Q1-TC-T01-TC-LC-D-C21-3-RTA-5	D	C21	4	21	21.53	0.3500	0.1022	14	0.007302	21.84
NTP3961Q1-TC-T01-TC-LC-D-C21-3-RTA-6	D	C21	4	21	21.34	0.3730	0.1015	14	0.007251	21.49
NTP3961Q1-TC-T01-TC-LC-E-C1-3-RTA-1	E	C1	5	1	22.08	0.3830	0.1017	14	0.007261	22.27
NTP3961Q1-TC-T01-TC-LC-E-C1-3-RTA-2	E	C1	5	1	21.35	0.4160	0.1021	14	0.007295	21.63
NTP3961Q1-TC-T01-TC-LC-E-C1-3-RTA-3	E	C1	5	1	21.83	0.3490	0.1033	14	0.007379	22.37
NTP3961Q1-TC-T01-TC-LC-E-C1-3-RTA-4	E	C1	5	1	21.79	0.3700	0.1027	14	0.007338	22.21
NTP3961Q1-TC-T01-TC-LC-E-C1-3-RTA-5	E	C1	5	1	21.66	0.3800	0.1024	14	0.007313	22.00
NTP3961Q1-TC-T01-TC-LC-E-C1-3-RTA-6	E	C1	5	1	21.52	0.3840	0.1024	14	0.007314	21.86
NTP3961Q1-TC-T01-TC-LC-E-C21-3-RTA-1	E	C21	5	21	21.81	0.3500	0.1014	14	0.007244	21.94
NTP3961Q1-TC-T01-TC-LC-E-C21-3-RTA-2	E	C21	5	21	21.36	0.3360	0.1022	14	0.007299	21.65
NTP3961Q1-TC-T01-TC-LC-E-C21-3-RTA-3	E	C21	5	21	22.24	0.3790	0.1007	14	0.007189	22.21
NTP3961Q1-TC-T01-TC-LC-E-C21-3-RTA-4	E	C21	5	21	22.25	0.3280	0.1008	14	0.007199	22.25
NTP3961Q1-TC-T01-TC-LC-E-C21-3-RTA-5	E	C21	5	21	22.10	0.2670	0.1003	14	0.007161	21.98
NTP3961Q1-TC-T01-TC-LC-E-C21-3-RTA-6	E	C21	5	21	22.07	0.3090	0.1014	14	0.007240	22.19

*Excluded Poisson's ratio due to strain gage error
**Average of back to back strain gages

	Modulus (avg.**) [Msi]	Poisson's Ratio		$Modulus_{norm}$ [Msi]
Average	21.87	0.3751	$Average_{norm}$	0.007304	22.18
Standard Dev.	0.4467	0.05247	$Standard\ Dev._{norm}$		0.4537
Coeff. of Var. [%]	2.043	13.99	$Coeff.\ of\ Var.\ [\%]_{norm}$		2.045
Min.	20.67	0.2380	Min.	0.007106	21.26
Max.	23.10	0.4770	Max.	0.007454	23.55
Number of Spec.	60	59	Number of Spec.	60	60


Longitudinal Compression Properties (LC)--RTA (70°F)
Normalized Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Longitudinal Compression Modulus [Msi]
0
5
10
15
20
25
0
1
2
3
4
5
6

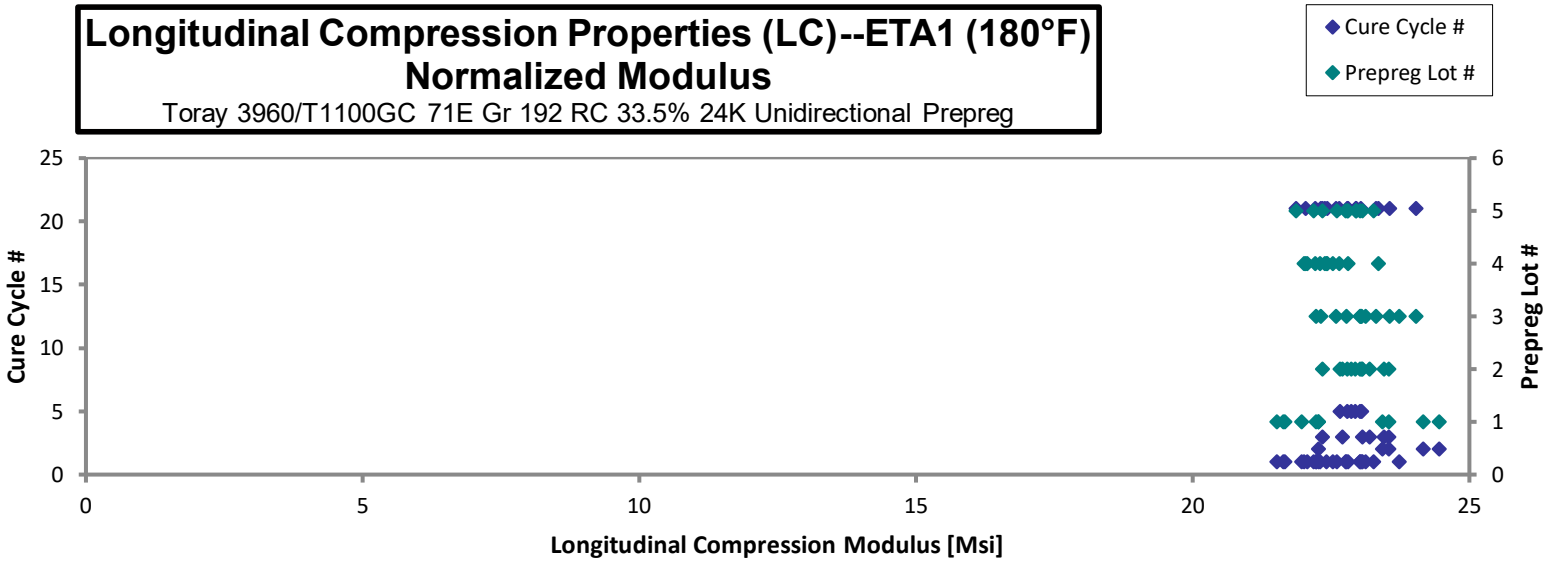
Longitudinal Compression Properties (LC)--ETA1 (180°F)
Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

normalizing t_{ply} [in]: 0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Modulus (avg.**) [Msi]	Poisson's Ratio	Avg. Specimen Thickness [in]	# Plies in Laminate	Avg. t_{ply} [in]	$Modulus_{norm}$ [Msi]
NTP3961Q1-TC-T01-BT-LC-A-C1-1-ETA1-1	A	C1	1	1	20.82	0.3830	0.1042	14	0.007440	21.51
NTP3961Q1-TC-T01-BT-LC-A-C1-1-ETA1-3	A	C1	1	1	21.00	0.3630	0.1038	14	0.007416	21.63
NTP3961Q1-TC-T01-BT-LC-A-C1-1-ETA1-4	A	C1	1	1	21.59	0.3590	0.1038	14	0.007413	22.23
NTP3961Q1-TC-T01-BT-LC-A-C1-1-ETA1-5	A	C1	1	1	21.11	0.3420	0.1035	14	0.007390	21.67
NTP3961Q1-TC-T01-BT-LC-A-C1-1-ETA1-6	A	C1	1	1	21.46	0.3740	0.1032	14	0.007370	21.97
NTP3961Q1-TC-T01-BT-LC-A-C1-1-ETA1-7	A	C1	1	1	21.78	0.3810	0.1031	14	0.007363	22.27
NTP3961Q1-TC-T01-BT-LC-A-C2-1-ETA1-2	A	C2	1	2	22.41	0.1680	0.1002	14	0.007154	22.27
NTP3961Q1-TC-T01-BT-LC-A-C2-1-ETA1-4	A	C2	1	2	23.91	0.3390	0.1031	14	0.007363	24.45
NTP3961Q1-TC-T01-BT-LC-A-C2-1-ETA1-5	A	C2	1	2	23.99	0.3800	0.1015	14	0.007250	24.16
NTP3961Q1-TC-T01-BT-LC-A-C2-1-ETA1-6	A	C2	1	2	23.60	0.3670	0.1006	14	0.007183	23.54
NTP3961Q1-TC-T01-BT-LC-A-C2-1-ETA1-7	A	C2	1	2	23.28	0.3940	0.1014	14	0.007244	23.42
NTP3961Q1-TC-T01-BT-LC-B-C3-1-ETA1-1	B	C3	2	3	22.00	0.3310	0.1024	14	0.007311	22.34
NTP3961Q1-TC-T01-BT-LC-B-C3-1-ETA1-2	B	C3	2	3	22.51	0.3970	0.1050	14	0.007501	23.45
NTP3961Q1-TC-T01-BT-LC-B-C3-1-ETA1-3	B	C3	2	3	22.19	0.3850	0.1032	14	0.007369	22.71
NTP3961Q1-TC-T01-BT-LC-B-C3-1-ETA1-4	B	C3	2	3	22.97	0.3560	0.1033	14	0.007379	23.54
NTP3961Q1-TC-T01-BT-LC-B-C3-1-ETA1-5	B	C3	2	3	22.50	0.2700	0.1033	14	0.007379	23.06
NTP3961Q1-TC-T01-BT-LC-B-C3-1-ETA1-6	B	C3	2	3	22.35	0.3500	0.1046	14	0.007472	23.19
NTP3961Q1-TC-T01-BT-LC-B-C5-1-ETA1-1	B	C5	2	5	22.27	0.4470	0.1044	14	0.007454	23.05
NTP3961Q1-TC-T01-BT-LC-B-C5-1-ETA1-2	B	C5	2	5	22.47	0.4030	0.1022	14	0.007301	22.78
NTP3961Q1-TC-T01-BT-LC-B-C5-1-ETA1-3	B	C5	2	5	22.31	0.3810	0.1024	14	0.007311	22.66
NTP3961Q1-TC-T01-BT-LC-B-C5-1-ETA1-4	B	C5	2	5	22.49	0.3950	0.1025	14	0.007319	22.86
NTP3961Q1-TC-T01-BT-LC-B-C5-1-ETA1-5	B	C5	2	5	22.55	0.3070	0.1026	14	0.007325	22.94
NTP3961Q1-TC-T01-BT-LC-B-C5-1-ETA1-6	B	C5	2	5	22.28	0.3240	0.1042	14	0.007441	23.03
NTP3961Q1-TC-T01-TC-LC-C-C1-3-ETA1-1	C	C1	3	1	22.74	0.3870	0.1025	14	0.007321	23.12
NTP3961Q1-TC-T01-TC-LC-C-C1-3-ETA1-3	C	C1	3	1	23.40	0.3300	0.09931	14	0.007094	23.05
NTP3961Q1-TC-T01-TC-LC-C-C1-3-ETA1-4	C	C1	3	1	23.69	0.3860	0.1010	14	0.007214	23.74
NTP3961Q1-TC-T01-TC-LC-C-C1-3-ETA1-5	C	C1	3	1	22.64	0.4200	0.1025	14	0.007321	23.02
NTP3961Q1-TC-T01-TC-LC-C-C1-3-ETA1-6	C	C1	3	1	22.95	0.4500	0.1000	14	0.007145	22.77
NTP3961Q1-TC-T01-TC-LC-C-C1-3-ETA1-7	C	C1	3	1	22.28	0.3960	0.1005	14	0.007181	22.22
NTP3961Q1-TC-T01-TC-LC-C-C21-3-ETA1-1	C	C21	3	21	22.43	0.3850	0.1003	14	0.007161	22.31
NTP3961Q1-TC-T01-TC-LC-C-C21-3-ETA1-2	C	C21	3	21	23.10	0.3650	0.1017	14	0.007264	23.31
NTP3961Q1-TC-T01-TC-LC-C-C21-3-ETA1-3	C	C21	3	21	23.51	0.3930	0.09875	14	0.007054	23.03
NTP3961Q1-TC-T01-TC-LC-C-C21-3-ETA1-4	C	C21	3	21	23.69	0.3750	0.1023	14	0.007304	24.03
NTP3961Q1-TC-T01-TC-LC-C-C21-3-ETA1-6	C	C21	3	21	23.17	0.4130	0.1025	14	0.007321	23.56
NTP3961Q1-TC-T01-TC-LC-C-C21-3-ETA1-7	C	C21	3	21	22.89	0.3460	0.09948	14	0.007106	22.59
NTP3961Q1-TC-T01-TC-LC-D-C1-3-ETA1-2	D	C1	4	1	22.49	0.3410	0.09993	14	0.007138	22.30
NTP3961Q1-TC-T01-TC-LC-D-C1-3-ETA1-4	D	C1	4	1	22.41	0.3520	0.1026	14	0.007326	22.80
NTP3961Q1-TC-T01-TC-LC-D-C1-3-ETA1-5	D	C1	4	1	22.52	0.3740	0.1004	14	0.007168	22.42
NTP3961Q1-TC-T01-TC-LC-D-C1-3-ETA1-6	D	C1	4	1	22.43	0.3960	0.1013	14	0.007233	22.53
NTP3961Q1-TC-T01-TC-LC-D-C1-3-ETA1-7	D	C1	4	1	21.86	0.3180	0.1018	14	0.007268	22.07
NTP3961Q1-TC-T01-TC-LC-D-C1-3-ETA1-9	D	C1	4	1	21.86	0.3220	0.1015	14	0.007251	22.01
NTP3961Q1-TC-T01-TC-LC-D-C21-3-ETA1-1	D	C21	4	21	22.58	0.3690	0.1011	14	0.007220	22.64
NTP3961Q1-TC-T01-TC-LC-D-C21-3-ETA1-2	D	C21	4	21	21.84	0.4320	0.1017	14	0.007264	22.04
NTP3961Q1-TC-T01-TC-LC-D-C21-3-ETA1-3	D	C21	4	21	23.13	0.4580	0.1018	14	0.007270	23.35
NTP3961Q1-TC-T01-TC-LC-D-C21-3-ETA1-4	D	C21	4	21	22.10	0.3590	0.1021	14	0.007295	22.39
NTP3961Q1-TC-T01-TC-LC-D-C21-3-ETA1-5	D	C21	4	21	22.18	0.3190	0.1009	14	0.007209	22.21
NTP3961Q1-TC-T01-TC-LC-D-C21-3-ETA1-7	D	C21	4	21	22.25	0.3340	0.1016	14	0.007257	22.43
NTP3961Q1-TC-T01-TC-LC-E-C1-3-ETA1-1	E	C1	5	1	22.37	0.3420	0.1026	14	0.007326	22.76
NTP3961Q1-TC-T01-TC-LC-E-C1-3-ETA1-3	E	C1	5	1	23.06	0.3750	0.1017	14	0.007264	23.27
NTP3961Q1-TC-T01-TC-LC-E-C1-3-ETA1-4	E	C1	5	1	23.02	0.4260	0.1010	14	0.007215	23.07
NTP3961Q1-TC-T01-TC-LC-E-C1-3-ETA1-5	E	C1	5	1	22.34	0.3680	0.1001	14	0.007149	22.18
NTP3961Q1-TC-T01-TC-LC-E-C1-3-ETA1-7	E	C1	5	1	22.36	0.3820	0.1019	14	0.007279	22.60
NTP3961Q1-TC-T01-TC-LC-E-C1-3-ETA1-8	E	C1	5	1	23.32	0.3810	0.09948	14	0.007106	23.01
NTP3961Q1-TC-T01-TC-LC-E-C21-3-ETA1-2*	E	C21	5	21	22.56	0.2610	0.1019	14	0.007277	22.80
NTP3961Q1-TC-T01-TC-LC-E-C21-3-ETA1-3*	E	C21	5	21	22.32	0.3610	0.1009	14	0.007209	22.35
NTP3961Q1-TC-T01-TC-LC-E-C21-3-ETA1-4*	E	C21	5	21	22.93	0.3630	0.1009	14	0.007204	22.94
NTP3961Q1-TC-T01-TC-LC-E-C21-3-ETA1-5*	E	C21	5	21	22.85	0.3820	0.1012	14	0.007231	22.95
NTP3961Q1-TC-T01-TC-LC-E-C21-3-ETA1-6*	E	C21	5	21	22.53	0.4200	0.1020	14	0.007282	22.79
NTP3961Q1-TC-T01-TC-LC-E-C21-3-ETA1-7*	E	C21	5	21	21.67	0.3180	0.1017	14	0.007265	21.87

*Poisson's ratio not recorded
**Average of back to back strain gages

Average	**22.53**	**0.3660**	**$Average_{norm}$**	**0.007277**	**22.77**
Standard Dev.	**0.6753**	**0.04710**	**Standard $Dev._{norm}$**		**0.6174**
Coeff. of Var. [%]	**2.997**	**12.87**	**Coeff. of Var. $[\%]_{norm}$**		**2.712**
Min.	**20.82**	**0.1680**	**Min.**	**0.007054**	**21.51**
Max.	**23.99**	**0.4580**	**Max.**	**0.007501**	**24.45**
Number of Spec.	**59**	**59**	**Number of Spec.**	**59**	**59**


Longitudinal Compression Properties (LC)--ETA1 (180°F)
Normalized Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Longitudinal Compression Modulus [Msi]
0
5
10
15
20
25
0
1
2
3
4
5
6

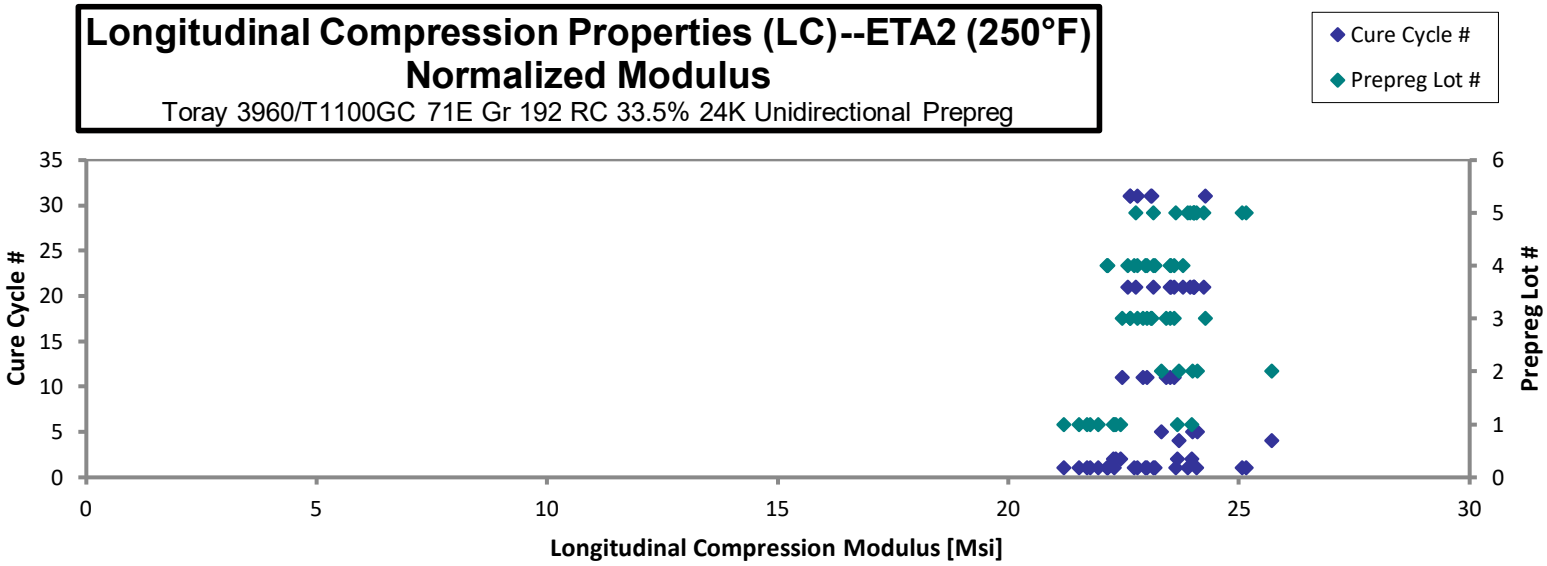
Longitudinal Compression Properties (LC)--ETA2 (250°F)
Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

normalizing t_{ply} [in]: 0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Modulus (avg.*) [Msi]	Poisson's Ratio	Avg. Specimen Thickness [in]	# Plies in Laminate	Avg. t_{ply} [in]	$Modulus_{norm}$ [Msi]
NTP3961Q1-TC-T01-BT-LC-A-C1-2-ETA2-1	A	C1	1	1	21.53	0.4380	0.09930	14	0.007093	21.21
NTP3961Q1-TC-T01-BT-LC-A-C1-2-ETA2-2	A	C1	1	1	21.71	0.4300	0.1011	14	0.007224	21.78
NTP3961Q1-TC-T01-BT-LC-A-C1-2-ETA2-3	A	C1	1	1	21.79	0.4230	0.1016	14	0.007257	21.96
NTP3961Q1-TC-T01-BT-LC-A-C1-2-ETA2-6	A	C1	1	1	22.04	0.4250	0.1020	14	0.007288	22.31
NTP3961Q1-TC-T01-BT-LC-A-C1-2-ETA2-7	A	C1	1	1	21.51	0.3910	0.1018	14	0.007271	21.72
NTP3961Q1-TC-T01-BT-LC-A-C1-2-ETA2-8	A	C1	1	1	21.35	0.3700	0.1017	14	0.007265	21.54
NTP3961Q1-TC-T01-BT-LC-A-C2-2-ETA2-1	A	C2	1	2	22.44	0.3410	0.1009	14	0.007204	22.45
NTP3961Q1-TC-T01-BT-LC-A-C2-2-ETA2-2	A	C2	1	2	22.13	0.3020	0.1017	14	0.007266	22.33
NTP3961Q1-TC-T01-BT-LC-A-C2-2-ETA2-3	A	C2	1	2	21.92	0.4220	0.1025	14	0.007324	22.30
NTP3961Q1-TC-T01-BT-LC-A-C2-2-ETA2-5	A	C2	1	2	23.57	0.3440	0.1012	14	0.007231	23.67
NTP3961Q1-TC-T01-BT-LC-A-C2-2-ETA2-8	A	C2	1	2	24.13	0.4330	0.1002	14	0.007158	23.99
NTP3961Q1-TC-T01-BT-LC-B-C4-1-ETA2-5	B	C4	2	4	25.50	0.4250	0.1017	14	0.007263	25.72
NTP3961Q1-TC-T01-BT-LC-B-C4-1-ETA2-9	B	C4	2	4	23.28	0.3640	0.1027	14	0.007334	23.71
NTP3961Q1-TC-T01-BT-LC-B-C5-2-ETA2-7	B	C5	2	5	22.78	0.3840	0.1033	14	0.007375	23.33
NTP3961Q1-TC-T01-BT-LC-B-C5-2-ETA2-8	B	C5	2	5	23.43	0.3390	0.1033	14	0.007379	24.01
NTP3961Q1-TC-T01-BT-LC-B-C5-2-ETA2-9	B	C5	2	5	23.59	0.4360	0.1030	14	0.007359	24.11
NTP3961Q1-TC-T01-TC-LC-C-C11-3-ETA2-1	C	C11	3	11	23.17	0.4180	0.1020	14	0.007282	23.43
NTP3961Q1-TC-T01-TC-LC-C-C11-3-ETA2-2	C	C11	3	11	23.61	0.4280	0.1008	14	0.007197	23.60
NTP3961Q1-TC-T01-TC-LC-C-C11-3-ETA2-3	C	C11	3	11	22.59	0.3740	0.1003	14	0.007165	22.48
NTP3961Q1-TC-T01-TC-LC-C-C11-3-ETA2-4	C	C11	3	11	23.02	0.4460	0.1008	14	0.007197	23.01
NTP3961Q1-TC-T01-TC-LC-C-C11-3-ETA2-5	C	C11	3	11	23.64	0.3500	0.1003	14	0.007163	23.52
NTP3961Q1-TC-T01-TC-LC-C-C11-3-ETA2-6	C	C11	3	11	22.41	0.4620	0.1031	14	0.007365	22.92
NTP3961Q1-TC-T01-TC-LC-C-C31-3-ETA2-1	C	C31	3	31	23.97	0.4100	0.1021	14	0.007293	24.28
NTP3961Q1-TC-T01-TC-LC-C-C31-3-ETA2-2	C	C31	3	31	23.04	0.4630	0.09910	14	0.007079	22.65
NTP3961Q1-TC-T01-TC-LC-C-C31-3-ETA2-3	C	C31	3	31	22.88	0.3920	0.1018	14	0.007269	23.10
NTP3961Q1-TC-T01-TC-LC-C-C31-3-ETA2-4	C	C31	3	31	23.30	0.3830	0.1000	14	0.007145	23.12
NTP3961Q1-TC-T01-TC-LC-C-C31-3-ETA2-5	C	C31	3	31	22.85	0.3950	0.1006	14	0.007188	22.81
NTP3961Q1-TC-T01-TC-LC-C-C31-3-ETA2-6	C	C31	3	31	22.24	0.3610	0.1027	14	0.007332	22.65
NTP3961Q1-TC-T01-TC-LC-D-C1-3-ETA2-1	D	C1	4	1	22.45	0.3390	0.1032	14	0.007374	22.99
NTP3961Q1-TC-T01-TC-LC-D-C1-3-ETA2-4	D	C1	4	1	23.09	0.3540	0.1005	14	0.007179	23.02
NTP3961Q1-TC-T01-TC-LC-D-C1-3-ETA2-5	D	C1	4	1	21.82	0.3440	0.1023	14	0.007307	22.14
NTP3961Q1-TC-T01-TC-LC-D-C1-3-ETA2-6	D	C1	4	1	22.68	0.3610	0.1014	14	0.007240	22.81
NTP3961Q1-TC-T01-TC-LC-D-C1-3-ETA2-7	D	C1	4	1	21.80	0.3810	0.1025	14	0.007324	22.17
NTP3961Q1-TC-T01-TC-LC-D-C1-3-ETA2-8	D	C1	4	1	22.09	0.3180	0.1038	14	0.007411	22.74
NTP3961Q1-TC-T01-TC-LC-D-C1-3-ETA2-9	D	C1	4	1	23.06	0.3390	0.1014	14	0.007241	23.19
NTP3961Q1-TC-T01-TC-LC-D-C21-3-ETA2-1	D	C21	4	21	23.09	0.3720	0.1011	14	0.007221	23.16
NTP3961Q1-TC-T01-TC-LC-D-C21-3-ETA2-2	D	C21	4	21	23.43	0.3560	0.1024	14	0.007313	23.80
NTP3961Q1-TC-T01-TC-LC-D-C21-3-ETA2-3	D	C21	4	21	23.14	0.3450	0.1024	14	0.007316	23.51
NTP3961Q1-TC-T01-TC-LC-D-C21-3-ETA2-6	D	C21	4	21	23.08	0.3860	0.1028	14	0.007341	23.53
NTP3961Q1-TC-T01-TC-LC-D-C21-3-ETA2-7	D	C21	4	21	23.30	0.3140	0.1021	14	0.007293	23.60
NTP3961Q1-TC-T01-TC-LC-D-C21-3-ETA2-9	D	C21	4	21	22.30	0.3810	0.1021	14	0.007295	22.59
NTP3961Q1-TC-T01-TC-LC-E-C1-3-ETA2-1	E	C1	5	1	23.54	0.4140	0.1012	14	0.007229	23.64
NTP3961Q1-TC-T01-TC-LC-E-C1-3-ETA2-2	E	C1	5	1	24.22	0.3980	0.1003	14	0.007163	24.10
NTP3961Q1-TC-T01-TC-LC-E-C1-3-ETA2-3	E	C1	5	1	23.87	0.3770	0.1009	14	0.007208	23.90
NTP3961Q1-TC-T01-TC-LC-E-C1-3-ETA2-4	E	C1	5	1	24.85	0.3680	0.1017	14	0.007266	25.08
NTP3961Q1-TC-T01-TC-LC-E-C1-3-ETA2-5	E	C1	5	1	23.19	0.3380	0.1007	14	0.007190	23.16
NTP3961Q1-TC-T01-TC-LC-E-C1-3-ETA2-6	E	C1	5	1	24.88	0.2790	0.1020	14	0.007284	25.17
NTP3961Q1-TC-T01-TC-LC-E-C21-3-ETA2-1	E	C21	5	21	23.54	0.3740	0.1029	14	0.007346	24.02
NTP3961Q1-TC-T01-TC-LC-E-C21-3-ETA2-2	E	C21	5	21	24.05	0.3850	0.1016	14	0.007258	24.24
NTP3961Q1-TC-T01-TC-LC-E-C21-3-ETA2-3	E	C21	5	21	22.68	0.3350	0.1012	14	0.007229	22.77
NTP3961Q1-TC-T01-TC-LC-E-C21-3-ETA2-4	E	C21	5	21	23.61	0.4200	0.1023	14	0.007306	23.96
NTP3961Q1-TC-T01-TC-LC-E-C21-3-ETA2-6	E	C21	5	21	24.02	0.4300	0.1009	14	0.007207	24.04
NTP3961Q1-TC-T01-TC-LC-E-C21-3-ETA2-7	E	C21	5	21	24.02	0.3650	0.1009	14	0.007207	24.04

*Average of back to back strain gages

Average	**23.04**	**0.3815**	**$Average_{norm}$**	**0.007259**	**23.23**
Standard Dev.	**0.9108**	**0.04172**	**$Standard\ Dev._{norm}$**		**0.9169**
Coeff. of Var. [%]	**3.953**	**10.94**	**$Coeff.\ of\ Var.\ [\%]_{norm}$**		**3.947**
Min.	**21.35**	**0.2790**	**Min.**	**0.007079**	**21.21**
Max.	**25.50**	**0.4630**	**Max.**	**0.007411**	**25.72**
Number of Spec.	**53**	**53**	**Number of Spec.**	**53**	**53**


Longitudinal Compression Properties (LC)--ETA2 (250°F)
Normalized Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Longitudinal Compression Modulus [Msi]
0
5
10
15
20
25
30
35
0
1
2
3
4
5
6

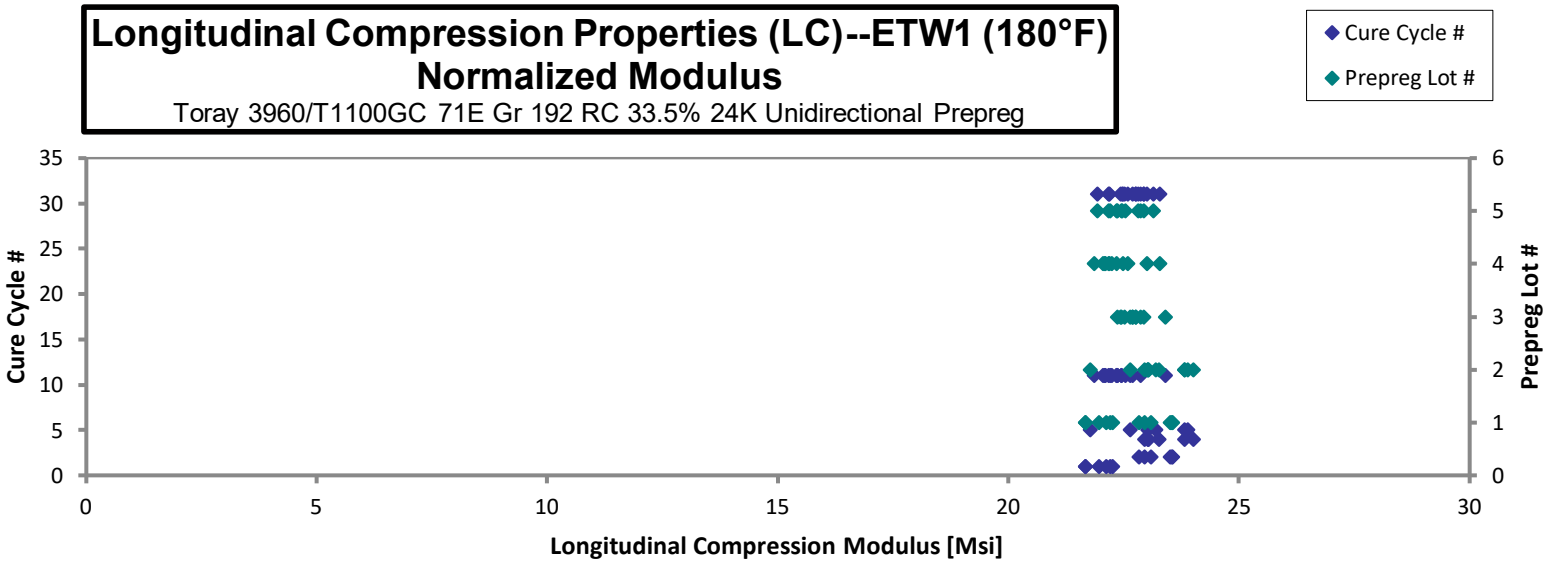
Longitudinal Compression Properties (LC)--ETW1 (180°F)
Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

normalizing t_{ply} [in]
0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Modulus (avg.*) [Msi]	Poisson's Ratio	Avg. Specimen Thickness [in]	# Plies in Laminate	Avg. t_{ply} [in]	$Modulus_{norm}$ [Msi]
NTP3961Q1-TC-T01-BT-LC-A-C1-2-ETW1-1	A	C1	1	1	21.54	0.4390	0.1015	14	0.007251	21.69
NTP3961Q1-TC-T01-BT-LC-A-C1-2-ETW1-2	A	C1	1	1	21.80	0.4340	0.1016	14	0.007257	21.97
NTP3961Q1-TC-T01-BT-LC-A-C1-2-ETW1-3	A	C1	1	1	21.83	0.4070	0.1022	14	0.007302	22.14
NTP3961Q1-TC-T01-BT-LC-A-C1-2-ETW1-4	A	C1	1	1	21.90	0.4210	0.1023	14	0.007304	22.22
NTP3961Q1-TC-T01-BT-LC-A-C1-2-ETW1-5	A	C1	1	1	21.43	0.4140	0.1020	14	0.007288	21.69
NTP3961Q1-TC-T01-BT-LC-A-C1-2-ETW1-6	A	C1	1	1	21.92	0.3750	0.1024	14	0.007315	22.27
NTP3961Q1-TC-T01-BT-LC-A-C2-2-ETW1-1	A	C2	1	2	22.75	0.4500	0.1024	14	0.007314	23.11
NTP3961Q1-TC-T01-BT-LC-A-C2-2-ETW1-2	A	C2	1	2	22.62	0.4850	0.1050	14	0.007496	23.55
NTP3961Q1-TC-T01-BT-LC-A-C2-2-ETW1-3	A	C2	1	2	22.61	0.4710	0.1049	14	0.007493	23.53
NTP3961Q1-TC-T01-BT-LC-A-C2-2-ETW1-4	A	C2	1	2	23.59	0.5480	0.1007	14	0.007194	23.57
NTP3961Q1-TC-T01-BT-LC-A-C2-2-ETW1-5	A	C2	1	2	22.58	0.4280	0.1025	14	0.007324	22.97
NTP3961Q1-TC-T01-BT-LC-A-C2-2-ETW1-6	A	C2	1	2	22.77	0.3960	0.1011	14	0.007222	22.84
NTP3961Q1-TC-T01-BT-LC-B-C4-1-ETW1-1	B	C4	2	4	22.39	0.3210	0.1037	14	0.007409	23.04
NTP3961Q1-TC-T01-BT-LC-B-C4-1-ETW1-2	B	C4	2	4	22.31	0.3510	0.1038	14	0.007413	22.97
NTP3961Q1-TC-T01-BT-LC-B-C4-1-ETW1-3	B	C4	2	4	23.44	0.3530	0.1025	14	0.007320	23.83
NTP3961Q1-TC-T01-BT-LC-B-C4-1-ETW1-4	B	C4	2	4	22.52	0.3920	0.1032	14	0.007368	23.05
NTP3961Q1-TC-T01-BT-LC-B-C4-1-ETW1-5	B	C4	2	4	23.21	0.3820	0.1043	14	0.007450	24.02
NTP3961Q1-TC-T01-BT-LC-B-C4-1-ETW1-6	B	C4	2	4	22.42	0.3960	0.1046	14	0.007474	23.27
NTP3961Q1-TC-T01-BT-LC-B-C5-2-ETW1-1	B	C5	2	5	23.40	0.2350	0.1027	14	0.007334	23.84
NTP3961Q1-TC-T01-BT-LC-B-C5-2-ETW1-3	B	C5	2	5	21.47	0.2700	0.1023	14	0.007307	21.79
NTP3961Q1-TC-T01-BT-LC-B-C5-2-ETW1-4	B	C5	2	5	22.95	0.4060	0.1019	14	0.007279	23.20
NTP3961Q1-TC-T01-BT-LC-B-C5-2-ETW1-5	B	C5	2	5	23.40	0.4530	0.1030	14	0.007356	23.91
NTP3961Q1-TC-T01-BT-LC-B-C5-2-ETW1-6	B	C5	2	5	22.01	0.4570	0.1038	14	0.007413	22.66
NTP3961Q1-TC-T01-BT-LC-B-C5-2-ETW1-9	B	C5	2	5	22.78	0.4740	0.1019	14	0.007279	23.03
NTP3961Q1-TC-T01-TC-LC-C-C11-3-ETW1-1	C	C11	3	11	22.25	0.3970	0.1014	14	0.007241	22.38
NTP3961Q1-TC-T01-TC-LC-C-C11-3-ETW1-2	C	C11	3	11	22.58	0.3530	0.1014	14	0.007241	22.71
NTP3961Q1-TC-T01-TC-LC-C-C11-3-ETW1-3	C	C11	3	11	22.86	0.3990	0.1009	14	0.007208	22.88
NTP3961Q1-TC-T01-TC-LC-C-C11-3-ETW1-4	C	C11	3	11	22.30	0.4020	0.1016	14	0.007254	22.47
NTP3961Q1-TC-T01-TC-LC-C-C11-3-ETW1-5	C	C11	3	11	22.40	0.3470	0.1020	14	0.007282	22.66
NTP3961Q1-TC-T01-TC-LC-C-C11-3-ETW1-6	C	C11	3	11	23.33	0.3600	0.1012	14	0.007227	23.42
NTP3961Q1-TC-T01-TC-LC-C-C31-3-ETW1-2	C	C31	3	31	22.43	0.3250	0.1013	14	0.007233	22.53
NTP3961Q1-TC-T01-TC-LC-C-C31-3-ETW1-3	C	C31	3	31	22.70	0.3590	0.1011	14	0.007222	22.77
NTP3961Q1-TC-T01-TC-LC-C-C31-3-ETW1-4	C	C31	3	31	23.11	0.3700	0.1001	14	0.007151	22.95
NTP3961Q1-TC-T01-TC-LC-C-C31-3-ETW1-5	C	C31	3	31	22.32	0.3800	0.1026	14	0.007326	22.71
NTP3961Q1-TC-T01-TC-LC-C-C31-3-ETW1-6	C	C31	3	31	23.21	0.3600	0.09893	14	0.007066	22.78
NTP3961Q1-TC-T01-TC-LC-C-C31-3-ETW1-7	C	C31	3	31	22.42	0.3740	0.1009	14	0.007209	22.45
NTP3961Q1-TC-T01-TC-LC-D-C11-3-ETW1-3	D	C11	4	11	22.11	0.3350	0.1008	14	0.007197	22.10
NTP3961Q1-TC-T01-TC-LC-D-C11-3-ETW1-4	D	C11	4	11	21.86	0.3770	0.1020	14	0.007286	22.12
NTP3961Q1-TC-T01-TC-LC-D-C11-3-ETW1-5	D	C11	4	11	22.09	0.3390	0.1015	14	0.007252	22.25
NTP3961Q1-TC-T01-TC-LC-D-C11-3-ETW1-6	D	C11	4	11	21.52	0.4170	0.1025	14	0.007319	21.87
NTP3961Q1-TC-T01-TC-LC-D-C11-3-ETW1-7	D	C11	4	11	21.99	0.4440	0.1012	14	0.007227	22.07
NTP3961Q1-TC-T01-TC-LC-D-C11-3-ETW1-8	D	C11	4	11	21.98	0.4240	0.1026	14	0.007325	22.36
NTP3961Q1-TC-T01-TC-LC-D-C31-3-ETW1-1	D	C31	4	31	23.17	0.4050	0.1013	14	0.007236	23.29
NTP3961Q1-TC-T01-TC-LC-D-C31-3-ETW1-2	D	C31	4	31	22.24	0.4500	0.1025	14	0.007319	22.61
NTP3961Q1-TC-T01-TC-LC-D-C31-3-ETW1-3	D	C31	4	31	21.69	0.4420	0.1031	14	0.007364	22.18
NTP3961Q1-TC-T01-TC-LC-D-C31-3-ETW1-4	D	C31	4	31	21.81	0.4120	0.1026	14	0.007331	22.21
NTP3961Q1-TC-T01-TC-LC-D-C31-3-ETW1-5	D	C31	4	31	22.08	0.4000	0.1027	14	0.007338	22.50
NTP3961Q1-TC-T01-TC-LC-D-C31-3-ETW1-6	D	C31	4	31	23.00	0.4300	0.1009	14	0.007206	23.02
NTP3961Q1-TC-T01-TC-LC-E-C11-3-ETW1-1	E	C11	5	11	22.15	0.4080	0.1011	14	0.007222	22.22
NTP3961Q1-TC-T01-TC-LC-E-C11-3-ETW1-2	E	C11	5	11	22.30	0.3960	0.1011	14	0.007219	22.36
NTP3961Q1-TC-T01-TC-LC-E-C11-3-ETW1-3	E	C11	5	11	22.10	0.4020	0.1025	14	0.007319	22.46
NTP3961Q1-TC-T01-TC-LC-E-C11-3-ETW1-4	E	C11	5	11	22.49	0.2880	0.1003	14	0.007166	22.39
NTP3961Q1-TC-T01-TC-LC-E-C11-3-ETW1-5	E	C11	5	11	22.09	0.3940	0.1012	14	0.007229	22.18
NTP3961Q1-TC-T01-TC-LC-E-C11-3-ETW1-6	E	C11	5	11	22.26	0.4050	0.1022	14	0.007296	22.56
NTP3961Q1-TC-T01-TC-LC-E-C31-3-ETW1-1	E	C31	5	31	22.42	0.3520	0.1041	14	0.007436	23.15
NTP3961Q1-TC-T01-TC-LC-E-C31-3-ETW1-2	E	C31	5	31	22.65	0.3780	0.1022	14	0.007296	22.95
NTP3961Q1-TC-T01-TC-LC-E-C31-3-ETW1-3	E	C31	5	31	22.04	0.3620	0.1029	14	0.007346	22.49
NTP3961Q1-TC-T01-TC-LC-E-C31-3-ETW1-5	E	C31	5	31	23.08	0.4080	0.09993	14	0.007138	22.88
NTP3961Q1-TC-T01-TC-LC-E-C31-3-ETW1-6	E	C31	5	31	22.64	0.4760	0.1017	14	0.007261	22.83
NTP3961Q1-TC-T01-TC-LC-E-C31-3-ETW1-7	E	C31	5	31	22.38	0.4530	0.09886	14	0.007061	21.95

*Average of back to back strain gages

Average	**22.43**	**0.3964**	**$Average_{norm}$**	**0.007287**	**22.70**
Standard Dev.	**0.5327**	**0.05325**	**$Standard\ Dev._{norm}$**		**0.5674**
Coeff. of Var. [%]	**2.375**	**13.44**	**$Coeff.\ of\ Var.\ [\%]_{norm}$**		**2.500**
Min.	**21.43**	**0.2350**	**Min.**	**0.007061**	**21.69**
Max.	**23.59**	**0.5480**	**Max.**	**0.007496**	**24.02**
Number of Spec.	**60**	**60**	**Number of Spec.**	**60**	**60**


Longitudinal Compression Properties (LC)--ETW1 (180°F)
Normalized Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Longitudinal Compression Modulus [Msi]
0
5
10
15
20
25
30
35
0
1
2
3
4
5
6

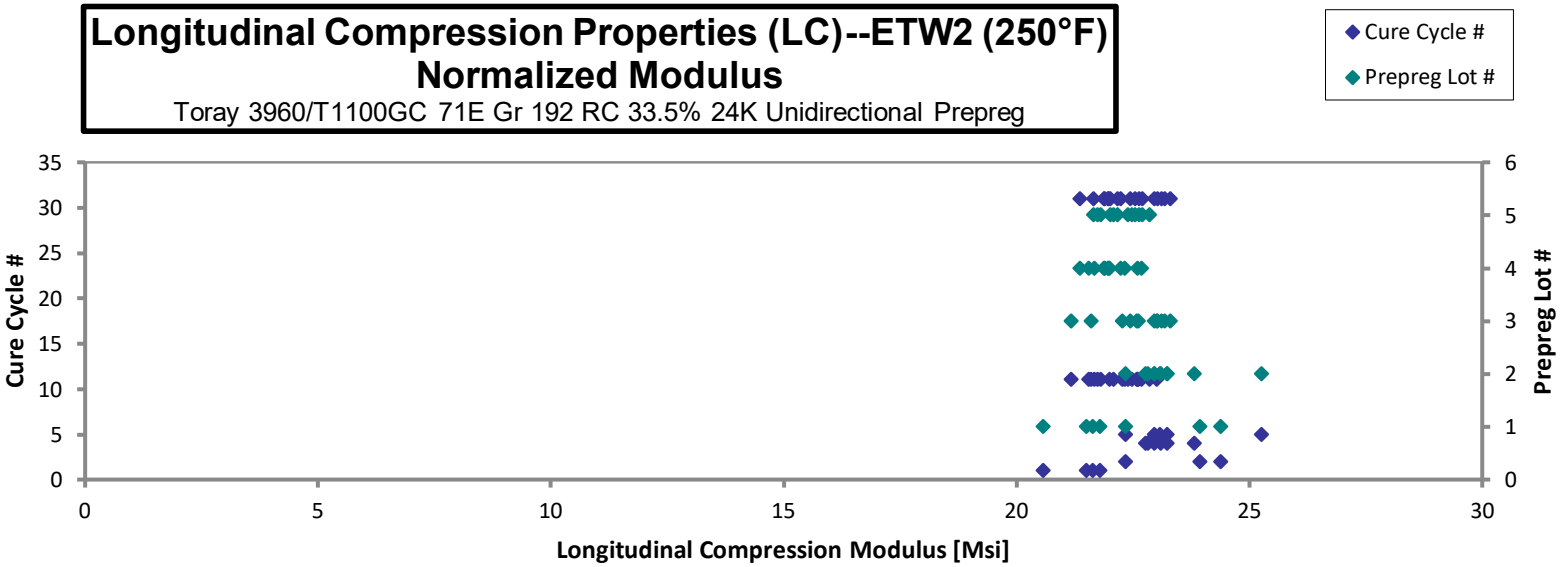
Longitudinal Compression Properties (LC)--ETW2 (250°F)
Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

normalizing t_{ply} [in]: 0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Modulus (avg.*) [Msi]	Poisson's Ratio	Avg. Specimen Thickness [in]	# Plies in Laminate	Avg. t_{ply} [in]	$Modulus_{norm}$ [Msi]
NTP3961Q1-TC-T01-BT-LC-A-C1-2-ETW2-6	A	C1	1	1	21.26	0.3110	0.1019	14	0.007281	21.50
NTP3961Q1-TC-T01-BT-LC-A-C1-2-ETW2-4	A	C1	1	1	21.25	0.7390	0.1026	14	0.007329	21.63
NTP3961Q1-TC-T01-BT-LC-A-C1-2-ETW2-5	A	C1	1	1	20.22	0.6470	0.1026	14	0.007327	20.58
NTP3961Q1-TC-T01-BT-LC-A-C1-2-ETW2-8	A	C1	1	1	21.58	0.4330	0.1018	14	0.007268	21.78
NTP3961Q1-TC-T01-BT-LC-A-C2-2-ETW2-1	A	C2	1	2	22.37	0.2650	0.1007	14	0.007189	22.34
NTP3961Q1-TC-T01-BT-LC-A-C2-2-ETW2-3	A	C2	1	2	23.46	0.3910	0.1029	14	0.007349	23.94
NTP3961Q1-TC-T01-BT-LC-A-C2-2-ETW2-7	A	C2	1	2	24.33	0.4400	0.1010	14	0.007216	24.39
NTP3961Q1-TC-T01-BT-LC-B-C4-1-ETW2-4	B	C4	2	4	22.26	0.4210	0.1034	14	0.007383	22.83
NTP3961Q1-TC-T01-BT-LC-B-C4-1-ETW2-5	B	C4	2	4	22.47	0.2330	0.1022	14	0.007297	22.77
NTP3961Q1-TC-T01-BT-LC-B-C4-1-ETW2-6	B	C4	2	4	23.22	0.3940	0.1034	14	0.007383	23.81
NTP3961Q1-TC-T01-BT-LC-B-C4-1-ETW2-7	B	C4	2	4	23.20	0.4790	0.1010	14	0.007211	23.23
NTP3961Q1-TC-T01-BT-LC-B-C4-1-ETW2-8	B	C4	2	4	22.54	0.4370	0.1027	14	0.007336	22.97
NTP3961Q1-TC-T01-BT-LC-B-C4-1-ETW2-9	B	C4	2	4	22.72	0.4100	0.1025	14	0.007319	23.09
NTP3961Q1-TC-T01-BT-LC-B-C5-2-ETW2-1	B	C5	2	5	22.81	0.3740	0.1020	14	0.007283	23.07
NTP3961Q1-TC-T01-BT-LC-B-C5-2-ETW2-3	B	C5	2	5	22.90	0.4210	0.1023	14	0.007307	23.24
NTP3961Q1-TC-T01-BT-LC-B-C5-2-ETW2-5	B	C5	2	5	24.62	0.3070	0.1034	14	0.007386	25.26
NTP3961Q1-TC-T01-BT-LC-B-C5-2-ETW2-8	B	C5	2	5	22.58	0.3490	0.1025	14	0.007319	22.95
NTP3961Q1-TC-T01-BT-LC-B-C5-2-ETW2-9	B	C5	2	5	22.05	0.3890	0.1022	14	0.007297	22.35
NTP3961Q1-TC-T01-TC-LC-C-C11-3-ETW2-1	C	C11	3	11	22.71	0.4140	0.1004	14	0.007170	22.62
NTP3961Q1-TC-T01-TC-LC-C-C11-3-ETW2-4	C	C11	3	11	21.12	0.3730	0.1011	14	0.007218	21.17
NTP3961Q1-TC-T01-TC-LC-C-C11-3-ETW2-5	C	C11	3	11	21.55	0.5050	0.1011	14	0.007219	21.61
NTP3961Q1-TC-T01-TC-LC-C-C11-3-ETW2-6	C	C11	3	11	22.69	0.4340	0.1022	14	0.007301	23.01
NTP3961Q1-TC-T01-TC-LC-C-C11-3-ETW2-7	C	C11	3	11	22.15	0.3390	0.1014	14	0.007240	22.27
NTP3961Q1-TC-T01-TC-LC-C-C11-3-ETW2-8	C	C11	3	11	22.84	0.4560	0.09965	14	0.007118	22.58
NTP3961Q1-TC-T01-TC-LC-C-C31-3-ETW2-1	C	C31	3	31	22.26	0.4500	0.1017	14	0.007261	22.45
NTP3961Q1-TC-T01-TC-LC-C-C31-3-ETW2-2	C	C31	3	31	22.56	0.3600	0.1029	14	0.007350	23.03
NTP3961Q1-TC-T01-TC-LC-C-C31-3-ETW2-3	C	C31	3	31	23.30	0.4500	0.1008	14	0.007201	23.30
NTP3961Q1-TC-T01-TC-LC-C-C31-3-ETW2-4	C	C31	3	31	23.15	0.4300	0.1009	14	0.007209	23.18
NTP3961Q1-TC-T01-TC-LC-C-C31-3-ETW2-5	C	C31	3	31	22.80	0.3500	0.1015	14	0.007251	22.96
NTP3961Q1-TC-T01-TC-LC-C-C31-3-ETW2-6	C	C31	3	31	23.23	0.4100	0.1003	14	0.007165	23.12
NTP3961Q1-TC-T01-TC-LC-D-C11-3-ETW2-1	D	C11	4	11	21.42	0.2160	0.1014	14	0.007241	21.54
NTP3961Q1-TC-T01-TC-LC-D-C11-3-ETW2-2	D	C11	4	11	22.25	0.2210	0.1012	14	0.007225	22.33
NTP3961Q1-TC-T01-TC-LC-D-C11-3-ETW2-3	D	C11	4	11	22.51	0.2860	0.1012	14	0.007229	22.60
NTP3961Q1-TC-T01-TC-LC-D-C11-3-ETW2-4	D	C11	4	11	21.62	0.2780	0.1026	14	0.007325	22.00
NTP3961Q1-TC-T01-TC-LC-D-C11-3-ETW2-6	D	C11	4	11	21.49	0.2880	0.1016	14	0.007259	21.67
NTP3961Q1-TC-T01-TC-LC-D-C11-3-ETW2-7	D	C11	4	11	22.65	0.2640	0.1010	14	0.007211	22.69
NTP3961Q1-TC-T01-TC-LC-D-C31-3-ETW2-2	D	C31	4	31	20.70	0.4090	0.1040	14	0.007429	21.36
NTP3961Q1-TC-T01-TC-LC-D-C31-3-ETW2-4	D	C31	4	31	21.99	0.3900	0.1007	14	0.007195	21.97
NTP3961Q1-TC-T01-TC-LC-D-C31-3-ETW2-5	D	C31	4	31	21.72	0.3510	0.1020	14	0.007282	21.97
NTP3961Q1-TC-T01-TC-LC-D-C31-3-ETW2-6	D	C31	4	31	21.68	0.4270	0.1018	14	0.007269	21.89
NTP3961Q1-TC-T01-TC-LC-D-C31-3-ETW2-7	D	C31	4	31	21.80	0.3550	0.1011	14	0.007224	21.87
NTP3961Q1-TC-T01-TC-LC-D-C31-3-ETW2-8	D	C31	4	31	21.95	0.3920	0.1021	14	0.007295	22.24
NTP3961Q1-TC-T01-TC-LC-E-C11-3-ETW2-1	E	C11	5	11	22.25	0.3580	0.1019	14	0.007275	22.48
NTP3961Q1-TC-T01-TC-LC-E-C11-3-ETW2-2	E	C11	5	11	22.86	0.4080	0.1008	14	0.007199	22.86
NTP3961Q1-TC-T01-TC-LC-E-C11-3-ETW2-3	E	C11	5	11	22.08	0.3160	0.1022	14	0.007301	22.39
NTP3961Q1-TC-T01-TC-LC-E-C11-3-ETW2-4	E	C11	5	11	21.55	0.3410	0.1017	14	0.007264	21.74
NTP3961Q1-TC-T01-TC-LC-E-C11-3-ETW2-5	E	C11	5	11	21.84	0.3450	0.1020	14	0.007282	22.09
NTP3961Q1-TC-T01-TC-LC-E-C11-3-ETW2-7	E	C11	5	11	21.89	0.3620	0.1005	14	0.007176	21.82
NTP3961Q1-TC-T01-TC-LC-E-C31-3-ETW2-1	E	C31	5	31	21.72	0.2770	0.1005	14	0.007177	21.65
NTP3961Q1-TC-T01-TC-LC-E-C31-3-ETW2-2	E	C31	5	31	22.77	0.3840	0.1005	14	0.007179	22.70
NTP3961Q1-TC-T01-TC-LC-E-C31-3-ETW2-3	E	C31	5	31	22.62	0.4130	0.1009	14	0.007206	22.64
NTP3961Q1-TC-T01-TC-LC-E-C31-3-ETW2-4	E	C31	5	31	22.26	0.3650	0.1021	14	0.007293	22.55
NTP3961Q1-TC-T01-TC-LC-E-C31-3-ETW2-7	E	C31	5	31	21.87	0.2980	0.1022	14	0.007299	22.17
NTP3961Q1-TC-T01-TC-LC-E-C31-3-ETW2-8	E	C31	5	31	21.97	0.3400	0.1010	14	0.007215	22.02

*Average of back to back strain gages

Average	**22.29**	**0.3795**	**$Average_{norm}$**	**0.007264**	**22.49**
Standard Dev.	**0.8025**	**0.09098**	**Standard $Dev._{norm}$**		**0.8163**
Coeff. of Var. [%]	**3.600**	**23.97**	**Coeff. of Var. $[\%]_{norm}$**		**3.630**
Min.	**20.22**	**0.2160**	**Min.**	**0.007118**	**20.58**
Max.	**24.62**	**0.7390**	**Max.**	**0.007429**	**25.26**
Number of Spec.	**54**	**54**	**Number of Spec.**	**54**	**54**


Longitudinal Compression Properties (LC)--ETW2 (250°F)
Normalized Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Longitudinal Compression Modulus [Msi]
0
5
10
15
20
25
30
35
0
1
2
3
4
5
6

4.4 Longitudinal Compression (LC) Back-out Factor Properties

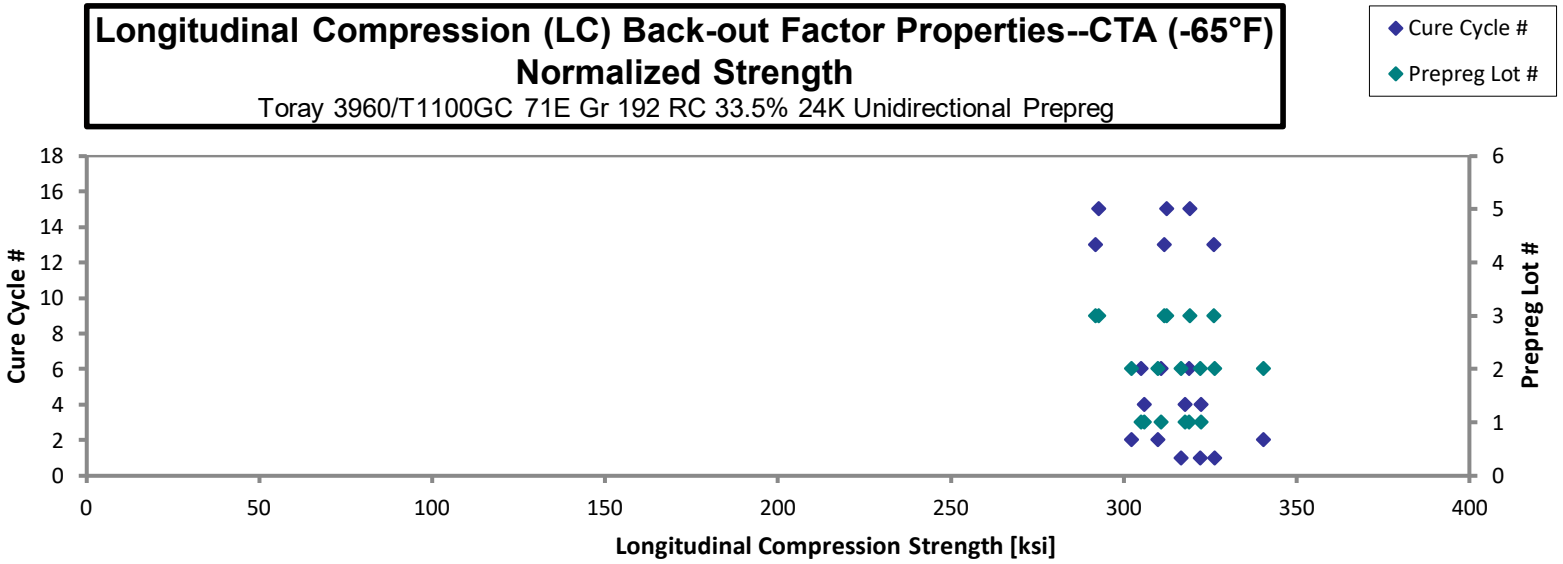
Note: For each test condition, F_1^{cu} [ksi] from UNC0 was calculated using back-out factor values. The back-out factor values were calculated using E_1^c, v_{12}^c, and E_2^c values from each corresponding test condition. For example, F_1^{cu} [ksi] from UNC0 for CTA was calculated using CTA E_1^c, v_{12}^c, and E_2^c, F_1^{cu} [ksi] from UNC0 for RTA was calculated using RTA E_1^c, v_{12}^c, and E_2^c, etc.

Longitudinal Compression (LC) Back-out Factor Properties--CTA (-65°F)
Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

UNC0 Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	$F_1^{cu}{}_{meas}$ [ksi] from UNC0*	$F_1^{cu}{}_{norm}$ [ksi] from UNC0**
NTP3961Q1-TC-T01-BT-UNC0-A-C4-1-CTA-1	A	C4	1	4	309.2	305.7
NTP3961Q1-TC-T01-BT-UNC0-A-C4-1-CTA-2	A	C4	1	4	322.7	322.2
NTP3961Q1-TC-T01-BT-UNC0-A-C4-1-CTA-3	A	C4	1	4	313.7	317.6
NTP3961Q1-TC-T01-BT-UNC0-A-C6-1-CTA-1	A	C6	1	6	305.6	310.7
NTP3961Q1-TC-T01-BT-UNC0-A-C6-1-CTA-2	A	C6	1	6	314.3	318.8
NTP3961Q1-TC-T01-BT-UNC0-A-C6-1-CTA-3	A	C6	1	6	300.1	305.0
NTP3961Q1-TC-T01-BT-UNC0-B-C1-1-CTA-1	B	C1	2	1	302.1	316.4
NTP3961Q1-TC-T01-BT-UNC0-B-C1-1-CTA-2	B	C1	2	1	309.5	322.0
NTP3961Q1-TC-T01-BT-UNC0-B-C1-1-CTA-4	B	C1	2	1	308.4	326.2
NTP3961Q1-TC-T01-BT-UNC0-B-C2-1-CTA-1	B	C2	2	2	293.7	302.0
NTP3961Q1-TC-T01-BT-UNC0-B-C2-1-CTA-2	B	C2	2	2	302.5	309.8
NTP3961Q1-TC-T01-BT-UNC0-B-C2-1-CTA-3	B	C2	2	2	334.7	340.3
NTP3961Q1-TC-T01-TC-UNC0-C-C13-3-CTA-1	C	C13	3	13	287.4	291.7
NTP3961Q1-TC-T01-TC-UNC0-C-C13-3-CTA-2	C	C13	3	13	316.8	325.9
NTP3961Q1-TC-T01-TC-UNC0-C-C13-3-CTA-3	C	C13	3	13	304.2	311.7
NTP3961Q1-TC-T01-TC-UNC0-C-C15-3-CTA-1	C	C15	3	15	286.5	292.7
NTP3961Q1-TC-T01-TC-UNC0-C-C15-3-CTA-3	C	C15	3	15	310.4	319.1
NTP3961Q1-TC-T01-TC-UNC0-C-C15-3-CTA-4	C	C15	3	15	304.8	312.3

*Backout factor = 2.633
**Backout factor = 2.636

Average	**307.0**	**313.9**
Standard Dev.	**11.68**	**12.03**
Coeff. of Var. [%]	**3.804**	**3.833**
Min.	**286.5**	**291.7**
Max.	**334.7**	**340.3**
Number of Spec.	**18**	**18**

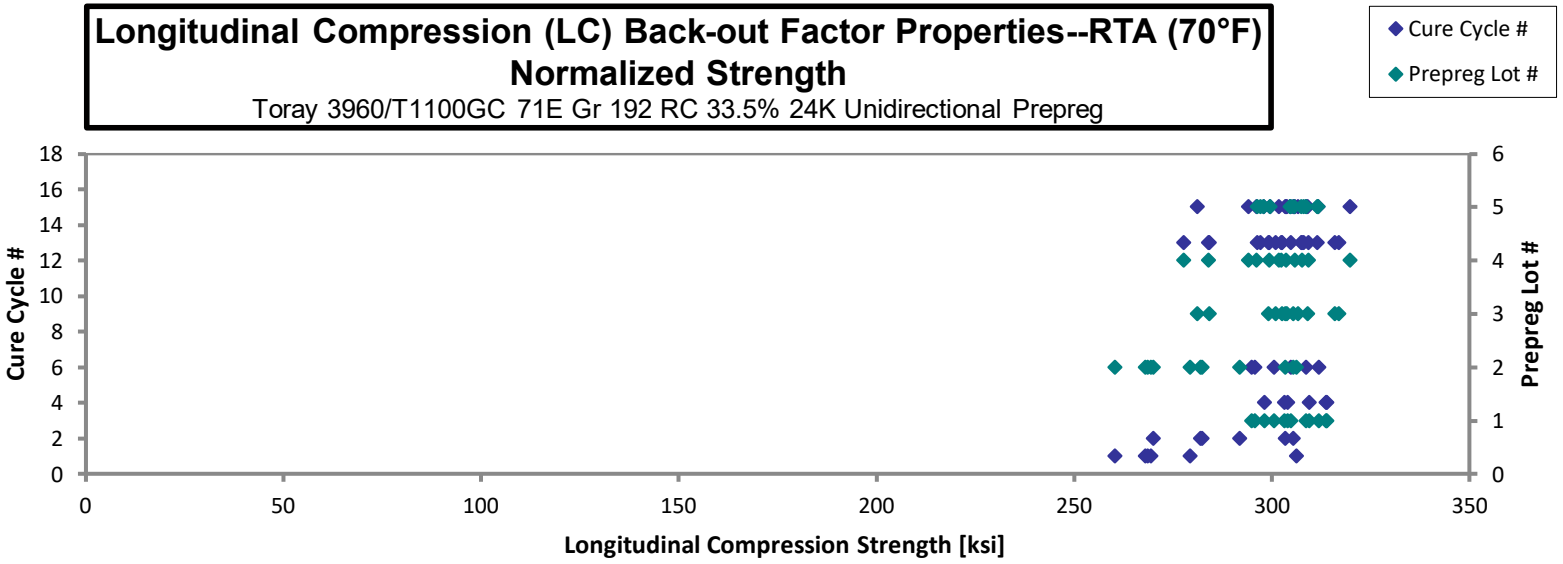

Longitudinal Compression (LC) Back-out Factor Properties--CTA (-65°F)
Normalized Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Longitudinal Compression Strength [ksi]
0
2
4
6
8
10
12
14
16
18
0
1
2
3
4
5
6
0
50
100
150
200
250
300
350
400

Longitudinal Compression (LC) Back-out Factor Properties--RTA (70°F)
Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

UNC0 Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	$F_1^{cu}{}_{meas}$ [ksi] from UNC0*	$F_1^{cu}{}_{norm}$ [ksi] from UNC0**
NTP3961Q1-TC-T01-BT-UNC0-A-C4-1-RTA-1	A	C4	1	4	295.0	298.2
NTP3961Q1-TC-T01-BT-UNC0-A-C4-1-RTA-2	A	C4	1	4	301.9	309.5
NTP3961Q1-TC-T01-BT-UNC0-A-C4-1-RTA-3	A	C4	1	4	305.1	313.8
NTP3961Q1-TC-T01-BT-UNC0-A-C4-1-RTA-4	A	C4	1	4	294.9	304.1
NTP3961Q1-TC-T01-BT-UNC0-A-C4-1-RTA-5	A	C4	1	4	294.1	303.3
NTP3961Q1-TC-T01-BT-UNC0-A-C4-1-RTA-6	A	C4	1	4	317.2	313.9
NTP3961Q1-TC-T01-BT-UNC0-A-C6-1-RTA-1	A	C6	1	6	300.1	300.7
NTP3961Q1-TC-T01-BT-UNC0-A-C6-1-RTA-2	A	C6	1	6	306.0	304.8
NTP3961Q1-TC-T01-BT-UNC0-A-C6-1-RTA-3	A	C6	1	6	309.0	308.6
NTP3961Q1-TC-T01-BT-UNC0-A-C6-1-RTA-4	A	C6	1	6	294.6	294.9
NTP3961Q1-TC-T01-BT-UNC0-A-C6-1-RTA-5	A	C6	1	6	294.2	295.8
NTP3961Q1-TC-T01-BT-UNC0-A-C6-1-RTA-6	A	C6	1	6	310.5	311.9
NTP3961Q1-TC-T01-BT-UNC0-B-C1-1-RTA-1	B	C1	2	1	292.7	306.2
NTP3961Q1-TC-T01-BT-UNC0-B-C1-1-RTA-2	B	C1	2	1	273.5	279.4
NTP3961Q1-TC-T01-BT-UNC0-B-C1-1-RTA-3	B	C1	2	1	257.7	260.4
NTP3961Q1-TC-T01-BT-UNC0-B-C1-1-RTA-4	B	C1	2	1	257.0	268.7
NTP3961Q1-TC-T01-BT-UNC0-B-C1-1-RTA-6	B	C1	2	1	264.5	268.0
NTP3961Q1-TC-T01-BT-UNC0-B-C1-1-RTA-7	B	C1	2	1	258.3	269.4
NTP3961Q1-TC-T01-BT-UNC0-B-C2-1-RTA-1	B	C2	2	2	273.3	282.0
NTP3961Q1-TC-T01-BT-UNC0-B-C2-1-RTA-2	B	C2	2	2	274.8	282.4
NTP3961Q1-TC-T01-BT-UNC0-B-C2-1-RTA-3	B	C2	2	2	296.8	305.5
NTP3961Q1-TC-T01-BT-UNC0-B-C2-1-RTA-4	B	C2	2	2	281.6	291.9
NTP3961Q1-TC-T01-BT-UNC0-B-C2-1-RTA-5	B	C2	2	2	262.5	270.1
NTP3961Q1-TC-T01-BT-UNC0-B-C2-1-RTA-6	B	C2	2	2	295.7	303.5
NTP3961Q1-TC-T01-TC-UNC0-C-C13-3-RTA-1	C	C13	3	13	278.4	284.3
NTP3961Q1-TC-T01-TC-UNC0-C-C13-3-RTA-2	C	C13	3	13	293.0	299.2
NTP3961Q1-TC-T01-TC-UNC0-C-C13-3-RTA-3	C	C13	3	13	308.1	315.9
NTP3961Q1-TC-T01-TC-UNC0-C-C13-3-RTA-4	C	C13	3	13	310.3	317.0
NTP3961Q1-TC-T01-TC-UNC0-C-C13-3-RTA-5	C	C13	3	13	295.6	300.9
NTP3961Q1-TC-T01-TC-UNC0-C-C13-3-RTA-6	C	C13	3	13	296.9	302.6
NTP3961Q1-TC-T01-TC-UNC0-C-C15-3-RTA-1	C	C15	3	15	298.2	303.8
NTP3961Q1-TC-T01-TC-UNC0-C-C15-3-RTA-2	C	C15	3	15	305.2	309.0
NTP3961Q1-TC-T01-TC-UNC0-C-C15-3-RTA-3	C	C15	3	15	298.4	303.5
NTP3961Q1-TC-T01-TC-UNC0-C-C15-3-RTA-4	C	C15	3	15	298.3	305.4
NTP3961Q1-TC-T01-TC-UNC0-C-C15-3-RTA-5	C	C15	3	15	273.0	281.2
NTP3961Q1-TC-T01-TC-UNC0-C-C15-3-RTA-6	C	C15	3	15	301.4	306.7
NTP3961Q1-TC-T01-TC-UNC0-D-C13-3-RTA-1	D	C13	4	13	305.2	307.6
NTP3961Q1-TC-T01-TC-UNC0-D-C13-3-RTA-2	D	C13	4	13	298.4	302.5
NTP3961Q1-TC-T01-TC-UNC0-D-C13-3-RTA-3	D	C13	4	13	294.4	299.3
NTP3961Q1-TC-T01-TC-UNC0-D-C13-3-RTA-4	D	C13	4	13	276.0	277.8
NTP3961Q1-TC-T01-TC-UNC0-D-C13-3-RTA-5	D	C13	4	13	306.7	309.3
NTP3961Q1-TC-T01-TC-UNC0-D-C13-3-RTA-6	D	C13	4	13	279.0	283.9
NTP3961Q1-TC-T01-TC-UNC0-D-C15-3-RTA-1	D	C15	4	15	315.9	319.7
NTP3961Q1-TC-T01-TC-UNC0-D-C15-3-RTA-2	D	C15	4	15	299.7	301.7
NTP3961Q1-TC-T01-TC-UNC0-D-C15-3-RTA-3	D	C15	4	15	291.4	296.2
NTP3961Q1-TC-T01-TC-UNC0-D-C15-3-RTA-4	D	C15	4	15	300.6	303.6
NTP3961Q1-TC-T01-TC-UNC0-D-C15-3-RTA-5	D	C15	4	15	305.7	305.8
NTP3961Q1-TC-T01-TC-UNC0-D-C15-3-RTA-6	D	C15	4	15	292.0	294.2
NTP3961Q1-TC-T01-TC-UNC0-E-C13-3-RTA-1	E	C13	5	13	304.8	308.0
NTP3961Q1-TC-T01-TC-UNC0-E-C13-3-RTA-2	E	C13	5	13	309.0	311.5
NTP3961Q1-TC-T01-TC-UNC0-E-C13-3-RTA-3	E	C13	5	13	298.4	304.9
NTP3961Q1-TC-T01-TC-UNC0-E-C13-3-RTA-4	E	C13	5	13	302.4	307.4
NTP3961Q1-TC-T01-TC-UNC0-E-C13-3-RTA-5	E	C13	5	13	293.5	297.1
NTP3961Q1-TC-T01-TC-UNC0-E-C13-3-RTA-6	E	C13	5	13	291.6	296.2
NTP3961Q1-TC-T01-TC-UNC0-E-C15-3-RTA-1	E	C15	5	15	291.1	298.0
NTP3961Q1-TC-T01-TC-UNC0-E-C15-3-RTA-2	E	C15	5	15	302.6	308.7
NTP3961Q1-TC-T01-TC-UNC0-E-C15-3-RTA-3	E	C15	5	15	291.2	299.5
NTP3961Q1-TC-T01-TC-UNC0-E-C15-3-RTA-4	E	C15	5	15	296.4	304.6
NTP3961Q1-TC-T01-TC-UNC0-E-C15-3-RTA-5	E	C15	5	15	296.6	305.6
NTP3961Q1-TC-T01-TC-UNC0-E-C15-3-RTA-6	E	C15	5	15	303.3	311.7

*Backout factor = 2.666
**Backout factor = 2.670

Average	**293.6**	**298.9**
Standard Dev.	**14.37**	**13.41**
Coeff. of Var. [%]	**4.895**	**4.486**
Min.	**257.0**	**260.4**
Max.	**317.2**	**319.7**
Number of Spec.	**60**	**60**

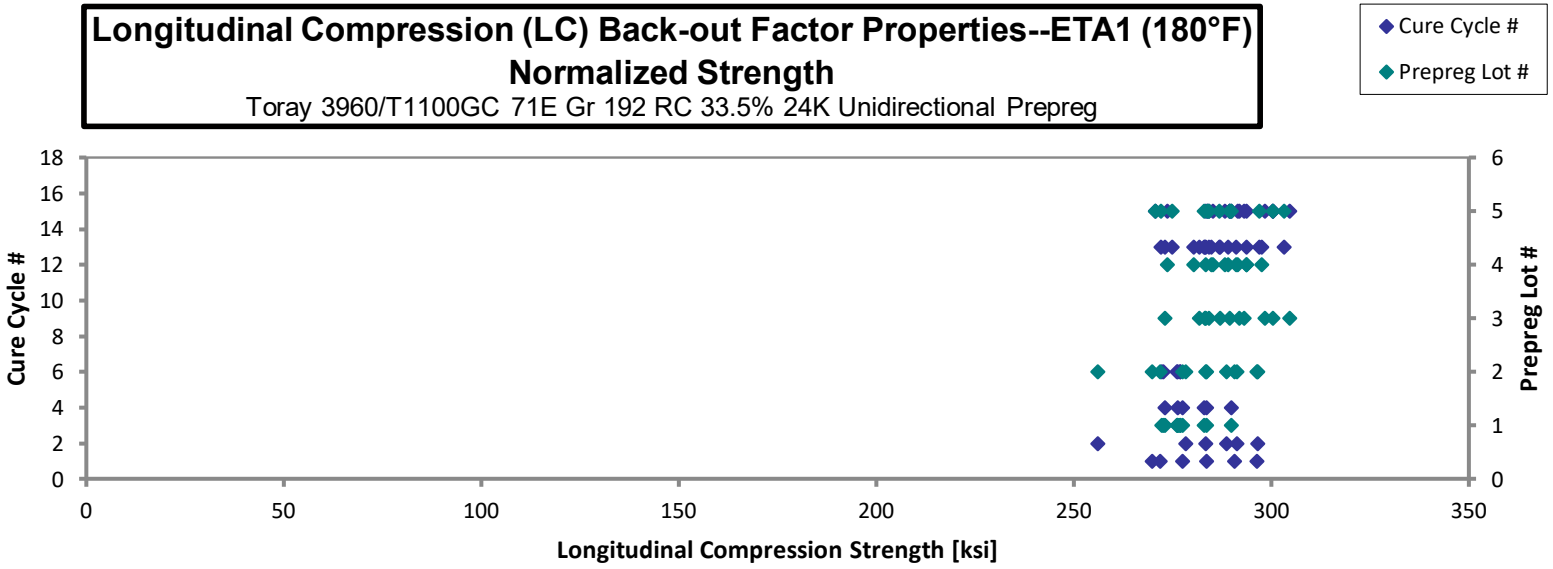

Longitudinal Compression (LC) Back-out Factor Properties--RTA (70°F)
Normalized Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Longitudinal Compression Strength [ksi]
0
2
4
6
8
10
12
14
16
18
0
1
2
3
4
5
6
0
50
100
150
200
250
300
350

Longitudinal Compression (LC) Back-out Factor Properties--ETA1 (180°F)
Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

UNC0 Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	$F_1^{cu}{}_{meas}$ [ksi] from UNC0*	$F_1^{cu}{}_{norm}$ [ksi] from UNC0**
NTP3961Q1-TC-T01-BT-UNC0-A-C4-1-ETA1-1	A	C4	1	4	267.1	273.2
NTP3961Q1-TC-T01-BT-UNC0-A-C4-1-ETA1-2	A	C4	1	4	274.7	277.5
NTP3961Q1-TC-T01-BT-UNC0-A-C4-1-ETA1-3	A	C4	1	4	276.1	282.9
NTP3961Q1-TC-T01-BT-UNC0-A-C4-1-ETA1-4	A	C4	1	4	268.9	276.4
NTP3961Q1-TC-T01-BT-UNC0-A-C4-1-ETA1-5	A	C4	1	4	275.3	283.7
NTP3961Q1-TC-T01-BT-UNC0-A-C4-1-ETA1-6	A	C4	1	4	281.4	290.0
NTP3961Q1-TC-T01-BT-UNC0-A-C6-1-ETA1-1	A	C6	1	6	274.1	272.7
NTP3961Q1-TC-T01-BT-UNC0-A-C6-1-ETA1-2	A	C6	1	6	270.4	277.0
NTP3961Q1-TC-T01-BT-UNC0-A-C6-1-ETA1-3	A	C6	1	6	270.2	277.0
NTP3961Q1-TC-T01-BT-UNC0-A-C6-1-ETA1-4	A	C6	1	6	266.9	272.3
NTP3961Q1-TC-T01-BT-UNC0-A-C6-1-ETA1-5	A	C6	1	6	268.8	276.2
NTP3961Q1-TC-T01-BT-UNC0-A-C6-1-ETA1-6	A	C6	1	6	269.3	276.3
NTP3961Q1-TC-T01-BT-UNC0-B-C1-1-ETA1-2	B	C1	2	1	276.2	277.6
NTP3961Q1-TC-T01-BT-UNC0-B-C1-1-ETA1-4	B	C1	2	1	280.0	290.7
NTP3961Q1-TC-T01-BT-UNC0-B-C1-1-ETA1-5	B	C1	2	1	289.7	296.3
NTP3961Q1-TC-T01-BT-UNC0-B-C1-1-ETA1-6	B	C1	2	1	268.4	269.8
NTP3961Q1-TC-T01-BT-UNC0-B-C1-1-ETA1-7	B	C1	2	1	276.1	283.7
NTP3961Q1-TC-T01-BT-UNC0-B-C1-1-ETA1-8	B	C1	2	1	265.8	271.8
NTP3961Q1-TC-T01-BT-UNC0-B-C2-1-ETA1-1	B	C2	2	2	286.7	291.2
NTP3961Q1-TC-T01-BT-UNC0-B-C2-1-ETA1-3	B	C2	2	2	270.8	278.3
NTP3961Q1-TC-T01-BT-UNC0-B-C2-1-ETA1-4	B	C2	2	2	292.5	296.7
NTP3961Q1-TC-T01-BT-UNC0-B-C2-1-ETA1-5	B	C2	2	2	285.6	288.6
NTP3961Q1-TC-T01-BT-UNC0-B-C2-1-ETA1-6	B	C2	2	2	273.8	283.4
NTP3961Q1-TC-T01-BT-UNC0-B-C2-1-ETA1-8	B	C2	2	2	250.1	256.1
NTP3961Q1-TC-T01-TC-UNC0-C-C13-3-ETA1-1	C	C13	3	13	282.1	284.1
NTP3961Q1-TC-T01-TC-UNC0-C-C13-3-ETA1-2	C	C13	3	13	283.0	287.1
NTP3961Q1-TC-T01-TC-UNC0-C-C13-3-ETA1-3	C	C13	3	13	277.1	281.9
NTP3961Q1-TC-T01-TC-UNC0-C-C13-3-ETA1-4	C	C13	3	13	278.6	283.4
NTP3961Q1-TC-T01-TC-UNC0-C-C13-3-ETA1-5	C	C13	3	13	268.4	273.1
NTP3961Q1-TC-T01-TC-UNC0-C-C13-3-ETA1-6	C	C13	3	13	280.0	283.1
NTP3961Q1-TC-T01-TC-UNC0-C-C15-3-ETA1-1	C	C15	3	15	296.3	304.6
NTP3961Q1-TC-T01-TC-UNC0-C-C15-3-ETA1-2	C	C15	3	15	286.3	291.8
NTP3961Q1-TC-T01-TC-UNC0-C-C15-3-ETA1-3	C	C15	3	15	294.3	300.4
NTP3961Q1-TC-T01-TC-UNC0-C-C15-3-ETA1-4	C	C15	3	15	281.1	289.5
NTP3961Q1-TC-T01-TC-UNC0-C-C15-3-ETA1-5	C	C15	3	15	288.0	293.2
NTP3961Q1-TC-T01-TC-UNC0-C-C15-3-ETA1-6	C	C15	3	15	293.2	298.4
NTP3961Q1-TC-T01-TC-UNC0-D-C13-3-ETA1-1	D	C13	4	13	288.2	291.0
NTP3961Q1-TC-T01-TC-UNC0-D-C13-3-ETA1-2	D	C13	4	13	282.7	284.9
NTP3961Q1-TC-T01-TC-UNC0-D-C13-3-ETA1-3	D	C13	4	13	291.8	293.9
NTP3961Q1-TC-T01-TC-UNC0-D-C13-3-ETA1-4	D	C13	4	13	296.9	297.7
NTP3961Q1-TC-T01-TC-UNC0-D-C13-3-ETA1-5	D	C13	4	13	288.6	289.2
NTP3961Q1-TC-T01-TC-UNC0-D-C13-3-ETA1-6	D	C13	4	13	280.8	280.3
NTP3961Q1-TC-T01-TC-UNC0-D-C15-3-ETA1-1	D	C15	4	15	271.8	273.6
NTP3961Q1-TC-T01-TC-UNC0-D-C15-3-ETA1-2	D	C15	4	15	285.5	288.3
NTP3961Q1-TC-T01-TC-UNC0-D-C15-3-ETA1-3	D	C15	4	15	280.2	283.5
NTP3961Q1-TC-T01-TC-UNC0-D-C15-3-ETA1-4	D	C15	4	15	289.2	291.4
NTP3961Q1-TC-T01-TC-UNC0-D-C15-3-ETA1-5	D	C15	4	15	289.3	293.8
NTP3961Q1-TC-T01-TC-UNC0-D-C15-3-ETA1-6	D	C15	4	15	282.7	285.2
NTP3961Q1-TC-T01-TC-UNC0-E-C13-3-ETA1-1	E	C13	5	13	288.6	296.9
NTP3961Q1-TC-T01-TC-UNC0-E-C13-3-ETA1-2	E	C13	5	13	262.5	283.0
NTP3961Q1-TC-T01-TC-UNC0-E-C13-3-ETA1-3	E	C13	5	13	263.7	272.0
NTP3961Q1-TC-T01-TC-UNC0-E-C13-3-ETA1-4	E	C13	5	13	267.3	274.9
NTP3961Q1-TC-T01-TC-UNC0-E-C13-3-ETA1-5	E	C13	5	13	277.5	287.0
NTP3961Q1-TC-T01-TC-UNC0-E-C13-3-ETA1-6	E	C13	5	13	293.9	303.3
NTP3961Q1-TC-T01-TC-UNC0-E-C15-3-ETA1-1	E	C15	5	15	277.8	284.1
NTP3961Q1-TC-T01-TC-UNC0-E-C15-3-ETA1-2	E	C15	5	15	275.1	283.8
NTP3961Q1-TC-T01-TC-UNC0-E-C15-3-ETA1-3	E	C15	5	15	282.5	289.9
NTP3961Q1-TC-T01-TC-UNC0-E-C15-3-ETA1-4	E	C15	5	15	280.8	289.5
NTP3961Q1-TC-T01-TC-UNC0-E-C15-3-ETA1-5	E	C15	5	15	265.4	270.7
NTP3961Q1-TC-T01-TC-UNC0-E-C15-3-ETA1-6	E	C15	5	15	291.5	300.5

*Backout factor = 2.694
**Backout factor = 2.697

Average	**279.0**	**284.6**
Standard Dev.	**9.904**	**9.656**
Coeff. of Var. [%]	**3.550**	**3.392**
Min.	**250.1**	**256.1**
Max.	**296.9**	**304.6**
Number of Spec.	**60**	**60**

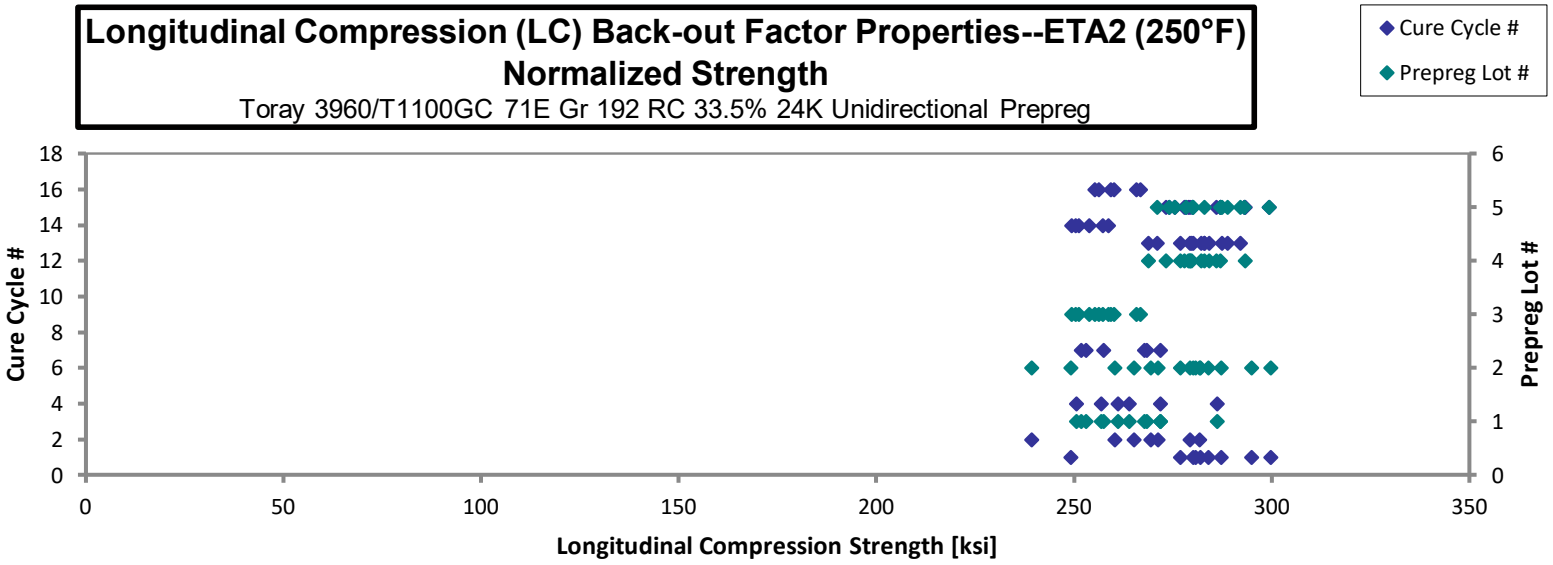

Longitudinal Compression (LC) Back-out Factor Properties--ETA1 (180°F)
Normalized Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Longitudinal Compression Strength [ksi]
0
2
4
6
8
10
12
14
16
18
0
1
2
3
4
5
6
0
50
100
150
200
250
300
350

Longitudinal Compression (LC) Back-out Factor Properties--ETA2 (250°F)
Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

UNC0 Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	$F_1^{cu}{}_{meas}$ [ksi] from UNC0*	$F_1^{cu}{}_{norm}$ [ksi] from UNC0**
NTP3961Q1-TC-T01-BT-UNC0-A-C4-2-ETA2-1	A	C4	1	4	253.3	256.9
NTP3961Q1-TC-T01-BT-UNC0-A-C4-2-ETA2-2	A	C4	1	4	248.1	250.7
NTP3961Q1-TC-T01-BT-UNC0-A-C4-2-ETA2-3	A	C4	1	4	282.7	286.4
NTP3961Q1-TC-T01-BT-UNC0-A-C4-2-ETA2-4	A	C4	1	4	260.4	264.1
NTP3961Q1-TC-T01-BT-UNC0-A-C4-2-ETA2-5	A	C4	1	4	257.3	261.2
NTP3961Q1-TC-T01-BT-UNC0-A-C4-2-ETA2-6	A	C4	1	4	268.8	272.0
NTP3961Q1-TC-T01-BT-UNC0-A-C7-1-ETA2-1	A	C7	1	7	246.1	252.0
NTP3961Q1-TC-T01-BT-UNC0-A-C7-1-ETA2-2	A	C7	1	7	246.8	253.1
NTP3961Q1-TC-T01-BT-UNC0-A-C7-1-ETA2-3	A	C7	1	7	251.5	257.5
NTP3961Q1-TC-T01-BT-UNC0-A-C7-1-ETA2-4	A	C7	1	7	263.3	267.9
NTP3961Q1-TC-T01-BT-UNC0-A-C7-1-ETA2-5	A	C7	1	7	265.2	271.9
NTP3961Q1-TC-T01-BT-UNC0-A-C7-1-ETA2-6	A	C7	1	7	264.3	268.4
NTP3961Q1-TC-T01-BT-UNC0-B-C1-2-ETA2-1	B	C1	2	1	274.3	280.8
NTP3961Q1-TC-T01-BT-UNC0-B-C1-2-ETA2-2	B	C1	2	1	275.7	282.0
NTP3961Q1-TC-T01-BT-UNC0-B-C1-2-ETA2-3	B	C1	2	1	239.2	249.3
NTP3961Q1-TC-T01-BT-UNC0-B-C1-2-ETA2-4	B	C1	2	1	291.4	299.9
NTP3961Q1-TC-T01-BT-UNC0-B-C1-2-ETA2-5	B	C1	2	1	272.9	280.2
NTP3961Q1-TC-T01-BT-UNC0-B-C1-2-ETA2-6	B	C1	2	1	268.8	277.0
NTP3961Q1-TC-T01-BT-UNC0-B-C1-2-ETA2-7	B	C1	2	1	287.9	295.1
NTP3961Q1-TC-T01-BT-UNC0-B-C1-2-ETA2-8	B	C1	2	1	272.9	284.0
NTP3961Q1-TC-T01-BT-UNC0-B-C1-2-ETA2-9	B	C1	2	1	282.6	287.3
NTP3961Q1-TC-T01-BT-UNC0-B-C2-2-ETA2-1	B	C2	2	2	255.6	260.4
NTP3961Q1-TC-T01-BT-UNC0-B-C2-2-ETA2-2	B	C2	2	2	266.5	271.3
NTP3961Q1-TC-T01-BT-UNC0-B-C2-2-ETA2-3	B	C2	2	2	262.4	269.5
NTP3961Q1-TC-T01-BT-UNC0-B-C2-2-ETA2-4	B	C2	2	2	274.7	281.8
NTP3961Q1-TC-T01-BT-UNC0-B-C2-2-ETA2-5	B	C2	2	2	232.7	239.4
NTP3961Q1-TC-T01-BT-UNC0-B-C2-2-ETA2-6	B	C2	2	2	273.5	279.5
NTP3961Q1-TC-T01-BT-UNC0-B-C2-2-ETA2-7	B	C2	2	2	258.9	265.2
NTP3961Q1-TC-T01-TC-UNC0-C-C14-3-ETA2-1	C	C14	3	14	247.0	249.4
NTP3961Q1-TC-T01-TC-UNC0-C-C14-3-ETA2-2	C	C14	3	14	254.2	258.8
NTP3961Q1-TC-T01-TC-UNC0-C-C14-3-ETA2-3	C	C14	3	14	247.1	251.3
NTP3961Q1-TC-T01-TC-UNC0-C-C14-3-ETA2-4	C	C14	3	14	247.9	253.9
NTP3961Q1-TC-T01-TC-UNC0-C-C14-3-ETA2-5	C	C14	3	14	245.2	250.6
NTP3961Q1-TC-T01-TC-UNC0-C-C14-3-ETA2-6	C	C14	3	14	250.9	257.5
NTP3961Q1-TC-T01-TC-UNC0-C-C16-3-ETA2-1	C	C16	3	16	254.4	259.5
NTP3961Q1-TC-T01-TC-UNC0-C-C16-3-ETA2-2	C	C16	3	16	255.5	260.2
NTP3961Q1-TC-T01-TC-UNC0-C-C16-3-ETA2-3	C	C16	3	16	248.6	255.4
NTP3961Q1-TC-T01-TC-UNC0-C-C16-3-ETA2-4	C	C16	3	16	252.6	256.5
NTP3961Q1-TC-T01-TC-UNC0-C-C16-3-ETA2-5	C	C16	3	16	261.0	266.8
NTP3961Q1-TC-T01-TC-UNC0-C-C16-3-ETA2-6	C	C16	3	16	259.9	265.9
NTP3961Q1-TC-T01-TC-UNC0-D-C13-3-ETA2-1	D	C13	4	13	277.3	279.5
NTP3961Q1-TC-T01-TC-UNC0-D-C13-3-ETA2-2	D	C13	4	13	279.1	283.0
NTP3961Q1-TC-T01-TC-UNC0-D-C13-3-ETA2-3	D	C13	4	13	277.7	282.4
NTP3961Q1-TC-T01-TC-UNC0-D-C13-3-ETA2-4	D	C13	4	13	271.3	276.9
NTP3961Q1-TC-T01-TC-UNC0-D-C13-3-ETA2-5	D	C13	4	13	280.8	284.4
NTP3961Q1-TC-T01-TC-UNC0-D-C13-3-ETA2-6	D	C13	4	13	264.0	268.8
NTP3961Q1-TC-T01-TC-UNC0-D-C13-3-ETA2-7	D	C13	4	13	276.0	279.9
NTP3961Q1-TC-T01-TC-UNC0-D-C15-3-ETA2-1	D	C15	4	15	276.5	279.1
NTP3961Q1-TC-T01-TC-UNC0-D-C15-3-ETA2-2	D	C15	4	15	271.4	273.4
NTP3961Q1-TC-T01-TC-UNC0-D-C15-3-ETA2-3	D	C15	4	15	284.3	286.2
NTP3961Q1-TC-T01-TC-UNC0-D-C15-3-ETA2-4	D	C15	4	15	275.8	278.1
NTP3961Q1-TC-T01-TC-UNC0-D-C15-3-ETA2-6	D	C15	4	15	285.4	287.1
NTP3961Q1-TC-T01-TC-UNC0-D-C15-3-ETA2-7	D	C15	4	15	291.4	293.3
NTP3961Q1-TC-T01-TC-UNC0-D-C15-3-ETA2-8	D	C15	4	15	275.2	279.4
NTP3961Q1-TC-T01-TC-UNC0-E-C13-3-ETA2-1	E	C13	5	13	284.5	288.9
NTP3961Q1-TC-T01-TC-UNC0-E-C13-3-ETA2-2	E	C13	5	13	280.0	283.1
NTP3961Q1-TC-T01-TC-UNC0-E-C13-3-ETA2-3	E	C13	5	13	283.3	287.5
NTP3961Q1-TC-T01-TC-UNC0-E-C13-3-ETA2-4	E	C13	5	13	269.4	271.1
NTP3961Q1-TC-T01-TC-UNC0-E-C13-3-ETA2-5	E	C13	5	13	288.2	292.2
NTP3961Q1-TC-T01-TC-UNC0-E-C13-3-ETA2-6	E	C13	5	13	278.3	280.1
NTP3961Q1-TC-T01-TC-UNC0-E-C15-3-ETA2-2	E	C15	5	15	275.2	280.1
NTP3961Q1-TC-T01-TC-UNC0-E-C15-3-ETA2-3	E	C15	5	15	284.1	287.2
NTP3961Q1-TC-T01-TC-UNC0-E-C15-3-ETA2-4	E	C15	5	15	290.8	293.1
NTP3961Q1-TC-T01-TC-UNC0-E-C15-3-ETA2-6	E	C15	5	15	296.2	299.4
NTP3961Q1-TC-T01-TC-UNC0-E-C15-3-ETA2-7	E	C15	5	15	272.2	275.6
NTP3961Q1-TC-T01-TC-UNC0-E-C15-3-ETA2-8	E	C15	5	15	272.5	274.2
NTP3961Q1-TC-T01-TC-UNC0-E-C15-3-ETA2-9	E	C15	5	15	274.5	278.5

*Backout factor = 2.708
**Backout factor = 2.710

Average	**268.0**	**272.7**
Standard Dev.	**14.60**	**14.10**
Coeff. of Var. [%]	**5.446**	**5.171**
Min.	**232.7**	**239.4**
Max.	**296.2**	**299.9**
Number of Spec.	**67**	**67**

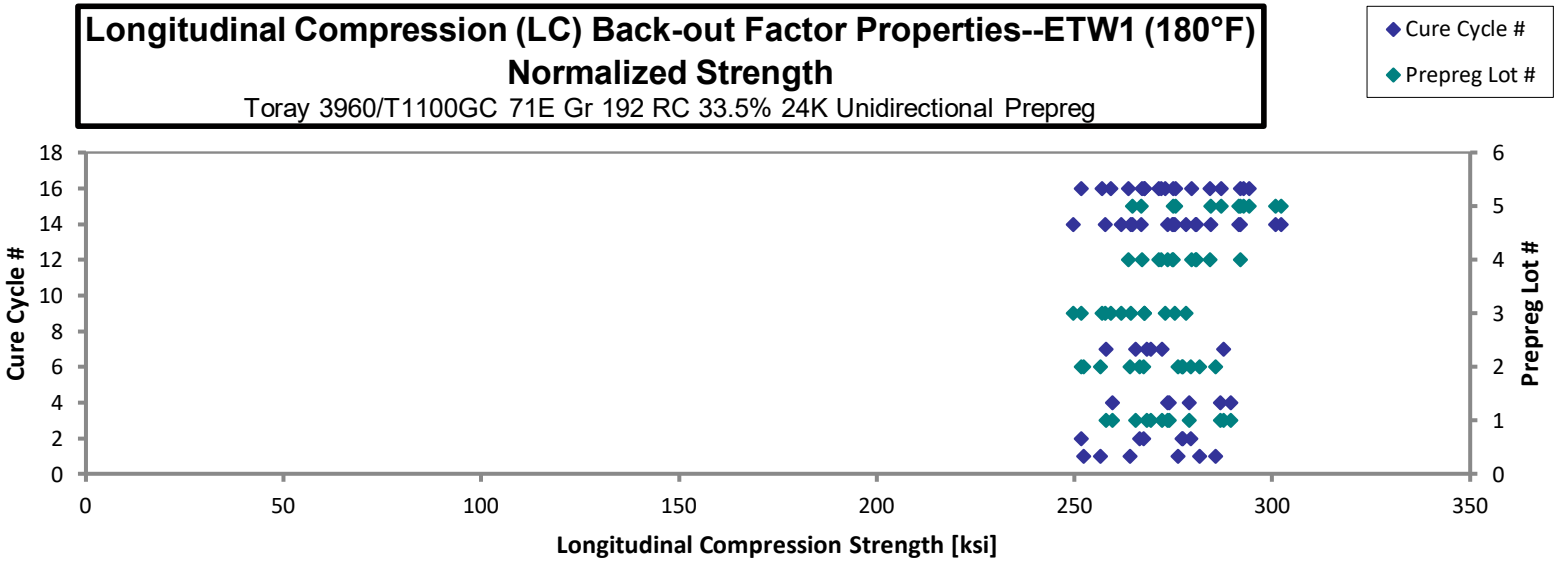

Longitudinal Compression (LC) Back-out Factor Properties--ETA2 (250°F)
Normalized Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Longitudinal Compression Strength [ksi]
0
2
4
6
8
10
12
14
16
18
0
1
2
3
4
5
6
0
50
100
150
200
250
300
350

Longitudinal Compression (LC) Back-out Factor Properties--ETW1 (180°F)
Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

UNC0 Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	$F_1^{cu}{}_{meas}$ [ksi] from UNC0*	$F_1^{cu}{}_{norm}$ [ksi] from UNC0**
NTP3961Q1-TC-T01-BT-UNC0-A-C4-2-ETW1-1	A	C4	1	4	259.0	259.6
NTP3961Q1-TC-T01-BT-UNC0-A-C4-2-ETW1-2	A	C4	1	4	288.9	289.6
NTP3961Q1-TC-T01-BT-UNC0-A-C4-2-ETW1-6	A	C4	1	4	272.5	273.7
NTP3961Q1-TC-T01-BT-UNC0-A-C4-2-ETW1-5	A	C4	1	4	273.0	274.0
NTP3961Q1-TC-T01-BT-UNC0-A-C4-2-ETW1-3	A	C4	1	4	285.6	286.9
NTP3961Q1-TC-T01-BT-UNC0-A-C4-2-ETW1-4	A	C4	1	4	274.5	279.0
NTP3961Q1-TC-T01-BT-UNC0-A-C7-1-ETW1-1	A	C7	1	7	253.9	258.1
NTP3961Q1-TC-T01-BT-UNC0-A-C7-1-ETW1-2	A	C7	1	7	285.8	287.9
NTP3961Q1-TC-T01-BT-UNC0-A-C7-1-ETW1-3	A	C7	1	7	261.0	265.6
NTP3961Q1-TC-T01-BT-UNC0-A-C7-1-ETW1-4	A	C7	1	7	262.8	268.5
NTP3961Q1-TC-T01-BT-UNC0-A-C7-1-ETW1-5	A	C7	1	7	267.3	272.3
NTP3961Q1-TC-T01-BT-UNC0-A-C7-1-ETW1-6	A	C7	1	7	263.1	269.4
NTP3961Q1-TC-T01-BT-UNC0-B-C1-2-ETW1-1	B	C1	2	1	255.4	256.6
NTP3961Q1-TC-T01-BT-UNC0-B-C1-2-ETW1-2	B	C1	2	1	255.8	264.2
NTP3961Q1-TC-T01-BT-UNC0-B-C1-2-ETW1-3	B	C1	2	1	267.0	281.7
NTP3961Q1-TC-T01-BT-UNC0-B-C1-2-ETW1-4	B	C1	2	1	247.8	252.5
NTP3961Q1-TC-T01-BT-UNC0-B-C1-2-ETW1-5	B	C1	2	1	274.8	285.8
NTP3961Q1-TC-T01-BT-UNC0-B-C1-2-ETW1-6	B	C1	2	1	269.7	276.3
NTP3961Q1-TC-T01-BT-UNC0-B-C2-2-ETW1-1	B	C2	2	2	271.2	277.5
NTP3961Q1-TC-T01-BT-UNC0-B-C2-2-ETW1-2	B	C2	2	2	271.8	277.3
NTP3961Q1-TC-T01-BT-UNC0-B-C2-2-ETW1-3	B	C2	2	2	269.2	279.6
NTP3961Q1-TC-T01-BT-UNC0-B-C2-2-ETW1-4	B	C2	2	2	262.2	267.6
NTP3961Q1-TC-T01-BT-UNC0-B-C2-2-ETW1-5	B	C2	2	2	244.5	251.9
NTP3961Q1-TC-T01-BT-UNC0-B-C2-2-ETW1-6	B	C2	2	2	257.7	266.5
NTP3961Q1-TC-T01-TC-UNC0-C-C14-3-ETW1-1	C	C14	3	14	251.3	257.9
NTP3961Q1-TC-T01-TC-UNC0-C-C14-3-ETW1-2	C	C14	3	14	272.1	275.4
NTP3961Q1-TC-T01-TC-UNC0-C-C14-3-ETW1-3	C	C14	3	14	258.8	264.4
NTP3961Q1-TC-T01-TC-UNC0-C-C14-3-ETW1-4	C	C14	3	14	244.8	249.9
NTP3961Q1-TC-T01-TC-UNC0-C-C14-3-ETW1-5	C	C14	3	14	256.6	261.9
NTP3961Q1-TC-T01-TC-UNC0-C-C14-3-ETW1-6	C	C14	3	14	272.7	278.3
NTP3961Q1-TC-T01-TC-UNC0-C-C16-3-ETW1-1	C	C16	3	16	254.8	259.4
NTP3961Q1-TC-T01-TC-UNC0-C-C16-3-ETW1-3	C	C16	3	16	267.6	273.0
NTP3961Q1-TC-T01-TC-UNC0-C-C16-3-ETW1-4	C	C16	3	16	248.1	251.7
NTP3961Q1-TC-T01-TC-UNC0-C-C16-3-ETW1-5	C	C16	3	16	262.2	267.8
NTP3961Q1-TC-T01-TC-UNC0-C-C16-3-ETW1-6	C	C16	3	16	253.3	257.1
NTP3961Q1-TC-T01-TC-UNC0-C-C16-3-ETW1-7	C	C16	3	16	260.9	267.9
NTP3961Q1-TC-T01-TC-UNC0-D-C14-3-ETW1-1	D	C14	4	14	273.1	275.0
NTP3961Q1-TC-T01-TC-UNC0-D-C14-3-ETW1-2	D	C14	4	14	270.1	274.9
NTP3961Q1-TC-T01-TC-UNC0-D-C14-3-ETW1-3	D	C14	4	14	275.7	280.7
NTP3961Q1-TC-T01-TC-UNC0-D-C14-3-ETW1-4	D	C14	4	14	269.8	273.6
NTP3961Q1-TC-T01-TC-UNC0-D-C14-3-ETW1-5	D	C14	4	14	286.1	292.0
NTP3961Q1-TC-T01-TC-UNC0-D-C14-3-ETW1-6	D	C14	4	14	278.4	281.0
NTP3961Q1-TC-T01-TC-UNC0-D-C16-3-ETW1-1	D	C16	4	16	270.3	272.1
NTP3961Q1-TC-T01-TC-UNC0-D-C16-3-ETW1-2	D	C16	4	16	275.5	279.7
NTP3961Q1-TC-T01-TC-UNC0-D-C16-3-ETW1-3	D	C16	4	16	281.3	284.4
NTP3961Q1-TC-T01-TC-UNC0-D-C16-3-ETW1-4	D	C16	4	16	261.0	263.8
NTP3961Q1-TC-T01-TC-UNC0-D-C16-3-ETW1-5	D	C16	4	16	271.0	271.5
NTP3961Q1-TC-T01-TC-UNC0-D-C16-3-ETW1-6	D	C16	4	16	265.5	267.3
NTP3961Q1-TC-T01-TC-UNC0-E-C14-3-ETW1-1	E	C14	5	14	263.8	264.7
NTP3961Q1-TC-T01-TC-UNC0-E-C14-3-ETW1-2	E	C14	5	14	299.7	302.5
NTP3961Q1-TC-T01-TC-UNC0-E-C14-3-ETW1-3	E	C14	5	14	296.2	300.9
NTP3961Q1-TC-T01-TC-UNC0-E-C14-3-ETW1-4	E	C14	5	14	264.5	267.0
NTP3961Q1-TC-T01-TC-UNC0-E-C14-3-ETW1-5	E	C14	5	14	289.4	291.6
NTP3961Q1-TC-T01-TC-UNC0-E-C14-3-ETW1-6	E	C14	5	14	283.2	284.5
NTP3961Q1-TC-T01-TC-UNC0-E-C16-3-ETW1-1	E	C16	5	16	292.9	292.0
NTP3961Q1-TC-T01-TC-UNC0-E-C16-3-ETW1-2	E	C16	5	16	292.2	294.2
NTP3961Q1-TC-T01-TC-UNC0-E-C16-3-ETW1-3	E	C16	5	16	284.0	287.1
NTP3961Q1-TC-T01-TC-UNC0-E-C16-3-ETW1-4	E	C16	5	16	290.7	292.9
NTP3961Q1-TC-T01-TC-UNC0-E-C16-3-ETW1-5	E	C16	5	16	274.3	275.6
NTP3961Q1-TC-T01-TC-UNC0-E-C16-3-ETW1-6	E	C16	5	16	271.9	275.1

*Backout factor = 2.698
**Backout factor = 2.701

Average	**269.6**	**273.8**
Standard Dev.	**13.13**	**12.46**
Coeff. of Var. [%]	**4.869**	**4.551**
Min.	**244.5**	**249.9**
Max.	**299.7**	**302.5**
Number of Spec.	**60**	**60**

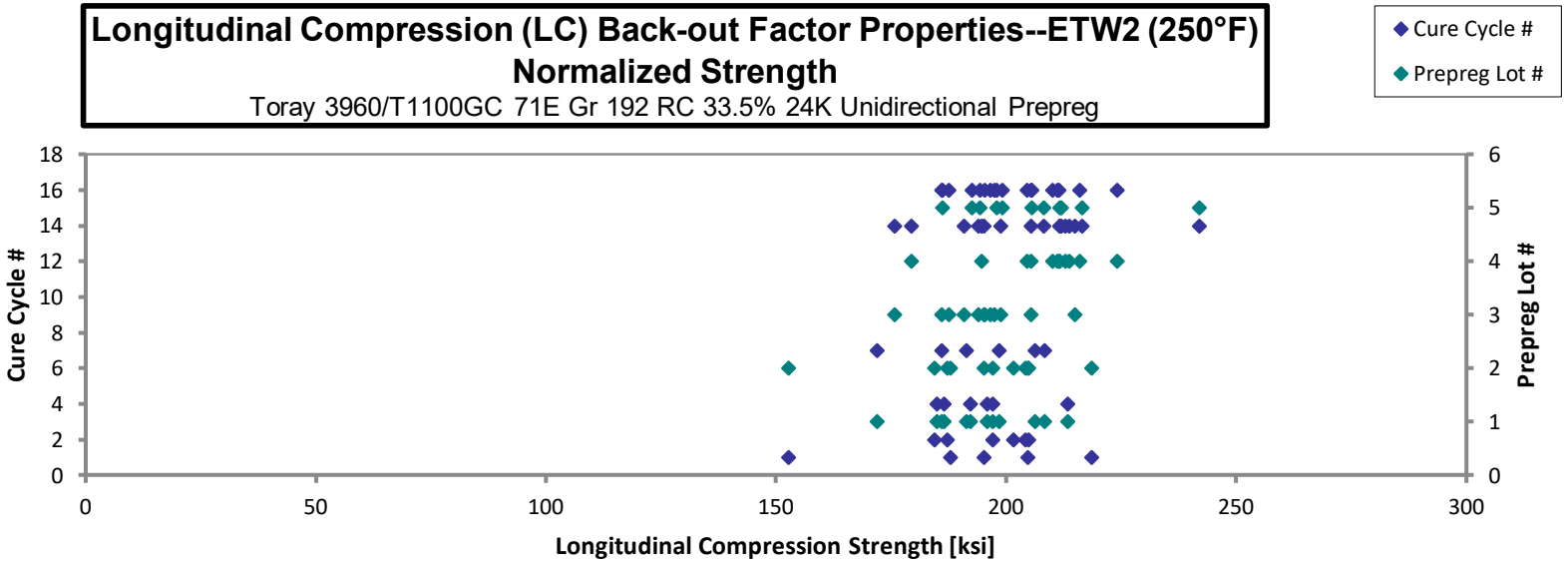

Longitudinal Compression (LC) Back-out Factor Properties--ETW1 (180°F)
Normalized Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Longitudinal Compression Strength [ksi]
0
2
4
6
8
10
12
14
16
18
0
1
2
3
4
5
6
0
50
100
150
200
250
300
350

Longitudinal Compression (LC) Back-out Factor Properties--ETW2 (250°F)
Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

UNC0 Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	$F_1^{cu}{}_{meas}$ [ksi] from UNC0**	$F_1^{cu}{}_{norm}$ [ksi] from UNC0***
NTP3961Q1-TC-T01-BT-UNC0-A-C4-2-ETW2-2	A	C4	1	4	184.5	186.5
NTP3961Q1-TC-T01-BT-UNC0-A-C4-2-ETW2-3	A	C4	1	4	196.3	195.8
NTP3961Q1-TC-T01-BT-UNC0-A-C4-2-ETW2-4	A	C4	1	4	197.1	197.1
NTP3961Q1-TC-T01-BT-UNC0-A-C4-2-ETW2-5	A	C4	1	4	214.9	213.4
NTP3961Q1-TC-T01-BT-UNC0-A-C4-2-ETW2-6	A	C4	1	4	193.2	192.3
NTP3961Q1-TC-T01-BT-UNC0-A-C4-2-ETW2-7	A	C4	1	4	183.2	184.9
NTP3961Q1-TC-T01-BT-UNC0-A-C7-1-ETW2-2	A	C7	1	7	171.4	171.9
NTP3961Q1-TC-T01-BT-UNC0-A-C7-1-ETW2-3	A	C7	1	7	184.7	186.0
NTP3961Q1-TC-T01-BT-UNC0-A-C7-1-ETW2-4	A	C7	1	7	190.1	191.4
NTP3961Q1-TC-T01-BT-UNC0-A-C7-1-ETW2-5	A	C7	1	7	205.8	208.4
NTP3961Q1-TC-T01-BT-UNC0-A-C7-1-ETW2-7	A	C7	1	7	204.9	206.3
NTP3961Q1-TC-T01-BT-UNC0-A-C7-1-ETW2-8	A	C7	1	7	197.9	198.6
NTP3961Q1-TC-T01-BT-UNC0-B-C1-2-ETW2-2	B	C1	2	1	150.6	152.7
NTP3961Q1-TC-T01-BT-UNC0-B-C1-2-ETW2-3	B	C1	2	1	193.0	195.2
NTP3961Q1-TC-T01-BT-UNC0-B-C1-2-ETW2-7	B	C1	2	1	181.4	188.0
NTP3961Q1-TC-T01-BT-UNC0-B-C1-2-ETW2-8	B	C1	2	1	208.6	218.5
NTP3961Q1-TC-T01-BT-UNC0-B-C1-2-ETW2-9	B	C1	2	1	192.4	204.7
NTP3961Q1-TC-T01-BT-UNC0-B-C2-2-ETW2-1	B	C2	2	2	201.2	204.2
NTP3961Q1-TC-T01-BT-UNC0-B-C2-2-ETW2-2	B	C2	2	2	195.8	201.5
NTP3961Q1-TC-T01-BT-UNC0-B-C2-2-ETW2-3	B	C2	2	2	187.9	197.2
NTP3961Q1-TC-T01-BT-UNC0-B-C2-2-ETW2-4	B	C2	2	2	179.4	187.1
NTP3961Q1-TC-T01-BT-UNC0-B-C2-2-ETW2-5	B	C2	2	2	200.9	204.8
NTP3961Q1-TC-T01-BT-UNC0-B-C2-2-ETW2-6	B	C2	2	2	181.3	184.5
NTP3961Q1-TC-T01-TC-UNC0-C-C14-3-ETW2-1	C	C14	3	14	211.4	214.9
NTP3961Q1-TC-T01-TC-UNC0-C-C14-3-ETW2-2	C	C14	3	14	185.4	195.2
NTP3961Q1-TC-T01-TC-UNC0-C-C14-3-ETW2-3	C	C14	3	14	188.1	190.8
NTP3961Q1-TC-T01-TC-UNC0-C-C14-3-ETW2-4	C	C14	3	14	175.1	175.7
NTP3961Q1-TC-T01-TC-UNC0-C-C14-3-ETW2-5	C	C14	3	14	189.8	194.0
NTP3961Q1-TC-T01-TC-UNC0-C-C14-3-ETW2-6	C	C14	3	14	194.6	198.8
NTP3961Q1-TC-T01-TC-UNC0-C-C16-3-ETW2-1	C	C16	3	16	192.5	197.5
NTP3961Q1-TC-T01-TC-UNC0-C-C16-3-ETW2-2	C	C16	3	16	200.4	205.3
NTP3961Q1-TC-T01-TC-UNC0-C-C16-3-ETW2-3	C	C16	3	16	189.9	195.3
NTP3961Q1-TC-T01-TC-UNC0-C-C16-3-ETW2-4	C	C16	3	16	185.0	187.5
NTP3961Q1-TC-T01-TC-UNC0-C-C16-3-ETW2-5	C	C16	3	16	191.9	196.5
NTP3961Q1-TC-T01-TC-UNC0-C-C16-3-ETW2-6	C	C16	3	16	182.0	186.0
NTP3961Q1-TC-T01-TC-UNC0-D-C14-3-ETW2-1	D	C14	4	14	175.1	179.3
NTP3961Q1-TC-T01-TC-UNC0-D-C14-3-ETW2-2	D	C14	4	14	203.2	205.4
NTP3961Q1-TC-T01-TC-UNC0-D-C14-3-ETW2-3	D	C14	4	14	210.0	211.7
NTP3961Q1-TC-T01-TC-UNC0-D-C14-3-ETW2-4	D	C14	4	14	209.7	212.9
NTP3961Q1-TC-T01-TC-UNC0-D-C14-3-ETW2-5	D	C14	4	14	211.7	213.7
NTP3961Q1-TC-T01-TC-UNC0-D-C14-3-ETW2-6	D	C14	4	14	192.1	194.7
NTP3961Q1-TC-T01-TC-UNC0-D-C16-3-ETW2-1	D	C16	4	16	209.4	211.5
NTP3961Q1-TC-T01-TC-UNC0-D-C16-3-ETW2-2	D	C16	4	16	202.6	204.5
NTP3961Q1-TC-T01-TC-UNC0-D-C16-3-ETW2-3	D	C16	4	16	221.7	224.2
NTP3961Q1-TC-T01-TC-UNC0-D-C16-3-ETW2-4	D	C16	4	16	213.9	215.9
NTP3961Q1-TC-T01-TC-UNC0-D-C16-3-ETW2-6	D	C16	4	16	208.6	210.1
NTP3961Q1-TC-T01-TC-UNC0-D-C16-3-ETW2-7	D	C16	4	16	208.7	211.1
NTP3961Q1-TC-T01-TC-UNC0-E-C14-3-ETW2-1*	E	C14	5	14		
NTP3961Q1-TC-T01-TC-UNC0-E-C14-3-ETW2-2	E	C14	5	14	241.5	242.0
NTP3961Q1-TC-T01-TC-UNC0-E-C14-3-ETW2-3	E	C14	5	14	214.4	216.5
NTP3961Q1-TC-T01-TC-UNC0-E-C14-3-ETW2-4	E	C14	5	14	207.0	208.3
NTP3961Q1-TC-T01-TC-UNC0-E-C14-3-ETW2-5	E	C14	5	14	211.9	212.0
NTP3961Q1-TC-T01-TC-UNC0-E-C14-3-ETW2-6	E	C14	5	14	210.9	211.6
NTP3961Q1-TC-T01-TC-UNC0-E-C16-3-ETW2-1	E	C16	5	16	192.3	194.3
NTP3961Q1-TC-T01-TC-UNC0-E-C16-3-ETW2-2	E	C16	5	16	195.8	197.9
NTP3961Q1-TC-T01-TC-UNC0-E-C16-3-ETW2-3	E	C16	5	16	196.4	199.2
NTP3961Q1-TC-T01-TC-UNC0-E-C16-3-ETW2-4	E	C16	5	16	183.3	186.1
NTP3961Q1-TC-T01-TC-UNC0-E-C16-3-ETW2-5	E	C16	5	16	202.8	205.6
NTP3961Q1-TC-T01-TC-UNC0-E-C16-3-ETW2-6	E	C16	5	16	191.0	192.6

*Strength is not reported due to buckling
**Backout factor = 2.750
***Backout factor = 2.752

Average	**196.5**	**199.5**
Standard Dev.	**14.43**	**14.10**
Coeff. of Var. [%]	**7.342**	**7.067**
Min.	**150.6**	**152.7**
Max.	**241.5**	**242.0**
Number of Spec.	**58**	**58**


Longitudinal Compression (LC) Back-out Factor Properties--ETW2 (250°F)
Normalized Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Longitudinal Compression Strength [ksi]
0
2
4
6
8
10
12
14
16
18
0
1
2
3
4
5
6
0
50
100
150
200
250
300

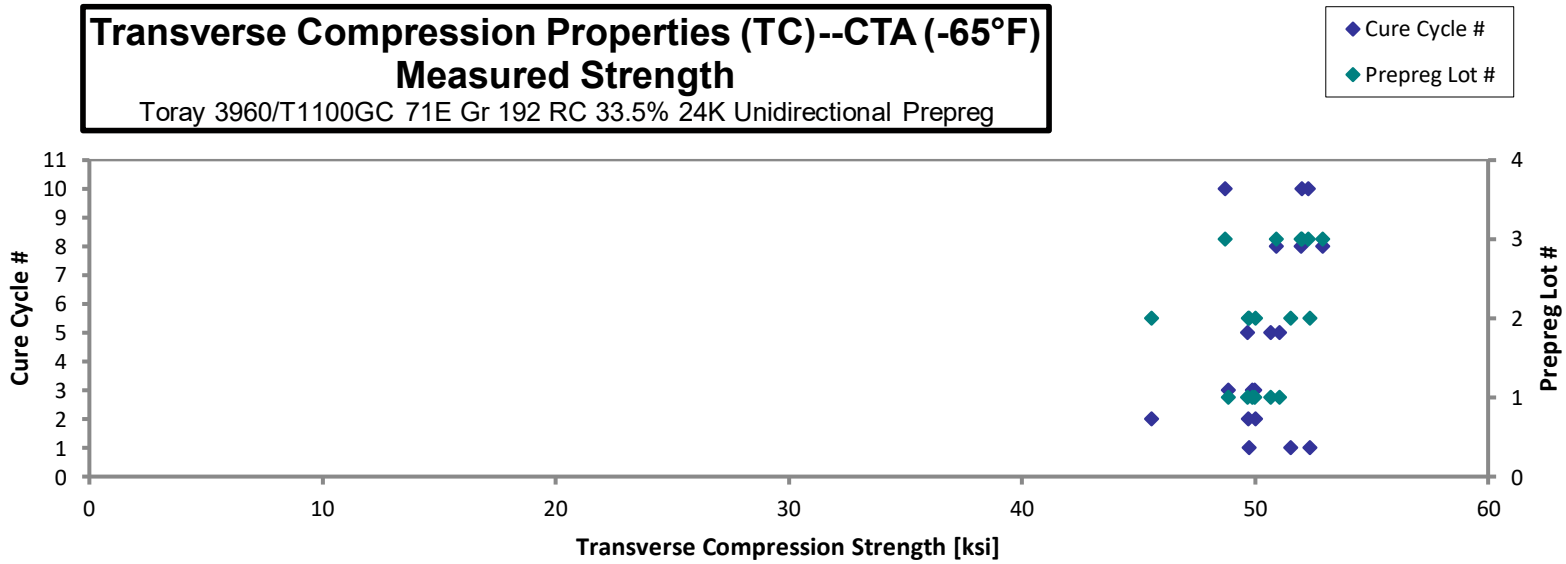
4.5 Transverse Compression Properties (TC)

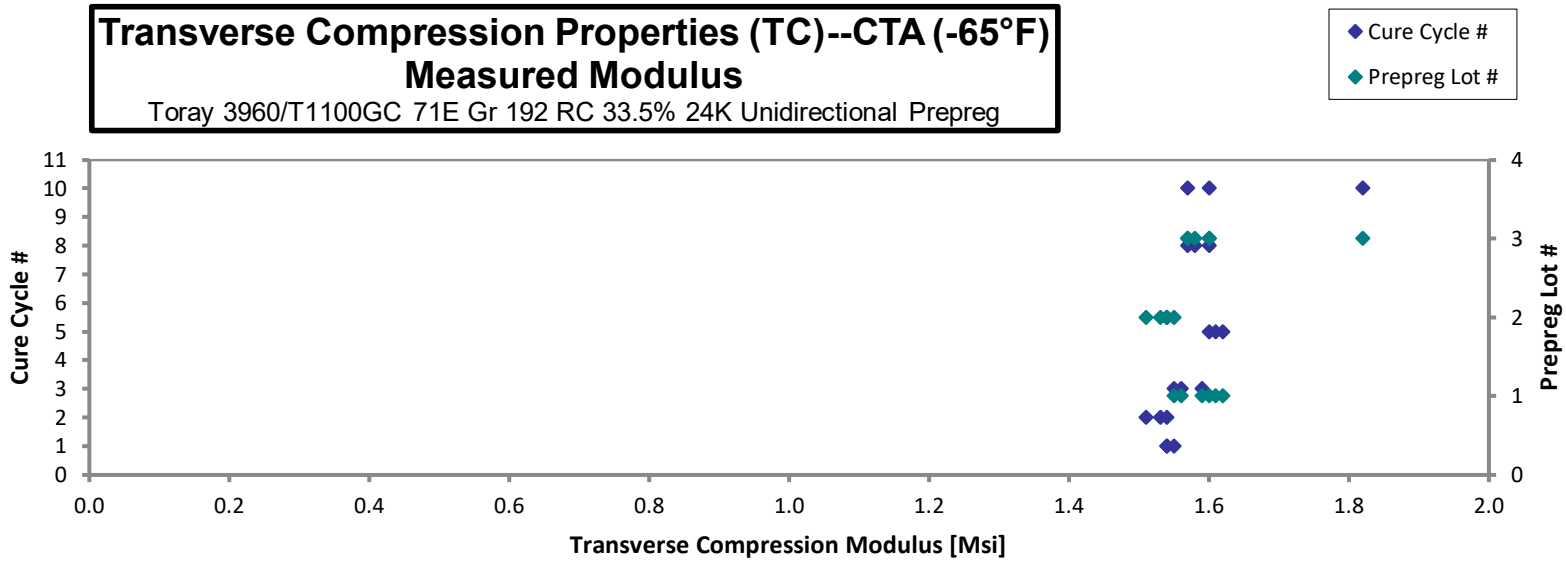
Transverse Compression Properties (TC)--CTA (-65°F)
Strength & Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Modulus (avg.*) [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Avg. t_{ply} [in]	Failure Mode
NTP3961Q1-TC-T01-BT-TC-A-C3-1-CTA-1	A	C3	1	3	49.87	1.590	0.10110	14	0.007221	HAB
NTP3961Q1-TC-T01-BT-TC-A-C3-1-CTA-2	A	C3	1	3	48.83	1.550	0.10255	14	0.007325	HAT
NTP3961Q1-TC-T01-BT-TC-A-C3-1-CTA-3	A	C3	1	3	49.98	1.560	0.10200	14	0.007286	HAT
NTP3961Q1-TC-T01-BT-TC-A-C5-1-CTA-1	A	C5	1	5	50.65	1.600	0.10275	14	0.007339	HGM
NTP3961Q1-TC-T01-BT-TC-A-C5-1-CTA-2	A	C5	1	5	49.65	1.620	0.10200	14	0.007286	HAT
NTP3961Q1-TC-T01-BT-TC-A-C5-1-CTA-3	A	C5	1	5	51.05	1.610	0.10285	14	0.007346	HGM
NTP3961Q1-TC-T01-BT-TC-B-C1-1-CTA-1	B	C1	2	1	49.73	1.540	0.10395	14	0.007425	TGV
NTP3961Q1-TC-T01-BT-TC-B-C1-1-CTA-2	B	C1	2	1	52.34	1.550	0.10345	14	0.007389	TAT
NTP3961Q1-TC-T01-BT-TC-B-C1-1-CTA-3	B	C1	2	1	51.51	1.540	0.10350	14	0.007393	TAT
NTP3961Q1-TC-T01-BT-TC-B-C2-1-CTA-1	B	C2	2	2	45.53	1.510	0.10350	14	0.007393	TAB
NTP3961Q1-TC-T01-BT-TC-B-C2-1-CTA-2	B	C2	2	2	49.99	1.540	0.10405	14	0.007432	TGV
NTP3961Q1-TC-T01-BT-TC-B-C2-1-CTA-3	B	C2	2	2	49.68	1.530	0.10350	14	0.007393	TAT
NTP3961Q1-TC-T01-TC-TC-C-C8-3-CTA-1	C	C8	3	8	51.97	1.600	0.09941	14	0.007101	HGM
NTP3961Q1-TC-T01-TC-TC-C-C8-3-CTA-2	C	C8	3	8	50.88	1.580	0.10288	14	0.007349	HGM
NTP3961Q1-TC-T01-TC-TC-C-C8-3-CTA-3	C	C8	3	8	52.87	1.570	0.10330	14	0.007379	HAT
NTP3961Q1-TC-T01-TC-TC-C-C10-3-CTA-1	C	C10	3	10	51.98	1.600	0.10235	14	0.007311	HGM
NTP3961Q1-TC-T01-TC-TC-C-C10-3-CTA-2	C	C10	3	10	52.27	1.820	0.10216	14	0.007297	HAB
NTP3961Q1-TC-T01-TC-TC-C-C10-3-CTA-3	C	C10	3	10	48.69	1.570	0.10255	14	0.007325	HAT

*Average of back to back strain gages

Average	**50.42**	**1.582**	**0.007333**
Standard Dev.	**1.741**	**0.06682**	
Coeff. of Var. [%]	**3.453**	**4.223**	
Min.	**45.53**	**1.510**	**0.007101**
Max.	**52.87**	**1.820**	**0.007432**
Number of Spec.	**18**	**18**	**18**


Transverse Compression Properties (TC)--CTA (-65°F)
Measured Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Transverse Compression Strength [ksi]
0
1
2
3
4
5
6
7
8
9
10
11
0
10
20
30
40
50
60

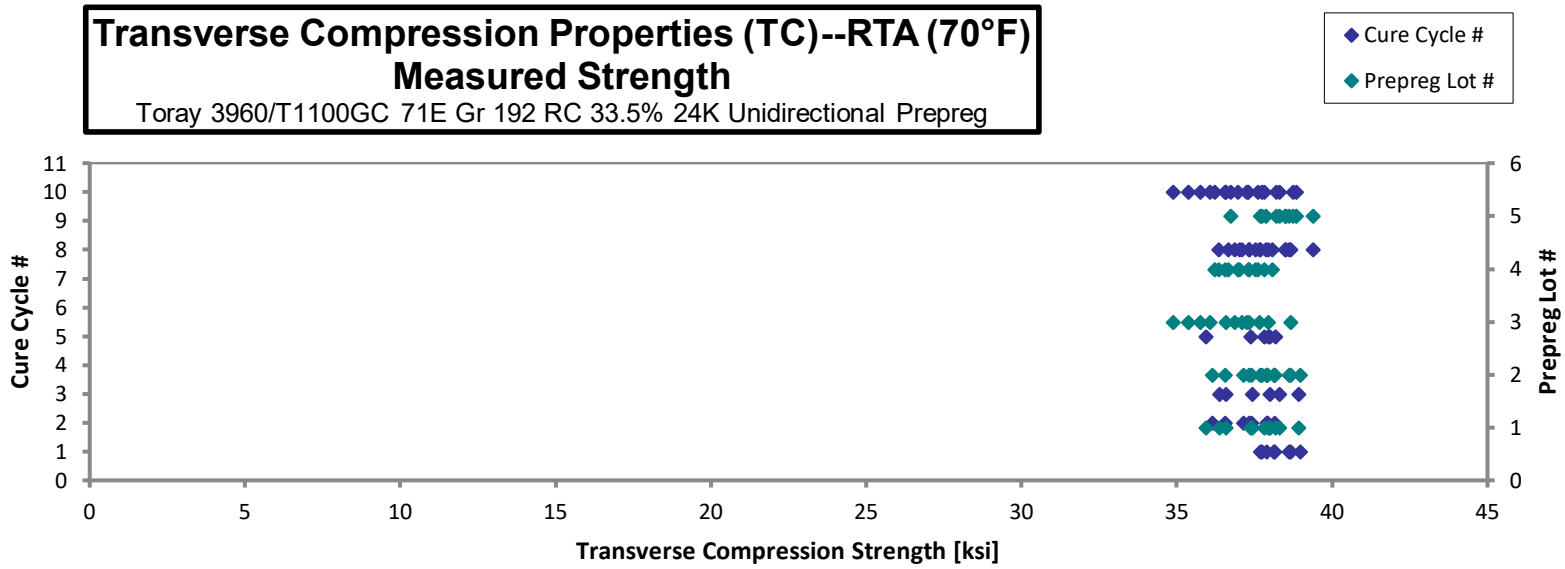

Transverse Compression Properties (TC)--CTA (-65°F)
Measured Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Transverse Compression Modulus [Msi]
0.0
0.2
0.4
0.6
0.8
1.0
1.2
1.4
1.6
1.8
2.0
0
1
2
3
4
5
6
7
8
9
10
11

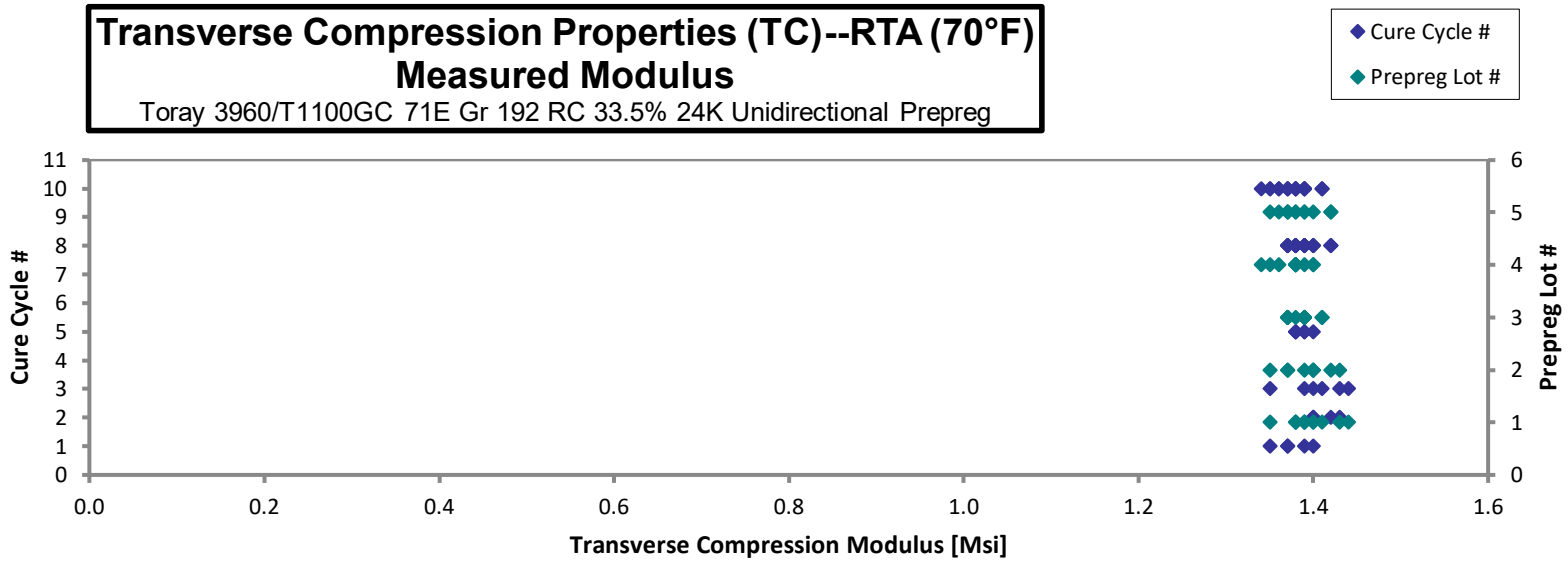
Transverse Compression Properties (TC)--RTA (70°F)
Strength & Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Modulus (avg.*) [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Avg. t_{ply} [in]	Failure Mode
NTP3961Q1-TC-T01-BT-TC-A-C3-1-RTA-1	A	C3	1	3	36.58	1.440	0.1021	14	0.007293	HGM
NTP3961Q1-TC-T01-BT-TC-A-C3-1-RTA-2	A	C3	1	3	38.92	1.430	0.1020	14	0.007282	HGT
NTP3961Q1-TC-T01-BT-TC-A-C3-1-RTA-3	A	C3	1	3	38.01	1.410	0.1022	14	0.007300	HGM
NTP3961Q1-TC-T01-BT-TC-A-C3-1-RTA-4	A	C3	1	3	37.44	1.390	0.1031	14	0.007364	HGB
NTP3961Q1-TC-T01-BT-TC-A-C3-1-RTA-5	A	C3	1	3	38.31	1.400	0.1028	14	0.007343	HGB
NTP3961Q1-TC-T01-BT-TC-A-C3-1-RTA-6	A	C3	1	3	36.37	1.350	0.1067	14	0.007621	HGB
NTP3961Q1-TC-T01-BT-TC-A-C5-1-RTA-1	A	C5	1	5	35.94	1.380	0.1029	14	0.007346	HGM
NTP3961Q1-TC-T01-BT-TC-A-C5-1-RTA-2	A	C5	1	5	37.38	1.390	0.1038	14	0.007411	HAT
NTP3961Q1-TC-T01-BT-TC-A-C5-1-RTA-3	A	C5	1	5	37.81	1.390	0.1032	14	0.007368	HAT
NTP3961Q1-TC-T01-BT-TC-A-C5-1-RTA-4	A	C5	1	5	38.01	1.380	0.1039	14	0.007421	HAB
NTP3961Q1-TC-T01-BT-TC-A-C5-1-RTA-5	A	C5	1	5	37.95	1.380	0.1036	14	0.007400	HAB
NTP3961Q1-TC-T01-BT-TC-A-C5-1-RTA-6	A	C5	1	5	38.18	1.400	0.1029	14	0.007350	HAB
NTP3961Q1-TC-T01-BT-TC-B-C1-1-RTA-1	B	C1	2	1	37.70	1.370	0.1048	14	0.007482	HGM
NTP3961Q1-TC-T01-BT-TC-B-C1-1-RTA-2**	B	C1	2	1	38.15		0.1020	14	0.007286	HGM
NTP3961Q1-TC-T01-BT-TC-B-C1-1-RTA-3	B	C1	2	1	37.89	1.350	0.1037	14	0.007404	HGM
NTP3961Q1-TC-T01-BT-TC-B-C1-1-RTA-4**	B	C1	2	1	37.75		0.1032	14	0.007371	HGM
NTP3961Q1-TC-T01-BT-TC-B-C1-1-RTA-5**	B	C1	2	1	38.14		0.1028	14	0.007339	HGM
NTP3961Q1-TC-T01-BT-TC-B-C1-1-RTA-7	B	C1	2	1	38.99	1.370	0.1023	14	0.007307	HGT
NTP3961Q1-TC-T01-BT-TC-B-C1-1-RTA-8	B	C1	2	1	38.63	1.400	0.1025	14	0.007318	HGM
NTP3961Q1-TC-T01-BT-TC-B-C1-1-RTA-9	B	C1	2	1	38.67	1.390	0.1018	14	0.007268	HGM
NTP3961Q1-TC-T01-BT-TC-B-C2-1-RTA-1**	B	C2	2	2	37.90		0.0994	14	0.007100	HGM
NTP3961Q1-TC-T01-BT-TC-B-C2-1-RTA-2**	B	C2	2	2	37.40		0.1024	14	0.007314	HGM
NTP3961Q1-TC-T01-BT-TC-B-C2-1-RTA-3**	B	C2	2	2	36.16		0.1043	14	0.007450	HGM
NTP3961Q1-TC-T01-BT-TC-B-C2-1-RTA-4**	B	C2	2	2	36.56		0.1038	14	0.007414	HGM
NTP3961Q1-TC-T01-BT-TC-B-C2-1-RTA-6	B	C2	2	2	38.16	1.400	0.1012	14	0.007225	HGM
NTP3961Q1-TC-T01-BT-TC-B-C2-1-RTA-7	B	C2	2	2	37.33	1.430	0.1047	14	0.007479	HGM
NTP3961Q1-TC-T01-BT-TC-B-C2-1-RTA-8	B	C2	2	2	37.15	1.400	0.1018	14	0.007268	HGM
NTP3961Q1-TC-T01-BT-TC-B-C2-1-RTA-9	B	C2	2	2	37.93	1.420	0.1002	14	0.007154	HGM
NTP3961Q1-TC-T01-TC-TC-C-C8-3-RTA-1	C	C8	3	8	38.66	1.370	0.1028	14	0.007344	BAB
NTP3961Q1-TC-T01-TC-TC-C-C8-3-RTA-2	C	C8	3	8	37.96	1.370	0.1032	14	0.007368	BAB
NTP3961Q1-TC-T01-TC-TC-C-C8-3-RTA-3	C	C8	3	8	37.32	1.370	0.1030	14	0.007354	BAT
NTP3961Q1-TC-T01-TC-TC-C-C8-3-RTA-4	C	C8	3	8	37.67	1.380	0.1029	14	0.007351	BAT
NTP3961Q1-TC-T01-TC-TC-C-C8-3-RTA-5	C	C8	3	8	36.87	1.390	0.1024	14	0.007316	BAT
NTP3961Q1-TC-T01-TC-TC-C-C8-3-RTA-6	C	C8	3	8	37.09	1.370	0.1025	14	0.007321	BAT
NTP3961Q1-TC-T01-TC-TC-C-C10-3-RTA-1	C	C10	3	10	36.08	1.390	0.1026	14	0.007326	BAT
NTP3961Q1-TC-T01-TC-TC-C-C10-3-RTA-2	C	C10	3	10	36.59	1.390	0.1020	14	0.007286	BGV
NTP3961Q1-TC-T01-TC-TC-C-C10-3-RTA-3	C	C10	3	10	37.25	1.390	0.1021	14	0.007290	BAT
NTP3961Q1-TC-T01-TC-TC-C-C10-3-RTA-4	C	C10	3	10	35.37	1.390	0.1030	14	0.007357	BAT
NTP3961Q1-TC-T01-TC-TC-C-C10-3-RTA-5	C	C10	3	10	34.89	1.410	0.1019	14	0.007275	BAT
NTP3961Q1-TC-T01-TC-TC-C-C10-3-RTA-6	C	C10	3	10	35.77	1.410	0.1019	14	0.007277	BAT
NTP3961Q1-TC-T01-TC-TC-D-C8-3-RTA-1	D	C8	4	8	38.08	1.400	0.1025	14	0.007318	HGM
NTP3961Q1-TC-T01-TC-TC-D-C8-3-RTA-2	D	C8	4	8	37.55	1.380	0.1022	14	0.007300	HAB
NTP3961Q1-TC-T01-TC-TC-D-C8-3-RTA-3	D	C8	4	8	37.32	1.400	0.1020	14	0.007283	HGM
NTP3961Q1-TC-T01-TC-TC-D-C8-3-RTA-4	D	C8	4	8	37.03	1.390	0.1022	14	0.007299	HGM
NTP3961Q1-TC-T01-TC-TC-D-C8-3-RTA-5	D	C8	4	8	36.35	1.380	0.1021	14	0.007293	HGM
NTP3961Q1-TC-T01-TC-TC-D-C8-3-RTA-6	D	C8	4	8	36.67	1.380	0.1019	14	0.007279	HGM
NTP3961Q1-TC-T01-TC-TC-D-C10-3-RTA-1	D	C10	4	10	37.30	1.380	0.1022	14	0.007299	HGM
NTP3961Q1-TC-T01-TC-TC-D-C10-3-RTA-2	D	C10	4	10	37.61	1.380	0.1018	14	0.007272	HGM
NTP3961Q1-TC-T01-TC-TC-D-C10-3-RTA-3	D	C10	4	10	37.83	1.380	0.1020	14	0.007284	HGM
NTP3961Q1-TC-T01-TC-TC-D-C10-3-RTA-4	D	C10	4	10	36.98	1.360	0.1020	14	0.007284	HGM
NTP3961Q1-TC-T01-TC-TC-D-C10-3-RTA-5	D	C10	4	10	36.23	1.350	0.1033	14	0.007375	HGM
NTP3961Q1-TC-T01-TC-TC-D-C10-3-RTA-6	D	C10	4	10	36.57	1.340	0.1030	14	0.007358	HGM
NTP3961Q1-TC-T01-TC-TC-E-C8-3-RTA-1	E	C8	5	8	38.53	1.390	0.1018	14	0.007272	HAB
NTP3961Q1-TC-T01-TC-TC-E-C8-3-RTA-2	E	C8	5	8	39.40	1.420	0.1013	14	0.007238	HAB
NTP3961Q1-TC-T01-TC-TC-E-C8-3-RTA-3	E	C8	5	8	38.49	1.420	0.1008	14	0.007197	HAT
NTP3961Q1-TC-T01-TC-TC-E-C8-3-RTA-4	E	C8	5	8	37.69	1.400	0.1013	14	0.007234	HAT
NTP3961Q1-TC-T01-TC-TC-E-C8-3-RTA-5	E	C8	5	8	37.87	1.390	0.1016	14	0.007254	HAT
NTP3961Q1-TC-T01-TC-TC-E-C8-3-RTA-6	E	C8	5	8	38.61	1.380	0.1022	14	0.007302	HAT
NTP3961Q1-TC-T01-TC-TC-E-C10-3-RTA-1	E	C10	5	10	38.84	1.370	0.1006	14	0.007188	HAB
NTP3961Q1-TC-T01-TC-TC-E-C10-3-RTA-2	E	C10	5	10	36.75	1.350	0.1015	14	0.007250	HAT
NTP3961Q1-TC-T01-TC-TC-E-C10-3-RTA-3	E	C10	5	10	38.21	1.380	0.1014	14	0.007240	HAB
NTP3961Q1-TC-T01-TC-TC-E-C10-3-RTA-4	E	C10	5	10	37.75	1.370	0.1013	14	0.007236	HAT
NTP3961Q1-TC-T01-TC-TC-E-C10-3-RTA-5	E	C10	5	10	38.74	1.370	0.1007	14	0.007190	HAT
NTP3961Q1-TC-T01-TC-TC-E-C10-3-RTA-6	E	C10	5	10	38.32	1.360	0.1011	14	0.007222	HAT

*Average of back to back strain gages
**Excluded modulus due to bending ≥10% at 0.2% strain

Average	**37.53**	**1.386**		**0.007313**
Standard Dev.	**0.9360**	**0.02118**		
Coeff. of Var. [%]	**2.494**	**1.528**		
Min.	**34.89**	**1.340**		**0.007100**
Max.	**39.40**	**1.440**		**0.007621**
Number of Spec.	**64**	**57**		**64**


Transverse Compression Properties (TC)--RTA (70°F)
Measured Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Transverse Compression Strength [ksi]
0
1
2
3
4
5
6
7
8
9
10
11
0
5
10
15
20
25
30
35
40
45

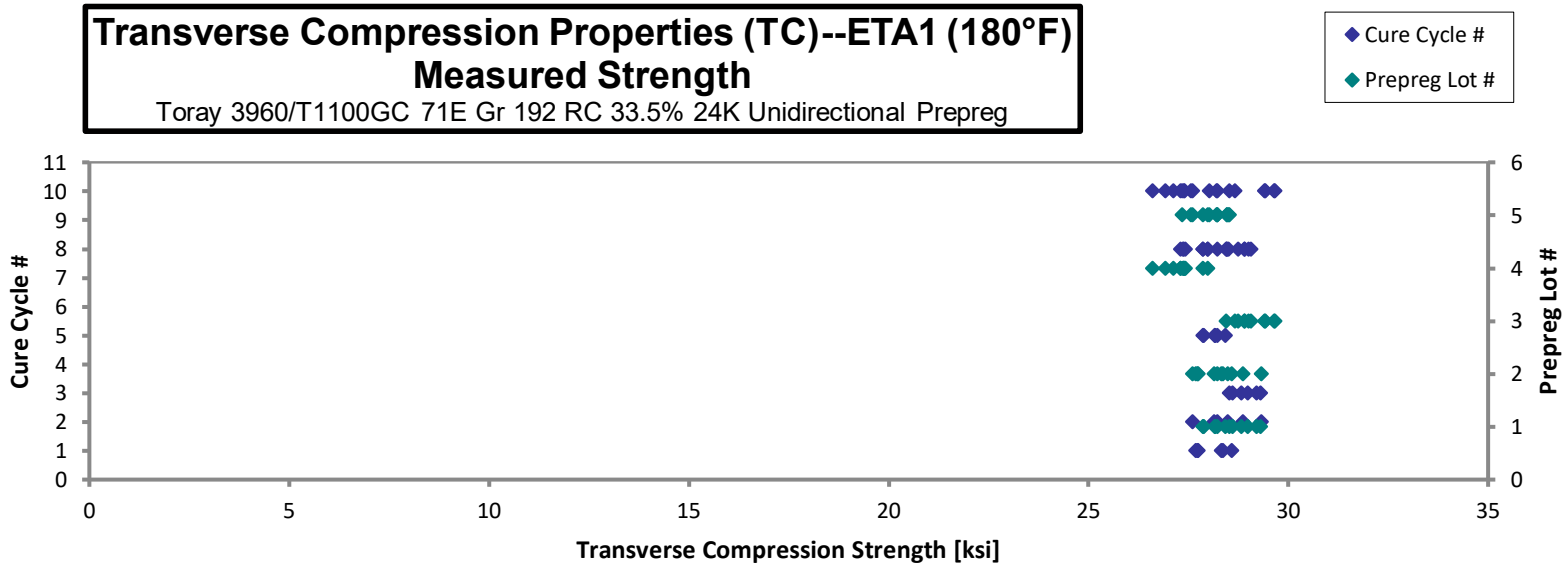

Transverse Compression Properties (TC)--RTA (70°F)
Measured Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Transverse Compression Modulus [Msi]
0.0
0.2
0.4
0.6
0.8
1.0
1.2
1.4
1.6
0
1
2
3
4
5
6
7
8
9
10
11

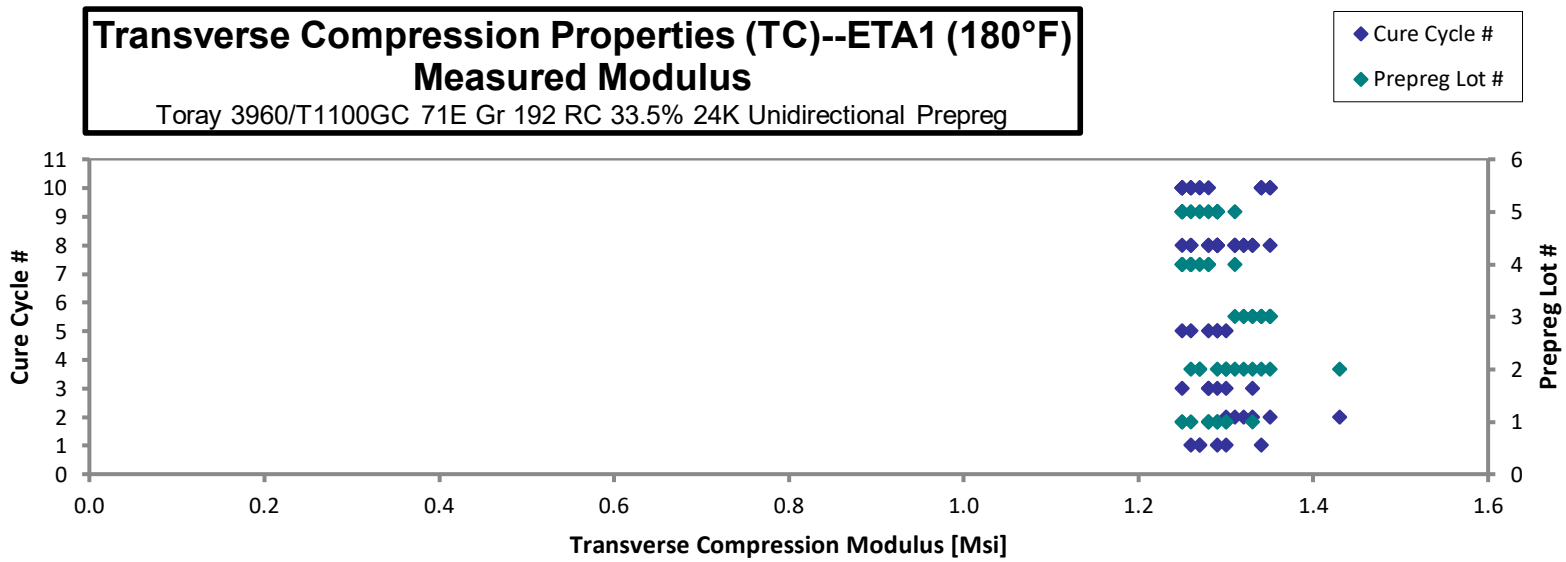
Transverse Compression Properties (TC)--ETA1 (180°F)
Strength & Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Modulus (avg.*) [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Avg. t_{ply} [in]	Failure Mode
NTP3961Q1-TC-T01-BT-TC-A-C3-1-ETA1-1	A	C3	1	3	28.51	1.250	0.1031	14	0.007361	HGT
NTP3961Q1-TC-T01-BT-TC-A-C3-1-ETA1-2	A	C3	1	3	28.81	1.280	0.1027	14	0.007336	HGM
NTP3961Q1-TC-T01-BT-TC-A-C3-1-ETA1-3	A	C3	1	3	28.59	1.300	0.1032	14	0.007371	HGT
NTP3961Q1-TC-T01-BT-TC-A-C3-1-ETA1-4	A	C3	1	3	28.97	1.280	0.1038	14	0.007414	HGB
NTP3961Q1-TC-T01-BT-TC-A-C3-1-ETA1-5	A	C3	1	3	29.19	1.330	0.1026	14	0.007329	HAT
NTP3961Q1-TC-T01-BT-TC-A-C3-1-ETA1-6	A	C3	1	3	29.29	1.290	0.1033	14	0.007375	HGB
NTP3961Q1-TC-T01-BT-TC-A-C5-1-ETA1-1	A	C5	1	5	28.16	1.290	0.1033	14	0.007375	HGB
NTP3961Q1-TC-T01-BT-TC-A-C5-1-ETA1-3	A	C5	1	5	28.16	1.250	0.1028	14	0.007339	HGB
NTP3961Q1-TC-T01-BT-TC-A-C5-1-ETA1-5	A	C5	1	5	27.87	1.260	0.1031	14	0.007361	HGT
NTP3961Q1-TC-T01-BT-TC-A-C5-1-ETA1-6	A	C5	1	5	28.22	1.290	0.1018	14	0.007268	HGT
NTP3961Q1-TC-T01-BT-TC-A-C5-1-ETA1-7	A	C5	1	5	28.41	1.300	0.1022	14	0.007300	HGM
NTP3961Q1-TC-T01-BT-TC-A-C5-1-ETA1-8	A	C5	1	5	27.86	1.280	0.1022	14	0.007296	HGB
NTP3961Q1-TC-T01-BT-TC-B-C1-1-ETA1-1	B	C1	2	1	27.73	1.260	0.1048	14	0.007482	BGM
NTP3961Q1-TC-T01-BT-TC-B-C1-1-ETA1-3	B	C1	2	1	27.72	1.290	0.1044	14	0.007454	TGM
NTP3961Q1-TC-T01-BT-TC-B-C1-1-ETA1-4	B	C1	2	1	27.67	1.270	0.1036	14	0.007396	TGM
NTP3961Q1-TC-T01-BT-TC-B-C1-1-ETA1-5	B	C1	2	1	28.32	1.270	0.1035	14	0.007389	TGM
NTP3961Q1-TC-T01-BT-TC-B-C1-1-ETA1-6	B	C1	2	1	28.57	1.300	0.1020	14	0.007286	TGM
NTP3961Q1-TC-T01-BT-TC-B-C1-1-ETA1-7	B	C1	2	1	28.36	1.340	0.1025	14	0.007318	TGM
NTP3961Q1-TC-T01-BT-TC-B-C2-1-ETA1-1	B	C2	2	2	27.60	1.430	0.1032	14	0.007368	TAB
NTP3961Q1-TC-T01-BT-TC-B-C2-1-ETA1-2	B	C2	2	2	28.47	1.320	0.1028	14	0.007343	TAT
NTP3961Q1-TC-T01-BT-TC-B-C2-1-ETA1-4	B	C2	2	2	28.13	1.330	0.1020	14	0.007282	TGM
NTP3961Q1-TC-T01-BT-TC-B-C2-1-ETA1-5	B	C2	2	2	28.85	1.350	0.1012	14	0.007225	BAT
NTP3961Q1-TC-T01-BT-TC-B-C2-1-ETA1-6	B	C2	2	2	29.32	1.300	0.1017	14	0.007261	TGM
NTP3961Q1-TC-T01-BT-TC-B-C2-1-ETA1-7	B	C2	2	2	28.22	1.310	0.1017	14	0.007264	TGM
NTP3961Q1-TC-T01-TC-TC-C-C8-3-ETA1-1	C	C8	3	8	28.73	1.330	0.1036	14	0.007399	HGM
NTP3961Q1-TC-T01-TC-TC-C-C8-3-ETA1-2	C	C8	3	8	28.89	1.350	0.1032	14	0.007370	HGM
NTP3961Q1-TC-T01-TC-TC-C-C8-3-ETA1-3	C	C8	3	8	28.99	1.310	0.1031	14	0.007361	HGM
NTP3961Q1-TC-T01-TC-TC-C-C8-3-ETA1-4	C	C8	3	8	29.06	1.320	0.1030	14	0.007354	HGM
NTP3961Q1-TC-T01-TC-TC-C-C8-3-ETA1-5	C	C8	3	8	28.90	1.320	0.1026	14	0.007329	HGM
NTP3961Q1-TC-T01-TC-TC-C-C8-3-ETA1-6	C	C8	3	8	28.43	1.330	0.1037	14	0.007404	HGM
NTP3961Q1-TC-T01-TC-TC-C-C10-3-ETA1-1	C	C10	3	10	29.41	1.350	0.1027	14	0.007334	HGB
NTP3961Q1-TC-T01-TC-TC-C-C10-3-ETA1-2**	C	C10	3	10		1.340	0.1027	14	0.007334	HGB
NTP3961Q1-TC-T01-TC-TC-C-C10-3-ETA1-3	C	C10	3	10	28.65	1.350	0.1030	14	0.007354	HGB
NTP3961Q1-TC-T01-TC-TC-C-C10-3-ETA1-4	C	C10	3	10	29.63	1.350	0.1025	14	0.007320	HGM
NTP3961Q1-TC-T01-TC-TC-C-C10-3-ETA1-5	C	C10	3	10	29.40	1.340	0.1027	14	0.007336	HGB
NTP3961Q1-TC-T01-TC-TC-C-C10-3-ETA1-6	C	C10	3	10	29.65	1.340	0.1026	14	0.007325	HGM
NTP3961Q1-TC-T01-TC-TC-D-C8-3-ETA1-1	D	C8	4	8	27.38	1.280	0.1020	14	0.007288	HGM
NTP3961Q1-TC-T01-TC-TC-D-C8-3-ETA1-2	D	C8	4	8	27.41	1.260	0.1022	14	0.007300	HGM
NTP3961Q1-TC-T01-TC-TC-D-C8-3-ETA1-4	D	C8	4	8	27.98	1.250	0.1020	14	0.007286	HGM
NTP3961Q1-TC-T01-TC-TC-D-C8-3-ETA1-5	D	C8	4	8	27.86	1.260	0.1024	14	0.007316	HGM
NTP3961Q1-TC-T01-TC-TC-D-C8-3-ETA1-6	D	C8	4	8	27.36	1.280	0.1023	14	0.007308	HGM
NTP3961Q1-TC-T01-TC-TC-D-C8-3-ETA1-7	D	C8	4	8	27.29	1.310	0.1024	14	0.007316	HGM
NTP3961Q1-TC-T01-TC-TC-D-C10-3-ETA1-1	D	C10	4	10	27.30	1.260	0.1031	14	0.007361	HGM
NTP3961Q1-TC-T01-TC-TC-D-C10-3-ETA1-2	D	C10	4	10	26.92	1.250	0.1032	14	0.007368	HGM
NTP3961Q1-TC-T01-TC-TC-D-C10-3-ETA1-3	D	C10	4	10	26.59	1.260	0.1035	14	0.007394	HGM
NTP3961Q1-TC-T01-TC-TC-D-C10-3-ETA1-4	D	C10	4	10	27.37	1.250	0.1032	14	0.007368	HGM
NTP3961Q1-TC-T01-TC-TC-D-C10-3-ETA1-5	D	C10	4	10	27.11	1.260	0.1041	14	0.007436	HGM
NTP3961Q1-TC-T01-TC-TC-D-C10-3-ETA1-6	D	C10	4	10	27.40	1.270	0.1034	14	0.007388	HGM
NTP3961Q1-TC-T01-TC-TC-E-C8-3-ETA1-1	E	C8	5	8	28.21	1.290	0.1026	14	0.007329	HGM
NTP3961Q1-TC-T01-TC-TC-E-C8-3-ETA1-2	E	C8	5	8	27.85	1.290	0.1024	14	0.007311	HGM
NTP3961Q1-TC-T01-TC-TC-E-C8-3-ETA1-3	E	C8	5	8	28.45	1.310	0.1020	14	0.007286	HGM
NTP3961Q1-TC-T01-TC-TC-E-C8-3-ETA1-4	E	C8	5	8	28.50	1.290	0.1029	14	0.007349	HGM
NTP3961Q1-TC-T01-TC-TC-E-C8-3-ETA1-5	E	C8	5	8	27.97	1.290	0.1027	14	0.007333	HGM
NTP3961Q1-TC-T01-TC-TC-E-C8-3-ETA1-6	E	C8	5	8	28.45	1.290	0.1026	14	0.007329	HGM
NTP3961Q1-TC-T01-TC-TC-E-C10-3-ETA1-1	E	C10	5	10	28.20	1.250	0.1009	14	0.007204	HGM
NTP3961Q1-TC-T01-TC-TC-E-C10-3-ETA1-2	E	C10	5	10	28.52	1.250	0.1013	14	0.007236	HGB
NTP3961Q1-TC-T01-TC-TC-E-C10-3-ETA1-3	E	C10	5	10	27.60	1.250	0.1015	14	0.007247	HGB
NTP3961Q1-TC-T01-TC-TC-E-C10-3-ETA1-4	E	C10	5	10	28.01	1.250	0.1012	14	0.007225	HGM
NTP3961Q1-TC-T01-TC-TC-E-C10-3-ETA1-5	E	C10	5	10	28.22	1.260	0.1013	14	0.007233	HAT
NTP3961Q1-TC-T01-TC-TC-E-C10-3-ETA1-6	E	C10	5	10	27.33	1.270	0.1013	14	0.007238	HGM
NTP3961Q1-TC-T01-TC-TC-E-C10-3-ETA1-7	E	C10	5	10	27.56	1.280	0.1009	14	0.007208	HAT

*Average of back to back strain gages
**Excluded strength due to indication of buckling

Average	**28.23**	**1.294**		**0.007329**
Standard Dev.	**0.7030**	**0.03681**		
Coeff. of Var. [%]	**2.491**	**2.844**		
Min.	**26.59**	**1.250**		**0.007204**
Max.	**29.65**	**1.430**		**0.007482**
Number of Spec.	**60**	**61**		**61**


Transverse Compression Properties (TC)--ETA1 (180°F)
Measured Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Transverse Compression Strength [ksi]
0
1
2
3
4
5
6
7
8
9
10
11
0
5
10
15
20
25
30
35

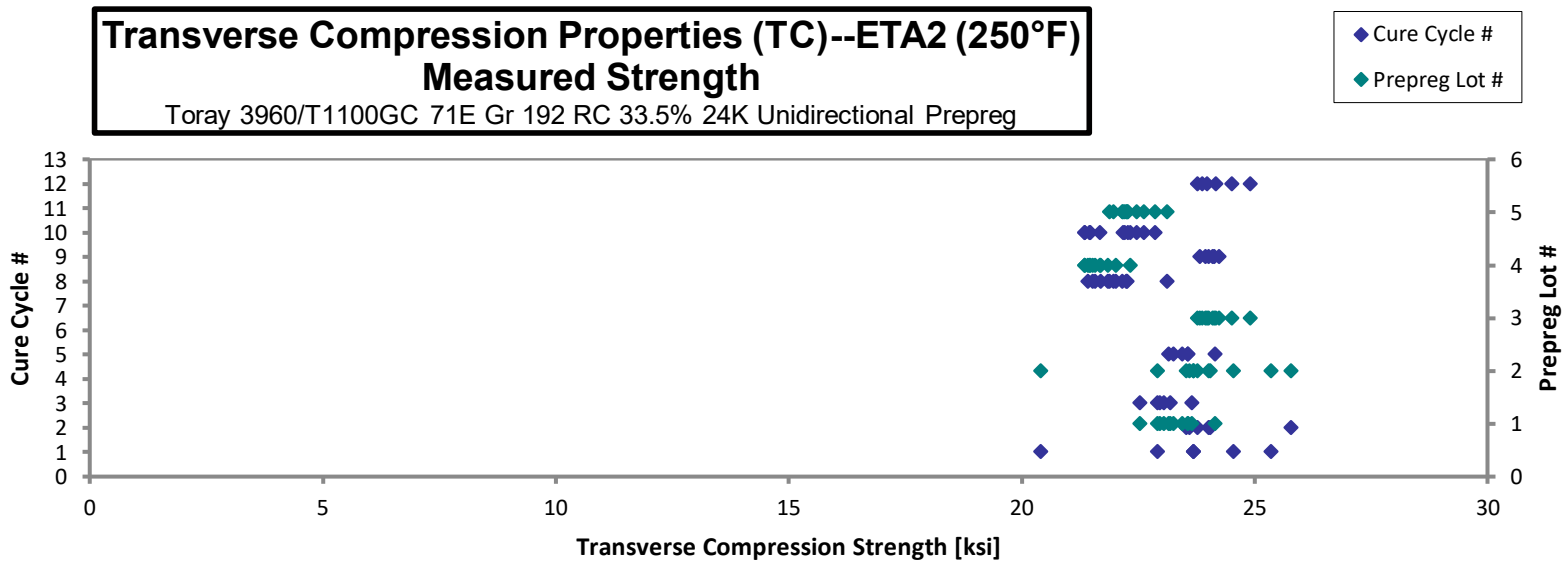

Transverse Compression Properties (TC)--ETA1 (180°F)
Measured Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Transverse Compression Modulus [Msi]
0.0
0.2
0.4
0.6
0.8
1.0
1.2
1.4
1.6
0
1
2
3
4
5
6
7
8
9
10
11

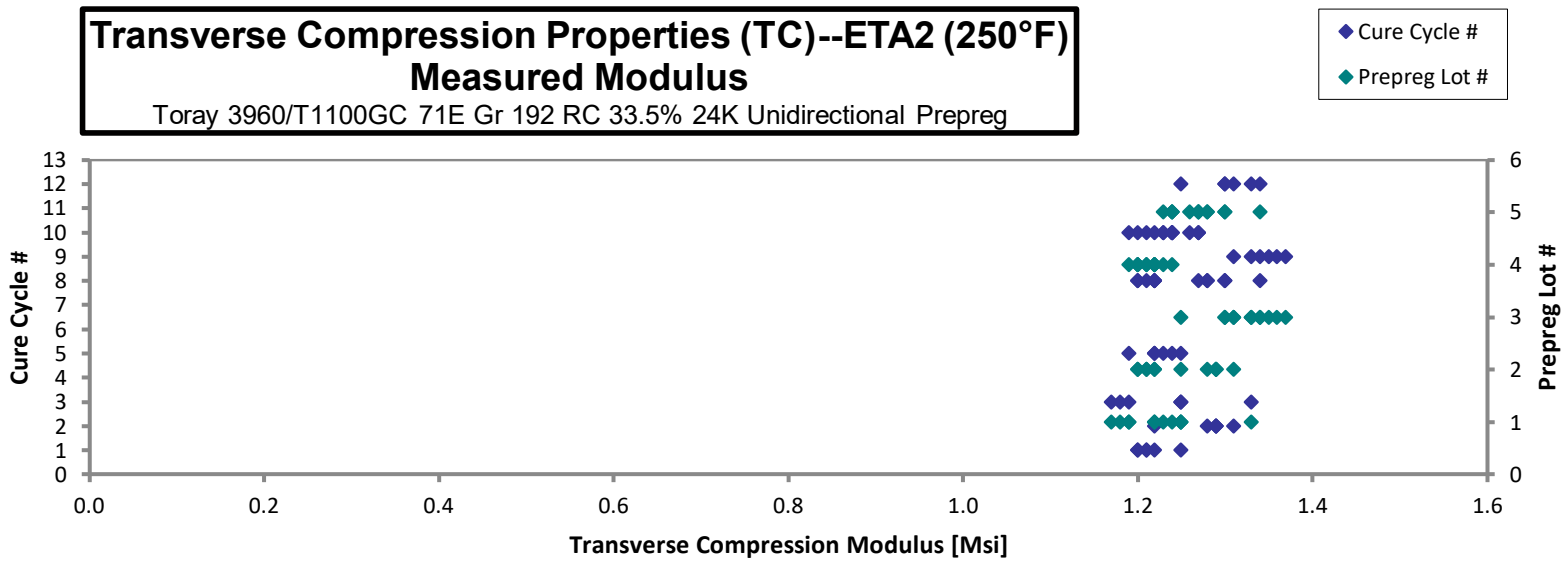
Transverse Compression Properties (TC)--ETA2 (250°F)
Strength & Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Modulus (avg.*) [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Avg. t_{ply} [in]	Failure Mode
NTP3961Q1-TC-T01-BT-TC-A-C3-2-ETA2-1	A	C3	1	3	22.95	1.250	0.1020	14	0.007286	HGT
NTP3961Q1-TC-T01-BT-TC-A-C3-2-ETA2-2	A	C3	1	3	22.90	1.190	0.1029	14	0.007350	HGT
NTP3961Q1-TC-T01-BT-TC-A-C3-2-ETA2-3	A	C3	1	3	23.18	1.170	0.1026	14	0.007329	HGM
NTP3961Q1-TC-T01-BT-TC-A-C3-2-ETA2-4	A	C3	1	3	23.64	1.330	0.1026	14	0.007329	HGT
NTP3961Q1-TC-T01-BT-TC-A-C3-2-ETA2-5	A	C3	1	3	22.53	1.180	0.1028	14	0.007339	HGT
NTP3961Q1-TC-T01-BT-TC-A-C3-2-ETA2-6	A	C3	1	3	23.05	1.250	0.1026	14	0.007329	HGM
NTP3961Q1-TC-T01-BT-TC-A-C5-2-ETA2-1	A	C5	1	5	23.15	1.220	0.1024	14	0.007314	HGB
NTP3961Q1-TC-T01-BT-TC-A-C5-2-ETA2-2	A	C5	1	5	23.55	1.240	0.1029	14	0.007346	HGB
NTP3961Q1-TC-T01-BT-TC-A-C5-2-ETA2-3	A	C5	1	5	23.55	1.220	0.1033	14	0.007379	HGT
NTP3961Q1-TC-T01-BT-TC-A-C5-2-ETA2-4	A	C5	1	5	24.14	1.190	0.1040	14	0.007429	HAB
NTP3961Q1-TC-T01-BT-TC-A-C5-2-ETA2-5	A	C5	1	5	23.25	1.230	0.1037	14	0.007404	HGB
NTP3961Q1-TC-T01-BT-TC-A-C5-2-ETA2-6	A	C5	1	5	23.44	1.250	0.1028	14	0.007339	HGM
NTP3961Q1-TC-T01-BT-TC-B-C1-2-ETA2-1	B	C1	2	1	23.68	1.210	0.1028	14	0.007343	TGM
NTP3961Q1-TC-T01-BT-TC-B-C1-2-ETA2-2	B	C1	2	1	25.34	1.220	0.1030	14	0.007357	TGM
NTP3961Q1-TC-T01-BT-TC-B-C1-2-ETA2-3	B	C1	2	1	24.54	1.250	0.1018	14	0.007268	BGM
NTP3961Q1-TC-T01-BT-TC-B-C1-2-ETA2-4	B	C1	2	1	23.68	1.200	0.1025	14	0.007318	TGM
NTP3961Q1-TC-T01-BT-TC-B-C1-2-ETA2-7	B	C1	2	1	20.40	1.210	0.1035	14	0.007389	TGM
NTP3961Q1-TC-T01-BT-TC-B-C1-2-ETA2-8	B	C1	2	1	22.91	1.200	0.1031	14	0.007364	TGM
NTP3961Q1-TC-T01-BT-TC-B-C2-2-ETA2-1	B	C2	2	2	25.77	1.290	0.1033	14	0.007375	TAB
NTP3961Q1-TC-T01-BT-TC-B-C2-2-ETA2-2	B	C2	2	2	23.77	1.280	0.1028	14	0.007343	TAT
NTP3961Q1-TC-T01-BT-TC-B-C2-2-ETA2-3	B	C2	2	2	24.04	1.310	0.1038	14	0.007414	TGM
NTP3961Q1-TC-T01-BT-TC-B-C2-2-ETA2-4	B	C2	2	2	23.60	1.290	0.1036	14	0.007400	TGM
NTP3961Q1-TC-T01-BT-TC-B-C2-2-ETA2-5	B	C2	2	2	23.52	1.290	0.1035	14	0.007393	TAB
NTP3961Q1-TC-T01-BT-TC-B-C2-2-ETA2-6	B	C2	2	2	24.01	1.220	0.1037	14	0.007404	TGM
NTP3961Q1-TC-T01-TC-TC-C-C9-3-ETA2-1	C	C9	3	9	23.81	1.350	0.0988	14	0.007054	TAB
NTP3961Q1-TC-T01-TC-TC-C-C9-3-ETA2-2	C	C9	3	9	24.09	1.370	0.1017	14	0.007266	TAB
NTP3961Q1-TC-T01-TC-TC-C-C9-3-ETA2-3	C	C9	3	9	24.01	1.330	0.1017	14	0.007266	TGM
NTP3961Q1-TC-T01-TC-TC-C-C9-3-ETA2-4	C	C9	3	9	24.13	1.310	0.1029	14	0.007352	TAB
NTP3961Q1-TC-T01-TC-TC-C-C9-3-ETA2-5	C	C9	3	9	23.94	1.340	0.1033	14	0.007376	TAB
NTP3961Q1-TC-T01-TC-TC-C-C9-3-ETA2-6	C	C9	3	9	24.22	1.360	0.1016	14	0.007256	TAB
NTP3961Q1-TC-T01-TC-TC-C-C12-3-ETA2-1	C	C12	3	12	23.86	1.340	0.1018	14	0.007270	TAB
NTP3961Q1-TC-T01-TC-TC-C-C12-3-ETA2-2	C	C12	3	12	24.15	1.300	0.1025	14	0.007322	TGM
NTP3961Q1-TC-T01-TC-TC-C-C12-3-ETA2-3	C	C12	3	12	24.90	1.310	0.1020	14	0.007288	TAT
NTP3961Q1-TC-T01-TC-TC-C-C12-3-ETA2-4	C	C12	3	12	24.50	1.250	0.1026	14	0.007329	TGM
NTP3961Q1-TC-T01-TC-TC-C-C12-3-ETA2-5	C	C12	3	12	23.97	1.300	0.1016	14	0.007256	TGM
NTP3961Q1-TC-T01-TC-TC-C-C12-3-ETA2-6	C	C12	3	12	23.77	1.330	0.1017	14	0.007265	TGM
NTP3961Q1-TC-T01-TC-TC-D-C8-3-ETA2-1	D	C8	4	8	22.02	1.200	0.1028	14	0.007341	HGM
NTP3961Q1-TC-T01-TC-TC-D-C8-3-ETA2-2	D	C8	4	8	21.52	1.200	0.1031	14	0.007361	HAB
NTP3961Q1-TC-T01-TC-TC-D-C8-3-ETA2-4	D	C8	4	8	21.84	1.220	0.1023	14	0.007304	HGM
NTP3961Q1-TC-T01-TC-TC-D-C8-3-ETA2-5	D	C8	4	8	21.68	1.220	0.1027	14	0.007336	HGM
NTP3961Q1-TC-T01-TC-TC-D-C8-3-ETA2-6	D	C8	4	8	21.57	1.210	0.1024	14	0.007313	HGM
NTP3961Q1-TC-T01-TC-TC-D-C8-3-ETA2-7	D	C8	4	8	21.42	1.220	0.1025	14	0.007321	HGM
NTP3961Q1-TC-T01-TC-TC-D-C10-3-ETA2-1	D	C10	4	10	21.44	1.220	0.1026	14	0.007329	HGM
NTP3961Q1-TC-T01-TC-TC-D-C10-3-ETA2-2	D	C10	4	10	21.35	1.230	0.1023	14	0.007309	HGM
NTP3961Q1-TC-T01-TC-TC-D-C10-3-ETA2-3	D	C10	4	10	22.32	1.240	0.1033	14	0.007381	HGM
NTP3961Q1-TC-T01-TC-TC-D-C10-3-ETA2-4	D	C10	4	10	21.67	1.200	0.1031	14	0.007365	HAB
NTP3961Q1-TC-T01-TC-TC-D-C10-3-ETA2-5	D	C10	4	10	21.47	1.210	0.1032	14	0.007372	HGM
NTP3961Q1-TC-T01-TC-TC-D-C10-3-ETA2-6	D	C10	4	10	21.34	1.190	0.1038	14	0.007416	HAT
NTP3961Q1-TC-T01-TC-TC-E-C8-3-ETA2-1	E	C8	5	8	21.87	1.280	0.1017	14	0.007261	HGM
NTP3961Q1-TC-T01-TC-TC-E-C8-3-ETA2-2	E	C8	5	8	22.24	1.300	0.1022	14	0.007296	HGM
NTP3961Q1-TC-T01-TC-TC-E-C8-3-ETA2-3	E	C8	5	8	21.96	1.270	0.1025	14	0.007321	HAB
NTP3961Q1-TC-T01-TC-TC-E-C8-3-ETA2-4	E	C8	5	8	22.25	1.280	0.1020	14	0.007286	HGM
NTP3961Q1-TC-T01-TC-TC-E-C8-3-ETA2-5	E	C8	5	8	22.15	1.300	0.1026	14	0.007329	HAB
NTP3961Q1-TC-T01-TC-TC-E-C8-3-ETA2-6	E	C8	5	8	23.11	1.340	0.1017	14	0.007265	HGM
NTP3961Q1-TC-T01-TC-TC-E-C10-3-ETA2-1**	E	C10	5	10		1.240	0.1009	14	0.007204	HAB
NTP3961Q1-TC-T01-TC-TC-E-C10-3-ETA2-2	E	C10	5	10	22.21	1.230	0.1006	14	0.007184	HGM
NTP3961Q1-TC-T01-TC-TC-E-C10-3-ETA2-3	E	C10	5	10	22.46	1.240	0.1008	14	0.007201	HGM
NTP3961Q1-TC-T01-TC-TC-E-C10-3-ETA2-4	E	C10	5	10	22.85	1.270	0.1001	14	0.007147	HGM
NTP3961Q1-TC-T01-TC-TC-E-C10-3-ETA2-5	E	C10	5	10	22.27	1.240	0.1000	14	0.007140	HGM
NTP3961Q1-TC-T01-TC-TC-E-C10-3-ETA2-6	E	C10	5	10	22.16	1.270	0.1008	14	0.007202	HGM
NTP3961Q1-TC-T01-TC-TC-E-C10-3-ETA2-7	E	C10	5	10	22.61	1.260	0.1004	14	0.007170	HGM

*Average of back to back strain gages
**Excluded strength due to indication of buckling

Average	**23.03**	**1.257**	**0.007311**
Standard Dev.	**1.129**	**0.05111**	
Coeff. of Var. [%]	**4.901**	**4.067**	
Min.	**20.40**	**1.170**	**0.007054**
Max.	**25.77**	**1.370**	**0.007429**
Number of Spec.	**60**	**61**	**61**


Transverse Compression Properties (TC)--ETA2 (250°F)
Measured Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Transverse Compression Strength [ksi]
0
5
10
15
20
25
30
0
1
2
3
4
5
6
7
8
9
10
11
12
13

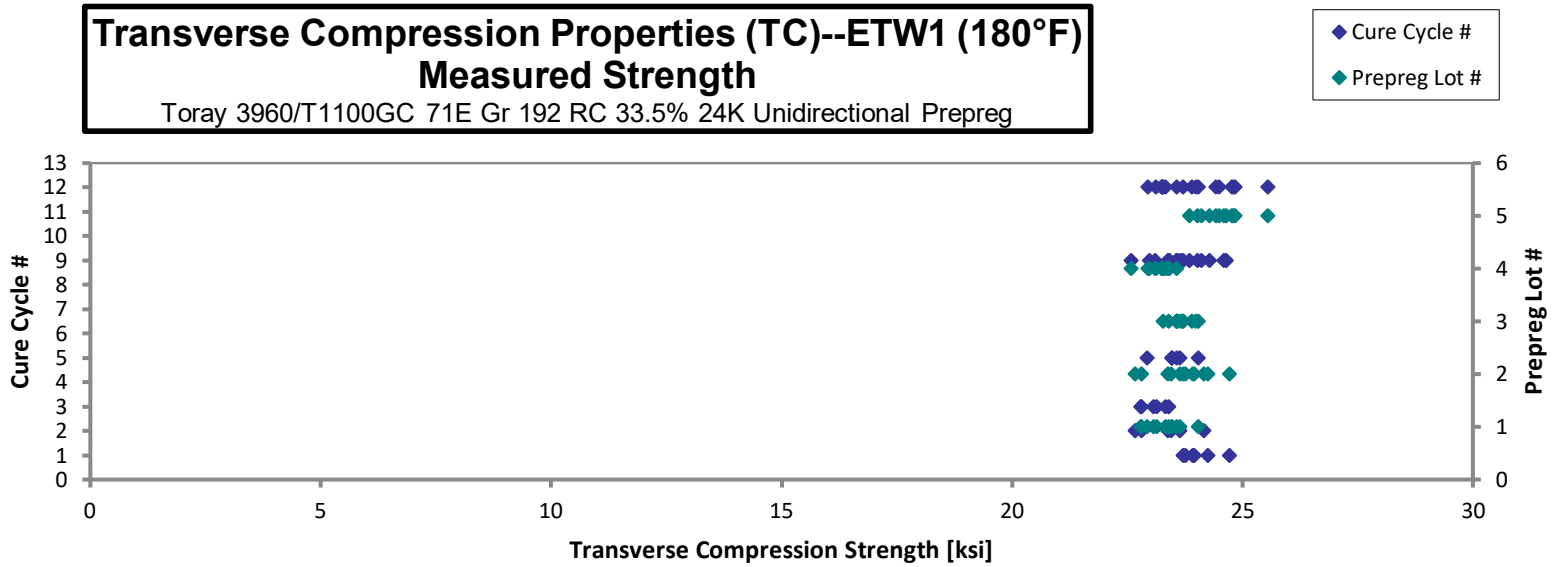

Transverse Compression Properties (TC)--ETA2 (250°F)
Measured Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Transverse Compression Modulus [Msi]
0.0
0.2
0.4
0.6
0.8
1.0
1.2
1.4
1.6
0
1
2
3
4
5
6
7
8
9
10
11
12
13

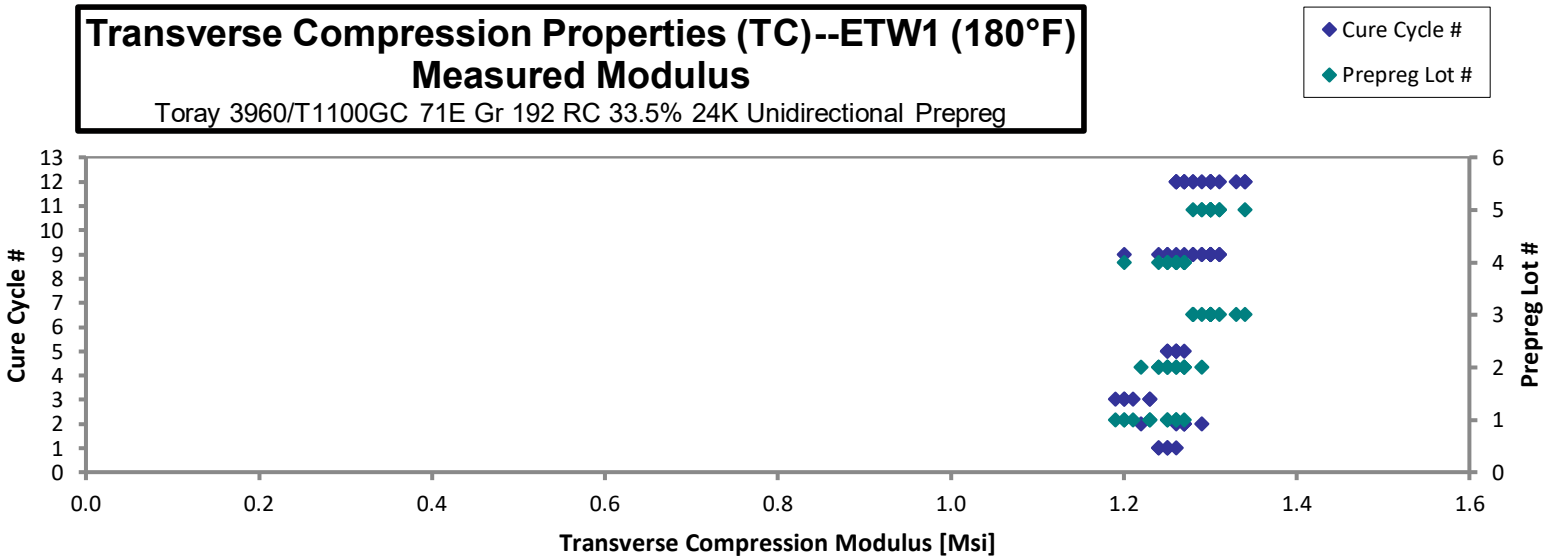
Transverse Compression Properties (TC)--ETW1 (180°F)
Strength & Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Modulus (avg.*) [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Avg. t_{ply} [in]	Failure Mode
NTP3961Q1-TC-T01-BT-TC-A-C3-2-ETW1-1	A	C3	1	3	23.34	1.210	0.1038	14	0.007414	HGM
NTP3961Q1-TC-T01-BT-TC-A-C3-2-ETW1-2	A	C3	1	3	23.40	1.230	0.1026	14	0.007329	HGM
NTP3961Q1-TC-T01-BT-TC-A-C3-2-ETW1-3	A	C3	1	3	23.08	1.200	0.1033	14	0.007375	HGB
NTP3961Q1-TC-T01-BT-TC-A-C3-2-ETW1-4	A	C3	1	3	22.79	1.230	0.1029	14	0.007350	HAB
NTP3961Q1-TC-T01-BT-TC-A-C3-2-ETW1-5	A	C3	1	3	23.15	1.190	0.1031	14	0.007361	HGM
NTP3961Q1-TC-T01-BT-TC-A-C3-2-ETW1-6	A	C3	1	3	22.81	1.200	0.1027	14	0.007336	HGM
NTP3961Q1-TC-T01-BT-TC-A-C5-2-ETW1-1	A	C5	1	5	23.65	1.260	0.1019	14	0.007279	HGM
NTP3961Q1-TC-T01-BT-TC-A-C5-2-ETW1-2	A	C5	1	5	23.47	1.250	0.1033	14	0.007375	HGM
NTP3961Q1-TC-T01-BT-TC-A-C5-2-ETW1-3	A	C5	1	5	24.05	1.260	0.1028	14	0.007343	HGM
NTP3961Q1-TC-T01-BT-TC-A-C5-2-ETW1-4	A	C5	1	5	23.47	1.250	0.1038	14	0.007414	HGM
NTP3961Q1-TC-T01-BT-TC-A-C5-2-ETW1-5	A	C5	1	5	22.93	1.270	0.1036	14	0.007400	HGM
NTP3961Q1-TC-T01-BT-TC-A-C5-2-ETW1-6	A	C5	1	5	23.57	1.260	0.1035	14	0.007393	HGM
NTP3961Q1-TC-T01-BT-TC-B-C1-2-ETW1-1	B	C1	2	1	23.77	1.250	0.1026	14	0.007329	HGM
NTP3961Q1-TC-T01-BT-TC-B-C1-2-ETW1-2	B	C1	2	1	23.72	1.250	0.1028	14	0.007343	HGM
NTP3961Q1-TC-T01-BT-TC-B-C1-2-ETW1-3	B	C1	2	1	24.72	1.240	0.1025	14	0.007321	HGM
NTP3961Q1-TC-T01-BT-TC-B-C1-2-ETW1-4	B	C1	2	1	24.25	1.260	0.1028	14	0.007339	HGM
NTP3961Q1-TC-T01-BT-TC-B-C1-2-ETW1-5	B	C1	2	1	23.96	1.250	0.1020	14	0.007286	HGM
NTP3961Q1-TC-T01-BT-TC-B-C1-2-ETW1-6	B	C1	2	1	23.92	1.240	0.1029	14	0.007346	HGM
NTP3961Q1-TC-T01-BT-TC-B-C2-2-ETW1-1	B	C2	2	2	23.38	1.290	0.1026	14	0.007329	HGM
NTP3961Q1-TC-T01-BT-TC-B-C2-2-ETW1-3	B	C2	2	2	24.17	1.270	0.1033	14	0.007375	HGM
NTP3961Q1-TC-T01-BT-TC-B-C2-2-ETW1-4	B	C2	2	2	22.82	1.260	0.1035	14	0.007393	HGM
NTP3961Q1-TC-T01-BT-TC-B-C2-2-ETW1-5	B	C2	2	2	22.68	1.220	0.1033	14	0.007379	HGM
NTP3961Q1-TC-T01-BT-TC-B-C2-2-ETW1-6	B	C2	2	2	23.45	1.270	0.1024	14	0.007311	HGM
NTP3961Q1-TC-T01-BT-TC-B-C2-2-ETW1-8	B	C2	2	2	23.64	1.270	0.1029	14	0.007350	HGM
NTP3961Q1-TC-T01-TC-TC-C-C9-3-ETW1-1	C	C9	3	9	23.67	1.300	0.1034	14	0.007383	HGM
NTP3961Q1-TC-T01-TC-TC-C-C9-3-ETW1-2	C	C9	3	9	23.40	1.280	0.1032	14	0.007368	HGM
NTP3961Q1-TC-T01-TC-TC-C-C9-3-ETW1-3	C	C9	3	9	23.72	1.300	0.1024	14	0.007314	HAT
NTP3961Q1-TC-T01-TC-TC-C-C9-3-ETW1-4	C	C9	3	9	23.57	1.290	0.1025	14	0.007324	HGT
NTP3961Q1-TC-T01-TC-TC-C-C9-3-ETW1-5	C	C9	3	9	23.59	1.300	0.1027	14	0.007332	HGM
NTP3961Q1-TC-T01-TC-TC-C-C9-3-ETW1-6	C	C9	3	9	23.58	1.300	0.1027	14	0.007332	HGT
NTP3961Q1-TC-T01-TC-TC-C-C12-3-ETW1-1	C	C12	3	12	23.29	1.280	0.1021	14	0.007294	HGM
NTP3961Q1-TC-T01-TC-TC-C-C12-3-ETW1-2	C	C12	3	12	23.58	1.280	0.1021	14	0.007291	HGT
NTP3961Q1-TC-T01-TC-TC-C-C12-3-ETW1-3	C	C12	3	12	23.90	1.330	0.1020	14	0.007288	HGT
NTP3961Q1-TC-T01-TC-TC-C-C12-3-ETW1-4	C	C12	3	12	24.05	1.310	0.1022	14	0.007300	HGM
NTP3961Q1-TC-T01-TC-TC-C-C12-3-ETW1-5	C	C12	3	12	24.00	1.340	0.1022	14	0.007302	HGT
NTP3961Q1-TC-T01-TC-TC-C-C12-3-ETW1-6	C	C12	3	12	23.71	1.300	0.1020	14	0.007282	HGT
NTP3961Q1-TC-T01-TC-TC-D-C9-3-ETW1-1	D	C9	4	9	22.98	1.250	0.1011	14	0.007224	TGM
NTP3961Q1-TC-T01-TC-TC-D-C9-3-ETW1-2	D	C9	4	9	23.11	1.240	0.1024	14	0.007313	TGM
NTP3961Q1-TC-T01-TC-TC-D-C9-3-ETW1-3	D	C9	4	9	23.38	1.250	0.1019	14	0.007281	TGM
NTP3961Q1-TC-T01-TC-TC-D-C9-3-ETW1-4	D	C9	4	9	23.42	1.270	0.1016	14	0.007254	TGM
NTP3961Q1-TC-T01-TC-TC-D-C9-3-ETW1-5	D	C9	4	9	23.57	1.260	0.1014	14	0.007245	TGM
NTP3961Q1-TC-T01-TC-TC-D-C9-3-ETW1-6	D	C9	4	9	22.59	1.200	0.1019	14	0.007277	TGM
NTP3961Q1-TC-T01-TC-TC-D-C12-3-ETW1-2	D	C12	4	12	23.24	1.270	0.1020	14	0.007283	TGM
NTP3961Q1-TC-T01-TC-TC-D-C12-3-ETW1-3	D	C12	4	12	23.34	1.260	0.1026	14	0.007325	TGM
NTP3961Q1-TC-T01-TC-TC-D-C12-3-ETW1-4	D	C12	4	12	22.95	1.260	0.1018	14	0.007272	TGM
NTP3961Q1-TC-T01-TC-TC-D-C12-3-ETW1-5	D	C12	4	12	23.28	1.270	0.1021	14	0.007289	TGM
NTP3961Q1-TC-T01-TC-TC-D-C12-3-ETW1-6	D	C12	4	12	23.12	1.270	0.1022	14	0.007296	TGM
NTP3961Q1-TC-T01-TC-TC-D-C12-3-ETW1-7	D	C12	4	12	23.27	1.260	0.1022	14	0.007297	TGM
NTP3961Q1-TC-T01-TC-TC-E-C9-3-ETW1-1	E	C9	5	9	24.02	1.310	0.1013	14	0.007236	TGM
NTP3961Q1-TC-T01-TC-TC-E-C9-3-ETW1-2	E	C9	5	9	23.86	1.290	0.1018	14	0.007274	TGM
NTP3961Q1-TC-T01-TC-TC-E-C9-3-ETW1-3	E	C9	5	9	24.29	1.300	0.1012	14	0.007226	TGM
NTP3961Q1-TC-T01-TC-TC-E-C9-3-ETW1-4	E	C9	5	9	24.65	1.310	0.1008	14	0.007201	TGM
NTP3961Q1-TC-T01-TC-TC-E-C9-3-ETW1-5	E	C9	5	9	24.11	1.300	0.1012	14	0.007231	TGM
NTP3961Q1-TC-T01-TC-TC-E-C9-3-ETW1-6	E	C9	5	9	24.60	1.280	0.1014	14	0.007244	TGM
NTP3961Q1-TC-T01-TC-TC-E-C12-3-ETW1-1	E	C12	5	12	24.49	1.340	0.1013	14	0.007232	TGM
NTP3961Q1-TC-T01-TC-TC-E-C12-3-ETW1-2	E	C12	5	12	25.56	1.290	0.1019	14	0.007275	TGM
NTP3961Q1-TC-T01-TC-TC-E-C12-3-ETW1-3	E	C12	5	12	24.84	1.300	0.1022	14	0.007300	TGM
NTP3961Q1-TC-T01-TC-TC-E-C12-3-ETW1-4	E	C12	5	12	24.80	1.300	0.1021	14	0.007289	TGB
NTP3961Q1-TC-T01-TC-TC-E-C12-3-ETW1-6	E	C12	5	12	24.43	1.300	0.1020	14	0.007288	TGM
NTP3961Q1-TC-T01-TC-TC-E-C12-3-ETW1-7	E	C12	5	12	24.78	1.300	0.1015	14	0.007247	TGM

*Average of back to back strain gages

Average	**23.68**	**1.270**	**0.007311**
Standard Dev.	**0.6125**	**0.03367**	
Coeff. of Var. [%]	**2.586**	**2.652**	
Min.	**22.59**	**1.190**	**0.007201**
Max.	**25.56**	**1.340**	**0.007414**
Number of Spec.	**60**	**60**	**60**


Transverse Compression Properties (TC)--ETW1 (180°F)
Measured Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Transverse Compression Strength [ksi]
0
5
10
15
20
25
30
0
1
2
3
4
5
6
7
8
9
10
11
12
13

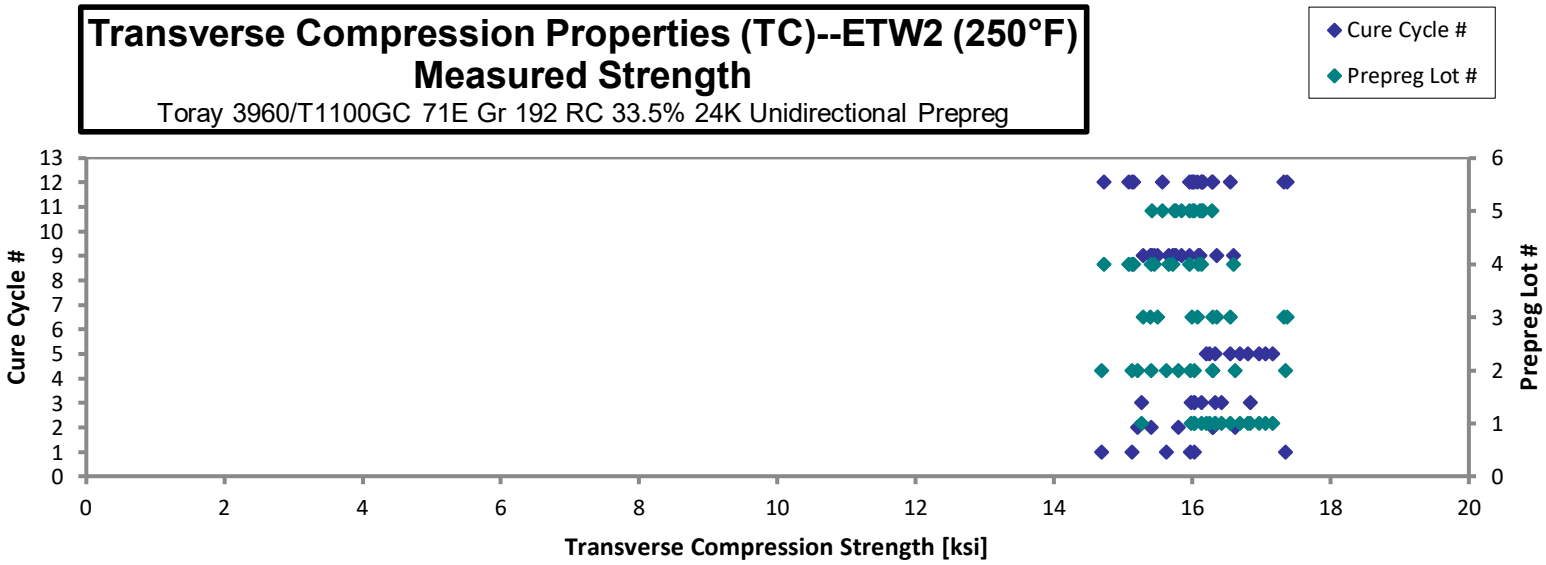

Transverse Compression Properties (TC)--ETW1 (180°F)
Measured Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Transverse Compression Modulus [Msi]
0.0
0.2
0.4
0.6
0.8
1.0
1.2
1.4
1.6

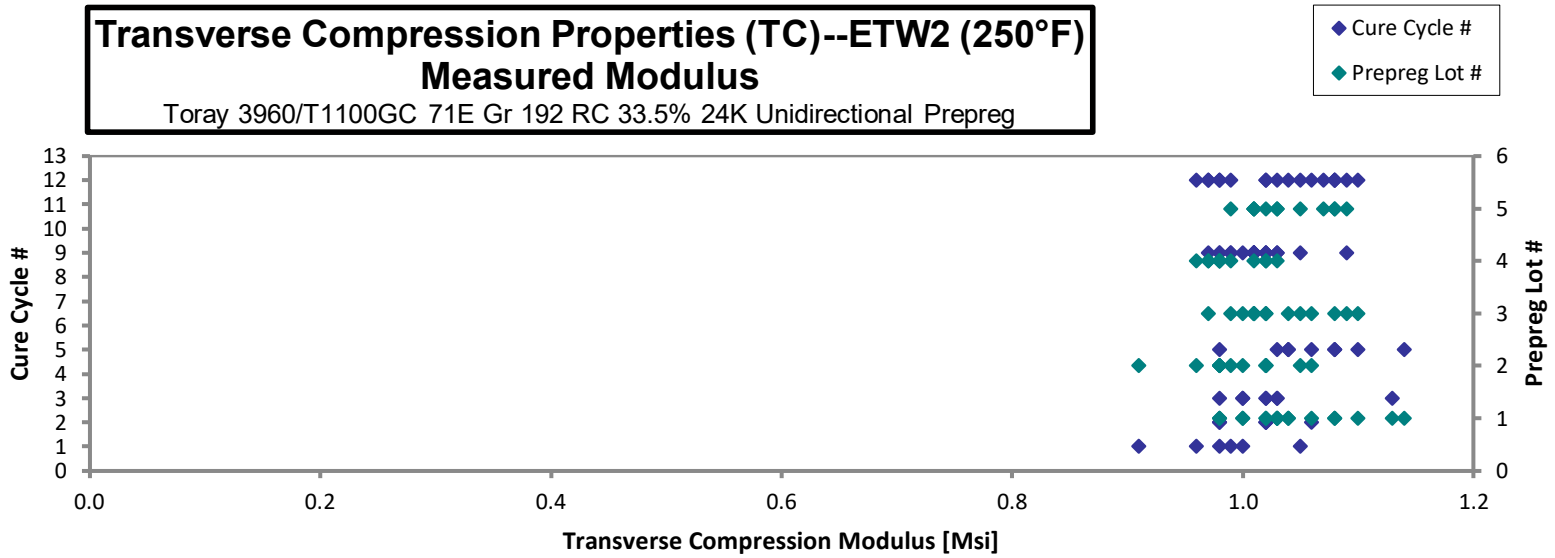
Transverse Compression Properties (TC)--ETW2 (250°F)
Strength & Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Modulus (avg.*) [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Avg. t_{ply} [in]	Failure Mode
NTP3961Q1-TC-T01-BT-TC-A-C3-2-ETW2-1	A	C3	1	3	16.03	1.130	0.1025	14	0.007318	TGM
NTP3961Q1-TC-T01-BT-TC-A-C3-2-ETW2-3	A	C3	1	3	16.84	1.030	0.1027	14	0.007332	TAT
NTP3961Q1-TC-T01-BT-TC-A-C3-2-ETW2-4	A	C3	1	3	15.99	1.000	0.1035	14	0.007389	TGM
NTP3961Q1-TC-T01-BT-TC-A-C3-2-ETW2-5	A	C3	1	3	16.14	0.9800	0.1035	14	0.007389	TGM
NTP3961Q1-TC-T01-BT-TC-A-C3-2-ETW2-6	A	C3	1	3	16.43	1.020	0.1031	14	0.007364	TGM
NTP3961Q1-TC-T01-BT-TC-A-C3-2-ETW2-7	A	C3	1	3	15.27	1.020	0.1026	14	0.007329	TAB
NTP3961Q1-TC-T01-BT-TC-A-C3-2-ETW2-8	A	C3	1	3	16.33	1.000	0.1028	14	0.007343	TGM
NTP3961Q1-TC-T01-BT-TC-A-C3-2-ETW2-9	A	C3	1	3	16.03	1.030	0.1025	14	0.007321	TGM
NTP3961Q1-TC-T01-BT-TC-A-C5-2-ETW2-1	A	C5	1	5	16.97	1.060	0.1012	14	0.007229	TGM
NTP3961Q1-TC-T01-BT-TC-A-C5-2-ETW2-2	A	C5	1	5	16.34	1.080	0.1026	14	0.007329	TAT
NTP3961Q1-TC-T01-BT-TC-A-C5-2-ETW2-3	A	C5	1	5	16.21	0.9800	0.1036	14	0.007400	TGM
NTP3961Q1-TC-T01-BT-TC-A-C5-2-ETW2-4	A	C5	1	5	16.69	1.040	0.1033	14	0.007375	TGM
NTP3961Q1-TC-T01-BT-TC-A-C5-2-ETW2-5	A	C5	1	5	16.56	1.140	0.1035	14	0.007393	TAB
NTP3961Q1-TC-T01-BT-TC-A-C5-2-ETW2-6	A	C5	1	5	17.17	1.080	0.1033	14	0.007379	TAT
NTP3961Q1-TC-T01-BT-TC-A-C5-2-ETW2-7	A	C5	1	5	16.81	1.040	0.1024	14	0.007311	TAT
NTP3961Q1-TC-T01-BT-TC-A-C5-2-ETW2-8	A	C5	1	5	16.25	1.030	0.1028	14	0.007339	TAT
NTP3961Q1-TC-T01-BT-TC-A-C5-2-ETW2-9	A	C5	1	5	17.06	1.100	0.1029	14	0.007350	TGM
NTP3961Q1-TC-T01-BT-TC-B-C1-2-ETW2-1	B	C1	2	1	16.04	0.9800	0.1038	14	0.007411	HGM
NTP3961Q1-TC-T01-BT-TC-B-C1-2-ETW2-2	B	C1	2	1	15.13	0.9600	0.1032	14	0.007368	HGM
NTP3961Q1-TC-T01-BT-TC-B-C1-2-ETW2-3	B	C1	2	1	14.69	0.9100	0.1039	14	0.007421	HGM
NTP3961Q1-TC-T01-BT-TC-B-C1-2-ETW2-4	B	C1	2	1	15.98	0.9900	0.1036	14	0.007400	HGM
NTP3961Q1-TC-T01-BT-TC-B-C1-2-ETW2-5	B	C1	2	1	15.63	1.000	0.1029	14	0.007350	HGM
NTP3961Q1-TC-T01-BT-TC-B-C1-2-ETW2-6	B	C1	2	1	17.35	1.050	0.1032	14	0.007368	HGM
NTP3961Q1-TC-T01-BT-TC-B-C2-2-ETW2-1	B	C2	2	2	15.80	1.020	0.1037	14	0.007407	HGM
NTP3961Q1-TC-T01-BT-TC-B-C2-2-ETW2-2	B	C2	2	2	16.30	1.020	0.1042	14	0.007439	HGM
NTP3961Q1-TC-T01-BT-TC-B-C2-2-ETW2-3	B	C2	2	2	15.41	0.9800	0.1034	14	0.007382	HGM
NTP3961Q1-TC-T01-BT-TC-B-C2-2-ETW2-4	B	C2	2	2	16.30	1.020	0.1037	14	0.007404	HGM
NTP3961Q1-TC-T01-BT-TC-B-C2-2-ETW2-5	B	C2	2	2	15.21	0.9800	0.1032	14	0.007371	HGM
NTP3961Q1-TC-T01-BT-TC-B-C2-2-ETW2-6	B	C2	2	2	16.63	1.060	0.1023	14	0.007307	HGM
NTP3961Q1-TC-T01-TC-TC-C-C9-3-ETW2-1**	C	C9	3	9		1.050	0.1037	14	0.007404	HGM
NTP3961Q1-TC-T01-TC-TC-C-C9-3-ETW2-2**	C	C9	3	9		1.010	0.1041	14	0.007432	HGM
NTP3961Q1-TC-T01-TC-TC-C-C9-3-ETW2-3	C	C9	3	9	15.50	1.000	0.1034	14	0.007386	HGM
NTP3961Q1-TC-T01-TC-TC-C-C9-3-ETW2-4**	C	C9	3	9		1.020	0.1034	14	0.007383	HGM
NTP3961Q1-TC-T01-TC-TC-C-C9-3-ETW2-5**	C	C9	3	9		1.020	0.1036	14	0.007401	HGM
NTP3961Q1-TC-T01-TC-TC-C-C9-3-ETW2-6	C	C9	3	9	16.36	1.090	0.1037	14	0.007408	HGM
NTP3961Q1-TC-T01-TC-TC-C-C9-3-ETW2-7	C	C9	3	9	15.29	1.010	0.1045	14	0.007461	HGM
NTP3961Q1-TC-T01-TC-TC-C-C9-3-ETW2-8	C	C9	3	9	15.40	1.010	0.1031	14	0.007363	HGM
NTP3961Q1-TC-T01-TC-TC-C-C12-3-ETW2-1	C	C12	3	12	16.56	1.060	0.1007	14	0.007194	HGM
NTP3961Q1-TC-T01-TC-TC-C-C12-3-ETW2-2	C	C12	3	12	17.33	1.080	0.1012	14	0.007226	HGM
NTP3961Q1-TC-T01-TC-TC-C-C12-3-ETW2-3	C	C12	3	12	17.38	1.100	0.1018	14	0.007272	HGM
NTP3961Q1-TC-T01-TC-TC-C-C12-3-ETW2-4	C	C12	3	12	16.08	0.9700	0.1018	14	0.007271	HGM
NTP3961Q1-TC-T01-TC-TC-C-C12-3-ETW2-5	C	C12	3	12	16.30	1.040	0.1018	14	0.007274	HGM
NTP3961Q1-TC-T01-TC-TC-C-C12-3-ETW2-6	C	C12	3	12	16.00	0.9900	0.1023	14	0.007308	HGM
NTP3961Q1-TC-T01-TC-TC-D-C9-3-ETW2-1	D	C9	4	9	16.09	1.010	0.1009	14	0.007204	HGM
NTP3961Q1-TC-T01-TC-TC-D-C9-3-ETW2-2	D	C9	4	9	16.60	1.030	0.1008	14	0.007201	HGM
NTP3961Q1-TC-T01-TC-TC-D-C9-3-ETW2-3	D	C9	4	9	15.72	0.9800	0.1016	14	0.007256	HGM
NTP3961Q1-TC-T01-TC-TC-D-C9-3-ETW2-4	D	C9	4	9	15.46	0.9700	0.1013	14	0.007234	HGM
NTP3961Q1-TC-T01-TC-TC-D-C9-3-ETW2-5	D	C9	4	9	15.67	0.9900	0.1012	14	0.007227	HAB
NTP3961Q1-TC-T01-TC-TC-D-C9-3-ETW2-6	D	C9	4	9	15.41	0.9800	0.1015	14	0.007247	HGM
NTP3961Q1-TC-T01-TC-TC-D-C12-3-ETW2-1	D	C12	4	12	14.73	0.9700	0.1025	14	0.007318	HGM
NTP3961Q1-TC-T01-TC-TC-D-C12-3-ETW2-2	D	C12	4	12	15.09	0.9600	0.1028	14	0.007344	HGM
NTP3961Q1-TC-T01-TC-TC-D-C12-3-ETW2-3	D	C12	4	12	15.16	0.9800	0.1024	14	0.007316	HGM
NTP3961Q1-TC-T01-TC-TC-D-C12-3-ETW2-4	D	C12	4	12	15.13	0.9800	0.1030	14	0.007356	HGM
NTP3961Q1-TC-T01-TC-TC-D-C12-3-ETW2-5	D	C12	4	12	16.14	1.020	0.1023	14	0.007304	HGM
NTP3961Q1-TC-T01-TC-TC-D-C12-3-ETW2-6	D	C12	4	12	15.97	1.020	0.1023	14	0.007306	HGM
NTP3961Q1-TC-T01-TC-TC-E-C9-3-ETW2-1	E	C9	5	9	15.42	0.9900	0.1012	14	0.007225	HGM
NTP3961Q1-TC-T01-TC-TC-E-C9-3-ETW2-2	E	C9	5	9	15.75	1.010	0.1010	14	0.007213	HGM
NTP3961Q1-TC-T01-TC-TC-E-C9-3-ETW2-3	E	C9	5	9	15.85	1.010	0.1007	14	0.007190	HGM
NTP3961Q1-TC-T01-TC-TC-E-C9-3-ETW2-4	E	C9	5	9	15.77	1.010	0.1016	14	0.007258	HGM
NTP3961Q1-TC-T01-TC-TC-E-C9-3-ETW2-5	E	C9	5	9	15.97	1.030	0.1012	14	0.007225	HAT
NTP3961Q1-TC-T01-TC-TC-E-C9-3-ETW2-6	E	C9	5	9	16.11	1.020	0.1012	14	0.007229	HGM
NTP3961Q1-TC-T01-TC-TC-E-C12-3-ETW2-1	E	C12	5	12	16.29	1.080	0.1019	14	0.007281	HGM
NTP3961Q1-TC-T01-TC-TC-E-C12-3-ETW2-2	E	C12	5	12	15.57	1.030	0.1026	14	0.007329	HGM
NTP3961Q1-TC-T01-TC-TC-E-C12-3-ETW2-3	E	C12	5	12	16.01	1.050	0.1023	14	0.007309	HAB
NTP3961Q1-TC-T01-TC-TC-E-C12-3-ETW2-4	E	C12	5	12	16.14	1.090	0.1025	14	0.007319	HGM
NTP3961Q1-TC-T01-TC-TC-E-C12-3-ETW2-5	E	C12	5	12	16.03	1.070	0.1021	14	0.007295	HAT
NTP3961Q1-TC-T01-TC-TC-E-C12-3-ETW2-6	E	C12	5	12	16.16	1.080	0.1019	14	0.007279	HGM

*Average of back to back strain gages
**Excluded strength due to indication of buckling

Average	**16.03**	**1.023**	**0.007325**
Standard Dev.	**0.6204**	**0.04359**	
Coeff. of Var. [%]	**3.870**	**4.261**	
Min.	**14.69**	**0.9100**	**0.007190**
Max.	**17.38**	**1.140**	**0.007461**
Number of Spec.	**63**	**67**	**67**


Transverse Compression Properties (TC)--ETW2 (250°F)
Measured Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Transverse Compression Strength [ksi]
0
2
4
6
8
10
12
14
16
18
20


Transverse Compression Properties (TC)--ETW2 (250°F)
Measured Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Transverse Compression Modulus [Msi]
0.0
0.2
0.4
0.6
0.8
1.0
1.2
0
1
2
3
4
5
6
7
8
9
10
11
12
13

4.6 "33/0/67" Unnotched Compression 0 Properties (UNC0)

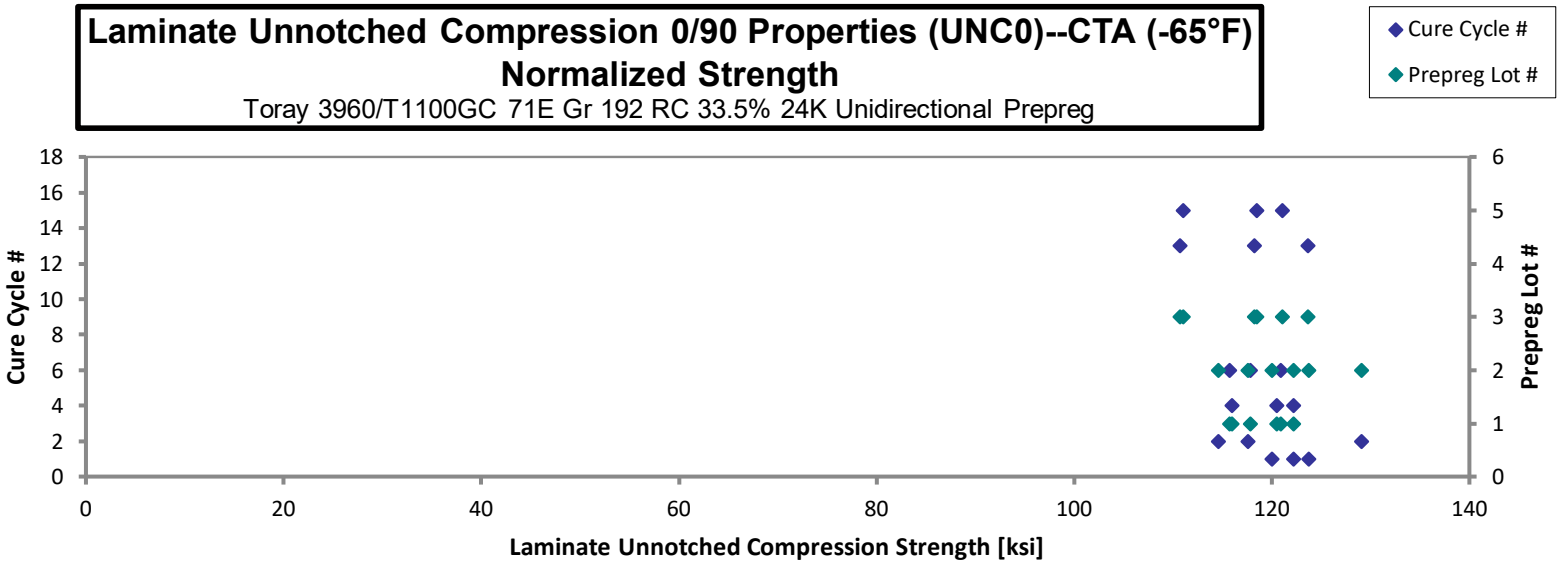
Laminate Unnotched Compression 0/90 Properties (UNC0)--CTA (-65°F)
Strength & Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

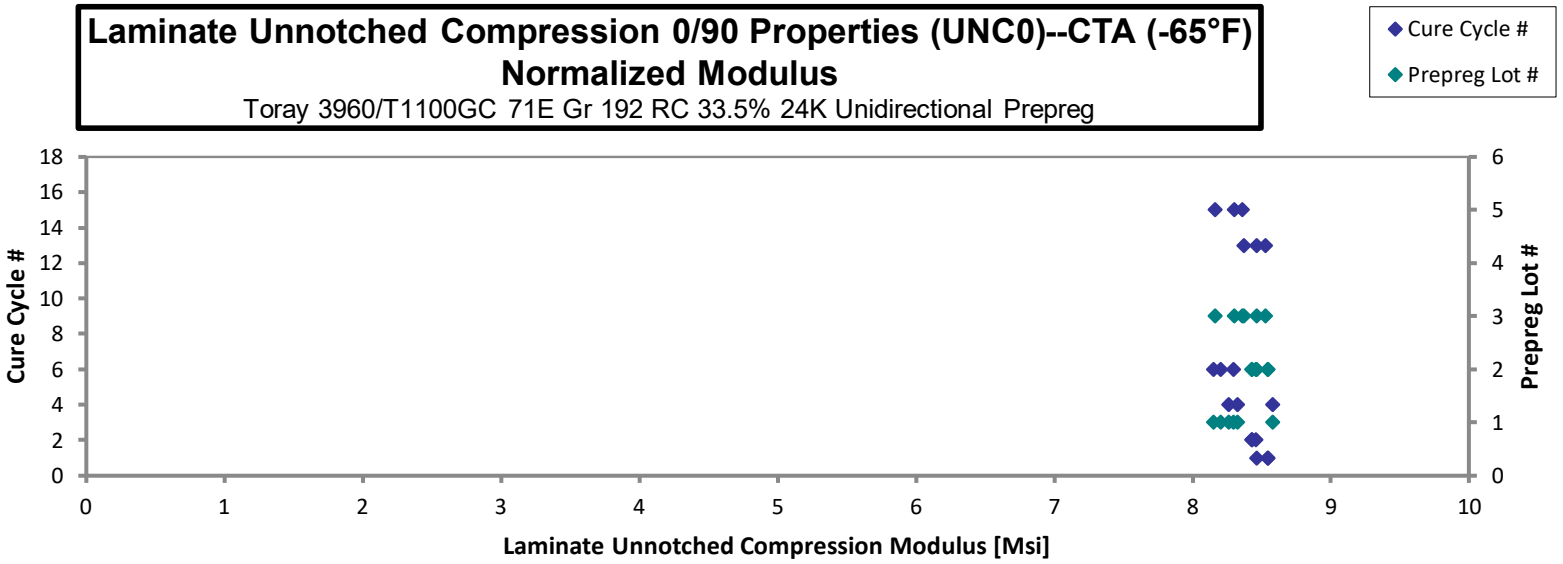
normalizing t_{ply} [in]
0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Modulus (avg.*) [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
NTP3961Q1-TC-T01-BT-UNC0-A-C4-1-CTA-1	A	C4	1	4	117.4	8.430	0.1067	15	HAB	0.007113	116.0	8.329
NTP3961Q1-TC-T01-BT-UNC0-A-C4-1-CTA-2	A	C4	1	4	122.5	8.280	0.1078	15	HAB	0.007183	122.2	8.261
NTP3961Q1-TC-T01-BT-UNC0-A-C4-1-CTA-3	A	C4	1	4	119.1	8.480	0.1093	15	HGM	0.007283	120.5	8.578
NTP3961Q1-TC-T01-BT-UNC0-A-C6-1-CTA-1	A	C6	1	6	116.0	8.080	0.1097	15	HAB	0.007313	117.9	8.207
NTP3961Q1-TC-T01-BT-UNC0-A-C6-1-CTA-2	A	C6	1	6	119.3	8.190	0.1095	15	HGM	0.007297	120.9	8.300
NTP3961Q1-TC-T01-BT-UNC0-A-C6-1-CTA-3	A	C6	1	6	114.0	8.030	0.1097	15	HGM	0.007310	115.7	8.153
NTP3961Q1-TC-T01-BT-UNC0-B-C1-1-CTA-1	B	C1	2	1	114.7	8.090	0.1130	15	TAT	0.007535	120.0	8.467
NTP3961Q1-TC-T01-BT-UNC0-B-C1-1-CTA-2	B	C1	2	1	117.5	8.220	0.1123	15	BAT	0.007484	122.2	8.544
NTP3961Q1-TC-T01-BT-UNC0-B-C1-1-CTA-4	B	C1	2	1	117.1	8.090	0.1141	15	BGM	0.007607	123.7	8.547
NTP3961Q1-TC-T01-BT-UNC0-B-C2-1-CTA-1	B	C2	2	2	111.5	8.230	0.1110	15	BGM	0.007399	114.6	8.457
NTP3961Q1-TC-T01-BT-UNC0-B-C2-1-CTA-2	B	C2	2	2	114.9	8.240	0.1105	15	TAT	0.007367	117.5	8.432
NTP3961Q1-TC-T01-BT-UNC0-B-C2-1-CTA-3	B	C2	2	2	127.1	8.300	0.1097	15	TAT	0.007313	129.1	8.431
NTP3961Q1-TC-T01-TC-UNC0-C-C13-3-CTA-1	C	C13	3	13	109.2	8.260	0.1095	15	BGM	0.007301	110.7	8.375
NTP3961Q1-TC-T01-TC-UNC0-C-C13-3-CTA-2	C	C13	3	13	120.3	8.300	0.1110	15	BAB	0.007400	123.7	8.531
NTP3961Q1-TC-T01-TC-UNC0-C-C13-3-CTA-3	C	C13	3	13	115.5	8.270	0.1105	15	BGM	0.007369	118.2	8.464
NTP3961Q1-TC-T01-TC-UNC0-C-C15-3-CTA-1	C	C15	3	15	108.8	8.000	0.1102	15	BGM	0.007349	111.0	8.165
NTP3961Q1-TC-T01-TC-UNC0-C-C15-3-CTA-3	C	C15	3	15	117.9	8.140	0.1109	15	BGM	0.007395	121.1	8.361
NTP3961Q1-TC-T01-TC-UNC0-C-C15-3-CTA-4	C	C15	3	15	115.8	8.110	0.1106	15	BGM	0.007370	118.5	8.301

*Average of back to back strain gages

	Strength [ksi]	Modulus [Msi]		$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
Average	**116.6**	**8.208**	**$Average_{norm}$**	**0.007355**	**119.1**	**8.383**
Standard Dev.	**4.435**	**0.1300**	**Standard $Dev._{norm}$**		**4.564**	**0.1328**
Coeff. of Var. [%]	**3.804**	**1.584**	**Coeff. of Var. $[\%]_{norm}$**		**3.833**	**1.584**
Min.	**108.8**	**8.000**	**Min.**	**0.007113**	**110.7**	**8.153**
Max.	**127.1**	**8.480**	**Max.**	**0.007607**	**129.1**	**8.578**
Number of Spec.	**18**	**18**	**Number of Spec.**	**18**	**18**	**18**


Laminate Unnotched Compression 0/90 Properties (UNC0)--CTA (-65°F)
Normalized Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Unnotched Compression Strength [ksi]
0
2
4
6
8
10
12
14
16
18
0
1
2
3
4
5
6
0
20
40
60
80
100
120
140


Laminate Unnotched Compression 0/90 Properties (UNC0)--CTA (-65°F)
Normalized Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Unnotched Compression Modulus [Msi]

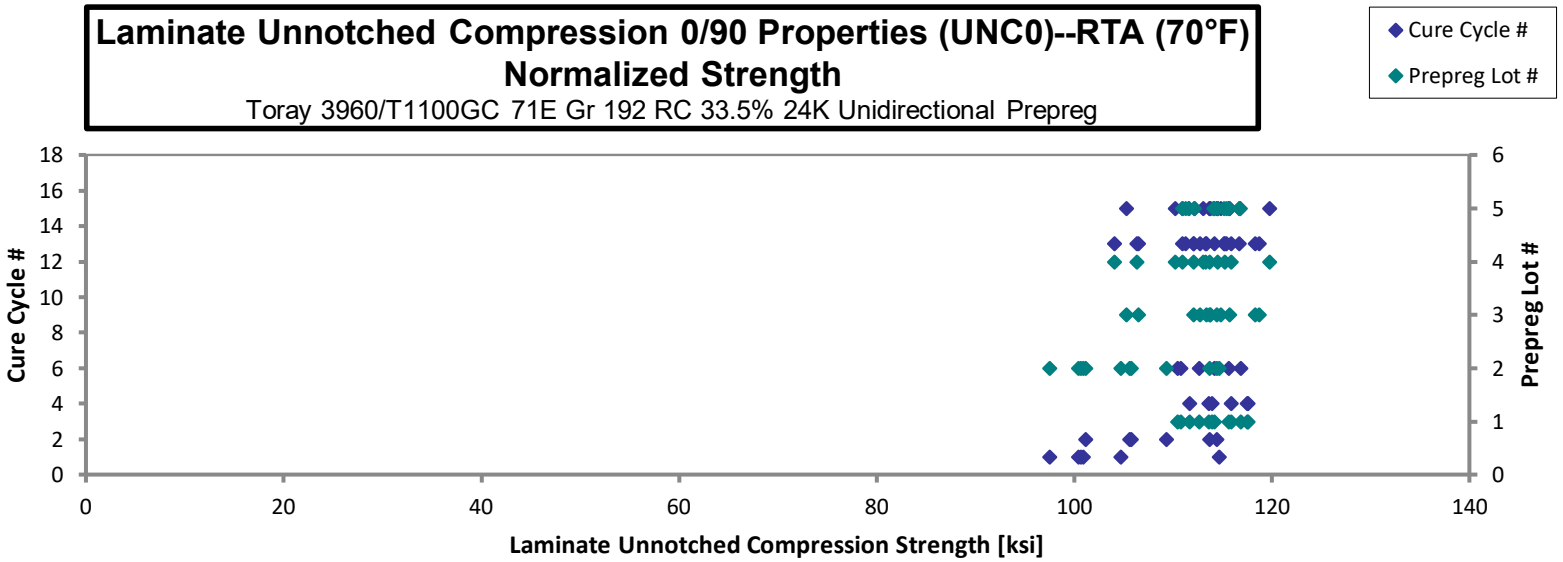
Laminate Unnotched Compression 0/90 Properties (UNC0)--RTA (70°F)
Strength & Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

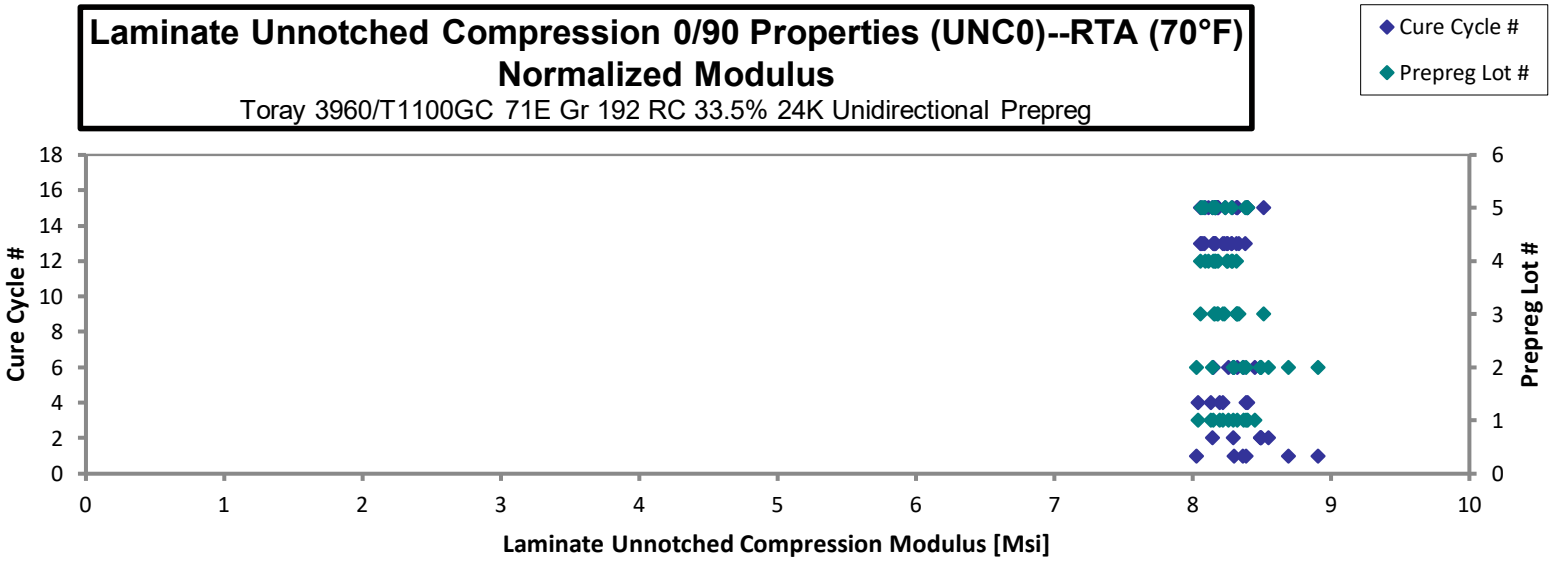
normalizing t_{ply} [in]: 0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Modulus (avg.*) [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
NTP3961Q1-TC-T01-BT-UNC0-A-C4-1-RTA-1	A	C4	1	4	110.6	7.970	0.1090	15	HGM	0.007267	111.7	8.044
NTP3961Q1-TC-T01-BT-UNC0-A-C4-1-RTA-2	A	C4	1	4	113.2	8.030	0.1106	15	HGT	0.007370	115.9	8.220
NTP3961Q1-TC-T01-BT-UNC0-A-C4-1-RTA-3	A	C4	1	4	114.4	8.180	0.1109	15	HAB	0.007393	117.5	8.400
NTP3961Q1-TC-T01-BT-UNC0-A-C4-1-RTA-4	A	C4	1	4	110.6	7.960	0.1112	15	BGM	0.007413	113.9	8.196
NTP3961Q1-TC-T01-BT-UNC0-A-C4-1-RTA-5	A	C4	1	4	110.3	7.900	0.1112	15	BGT	0.007413	113.6	8.134
NTP3961Q1-TC-T01-BT-UNC0-A-C4-1-RTA-6	A	C4	1	4	119.0	8.490	0.1067	15	HAT	0.007113	117.6	8.388
NTP3961Q1-TC-T01-BT-UNC0-A-C6-1-RTA-1	A	C6	1	6	112.6	8.150	0.1081	15	HAT	0.007203	112.6	8.154
NTP3961Q1-TC-T01-BT-UNC0-A-C6-1-RTA-2	A	C6	1	6	114.8	8.310	0.1074	15	HAB	0.007160	114.1	8.264
NTP3961Q1-TC-T01-BT-UNC0-A-C6-1-RTA-3	A	C6	1	6	115.9	8.320	0.1077	15	HAB	0.007180	115.6	8.297
NTP3961Q1-TC-T01-BT-UNC0-A-C6-1-RTA-4	A	C6	1	6	110.5	8.330	0.1080	15	HGB	0.007197	110.4	8.326
NTP3961Q1-TC-T01-BT-UNC0-A-C6-1-RTA-5	A	C6	1	6	110.4	8.420	0.1084	15	HGM	0.007227	110.8	8.451
NTP3961Q1-TC-T01-BT-UNC0-A-C6-1-RTA-6	A	C6	1	6	116.5	8.350	0.1083	15	HGM	0.007220	116.8	8.373
NTP3961Q1-TC-T01-BT-UNC0-B-C1-1-RTA-1	B	C1	2	1	109.8	8.530	0.1128	15	BGM	0.007521	114.7	8.910
NTP3961Q1-TC-T01-BT-UNC0-B-C1-1-RTA-2	B	C1	2	1	102.6	8.140	0.1102	15	BGM	0.007345	104.7	8.304
NTP3961Q1-TC-T01-BT-UNC0-B-C1-1-RTA-3	B	C1	2	1	96.66	7.960	0.1090	15	BGM	0.007264	97.52	8.031
NTP3961Q1-TC-T01-BT-UNC0-B-C1-1-RTA-4	B	C1	2	1	96.41	8.040	0.1127	15	BGM	0.007514	100.6	8.391
NTP3961Q1-TC-T01-BT-UNC0-B-C1-1-RTA-6	B	C1	2	1	99.22	8.270	0.1093	15	BGM	0.007284	100.4	8.366
NTP3961Q1-TC-T01-BT-UNC0-B-C1-1-RTA-7	B	C1	2	1	96.89	8.350	0.1125	15	BGM	0.007497	100.9	8.695
NTP3961Q1-TC-T01-BT-UNC0-B-C2-1-RTA-1	B	C2	2	2	102.5	8.300	0.1113	15	BGM	0.007417	105.6	8.551
NTP3961Q1-TC-T01-BT-UNC0-B-C2-1-RTA-2	B	C2	2	2	103.1	8.280	0.1108	15	BGM	0.007387	105.8	8.495
NTP3961Q1-TC-T01-BT-UNC0-B-C2-1-RTA-3	B	C2	2	2	111.3	8.070	0.1110	15	BGM	0.007400	114.4	8.294
NTP3961Q1-TC-T01-BT-UNC0-B-C2-1-RTA-4	B	C2	2	2	105.6	7.870	0.1118	15	BGM	0.007451	109.3	8.144
NTP3961Q1-TC-T01-BT-UNC0-B-C2-1-RTA-5	B	C2	2	2	98.47	8.270	0.1109	15	BGM	0.007395	101.1	8.494
NTP3961Q1-TC-T01-BT-UNC0-B-C2-1-RTA-6	B	C2	2	2	110.9	8.290	0.1107	15	BGM	0.007377	113.7	8.494
NTP3961Q1-TC-T01-TC-UNC0-C-C13-3-RTA-1	C	C13	3	13	104.4	8.000	0.1101	15	TAT	0.007341	106.4	8.156
NTP3961Q1-TC-T01-TC-UNC0-C-C13-3-RTA-2	C	C13	3	13	109.9	8.160	0.1101	15	BAT	0.007342	112.1	8.321
NTP3961Q1-TC-T01-TC-UNC0-C-C13-3-RTA-3	C	C13	3	13	115.6	8.040	0.1106	15	BAB	0.007370	118.3	8.230
NTP3961Q1-TC-T01-TC-UNC0-C-C13-3-RTA-4	C	C13	3	13	116.4	8.060	0.1102	15	BAT	0.007343	118.7	8.220
NTP3961Q1-TC-T01-TC-UNC0-C-C13-3-RTA-5	C	C13	3	13	110.9	8.200	0.1098	15	BAT	0.007317	112.7	8.334
NTP3961Q1-TC-T01-TC-UNC0-C-C13-3-RTA-6	C	C13	3	13	111.4	7.920	0.1099	15	BAT	0.007325	113.3	8.058
NTP3961Q1-TC-T01-TC-UNC0-C-C15-3-RTA-1	C	C15	3	15	111.8	8.180	0.1099	15	BAB	0.007325	113.8	8.322
NTP3961Q1-TC-T01-TC-UNC0-C-C15-3-RTA-2	C	C15	3	15	114.5	8.090	0.1092	15	BAT	0.007279	115.7	8.178
NTP3961Q1-TC-T01-TC-UNC0-C-C15-3-RTA-3	C	C15	3	15	111.9	8.200	0.1097	15	BAB	0.007311	113.7	8.326
NTP3961Q1-TC-T01-TC-UNC0-C-C15-3-RTA-4	C	C15	3	15	111.9	8.330	0.1104	15	BAT	0.007359	114.4	8.514
NTP3961Q1-TC-T01-TC-UNC0-C-C15-3-RTA-5	C	C15	3	15	102.4	7.940	0.1111	15	BGM	0.007404	105.3	8.165
NTP3961Q1-TC-T01-TC-UNC0-C-C15-3-RTA-6	C	C15	3	15	113.1	8.060	0.1097	15	BAB	0.007313	114.8	8.187
NTP3961Q1-TC-T01-TC-UNC0-D-C13-3-RTA-1	D	C13	4	13	114.5	8.110	0.1087	15	BGM	0.007245	115.2	8.161
NTP3961Q1-TC-T01-TC-UNC0-D-C13-3-RTA-2	D	C13	4	13	111.9	8.150	0.1093	15	BGM	0.007287	113.3	8.249
NTP3961Q1-TC-T01-TC-UNC0-D-C13-3-RTA-3	D	C13	4	13	110.4	8.030	0.1096	15	BAB	0.007307	112.1	8.150
NTP3961Q1-TC-T01-TC-UNC0-D-C13-3-RTA-4	D	C13	4	13	103.5	8.240	0.1086	15	BGM	0.007237	104.0	8.282
NTP3961Q1-TC-T01-TC-UNC0-D-C13-3-RTA-5	D	C13	4	13	115.1	8.200	0.1088	15	BGM	0.007250	115.8	8.257
NTP3961Q1-TC-T01-TC-UNC0-D-C13-3-RTA-6	D	C13	4	13	104.6	8.040	0.1098	15	BGM	0.007317	106.3	8.171
NTP3961Q1-TC-T01-TC-UNC0-D-C15-3-RTA-1	D	C15	4	15	118.5	8.100	0.1092	15	BGM	0.007277	119.7	8.187
NTP3961Q1-TC-T01-TC-UNC0-D-C15-3-RTA-2	D	C15	4	15	112.4	8.050	0.1086	15	BAB	0.007237	113.0	8.091
NTP3961Q1-TC-T01-TC-UNC0-D-C15-3-RTA-3	D	C15	4	15	109.3	8.170	0.1096	15	BAB	0.007307	110.9	8.292
NTP3961Q1-TC-T01-TC-UNC0-D-C15-3-RTA-4	D	C15	4	15	112.8	7.990	0.1089	15	BAT	0.007260	113.7	8.057
NTP3961Q1-TC-T01-TC-UNC0-D-C15-3-RTA-5	D	C15	4	15	114.7	8.130	0.1079	15	BAT	0.007190	114.5	8.119
NTP3961Q1-TC-T01-TC-UNC0-D-C15-3-RTA-6	D	C15	4	15	109.5	8.270	0.1086	15	BAB	0.007242	110.2	8.318
NTP3961Q1-TC-T01-TC-UNC0-E-C13-3-RTA-1	E	C13	5	13	114.3	7.990	0.1090	15	BAB	0.007265	115.4	8.063
NTP3961Q1-TC-T01-TC-UNC0-E-C13-3-RTA-2	E	C13	5	13	115.9	8.330	0.1087	15	BAB	0.007247	116.7	8.385
NTP3961Q1-TC-T01-TC-UNC0-E-C13-3-RTA-3	E	C13	5	13	111.9	8.120	0.1102	15	BGM	0.007344	114.2	8.282
NTP3961Q1-TC-T01-TC-UNC0-E-C13-3-RTA-4	E	C13	5	13	113.4	7.970	0.1096	15	BAT	0.007309	115.1	8.090
NTP3961Q1-TC-T01-TC-UNC0-E-C13-3-RTA-5	E	C13	5	13	110.1	8.070	0.1092	15	BAB	0.007277	111.3	8.156
NTP3961Q1-TC-T01-TC-UNC0-E-C13-3-RTA-6	E	C13	5	13	109.4	7.960	0.1096	15	BAT	0.007303	110.9	8.074
NTP3961Q1-TC-T01-TC-UNC0-E-C15-3-RTA-1	E	C15	5	15	109.2	7.990	0.1104	15	BAB	0.007359	111.6	8.166
NTP3961Q1-TC-T01-TC-UNC0-E-C15-3-RTA-2	E	C15	5	15	113.5	8.020	0.1100	15	BGM	0.007333	115.6	8.169
NTP3961Q1-TC-T01-TC-UNC0-E-C15-3-RTA-3	E	C15	5	15	109.2	8.180	0.1109	15	BAT	0.007393	112.2	8.400
NTP3961Q1-TC-T01-TC-UNC0-E-C15-3-RTA-4	E	C15	5	15	111.2	8.030	0.1108	15	BAT	0.007389	114.1	8.240
NTP3961Q1-TC-T01-TC-UNC0-E-C15-3-RTA-5	E	C15	5	15	111.3	7.920	0.1111	15	BAT	0.007407	114.4	8.147
NTP3961Q1-TC-T01-TC-UNC0-E-C15-3-RTA-6	E	C15	5	15	113.8	8.180	0.1108	15	BGM	0.007389	116.7	8.394

*Average of back to back strain gages

Average	**110.1**	**8.137**	**$Average_{norm}$**	**0.007320**	**111.9**	**8.272**
Standard Dev.	**5.389**	**0.1531**	**$Standard\ Dev._{norm}$**		**5.021**	**0.1649**
Coeff. of Var. [%]	**4.895**	**1.882**	**$Coeff.\ of\ Var.\ [\%]_{norm}$**		**4.486**	**1.993**
Min.	**96.41**	**7.870**	**Min.**	**0.007113**	**97.52**	**8.031**
Max.	**119.0**	**8.530**	**Max.**	**0.007521**	**119.7**	**8.910**
Number of Spec.	**60**	**60**	**Number of Spec.**	**60**	**60**	**60**


Laminate Unnotched Compression 0/90 Properties (UNC0)--RTA (70°F)
Normalized Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Unnotched Compression Strength [ksi]
0
2
4
6
8
10
12
14
16
18
0
1
2
3
4
5
6
0
20
40
60
80
100
120
140


Laminate Unnotched Compression 0/90 Properties (UNC0)--RTA (70°F)
Normalized Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Unnotched Compression Modulus [Msi]
0
1
2
3
4
5
6
7
8
9
10
0
2
4
6
8
10
12
14
16
18
0
1
2
3
4
5
6

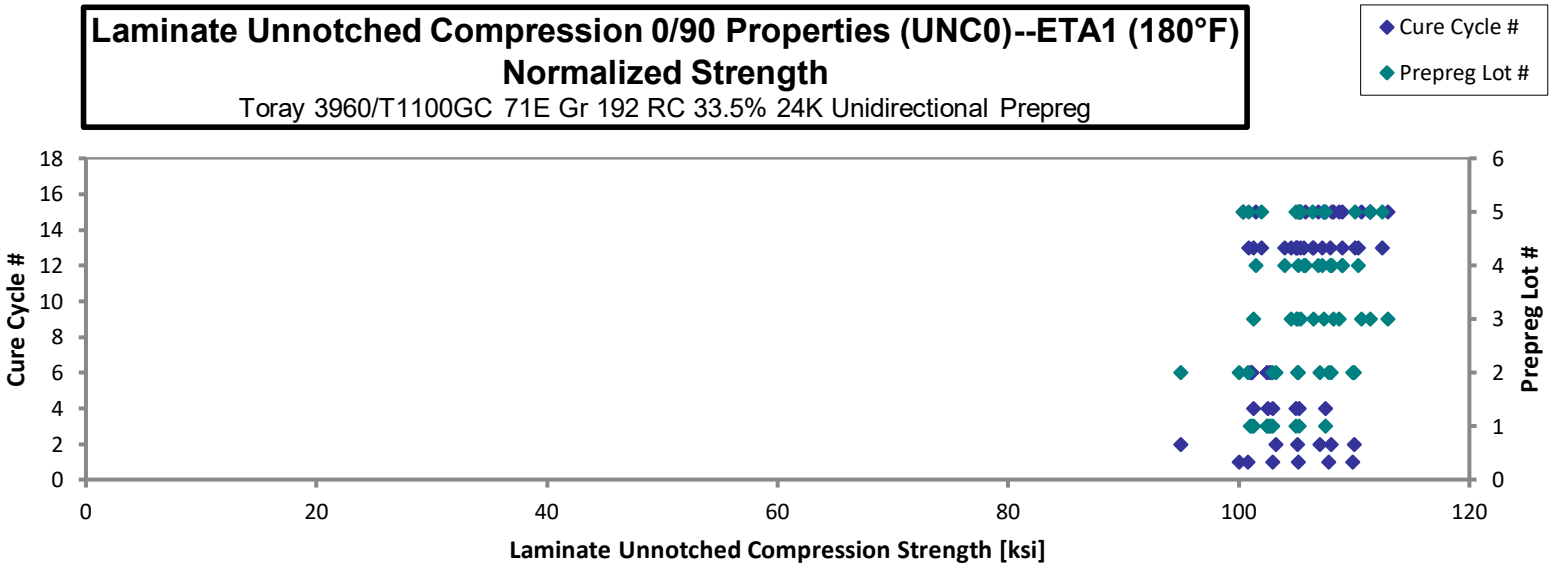
Laminate Unnotched Compression 0/90 Properties (UNC0)--ETA1 (180°F)
Strength & Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

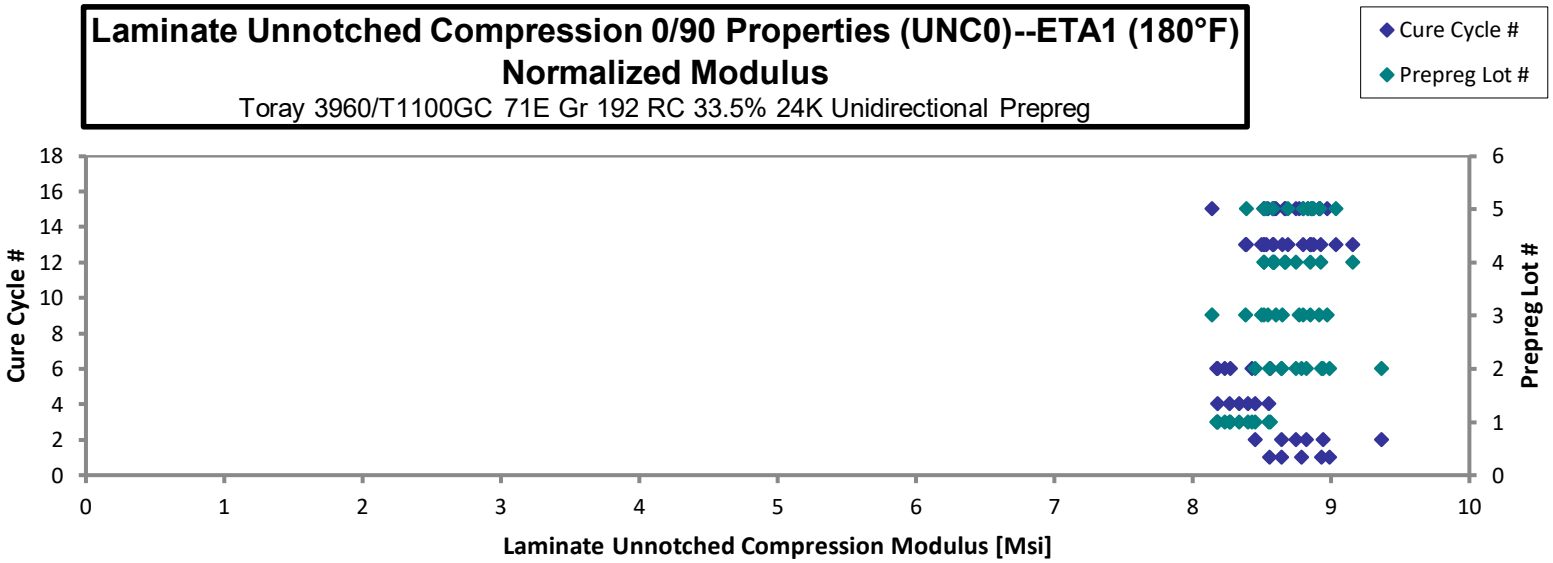
normalizing t_{ply} [in]: 0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Modulus (avg.**) [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
NTP3961Q1-TC-T01-BT-UNC0-A-C4-1-ETA1-1	A	C4	1	4	99.15	8.370	0.1104	15	HAB	0.007357	101.3	8.552
NTP3961Q1-TC-T01-BT-UNC0-A-C4-1-ETA1-2	A	C4	1	4	102.0	8.320	0.1090	15	HGB	0.007267	102.9	8.397
NTP3961Q1-TC-T01-BT-UNC0-A-C4-1-ETA1-3	A	C4	1	4	102.5	7.990	0.1106	15	HGT	0.007370	104.9	8.179
NTP3961Q1-TC-T01-BT-UNC0-A-C4-1-ETA1-4	A	C4	1	4	99.81	8.120	0.1109	15	HGM	0.007393	102.5	8.338
NTP3961Q1-TC-T01-BT-UNC0-A-C4-1-ETA1-5	A	C4	1	4	102.2	8.030	0.1112	15	HAT	0.007413	105.2	8.268
NTP3961Q1-TC-T01-BT-UNC0-A-C4-1-ETA1-6	A	C4	1	4	104.5	8.210	0.1112	15	HGB	0.007413	107.5	8.453
NTP3961Q1-TC-T01-BT-UNC0-A-C6-1-ETA1-1	A	C6	1	6	101.8	8.230	0.1074	15	HGM	0.007157	101.1	8.180
NTP3961Q1-TC-T01-BT-UNC0-A-C6-1-ETA1-2	A	C6	1	6	100.4	7.990	0.1105	15	HGM	0.007367	102.7	8.175
NTP3961Q1-TC-T01-BT-UNC0-A-C6-1-ETA1-3	A	C6	1	6	100.3	8.080	0.1106	15	HGB	0.007373	102.7	8.275
NTP3961Q1-TC-T01-BT-UNC0-A-C6-1-ETA1-4	A	C6	1	6	99.09	8.080	0.1101	15	HAB	0.007337	101.0	8.233
NTP3961Q1-TC-T01-BT-UNC0-A-C6-1-ETA1-5	A	C6	1	6	99.80	8.210	0.1109	15	HGM	0.007390	102.4	8.427
NTP3961Q1-TC-T01-BT-UNC0-A-C6-1-ETA1-6	A	C6	1	6	99.96	8.350	0.1107	15	HGB	0.007380	102.5	8.559
NTP3961Q1-TC-T01-BT-UNC0-B-C1-1-ETA1-2	B	C1	2	1	102.5	8.520	0.1084	15	BGM	0.007229	102.9	8.554
NTP3961Q1-TC-T01-BT-UNC0-B-C1-1-ETA1-4*	B	C1	2	1	103.9		0.1120	15	BGM	0.007467	107.8	
NTP3961Q1-TC-T01-BT-UNC0-B-C1-1-ETA1-5	B	C1	2	1	107.5	8.600	0.1104	15	BGM	0.007357	109.9	8.788
NTP3961Q1-TC-T01-BT-UNC0-B-C1-1-ETA1-6	B	C1	2	1	99.64	8.950	0.1085	15	BGM	0.007230	100.1	8.987
NTP3961Q1-TC-T01-BT-UNC0-B-C1-1-ETA1-7	B	C1	2	1	102.5	8.700	0.1109	15	BGM	0.007391	105.2	8.930
NTP3961Q1-TC-T01-BT-UNC0-B-C1-1-ETA1-8	B	C1	2	1	98.69	8.460	0.1103	15	BGM	0.007354	100.8	8.641
NTP3961Q1-TC-T01-BT-UNC0-B-C2-1-ETA1-1	B	C2	2	2	106.4	8.690	0.1096	15	BAT	0.007307	108.0	8.819
NTP3961Q1-TC-T01-BT-UNC0-B-C2-1-ETA1-3	B	C2	2	2	100.5	8.710	0.1109	15	BAT	0.007391	103.2	8.941
NTP3961Q1-TC-T01-BT-UNC0-B-C2-1-ETA1-4	B	C2	2	2	108.6	9.240	0.1094	15	BAT	0.007295	110.0	9.362
NTP3961Q1-TC-T01-BT-UNC0-B-C2-1-ETA1-5	B	C2	2	2	106.0	8.370	0.1091	15	BAT	0.007270	107.0	8.451
NTP3961Q1-TC-T01-BT-UNC0-B-C2-1-ETA1-6	B	C2	2	2	101.6	8.460	0.1117	15	BGM	0.007444	105.1	8.747
NTP3961Q1-TC-T01-BT-UNC0-B-C2-1-ETA1-8	B	C2	2	2	92.83	8.450	0.1105	15	BGM	0.007365	94.96	8.644
NTP3961Q1-TC-T01-TC-UNC0-C-C13-3-ETA1-1	C	C13	3	13	104.7	8.330	0.1087	15	BGM	0.007244	105.4	8.381
NTP3961Q1-TC-T01-TC-UNC0-C-C13-3-ETA1-2	C	C13	3	13	105.1	8.680	0.1095	15	BGM	0.007297	106.5	8.797
NTP3961Q1-TC-T01-TC-UNC0-C-C13-3-ETA1-3	C	C13	3	13	102.9	8.360	0.1098	15	BGM	0.007317	104.5	8.495
NTP3961Q1-TC-T01-TC-UNC0-C-C13-3-ETA1-4	C	C13	3	13	103.4	8.380	0.1098	15	BAT	0.007317	105.1	8.517
NTP3961Q1-TC-T01-TC-UNC0-C-C13-3-ETA1-5	C	C13	3	13	99.65	8.710	0.1098	15	BGB	0.007317	101.3	8.852
NTP3961Q1-TC-T01-TC-UNC0-C-C13-3-ETA1-6	C	C13	3	13	103.9	8.560	0.1091	15	BAB	0.007274	105.0	8.648
NTP3961Q1-TC-T01-TC-UNC0-C-C15-3-ETA1-1	C	C15	3	15	110.0	8.680	0.1109	15	BGT	0.007394	113.0	8.914
NTP3961Q1-TC-T01-TC-UNC0-C-C15-3-ETA1-2	C	C15	3	15	106.3	7.990	0.1100	15	BGT	0.007332	108.2	8.136
NTP3961Q1-TC-T01-TC-UNC0-C-C15-3-ETA1-3	C	C15	3	15	109.3	8.600	0.1101	15	BGM	0.007342	111.4	8.770
NTP3961Q1-TC-T01-TC-UNC0-C-C15-3-ETA1-4	C	C15	3	15	104.3	8.720	0.1111	15	BGB	0.007409	107.4	8.973
NTP3961Q1-TC-T01-TC-UNC0-C-C15-3-ETA1-5	C	C15	3	15	106.9	8.400	0.1098	15	BGT	0.007321	108.7	8.541
NTP3961Q1-TC-T01-TC-UNC0-C-C15-3-ETA1-6	C	C15	3	15	108.9	8.460	0.1098	15	BGM	0.007320	110.7	8.601
NTP3961Q1-TC-T01-TC-UNC0-D-C13-3-ETA1-1	D	C13	4	13	107.0	8.850	0.1089	15	BAB	0.007262	107.9	8.926
NTP3961Q1-TC-T01-TC-UNC0-D-C13-3-ETA1-2	D	C13	4	13	104.9	8.520	0.1088	15	BAT	0.007251	105.7	8.580
NTP3961Q1-TC-T01-TC-UNC0-D-C13-3-ETA1-3	D	C13	4	13	108.3	8.530	0.1087	15	BAB	0.007244	109.0	8.582
NTP3961Q1-TC-T01-TC-UNC0-D-C13-3-ETA1-4	D	C13	4	13	110.2	9.140	0.1082	15	BAT	0.007212	110.4	9.155
NTP3961Q1-TC-T01-TC-UNC0-D-C13-3-ETA1-5	D	C13	4	13	107.1	8.840	0.1081	15	BAB	0.007207	107.2	8.849
NTP3961Q1-TC-T01-TC-UNC0-D-C13-3-ETA1-6	D	C13	4	13	104.2	8.540	0.1077	15	BAB	0.007180	104.0	8.516
NTP3961Q1-TC-T01-TC-UNC0-D-C15-3-ETA1-1	D	C15	4	15	100.9	8.540	0.1086	15	BAT	0.007241	101.5	8.588
NTP3961Q1-TC-T01-TC-UNC0-D-C15-3-ETA1-2	D	C15	4	15	106.0	8.440	0.1089	15	HGM	0.007262	106.9	8.513
NTP3961Q1-TC-T01-TC-UNC0-D-C15-3-ETA1-3	D	C15	4	15	104.0	8.580	0.1092	15	BAT	0.007277	105.1	8.672
NTP3961Q1-TC-T01-TC-UNC0-D-C15-3-ETA1-4	D	C15	4	15	107.4	8.530	0.1087	15	BAT	0.007247	108.1	8.586
NTP3961Q1-TC-T01-TC-UNC0-D-C15-3-ETA1-5	D	C15	4	15	107.4	8.620	0.1096	15	BAT	0.007304	108.9	8.745
NTP3961Q1-TC-T01-TC-UNC0-D-C15-3-ETA1-6	D	C15	4	15	105.0	8.600	0.1089	15	BAT	0.007257	105.8	8.668
NTP3961Q1-TC-T01-TC-UNC0-E-C13-3-ETA1-1	E	C13	5	13	107.2	8.790	0.1110	15	BAB	0.007399	110.1	9.033
NTP3961Q1-TC-T01-TC-UNC0-E-C13-3-ETA1-2	E	C13	5	13	97.45	7.920	0.1163	15	BAT	0.007754	104.9	8.529
NTP3961Q1-TC-T01-TC-UNC0-E-C13-3-ETA1-3	E	C13	5	13	97.88	8.430	0.1113	15	BAT	0.007420	100.9	8.688
NTP3961Q1-TC-T01-TC-UNC0-E-C13-3-ETA1-4	E	C13	5	13	99.24	8.620	0.1110	15	BAT	0.007397	102.0	8.855
NTP3961Q1-TC-T01-TC-UNC0-E-C13-3-ETA1-5	E	C13	5	13	103.0	8.120	0.1116	15	BAB	0.007437	106.4	8.387
NTP3961Q1-TC-T01-TC-UNC0-E-C13-3-ETA1-6	E	C13	5	13	109.1	8.610	0.1113	15	BAB	0.007422	112.5	8.875
NTP3961Q1-TC-T01-TC-UNC0-E-C15-3-ETA1-1	E	C15	5	15	103.1	8.670	0.1104	15	BGM	0.007357	105.4	8.859
NTP3961Q1-TC-T01-TC-UNC0-E-C15-3-ETA1-2	E	C15	5	15	102.1	8.650	0.1113	15	BAB	0.007422	105.3	8.917
NTP3961Q1-TC-T01-TC-UNC0-E-C15-3-ETA1-3	E	C15	5	15	104.9	8.580	0.1107	15	BAB	0.007382	107.5	8.797
NTP3961Q1-TC-T01-TC-UNC0-E-C15-3-ETA1-4	E	C15	5	15	104.2	8.270	0.1112	15	BGM	0.007415	107.3	8.517
NTP3961Q1-TC-T01-TC-UNC0-E-C15-3-ETA1-5	E	C15	5	15	98.52	8.420	0.1100	15	BAB	0.007335	100.4	8.578
NTP3961Q1-TC-T01-TC-UNC0-E-C15-3-ETA1-6	E	C15	5	15	108.2	8.580	0.1112	15	BAB	0.007414	111.4	8.835

*Excluded modulus due to bending ≥10% at 0.2% strain
**Average of back to back strain gages

	Strength [ksi]	Modulus (avg.**) [Msi]		$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
Average	**103.6**	**8.481**	**Average$_{norm}$**	**0.007338**	**105.6**	**8.640**
Standard Dev.	**3.677**	**0.2737**	**Standard Dev.$_{norm}$**		**3.581**	**0.2585**
Coeff. of Var. [%]	**3.550**	**3.228**	**Coeff. of Var. [%]$_{norm}$**		**3.392**	**2.992**
Min.	**92.83**	**7.920**	**Min.**	**0.007157**	**94.96**	**8.136**
Max.	**110.2**	**9.240**	**Max.**	**0.007754**	**113.0**	**9.362**
Number of Spec.	**60**	**59**	**Number of Spec.**	**60**	**60**	**59**


Laminate Unnotched Compression 0/90 Properties (UNC0)--ETA1 (180°F)
Normalized Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Unnotched Compression Strength [ksi]
0
20
40
60
80
100
120
0
2
4
6
8
10
12
14
16
18
0
1
2
3
4
5
6


Laminate Unnotched Compression 0/90 Properties (UNC0)--ETA1 (180°F)
Normalized Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Unnotched Compression Modulus [Msi]
0
1
2
3
4
5
6
7
8
9
10
0
2
4
6
8
10
12
14
16
18
0
1
2
3
4
5
6

Laminate Unnotched Compression 0/90 Properties (UNC0)--ETA2 (250°F)
Strength & Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

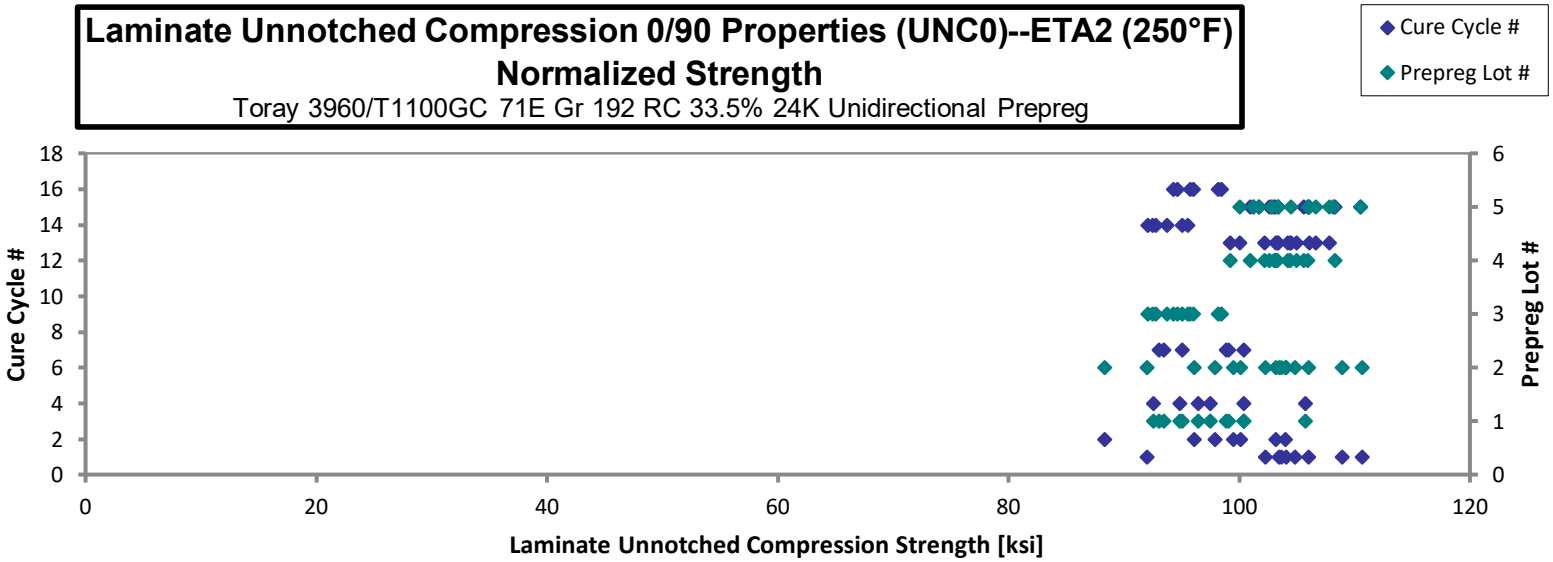
normalizing t_{ply} [in]: 0.007200

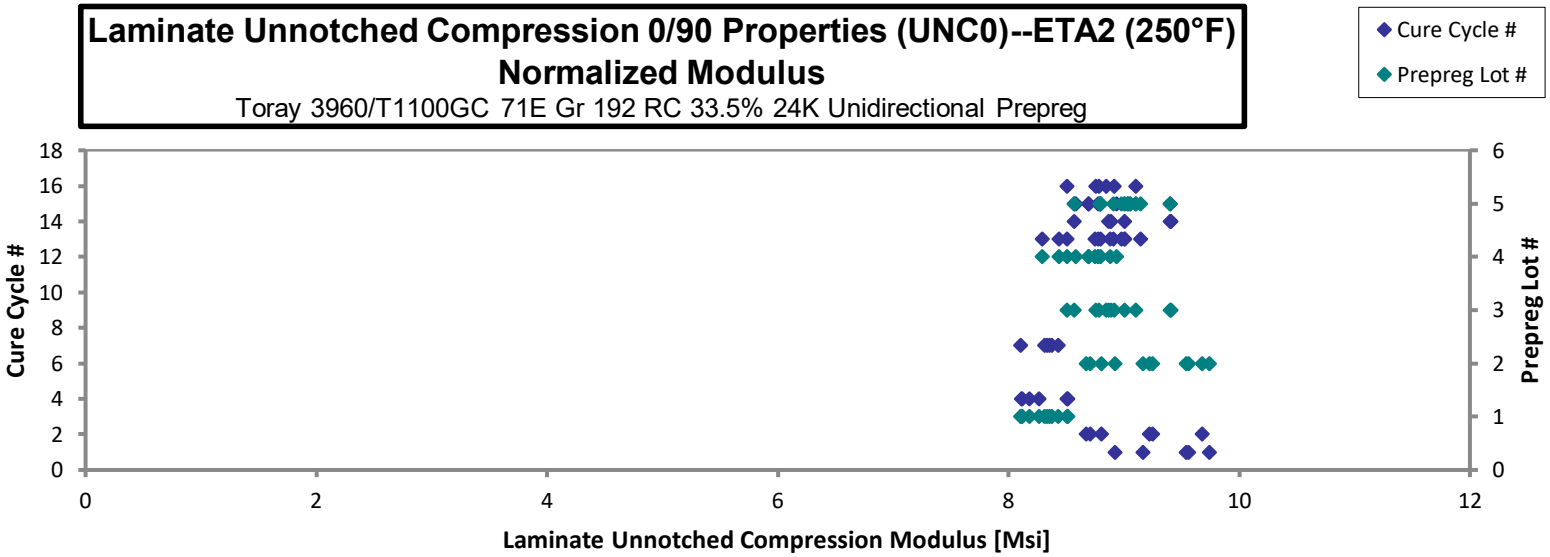
Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Modulus (avg.*) [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
NTP3961Q1-TC-T01-BT-UNC0-A-C4-2-ETA2-1	A	C4	1	4	93.54	8.150	0.1095	15	HGM	0.007297	94.80	8.259
NTP3961Q1-TC-T01-BT-UNC0-A-C4-2-ETA2-2	A	C4	1	4	91.63	8.030	0.1091	15	HGB	0.007270	92.52	8.108
NTP3961Q1-TC-T01-BT-UNC0-A-C4-2-ETA2-3	A	C4	1	4	104.4	8.410	0.1093	15	HGB	0.007287	105.7	8.511
NTP3961Q1-TC-T01-BT-UNC0-A-C4-2-ETA2-4	A	C4	1	4	96.16	8.070	0.1095	15	HGB	0.007297	97.45	8.178
NTP3961Q1-TC-T01-BT-UNC0-A-C4-2-ETA2-5	A	C4	1	4	95.03	8.000	0.1096	15	HGB	0.007303	96.39	8.115
NTP3961Q1-TC-T01-BT-UNC0-A-C4-2-ETA2-6	A	C4	1	4	99.28	8.410	0.1092	15	HGB	0.007280	100.4	8.503
NTP3961Q1-TC-T01-BT-UNC0-A-C7-1-ETA2-1	A	C7	1	7	90.89	8.240	0.1105	15	HGM	0.007367	92.99	8.431
NTP3961Q1-TC-T01-BT-UNC0-A-C7-1-ETA2-2	A	C7	1	7	91.13	8.130	0.1107	15	HAB	0.007380	93.41	8.333
NTP3961Q1-TC-T01-BT-UNC0-A-C7-1-ETA2-3	A	C7	1	7	92.88	8.120	0.1105	15	HGM	0.007367	95.03	8.308
NTP3961Q1-TC-T01-BT-UNC0-A-C7-1-ETA2-4	A	C7	1	7	97.25	7.970	0.1098	15	HGM	0.007320	98.87	8.103
NTP3961Q1-TC-T01-BT-UNC0-A-C7-1-ETA2-5	A	C7	1	7	97.95	8.170	0.1107	15	HAB	0.007377	100.4	8.370
NTP3961Q1-TC-T01-BT-UNC0-A-C7-1-ETA2-6	A	C7	1	7	97.61	8.230	0.1096	15	HAB	0.007307	99.06	8.352
NTP3961Q1-TC-T01-BT-UNC0-B-C1-2-ETA2-1**	B	C1	2	1	101.3		0.1105	15	BGM	0.007364	103.6	
NTP3961Q1-TC-T01-BT-UNC0-B-C1-2-ETA2-2**	B	C1	2	1	101.8		0.1104	15	BGM	0.007360	104.1	
NTP3961Q1-TC-T01-BT-UNC0-B-C1-2-ETA2-3	B	C1	2	1	88.35	8.800	0.1125	15	BAT	0.007497	91.99	9.163
NTP3961Q1-TC-T01-BT-UNC0-B-C1-2-ETA2-4	B	C1	2	1	107.6	9.470	0.1111	15	BAB	0.007403	110.7	9.737
NTP3961Q1-TC-T01-BT-UNC0-B-C1-2-ETA2-5**	B	C1	2	1	100.8		0.1108	15	BAB	0.007387	103.4	
NTP3961Q1-TC-T01-BT-UNC0-B-C1-2-ETA2-6**	B	C1	2	1	99.27		0.1112	15	BGM	0.007414	102.2	
NTP3961Q1-TC-T01-BT-UNC0-B-C1-2-ETA2-7	B	C1	2	1	106.3	9.330	0.1106	15	BAT	0.007375	108.9	9.557
NTP3961Q1-TC-T01-BT-UNC0-B-C1-2-ETA2-8	B	C1	2	1	100.8	9.170	0.1123	15	BGM	0.007487	104.8	9.536
NTP3961Q1-TC-T01-BT-UNC0-B-C1-2-ETA2-9	B	C1	2	1	104.4	8.780	0.1097	15	BAT	0.007314	106.0	8.919
NTP3961Q1-TC-T01-BT-UNC0-B-C2-2-ETA2-1	B	C2	2	2	94.41	9.090	0.1099	15	BGM	0.007327	96.08	9.251
NTP3961Q1-TC-T01-BT-UNC0-B-C2-2-ETA2-2	B	C2	2	2	98.41	8.560	0.1099	15	BGM	0.007325	100.1	8.709
NTP3961Q1-TC-T01-BT-UNC0-B-C2-2-ETA2-3	B	C2	2	2	96.92	8.450	0.1108	15	BGM	0.007389	99.46	8.671
NTP3961Q1-TC-T01-BT-UNC0-B-C2-2-ETA2-4	B	C2	2	2	101.4	9.440	0.1107	15	BAB	0.007381	104.0	9.677
NTP3961Q1-TC-T01-BT-UNC0-B-C2-2-ETA2-5**	B	C2	2	2	85.92		0.1110	15	BGM	0.007402	88.33	
NTP3961Q1-TC-T01-BT-UNC0-B-C2-2-ETA2-6	B	C2	2	2	101.0	8.620	0.1103	15	BGM	0.007353	103.1	8.804
NTP3961Q1-TC-T01-BT-UNC0-B-C2-2-ETA2-7	B	C2	2	2	95.62	9.010	0.1106	15	BGM	0.007370	97.88	9.223
NTP3961Q1-TC-T01-TC-UNC0-C-C14-3-ETA2-1	C	C14	3	14	91.23	8.790	0.1090	15	BGM	0.007264	92.04	8.868
NTP3961Q1-TC-T01-TC-UNC0-C-C14-3-ETA2-2	C	C14	3	14	93.89	8.420	0.1099	15	BAT	0.007324	95.51	8.565
NTP3961Q1-TC-T01-TC-UNC0-C-C14-3-ETA2-3	C	C14	3	14	91.24	8.860	0.1098	15	BAT	0.007317	92.72	9.004
NTP3961Q1-TC-T01-TC-UNC0-C-C14-3-ETA2-4	C	C14	3	14	91.54	9.180	0.1106	15	HGM	0.007370	93.70	9.397
NTP3961Q1-TC-T01-TC-UNC0-C-C14-3-ETA2-5	C	C14	3	14	90.54	8.700	0.1103	15	BAT	0.007354	92.48	8.886
NTP3961Q1-TC-T01-TC-UNC0-C-C14-3-ETA2-6	C	C14	3	14	92.65	9.170	0.1108	15	HGM	0.007383	95.01	9.403
NTP3961Q1-TC-T01-TC-UNC0-C-C16-3-ETA2-1	C	C16	3	16	93.95	8.930	0.1101	15	HAT	0.007337	95.74	9.100
NTP3961Q1-TC-T01-TC-UNC0-C-C16-3-ETA2-2	C	C16	3	16	94.36	8.360	0.1099	15	BAT	0.007327	96.03	8.508
NTP3961Q1-TC-T01-TC-UNC0-C-C16-3-ETA2-3	C	C16	3	16	91.82	8.560	0.1109	15	BAT	0.007390	94.24	8.786
NTP3961Q1-TC-T01-TC-UNC0-C-C16-3-ETA2-4	C	C16	3	16	93.27	8.720	0.1096	15	TAT	0.007305	94.63	8.848
NTP3961Q1-TC-T01-TC-UNC0-C-C16-3-ETA2-5	C	C16	3	16	96.40	8.730	0.1103	15	BAT	0.007354	98.46	8.917
NTP3961Q1-TC-T01-TC-UNC0-C-C16-3-ETA2-6	C	C16	3	16	95.98	8.560	0.1104	15	BAT	0.007362	98.14	8.753
NTP3961Q1-TC-T01-TC-UNC0-D-C13-3-ETA2-1**	D	C13	4	13	102.4		0.1088	15	BGM	0.007252	103.1	
NTP3961Q1-TC-T01-TC-UNC0-D-C13-3-ETA2-2	D	C13	4	13	103.1	8.660	0.1094	15	BGM	0.007294	104.4	8.773
NTP3961Q1-TC-T01-TC-UNC0-D-C13-3-ETA2-3	D	C13	4	13	102.6	8.370	0.1097	15	BAT	0.007315	104.2	8.504
NTP3961Q1-TC-T01-TC-UNC0-D-C13-3-ETA2-4	D	C13	4	13	100.2	8.270	0.1102	15	BGM	0.007344	102.2	8.435
NTP3961Q1-TC-T01-TC-UNC0-D-C13-3-ETA2-5	D	C13	4	13	103.7	8.190	0.1093	15	BGM	0.007287	104.9	8.289
NTP3961Q1-TC-T01-TC-UNC0-D-C13-3-ETA2-6	D	C13	4	13	97.50	8.600	0.1099	15	BGM	0.007325	99.20	8.750
NTP3961Q1-TC-T01-TC-UNC0-D-C13-3-ETA2-7	D	C13	4	13	101.9	8.760	0.1095	15	BGM	0.007297	103.3	8.878
NTP3961Q1-TC-T01-TC-UNC0-D-C15-3-ETA2-1**	D	C15	4	15	102.1		0.1089	15	BAT	0.007262	103.0	
NTP3961Q1-TC-T01-TC-UNC0-D-C15-3-ETA2-2	D	C15	4	15	100.2	8.740	0.1087	15	BGM	0.007249	100.9	8.799
NTP3961Q1-TC-T01-TC-UNC0-D-C15-3-ETA2-3	D	C15	4	15	105.0	8.640	0.1086	15	BGM	0.007242	105.6	8.690
NTP3961Q1-TC-T01-TC-UNC0-D-C15-3-ETA2-4	D	C15	4	15	101.9	8.630	0.1088	15	BGM	0.007253	102.6	8.694
NTP3961Q1-TC-T01-TC-UNC0-D-C15-3-ETA2-6	D	C15	4	15	105.4	8.730	0.1086	15	BGM	0.007237	105.9	8.774
NTP3961Q1-TC-T01-TC-UNC0-D-C15-3-ETA2-7	D	C15	4	15	107.6	8.880	0.1087	15	BGM	0.007243	108.2	8.933
NTP3961Q1-TC-T01-TC-UNC0-D-C15-3-ETA2-8	D	C15	4	15	101.7	8.460	0.1096	15	BGM	0.007303	103.1	8.581
NTP3961Q1-TC-T01-TC-UNC0-E-C13-3-ETA2-1	E	C13	5	13	105.1	8.670	0.1096	15	BGM	0.007305	106.6	8.797
NTP3961Q1-TC-T01-TC-UNC0-E-C13-3-ETA2-2	E	C13	5	13	103.4	8.820	0.1091	15	BAT	0.007274	104.5	8.911
NTP3961Q1-TC-T01-TC-UNC0-E-C13-3-ETA2-3	E	C13	5	13	104.6	8.880	0.1095	15	BGM	0.007300	106.1	9.003
NTP3961Q1-TC-T01-TC-UNC0-E-C13-3-ETA2-4	E	C13	5	13	99.49	8.930	0.1086	15	BGM	0.007239	100.0	8.978
NTP3961Q1-TC-T01-TC-UNC0-E-C13-3-ETA2-5	E	C13	5	13	106.4	8.890	0.1094	15	BAB	0.007294	107.8	9.006
NTP3961Q1-TC-T01-TC-UNC0-E-C13-3-ETA2-6	E	C13	5	13	102.8	9.090	0.1086	15	BGM	0.007242	103.4	9.143
NTP3961Q1-TC-T01-TC-UNC0-E-C15-3-ETA2-2**	E	C15	5	15	101.6		0.1098	15	BGM	0.007321	103.3	
NTP3961Q1-TC-T01-TC-UNC0-E-C15-3-ETA2-3	E	C15	5	15	104.9	9.010	0.1091	15	BGM	0.007272	106.0	9.100
NTP3961Q1-TC-T01-TC-UNC0-E-C15-3-ETA2-4	E	C15	5	15	107.4	9.330	0.1088	15	BGM	0.007252	108.2	9.397
NTP3961Q1-TC-T01-TC-UNC0-E-C15-3-ETA2-6	E	C15	5	15	109.4	8.960	0.1091	15	BGM	0.007273	110.5	9.051
NTP3961Q1-TC-T01-TC-UNC0-E-C15-3-ETA2-7	E	C15	5	15	100.5	8.930	0.1093	15	BGM	0.007284	101.7	9.034
NTP3961Q1-TC-T01-TC-UNC0-E-C15-3-ETA2-8	E	C15	5	15	100.7	8.520	0.1086	15	BAT	0.007239	101.2	8.566
NTP3961Q1-TC-T01-TC-UNC0-E-C15-3-ETA2-9	E	C15	5	15	101.4	8.670	0.1095	15	BAT	0.007300	102.8	8.790

*Average of back to back strain gages
**Excluded modulus due to bending ≥10%

	Strength	Modulus
Average	98.98	8.665
Standard Dev.	5.391	0.3745
Coeff. of Var. [%]	5.446	4.321
Min.	85.92	7.970
Max.	109.4	9.470
Number of Spec.	67	59

	t_{ply}	$Strength_{norm}$	$Modulus_{norm}$
$Average_{norm}$	0.007322	100.6	8.809
$Standard\ Dev._{norm}$		5.204	0.3949
$Coeff.\ of\ Var.\ [\%]_{norm}$		5.171	4.483
Min.	0.007237	88.33	8.103
Max.	0.007497	110.7	9.737
Number of Spec.	67	67	59


Laminate Unnotched Compression 0/90 Properties (UNC0)--ETA2 (250°F)
Normalized Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Unnotched Compression Strength [ksi]
0
2
4
6
8
10
12
14
16
18
0
1
2
3
4
5
6
0
20
40
60
80
100
120


Laminate Unnotched Compression 0/90 Properties (UNC0)--ETA2 (250°F)
Normalized Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Unnotched Compression Modulus [Msi]
0
2
4
6
8
10
12
14
16
18

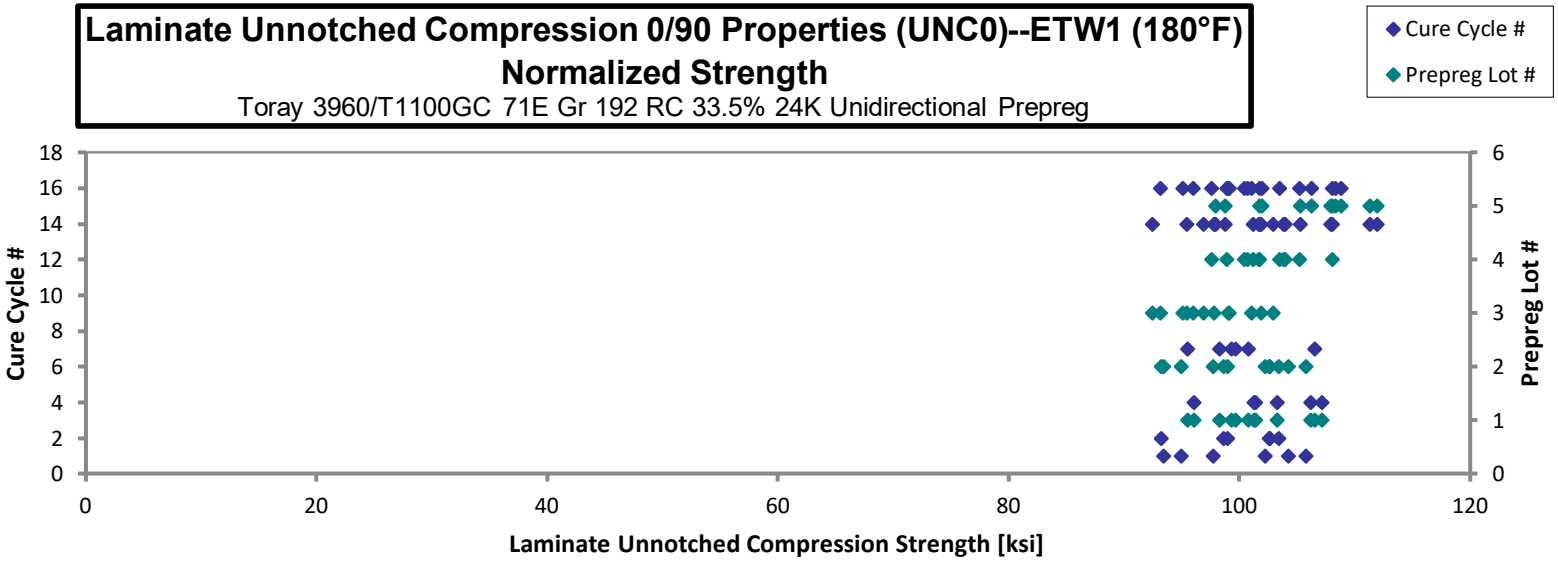
Laminate Unnotched Compression 0/90 Properties (UNC0)--ETW1 (180°F)
Strength & Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

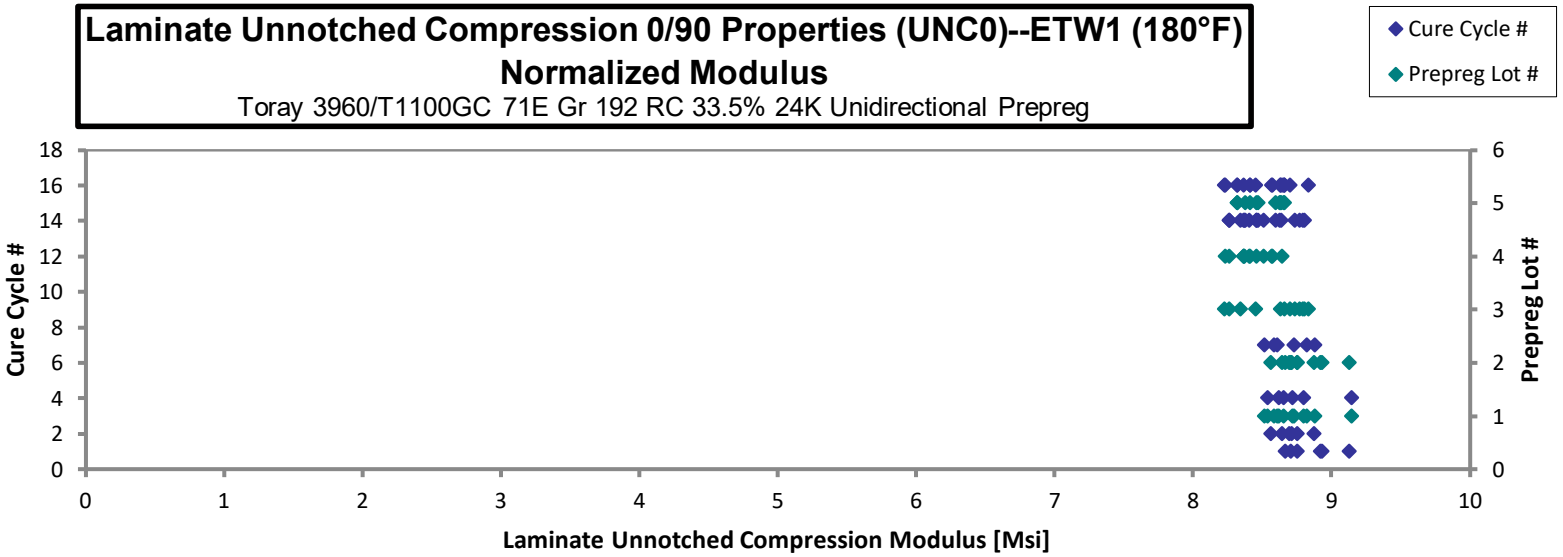
normalizing t_{ply} [in]: 0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Modulus (avg.*) [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
NTP3961Q1-TC-T01-BT-UNC0-A-C4-2-ETW1-1	A	C4	1	4	95.97	8.710	0.1082	15	HAT	0.007210	96.10	8.722
NTP3961Q1-TC-T01-BT-UNC0-A-C4-2-ETW1-2	A	C4	1	4	107.1	8.790	0.1082	15	BGM	0.007210	107.2	8.802
NTP3961Q1-TC-T01-BT-UNC0-A-C4-2-ETW1-6	A	C4	1	4	101.0	9.120	0.1084	15	BGM	0.007223	101.3	9.150
NTP3961Q1-TC-T01-BT-UNC0-A-C4-2-ETW1-5	A	C4	1	4	101.2	8.600	0.1083	15	BGM	0.007220	101.4	8.624
NTP3961Q1-TC-T01-BT-UNC0-A-C4-2-ETW1-3	A	C4	1	4	105.9	8.630	0.1084	15	HAT	0.007223	106.2	8.658
NTP3961Q1-TC-T01-BT-UNC0-A-C4-2-ETW1-4	A	C4	1	4	101.7	8.410	0.1097	15	HAT	0.007310	103.3	8.538
NTP3961Q1-TC-T01-BT-UNC0-A-C7-1-ETW1-1	A	C7	1	7	94.11	8.390	0.1097	15	BAT	0.007310	95.55	8.518
NTP3961Q1-TC-T01-BT-UNC0-A-C7-1-ETW1-2	A	C7	1	7	105.9	8.560	0.1087	15	BAB	0.007243	106.6	8.612
NTP3961Q1-TC-T01-BT-UNC0-A-C7-1-ETW1-3	A	C7	1	7	96.74	8.450	0.1098	15	BAT	0.007317	98.31	8.587
NTP3961Q1-TC-T01-BT-UNC0-A-C7-1-ETW1-4	A	C7	1	7	97.39	8.560	0.1102	15	BGM	0.007347	99.37	8.734
NTP3961Q1-TC-T01-BT-UNC0-A-C7-1-ETW1-5	A	C7	1	7	99.06	8.730	0.1099	15	BAT	0.007327	100.8	8.884
NTP3961Q1-TC-T01-BT-UNC0-A-C7-1-ETW1-6	A	C7	1	7	97.51	8.630	0.1105	15	BGM	0.007363	99.72	8.826
NTP3961Q1-TC-T01-BT-UNC0-B-C1-2-ETW1-1	B	C1	2	1	94.64	8.720	0.1084	15	HAB	0.007227	94.99	8.752
NTP3961Q1-TC-T01-BT-UNC0-B-C1-2-ETW1-2	B	C1	2	1	94.81	8.850	0.1114	15	HAT	0.007427	97.80	9.129
NTP3961Q1-TC-T01-BT-UNC0-B-C1-2-ETW1-3	B	C1	2	1	98.94	8.480	0.1138	15	BGM	0.007587	104.3	8.936
NTP3961Q1-TC-T01-BT-UNC0-B-C1-2-ETW1-4	B	C1	2	1	91.85	8.520	0.1099	15	BGM	0.007327	93.47	8.670
NTP3961Q1-TC-T01-BT-UNC0-B-C1-2-ETW1-5	B	C1	2	1	101.8	8.590	0.1122	15	HAT	0.007480	105.8	8.924
NTP3961Q1-TC-T01-BT-UNC0-B-C1-2-ETW1-6	B	C1	2	1	99.95	8.510	0.1105	15	HAB	0.007369	102.3	8.709
NTP3961Q1-TC-T01-BT-UNC0-B-C2-2-ETW1-1	B	C2	2	2	100.5	8.380	0.1104	15	HAT	0.007359	102.7	8.565
NTP3961Q1-TC-T01-BT-UNC0-B-C2-2-ETW1-2	B	C2	2	2	100.7	8.710	0.1101	15	BGM	0.007337	102.6	8.875
NTP3961Q1-TC-T01-BT-UNC0-B-C2-2-ETW1-3	B	C2	2	2	99.77	8.400	0.1120	15	BGM	0.007469	103.5	8.713
NTP3961Q1-TC-T01-BT-UNC0-B-C2-2-ETW1-4	B	C2	2	2	97.17	8.590	0.1101	15	BAT	0.007339	99.04	8.755
NTP3961Q1-TC-T01-BT-UNC0-B-C2-2-ETW1-5	B	C2	2	2	90.62	8.400	0.1111	15	BAT	0.007409	93.25	8.643
NTP3961Q1-TC-T01-BT-UNC0-B-C2-2-ETW1-6	B	C2	2	2	95.49	8.420	0.1116	15	BGM	0.007439	98.66	8.699
NTP3961Q1-TC-T01-TC-UNC0-C-C14-3-ETW1-1	C	C14	3	14	93.13	8.590	0.1107	15	HGT	0.007382	95.48	8.807
NTP3961Q1-TC-T01-TC-UNC0-C-C14-3-ETW1-2	C	C14	3	14	100.8	8.250	0.1092	15	BGM	0.007280	102.0	8.342
NTP3961Q1-TC-T01-TC-UNC0-C-C14-3-ETW1-3	C	C14	3	14	95.90	8.560	0.1102	15	BGM	0.007347	97.86	8.735
NTP3961Q1-TC-T01-TC-UNC0-C-C14-3-ETW1-4	C	C14	3	14	90.74	8.110	0.1101	15	BGM	0.007339	92.49	8.266
NTP3961Q1-TC-T01-TC-UNC0-C-C14-3-ETW1-5	C	C14	3	14	95.08	8.600	0.1101	15	HGT	0.007342	96.96	8.770
NTP3961Q1-TC-T01-TC-UNC0-C-C14-3-ETW1-6	C	C14	3	14	101.1	8.630	0.1101	15	BGM	0.007339	103.0	8.796
NTP3961Q1-TC-T01-TC-UNC0-C-C16-3-ETW1-1	C	C16	3	16	94.44	8.690	0.1098	15	BGT	0.007320	96.01	8.835
NTP3961Q1-TC-T01-TC-UNC0-C-C16-3-ETW1-3	C	C16	3	16	99.18	8.500	0.1101	15	BGM	0.007337	101.1	8.662
NTP3961Q1-TC-T01-TC-UNC0-C-C16-3-ETW1-4	C	C16	3	16	91.96	8.120	0.1094	15	BAT	0.007295	93.18	8.228
NTP3961Q1-TC-T01-TC-UNC0-C-C16-3-ETW1-5	C	C16	3	16	97.18	8.530	0.1102	15	BGM	0.007344	99.12	8.701
NTP3961Q1-TC-T01-TC-UNC0-C-C16-3-ETW1-6	C	C16	3	16	93.89	8.340	0.1095	15	BGM	0.007297	95.16	8.453
NTP3961Q1-TC-T01-TC-UNC0-C-C16-3-ETW1-7	C	C16	3	16	96.68	8.420	0.1108	15	BGT	0.007384	99.15	8.635
NTP3961Q1-TC-T01-TC-UNC0-D-C14-3-ETW1-1	D	C14	4	14	101.2	8.320	0.1087	15	BGT	0.007243	101.8	8.370
NTP3961Q1-TC-T01-TC-UNC0-D-C14-3-ETW1-2	D	C14	4	14	100.1	8.130	0.1098	15	BAB	0.007319	101.7	8.264
NTP3961Q1-TC-T01-TC-UNC0-D-C14-3-ETW1-3	D	C14	4	14	102.2	8.320	0.1099	15	BGM	0.007323	103.9	8.463
NTP3961Q1-TC-T01-TC-UNC0-D-C14-3-ETW1-4	D	C14	4	14	99.99	8.270	0.1094	15	BAB	0.007292	101.3	8.376
NTP3961Q1-TC-T01-TC-UNC0-D-C14-3-ETW1-5	D	C14	4	14	106.0	8.350	0.1101	15	BAB	0.007339	108.1	8.511
NTP3961Q1-TC-T01-TC-UNC0-D-C14-3-ETW1-6	D	C14	4	14	103.2	8.340	0.1089	15	BAT	0.007259	104.0	8.408
NTP3961Q1-TC-T01-TC-UNC0-D-C16-3-ETW1-1	D	C16	4	16	100.2	8.190	0.1086	15	BGM	0.007241	100.7	8.236
NTP3961Q1-TC-T01-TC-UNC0-D-C16-3-ETW1-2	D	C16	4	16	102.1	8.450	0.1095	15	BGM	0.007302	103.5	8.570
NTP3961Q1-TC-T01-TC-UNC0-D-C16-3-ETW1-3	D	C16	4	16	104.2	8.560	0.1091	15	BGM	0.007272	105.3	8.646
NTP3961Q1-TC-T01-TC-UNC0-D-C16-3-ETW1-4	D	C16	4	16	96.71	8.290	0.1090	15	BGM	0.007269	97.63	8.369
NTP3961Q1-TC-T01-TC-UNC0-D-C16-3-ETW1-5	D	C16	4	16	100.4	8.410	0.1081	15	BGM	0.007205	100.5	8.416
NTP3961Q1-TC-T01-TC-UNC0-D-C16-3-ETW1-6	D	C16	4	16	98.39	8.530	0.1086	15	BGM	0.007240	98.94	8.577
NTP3961Q1-TC-T01-TC-UNC0-E-C14-3-ETW1-1	E	C14	5	14	97.76	8.620	0.1083	15	BAB	0.007217	98.00	8.641
NTP3961Q1-TC-T01-TC-UNC0-E-C14-3-ETW1-2	E	C14	5	14	111.1	8.560	0.1089	15	BAB	0.007259	112.0	8.630
NTP3961Q1-TC-T01-TC-UNC0-E-C14-3-ETW1-3	E	C14	5	14	109.8	8.350	0.1096	15	BAB	0.007307	111.4	8.474
NTP3961Q1-TC-T01-TC-UNC0-E-C14-3-ETW1-4	E	C14	5	14	98.03	8.390	0.1089	15	BGM	0.007260	98.85	8.460
NTP3961Q1-TC-T01-TC-UNC0-E-C14-3-ETW1-5	E	C14	5	14	107.2	8.540	0.1087	15	BGT	0.007247	107.9	8.596
NTP3961Q1-TC-T01-TC-UNC0-E-C14-3-ETW1-6	E	C14	5	14	105.0	8.350	0.1084	15	BGM	0.007225	105.3	8.379
NTP3961Q1-TC-T01-TC-UNC0-E-C16-3-ETW1-1	E	C16	5	16	108.6	8.450	0.1076	15	BGT	0.007171	108.1	8.416
NTP3961Q1-TC-T01-TC-UNC0-E-C16-3-ETW1-2	E	C16	5	16	108.3	8.610	0.1086	15	BGM	0.007241	108.9	8.659
NTP3961Q1-TC-T01-TC-UNC0-E-C16-3-ETW1-3	E	C16	5	16	105.3	8.550	0.1091	15	BAT	0.007270	106.3	8.633
NTP3961Q1-TC-T01-TC-UNC0-E-C16-3-ETW1-4	E	C16	5	16	107.7	8.270	0.1087	15	BAT	0.007245	108.4	8.322
NTP3961Q1-TC-T01-TC-UNC0-E-C16-3-ETW1-5	E	C16	5	16	101.7	8.290	0.1084	15	BAT	0.007225	102.0	8.319
NTP3961Q1-TC-T01-TC-UNC0-E-C16-3-ETW1-6	E	C16	5	16	100.8	8.570	0.1091	15	BGT	0.007275	101.8	8.660

*Average of back to back strain gages

	Strength [ksi]	Modulus [Msi]		$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
Average	**99.93**	**8.487**	**$Average_{norm}$**	**0.007305**	**101.4**	**8.611**
Standard Dev.	**4.865**	**0.1851**	**Standard $Dev._{norm}$**		**4.614**	**0.2060**
Coeff. of Var. [%]	**4.869**	**2.181**	**Coeff. of Var. $[\%]_{norm}$**		**4.551**	**2.393**
Min.	**90.62**	**8.110**	**Min.**	**0.007171**	**92.49**	**8.228**
Max.	**111.1**	**9.120**	**Max.**	**0.007587**	**112.0**	**9.150**
Number of Spec.	**60**	**60**	**Number of Spec.**	**60**	**60**	**60**


Laminate Unnotched Compression 0/90 Properties (UNC0)--ETW1 (180°F)
Normalized Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Unnotched Compression Strength [ksi]
0
2
4
6
8
10
12
14
16
18
0
1
2
3
4
5
6
0
20
40
60
80
100
120


Laminate Unnotched Compression 0/90 Properties (UNC0)--ETW1 (180°F)
Normalized Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Unnotched Compression Modulus [Msi]
0
1
2
3
4
5
6
7
8
9
10
0
2
4
6
8
10
12
14
16
18
0
1
2
3
4
5
6

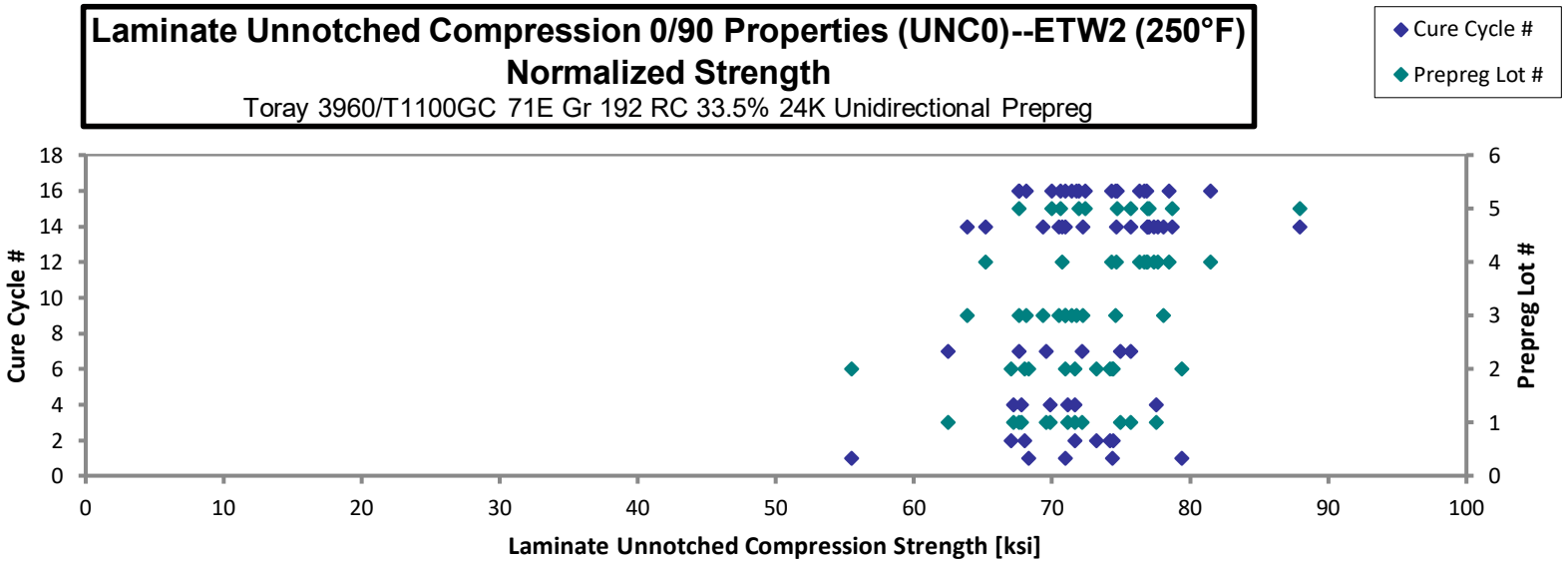
Laminate Unnotched Compression 0/90 Properties (UNC0)--ETW2 (250°F)
Strength & Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

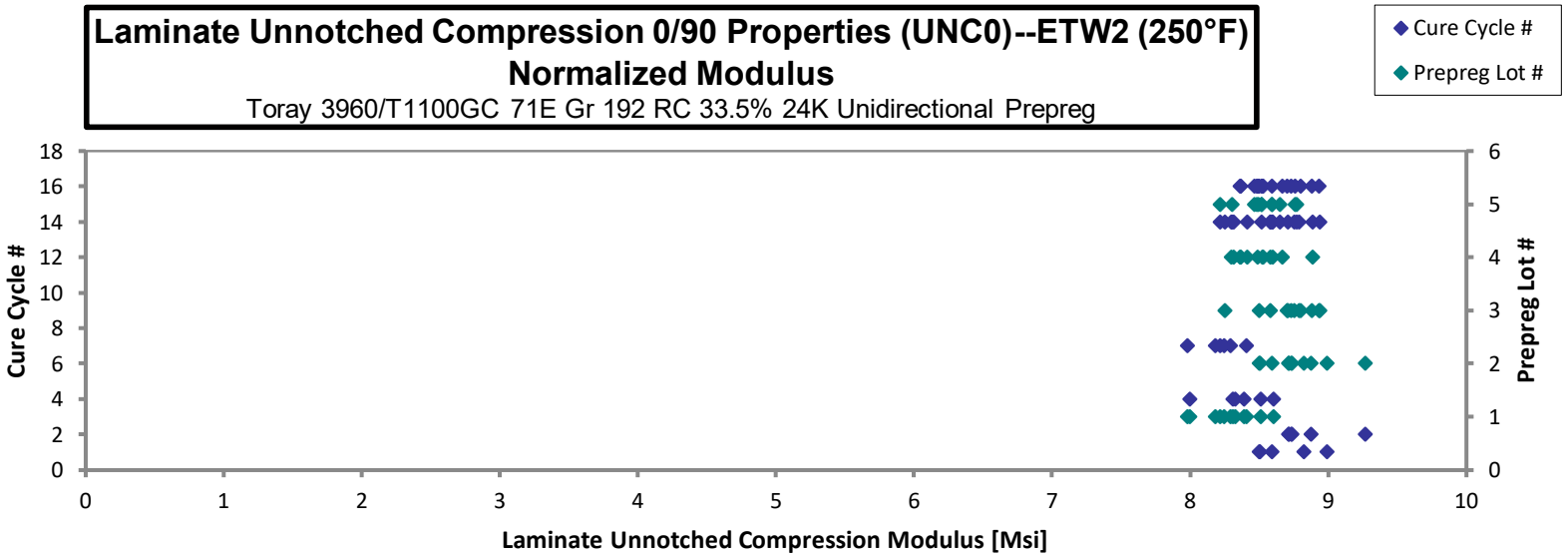
normalizing t_{ply} [in]: 0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Modulus (avg.**) [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
NTP3961Q1-TC-T01-BT-UNC0-A-C4-2-ETW2-2	A	C4	1	4	67.11	7.920	0.1091	15	TAT	0.007270	67.76	7.997
NTP3961Q1-TC-T01-BT-UNC0-A-C4-2-ETW2-3	A	C4	1	4	71.38	8.420	0.1077	15	TAB	0.007177	71.15	8.393
NTP3961Q1-TC-T01-BT-UNC0-A-C4-2-ETW2-4	A	C4	1	4	71.69	8.520	0.1079	15	TAT	0.007193	71.62	8.512
NTP3961Q1-TC-T01-BT-UNC0-A-C4-2-ETW2-5	A	C4	1	4	78.14	8.390	0.1072	15	TAT	0.007147	77.56	8.328
NTP3961Q1-TC-T01-BT-UNC0-A-C4-2-ETW2-6	A	C4	1	4	70.24	8.350	0.1075	15	TAT	0.007163	69.88	8.307
NTP3961Q1-TC-T01-BT-UNC0-A-C4-2-ETW2-7	A	C4	1	4	66.61	8.530	0.1090	15	TAB	0.007263	67.20	8.605
NTP3961Q1-TC-T01-BT-UNC0-A-C7-1-ETW2-2	A	C7	1	7	62.33	7.960	0.1083	15	BAT	0.007217	62.47	7.978
NTP3961Q1-TC-T01-BT-UNC0-A-C7-1-ETW2-3	A	C7	1	7	67.17	8.170	0.1087	15	BAT	0.007243	67.57	8.219
NTP3961Q1-TC-T01-BT-UNC0-A-C7-1-ETW2-4	A	C7	1	7	69.14	8.360	0.1087	15	BAT	0.007243	69.56	8.410
NTP3961Q1-TC-T01-BT-UNC0-A-C7-1-ETW2-5	A	C7	1	7	74.85	8.150	0.1093	15	BAB	0.007283	75.72	8.244
NTP3961Q1-TC-T01-BT-UNC0-A-C7-1-ETW2-7	A	C7	1	7	74.51	8.240	0.1087	15	BAB	0.007243	74.96	8.290
NTP3961Q1-TC-T01-BT-UNC0-A-C7-1-ETW2-8	A	C7	1	7	71.95	8.160	0.1083	15	TGM	0.007220	72.15	8.183
NTP3961Q1-TC-T01-BT-UNC0-B-C1-2-ETW2-2	B	C1	2	1	54.77	8.480	0.1094	15	HGT	0.007293	55.48	8.590
NTP3961Q1-TC-T01-BT-UNC0-B-C1-2-ETW2-3	B	C1	2	1	70.17	8.410	0.1092	15	BGB	0.007280	70.95	8.503
NTP3961Q1-TC-T01-BT-UNC0-B-C1-2-ETW2-7	B	C1	2	1	65.96	8.520	0.1118	15	TAT	0.007455	68.30	8.822
NTP3961Q1-TC-T01-BT-UNC0-B-C1-2-ETW2-8	B	C1	2	1	75.86	8.120	0.1131	15	BAB	0.007537	79.41	8.500
NTP3961Q1-TC-T01-BT-UNC0-B-C1-2-ETW2-9	B	C1	2	1	69.97	8.460	0.1148	15	BGM	0.007653	74.38	8.993
NTP3961Q1-TC-T01-BT-UNC0-B-C2-2-ETW2-1	B	C2	2	2	73.15	8.610	0.1096	15	HGM	0.007303	74.20	8.734
NTP3961Q1-TC-T01-BT-UNC0-B-C2-2-ETW2-2	B	C2	2	2	71.19	8.630	0.1111	15	BGM	0.007407	73.23	8.878
NTP3961Q1-TC-T01-BT-UNC0-B-C2-2-ETW2-3	B	C2	2	2	68.32	8.840	0.1133	15	HAB	0.007551	71.65	9.271
NTP3961Q1-TC-T01-BT-UNC0-B-C2-2-ETW2-4	B	C2	2	2	65.22	8.380	0.1126	15	HGM	0.007507	68.00	8.737
NTP3961Q1-TC-T01-BT-UNC0-B-C2-2-ETW2-5	B	C2	2	2	73.05	8.550	0.1101	15	BGM	0.007337	74.44	8.712
NTP3961Q1-TC-T01-BT-UNC0-B-C2-2-ETW2-6	B	C2	2	2	65.94	8.570	0.1098	15	HGM	0.007321	67.05	8.714
NTP3961Q1-TC-T01-TC-UNC0-C-C14-3-ETW2-1	C	C14	3	14	76.89	8.450	0.1097	15	BGM	0.007312	78.09	8.581
NTP3961Q1-TC-T01-TC-UNC0-C-C14-3-ETW2-2	C	C14	3	14	67.42	8.320	0.1136	15	BGT	0.007575	70.93	8.754
NTP3961Q1-TC-T01-TC-UNC0-C-C14-3-ETW2-3	C	C14	3	14	68.39	8.590	0.1095	15	BGM	0.007301	69.35	8.710
NTP3961Q1-TC-T01-TC-UNC0-C-C14-3-ETW2-4	C	C14	3	14	63.66	8.230	0.1083	15	BGT	0.007221	63.84	8.254
NTP3961Q1-TC-T01-TC-UNC0-C-C14-3-ETW2-5	C	C14	3	14	69.03	8.750	0.1103	15	BGT	0.007354	70.51	8.937
NTP3961Q1-TC-T01-TC-UNC0-C-C14-3-ETW2-6	C	C14	3	14	70.77	8.610	0.1102	15	HAT	0.007349	72.23	8.788
NTP3961Q1-TC-T01-TC-UNC0-C-C16-3-ETW2-1	C	C16	3	16	69.99	8.660	0.1108	15	BGT	0.007383	71.77	8.881
NTP3961Q1-TC-T01-TC-UNC0-C-C16-3-ETW2-2	C	C16	3	16	72.89	8.500	0.1106	15	BGT	0.007370	74.61	8.701
NTP3961Q1-TC-T01-TC-UNC0-C-C16-3-ETW2-3	C	C16	3	16	69.05	8.560	0.1110	15	HAT	0.007400	70.97	8.798
NTP3961Q1-TC-T01-TC-UNC0-C-C16-3-ETW2-4	C	C16	3	16	67.26	8.390	0.1094	15	BGM	0.007294	68.14	8.500
NTP3961Q1-TC-T01-TC-UNC0-C-C16-3-ETW2-5	C	C16	3	16	69.80	8.730	0.1105	15	HAT	0.007367	71.42	8.932
NTP3961Q1-TC-T01-TC-UNC0-C-C16-3-ETW2-6	C	C16	3	16	66.17	8.550	0.1103	15	BGM	0.007354	67.59	8.733
NTP3961Q1-TC-T01-TC-UNC0-D-C14-3-ETW2-1	D	C14	4	14	63.66	8.680	0.1106	15	BAB	0.007371	65.17	8.886
NTP3961Q1-TC-T01-TC-UNC0-D-C14-3-ETW2-2	D	C14	4	14	73.88	8.230	0.1091	15	BAB	0.007275	74.65	8.316
NTP3961Q1-TC-T01-TC-UNC0-D-C14-3-ETW2-3	D	C14	4	14	76.38	8.520	0.1088	15	BGM	0.007251	76.92	8.580
NTP3961Q1-TC-T01-TC-UNC0-D-C14-3-ETW2-4	D	C14	4	14	76.26	8.180	0.1096	15	BAB	0.007303	77.35	8.297
NTP3961Q1-TC-T01-TC-UNC0-D-C14-3-ETW2-5	D	C14	4	14	77.00	8.340	0.1089	15	BAT	0.007262	77.66	8.412
NTP3961Q1-TC-T01-TC-UNC0-D-C14-3-ETW2-6	D	C14	4	14	69.84	8.490	0.1094	15	BGM	0.007293	70.75	8.600
NTP3961Q1-TC-T01-TC-UNC0-D-C16-3-ETW2-1	D	C16	4	16	76.14	8.410	0.1090	15	BAB	0.007267	76.85	8.489
NTP3961Q1-TC-T01-TC-UNC0-D-C16-3-ETW2-2	D	C16	4	16	73.66	8.290	0.1090	15	BAT	0.007265	74.33	8.365
NTP3961Q1-TC-T01-TC-UNC0-D-C16-3-ETW2-3	D	C16	4	16	80.62	8.580	0.1091	15	BGM	0.007275	81.46	8.670
NTP3961Q1-TC-T01-TC-UNC0-D-C16-3-ETW2-4	D	C16	4	16	77.77	8.450	0.1090	15	BGM	0.007264	78.46	8.525
NTP3961Q1-TC-T01-TC-UNC0-D-C16-3-ETW2-6	D	C16	4	16	75.85	8.310	0.1087	15	BAB	0.007247	76.34	8.364
NTP3961Q1-TC-T01-TC-UNC0-D-C16-3-ETW2-7	D	C16	4	16	75.89	8.440	0.1092	15	BGM	0.007277	76.71	8.531
NTP3961Q1-TC-T01-TC-UNC0-E-C14-3-ETW2-1*	E	C14	5	14		8.630	0.1083	15	BGM	0.007219		8.652
NTP3961Q1-TC-T01-TC-UNC0-E-C14-3-ETW2-2	E	C14	5	14	87.81	8.290	0.1082	15	BGM	0.007210	87.93	8.302
NTP3961Q1-TC-T01-TC-UNC0-E-C14-3-ETW2-3	E	C14	5	14	77.97	8.690	0.1090	15	BAT	0.007265	78.68	8.769
NTP3961Q1-TC-T01-TC-UNC0-E-C14-3-ETW2-4	E	C14	5	14	75.26	8.470	0.1086	15	BAT	0.007240	75.68	8.517
NTP3961Q1-TC-T01-TC-UNC0-E-C14-3-ETW2-5	E	C14	5	14	77.07	8.220	0.1079	15	BAT	0.007195	77.02	8.215
NTP3961Q1-TC-T01-TC-UNC0-E-C14-3-ETW2-6	E	C14	5	14	76.69	8.570	0.1083	15	BAT	0.007220	76.90	8.594
NTP3961Q1-TC-T01-TC-UNC0-E-C16-3-ETW2-1	E	C16	5	16	69.94	8.680	0.1090	15	BAB	0.007267	70.59	8.760
NTP3961Q1-TC-T01-TC-UNC0-E-C16-3-ETW2-2	E	C16	5	16	71.20	8.380	0.1091	15	BAT	0.007272	71.91	8.464
NTP3961Q1-TC-T01-TC-UNC0-E-C16-3-ETW2-3	E	C16	5	16	71.41	8.380	0.1095	15	BAB	0.007299	72.39	8.495
NTP3961Q1-TC-T01-TC-UNC0-E-C16-3-ETW2-4	E	C16	5	16	66.67	8.360	0.1096	15	BAB	0.007303	67.63	8.480
NTP3961Q1-TC-T01-TC-UNC0-E-C16-3-ETW2-5	E	C16	5	16	73.73	8.480	0.1095	15	BAB	0.007297	74.72	8.594
NTP3961Q1-TC-T01-TC-UNC0-E-C16-3-ETW2-6	E	C16	5	16	69.44	8.450	0.1089	15	BAB	0.007257	69.99	8.517

*Strength is not reported due to buckling
**Average of back to back strain gages

	Strength	Modulus		$Strength_{norm}$	$Modulus_{norm}$
Average	71.45	8.434	$Average_{norm}$	72.49	8.557
Standard Dev.	5.246	0.1882	$Standard\ Dev._{norm}$	5.123	0.2489
Coeff. of Var. [%]	7.342	2.232	Coeff. of Var. $[\%]_{norm}$	7.067	2.909
Min.	54.77	7.920	Min.	55.48	7.978
Max.	87.81	8.840	Max.	87.93	9.271
Number of Spec.	58	59	Number of Spec.	58	59


Laminate Unnotched Compression 0/90 Properties (UNC0)--ETW2 (250°F)
Normalized Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Unnotched Compression Strength [ksi]
0
2
4
6
8
10
12
14
16
18
0
1
2
3
4
5
6
0
10
20
30
40
50
60
70
80
90
100


Laminate Unnotched Compression 0/90 Properties (UNC0)--ETW2 (250°F)
Normalized Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Unnotched Compression Modulus [Msi]
0
1
2
3
4
5
6
7
8
9
10
0
2
4
6
8
10
12
14
16
18
0
1
2
3
4
5
6

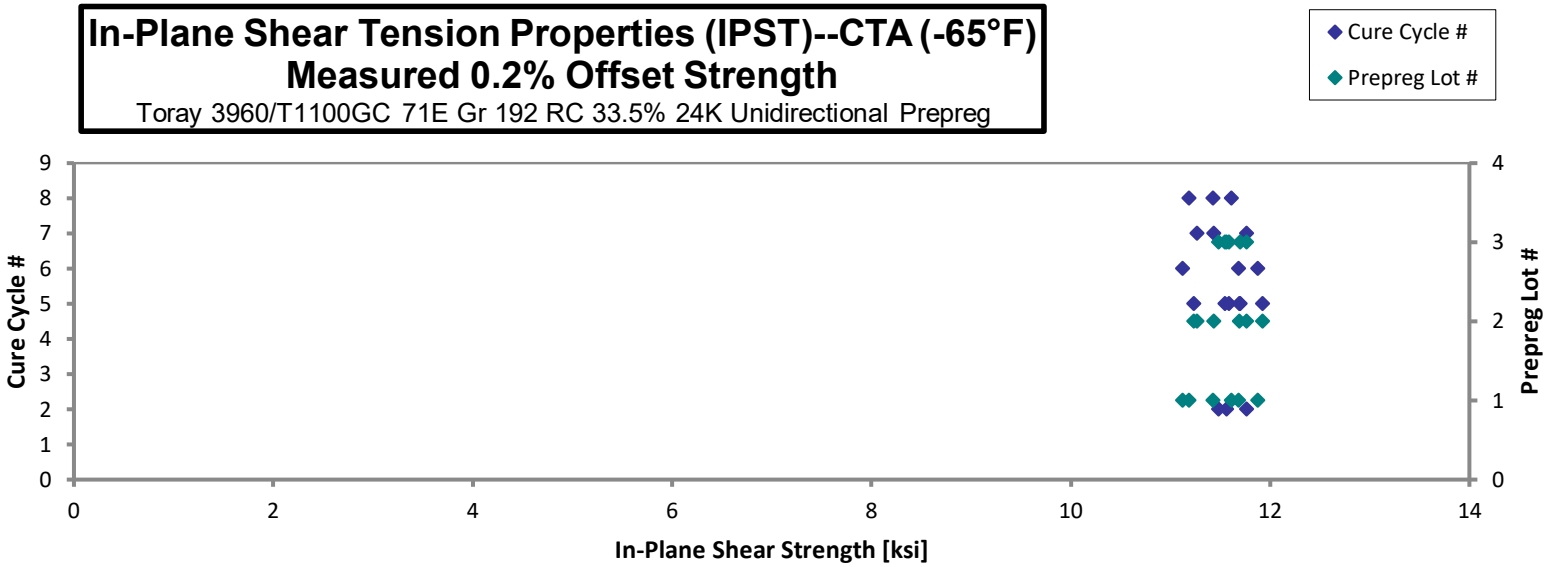
4.7 In-Plane Shear Tension Properties (IPST)

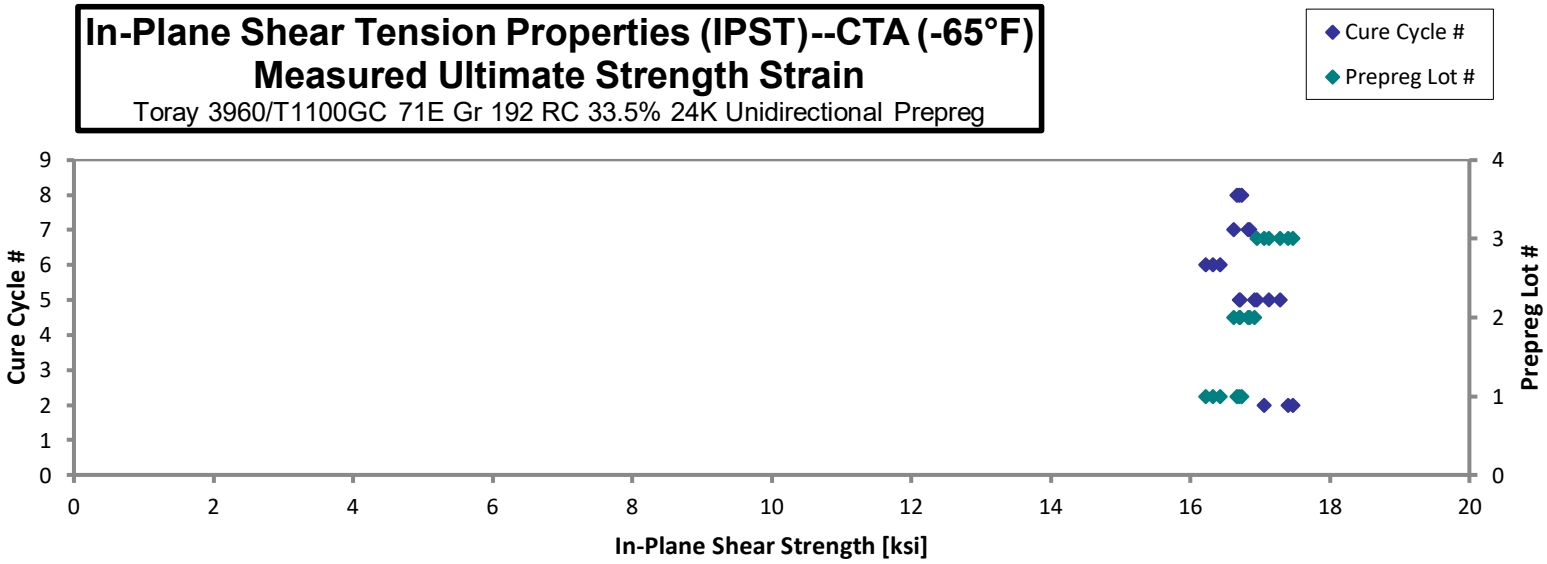
In-Plane Shear Tension Properties (IPST)--CTA (-65°F)
Strength & Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

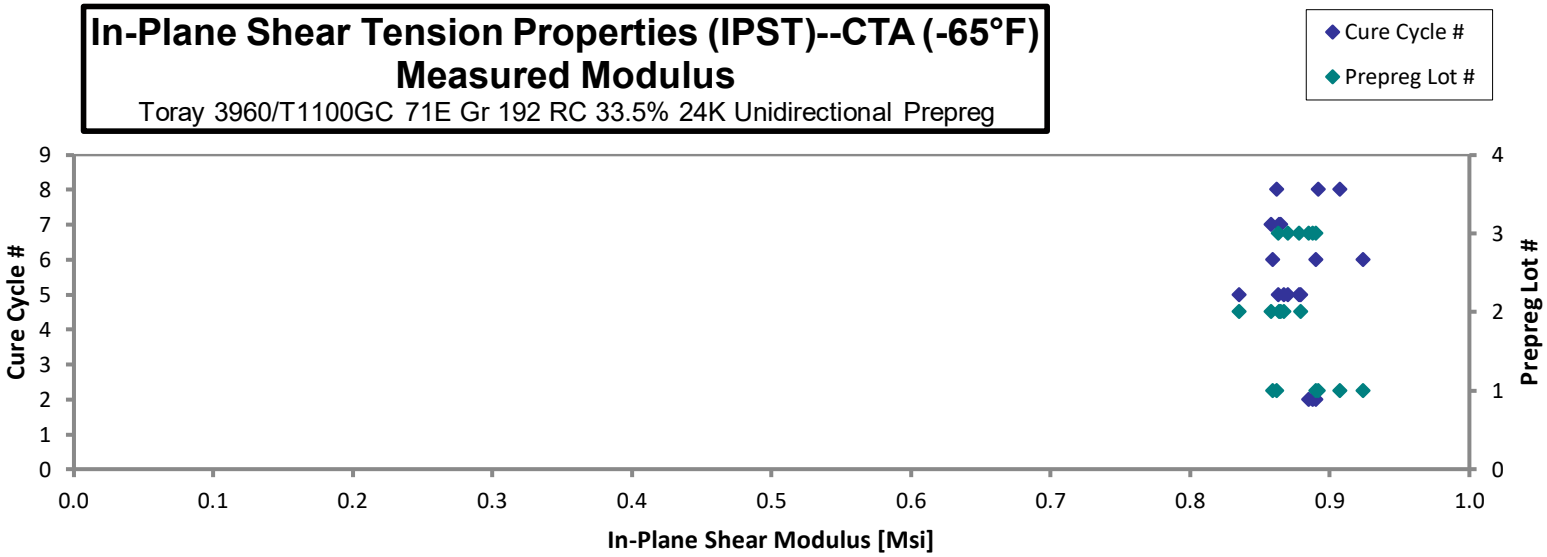
Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	0.2% Offset Strength [ksi]	Ultimate Strength Strain [ksi]*	Modulus [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Avg. t_{ply} [in]
NTP3961Q1-TC-T01-BT-IPST-A-C6-1-CTA-1	A	C6	1	6	11.68	16.32	0.9240	0.1118	16	0.006989
NTP3961Q1-TC-T01-BT-IPST-A-C6-1-CTA-2	A	C6	1	6	11.87	16.42	0.8590	0.1148	16	0.007173
NTP3961Q1-TC-T01-BT-IPST-A-C6-1-CTA-3	A	C6	1	6	11.12	16.22	0.8900	0.1162	16	0.007263
NTP3961Q1-TC-T01-BT-IPST-A-C8-2-CTA-1	A	C8	1	8	11.61	16.66	0.8920	0.1142	16	0.007139
NTP3961Q1-TC-T01-BT-IPST-A-C8-2-CTA-2	A	C8	1	8	11.42	16.70	0.9070	0.1155	16	0.007218
NTP3961Q1-TC-T01-BT-IPST-A-C8-2-CTA-3	A	C8	1	8	11.18	16.73	0.8620	0.1166	16	0.007289
NTP3961Q1-TC-T01-BT-IPST-B-C5-1-CTA-1	B	C5	2	5	11.23	16.91	0.8790	0.1182	16	0.007388
NTP3961Q1-TC-T01-BT-IPST-B-C5-1-CTA-2	B	C5	2	5	11.92	16.71	0.8350	0.1190	16	0.007438
NTP3961Q1-TC-T01-BT-IPST-B-C5-1-CTA-3	B	C5	2	5	11.69	16.70	0.8670	0.1174	16	0.007338
NTP3961Q1-TC-T01-BT-IPST-B-C7-1-CTA-1	B	C7	2	7	11.76	16.85	0.8580	0.1181	16	0.007380
NTP3961Q1-TC-T01-BT-IPST-B-C7-1-CTA-2	B	C7	2	7	11.26	16.62	0.8640	0.1199	16	0.007491
NTP3961Q1-TC-T01-BT-IPST-B-C7-1-CTA-3	B	C7	2	7	11.43	16.82	0.8650	0.1180	16	0.007374
NTP3961Q1-TC-T01-TC-IPST-C-C2-1-CTA-1	C	C2	3	2	11.76	17.46	0.8900	0.1158	16	0.007236
NTP3961Q1-TC-T01-TC-IPST-C-C2-1-CTA-2	C	C2	3	2	11.48	17.40	0.8880	0.1166	16	0.007288
NTP3961Q1-TC-T01-TC-IPST-C-C2-1-CTA-3	C	C2	3	2	11.56	17.05	0.8850	0.1172	16	0.007327
NTP3961Q1-TC-T01-TC-IPST-C-C5-1-CTA-1	C	C5	3	5	11.70	17.28	0.8700	0.1167	16	0.007294
NTP3961Q1-TC-T01-TC-IPST-C-C5-1-CTA-2	C	C5	3	5	11.54	16.94	0.8780	0.1176	16	0.007347
NTP3961Q1-TC-T01-TC-IPST-C-C5-1-CTA-3	C	C5	3	5	11.58	17.12	0.8630	0.1163	16	0.007271

*Specimens failed before reaching 5%

Average	**11.54**	**16.83**	**0.8764**	**0.007291**
Standard Dev.	**0.2345**	**0.3442**	**0.02056**	
Coeff. of Var. [%]	**2.032**	**2.046**	**2.346**	
Min.	**11.12**	**16.22**	**0.8350**	**0.006989**
Max.	**11.92**	**17.46**	**0.9240**	**0.007491**
Number of Spec.	**18**	**18**	**18**	**18**

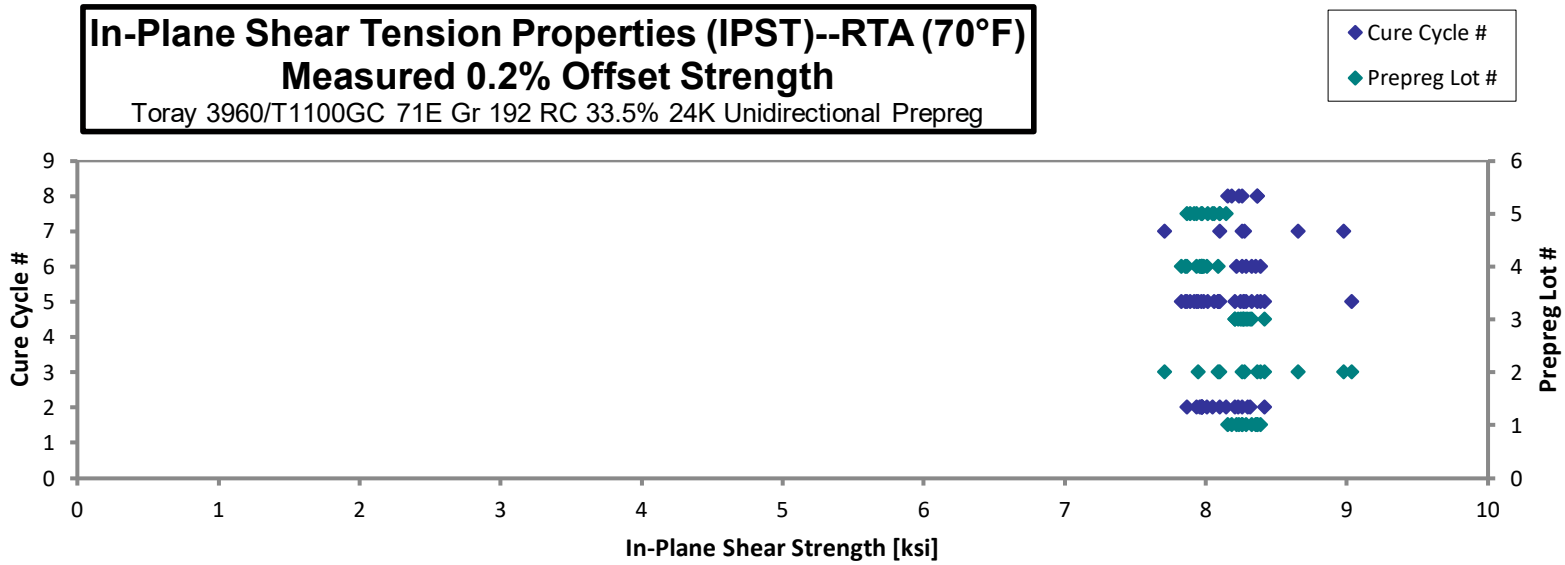

In-Plane Shear Tension Properties (IPST)--CTA (-65°F)
Measured 0.2% Offset Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
In-Plane Shear Strength [ksi]
0
1
2
3
4
5
6
7
8
9
0
2
4
6
8
10
12
14

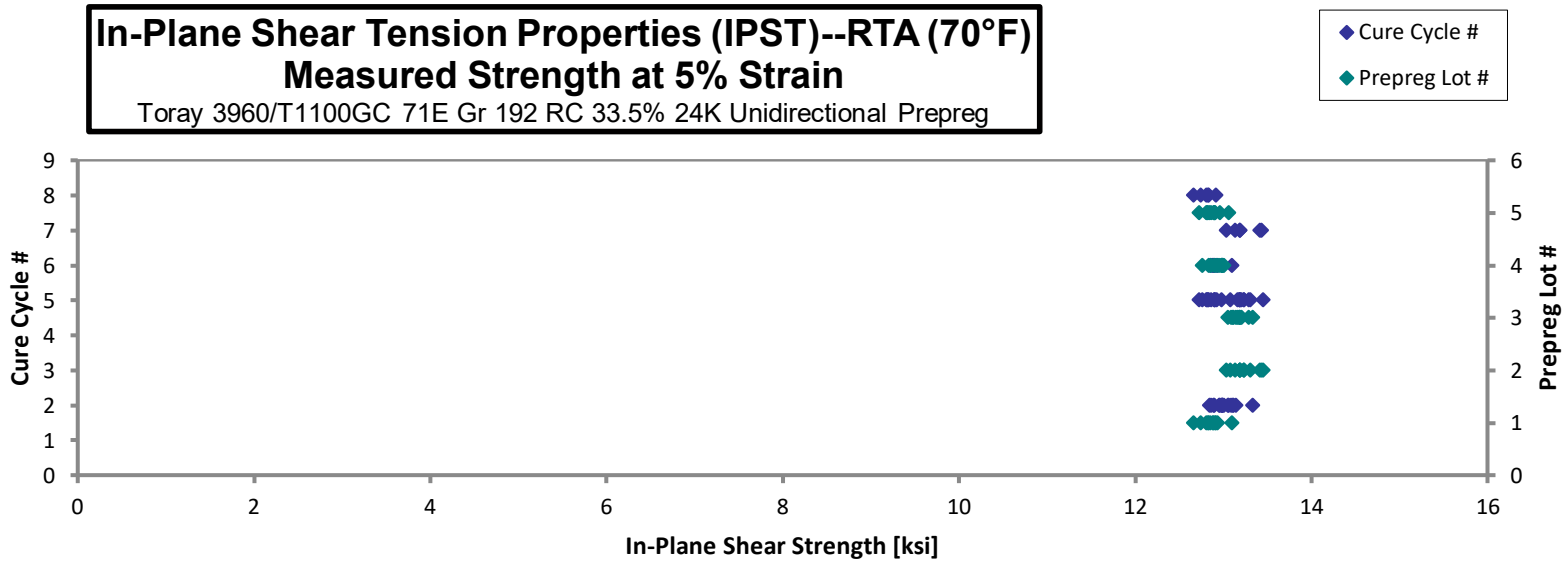

In-Plane Shear Tension Properties (IPST)--CTA (-65°F)
Measured Ultimate Strength Strain
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
In-Plane Shear Strength [ksi]
0
2
4
6
8
10
12
14
16
18
20
1
3
5
7
9

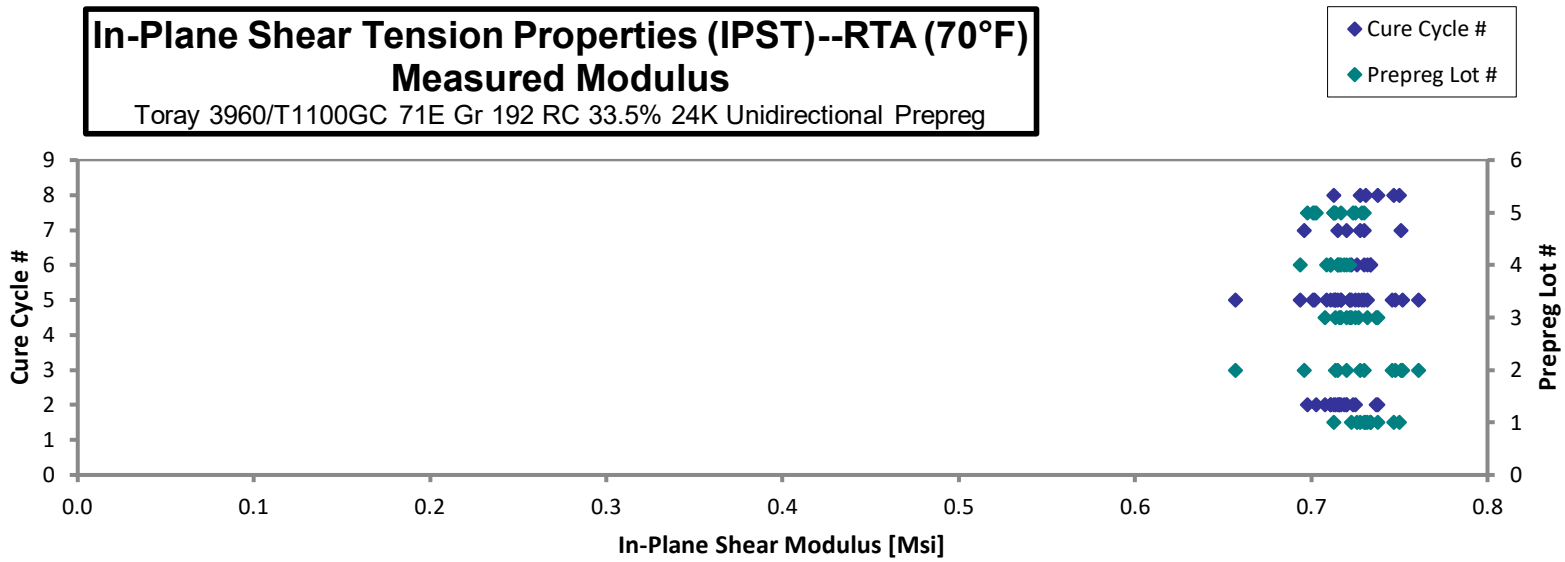

In-Plane Shear Tension Properties (IPST)--CTA (-65°F)
Measured Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
In-Plane Shear Modulus [Msi]
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1.0
0
1
2
3
4
5
6
7
8
9

In-Plane Shear Tension Properties (IPST)--RTA (70°F)
Strength & Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	0.2% Offset Strength [ksi]	Strength at 5% Strain [ksi]	Modulus [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Avg. t_{ply} [in]
NTP3961Q1-TC-T01-BT-IPST-A-C6-1-RTA-2	A	C6	1	6	8.290	13.09	0.7300	0.1175	16	0.007341
NTP3961Q1-TC-T01-BT-IPST-A-C6-1-RTA-3	A	C6	1	6	8.220	12.85	0.7260	0.1162	16	0.007263
NTP3961Q1-TC-T01-BT-IPST-A-C6-1-RTA-4	A	C6	1	6	8.360	12.87	0.7340	0.1165	16	0.007281
NTP3961Q1-TC-T01-BT-IPST-A-C6-1-RTA-5	A	C6	1	6	8.330	12.93	0.7340	0.1158	16	0.007235
NTP3961Q1-TC-T01-BT-IPST-A-C6-1-RTA-6	A	C6	1	6	8.390	12.90	0.7230	0.1151	16	0.007191
NTP3961Q1-TC-T01-BT-IPST-A-C6-1-RTA-7	A	C6	1	6	8.260	12.88	0.7320	0.1159	16	0.007244
NTP3961Q1-TC-T01-BT-IPST-A-C8-2-RTA-1	A	C8	1	8	8.260	12.66	0.7380	0.1158	16	0.007235
NTP3961Q1-TC-T01-BT-IPST-A-C8-2-RTA-2	A	C8	1	8	8.370	12.91	0.7500	0.1162	16	0.007259
NTP3961Q1-TC-T01-BT-IPST-A-C8-2-RTA-3	A	C8	1	8	8.370	12.82	0.7470	0.1166	16	0.007288
NTP3961Q1-TC-T01-BT-IPST-A-C8-2-RTA-4	A	C8	1	8	8.160	12.80	0.7130	0.1161	16	0.007255
NTP3961Q1-TC-T01-BT-IPST-A-C8-2-RTA-5	A	C8	1	8	8.240	12.83	0.7310	0.1157	16	0.007228
NTP3961Q1-TC-T01-BT-IPST-A-C8-2-RTA-6	A	C8	1	8	8.190	12.74	0.7280	0.1149	16	0.007180
NTP3961Q1-TC-T01-BT-IPST-B-C5-1-RTA-1	B	C5	2	5	8.370	13.23	0.7460	0.1185	16	0.007408
NTP3961Q1-TC-T01-BT-IPST-B-C5-1-RTA-2	B	C5	2	5	8.090	13.07	0.7140	0.1188	16	0.007423
NTP3961Q1-TC-T01-BT-IPST-B-C5-1-RTA-4	B	C5	2	5	8.390	13.30	0.7480	0.1173	16	0.007329
NTP3961Q1-TC-T01-BT-IPST-B-C5-1-RTA-5	B	C5	2	5	9.040	13.23	0.6570	0.1183	16	0.007391
NTP3961Q1-TC-T01-BT-IPST-B-C5-1-RTA-5	B	C5	2	5	7.950	13.18	0.7610	0.1183	16	0.007391
NTP3961Q1-TC-T01-BT-IPST-B-C5-1-RTA-9	B	C5	2	5	8.420	13.45	0.7520	0.1171	16	0.007321
NTP3961Q1-TC-T01-BT-IPST-B-C7-1-RTA-1	B	C7	2	7	8.260	13.18	0.7150	0.1183	16	0.007393
NTP3961Q1-TC-T01-BT-IPST-B-C7-1-RTA-2	B	C7	2	7	8.280	13.13	0.7280	0.1183	16	0.007391
NTP3961Q1-TC-T01-BT-IPST-B-C7-1-RTA-3	B	C7	2	7	8.660	13.41	0.7510	0.1182	16	0.007388
NTP3961Q1-TC-T01-BT-IPST-B-C7-1-RTA-4	B	C7	2	7	7.710	13.03	0.6960	0.1187	16	0.007419
NTP3961Q1-TC-T01-BT-IPST-B-C7-1-RTA-5	B	C7	2	7	8.100	13.18	0.7300	0.1188	16	0.007426
NTP3961Q1-TC-T01-BT-IPST-B-C7-1-RTA-6	B	C7	2	7	8.980	13.43	0.7200	0.1167	16	0.007294
NTP3961Q1-TC-T01-TC-IPST-C-C2-1-RTA-1	C	C2	3	2	8.230	13.08	0.7160	0.1172	16	0.007326
NTP3961Q1-TC-T01-TC-IPST-C-C2-1-RTA-2	C	C2	3	2	8.320	13.10	0.7080	0.1170	16	0.007309
NTP3961Q1-TC-T01-TC-IPST-C-C2-1-RTA-3	C	C2	3	2	8.210	13.11	0.7200	0.1160	16	0.007252
NTP3961Q1-TC-T01-TC-IPST-C-C2-1-RTA-4	C	C2	3	2	8.260	13.14	0.7380	0.1167	16	0.007294
NTP3961Q1-TC-T01-TC-IPST-C-C2-1-RTA-5	C	C2	3	2	8.420	13.33	0.7370	0.1160	16	0.007249
NTP3961Q1-TC-T01-TC-IPST-C-C2-1-RTA-6	C	C2	3	2	8.300	13.05	0.7170	0.1172	16	0.007322
NTP3961Q1-TC-T01-TC-IPST-C-C5-1-RTA-1	C	C5	3	5	8.270	13.17	0.7230	0.1157	16	0.007233
NTP3961Q1-TC-T01-TC-IPST-C-C5-1-RTA-2	C	C5	3	5	8.270	13.20	0.7220	0.1165	16	0.007278
NTP3961Q1-TC-T01-TC-IPST-C-C5-1-RTA-3	C	C5	3	5	8.330	13.18	0.7320	0.1171	16	0.007316
NTP3961Q1-TC-T01-TC-IPST-C-C5-1-RTA-4	C	C5	3	5	8.250	13.18	0.7250	0.1167	16	0.007291
NTP3961Q1-TC-T01-TC-IPST-C-C5-1-RTA-5	C	C5	3	5	8.210	13.16	0.7140	0.1166	16	0.007285
NTP3961Q1-TC-T01-TC-IPST-C-C5-1-RTA-6	C	C5	3	5	8.290	13.28	0.7270	0.1164	16	0.007272
NTP3961Q1-TC-T01-TC-IPST-D-C2-1-RTA-1	D	C2	4	2	8.010	13.00	0.7190	0.1171	16	0.007316
NTP3961Q1-TC-T01-TC-IPST-D-C2-1-RTA-2	D	C2	4	2	7.940	12.98	0.7150	0.1169	16	0.007308
NTP3961Q1-TC-T01-TC-IPST-D-C2-1-RTA-3	D	C2	4	2	7.970	12.98	0.7110	0.1172	16	0.007323
NTP3961Q1-TC-T01-TC-IPST-D-C2-1-RTA-4	D	C2	4	2	7.960	12.98	0.7200	0.1167	16	0.007293
NTP3961Q1-TC-T01-TC-IPST-D-C2-1-RTA-5	D	C2	4	2	7.980	12.97	0.7160	0.1169	16	0.007304
NTP3961Q1-TC-T01-TC-IPST-D-C2-1-RTA-6	D	C2	4	2	7.980	12.95	0.7110	0.1168	16	0.007301
NTP3961Q1-TC-T01-TC-IPST-D-C5-1-RTA-1	D	C5	4	5	7.870	12.86	0.7090	0.1170	16	0.007314
NTP3961Q1-TC-T01-TC-IPST-D-C5-1-RTA-2	D	C5	4	5	7.860	12.83	0.7110	0.1174	16	0.007334
NTP3961Q1-TC-T01-TC-IPST-D-C5-1-RTA-3	D	C5	4	5	7.970	12.92	0.7150	0.1171	16	0.007319
NTP3961Q1-TC-T01-TC-IPST-D-C5-1-RTA-4	D	C5	4	5	8.090	12.97	0.7220	0.1168	16	0.007299
NTP3961Q1-TC-T01-TC-IPST-D-C5-1-RTA-5	D	C5	4	5	7.830	12.76	0.6940	0.1174	16	0.007338
NTP3961Q1-TC-T01-TC-IPST-D-C5-1-RTA-6	D	C5	4	5	7.990	12.89	0.7170	0.1169	16	0.007307
NTP3961Q1-TC-T01-TC-IPST-E-C2-1-RTA-1	E	C2	5	2	7.980	12.86	0.7140	0.1163	16	0.007268
NTP3961Q1-TC-T01-TC-IPST-E-C2-1-RTA-2	E	C2	5	2	7.870	12.84	0.7030	0.1154	16	0.007214
NTP3961Q1-TC-T01-TC-IPST-E-C2-1-RTA-3	E	C2	5	2	7.970	12.89	0.6980	0.1159	16	0.007243
NTP3961Q1-TC-T01-TC-IPST-E-C2-1-RTA-4	E	C2	5	2	8.150	13.06	0.7250	0.1163	16	0.007266
NTP3961Q1-TC-T01-TC-IPST-E-C2-1-RTA-5	E	C2	5	2	8.100	12.96	0.7240	0.1159	16	0.007241
NTP3961Q1-TC-T01-TC-IPST-E-C2-1-RTA-6	E	C2	5	2	8.050	12.88	0.7130	0.1155	16	0.007216
NTP3961Q1-TC-T01-TC-IPST-E-C5-1-RTA-1	E	C5	5	5	8.060	12.89	0.7290	0.1163	16	0.007270
NTP3961Q1-TC-T01-TC-IPST-E-C5-1-RTA-2	E	C5	5	5	7.920	12.80	0.7010	0.1165	16	0.007278
NTP3961Q1-TC-T01-TC-IPST-E-C5-1-RTA-3	E	C5	5	5	7.890	12.72	0.7020	0.1159	16	0.007241
NTP3961Q1-TC-T01-TC-IPST-E-C5-1-RTA-4	E	C5	5	5	7.940	12.81	0.7130	0.1159	16	0.007242
NTP3961Q1-TC-T01-TC-IPST-E-C5-1-RTA-5	E	C5	5	5	8.100	12.90	0.7300	0.1162	16	0.007259
NTP3961Q1-TC-T01-TC-IPST-E-C5-1-RTA-6	E	C5	5	5	8.020	12.82	0.7170	0.1158	16	0.007234
				Average	**8.176**	**13.01**	**0.7219**			**0.007295**
				Standard Dev.	**0.2449**	**0.1863**	**0.01675**			
				Coeff. of Var. [%]	**2.996**	**1.432**	**2.320**			
				Min.	**7.710**	**12.66**	**0.6570**			**0.007180**
				Max.	**9.040**	**13.45**	**0.7610**			**0.007426**
				Number of Spec.	**60**	**60**	**60**			**60**

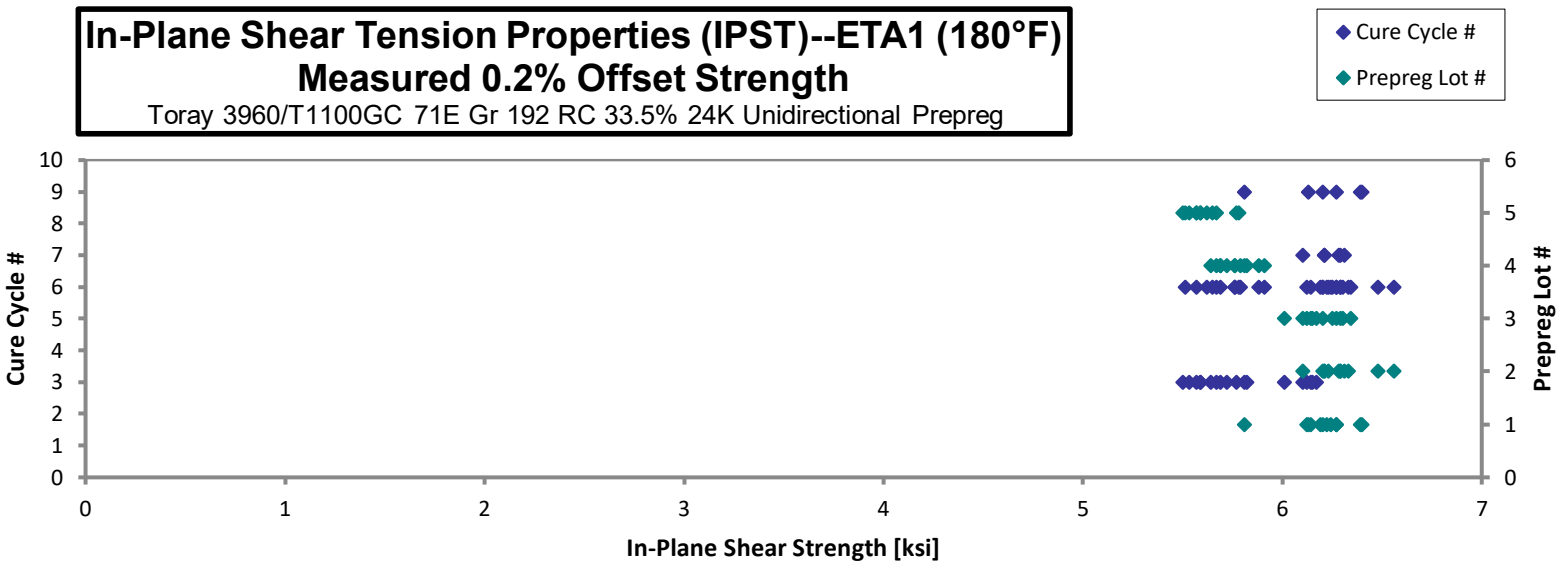

In-Plane Shear Tension Properties (IPST)--RTA (70°F)
Measured 0.2% Offset Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
In-Plane Shear Strength [ksi]
0
1
2
3
4
5
6
7
8
9
10

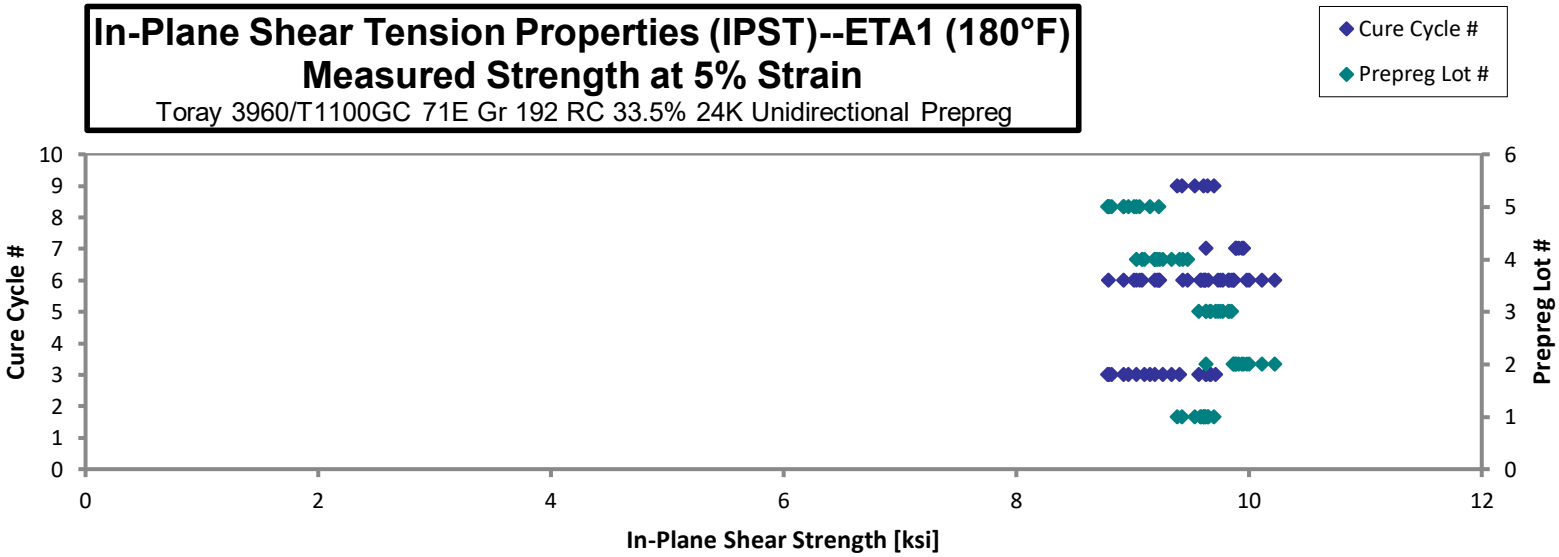

In-Plane Shear Tension Properties (IPST)--RTA (70°F)
Measured Strength at 5% Strain
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
In-Plane Shear Strength [ksi]
0
1
2
3
4
5
6
7
8
9
0
2
4
6
8
10
12
14
16

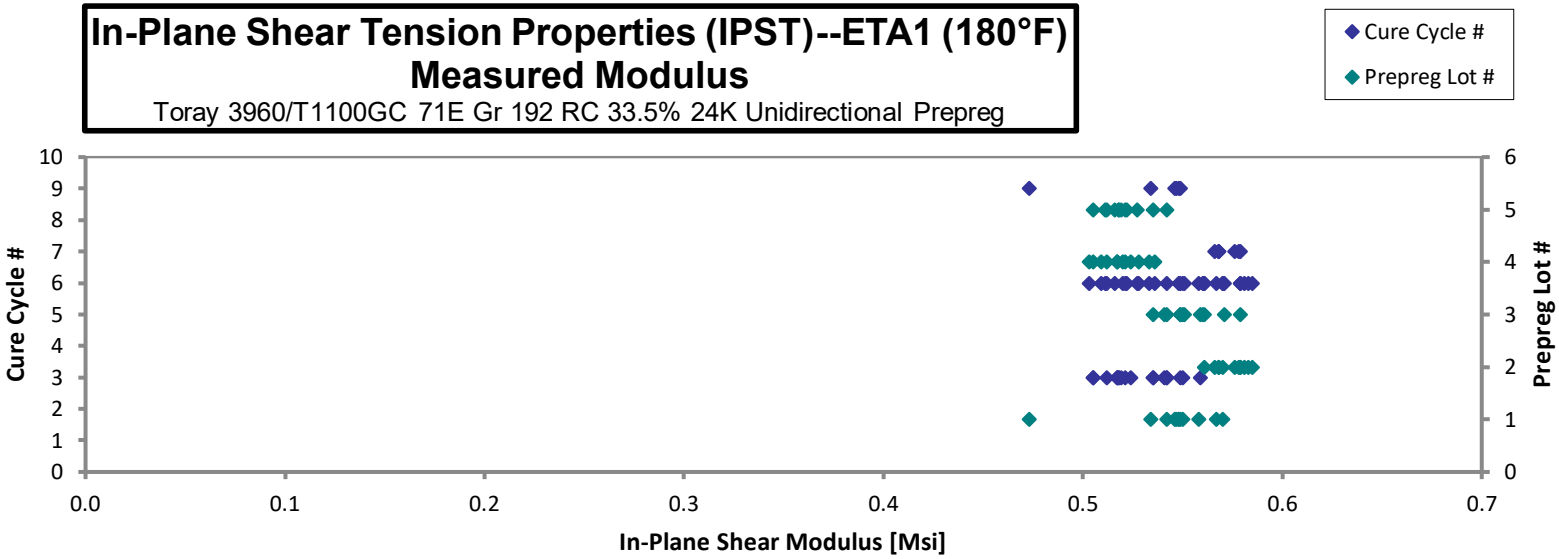

In-Plane Shear Tension Properties (IPST)--RTA (70°F)
Measured Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
In-Plane Shear Modulus [Msi]
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0
1
2
3
4
5
6
7
8
9

In-Plane Shear Tension Properties (IPST)--ETA1 (180°F)
Strength & Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	0.2% Offset Strength [ksi]	Strength at 5% Strain [ksi]	Modulus [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Avg. t_{ply} [in]
NTP3961Q1-TC-T01-BT-IPST-A-C6-2-ETA1-2	A	C6	1	6	6.240	9.620	0.5500	0.1144	16	0.007148
NTP3961Q1-TC-T01-BT-IPST-A-C6-2-ETA1-3	A	C6	1	6	6.190	9.580	0.5480	0.1162	16	0.007264
NTP3961Q1-TC-T01-BT-IPST-A-C6-2-ETA1-4	A	C6	1	6	6.120	9.610	0.5420	0.1166	16	0.007286
NTP3961Q1-TC-T01-BT-IPST-A-C6-2-ETA1-5	A	C6	1	6	6.140	9.590	0.5670	0.1162	16	0.007263
NTP3961Q1-TC-T01-BT-IPST-A-C6-2-ETA1-7	A	C6	1	6	6.220	9.620	0.5580	0.1158	16	0.007239
NTP3961Q1-TC-T01-BT-IPST-A-C6-2-ETA1-8	A	C6	1	6	6.270	9.650	0.5700	0.1161	16	0.007257
NTP3961Q1-TC-T01-BT-IPST-A-C9-1-ETA1-1	A	C9	1	9	6.390	9.530	0.5490	0.1127	16	0.007043
NTP3961Q1-TC-T01-BT-IPST-A-C9-1-ETA1-2	A	C9	1	9	6.400	9.700	0.5340	0.1153	16	0.007203
NTP3961Q1-TC-T01-BT-IPST-A-C9-1-ETA1-3	A	C9	1	9	6.130	9.640	0.5480	0.1171	16	0.007316
NTP3961Q1-TC-T01-BT-IPST-A-C9-1-ETA1-4	A	C9	1	9	6.270	9.610	0.5470	0.1179	16	0.007371
NTP3961Q1-TC-T01-BT-IPST-A-C9-1-ETA1-5	A	C9	1	9	5.810	9.380	0.5460	0.1175	16	0.007343
NTP3961Q1-TC-T01-BT-IPST-A-C9-1-ETA1-6	A	C9	1	9	6.200	9.420	0.4730	0.1177	16	0.007358
NTP3961Q1-TC-T01-BT-IPST-B-C6-1-ETA1-1	B	C6	2	6	6.200	9.870	0.5790	0.1192	16	0.007450
NTP3961Q1-TC-T01-BT-IPST-B-C6-1-ETA1-2	B	C6	2	6	6.290	9.980	0.5700	0.1166	16	0.007284
NTP3961Q1-TC-T01-BT-IPST-B-C6-1-ETA1-3	B	C6	2	6	6.330	10.00	0.5810	0.1169	16	0.007305
NTP3961Q1-TC-T01-BT-IPST-B-C6-1-ETA1-4	B	C6	2	6	6.560	10.11	0.5830	0.1174	16	0.007338
NTP3961Q1-TC-T01-BT-IPST-B-C6-1-ETA1-5	B	C6	2	6	6.230	9.860	0.5610	0.1179	16	0.007368
NTP3961Q1-TC-T01-BT-IPST-B-C6-1-ETA1-6	B	C6	2	6	6.480	10.22	0.5850	0.1156	16	0.007227
NTP3961Q1-TC-T01-BT-IPST-B-C7-2-ETA1-1	B	C7	2	7	6.310	9.950	0.5790	0.1189	16	0.007430
NTP3961Q1-TC-T01-BT-IPST-B-C7-2-ETA1-2	B	C7	2	7	6.290	9.940	0.5780	0.1188	16	0.007425
NTP3961Q1-TC-T01-BT-IPST-B-C7-2-ETA1-3	B	C7	2	7	6.210	9.890	0.5680	0.1183	16	0.007394
NTP3961Q1-TC-T01-BT-IPST-B-C7-2-ETA1-4	B	C7	2	7	6.100	9.630	0.5680	0.1184	16	0.007401
NTP3961Q1-TC-T01-BT-IPST-B-C7-2-ETA1-5	B	C7	2	7	6.280	9.910	0.5760	0.1180	16	0.007375
NTP3961Q1-TC-T01-BT-IPST-B-C7-2-ETA1-6	B	C7	2	7	6.210	9.880	0.5660	0.1175	16	0.007344
NTP3961Q1-TC-T01-TC-IPST-C-C3-1-ETA1-1	C	C3	3	3	6.150	9.660	0.5420	0.1165	16	0.007282
NTP3961Q1-TC-T01-TC-IPST-C-C3-1-ETA1-2	C	C3	3	3	6.140	9.710	0.5490	0.1163	16	0.007269
NTP3961Q1-TC-T01-TC-IPST-C-C3-1-ETA1-3	C	C3	3	3	6.120	9.630	0.5500	0.1181	16	0.007382
NTP3961Q1-TC-T01-TC-IPST-C-C3-1-ETA1-4	C	C3	3	3	6.100	9.570	0.5410	0.1165	16	0.007282
NTP3961Q1-TC-T01-TC-IPST-C-C3-1-ETA1-5	C	C3	3	3	6.010	9.630	0.5350	0.1169	16	0.007306
NTP3961Q1-TC-T01-TC-IPST-C-C3-1-ETA1-6	C	C3	3	3	6.170	9.670	0.5590	0.1173	16	0.007332
NTP3961Q1-TC-T01-TC-IPST-C-C6-1-ETA1-1	C	C6	3	6	6.200	9.750	0.5490	0.1165	16	0.007280
NTP3961Q1-TC-T01-TC-IPST-C-C6-1-ETA1-2	C	C6	3	6	6.300	9.820	0.5610	0.1166	16	0.007286
NTP3961Q1-TC-T01-TC-IPST-C-C6-1-ETA1-3	C	C6	3	6	6.250	9.830	0.5510	0.1166	16	0.007284
NTP3961Q1-TC-T01-TC-IPST-C-C6-1-ETA1-4	C	C6	3	6	6.270	9.730	0.5600	0.1171	16	0.007316
NTP3961Q1-TC-T01-TC-IPST-C-C6-1-ETA1-5	C	C6	3	6	6.340	9.850	0.5790	0.1163	16	0.007269
NTP3961Q1-TC-T01-TC-IPST-C-C6-1-ETA1-6	C	C6	3	6	6.290	9.770	0.5710	0.1163	16	0.007271
NTP3961Q1-TC-T01-TC-IPST-D-C3-1-ETA1-1	D	C3	4	3	5.670	9.030	0.5120	0.1174	16	0.007336
NTP3961Q1-TC-T01-TC-IPST-D-C3-1-ETA1-2	D	C3	4	3	5.640	9.100	0.5050	0.1164	16	0.007276
NTP3961Q1-TC-T01-TC-IPST-D-C3-1-ETA1-3	D	C3	4	3	5.720	9.260	0.5170	0.1173	16	0.007330
NTP3961Q1-TC-T01-TC-IPST-D-C3-1-ETA1-4	D	C3	4	3	5.820	9.400	0.5240	0.1167	16	0.007294
NTP3961Q1-TC-T01-TC-IPST-D-C3-1-ETA1-5	D	C3	4	3	5.810	9.330	0.5210	0.1172	16	0.007325
NTP3961Q1-TC-T01-TC-IPST-D-C3-1-ETA1-6	D	C3	4	3	5.690	9.190	0.5170	0.1172	16	0.007323
NTP3961Q1-TC-T01-TC-IPST-D-C6-1-ETA1-1	D	C6	4	6	5.760	9.230	0.5090	0.1167	16	0.007291
NTP3961Q1-TC-T01-TC-IPST-D-C6-1-ETA1-2	D	C6	4	6	5.690	9.190	0.5030	0.1168	16	0.007298
NTP3961Q1-TC-T01-TC-IPST-D-C6-1-ETA1-3	D	C6	4	6	5.790	9.210	0.5200	0.1172	16	0.007322
NTP3961Q1-TC-T01-TC-IPST-D-C6-1-ETA1-4	D	C6	4	6	5.910	9.470	0.5330	0.1166	16	0.007286
NTP3961Q1-TC-T01-TC-IPST-D-C6-1-ETA1-5	D	C6	4	6	5.880	9.430	0.5280	0.1161	16	0.007258
NTP3961Q1-TC-T01-TC-IPST-D-C6-1-ETA1-6	D	C6	4	6	5.760	9.080	0.5360	0.1168	16	0.007301
NTP3961Q1-TC-T01-TC-IPST-E-C3-1-ETA1-1	E	C3	5	3	5.500	8.800	0.5050	0.1169	16	0.007306
NTP3961Q1-TC-T01-TC-IPST-E-C3-1-ETA1-2	E	C3	5	3	5.530	8.960	0.5180	0.1164	16	0.007276
NTP3961Q1-TC-T01-TC-IPST-E-C3-1-ETA1-3	E	C3	5	3	5.590	8.920	0.5180	0.1160	16	0.007247
NTP3961Q1-TC-T01-TC-IPST-E-C3-1-ETA1-4	E	C3	5	3	5.590	8.820	0.5350	0.1166	16	0.007286
NTP3961Q1-TC-T01-TC-IPST-E-C3-1-ETA1-5	E	C3	5	3	5.770	9.150	0.5420	0.1165	16	0.007278
NTP3961Q1-TC-T01-TC-IPST-E-C3-1-ETA1-6	E	C3	5	3	5.570	8.780	0.5190	0.1164	16	0.007273
NTP3961Q1-TC-T01-TC-IPST-E-C6-1-ETA1-1	E	C6	5	6	5.780	9.220	0.5270	0.1162	16	0.007261
NTP3961Q1-TC-T01-TC-IPST-E-C6-1-ETA1-2	E	C6	5	6	5.650	9.060	0.5220	0.1160	16	0.007252
NTP3961Q1-TC-T01-TC-IPST-E-C6-1-ETA1-3	E	C6	5	6	5.670	9.010	0.5210	0.1164	16	0.007275
NTP3961Q1-TC-T01-TC-IPST-E-C6-1-ETA1-4	E	C6	5	6	5.570	8.920	0.5160	0.1161	16	0.007258
NTP3961Q1-TC-T01-TC-IPST-E-C6-1-ETA1-5	E	C6	5	6	5.620	9.030	0.5110	0.1166	16	0.007286
NTP3961Q1-TC-T01-TC-IPST-E-C6-1-ETA1-6	E	C6	5	6	5.510	8.790	0.5120	0.1164	16	0.007276
				Average	**6.012**	**9.487**	**0.5424**			**0.007298**
				Standard Dev.	**0.2946**	**0.3714**	**0.02534**			
				Coeff. of Var. [%]	**4.900**	**3.915**	**4.672**			
				Min.	**5.500**	**8.780**	**0.4730**			**0.007043**
				Max.	**6.560**	**10.22**	**0.5850**			**0.007450**
				Number of Spec.	**60**	**60**	**60**			**60**

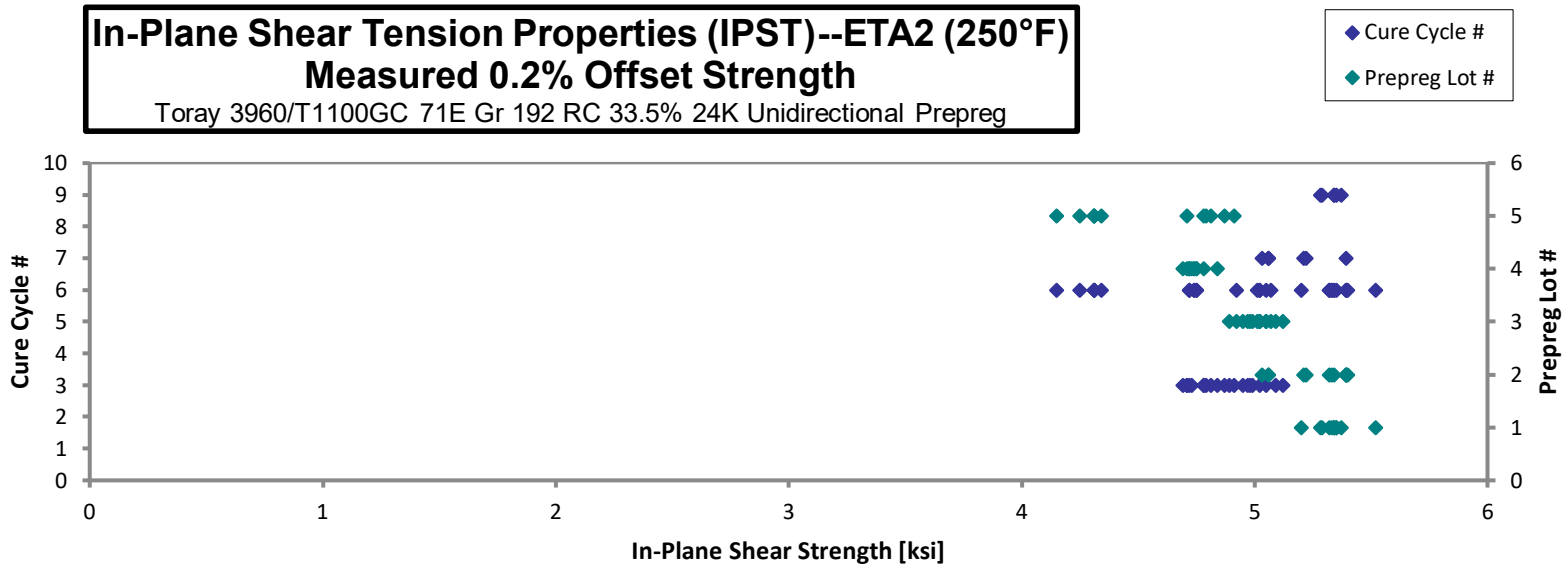

In-Plane Shear Tension Properties (IPST)--ETA1 (180°F)
Measured 0.2% Offset Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
In-Plane Shear Strength [ksi]
0
1
2
3
4
5
6
7
8
9
10

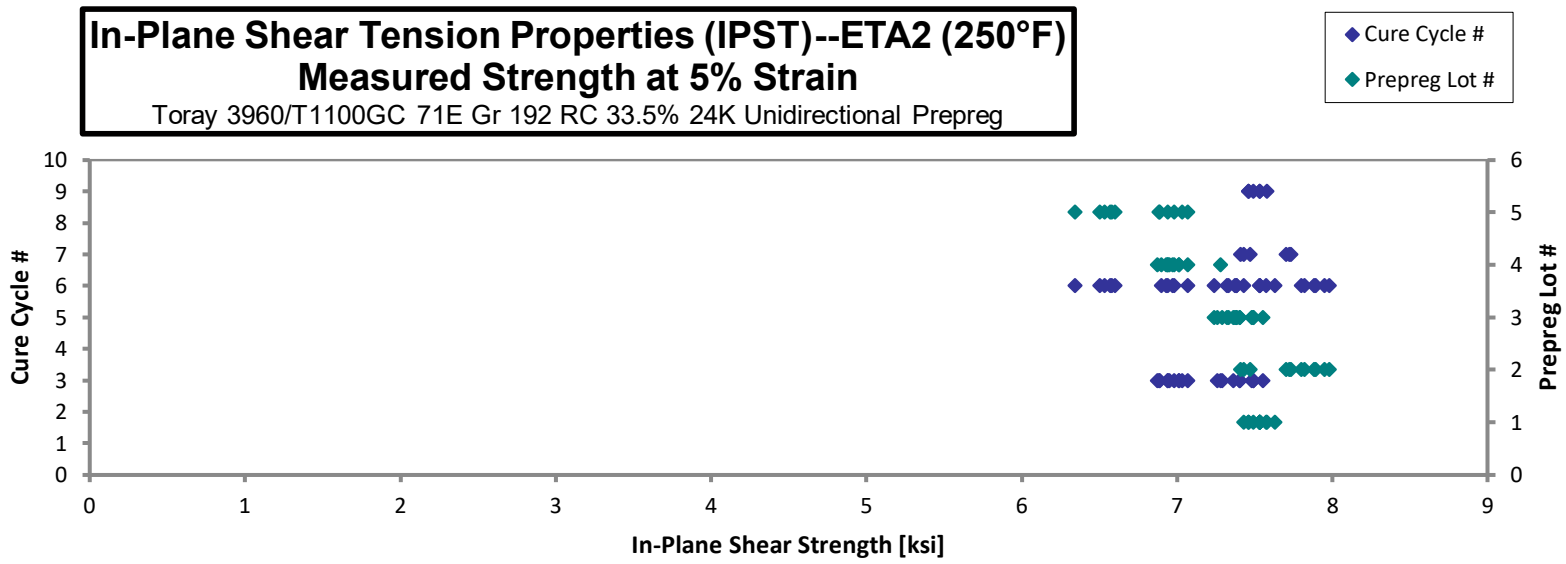

In-Plane Shear Tension Properties (IPST)--ETA1 (180°F)
Measured Strength at 5% Strain
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
In-Plane Shear Strength [ksi]
0
1
2
3
4
5
6
7
8
9
10
0
2
4
6
8
10
12

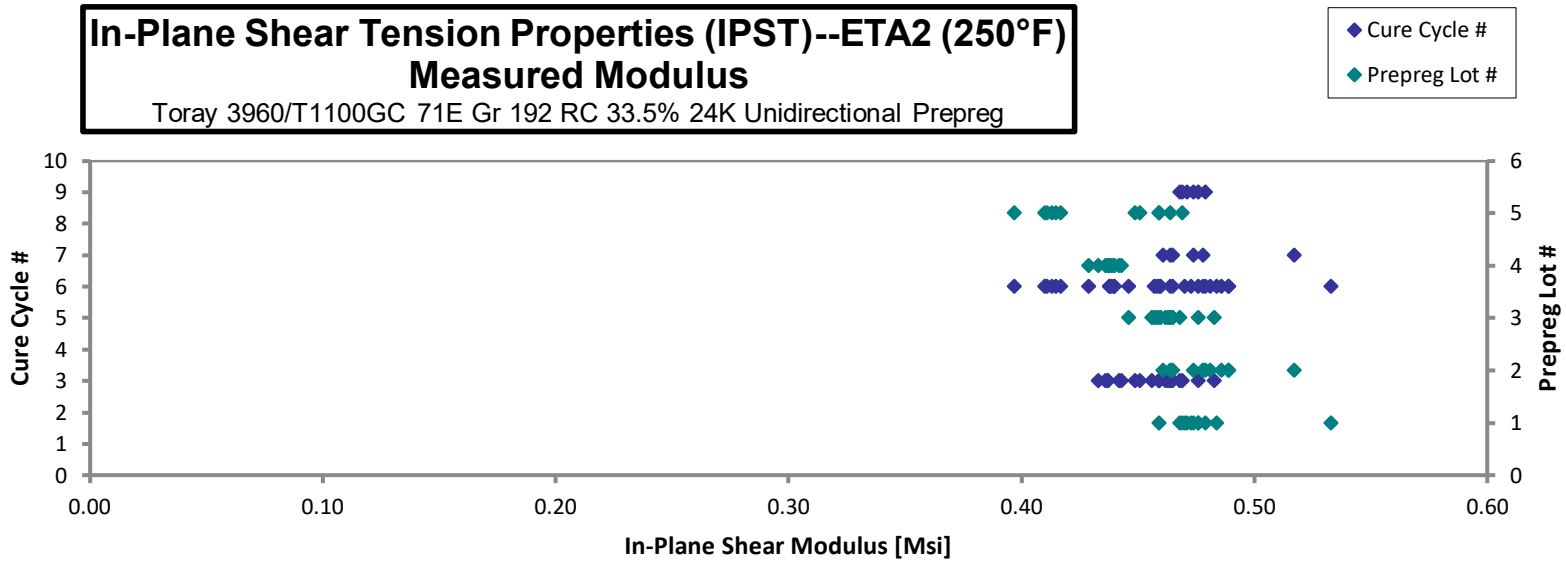

In-Plane Shear Tension Properties (IPST)--ETA1 (180°F)
Measured Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
In-Plane Shear Modulus [Msi]
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0
1
2
3
4
5
6
7
8
9
10

In-Plane Shear Tension Properties (IPST)--ETA2 (250°F)
Strength & Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	0.2% Offset Strength [ksi]	Strength at 5% Strain [ksi]	Modulus [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Avg. t_{ply} [in]
NTP3961Q1-TC-T01-BT-IPST-A-C6-2-ETA2-1	A	C6	1	6	5.330	7.530	0.4730	0.1166	16	0.007289
NTP3961Q1-TC-T01-BT-IPST-A-C6-2-ETA2-2	A	C6	1	6	5.320	7.530	0.4840	0.1164	16	0.007276
NTP3961Q1-TC-T01-BT-IPST-A-C6-2-ETA2-3	A	C6	1	6	5.520	7.530	0.5330	0.1163	16	0.007266
NTP3961Q1-TC-T01-BT-IPST-A-C6-2-ETA2-4	A	C6	1	6	5.350	7.630	0.4760	0.1157	16	0.007233
NTP3961Q1-TC-T01-BT-IPST-A-C6-2-ETA2-5	A	C6	1	6	5.340	7.570	0.4700	0.1153	16	0.007205
NTP3961Q1-TC-T01-BT-IPST-A-C6-2-ETA2-7	A	C6	1	6	5.200	7.430	0.4590	0.1158	16	0.007239
NTP3961Q1-TC-T01-BT-IPST-A-C9-1-ETA2-1	A	C9	1	9	5.290	7.460	0.4710	0.1168	16	0.007297
NTP3961Q1-TC-T01-BT-IPST-A-C9-1-ETA2-2	A	C9	1	9	5.280	7.460	0.4740	0.1155	16	0.007221
NTP3961Q1-TC-T01-BT-IPST-A-C9-1-ETA2-3	A	C9	1	9	5.370	7.580	0.4790	0.1164	16	0.007272
NTP3961Q1-TC-T01-BT-IPST-A-C9-1-ETA2-4	A	C9	1	9	5.340	7.530	0.4680	0.1164	16	0.007275
NTP3961Q1-TC-T01-BT-IPST-A-C9-1-ETA2-5	A	C9	1	9	5.350	7.530	0.4690	0.1154	16	0.007214
NTP3961Q1-TC-T01-BT-IPST-A-C9-1-ETA2-6	A	C9	1	9	5.340	7.490	0.4760	0.1147	16	0.007166
NTP3961Q1-TC-T01-BT-IPST-B-C6-1-ETA2-1	B	C6	2	6	5.390	7.950	0.4890	0.1171	16	0.007318
NTP3961Q1-TC-T01-BT-IPST-B-C6-1-ETA2-2	B	C6	2	6	5.400	7.980	0.4860	0.1174	16	0.007338
NTP3961Q1-TC-T01-BT-IPST-B-C6-1-ETA2-3	B	C6	2	6	5.340	7.800	0.4790	0.1171	16	0.007316
NTP3961Q1-TC-T01-BT-IPST-B-C6-1-ETA2-4	B	C6	2	6	5.390	7.890	0.4780	0.1172	16	0.007324
NTP3961Q1-TC-T01-BT-IPST-B-C6-1-ETA2-5	B	C6	2	6	5.320	7.820	0.4810	0.1181	16	0.007378
NTP3961Q1-TC-T01-BT-IPST-B-C6-1-ETA2-6	B	C6	2	6	5.330	7.880	0.4890	0.1176	16	0.007352
NTP3961Q1-TC-T01-BT-IPST-B-C7-2-ETA2-1	B	C7	2	7	5.030	7.430	0.4610	0.1183	16	0.007396
NTP3961Q1-TC-T01-BT-IPST-B-C7-2-ETA2-2	B	C7	2	7	5.060	7.410	0.4650	0.1178	16	0.007364
NTP3961Q1-TC-T01-BT-IPST-B-C7-2-ETA2-3	B	C7	2	7	5.060	7.470	0.4640	0.1183	16	0.007394
NTP3961Q1-TC-T01-BT-IPST-B-C7-2-ETA2-4	B	C7	2	7	5.390	7.730	0.5170	0.1178	16	0.007361
NTP3961Q1-TC-T01-BT-IPST-B-C7-2-ETA2-6	B	C7	2	7	5.220	7.720	0.4740	0.1173	16	0.007330
NTP3961Q1-TC-T01-BT-IPST-B-C7-2-ETA2-7	B	C7	2	7	5.210	7.700	0.4780	0.1186	16	0.007411
NTP3961Q1-TC-T01-TC-IPST-C-C3-1-ETA2-1	C	C3	3	3	4.890	7.480	0.4620	0.1165	16	0.007282
NTP3961Q1-TC-T01-TC-IPST-C-C3-1-ETA2-2	C	C3	3	3	4.970	7.260	0.4590	0.1177	16	0.007356
NTP3961Q1-TC-T01-TC-IPST-C-C3-1-ETA2-3	C	C3	3	3	5.090	7.490	0.4760	0.1171	16	0.007319
NTP3961Q1-TC-T01-TC-IPST-C-C3-1-ETA2-4	C	C3	3	3	5.120	7.490	0.4830	0.1170	16	0.007314
NTP3961Q1-TC-T01-TC-IPST-C-C3-1-ETA2-5	C	C3	3	3	4.950	7.290	0.4560	0.1175	16	0.007343
NTP3961Q1-TC-T01-TC-IPST-C-C3-1-ETA2-6	C	C3	3	3	5.050	7.550	0.4650	0.1172	16	0.007327
NTP3961Q1-TC-T01-TC-IPST-C-C3-1-ETA2-7	C	C3	3	3	4.990	7.360	0.4680	0.1177	16	0.007357
NTP3961Q1-TC-T01-TC-IPST-C-C3-1-ETA2-8	C	C3	3	3	4.980	7.400	0.4640	0.1175	16	0.007346
NTP3961Q1-TC-T01-TC-IPST-C-C3-1-ETA2-9	C	C3	3	3	5.020	7.400	0.4630	0.1171	16	0.007319
NTP3961Q1-TC-T01-TC-IPST-C-C6-1-ETA2-1	C	C6	3	6	5.020	7.330	0.4580	0.1159	16	0.007241
NTP3961Q1-TC-T01-TC-IPST-C-C6-1-ETA2-2	C	C6	3	6	5.010	7.320	0.4570	0.1167	16	0.007293
NTP3961Q1-TC-T01-TC-IPST-C-C6-1-ETA2-3	C	C6	3	6	5.070	7.370	0.4650	0.1170	16	0.007311
NTP3961Q1-TC-T01-TC-IPST-C-C6-1-ETA2-4	C	C6	3	6	5.050	7.380	0.4640	0.1167	16	0.007291
NTP3961Q1-TC-T01-TC-IPST-C-C6-1-ETA2-5	C	C6	3	6	4.920	7.240	0.4460	0.1169	16	0.007307
NTP3961Q1-TC-T01-TC-IPST-C-C6-1-ETA2-6	C	C6	3	6	5.020	7.380	0.4600	0.1170	16	0.007309
NTP3961Q1-TC-T01-TC-IPST-D-C3-1-ETA2-1	D	C3	4	3	4.690	6.870	0.4420	0.1166	16	0.007288
NTP3961Q1-TC-T01-TC-IPST-D-C3-1-ETA2-2	D	C3	4	3	4.720	7.010	0.4360	0.1166	16	0.007289
NTP3961Q1-TC-T01-TC-IPST-D-C3-1-ETA2-3	D	C3	4	3	4.710	6.950	0.4370	0.1164	16	0.007275
NTP3961Q1-TC-T01-TC-IPST-D-C3-1-ETA2-4	D	C3	4	3	4.780	7.010	0.4330	0.1167	16	0.007291
NTP3961Q1-TC-T01-TC-IPST-D-C3-1-ETA2-5	D	C3	4	3	4.730	6.940	0.4430	0.1171	16	0.007319
NTP3961Q1-TC-T01-TC-IPST-D-C3-1-ETA2-6	D	C3	4	3	4.840	7.280	0.4370	0.1165	16	0.007278
NTP3961Q1-TC-T01-TC-IPST-D-C6-1-ETA2-1	D	C6	4	6	4.750	6.970	0.4400	0.1160	16	0.007247
NTP3961Q1-TC-T01-TC-IPST-D-C6-1-ETA2-3	D	C6	4	6	4.740	6.900	0.4380	0.1173	16	0.007332
NTP3961Q1-TC-T01-TC-IPST-D-C6-1-ETA2-4	D	C6	4	6	4.720	6.940	0.4290	0.1172	16	0.007323
NTP3961Q1-TC-T01-TC-IPST-D-C6-1-ETA2-5	D	C6	4	6	4.750	7.070	0.4390	0.1162	16	0.007263
NTP3961Q1-TC-T01-TC-IPST-D-C6-1-ETA2-6	D	C6	4	6	4.740	6.980	0.4380	0.1166	16	0.007284
NTP3961Q1-TC-T01-TC-IPST-D-C6-1-ETA2-7	D	C6	4	6	4.720	6.930	0.4400	0.1171	16	0.007319
NTP3961Q1-TC-T01-TC-IPST-E-C3-1-ETA2-1	E	C3	5	3	4.790	6.940	0.4510	0.1161	16	0.007253
NTP3961Q1-TC-T01-TC-IPST-E-C3-1-ETA2-2	E	C3	5	3	4.910	6.980	0.4590	0.1164	16	0.007277
NTP3961Q1-TC-T01-TC-IPST-E-C3-1-ETA2-3	E	C3	5	3	4.780	6.890	0.4640	0.1170	16	0.007313
NTP3961Q1-TC-T01-TC-IPST-E-C3-1-ETA2-4	E	C3	5	3	4.810	7.070	0.4590	0.1161	16	0.007255
NTP3961Q1-TC-T01-TC-IPST-E-C3-1-ETA2-5	E	C3	5	3	4.870	7.030	0.4690	0.1156	16	0.007224
NTP3961Q1-TC-T01-TC-IPST-E-C3-1-ETA2-6	E	C3	5	3	4.710	6.880	0.4490	0.1166	16	0.007289
NTP3961Q1-TC-T01-TC-IPST-E-C6-1-ETA2-1	E	C6	5	6	4.250	6.500	0.4100	0.1169	16	0.007303
NTP3961Q1-TC-T01-TC-IPST-E-C6-1-ETA2-2	E	C6	5	6	4.340	6.600	0.4150	0.1162	16	0.007264
NTP3961Q1-TC-T01-TC-IPST-E-C6-1-ETA2-3	E	C6	5	6	4.310	6.530	0.4130	0.1154	16	0.007213
NTP3961Q1-TC-T01-TC-IPST-E-C6-1-ETA2-4	E	C6	5	6	4.310	6.570	0.4170	0.1161	16	0.007254
NTP3961Q1-TC-T01-TC-IPST-E-C6-1-ETA2-5	E	C6	5	6	4.150	6.340	0.3970	0.1161	16	0.007256
NTP3961Q1-TC-T01-TC-IPST-E-C6-1-ETA2-6	E	C6	5	6	4.310	6.580	0.4110	0.1163	16	0.007267
				Average	**4.980**	**7.279**	**0.4588**			**0.007296**
				Standard Dev.	**0.3287**	**0.3848**	**0.02452**			
				Coeff. of Var. [%]	**6.599**	**5.286**	**5.345**			
				Min.	**4.150**	**6.340**	**0.3970**			**0.007166**
				Max.	**5.520**	**7.980**	**0.5330**			**0.007411**
				Number of Spec.	**63**	**63**	**63**			**63**

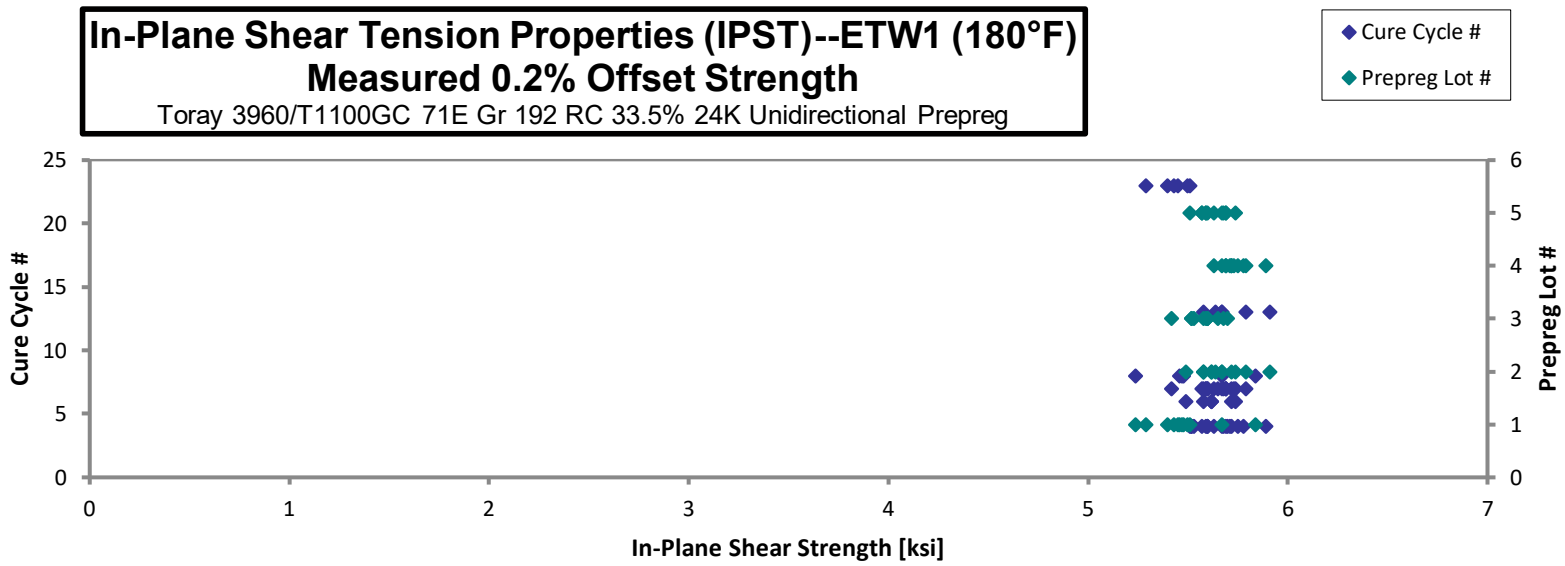

In-Plane Shear Tension Properties (IPST)--ETA2 (250°F)
Measured 0.2% Offset Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
In-Plane Shear Strength [ksi]
0
1
2
3
4
5
6
7
8
9
10

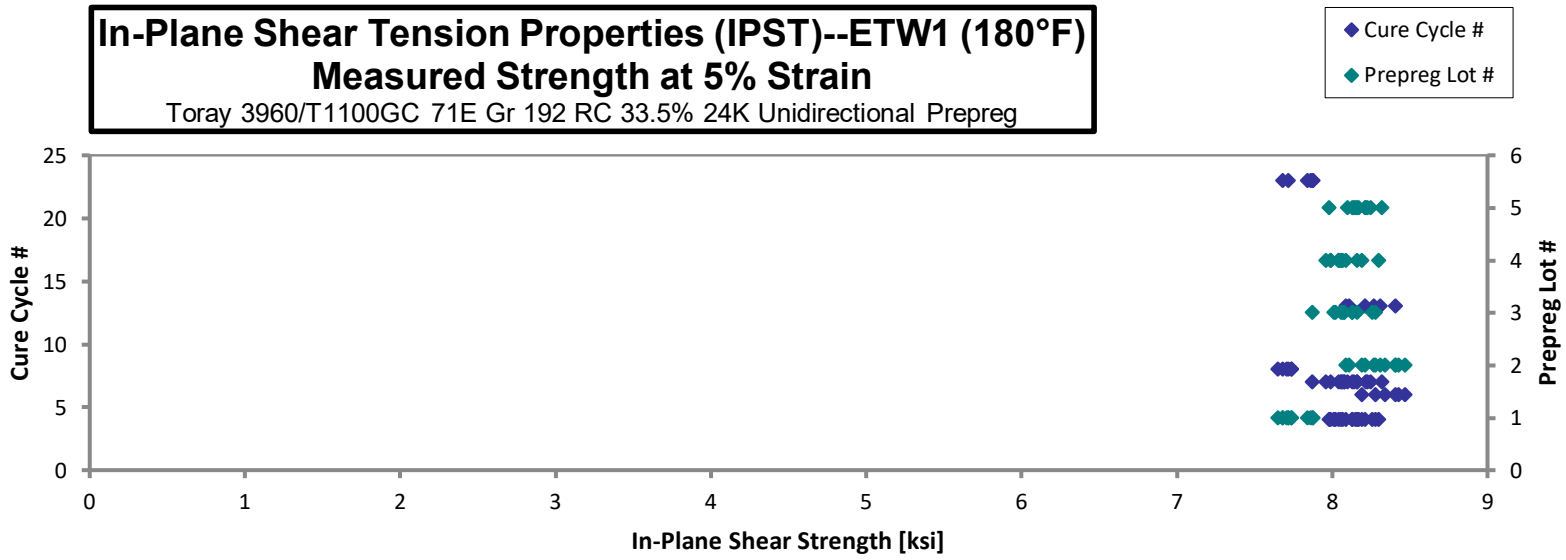

In-Plane Shear Tension Properties (IPST)--ETA2 (250°F)
Measured Strength at 5% Strain
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
In-Plane Shear Strength [ksi]
0
1
2
3
4
5
6
7
8
9
10

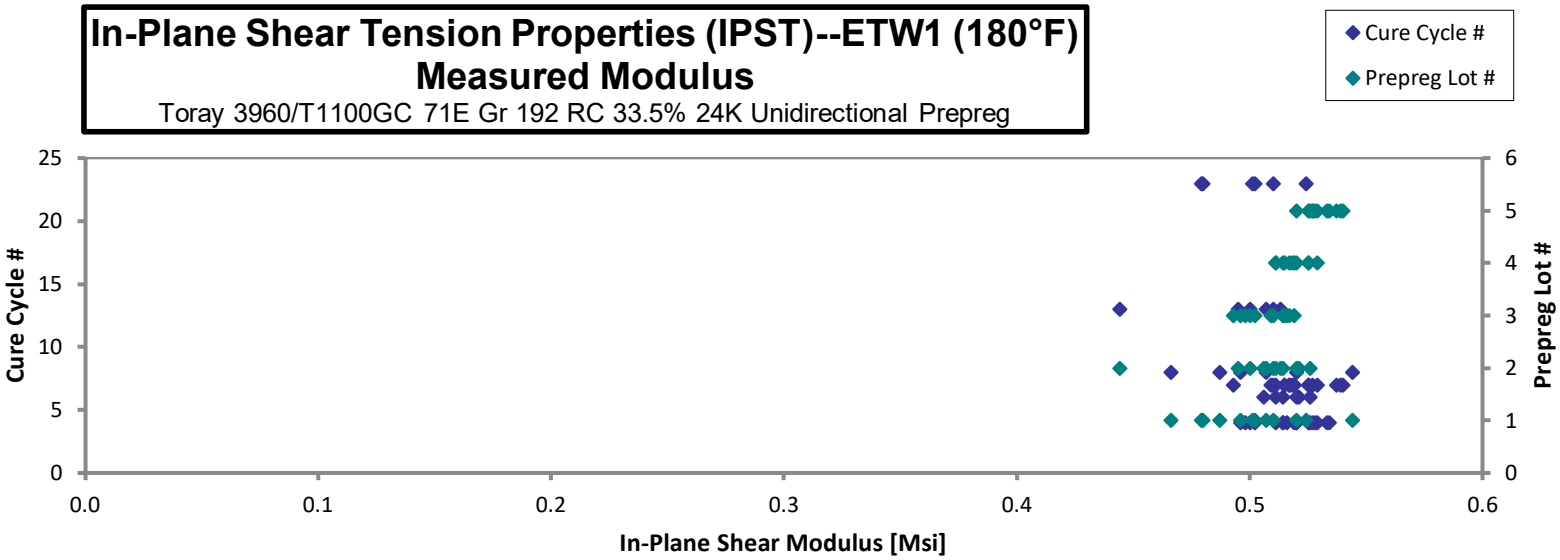

In-Plane Shear Tension Properties (IPST)--ETA2 (250°F)
Measured Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
In-Plane Shear Modulus [Msi]
0.00
0.10
0.20
0.30
0.40
0.50
0.60
0
1
2
3
4
5
6
7
8
9
10

In-Plane Shear Tension Properties (IPST)--ETW1 (180°F)
Strength & Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	0.2% Offset Strength [ksi]	Strength at 5% Strain [ksi]	Modulus [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Avg. t_{ply} [in]
NTP3961Q1-TC-T01-BT-IPST-A-C8-1-ETW1-1	A	C8	1	8	5.670	7.740	0.5200	0.1113	16	0.006956
NTP3961Q1-TC-T01-BT-IPST-A-C8-1-ETW1-2	A	C8	1	8	5.840	7.650	0.4660	0.1152	16	0.007201
NTP3961Q1-TC-T01-BT-IPST-A-C8-1-ETW1-3	A	C8	1	8	5.240	7.720	0.5440	0.1172	16	0.007325
NTP3961Q1-TC-T01-BT-IPST-A-C8-1-ETW1-4	A	C8	1	8	5.480	7.710	0.4870	0.1175	16	0.007341
NTP3961Q1-TC-T01-BT-IPST-A-C8-1-ETW1-5	A	C8	1	8	5.470	7.740	0.5070	0.1177	16	0.007353
NTP3961Q1-TC-T01-BT-IPST-A-C8-1-ETW1-6	A	C8	1	8	5.460	7.680	0.4960	0.1172	16	0.007323
NTP3961Q1-TC-T01-BT-IPST-A-C23-1-ETW1-1	A	C23	1	23	5.430	7.840	0.5010	0.1164	16	0.007276
NTP3961Q1-TC-T01-BT-IPST-A-C23-1-ETW1-2	A	C23	1	23	5.450	7.860	0.5020	0.1185	16	0.007403
NTP3961Q1-TC-T01-BT-IPST-A-C23-1-ETW1-3	A	C23	1	23	5.290	7.680	0.4800	0.1195	16	0.007469
NTP3961Q1-TC-T01-BT-IPST-A-C23-1-ETW1-4	A	C23	1	23	5.510	7.880	0.5240	0.1167	16	0.007294
NTP3961Q1-TC-T01-BT-IPST-A-C23-1-ETW1-5	A	C23	1	23	5.500	7.870	0.5100	0.1188	16	0.007423
NTP3961Q1-TC-T01-BT-IPST-A-C23-1-ETW1-6	A	C23	1	23	5.400	7.720	0.4790	0.1200	16	0.007500
NTP3961Q1-TC-T01-BT-IPST-B-C6-3-ETW1-1	B	C6	2	6	5.490	8.190	0.5140	0.1179	16	0.007371
NTP3961Q1-TC-T01-BT-IPST-B-C6-3-ETW1-2	B	C6	2	6	5.720	8.410	0.5260	0.1168	16	0.007300
NTP3961Q1-TC-T01-BT-IPST-B-C6-3-ETW1-3	B	C6	2	6	5.580	8.280	0.5110	0.1173	16	0.007331
NTP3961Q1-TC-T01-BT-IPST-B-C6-3-ETW1-4	B	C6	2	6	5.740	8.470	0.5200	0.1174	16	0.007338
NTP3961Q1-TC-T01-BT-IPST-B-C6-3-ETW1-5	B	C6	2	6	5.620	8.430	0.5210	0.1166	16	0.007289
NTP3961Q1-TC-T01-BT-IPST-B-C6-3-ETW1-6	B	C6	2	6	5.620	8.340	0.5060	0.1187	16	0.007419
NTP3961Q1-TC-T01-BT-IPST-B-C13-1-ETW1-1	B	C13	2	13	5.910	8.110	0.4440	0.1185	16	0.007403
NTP3961Q1-TC-T01-BT-IPST-B-C13-1-ETW1-2	B	C13	2	13	5.580	8.090	0.5000	0.1182	16	0.007386
NTP3961Q1-TC-T01-BT-IPST-B-C13-1-ETW1-3	B	C13	2	13	5.640	8.210	0.4950	0.1182	16	0.007388
NTP3961Q1-TC-T01-BT-IPST-B-C13-1-ETW1-4	B	C13	2	13	5.670	8.310	0.5100	0.1196	16	0.007472
NTP3961Q1-TC-T01-BT-IPST-B-C13-1-ETW1-5	B	C13	2	13	5.670	8.270	0.5070	0.1187	16	0.007421
NTP3961Q1-TC-T01-BT-IPST-B-C13-1-ETW1-6	B	C13	2	13	5.790	8.410	0.5130	0.1199	16	0.007496
NTP3961Q1-TC-T01-TC-IPST-C-C4-1-ETW1-1	C	C4	3	4	5.700	8.280	0.5160	0.1159	16	0.007246
NTP3961Q1-TC-T01-TC-IPST-C-C4-1-ETW1-2	C	C4	3	4	5.600	8.130	0.5020	0.1170	16	0.007310
NTP3961Q1-TC-T01-TC-IPST-C-C4-1-ETW1-3	C	C4	3	4	5.680	8.260	0.5140	0.1172	16	0.007323
NTP3961Q1-TC-T01-TC-IPST-C-C4-1-ETW1-4	C	C4	3	4	5.520	8.010	0.4960	0.1169	16	0.007303
NTP3961Q1-TC-T01-TC-IPST-C-C4-1-ETW1-5	C	C4	3	4	5.530	8.060	0.4980	0.1166	16	0.007289
NTP3961Q1-TC-T01-TC-IPST-C-C4-1-ETW1-6	C	C4	3	4	5.520	8.020	0.5000	0.1179	16	0.007371
NTP3961Q1-TC-T01-TC-IPST-C-C7-1-ETW1-1	C	C7	3	7	5.650	8.130	0.5190	0.1160	16	0.007249
NTP3961Q1-TC-T01-TC-IPST-C-C7-1-ETW1-2	C	C7	3	7	5.580	8.080	0.5150	0.1165	16	0.007282
NTP3961Q1-TC-T01-TC-IPST-C-C7-1-ETW1-3	C	C7	3	7	5.590	8.080	0.5100	0.1164	16	0.007273
NTP3961Q1-TC-T01-TC-IPST-C-C7-1-ETW1-4	C	C7	3	7	5.600	8.070	0.5090	0.1163	16	0.007271
NTP3961Q1-TC-T01-TC-IPST-C-C7-1-ETW1-5	C	C7	3	7	5.420	7.870	0.4930	0.1173	16	0.007333
NTP3961Q1-TC-T01-TC-IPST-C-C7-1-ETW1-6	C	C7	3	7	5.600	8.160	0.5170	0.1158	16	0.007239
NTP3961Q1-TC-T01-TC-IPST-D-C4-1-ETW1-1	D	C4	4	4	5.670	7.990	0.5190	0.1168	16	0.007300
NTP3961Q1-TC-T01-TC-IPST-D-C4-1-ETW1-2	D	C4	4	4	5.710	8.040	0.5250	0.1171	16	0.007318
NTP3961Q1-TC-T01-TC-IPST-D-C4-1-ETW1-3	D	C4	4	4	5.780	8.190	0.5200	0.1168	16	0.007297
NTP3961Q1-TC-T01-TC-IPST-D-C4-1-ETW1-4	D	C4	4	4	5.890	8.300	0.5290	0.1154	16	0.007213
NTP3961Q1-TC-T01-TC-IPST-D-C4-1-ETW1-5	D	C4	4	4	5.750	8.090	0.5110	0.1172	16	0.007326
NTP3961Q1-TC-T01-TC-IPST-D-C4-1-ETW1-6	D	C4	4	4	5.720	8.070	0.5140	0.1172	16	0.007324
NTP3961Q1-TC-T01-TC-IPST-D-C7-1-ETW1-1	D	C7	4	7	5.630	7.960	0.5190	0.1161	16	0.007255
NTP3961Q1-TC-T01-TC-IPST-D-C7-1-ETW1-2	D	C7	4	7	5.690	8.040	0.5150	0.1166	16	0.007289
NTP3961Q1-TC-T01-TC-IPST-D-C7-1-ETW1-3	D	C7	4	7	5.690	8.060	0.5110	0.1164	16	0.007274
NTP3961Q1-TC-T01-TC-IPST-D-C7-1-ETW1-4	D	C7	4	7	5.790	8.160	0.5250	0.1163	16	0.007269
NTP3961Q1-TC-T01-TC-IPST-D-C7-1-ETW1-5	D	C7	4	7	5.730	7.990	0.5170	0.1167	16	0.007294
NTP3961Q1-TC-T01-TC-IPST-D-C7-1-ETW1-6	D	C7	4	7	5.720	8.060	0.5180	0.1165	16	0.007279
NTP3961Q1-TC-T01-TC-IPST-E-C4-1-ETW1-1	E	C4	5	4	5.590	8.160	0.5200	0.1167	16	0.007291
NTP3961Q1-TC-T01-TC-IPST-E-C4-1-ETW1-2	E	C4	5	4	5.570	8.150	0.5270	0.1160	16	0.007251
NTP3961Q1-TC-T01-TC-IPST-E-C4-1-ETW1-3	E	C4	5	4	5.600	8.130	0.5280	0.1158	16	0.007238
NTP3961Q1-TC-T01-TC-IPST-E-C4-1-ETW1-4	E	C4	5	4	5.630	8.170	0.5340	0.1155	16	0.007221
NTP3961Q1-TC-T01-TC-IPST-E-C4-1-ETW1-5	E	C4	5	4	5.690	8.210	0.5330	0.1167	16	0.007294
NTP3961Q1-TC-T01-TC-IPST-E-C4-1-ETW1-6	E	C4	5	4	5.510	7.980	0.5260	0.1169	16	0.007303
NTP3961Q1-TC-T01-TC-IPST-E-C7-1-ETW1-1	E	C7	5	7	5.690	8.250	0.5390	0.1160	16	0.007248
NTP3961Q1-TC-T01-TC-IPST-E-C7-1-ETW1-2	E	C7	5	7	5.670	8.220	0.5290	0.1160	16	0.007250
NTP3961Q1-TC-T01-TC-IPST-E-C7-1-ETW1-3	E	C7	5	7	5.740	8.320	0.5400	0.1152	16	0.007202
NTP3961Q1-TC-T01-TC-IPST-E-C7-1-ETW1-4	E	C7	5	7	5.680	8.230	0.5370	0.1148	16	0.007177
NTP3961Q1-TC-T01-TC-IPST-E-C7-1-ETW1-5	E	C7	5	7	5.590	8.140	0.5250	0.1159	16	0.007242
NTP3961Q1-TC-T01-TC-IPST-E-C7-1-ETW1-6	E	C7	5	7	5.570	8.100	0.5270	0.1161	16	0.007256
				Average	**5.618**	**8.080**	**0.5127**			**0.007306**
				Standard Dev.	**0.1304**	**0.2042**	**0.01774**			
				Coeff. of Var. [%]	**2.322**	**2.528**	**3.460**			
				Min.	**5.240**	**7.650**	**0.4440**			**0.006956**
				Max.	**5.910**	**8.470**	**0.5440**			**0.007500**
				Number of Spec.	**60**	**60**	**60**			**60**

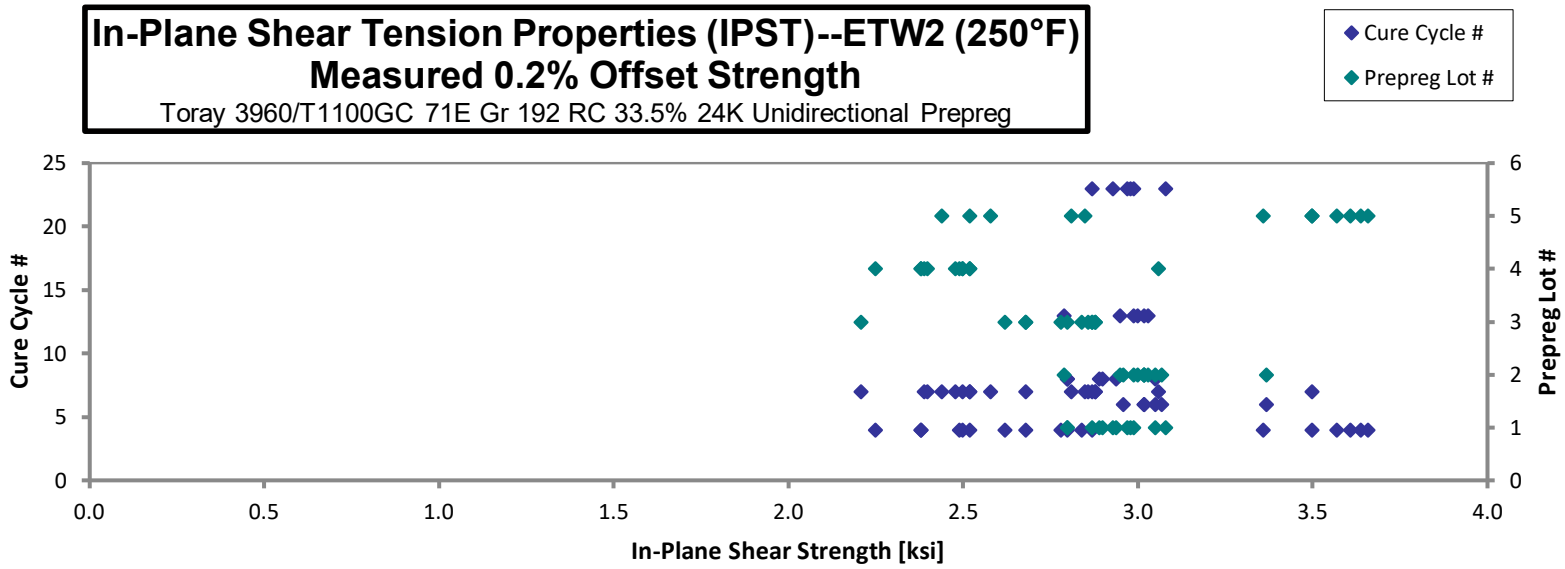

In-Plane Shear Tension Properties (IPST)--ETW1 (180°F)
Measured 0.2% Offset Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
In-Plane Shear Strength [ksi]
0
5
10
15
20
25
0
1
2
3
4
5
6
7

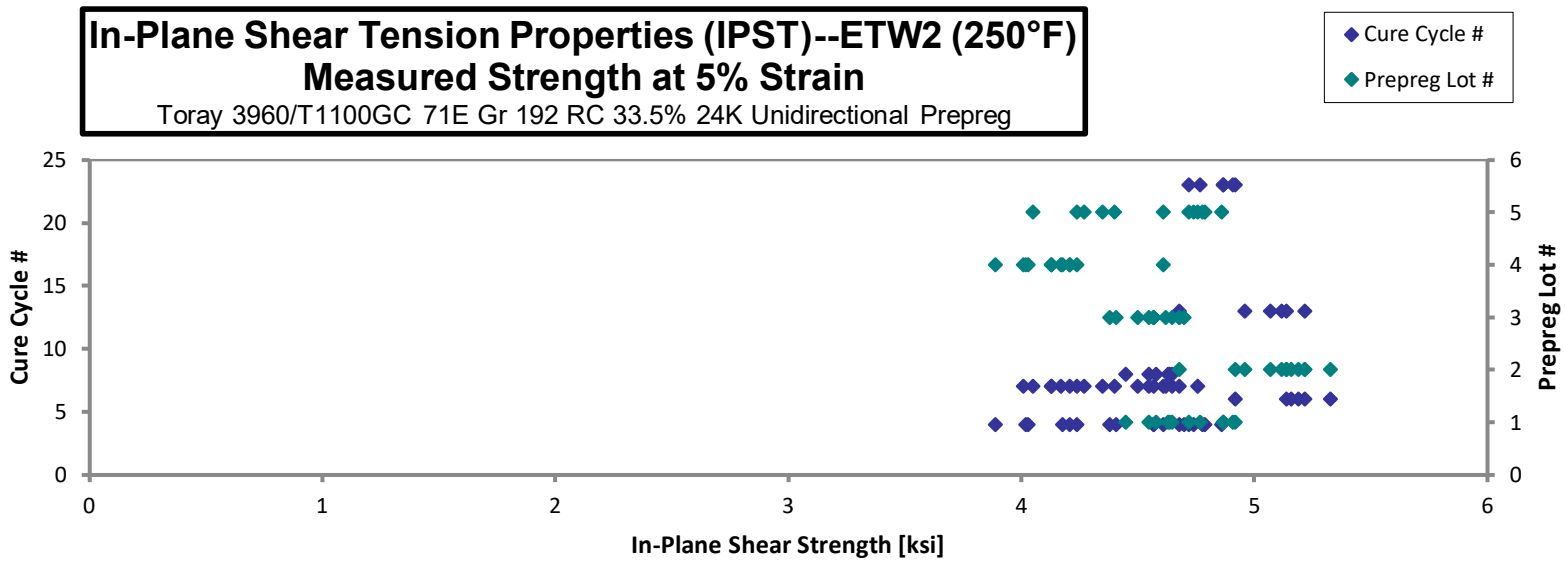

In-Plane Shear Tension Properties (IPST)--ETW1 (180°F)
Measured Strength at 5% Strain
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
In-Plane Shear Strength [ksi]
0
5
10
15
20
25
0
1
2
3
4
5
6
0
1
2
3
4
5
6
7
8
9

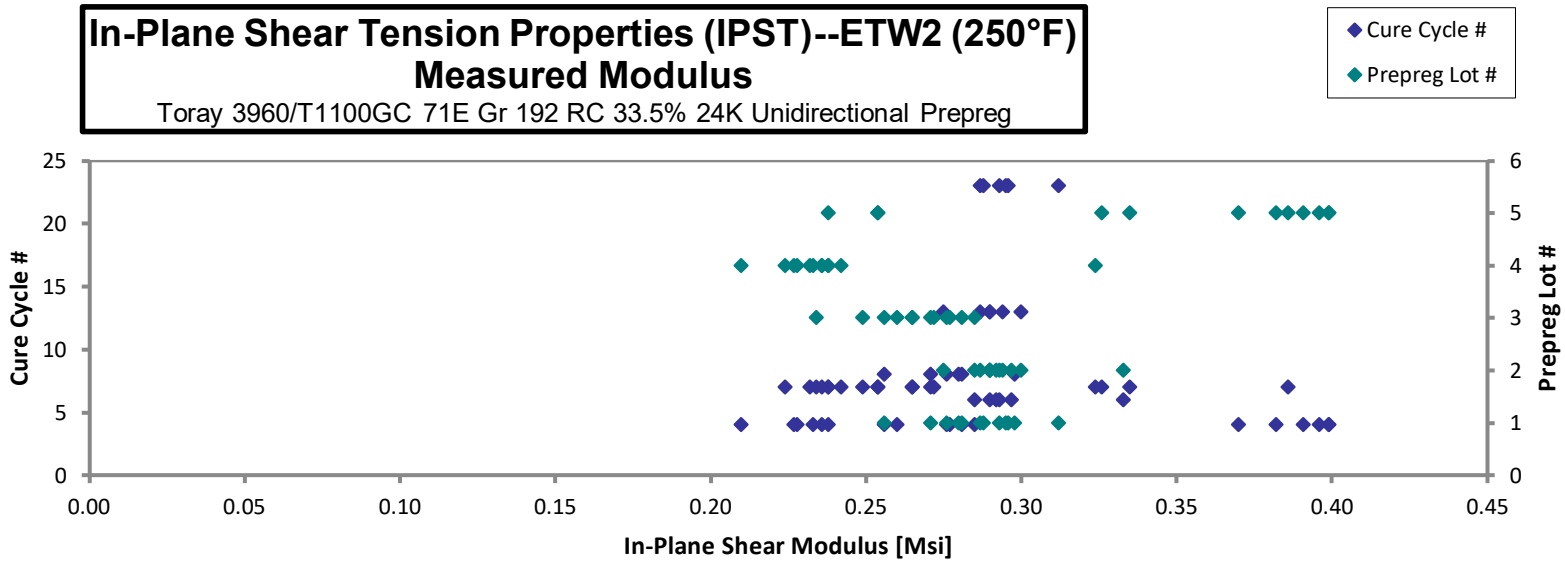

In-Plane Shear Tension Properties (IPST)--ETW1 (180°F)
Measured Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
In-Plane Shear Modulus [Msi]
0
5
10
15
20
25
0
1
2
3
4
5
6
0.0
0.1
0.2
0.3
0.4
0.5
0.6

In-Plane Shear Tension Properties (IPST)--ETW2 (250°F)
Strength & Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	0.2% Offset Strength [ksi]	Strength at 5% Strain [ksi]	Modulus [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Avg. t_{ply} [in]
NTP3961Q1-TC-T01-BT-IPST-A-C8-1-ETW2-1	A	C8	1	8	2.800	4.650	0.2560	0.1171	16	0.007316
NTP3961Q1-TC-T01-BT-IPST-A-C8-1-ETW2-2	A	C8	1	8	3.050	4.580	0.2980	0.1145	16	0.007156
NTP3961Q1-TC-T01-BT-IPST-A-C8-1-ETW2-3	A	C8	1	8	2.800	4.550	0.2710	0.1159	16	0.007246
NTP3961Q1-TC-T01-BT-IPST-A-C8-1-ETW2-4	A	C8	1	8	2.890	4.640	0.2810	0.1148	16	0.007172
NTP3961Q1-TC-T01-BT-IPST-A-C8-1-ETW2-5	A	C8	1	8	2.900	4.630	0.2800	0.1147	16	0.007169
NTP3961Q1-TC-T01-BT-IPST-A-C8-1-ETW2-6	A	C8	1	8	2.940	4.450	0.2760	0.1146	16	0.007159
NTP3961Q1-TC-T01-BT-IPST-A-C23-1-ETW2-1	A	C23	1	23	2.870	4.720	0.2870	0.1183	16	0.007394
NTP3961Q1-TC-T01-BT-IPST-A-C23-1-ETW2-2	A	C23	1	23	2.930	4.770	0.2880	0.1200	16	0.007502
NTP3961Q1-TC-T01-BT-IPST-A-C23-1-ETW2-3	A	C23	1	23	2.990	4.870	0.2950	0.1199	16	0.007494
NTP3961Q1-TC-T01-BT-IPST-A-C23-1-ETW2-4	A	C23	1	23	2.980	4.870	0.2960	0.1205	16	0.007528
NTP3961Q1-TC-T01-BT-IPST-A-C23-1-ETW2-5	A	C23	1	23	3.080	4.920	0.3120	0.1174	16	0.007338
NTP3961Q1-TC-T01-BT-IPST-A-C23-1-ETW2-6	A	C23	1	23	2.970	4.910	0.2930	0.1185	16	0.007405
NTP3961Q1-TC-T01-BT-IPST-B-C6-3-ETW2-1	B	C6	2	6	3.370	5.330	0.3330	0.1177	16	0.007357
NTP3961Q1-TC-T01-BT-IPST-B-C6-3-ETW2-2	B	C6	2	6	2.960	4.920	0.2900	0.1176	16	0.007351
NTP3961Q1-TC-T01-BT-IPST-B-C6-3-ETW2-3	B	C6	2	6	3.020	5.160	0.2930	0.1173	16	0.007330
NTP3961Q1-TC-T01-BT-IPST-B-C6-3-ETW2-4	B	C6	2	6	3.070	5.190	0.2970	0.1172	16	0.007323
NTP3961Q1-TC-T01-BT-IPST-B-C6-3-ETW2-5	B	C6	2	6	3.050	5.220	0.2920	0.1186	16	0.007410
NTP3961Q1-TC-T01-BT-IPST-B-C6-3-ETW2-6	B	C6	2	6	3.020	5.140	0.2850	0.1174	16	0.007336
NTP3961Q1-TC-T01-BT-IPST-B-C13-1-ETW2-1	B	C13	2	13	2.790	4.680	0.2750	0.1190	16	0.007436
NTP3961Q1-TC-T01-BT-IPST-B-C13-1-ETW2-2	B	C13	2	13	3.020	5.120	0.2940	0.1189	16	0.007431
NTP3961Q1-TC-T01-BT-IPST-B-C13-1-ETW2-3	B	C13	2	13	2.950	4.960	0.2870	0.1193	16	0.007458
NTP3961Q1-TC-T01-BT-IPST-B-C13-1-ETW2-4	B	C13	2	13	2.990	5.220	0.3000	0.1195	16	0.007466
NTP3961Q1-TC-T01-BT-IPST-B-C13-1-ETW2-5	B	C13	2	13	3.030	5.140	0.2900	0.1188	16	0.007424
NTP3961Q1-TC-T01-BT-IPST-B-C13-1-ETW2-6	B	C13	2	13	3.000	5.070	0.2900	0.1180	16	0.007375
NTP3961Q1-TC-T01-TC-IPST-C-C4-1-ETW2-1	C	C4	3	4	2.680	4.410	0.2600	0.1172	16	0.007323
NTP3961Q1-TC-T01-TC-IPST-C-C4-1-ETW2-2	C	C4	3	4	2.620	4.380	0.2560	0.1176	16	0.007351
NTP3961Q1-TC-T01-TC-IPST-C-C4-1-ETW2-4	C	C4	3	4	2.800	4.570	0.2760	0.1170	16	0.007313
NTP3961Q1-TC-T01-TC-IPST-C-C4-1-ETW2-5	C	C4	3	4	2.780	4.570	0.2770	0.1163	16	0.007266
NTP3961Q1-TC-T01-TC-IPST-C-C4-1-ETW2-6	C	C4	3	4	2.870	4.700	0.2810	0.1172	16	0.007327
NTP3961Q1-TC-T01-TC-IPST-C-C4-1-ETW2-7	C	C4	3	4	2.840	4.680	0.2850	0.1160	16	0.007249
NTP3961Q1-TC-T01-TC-IPST-C-C7-1-ETW2-1	C	C7	3	7	2.210	4.680	0.2340	0.1165	16	0.007282
NTP3961Q1-TC-T01-TC-IPST-C-C7-1-ETW2-2	C	C7	3	7	2.680	4.500	0.2490	0.1183	16	0.007394
NTP3961Q1-TC-T01-TC-IPST-C-C7-1-ETW2-3	C	C7	3	7	2.880	4.620	0.2650	0.1162	16	0.007264
NTP3961Q1-TC-T01-TC-IPST-C-C7-1-ETW2-4	C	C7	3	7	2.880	4.650	0.2720	0.1162	16	0.007259
NTP3961Q1-TC-T01-TC-IPST-C-C7-1-ETW2-5	C	C7	3	7	2.870	4.550	0.2710	0.1173	16	0.007328
NTP3961Q1-TC-T01-TC-IPST-C-C7-1-ETW2-6	C	C7	3	7	2.860	4.570	0.2650	0.1169	16	0.007305
NTP3961Q1-TC-T01-TC-IPST-D-C4-1-ETW2-1	D	C4	4	4	2.380	4.030	0.2270	0.1171	16	0.007321
NTP3961Q1-TC-T01-TC-IPST-D-C4-1-ETW2-2	D	C4	4	4	2.250	3.890	0.2100	0.1173	16	0.007333
NTP3961Q1-TC-T01-TC-IPST-D-C4-1-ETW2-3	D	C4	4	4	2.380	4.020	0.2280	0.1167	16	0.007291
NTP3961Q1-TC-T01-TC-IPST-D-C4-1-ETW2-4	D	C4	4	4	2.520	4.210	0.2330	0.1164	16	0.007276
NTP3961Q1-TC-T01-TC-IPST-D-C4-1-ETW2-5	D	C4	4	4	2.490	4.240	0.2360	0.1169	16	0.007306
NTP3961Q1-TC-T01-TC-IPST-D-C4-1-ETW2-6	D	C4	4	4	2.500	4.180	0.2380	0.1176	16	0.007347
NTP3961Q1-TC-T01-TC-IPST-D-C7-1-ETW2-1	D	C7	4	7	2.500	4.210	0.2360	0.1145	16	0.007158
NTP3961Q1-TC-T01-TC-IPST-D-C7-1-ETW2-2	D	C7	4	7	2.400	4.130	0.2240	0.1158	16	0.007236
NTP3961Q1-TC-T01-TC-IPST-D-C7-1-ETW2-3	D	C7	4	7	2.520	4.170	0.2420	0.1159	16	0.007244
NTP3961Q1-TC-T01-TC-IPST-D-C7-1-ETW2-4	D	C7	4	7	2.390	4.010	0.2320	0.1162	16	0.007263
NTP3961Q1-TC-T01-TC-IPST-D-C7-1-ETW2-5	D	C7	4	7	2.480	4.130	0.2380	0.1161	16	0.007255
NTP3961Q1-TC-T01-TC-IPST-D-C7-1-ETW2-6	D	C7	4	7	3.060	4.610	0.3240	0.1162	16	0.007259
NTP3961Q1-TC-T01-TC-IPST-E-C4-1-ETW2-1	E	C4	5	4	3.360	4.610	0.3700	0.1164	16	0.007276
NTP3961Q1-TC-T01-TC-IPST-E-C4-1-ETW2-2	E	C4	5	4	3.570	4.740	0.3910	0.1168	16	0.007301
NTP3961Q1-TC-T01-TC-IPST-E-C4-1-ETW2-3	E	C4	5	4	3.610	4.860	0.3960	0.1155	16	0.007218
NTP3961Q1-TC-T01-TC-IPST-E-C4-1-ETW2-4	E	C4	5	4	3.660	4.780	0.3990	0.1166	16	0.007284
NTP3961Q1-TC-T01-TC-IPST-E-C4-1-ETW2-5	E	C4	5	4	3.640	4.790	0.3990	0.1166	16	0.007289
NTP3961Q1-TC-T01-TC-IPST-E-C4-1-ETW2-6	E	C4	5	4	3.500	4.720	0.3820	0.1166	16	0.007289
NTP3961Q1-TC-T01-TC-IPST-E-C7-1-ETW2-1	E	C7	5	7	2.440	4.240	0.2380	0.1162	16	0.007264
NTP3961Q1-TC-T01-TC-IPST-E-C7-1-ETW2-2	E	C7	5	7	3.500	4.760	0.3860	0.1155	16	0.007221
NTP3961Q1-TC-T01-TC-IPST-E-C7-1-ETW2-3	E	C7	5	7	2.520	4.350	0.2540	0.1151	16	0.007193
NTP3961Q1-TC-T01-TC-IPST-E-C7-1-ETW2-4	E	C7	5	7	2.580	4.400	0.2540	0.1160	16	0.007248
NTP3961Q1-TC-T01-TC-IPST-E-C7-1-ETW2-5	E	C7	5	7	2.810	4.050	0.3260	0.1160	16	0.007251
NTP3961Q1-TC-T01-TC-IPST-E-C7-1-ETW2-6	E	C7	5	7	2.850	4.270	0.3350	0.1163	16	0.007271
				Average	**2.873**	**4.617**	**0.2858**			**0.007310**
				Standard Dev.	**0.3453**	**0.3540**	**0.04709**			
				Coeff. of Var. [%]	**12.02**	**7.668**	**16.48**			
				Min.	**2.210**	**3.890**	**0.2100**			**0.007156**
				Max.	**3.660**	**5.330**	**0.3990**			**0.007528**
				Number of Spec.	**60**	**60**	**60**			**60**


In-Plane Shear Tension Properties (IPST)--ETW2 (250°F)
Measured 0.2% Offset Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
In-Plane Shear Strength [ksi]
0
5
10
15
20
25
0
1
2
3
4
5
6
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3.5
4.0

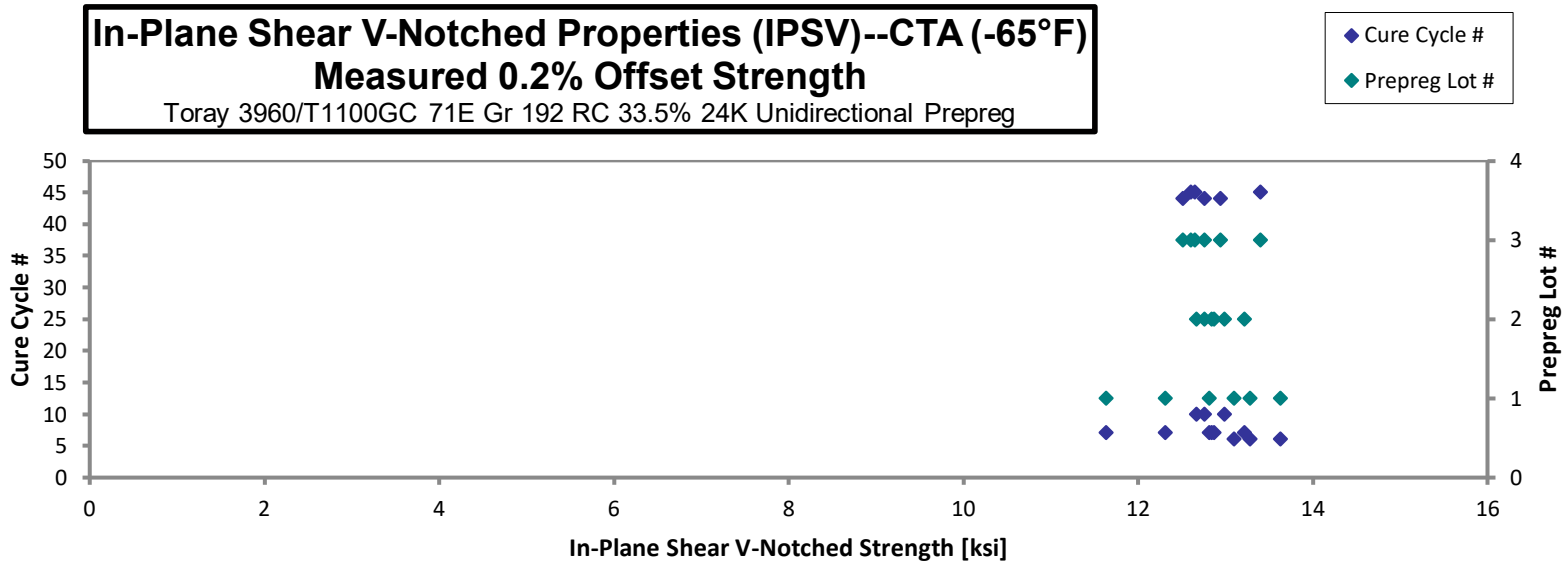

In-Plane Shear Tension Properties (IPST)--ETW2 (250°F)
Measured Strength at 5% Strain
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
In-Plane Shear Strength [ksi]
0
5
10
15
20
25
0
1
2
3
4
5
6

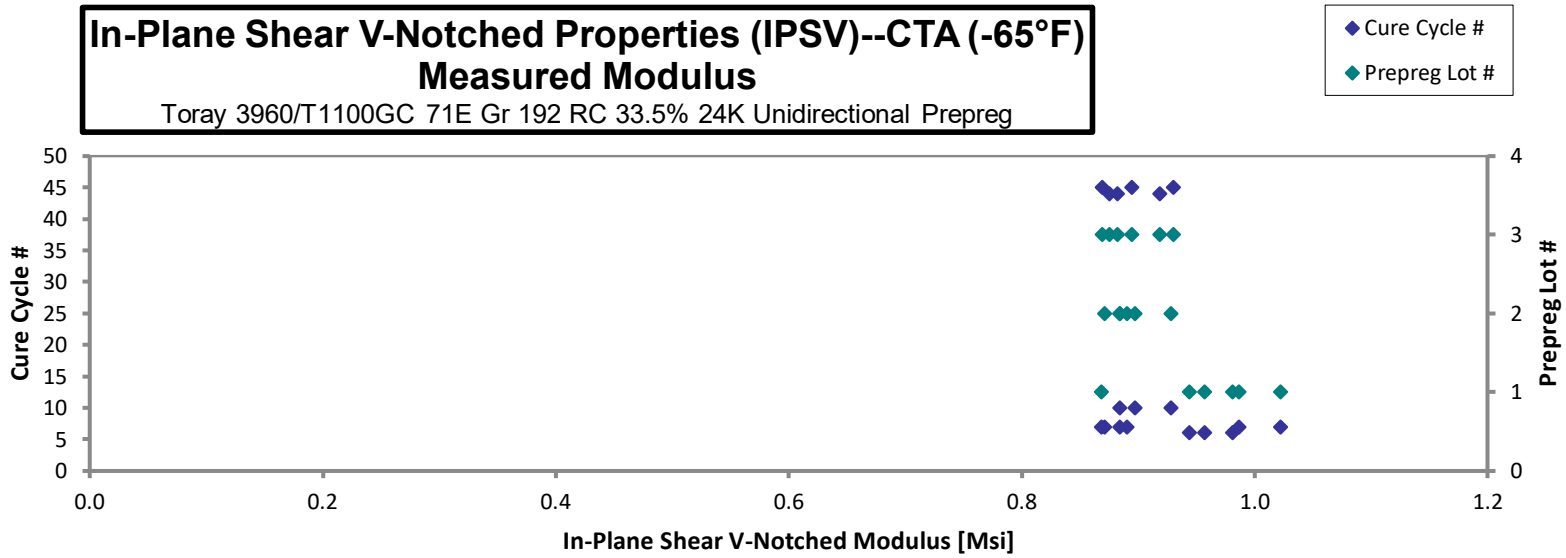

In-Plane Shear Tension Properties (IPST)--ETW2 (250°F)
Measured Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
In-Plane Shear Modulus [Msi]
0
5
10
15
20
25
0
1
2
3
4
5
6
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0.35
0.40
0.45

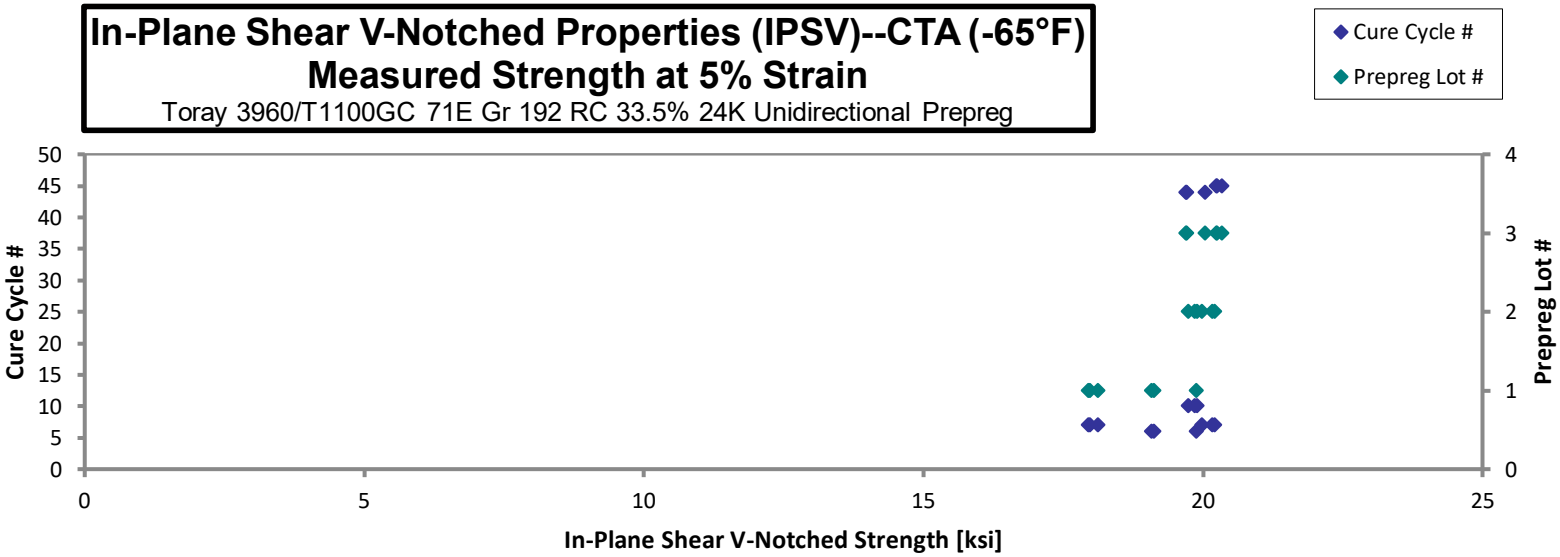
4.8 In-Plane Shear V-notch Properties (IPSV)

In-Plane Shear V-Notched Properties (IPSV)--CTA (-65°F)
Strength & Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	0.2% Offset Strength [ksi]	Strength at 5% Strain [ksi]	Modulus [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Avg. t_{ply} [in]
NTP3961Q1-TC-T01-BT-IPSV-A-C6-1-CTA-1	A	C6	1	6	13.10	19.12	0.9810	0.1421	20	0.007103
NTP3961Q1-TC-T01-BT-IPSV-A-C6-1-CTA-2	A	C6	1	6	13.28	19.07	0.9570	0.1422	20	0.007111
NTP3961Q1-TC-T01-BT-IPSV-A-C6-1-CTA-4	A	C6	1	6	13.63	19.88	0.9440	0.1436	20	0.007178
NTP3961Q1-TC-T01-BT-IPSV-A-C7-1-CTA-2	A	C7	1	7	12.31	17.98	0.9860	0.1466	20	0.007329
NTP3961Q1-TC-T01-BT-IPSV-A-C7-1-CTA-3	A	C7	1	7	12.81	18.12	0.8680	0.1466	20	0.007329
NTP3961Q1-TC-T01-BT-IPSV-A-C7-1-CTA-1	A	C7	1	7	11.63	17.94	1.022	0.1443	20	0.007213
NTP3961Q1-TC-T01-BT-IPSV-B-C7-1-CTA-1	B	C7	2	7	12.84	20.16	0.8900	0.1445	20	0.007225
NTP3961Q1-TC-T01-BT-IPSV-B-C7-1-CTA-2	B	C7	2	7	13.22	20.21	0.8710	0.1449	20	0.007247
NTP3961Q1-TC-T01-BT-IPSV-B-C7-1-CTA-3	B	C7	2	7	12.87	19.98	0.8840	0.1469	20	0.007344
NTP3961Q1-TC-T01-BT-IPSV-B-C10-1-CTA-1	B	C10	2	10	12.67	19.89	0.9280	0.1479	20	0.007393
NTP3961Q1-TC-T01-BT-IPSV-B-C10-1-CTA-2	B	C10	2	10	12.76	19.74	0.8840	0.1467	20	0.007336
NTP3961Q1-TC-T01-BT-IPSV-B-C10-1-CTA-3	B	C10	2	10	12.99	19.85	0.8970	0.1472	20	0.007362
NTP3961Q1-TC-T01-TC-IPSV-C-C44-1-CTA-1	C	C44	3	44	12.51	20.03	0.9180	0.1449	20	0.007243
NTP3961Q1-TC-T01-TC-IPSV-C-C44-1-CTA-2	C	C44	3	44	12.94	19.69	0.8750	0.1451	20	0.007257
NTP3961Q1-TC-T01-TC-IPSV-C-C44-1-CTA-3	C	C44	3	44	12.76	19.71	0.8820	0.1444	20	0.007218
NTP3961Q1-TC-T01-TC-IPSV-C-C45-1-CTA-1	C	C45	3	45	12.60	20.25	0.9300	0.1441	20	0.007205
NTP3961Q1-TC-T01-TC-IPSV-C-C45-1-CTA-2	C	C45	3	45	13.40	20.23	0.8690	0.1456	20	0.007279
NTP3961Q1-TC-T01-TC-IPSV-C-C45-1-CTA-3	C	C45	3	45	12.65	20.34	0.8940	0.1449	20	0.007243
				Average	**12.83**	**19.57**	**0.9156**			**0.007256**
				Standard Dev.	**0.4449**	**0.7936**	**0.04609**			
				Coeff. of Var. [%]	**3.468**	**4.056**	**5.034**			
				Min.	**11.63**	**17.94**	**0.8680**			**0.007103**
				Max.	**13.63**	**20.34**	**1.022**			**0.007393**
				Number of Spec.	**18**	**18**	**18**			**18**

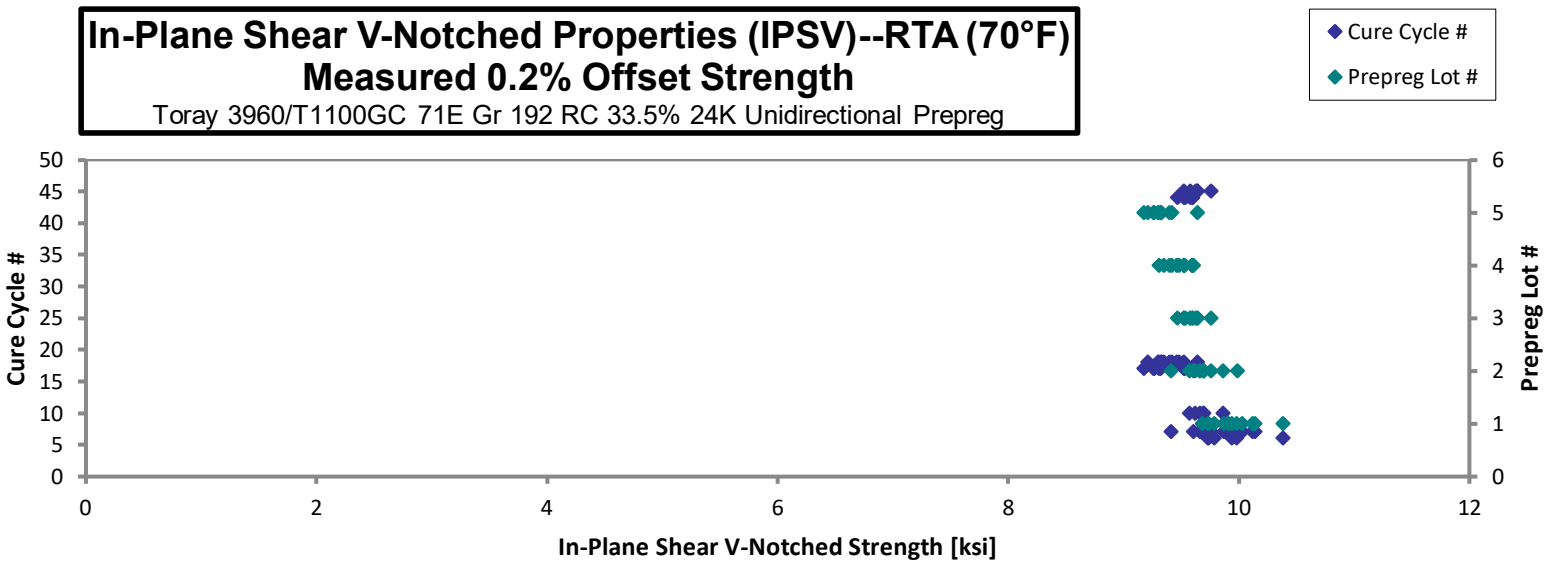

In-Plane Shear V-Notched Properties (IPSV)--CTA (-65°F)
Measured 0.2% Offset Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
In-Plane Shear V-Notched Strength [ksi]
0
5
10
15
20
25
30
35
40
45
50
0
1
2
3
4
0
2
4
6
8
10
12
14
16

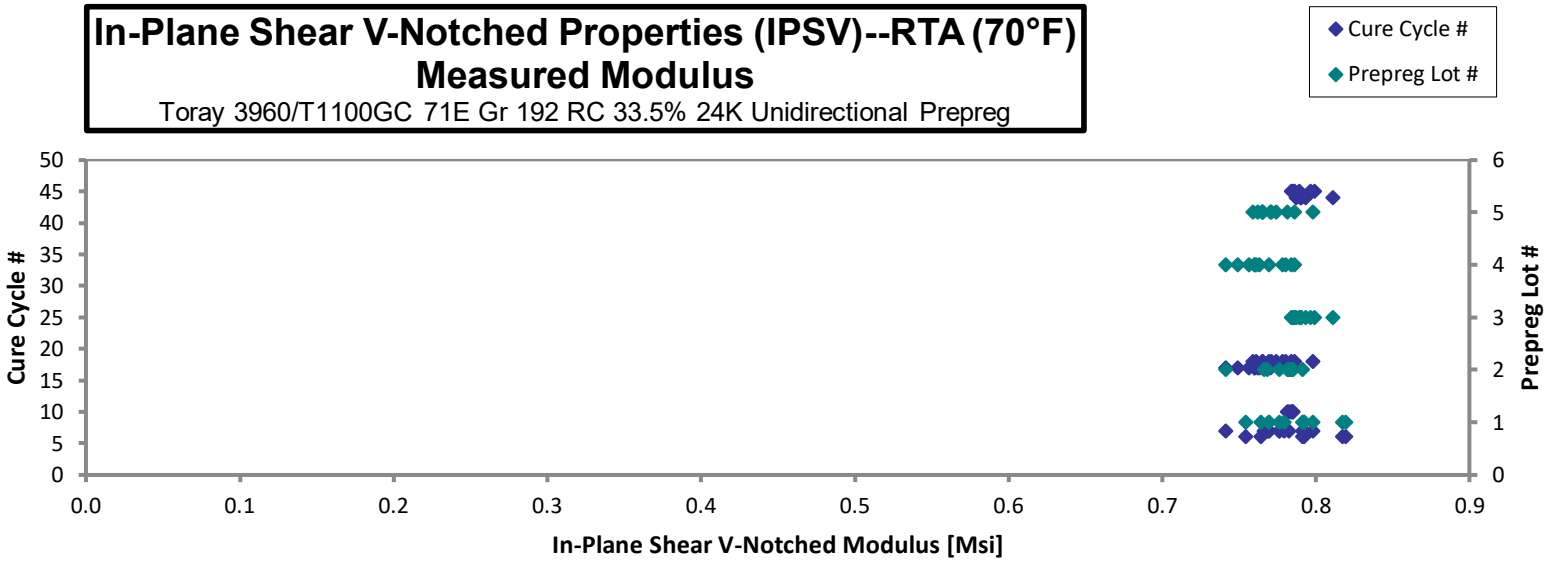

In-Plane Shear V-Notched Properties (IPSV)--CTA (-65°F)
Measured Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
In-Plane Shear V-Notched Modulus [Msi]
0.0
0.2
0.4
0.6
0.8
1.0
1.2
0
5
10
15
20
25
30
35
40
45
50
0
1
2
3
4

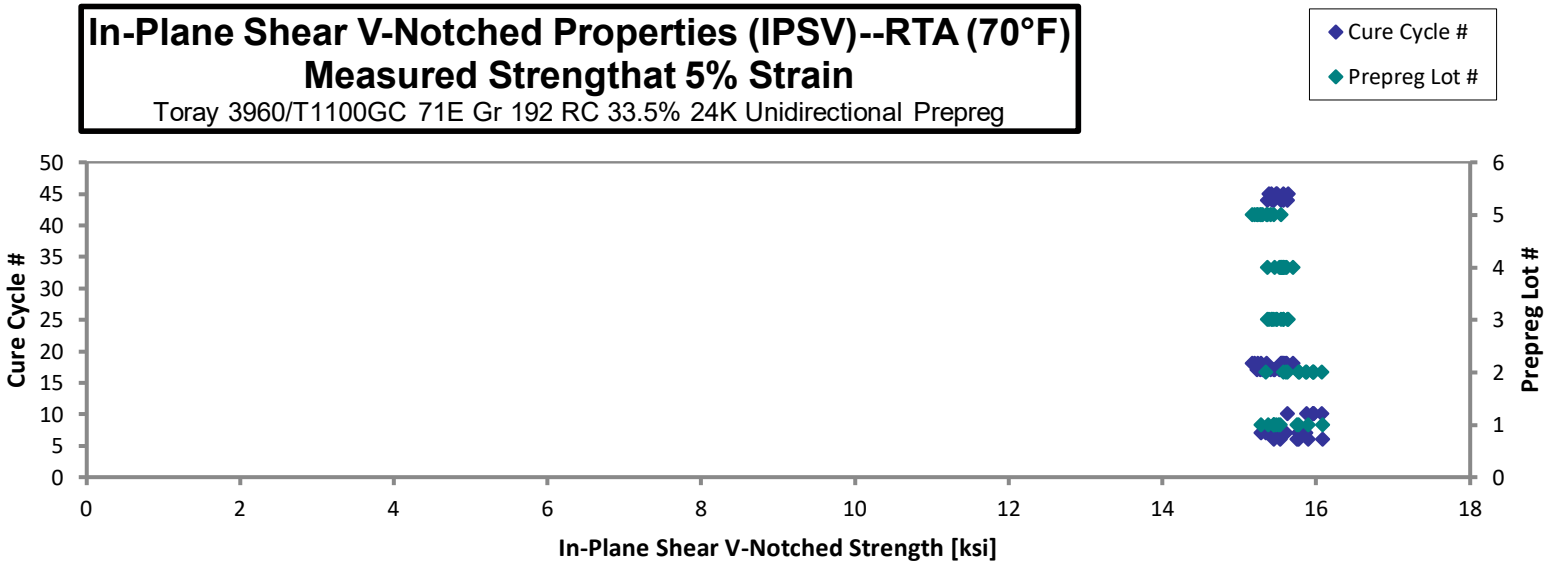

In-Plane Shear V-Notched Properties (IPSV)--CTA (-65°F)
Measured Strength at 5% Strain
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
In-Plane Shear V-Notched Strength [ksi]
0
5
10
15
20
25
0
5
10
15
20
25
30
35
40
45
50
0
1
2
3
4

In-Plane Shear V-Notched Properties (IPSV)--RTA (70°F)
Strength & Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	0.2% Offset Strength [ksi]	Strength at 5% Strain [ksi]	Modulus [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Avg. t_{ply} [in]
NTP3961Q1-TC-T01-BT-IPSV-A-C6-1-RTA-1	A	C6	1	6	10.38	16.08	0.8190	0.1405	20	0.007023
NTP3961Q1-TC-T01-BT-IPSV-A-C6-1-RTA-3	A	C6	1	6	9.980	15.89	0.7920	0.1437	20	0.007183
NTP3961Q1-TC-T01-BT-IPSV-A-C6-1-RTA-4	A	C6	1	6	9.940	15.77	0.7910	0.1451	20	0.007253
NTP3961Q1-TC-T01-BT-IPSV-A-C6-1-RTA-5	A	C6	1	6	9.790	15.75	0.8170	0.1452	20	0.007258
NTP3961Q1-TC-T01-BT-IPSV-A-C6-1-RTA-6	A	C6	1	6	9.740	15.53	0.7540	0.1441	20	0.007203
NTP3961Q1-TC-T01-BT-IPSV-A-C6-1-RTA-7	A	C6	1	6	9.730	15.44	0.7640	0.1440	20	0.007198
NTP3961Q1-TC-T01-BT-IPSV-A-C7-1-RTA-1	A	C7	1	7	10.12	15.28	0.7920	0.1399	20	0.006997
NTP3961Q1-TC-T01-BT-IPSV-A-C7-1-RTA-2	A	C7	1	7	10.14	15.37	0.7980	0.1427	20	0.007135
NTP3961Q1-TC-T01-BT-IPSV-A-C7-1-RTA-3	A	C7	1	7	10.03	15.44	0.7690	0.1441	20	0.007206
NTP3961Q1-TC-T01-BT-IPSV-A-C7-1-RTA-4	A	C7	1	7	9.680	15.45	0.7760	0.1446	20	0.007228
NTP3961Q1-TC-T01-BT-IPSV-A-C7-1-RTA-5	A	C7	1	7	9.870	15.51	0.7690	0.1449	20	0.007243
NTP3961Q1-TC-T01-BT-IPSV-A-C7-1-RTA-6	A	C7	1	7	9.910	15.48	0.7790	0.1458	20	0.007288
NTP3961Q1-TC-T01-BT-IPSV-B-C7-1-RTA-1	B	C7	2	7	9.660	15.78	0.7910	0.1464	20	0.007318
NTP3961Q1-TC-T01-BT-IPSV-B-C7-1-RTA-2	B	C7	2	7	9.990	15.86	0.7660	0.1465	20	0.007327
NTP3961Q1-TC-T01-BT-IPSV-B-C7-1-RTA-3	B	C7	2	7	9.610	15.60	0.7680	0.1493	20	0.007463
NTP3961Q1-TC-T01-BT-IPSV-B-C7-1-RTA-4	B	C7	2	7	9.410	15.34	0.7820	0.1478	20	0.007391
NTP3961Q1-TC-T01-BT-IPSV-B-C7-1-RTA-5	B	C7	2	7	9.700	15.77	0.7760	0.1474	20	0.007368
NTP3961Q1-TC-T01-BT-IPSV-B-C7-1-RTA-6	B	C7	2	7	9.760	15.57	0.7410	0.1504	20	0.007522
NTP3961Q1-TC-T01-BT-IPSV-B-C10-1-RTA-1	B	C10	2	10	9.860	15.95	0.7840	0.1486	20	0.007431
NTP3961Q1-TC-T01-BT-IPSV-B-C10-1-RTA-2	B	C10	2	10	9.660	15.97	0.7810	0.1487	20	0.007433
NTP3961Q1-TC-T01-BT-IPSV-B-C10-1-RTA-3	B	C10	2	10	9.690	15.96	0.7840	0.1502	20	0.007512
NTP3961Q1-TC-T01-BT-IPSV-B-C10-1-RTA-4	B	C10	2	10	9.570	15.62	0.7850	0.1494	20	0.007471
NTP3961Q1-TC-T01-BT-IPSV-B-C10-1-RTA-5	B	C10	2	10	9.620	15.87	0.7820	0.1482	20	0.007408
NTP3961Q1-TC-T01-BT-IPSV-B-C10-1-RTA-6	B	C10	2	10	9.700	16.07	0.7850	0.1500	20	0.007498
NTP3961Q1-TC-T01-TC-IPSV-C-C44-1-RTA-1	C	C44	3	44	9.600	15.45	0.8110	0.1451	20	0.007253
NTP3961Q1-TC-T01-TC-IPSV-C-C44-1-RTA-2	C	C44	3	44	9.520	15.62	0.7900	0.1451	20	0.007253
NTP3961Q1-TC-T01-TC-IPSV-C-C44-1-RTA-3	C	C44	3	44	9.470	15.42	0.7900	0.1456	20	0.007282
NTP3961Q1-TC-T01-TC-IPSV-C-C44-1-RTA-4	C	C44	3	44	9.540	15.36	0.7900	0.1452	20	0.007260
NTP3961Q1-TC-T01-TC-IPSV-C-C44-1-RTA-5	C	C44	3	44	9.600	15.54	0.7930	0.1445	20	0.007224
NTP3961Q1-TC-T01-TC-IPSV-C-C44-1-RTA-6	C	C44	3	44	9.580	15.57	0.7870	0.1447	20	0.007235
NTP3961Q1-TC-T01-TC-IPSV-C-C45-1-RTA-2	C	C45	3	45	9.580	15.38	0.7960	0.1460	20	0.007302
NTP3961Q1-TC-T01-TC-IPSV-C-C45-1-RTA-3	C	C45	3	45	9.640	15.49	0.7850	0.1457	20	0.007283
NTP3961Q1-TC-T01-TC-IPSV-C-C45-1-RTA-4	C	C45	3	45	9.640	15.41	0.7860	0.1453	20	0.007264
NTP3961Q1-TC-T01-TC-IPSV-C-C45-1-RTA-5	C	C45	3	45	9.630	15.48	0.7840	0.1453	20	0.007263
NTP3961Q1-TC-T01-TC-IPSV-C-C45-1-RTA-6	C	C45	3	45	9.760	15.63	0.7990	0.1446	20	0.007230
NTP3961Q1-TC-T01-TC-IPSV-C-C45-1-RTA-7	C	C45	3	45	9.520	15.57	0.7890	0.1452	20	0.007259
NTP3961Q1-TC-T01-TC-IPSV-D-C17-3-RTA-1	D	C17	4	17	9.600	15.52	0.7410	0.1452	20	0.007261
NTP3961Q1-TC-T01-TC-IPSV-D-C17-3-RTA-2	D	C17	4	17	9.530	15.54	0.7630	0.1455	20	0.007277
NTP3961Q1-TC-T01-TC-IPSV-D-C17-3-RTA-3	D	C17	4	17	9.590	15.46	0.7560	0.1460	20	0.007300
NTP3961Q1-TC-T01-TC-IPSV-D-C17-3-RTA-4	D	C17	4	17	9.310	15.36	0.7490	0.1467	20	0.007336
NTP3961Q1-TC-T01-TC-IPSV-D-C17-3-RTA-5	D	C17	4	17	9.610	15.54	0.7600	0.1466	20	0.007328
NTP3961Q1-TC-T01-TC-IPSV-D-C17-3-RTA-6	D	C17	4	17	9.520	15.57	0.7600	0.1461	20	0.007304
NTP3961Q1-TC-T01-TC-IPSV-D-C18-3-RTA-1	D	C18	4	18	9.350	15.55	0.7780	0.1455	20	0.007275
NTP3961Q1-TC-T01-TC-IPSV-D-C18-3-RTA-2	D	C18	4	18	9.420	15.56	0.7860	0.1448	20	0.007242
NTP3961Q1-TC-T01-TC-IPSV-D-C18-3-RTA-3	D	C18	4	18	9.400	15.61	0.7840	0.1459	20	0.007293
NTP3961Q1-TC-T01-TC-IPSV-D-C18-3-RTA-4	D	C18	4	18	9.460	15.57	0.7610	0.1447	20	0.007236
NTP3961Q1-TC-T01-TC-IPSV-D-C18-3-RTA-5	D	C18	4	18	9.520	15.69	0.7690	0.1453	20	0.007264
NTP3961Q1-TC-T01-TC-IPSV-D-C18-3-RTA-6	D	C18	4	18	9.480	15.59	0.7800	0.1450	20	0.007249
NTP3961Q1-TC-T01-TC-IPSV-E-C17-3-RTA-1	E	C17	5	17	9.420	15.40	0.7620	0.1449	20	0.007246
NTP3961Q1-TC-T01-TC-IPSV-E-C17-3-RTA-2	E	C17	5	17	9.320	15.23	0.7650	0.1446	20	0.007229
NTP3961Q1-TC-T01-TC-IPSV-E-C17-3-RTA-3	E	C17	5	17	9.400	15.30	0.7860	0.1465	20	0.007323
NTP3961Q1-TC-T01-TC-IPSV-E-C17-3-RTA-4	E	C17	5	17	9.270	15.36	0.7650	0.1446	20	0.007230
NTP3961Q1-TC-T01-TC-IPSV-E-C17-3-RTA-5	E	C17	5	17	9.180	15.27	0.7700	0.1457	20	0.007283
NTP3961Q1-TC-T01-TC-IPSV-E-C17-3-RTA-6	E	C17	5	17	9.260	15.44	0.7810	0.1440	20	0.007200
NTP3961Q1-TC-T01-TC-IPSV-E-C18-3-RTA-1	E	C18	5	18	9.300	15.24	0.7590	0.1453	20	0.007263
NTP3961Q1-TC-T01-TC-IPSV-E-C18-3-RTA-2	E	C18	5	18	9.210	15.20	0.7650	0.1446	20	0.007228
NTP3961Q1-TC-T01-TC-IPSV-E-C18-3-RTA-3	E	C18	5	18	9.640	15.54	0.7980	0.1455	20	0.007273
NTP3961Q1-TC-T01-TC-IPSV-E-C18-3-RTA-4	E	C18	5	18	9.320	15.35	0.7710	0.1437	20	0.007183
NTP3961Q1-TC-T01-TC-IPSV-E-C18-3-RTA-5	E	C18	5	18	9.330	15.16	0.7740	0.1456	20	0.007280
NTP3961Q1-TC-T01-TC-IPSV-E-C18-3-RTA-6	E	C18	5	18	9.300	15.28	0.7650	0.1446	20	0.007229
				Average	**9.606**	**15.54**	**0.7782**			**0.007280**
				Standard Dev.	**0.2453**	**0.2161**	**0.01641**			
				Coeff. of Var. [%]	**2.554**	**1.391**	**2.109**			
				Min.	**9.180**	**15.16**	**0.7410**			**0.006997**
				Max.	**10.38**	**16.08**	**0.8190**			**0.007522**
				Number of Spec.	**60**	**60**	**60**			**60**


In-Plane Shear V-Notched Properties (IPSV)--RTA (70°F)
Measured 0.2% Offset Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
In-Plane Shear V-Notched Strength [ksi]
0
5
10
15
20
25
30
35
40
45
50
0
1
2
3
4
5
6
0
2
4
6
8
10
12


In-Plane Shear V-Notched Properties (IPSV)--RTA (70°F)
Measured Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
In-Plane Shear V-Notched Modulus [Msi]
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
0
5
10
15
20
25
30
35
40
45
50
0
1
2
3
4
5
6

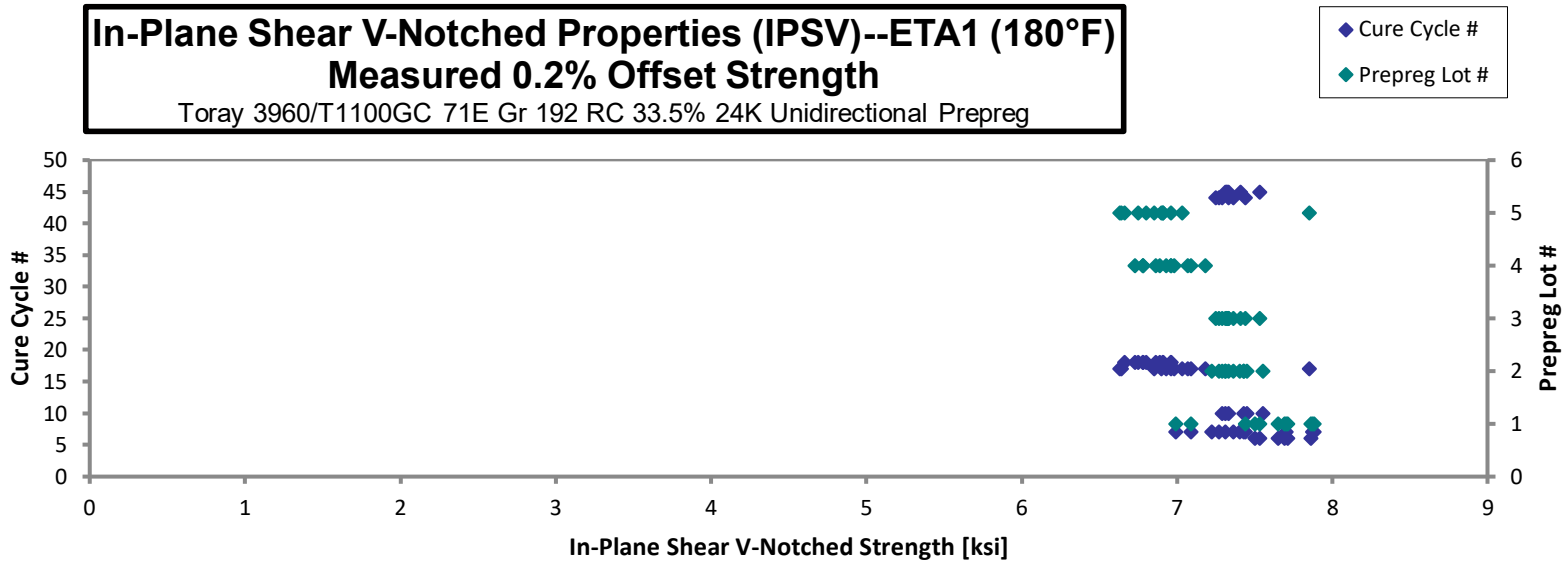

In-Plane Shear V-Notched Properties (IPSV)--RTA (70°F)
Measured Strengthat 5% Strain
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
In-Plane Shear V-Notched Strength [ksi]
0
5
10
15
20
25
30
35
40
45
50
0
1
2
3
4
5
6
0
2
4
6
8
10
12
14
16
18

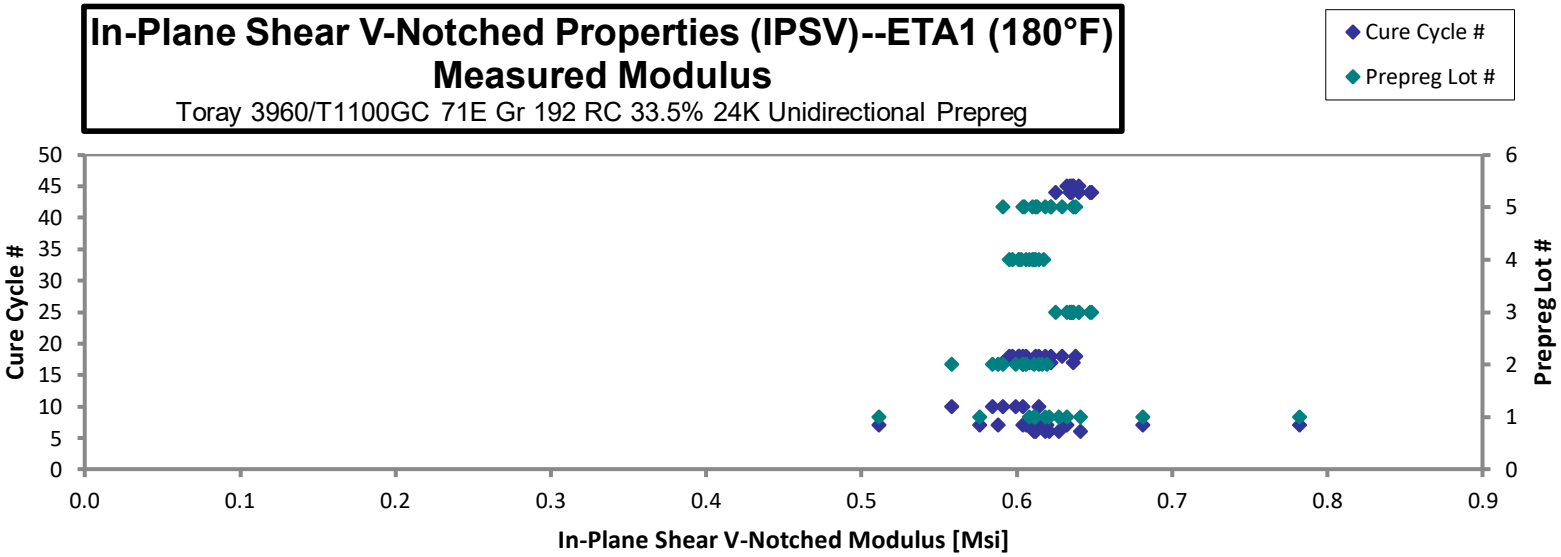
In-Plane Shear V-Notched Properties (IPSV)--ETA1 (180°F)
Strength & Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

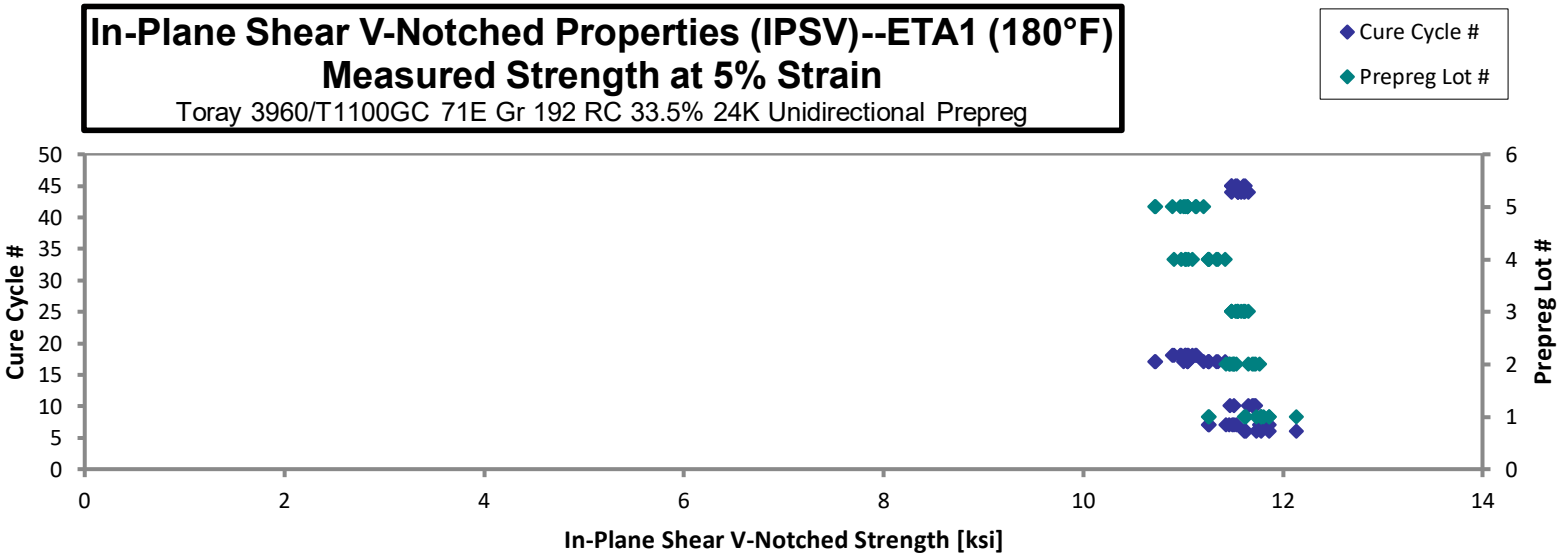
Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	0.2% Offset Strength [ksi]	Strength at 5% Strain [ksi]	Modulus [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Avg. t_{ply} [in]
NTP3961Q1-TC-T01-BT-IPSV-A-C6-1-ETA1-1	A	C6	1	6	7.710	11.61	0.6410	0.1450	20	0.007248
NTP3961Q1-TC-T01-BT-IPSV-A-C6-1-ETA1-2	A	C6	1	6	7.650	11.78	0.6120	0.1461	20	0.007307
NTP3961Q1-TC-T01-BT-IPSV-A-C6-1-ETA1-3	A	C6	1	6	7.500	11.63	0.6110	0.1467	20	0.007334
NTP3961Q1-TC-T01-BT-IPSV-A-C6-1-ETA1-4	A	C6	1	6	7.530	11.73	0.6180	0.1466	20	0.007331
NTP3961Q1-TC-T01-BT-IPSV-A-C6-1-ETA1-5	A	C6	1	6	7.690	11.86	0.6210	0.1460	20	0.007301
NTP3961Q1-TC-T01-BT-IPSV-A-C6-1-ETA1-6	A	C6	1	6	7.860	12.13	0.6270	0.1430	20	0.007149
NTP3961Q1-TC-T01-BT-IPSV-A-C7-1-ETA1-1	A	C7	1	7	7.700	11.80	0.6320	0.1395	20	0.006973
NTP3961Q1-TC-T01-BT-IPSV-A-C7-1-ETA1-2	A	C7	1	7	7.880	11.78	0.5760	0.1425	20	0.007123
NTP3961Q1-TC-T01-BT-IPSV-A-C7-1-ETA1-3	A	C7	1	7	6.990	11.86	0.7820	0.1439	20	0.007195
NTP3961Q1-TC-T01-BT-IPSV-A-C7-1-ETA1-4	A	C7	1	7	7.440	11.78	0.6810	0.1444	20	0.007222
NTP3961Q1-TC-T01-BT-IPSV-A-C7-1-CTA-4*	A	C7	1	7	7.090	11.25	0.6080	0.1459	20	0.007296
NTP3961Q1-TC-T01-BT-IPSV-A-C7-1-CTA-5*	A	C7	1	7	7.870	11.26	0.5110	0.1448	20	0.007239
NTP3961Q1-TC-T01-BT-IPSV-B-C7-1-ETA1-1	B	C7	2	7	7.270	11.46	0.6110	0.1488	20	0.007439
NTP3961Q1-TC-T01-BT-IPSV-B-C7-1-ETA1-2	B	C7	2	7	7.360	11.51	0.6060	0.1488	20	0.007440
NTP3961Q1-TC-T01-BT-IPSV-B-C7-1-ETA1-3	B	C7	2	7	7.430	11.53	0.5880	0.1491	20	0.007453
NTP3961Q1-TC-T01-BT-IPSV-B-C7-1-ETA1-4	B	C7	2	7	7.220	11.43	0.6040	0.1482	20	0.007408
NTP3961Q1-TC-T01-BT-IPSV-B-C7-1-ETA1-5	B	C7	2	7	7.310	11.49	0.6160	0.1485	20	0.007423
NTP3961Q1-TC-T01-BT-IPSV-B-C7-1-ETA1-6	B	C7	2	7	7.400	11.76	0.6190	0.1495	20	0.007477
NTP3961Q1-TC-T01-BT-IPSV-B-C10-1-ETA1-1	B	C10	2	10	7.290	11.51	0.6140	0.1490	20	0.007452
NTP3961Q1-TC-T01-BT-IPSV-B-C10-1-ETA1-2	B	C10	2	10	7.330	11.69	0.6040	0.1488	20	0.007438
NTP3961Q1-TC-T01-BT-IPSV-B-C10-1-ETA1-3	B	C10	2	10	7.310	11.72	0.5990	0.1495	20	0.007475
NTP3961Q1-TC-T01-BT-IPSV-B-C10-1-ETA1-4	B	C10	2	10	7.450	11.65	0.5910	0.1475	20	0.007376
NTP3961Q1-TC-T01-BT-IPSV-B-C10-1-ETA1-5	B	C10	2	10	7.430	11.47	0.5580	0.1488	20	0.007438
NTP3961Q1-TC-T01-BT-IPSV-B-C10-1-ETA1-6	B	C10	2	10	7.550	11.71	0.5840	0.1499	20	0.007496
NTP3961Q1-TC-T01-TC-IPSV-C-C44-1-ETA1-1	C	C44	3	44	7.440	11.55	0.6480	0.1440	20	0.007200
NTP3961Q1-TC-T01-TC-IPSV-C-C44-1-ETA1-2	C	C44	3	44	7.270	11.55	0.6250	0.1448	20	0.007238
NTP3961Q1-TC-T01-TC-IPSV-C-C44-1-ETA1-3	C	C44	3	44	7.250	11.48	0.6340	0.1454	20	0.007271
NTP3961Q1-TC-T01-TC-IPSV-C-C44-1-ETA1-4	C	C44	3	44	7.330	11.61	0.6470	0.1447	20	0.007233
NTP3961Q1-TC-T01-TC-IPSV-C-C44-1-ETA1-5	C	C44	3	44	7.360	11.65	0.6350	0.1443	20	0.007214
NTP3961Q1-TC-T01-TC-IPSV-C-C44-1-ETA1-6	C	C44	3	44	7.290	11.58	0.6400	0.1449	20	0.007244
NTP3961Q1-TC-T01-TC-IPSV-C-C45-1-ETA1-1	C	C45	3	45	7.530	11.60	0.6360	0.1442	20	0.007209
NTP3961Q1-TC-T01-TC-IPSV-C-C45-1-ETA1-2	C	C45	3	45	7.410	11.62	0.6350	0.1460	20	0.007300
NTP3961Q1-TC-T01-TC-IPSV-C-C45-1-ETA1-3	C	C45	3	45	7.320	11.54	0.6340	0.1455	20	0.007273
NTP3961Q1-TC-T01-TC-IPSV-C-C45-1-ETA1-4	C	C45	3	45	7.320	11.52	0.6360	0.1457	20	0.007283
NTP3961Q1-TC-T01-TC-IPSV-C-C45-1-ETA1-5	C	C45	3	45	7.310	11.48	0.6400	0.1451	20	0.007253
NTP3961Q1-TC-T01-TC-IPSV-C-C45-1-ETA1-6	C	C45	3	45	7.330	11.48	0.6320	0.1449	20	0.007245
NTP3961Q1-TC-T01-TC-IPSV-D-C17-3-ETA1-2	D	C17	4	17	7.090	11.35	0.6120	0.1449	20	0.007246
NTP3961Q1-TC-T01-TC-IPSV-D-C17-3-ETA1-3	D	C17	4	17	7.180	11.42	0.6110	0.1445	20	0.007223
NTP3961Q1-TC-T01-TC-IPSV-D-C17-3-ETA1-4	D	C17	4	17	6.980	11.25	0.6030	0.1456	20	0.007280
NTP3961Q1-TC-T01-TC-IPSV-D-C17-3-ETA1-5	D	C17	4	17	7.070	11.33	0.6100	0.1464	20	0.007320
NTP3961Q1-TC-T01-TC-IPSV-D-C17-3-ETA1-6	D	C17	4	17	6.930	11.26	0.6080	0.1447	20	0.007234
NTP3961Q1-TC-T01-TC-IPSV-D-C17-3-ETA1-7	D	C17	4	17	6.960	11.25	0.6170	0.1453	20	0.007265
NTP3961Q1-TC-T01-TC-IPSV-D-C18-3-ETA1-1	D	C18	4	18	6.960	11.03	0.5950	0.1454	20	0.007268
NTP3961Q1-TC-T01-TC-IPSV-D-C18-3-ETA1-2	D	C18	4	18	6.860	11.05	0.6010	0.1459	20	0.007294
NTP3961Q1-TC-T01-TC-IPSV-D-C18-3-ETA1-3	D	C18	4	18	6.890	11.09	0.6140	0.1459	20	0.007295
NTP3961Q1-TC-T01-TC-IPSV-D-C18-3-ETA1-4	D	C18	4	18	6.780	10.91	0.5970	0.1451	20	0.007257
NTP3961Q1-TC-T01-TC-IPSV-D-C18-3-ETA1-5	D	C18	4	18	6.730	10.98	0.6060	0.1453	20	0.007263
NTP3961Q1-TC-T01-TC-IPSV-D-C18-3-ETA1-6	D	C18	4	18	6.780	11.02	0.6010	0.1451	20	0.007255
NTP3961Q1-TC-T01-TC-IPSV-E-C17-3-ETA1-1	E	C17	5	17	6.850	11.00	0.6130	0.1454	20	0.007270
NTP3961Q1-TC-T01-TC-IPSV-E-C17-3-ETA1-2	E	C17	5	17	7.850	11.04	0.5910	0.1444	20	0.007220
NTP3961Q1-TC-T01-TC-IPSV-E-C17-3-ETA1-3	E	C17	5	17	6.630	10.71	0.6050	0.1468	20	0.007341
NTP3961Q1-TC-T01-TC-IPSV-E-C17-3-ETA1-4	E	C17	5	17	7.030	11.20	0.6360	0.1453	20	0.007267
NTP3961Q1-TC-T01-TC-IPSV-E-C17-3-ETA1-5	E	C17	5	17	6.640	10.72	0.6100	0.1473	20	0.007367
NTP3961Q1-TC-T01-TC-IPSV-E-C17-3-ETA1-6	E	C17	5	17	6.900	11.04	0.6220	0.1446	20	0.007232
NTP3961Q1-TC-T01-TC-IPSV-E-C18-3-ETA1-1	E	C18	5	18	6.660	10.89	0.6290	0.1458	20	0.007290
NTP3961Q1-TC-T01-TC-IPSV-E-C18-3-ETA1-2	E	C18	5	18	6.800	10.97	0.6040	0.1444	20	0.007219
NTP3961Q1-TC-T01-TC-IPSV-E-C18-3-ETA1-3	E	C18	5	18	6.960	11.13	0.6220	0.1457	20	0.007283
NTP3961Q1-TC-T01-TC-IPSV-E-C18-3-ETA1-4	E	C18	5	18	6.750	11.02	0.6380	0.1447	20	0.007236
NTP3961Q1-TC-T01-TC-IPSV-E-C18-3-ETA1-5	E	C18	5	18	6.910	11.04	0.6120	0.1461	20	0.007306
NTP3961Q1-TC-T01-TC-IPSV-E-C18-3-ETA1-6	E	C18	5	18	6.910	11.12	0.6180	0.1457	20	0.007286

*CTA specimens were tested as ETA1 condition

Average	**7.225**	**11.40**	**0.6172**	**0.007292**
Standard Dev.	**0.3331**	**0.3166**	**0.03225**	
Coeff. of Var. [%]	**4.610**	**2.777**	**5.225**	
Min.	**6.630**	**10.71**	**0.5110**	**0.006973**
Max.	**7.880**	**12.13**	**0.7820**	**0.007496**
Number of Spec.	**60**	**60**	**60**	**60**

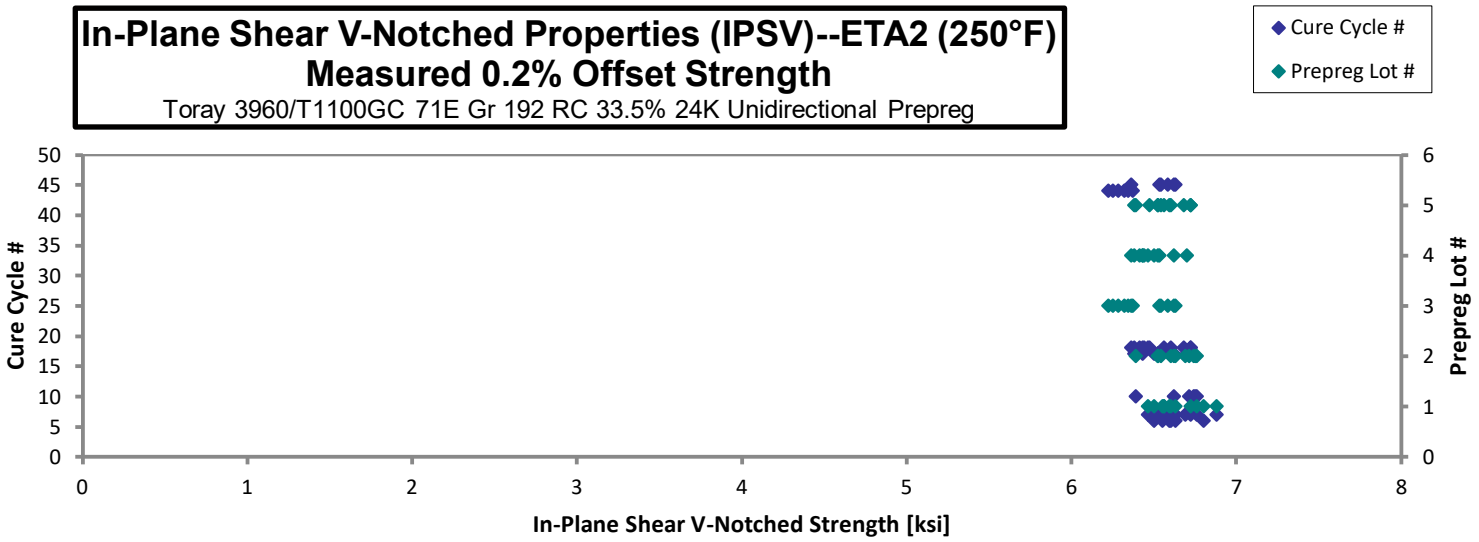

In-Plane Shear V-Notched Properties (IPSV)--ETA1 (180°F)
Measured 0.2% Offset Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
In-Plane Shear V-Notched Strength [ksi]
0
5
10
15
20
25
30
35
40
45
50
0
1
2
3
4
5
6
0
1
2
3
4
5
6
7
8
9

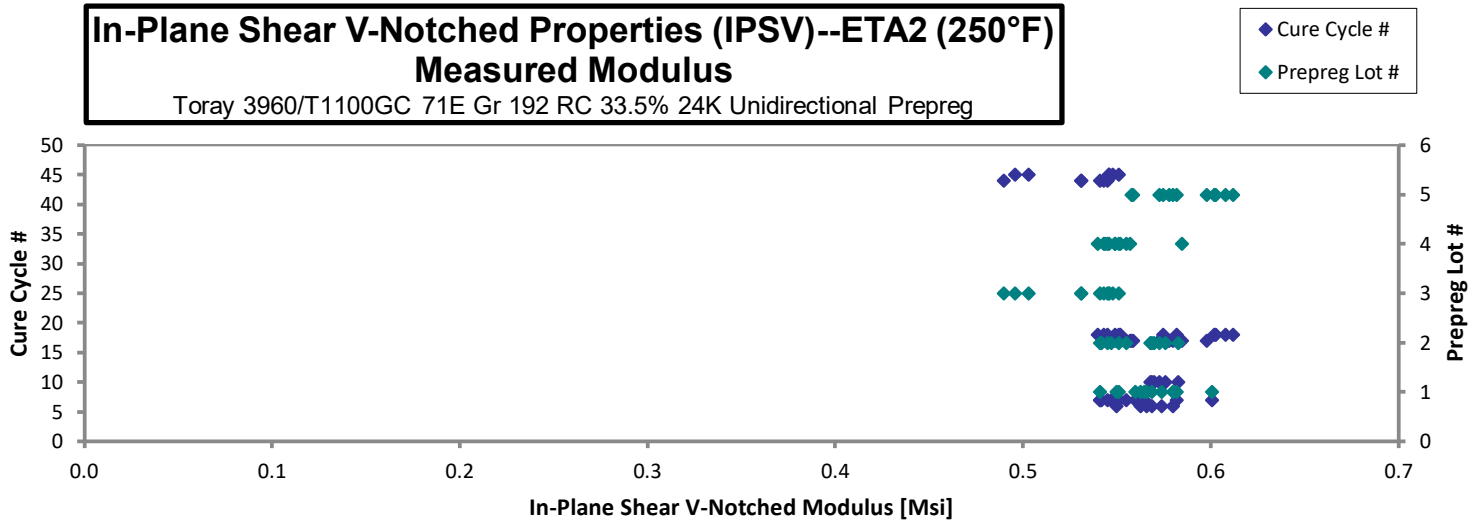

In-Plane Shear V-Notched Properties (IPSV)--ETA1 (180°F)
Measured Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
In-Plane Shear V-Notched Modulus [Msi]
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
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5
10
15
20
25
30
35
40
45
50
0
1
2
3
4
5
6

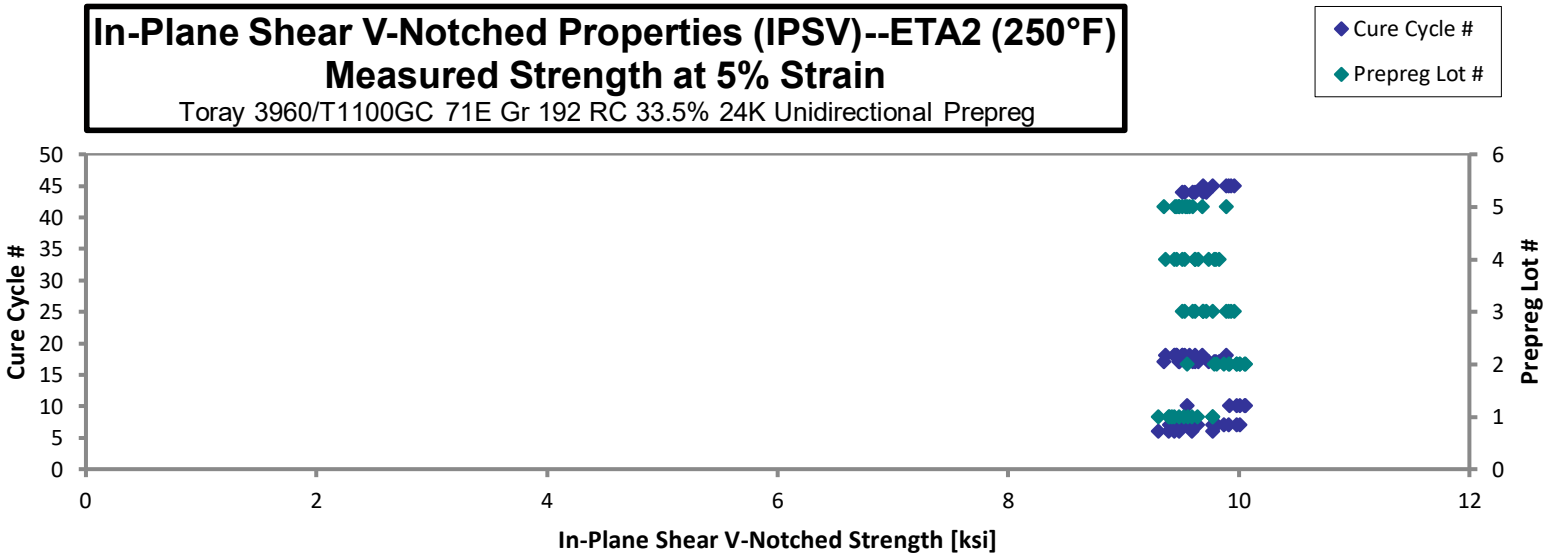

In-Plane Shear V-Notched Properties (IPSV)--ETA1 (180°F)
Measured Strength at 5% Strain
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
In-Plane Shear V-Notched Strength [ksi]
0
5
10
15
20
25
30
35
40
45
50
0
1
2
3
4
5
6
0
2
4
6
8
10
12
14

In-Plane Shear V-Notched Properties (IPSV)--ETA2 (250°F)
Strength & Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	0.2% Offset Strength [ksi]	Strength at 5% Strain [ksi]	Modulus [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Avg. t_{ply} [in]
NTP3961Q1-TC-T01-BT-IPSV-A-C6-1-ETA2-1	A	C6	1	6	6.600	9.390	0.5800	0.1440	20	0.007202
NTP3961Q1-TC-T01-BT-IPSV-A-C6-1-ETA2-2	A	C6	1	6	6.500	9.440	0.5630	0.1460	20	0.007302
NTP3961Q1-TC-T01-BT-IPSV-A-C6-1-ETA2-4	A	C6	1	6	6.550	9.300	0.5690	0.1460	20	0.007298
NTP3961Q1-TC-T01-BT-IPSV-A-C6-1-ETA2-5	A	C6	1	6	6.630	9.480	0.5660	0.1451	20	0.007253
NTP3961Q1-TC-T01-BT-IPSV-A-C6-1-ETA2-6	A	C6	1	6	6.800	9.770	0.5740	0.1438	20	0.007190
NTP3961Q1-TC-T01-BT-IPSV-A-C6-1-ETA2-7	A	C6	1	6	6.590	9.590	0.5500	0.1441	20	0.007203
NTP3961Q1-TC-T01-BT-IPSV-A-C7-1-ETA2-1	A	C7	1	7	6.760	9.520	0.5650	0.1411	20	0.007056
NTP3961Q1-TC-T01-BT-IPSV-A-C7-1-ETA2-5	A	C7	1	7	6.880	9.770	0.5510	0.1457	20	0.007283
NTP3961Q1-TC-T01-BT-IPSV-A-C7-1-ETA2-6	A	C7	1	7	6.720	9.560	0.5410	0.1463	20	0.007313
NTP3961Q1-TC-T01-BT-IPSV-A-C7-1-ETA2-7	A	C7	1	7	6.460	9.640	0.6010	0.1465	20	0.007323
NTP3961Q1-TC-T01-BT-IPSV-A-C7-1-ETA2-8	A	C7	1	7	6.560	9.400	0.5600	0.1464	20	0.007321
NTP3961Q1-TC-T01-BT-IPSV-A-C7-1-ETA2-9	A	C7	1	7	6.560	9.420	0.5820	0.1464	20	0.007319
NTP3961Q1-TC-T01-BT-IPSV-B-C7-1-ETA2-1	B	C7	2	7	6.630	10.01	0.5550	0.1474	20	0.007370
NTP3961Q1-TC-T01-BT-IPSV-B-C7-1-ETA2-2	B	C7	2	7	6.690	9.980	0.5450	0.1471	20	0.007354
NTP3961Q1-TC-T01-BT-IPSV-B-C7-1-ETA2-3	B	C7	2	7	6.600	9.910	0.5420	0.1484	20	0.007421
NTP3961Q1-TC-T01-BT-IPSV-B-C7-1-ETA2-4	B	C7	2	7	6.520	9.810	0.5410	0.1465	20	0.007327
NTP3961Q1-TC-T01-BT-IPSV-B-C7-1-ETA2-5	B	C7	2	7	6.520	9.790	0.5470	0.1480	20	0.007399
NTP3961Q1-TC-T01-BT-IPSV-B-C7-1-ETA2-6	B	C7	2	7	6.540	9.870	0.5510	0.1498	20	0.007491
NTP3961Q1-TC-T01-BT-IPSV-B-C10-1-ETA2-2	B	C10	2	10	6.760	10.01	0.5690	0.1471	20	0.007353
NTP3961Q1-TC-T01-BT-IPSV-B-C10-1-ETA2-3	B	C10	2	10	6.740	10.05	0.5680	0.1486	20	0.007428
NTP3961Q1-TC-T01-BT-IPSV-B-C10-1-ETA2-4	B	C10	2	10	6.750	9.980	0.5760	0.1460	20	0.007302
NTP3961Q1-TC-T01-BT-IPSV-B-C10-1-ETA2-5	B	C10	2	10	6.710	10.06	0.5830	0.1467	20	0.007333
NTP3961Q1-TC-T01-BT-IPSV-B-C10-1-ETA2-6	B	C10	2	10	6.620	9.920	0.5700	0.1496	20	0.007478
NTP3961Q1-TC-T01-BT-IPSV-B-C10-1-ETA2-7	B	C10	2	10	6.390	9.550	0.5730	0.1476	20	0.007379
NTP3961Q1-TC-T01-TC-IPSV-C-C44-1-ETA2-1	C	C44	3	44	6.340	9.530	0.5450	0.1450	20	0.007250
NTP3961Q1-TC-T01-TC-IPSV-C-C44-1-ETA2-2	C	C44	3	44	6.280	9.690	0.5410	0.1448	20	0.007240
NTP3961Q1-TC-T01-TC-IPSV-C-C44-1-ETA2-3	C	C44	3	44	6.220	9.510	0.5310	0.1459	20	0.007294
NTP3961Q1-TC-T01-TC-IPSV-C-C44-1-ETA2-4	C	C44	3	44	6.370	9.720	0.5430	0.1453	20	0.007263
NTP3961Q1-TC-T01-TC-IPSV-C-C44-1-ETA2-5	C	C44	3	44	6.250	9.620	0.5310	0.1450	20	0.007249
NTP3961Q1-TC-T01-TC-IPSV-C-C44-1-ETA2-6	C	C44	3	44	6.320	9.600	0.4900	0.1446	20	0.007231
NTP3961Q1-TC-T01-TC-IPSV-C-C45-1-ETA2-1	C	C45	3	45	6.530	9.770	0.5510	0.1442	20	0.007209
NTP3961Q1-TC-T01-TC-IPSV-C-C45-1-ETA2-2	C	C45	3	45	6.360	9.690	0.5460	0.1468	20	0.007339
NTP3961Q1-TC-T01-TC-IPSV-C-C45-1-ETA2-3	C	C45	3	45	6.630	9.890	0.5030	0.1459	20	0.007294
NTP3961Q1-TC-T01-TC-IPSV-C-C45-1-ETA2-4	C	C45	3	45	6.620	9.930	0.4960	0.1458	20	0.007288
NTP3961Q1-TC-T01-TC-IPSV-C-C45-1-ETA2-5	C	C45	3	45	6.540	9.910	0.5460	0.1454	20	0.007272
NTP3961Q1-TC-T01-TC-IPSV-C-C45-1-ETA2-6	C	C45	3	45	6.580	9.960	0.5480	0.1448	20	0.007240
NTP3961Q1-TC-T01-TC-IPSV-D-C17-3-ETA2-1	D	C17	4	17	6.620	9.800	0.5570	0.1448	20	0.007240
NTP3961Q1-TC-T01-TC-IPSV-D-C17-3-ETA2-2	D	C17	4	17	6.530	9.650	0.5460	0.1450	20	0.007248
NTP3961Q1-TC-T01-TC-IPSV-D-C17-3-ETA2-3	D	C17	4	17	6.700	9.830	0.5850	0.1440	20	0.007200
NTP3961Q1-TC-T01-TC-IPSV-D-C17-3-ETA2-5	D	C17	4	17	6.500	9.740	0.5490	0.1456	20	0.007280
NTP3961Q1-TC-T01-TC-IPSV-D-C17-3-ETA2-6	D	C17	4	17	6.520	9.790	0.5550	0.1455	20	0.007273
NTP3961Q1-TC-T01-TC-IPSV-D-C17-3-ETA2-7	D	C17	4	17	6.430	9.620	0.5440	0.1455	20	0.007273
NTP3961Q1-TC-T01-TC-IPSV-D-C18-3-ETA2-1	D	C18	4	18	6.360	9.360	0.5400	0.1444	20	0.007218
NTP3961Q1-TC-T01-TC-IPSV-D-C18-3-ETA2-2	D	C18	4	18	6.410	9.440	0.5450	0.1455	20	0.007273
NTP3961Q1-TC-T01-TC-IPSV-D-C18-3-ETA2-3	D	C18	4	18	6.380	9.460	0.5510	0.1453	20	0.007263
NTP3961Q1-TC-T01-TC-IPSV-D-C18-3-ETA2-4	D	C18	4	18	6.440	9.510	0.5430	0.1454	20	0.007268
NTP3961Q1-TC-T01-TC-IPSV-D-C18-3-ETA2-6	D	C18	4	18	6.460	9.530	0.5490	0.1452	20	0.007258
NTP3961Q1-TC-T01-TC-IPSV-D-C18-3-ETA2-7	D	C18	4	18	6.430	9.620	0.5520	0.1450	20	0.007252
NTP3961Q1-TC-T01-TC-IPSV-E-C17-3-ETA2-1	E	C17	5	17	6.380	9.350	0.5580	0.1453	20	0.007265
NTP3961Q1-TC-T01-TC-IPSV-E-C17-3-ETA2-2	E	C17	5	17	6.520	9.480	0.5730	0.1436	20	0.007180
NTP3961Q1-TC-T01-TC-IPSV-E-C17-3-ETA2-3	E	C17	5	17	6.540	9.540	0.5780	0.1455	20	0.007277
NTP3961Q1-TC-T01-TC-IPSV-E-C17-3-ETA2-4	E	C17	5	17	6.520	9.550	0.5800	0.1443	20	0.007213
NTP3961Q1-TC-T01-TC-IPSV-E-C17-3-ETA2-5	E	C17	5	17	6.590	9.600	0.5980	0.1447	20	0.007236
NTP3961Q1-TC-T01-TC-IPSV-E-C17-3-ETA2-6	E	C17	5	17	6.390	9.480	0.5590	0.1437	20	0.007183
NTP3961Q1-TC-T01-TC-IPSV-E-C18-3-ETA2-1	E	C18	5	18	6.560	9.460	0.5750	0.1450	20	0.007250
NTP3961Q1-TC-T01-TC-IPSV-E-C18-3-ETA2-2	E	C18	5	18	6.600	9.510	0.6030	0.1441	20	0.007207
NTP3961Q1-TC-T01-TC-IPSV-E-C18-3-ETA2-3	E	C18	5	18	6.720	9.680	0.6020	0.1450	20	0.007251
NTP3961Q1-TC-T01-TC-IPSV-E-C18-3-ETA2-4	E	C18	5	18	6.470	9.450	0.5820	0.1442	20	0.007212
NTP3961Q1-TC-T01-TC-IPSV-E-C18-3-ETA2-5	E	C18	5	18	6.680	9.570	0.6120	0.1455	20	0.007275
NTP3961Q1-TC-T01-TC-IPSV-E-C18-3-ETA2-6	E	C18	5	18	6.720	9.890	0.6080	0.1443	20	0.007214
				Average	**6.543**	**9.666**	**0.5590**			**0.007278**
				Standard Dev.	**0.1442**	**0.2036**	**0.02445**			
				Coeff. of Var. [%]	**2.203**	**2.106**	**4.375**			
				Min.	**6.220**	**9.300**	**0.4900**			**0.007056**
				Max.	**6.880**	**10.06**	**0.6120**			**0.007491**
				Number of Spec.	**60**	**60**	**60**			**60**

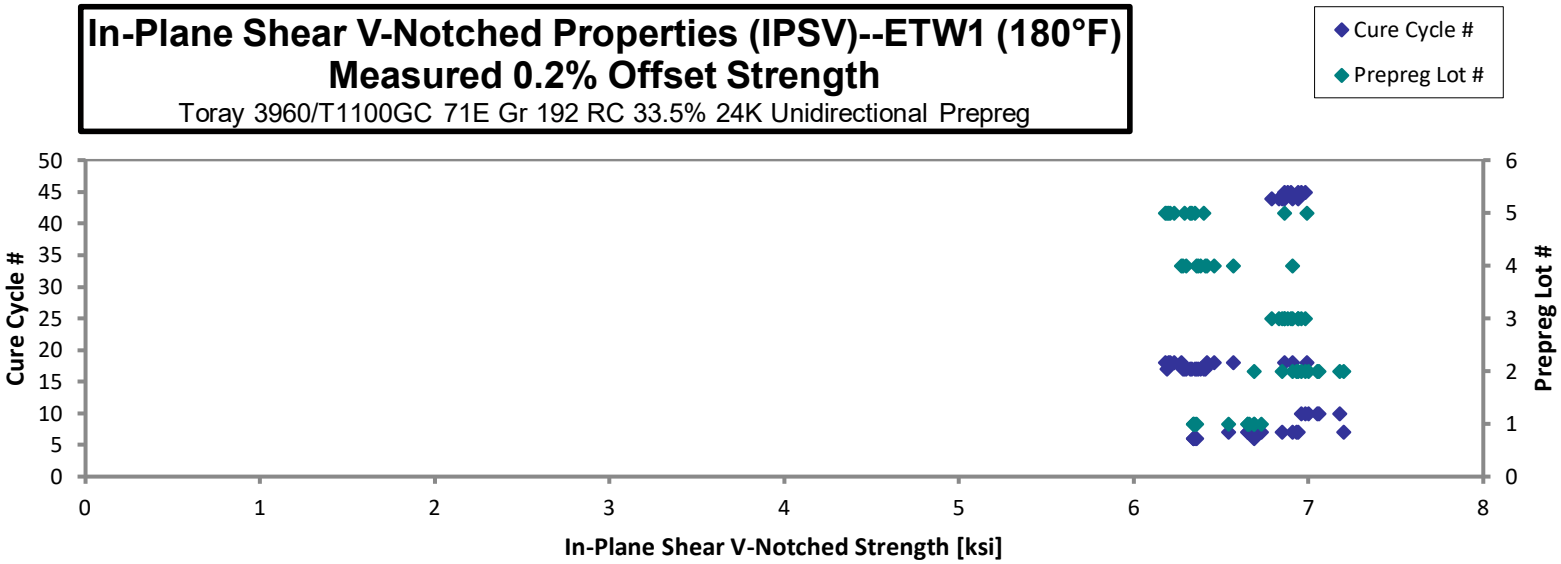

In-Plane Shear V-Notched Properties (IPSV)--ETA2 (250°F)
Measured 0.2% Offset Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
In-Plane Shear V-Notched Strength [ksi]

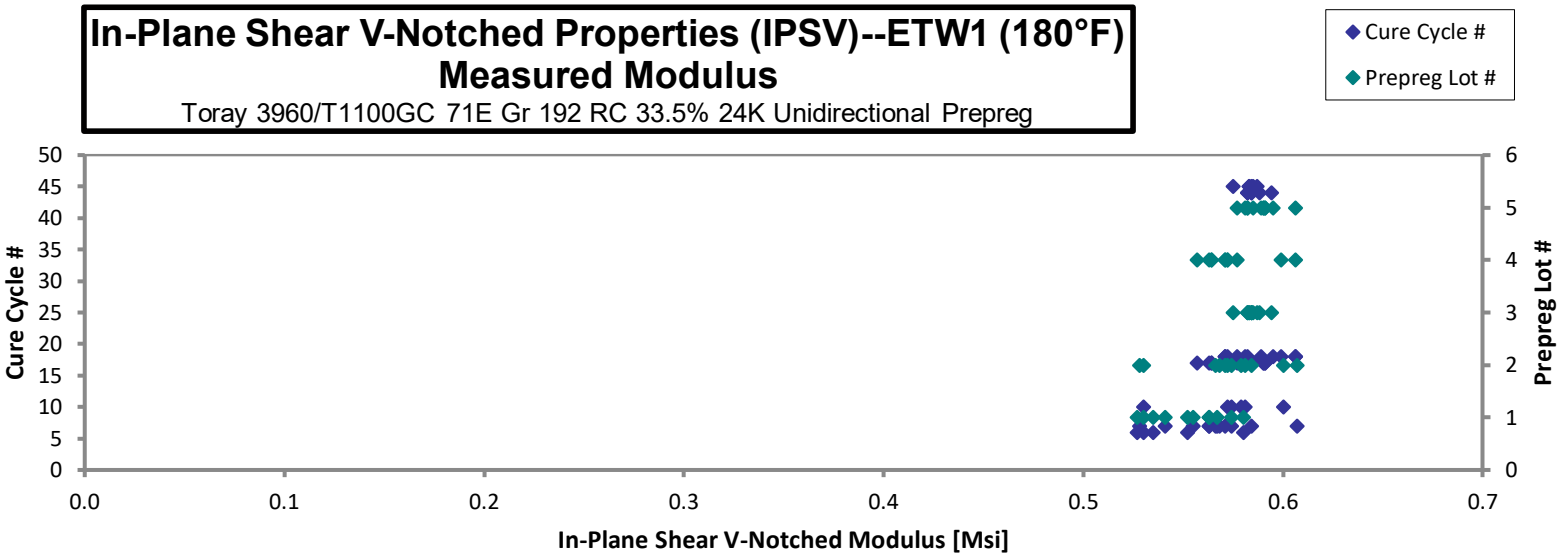

In-Plane Shear V-Notched Properties (IPSV)--ETA2 (250°F)
Measured Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
In-Plane Shear V-Notched Modulus [Msi]

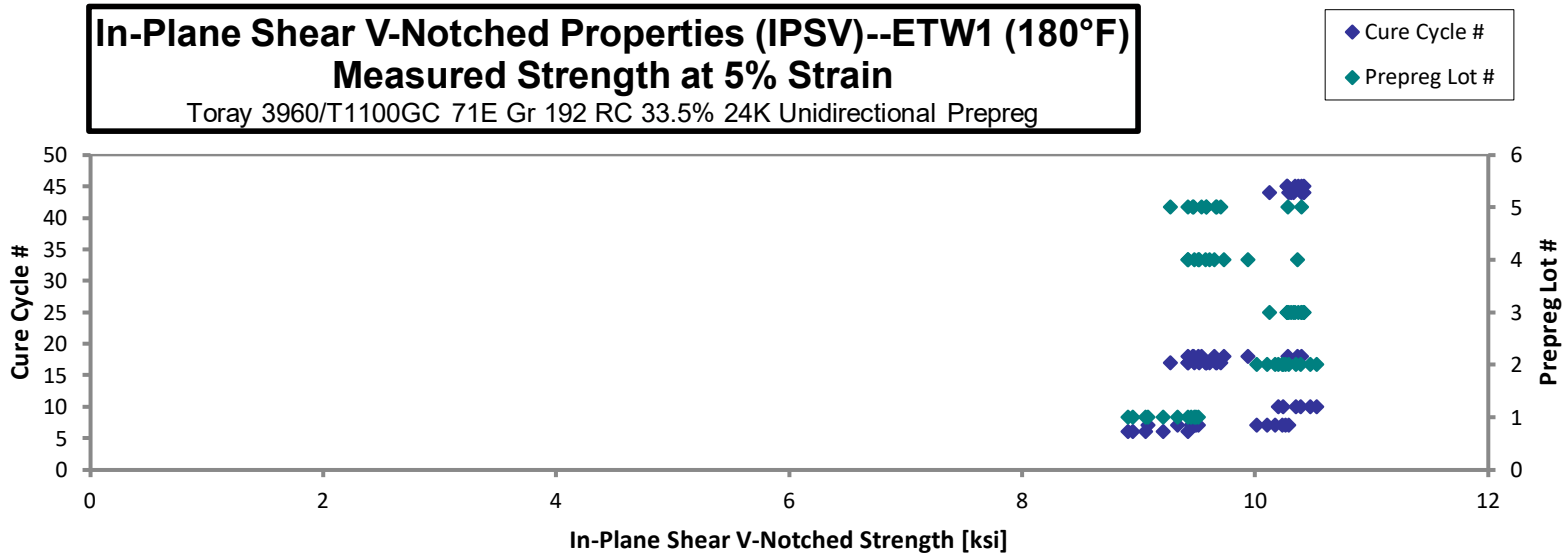

In-Plane Shear V-Notched Properties (IPSV)--ETA2 (250°F)
Measured Strength at 5% Strain
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
In-Plane Shear V-Notched Strength [ksi]
0
5
10
15
20
25
30
35
40
45
50
0
1
2
3
4
5
6
0
2
4
6
8
10
12

In-Plane Shear V-Notched Properties (IPSV)--ETW1 (180°F)
Strength & Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	0.2% Offset Strength [ksi]	Strength at 5% Strain [ksi]	Modulus [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Avg. t_{ply} [in]
NTP3961Q1-TC-T01-BT-IPSV-A-C6-1-ETW1-1	A	C6	1	6	6.340	8.910	0.5300	0.1451	20	0.007254
NTP3961Q1-TC-T01-BT-IPSV-A-C6-1-ETW1-2	A	C6	1	6	6.350	8.950	0.5270	0.1469	20	0.007343
NTP3961Q1-TC-T01-BT-IPSV-A-C6-1-ETW1-3	A	C6	1	6	6.340	9.060	0.5520	0.1472	20	0.007361
NTP3961Q1-TC-T01-BT-IPSV-A-C6-1-ETW1-4	A	C6	1	6	6.360	9.210	0.5800	0.1466	20	0.007329
NTP3961Q1-TC-T01-BT-IPSV-A-C6-1-ETW1-5	A	C6	1	6	6.690	9.420	0.5350	0.1449	20	0.007243
NTP3961Q1-TC-T01-BT-IPSV-A-C7-1-ETW1-1	A	C7	1	7	6.540	9.080	0.5550	0.1405	20	0.007023
NTP3961Q1-TC-T01-BT-IPSV-A-C7-1-ETW1-2	A	C7	1	7	6.650	9.330	0.5740	0.1435	20	0.007177
NTP3961Q1-TC-T01-BT-IPSV-A-C7-1-ETW1-3	A	C7	1	7	6.650	9.450	0.5630	0.1441	20	0.007206
NTP3961Q1-TC-T01-BT-IPSV-A-C7-1-ETW1-4	A	C7	1	7	6.660	9.480	0.5670	0.1453	20	0.007263
NTP3961Q1-TC-T01-BT-IPSV-A-C7-1-ETW1-5	A	C7	1	7	6.690	9.490	0.5410	0.1455	20	0.007273
NTP3961Q1-TC-T01-BT-IPSV-A-C7-1-ETW1-6	A	C7	1	7	6.730	9.510	0.5630	0.1458	20	0.007288
NTP3961Q1-TC-T01-BT-IPSV-B-C7-1-ETW1-1	B	C7	2	7	6.690	10.01	0.6070	0.1474	20	0.007368
NTP3961Q1-TC-T01-BT-IPSV-B-C7-1-ETW1-2	B	C7	2	7	6.930	10.26	0.5840	0.1484	20	0.007421
NTP3961Q1-TC-T01-BT-IPSV-B-C7-1-ETW1-3	B	C7	2	7	6.910	10.17	0.5680	0.1496	20	0.007480
NTP3961Q1-TC-T01-BT-IPSV-B-C7-1-ETW1-4	B	C7	2	7	6.940	10.29	0.5710	0.1468	20	0.007339
NTP3961Q1-TC-T01-BT-IPSV-B-C7-1-ETW1-5	B	C7	2	7	6.850	10.10	0.5660	0.1479	20	0.007393
NTP3961Q1-TC-T01-BT-IPSV-B-C7-1-ETW1-6	B	C7	2	7	7.200	10.23	0.5280	0.1507	20	0.007536
NTP3961Q1-TC-T01-BT-IPSV-B-C10-1-ETW1-1	B	C10	2	10	7.060	10.24	0.5740	0.1482	20	0.007408
NTP3961Q1-TC-T01-BT-IPSV-B-C10-1-ETW1-2	B	C10	2	10	7.180	10.47	0.5720	0.1475	20	0.007373
NTP3961Q1-TC-T01-BT-IPSV-B-C10-1-ETW1-3	B	C10	2	10	6.980	10.53	0.6000	0.1477	20	0.007384
NTP3961Q1-TC-T01-BT-IPSV-B-C10-1-ETW1-4	B	C10	2	10	7.050	10.20	0.5300	0.1482	20	0.007408
NTP3961Q1-TC-T01-BT-IPSV-B-C10-1-ETW1-5	B	C10	2	10	7.000	10.35	0.5790	0.1472	20	0.007362
NTP3961Q1-TC-T01-BT-IPSV-B-C10-1-ETW1-6	B	C10	2	10	6.960	10.39	0.5810	0.1503	20	0.007514
NTP3961Q1-TC-T01-TC-IPSV-C-C44-1-ETW1-1	C	C44	3	44	6.830	10.12	0.5840	0.1453	20	0.007263
NTP3961Q1-TC-T01-TC-IPSV-C-C44-1-ETW1-2	C	C44	3	44	6.790	10.29	0.5940	0.1447	20	0.007233
NTP3961Q1-TC-T01-TC-IPSV-C-C44-1-ETW1-3	C	C44	3	44	6.860	10.33	0.5880	0.1447	20	0.007233
NTP3961Q1-TC-T01-TC-IPSV-C-C44-1-ETW1-4	C	C44	3	44	6.850	10.31	0.5820	0.1450	20	0.007252
NTP3961Q1-TC-T01-TC-IPSV-C-C44-1-ETW1-5	C	C44	3	44	6.940	10.42	0.5820	0.1455	20	0.007273
NTP3961Q1-TC-T01-TC-IPSV-C-C44-1-ETW1-6	C	C44	3	44	6.910	10.40	0.5840	0.1452	20	0.007260
NTP3961Q1-TC-T01-TC-IPSV-C-C45-1-ETW1-1	C	C45	3	45	6.900	10.27	0.5850	0.1445	20	0.007223
NTP3961Q1-TC-T01-TC-IPSV-C-C45-1-ETW1-2	C	C45	3	45	6.860	10.27	0.5830	0.1465	20	0.007325
NTP3961Q1-TC-T01-TC-IPSV-C-C45-1-ETW1-3	C	C45	3	45	6.980	10.40	0.5870	0.1464	20	0.007318
NTP3961Q1-TC-T01-TC-IPSV-C-C45-1-ETW1-4	C	C45	3	45	6.880	10.34	0.5830	0.1465	20	0.007324
NTP3961Q1-TC-T01-TC-IPSV-C-C45-1-ETW1-5	C	C45	3	45	6.960	10.37	0.5840	0.1460	20	0.007298
NTP3961Q1-TC-T01-TC-IPSV-C-C45-1-ETW1-6	C	C45	3	45	6.940	10.42	0.5750	0.1455	20	0.007273
NTP3961Q1-TC-T01-TC-IPSV-D-C17-3-ETW1-1	D	C17	4	17	6.360	9.420	0.5630	0.1453	20	0.007266
NTP3961Q1-TC-T01-TC-IPSV-D-C17-3-ETW1-2	D	C17	4	17	6.370	9.480	0.5640	0.1450	20	0.007250
NTP3961Q1-TC-T01-TC-IPSV-D-C17-3-ETW1-3	D	C17	4	17	6.380	9.520	0.5720	0.1445	20	0.007227
NTP3961Q1-TC-T01-TC-IPSV-D-C17-3-ETW1-4	D	C17	4	17	6.280	9.420	0.5570	0.1453	20	0.007263
NTP3961Q1-TC-T01-TC-IPSV-D-C17-3-ETW1-5	D	C17	4	17	6.300	9.570	0.5770	0.1456	20	0.007282
NTP3961Q1-TC-T01-TC-IPSV-D-C17-3-ETW1-6	D	C17	4	17	6.410	9.610	0.5640	0.1448	20	0.007240
NTP3961Q1-TC-T01-TC-IPSV-D-C18-3-ETW1-1	D	C18	4	18	6.420	9.650	0.5710	0.1451	20	0.007255
NTP3961Q1-TC-T01-TC-IPSV-D-C18-3-ETW1-2	D	C18	4	18	6.910	10.36	0.6060	0.1446	20	0.007232
NTP3961Q1-TC-T01-TC-IPSV-D-C18-3-ETW1-3	D	C18	4	18	6.570	9.940	0.5990	0.1452	20	0.007258
NTP3961Q1-TC-T01-TC-IPSV-D-C18-3-ETW1-5	D	C18	4	18	6.460	9.730	0.5720	0.1452	20	0.007262
NTP3961Q1-TC-T01-TC-IPSV-D-C18-3-ETW1-6	D	C18	4	18	6.270	9.510	0.5710	0.1454	20	0.007272
NTP3961Q1-TC-T01-TC-IPSV-E-C17-3-ETW1-1	E	C17	5	17	6.350	9.660	0.5900	0.1453	20	0.007267
NTP3961Q1-TC-T01-TC-IPSV-E-C17-3-ETW1-2	E	C17	5	17	6.290	9.580	0.5820	0.1445	20	0.007223
NTP3961Q1-TC-T01-TC-IPSV-E-C17-3-ETW1-3	E	C17	5	17	6.320	9.670	0.5850	0.1456	20	0.007280
NTP3961Q1-TC-T01-TC-IPSV-E-C17-3-ETW1-4	E	C17	5	17	6.400	9.270	0.5910	0.1458	20	0.007289
NTP3961Q1-TC-T01-TC-IPSV-E-C17-3-ETW1-5	E	C17	5	17	6.190	9.580	0.5910	0.1455	20	0.007273
NTP3961Q1-TC-T01-TC-IPSV-E-C17-3-ETW1-6	E	C17	5	17	6.330	9.700	0.5900	0.1455	20	0.007275
NTP3961Q1-TC-T01-TC-IPSV-E-C18-3-ETW1-1	E	C18	5	18	6.210	9.420	0.5770	0.1455	20	0.007276
NTP3961Q1-TC-T01-TC-IPSV-E-C18-3-ETW1-2	E	C18	5	18	6.200	9.460	0.5810	0.1439	20	0.007193
NTP3961Q1-TC-T01-TC-IPSV-E-C18-3-ETW1-3	E	C18	5	18	6.180	9.470	0.5890	0.1455	20	0.007273
NTP3961Q1-TC-T01-TC-IPSV-E-C18-3-ETW1-4	E	C18	5	18	6.230	9.540	0.5820	0.1458	20	0.007291
NTP3961Q1-TC-T01-TC-IPSV-E-C18-3-ETW1-5	E	C18	5	18	6.990	10.40	0.5950	0.1446	20	0.007228
NTP3961Q1-TC-T01-TC-IPSV-E-C18-3-ETW1-6	E	C18	5	18	6.860	10.28	0.6060	0.1448	20	0.007239
Average					**6.651**	**9.850**	**0.5747**			**0.007292**
Standard Dev.					**0.3007**	**0.4651**	**0.01913**			
Coeff. of Var. [%]					**4.521**	**4.722**	**3.329**			
Min.					**6.180**	**8.910**	**0.5270**			**0.007023**
Max.					**7.200**	**10.53**	**0.6070**			**0.007536**
Number of Spec.					**58**	**58**	**58**			**58**

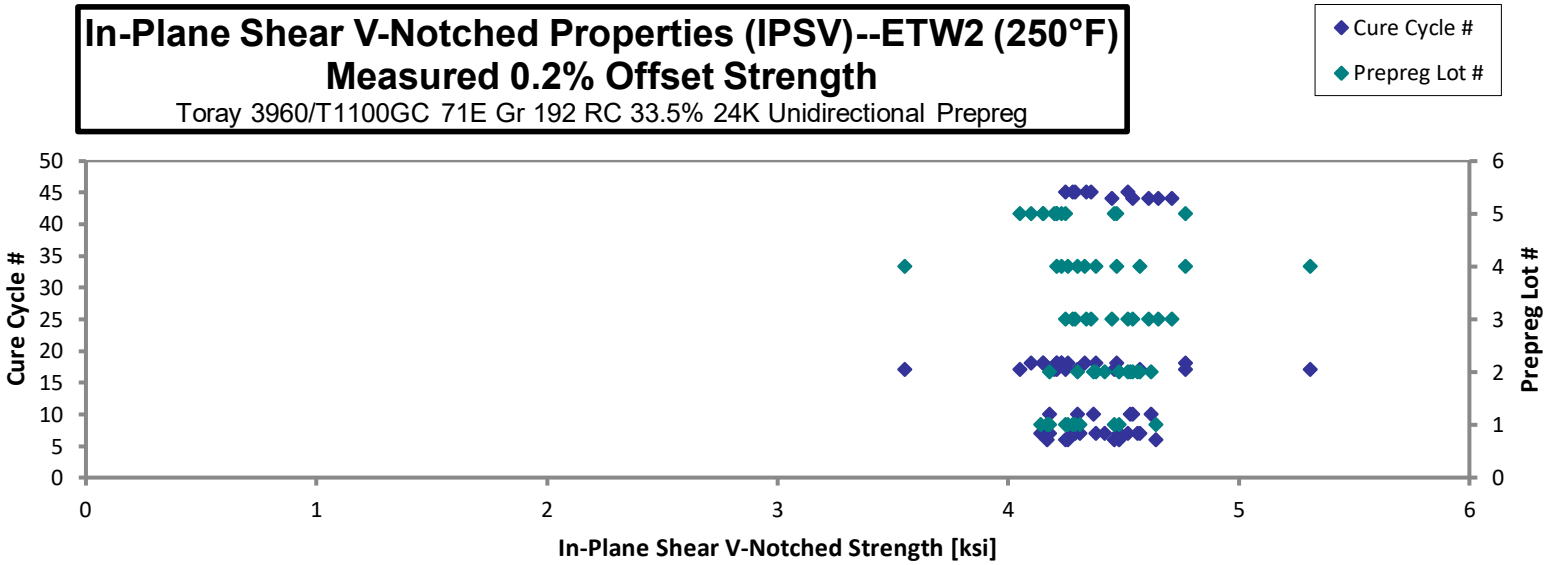

In-Plane Shear V-Notched Properties (IPSV)--ETW1 (180°F)
Measured 0.2% Offset Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
In-Plane Shear V-Notched Strength [ksi]
0
5
10
15
20
25
30
35
40
45
50
0
1
2
3
4
5
6
0
1
2
3
4
5
6
7
8

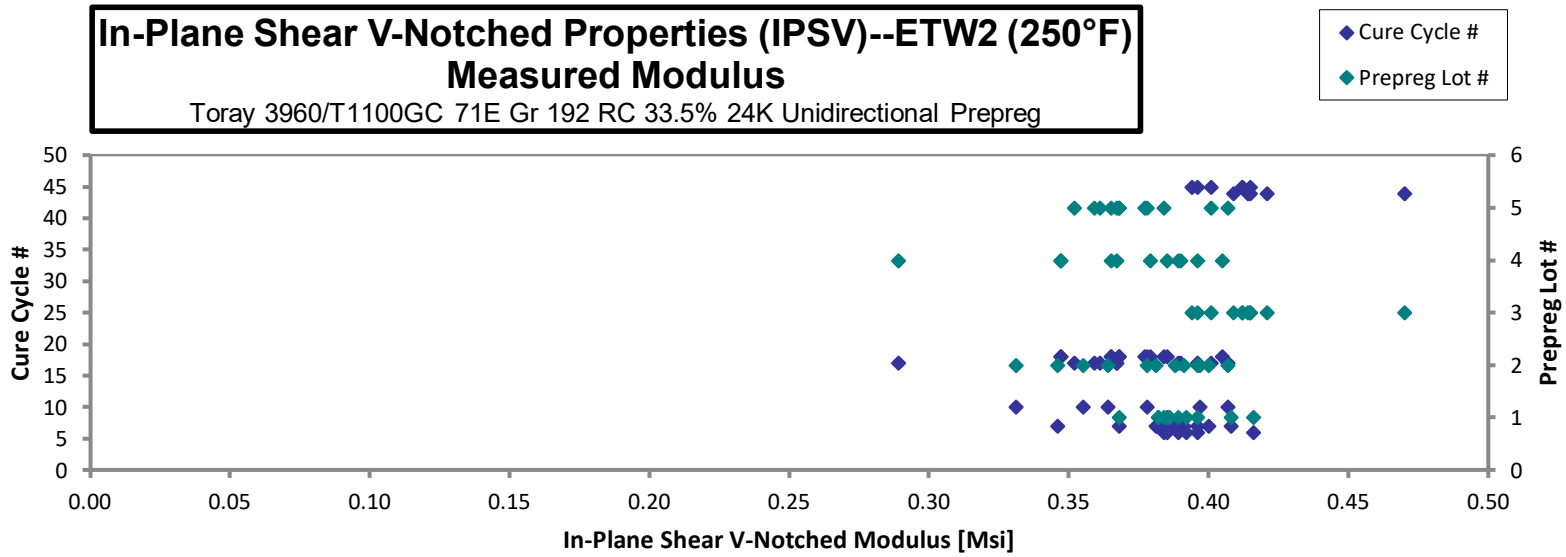

In-Plane Shear V-Notched Properties (IPSV)--ETW1 (180°F)
Measured Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
In-Plane Shear V-Notched Modulus [Msi]
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0
5
10
15
20
25
30
35
40
45
50
0
1
2
3
4
5
6

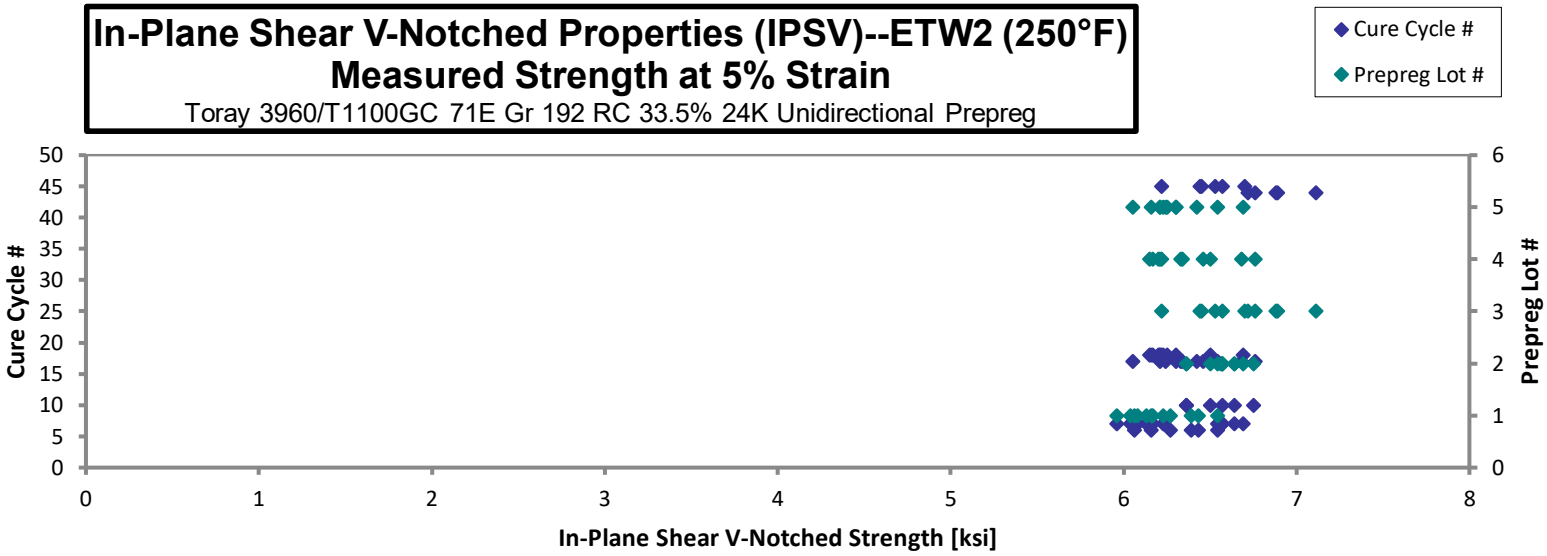

In-Plane Shear V-Notched Properties (IPSV)--ETW1 (180°F)
Measured Strength at 5% Strain
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
In-Plane Shear V-Notched Strength [ksi]
0
5
10
15
20
25
30
35
40
45
50
0
1
2
3
4
5
6
0
2
4
6
8
10
12

In-Plane Shear V-Notched Properties (IPSV)--ETW2 (250°F)
Strength & Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	0.2% Offset Strength [ksi]	Strength at 5% Strain [ksi]	Modulus [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Avg. t_{ply} [in]
NTP3961Q1-TC-T01-BT-IPSV-A-C6-1-ETW2-2	A	C6	1	6	4.250	6.060	0.3960	0.1464	20	0.007318
NTP3961Q1-TC-T01-BT-IPSV-A-C6-1-ETW2-3	A	C6	1	6	4.260	6.160	0.3920	0.1465	20	0.007323
NTP3961Q1-TC-T01-BT-IPSV-A-C6-1-ETW2-5	A	C6	1	6	4.640	6.540	0.4160	0.1453	20	0.007266
NTP3961Q1-TC-T01-BT-IPSV-A-C6-1-ETW2-6	A	C6	1	6	4.460	6.390	0.3890	0.1433	20	0.007163
NTP3961Q1-TC-T01-BT-IPSV-A-C6-1-ETW2-7	A	C6	1	6	4.480	6.430	0.3840	0.1437	20	0.007187
NTP3961Q1-TC-T01-BT-IPSV-A-C6-1-ETW2-8	A	C6	1	6	4.170	6.270	0.3850	0.1435	20	0.007173
NTP3961Q1-TC-T01-BT-IPSV-A-C7-1-ETW2-1	A	C7	1	7	4.170	5.960	0.3850	0.1409	20	0.007043
NTP3961Q1-TC-T01-BT-IPSV-A-C7-1-ETW2-2	A	C7	1	7	4.310	6.080	0.3820	0.1434	20	0.007168
NTP3961Q1-TC-T01-BT-IPSV-A-C7-1-ETW2-3	A	C7	1	7	4.140	6.040	0.3680	0.1448	20	0.007238
NTP3961Q1-TC-T01-BT-IPSV-A-C7-1-ETW2-4	A	C7	1	7	4.180	6.130	0.3820	0.1448	20	0.007241
NTP3961Q1-TC-T01-BT-IPSV-A-C7-1-ETW2-5	A	C7	1	7	4.280	6.230	0.4080	0.1455	20	0.007273
NTP3961Q1-TC-T01-BT-IPSV-A-C7-1-ETW2-6	A	C7	1	7	4.290	6.170	0.3860	0.1460	20	0.007300
NTP3961Q1-TC-T01-BT-IPSV-B-C7-1-ETW2-2	B	C7	2	7	4.520	6.640	0.3880	0.1492	20	0.007459
NTP3961Q1-TC-T01-BT-IPSV-B-C7-1-ETW2-3	B	C7	2	7	4.380	6.540	0.3460	0.1496	20	0.007482
NTP3961Q1-TC-T01-BT-IPSV-B-C7-1-ETW2-4	B	C7	2	7	4.560	6.570	0.3810	0.1477	20	0.007386
NTP3961Q1-TC-T01-BT-IPSV-B-C7-1-ETW2-5	B	C7	2	7	4.480	6.570	0.3910	0.1474	20	0.007368
NTP3961Q1-TC-T01-BT-IPSV-B-C7-1-ETW2-6	B	C7	2	7	4.570	6.690	0.3960	0.1499	20	0.007497
NTP3961Q1-TC-T01-BT-IPSV-B-C7-1-ETW2-7	B	C7	2	7	4.420	6.560	0.4000	0.1484	20	0.007420
NTP3961Q1-TC-T01-BT-IPSV-B-C10-1-ETW2-1	B	C10	2	10	4.300	6.360	0.3780	0.1488	20	0.007438
NTP3961Q1-TC-T01-BT-IPSV-B-C10-1-ETW2-2	B	C10	2	10	4.540	6.640	0.4070	0.1493	20	0.007467
NTP3961Q1-TC-T01-BT-IPSV-B-C10-1-ETW2-3	B	C10	2	10	4.620	6.750	0.3970	0.1487	20	0.007435
NTP3961Q1-TC-T01-BT-IPSV-B-C10-1-ETW2-4	B	C10	2	10	4.370	6.500	0.3550	0.1476	20	0.007379
NTP3961Q1-TC-T01-BT-IPSV-B-C10-1-ETW2-5	B	C10	2	10	4.530	6.570	0.3640	0.1475	20	0.007377
NTP3961Q1-TC-T01-BT-IPSV-B-C10-1-ETW2-6	B	C10	2	10	4.180	6.360	0.3310	0.1522	20	0.007612
NTP3961Q1-TC-T01-TC-IPSV-C-C44-1-ETW2-3	C	C44	3	44	4.710	7.110	0.4700	0.1424	20	0.007118
NTP3961Q1-TC-T01-TC-IPSV-C-C44-1-ETW2-4	C	C44	3	44	4.610	6.880	0.4210	0.1437	20	0.007186
NTP3961Q1-TC-T01-TC-IPSV-C-C44-1-ETW2-5	C	C44	3	44	4.650	6.890	0.4140	0.1443	20	0.007217
NTP3961Q1-TC-T01-TC-IPSV-C-C44-1-ETW2-6	C	C44	3	44	4.450	6.720	0.4150	0.1445	20	0.007226
NTP3961Q1-TC-T01-TC-IPSV-C-C44-1-ETW2-7	C	C44	3	44	4.540	6.760	0.4090	0.1447	20	0.007234
NTP3961Q1-TC-T01-TC-IPSV-C-C45-1-ETW2-1	C	C45	3	45	4.340	6.440	0.3960	0.1449	20	0.007244
NTP3961Q1-TC-T01-TC-IPSV-C-C45-1-ETW2-2	C	C45	3	45	4.280	6.220	0.4010	0.1455	20	0.007274
NTP3961Q1-TC-T01-TC-IPSV-C-C45-1-ETW2-3	C	C45	3	45	4.250	6.450	0.3940	0.1458	20	0.007290
NTP3961Q1-TC-T01-TC-IPSV-C-C45-1-ETW2-4	C	C45	3	45	4.360	6.570	0.4120	0.1452	20	0.007259
NTP3961Q1-TC-T01-TC-IPSV-C-C45-1-ETW2-5	C	C45	3	45	4.290	6.530	0.4120	0.1445	20	0.007223
NTP3961Q1-TC-T01-TC-IPSV-C-C45-1-ETW2-6	C	C45	3	45	4.520	6.700	0.4150	0.1448	20	0.007242
NTP3961Q1-TC-T01-TC-IPSV-D-C17-3-ETW2-2	D	C17	4	17	4.470	6.330	0.3890	0.1439	20	0.007193
NTP3961Q1-TC-T01-TC-IPSV-D-C17-3-ETW2-3	D	C17	4	17	5.310	6.680	0.3960	0.1447	20	0.007235
NTP3961Q1-TC-T01-TC-IPSV-D-C17-3-ETW2-4	D	C17	4	17	4.570	6.460	0.3670	0.1440	20	0.007202
NTP3961Q1-TC-T01-TC-IPSV-D-C17-3-ETW2-5	D	C17	4	17	3.550	6.760	0.2890	0.1448	20	0.007238
NTP3961Q1-TC-T01-TC-IPSV-D-C17-3-ETW2-6	D	C17	4	17	4.300	6.340	0.3900	0.1449	20	0.007246
NTP3961Q1-TC-T01-TC-IPSV-D-C18-3-ETW2-1	D	C18	4	18	4.770	6.500	0.4050	0.1451	20	0.007253
NTP3961Q1-TC-T01-TC-IPSV-D-C18-3-ETW2-2	D	C18	4	18	4.260	6.210	0.3850	0.1450	20	0.007249
NTP3961Q1-TC-T01-TC-IPSV-D-C18-3-ETW2-3	D	C18	4	18	4.380	6.220	0.3470	0.1447	20	0.007236
NTP3961Q1-TC-T01-TC-IPSV-D-C18-3-ETW2-4	D	C18	4	18	4.230	6.170	0.3790	0.1457	20	0.007287
NTP3961Q1-TC-T01-TC-IPSV-D-C18-3-ETW2-5	D	C18	4	18	4.330	6.200	0.3470	0.1457	20	0.007283
NTP3961Q1-TC-T01-TC-IPSV-D-C18-3-ETW2-6	D	C18	4	18	4.210	6.150	0.3650	0.1457	20	0.007283
NTP3961Q1-TC-T01-TC-IPSV-E-C17-3-ETW2-1	E	C17	5	17	4.050	6.050	0.3610	0.1459	20	0.007295
NTP3961Q1-TC-T01-TC-IPSV-E-C17-3-ETW2-2	E	C17	5	17	4.250	6.210	0.3520	0.1446	20	0.007228
NTP3961Q1-TC-T01-TC-IPSV-E-C17-3-ETW2-3	E	C17	5	17	4.200	6.240	0.3670	0.1456	20	0.007279
NTP3961Q1-TC-T01-TC-IPSV-E-C17-3-ETW2-4	E	C17	5	17	4.770	6.540	0.4010	0.1463	20	0.007316
NTP3961Q1-TC-T01-TC-IPSV-E-C17-3-ETW2-5	E	C17	5	17	4.210	6.300	0.4070	0.1452	20	0.007258
NTP3961Q1-TC-T01-TC-IPSV-E-C17-3-ETW2-6	E	C17	5	17	4.460	6.420	0.3590	0.1457	20	0.007284
NTP3961Q1-TC-T01-TC-IPSV-E-C18-3-ETW2-1	E	C18	5	18	4.470	6.690	0.3770	0.1451	20	0.007257
NTP3961Q1-TC-T01-TC-IPSV-E-C18-3-ETW2-2	E	C18	5	18	4.100	6.160	0.3680	0.1443	20	0.007214
NTP3961Q1-TC-T01-TC-IPSV-E-C18-3-ETW2-3	E	C18	5	18	4.150	6.230	0.3780	0.1444	20	0.007219
NTP3961Q1-TC-T01-TC-IPSV-E-C18-3-ETW2-4	E	C18	5	18	4.150	6.210	0.3650	0.1460	20	0.007298
NTP3961Q1-TC-T01-TC-IPSV-E-C18-3-ETW2-5	E	C18	5	18	4.230	6.300	0.3840	0.1451	20	0.007255
NTP3961Q1-TC-T01-TC-IPSV-E-C18-3-ETW2-6	E	C18	5	18	4.210	6.250	0.3680	0.1453	20	0.007263
				Average	**4.375**	**6.416**	**0.3847**			**0.007282**
				Standard Dev.	**0.2410**	**0.2489**	**0.02663**			
				Coeff. of Var. [%]	**5.509**	**3.879**	**6.922**			
				Min.	**3.550**	**5.960**	**0.2890**			**0.007043**
				Max.	**5.310**	**7.110**	**0.4700**			**0.007612**
				Number of Spec.	**58**	**58**	**58**			**58**


In-Plane Shear V-Notched Properties (IPSV)--ETW2 (250°F)
Measured 0.2% Offset Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
In-Plane Shear V-Notched Strength [ksi]
0
5
10
15
20
25
30
35
40
45
50
0
1
2
3
4
5
6


In-Plane Shear V-Notched Properties (IPSV)--ETW2 (250°F)
Measured Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
In-Plane Shear V-Notched Modulus [Msi]
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0.35
0.40
0.45
0.50
0
5
10
15
20
25
30
35
40
45
50
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1
2
3
4
5
6

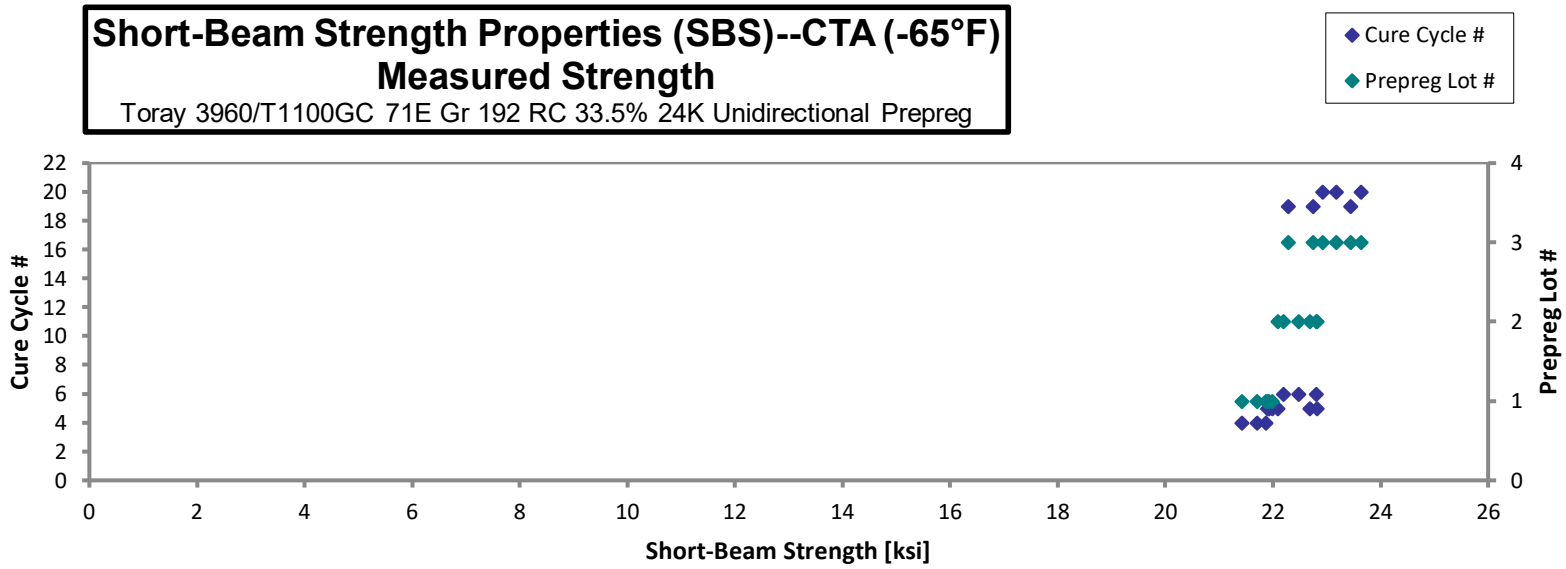

In-Plane Shear V-Notched Properties (IPSV)--ETW2 (250°F)
Measured Strength at 5% Strain
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
In-Plane Shear V-Notched Strength [ksi]
0
5
10
15
20
25
30
35
40
45
50
0
1
2
3
4
5
6
0
1
2
3
4
5
6
7
8

4.9 Lamina Short-Beam Strength Properties (SBS)

Short-Beam Strength Properties (SBS)--CTA (-65°F)
Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Avg. t_{ply} [in]	Failure Mode
NTP3961Q1-TC-T01-TC-SBS-A-C4-2-CTA-1	A	C4	1	4	21.87	0.1029	14	0.007350	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-A-C4-2-CTA-2	A	C4	1	4	21.42	0.1029	14	0.007346	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-A-C4-2-CTA-3	A	C4	1	4	21.70	0.1034	14	0.007382	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-A-C5-1-CTA-2	A	C5	1	5	21.93	0.1019	14	0.007279	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-A-C5-1-CTA-3	A	C5	1	5	21.99	0.1019	14	0.007275	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-A-C5-1-CTA-4	A	C5	1	5	21.90	0.1026	14	0.007329	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-B-C5-2-CTA-2	B	C5	2	5	22.82	0.1023	14	0.007307	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-B-C5-2-CTA-3	B	C5	2	5	22.09	0.1019	14	0.007279	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-B-C5-2-CTA-4	B	C5	2	5	22.68	0.1010	14	0.007211	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-B-C6-1-CTA-1	B	C6	2	6	22.20	0.1005	14	0.007175	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-B-C6-1-CTA-2	B	C6	2	6	22.80	0.1020	14	0.007282	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-B-C6-1-CTA-3	B	C6	2	6	22.48	0.1037	14	0.007407	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-C-C19-3-CTA-1	C	C19	3	19	22.28	0.1020	14	0.007282	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-C-C19-3-CTA-2	C	C19	3	19	22.75	0.1021	14	0.007293	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-C-C19-3-CTA-3	C	C19	3	19	23.44	0.1020	14	0.007282	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-C-C20-3-CTA-1	C	C20	3	20	23.63	0.1015	14	0.007250	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-C-C20-3-CTA-2	C	C20	3	20	22.92	0.09975	14	0.007125	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-C-C20-3-CTA-3	C	C20	3	20	23.17	0.1033	14	0.007379	Flexure in Compression

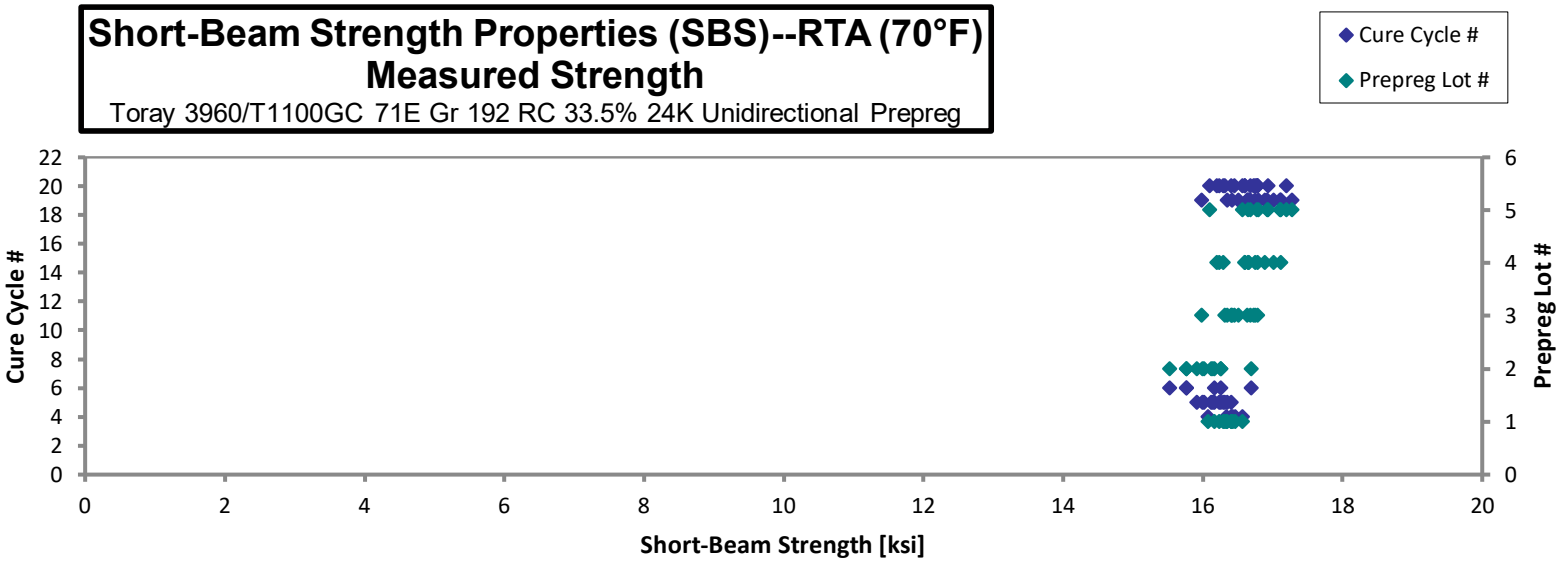
Average	**22.45**	**0.007291**
Standard Dev.	**0.6174**	
Coeff. of Var. [%]	**2.750**	
Min.	**21.42**	**0.007125**
Max.	**23.63**	**0.007407**
Number of Spec.	**18**	**18**


Short-Beam Strength Properties (SBS)--CTA (-65°F)
Measured Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Short-Beam Strength [ksi]
0
2
4
6
8
10
12
14
16
18
20
22
24
26

Short-Beam Strength Properties (SBS)--RTA (70°F)
Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Avg. t_{ply} [in]	Failure Mode
NTP3961Q1-TC-T01-TC-SBS-A-C4-2-RTA-1	A	C4	1	4	16.46	0.1030	14	0.007357	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-A-C4-2-RTA-2	A	C4	1	4	16.43	0.1043	14	0.007450	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-A-C4-2-RTA-3	A	C4	1	4	16.07	0.1045	14	0.007461	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-A-C4-2-RTA-4	A	C4	1	4	16.57	0.1030	14	0.007357	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-A-C4-2-RTA-5	A	C4	1	4	16.34	0.1030	14	0.007357	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-A-C4-2-RTA-6	A	C4	1	4	16.40	0.1018	14	0.007268	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-A-C5-1-RTA-1	A	C5	1	5	16.16	0.1035	14	0.007393	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-A-C5-1-RTA-2	A	C5	1	5	16.29	0.1037	14	0.007404	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-A-C5-1-RTA-3	A	C5	1	5	16.31	0.1031	14	0.007361	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-A-C5-1-RTA-4	A	C5	1	5	16.23	0.1036	14	0.007396	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-A-C5-1-RTA-5	A	C5	1	5	16.40	0.1034	14	0.007382	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-A-C5-1-RTA-6	A	C5	1	5	16.35	0.1022	14	0.007300	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-B-C5-2-RTA-1	B	C5	2	5	16.02	0.1030	14	0.007357	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-B-C5-2-RTA-2	B	C5	2	5	15.99	0.09865	14	0.007046	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-B-C5-2-RTA-3	B	C5	2	5	16.12	0.1007	14	0.007189	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-B-C5-2-RTA-4	B	C5	2	5	16.14	0.1028	14	0.007343	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-B-C5-2-RTA-5	B	C5	2	5	16.26	0.1007	14	0.007189	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-B-C5-2-RTA-6	B	C5	2	5	15.91	0.1027	14	0.007332	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-B-C6-1-RTA-1	B	C6	2	6	15.52	0.1031	14	0.007364	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-B-C6-1-RTA-2	B	C6	2	6	16.16	0.09910	14	0.007079	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-B-C6-1-RTA-3	B	C6	2	6	16.26	0.1015	14	0.007246	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-B-C6-1-RTA-4	B	C6	2	6	15.76	0.1019	14	0.007275	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-B-C6-1-RTA-5	B	C6	2	6	16.69	0.09955	14	0.007111	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-B-C6-1-RTA-6	B	C6	2	6	15.76	0.1028	14	0.007339	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-C-C19-3-RTA-1	C	C19	3	19	16.68	0.1017	14	0.007261	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-C-C19-3-RTA-2	C	C19	3	19	16.35	0.1009	14	0.007207	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-C-C19-3-RTA-3	C	C19	3	19	15.98	0.1002	14	0.007154	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-C-C19-3-RTA-4	C	C19	3	19	16.51	0.1021	14	0.007293	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-C-C19-3-RTA-5	C	C19	3	19	16.63	0.1015	14	0.007246	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-C-C19-3-RTA-6	C	C19	3	19	16.42	0.09985	14	0.007132	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-C-C20-3-RTA-1	C	C20	3	20	16.72	0.1007	14	0.007193	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-C-C20-3-RTA-2	C	C20	3	20	16.75	0.1008	14	0.007196	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-C-C20-3-RTA-3	C	C20	3	20	16.45	0.1039	14	0.007418	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-C-C20-3-RTA-4	C	C20	3	20	16.31	0.1041	14	0.007436	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-C-C20-3-RTA-5	C	C20	3	20	16.78	0.1016	14	0.007254	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-C-C20-3-RTA-6	C	C20	3	20	16.41	0.1026	14	0.007325	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-D-C19-3-RTA-1	D	C19	4	19	16.64	0.1018	14	0.007268	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-D-C19-3-RTA-2	D	C19	4	19	16.66	0.1021	14	0.007293	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-D-C19-3-RTA-3	D	C19	4	19	17.11	0.1008	14	0.007200	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-D-C19-3-RTA-4	D	C19	4	19	16.75	0.1022	14	0.007296	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-D-C19-3-RTA-5	D	C19	4	19	17.01	0.1000	14	0.007143	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-D-C19-3-RTA-6	D	C19	4	19	16.88	0.1020	14	0.007286	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-D-C20-3-RTA-1	D	C20	4	20	16.60	0.1005	14	0.007179	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-D-C20-3-RTA-2	D	C20	4	20	16.20	0.1005	14	0.007175	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-D-C20-3-RTA-3	D	C20	4	20	16.29	0.1026	14	0.007329	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-D-C20-3-RTA-4	D	C20	4	20	16.60	0.1022	14	0.007300	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-D-C20-3-RTA-5	D	C20	4	20	16.23	0.1000	14	0.007143	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-D-C20-3-RTA-6	D	C20	4	20	16.78	0.1016	14	0.007257	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-E-C19-3-RTA-1	E	C19	5	19	16.79	0.1013	14	0.007236	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-E-C19-3-RTA-2	E	C19	5	19	16.64	0.1013	14	0.007232	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-E-C19-3-RTA-3	E	C19	5	19	17.12	0.1018	14	0.007271	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-E-C19-3-RTA-4	E	C19	5	19	16.92	0.1018	14	0.007268	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-E-C19-3-RTA-5	E	C19	5	19	17.28	0.1014	14	0.007243	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-E-C19-3-RTA-6	E	C19	5	19	17.10	0.1023	14	0.007304	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-E-C20-3-RTA-1	E	C20	5	20	16.68	0.1004	14	0.007171	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-E-C20-3-RTA-2	E	C20	5	20	16.57	0.1022	14	0.007300	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-E-C20-3-RTA-3	E	C20	5	20	16.93	0.1006	14	0.007182	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-E-C20-3-RTA-4	E	C20	5	20	16.09	0.1022	14	0.007296	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-E-C20-3-RTA-5	E	C20	5	20	16.77	0.1004	14	0.007168	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-E-C20-3-RTA-6	E	C20	5	20	17.20	0.1026	14	0.007329	Flexure in Compression

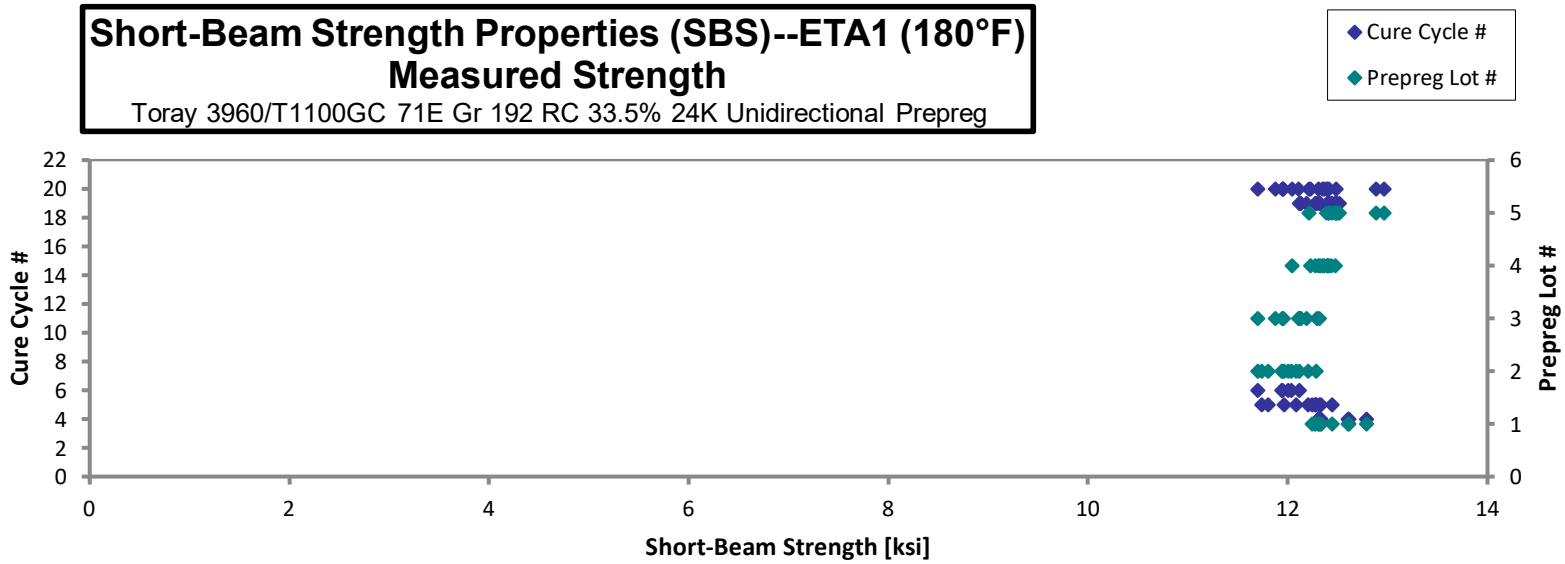
Average	**16.47**	**0.007272**
Standard Dev.	**0.3748**	
Coeff. of Var. [%]	**2.275**	
Min.	**15.52**	**0.007046**
Max.	**17.28**	**0.007461**
Number of Spec.	**60**	**60**


Short-Beam Strength Properties (SBS)--RTA (70°F)
Measured Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Short-Beam Strength [ksi]
0
2
4
6
8
10
12
14
16
18
20
22

Short-Beam Strength Properties (SBS)--ETA1 (180°F)
Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Avg. t_{ply} [in]	Failure Mode
NTP3961Q1-TC-T01-TC-SBS-A-C4-2-ETA1-2	A	C4	1	4	12.31	0.1038	14	0.007411	Interlaminar Shear
NTP3961Q1-TC-T01-TC-SBS-A-C4-2-ETA1-3	A	C4	1	4	12.31	0.1032	14	0.007371	Interlaminar Shear
NTP3961Q1-TC-T01-TC-SBS-A-C4-2-ETA1-4	A	C4	1	4	12.34	0.1032	14	0.007368	Interlaminar Shear
NTP3961Q1-TC-T01-TC-SBS-A-C4-2-ETA1-5	A	C4	1	4	12.62	0.1030	14	0.007354	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-A-C4-2-ETA1-6	A	C4	1	4	12.79	0.1014	14	0.007239	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-A-C4-2-ETA1-7	A	C4	1	4	12.61	0.1026	14	0.007329	Interlaminar Shear
NTP3961Q1-TC-T01-TC-SBS-A-C5-1-ETA1-3	A	C5	1	5	12.34	0.1030	14	0.007357	Interlaminar Shear
NTP3961Q1-TC-T01-TC-SBS-A-C5-1-ETA1-2	A	C5	1	5	12.25	0.1051	14	0.007507	Interlaminar Shear
NTP3961Q1-TC-T01-TC-SBS-A-C5-1-ETA1-3	A	C5	1	5	12.45	0.1042	14	0.007439	Interlaminar Shear
NTP3961Q1-TC-T01-TC-SBS-A-C5-1-ETA1-4	A	C5	1	5	12.32	0.1043	14	0.007446	Interlaminar Shear
NTP3961Q1-TC-T01-TC-SBS-A-C5-1-ETA1-5	A	C5	1	5	12.28	0.1033	14	0.007379	Interlaminar Shear
NTP3961Q1-TC-T01-TC-SBS-A-C5-1-ETA1-6	A	C5	1	5	12.28	0.1040	14	0.007429	Interlaminar Shear
NTP3961Q1-TC-T01-TC-SBS-B-C5-2-ETA1-1	B	C5	2	5	11.74	0.1056	14	0.007543	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-B-C5-2-ETA1-3	B	C5	2	5	11.81	0.1039	14	0.007421	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-B-C5-2-ETA1-4	B	C5	2	5	12.21	0.1000	14	0.007143	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-B-C5-2-ETA1-5	B	C5	2	5	12.09	0.1006	14	0.007182	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-B-C5-2-ETA1-6	B	C5	2	5	12.29	0.09965	14	0.007118	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-B-C5-2-ETA1-7	B	C5	2	5	11.97	0.09785	14	0.006989	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-B-C6-1-ETA1-1	B	C6	2	6	12.04	0.1043	14	0.007450	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-B-C6-1-ETA1-2	B	C6	2	6	12.12	0.1014	14	0.007243	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-B-C6-1-ETA1-3	B	C6	2	6	11.95	0.1015	14	0.007250	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-B-C6-1-ETA1-4	B	C6	2	6	12.01	0.1028	14	0.007339	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-B-C6-1-ETA1-5	B	C6	2	6	11.94	0.1017	14	0.007264	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-B-C6-1-ETA1-6	B	C6	2	6	11.70	0.1011	14	0.007221	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-C-C19-3-ETA1-1	C	C19	3	19	12.30	0.1025	14	0.007321	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-C-C19-3-ETA1-2	C	C19	3	19	12.32	0.1021	14	0.007289	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-C-C19-3-ETA1-3	C	C19	3	19	12.19	0.1025	14	0.007321	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-C-C19-3-ETA1-4	C	C19	3	19	12.14	0.1021	14	0.007293	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-C-C19-3-ETA1-5	C	C19	3	19	12.12	0.1020	14	0.007286	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-C-C19-3-ETA1-6	C	C19	3	19	12.13	0.1025	14	0.007321	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-C-C20-3-ETA1-1	C	C20	3	20	12.11	0.09965	14	0.007118	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-C-C20-3-ETA1-2	C	C20	3	20	11.95	0.1032	14	0.007368	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-C-C20-3-ETA1-3	C	C20	3	20	11.96	0.1025	14	0.007321	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-C-C20-3-ETA1-4	C	C20	3	20	11.70	0.1039	14	0.007421	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-C-C20-3-ETA1-5	C	C20	3	20	11.88	0.1023	14	0.007307	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-C-C20-3-ETA1-6	C	C20	3	20	11.95	0.09995	14	0.007139	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-D-C19-3-ETA1-1	D	C19	4	19	12.42	0.1020	14	0.007282	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-D-C19-3-ETA1-2	D	C19	4	19	12.28	0.1026	14	0.007329	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-D-C19-3-ETA1-3	D	C19	4	19	12.40	0.1025	14	0.007318	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-D-C19-3-ETA1-4	D	C19	4	19	12.33	0.1018	14	0.007268	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-D-C19-3-ETA1-5	D	C19	4	19	12.48	0.1022	14	0.007296	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-D-C19-3-ETA1-6	D	C19	4	19	12.44	0.1022	14	0.007296	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-D-C20-3-ETA1-1	D	C20	4	20	12.40	0.1022	14	0.007296	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-D-C20-3-ETA1-2	D	C20	4	20	12.37	0.09995	14	0.007139	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-D-C20-3-ETA1-3	D	C20	4	20	12.05	0.09660	14	0.006900	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-D-C20-3-ETA1-4	D	C20	4	20	12.23	0.1032	14	0.007371	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-D-C20-3-ETA1-5	D	C20	4	20	12.31	0.1011	14	0.007221	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-D-C20-3-ETA1-6	D	C20	4	20	12.35	0.1024	14	0.007311	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-E-C19-3-ETA1-1	E	C19	5	19	12.49	0.1024	14	0.007311	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-E-C19-3-ETA1-2	E	C19	5	19	12.42	0.1032	14	0.007368	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-E-C19-3-ETA1-3	E	C19	5	19	12.45	0.1006	14	0.007186	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-E-C19-3-ETA1-4	E	C19	5	19	12.52	0.1019	14	0.007279	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-E-C19-3-ETA1-5	E	C19	5	19	12.48	0.1012	14	0.007229	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-E-C19-3-ETA1-6	E	C19	5	19	12.50	0.09950	14	0.007107	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-E-C20-3-ETA1-1	E	C20	5	20	12.97	0.1015	14	0.007246	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-E-C20-3-ETA1-2	E	C20	5	20	12.49	0.1018	14	0.007268	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-E-C20-3-ETA1-3	E	C20	5	20	12.22	0.1011	14	0.007218	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-E-C20-3-ETA1-4	E	C20	5	20	12.42	0.1019	14	0.007275	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-E-C20-3-ETA1-5	E	C20	5	20	12.89	0.1003	14	0.007164	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-E-C20-3-ETA1-6	E	C20	5	20	12.39	0.1015	14	0.007246	Flexure in Compression

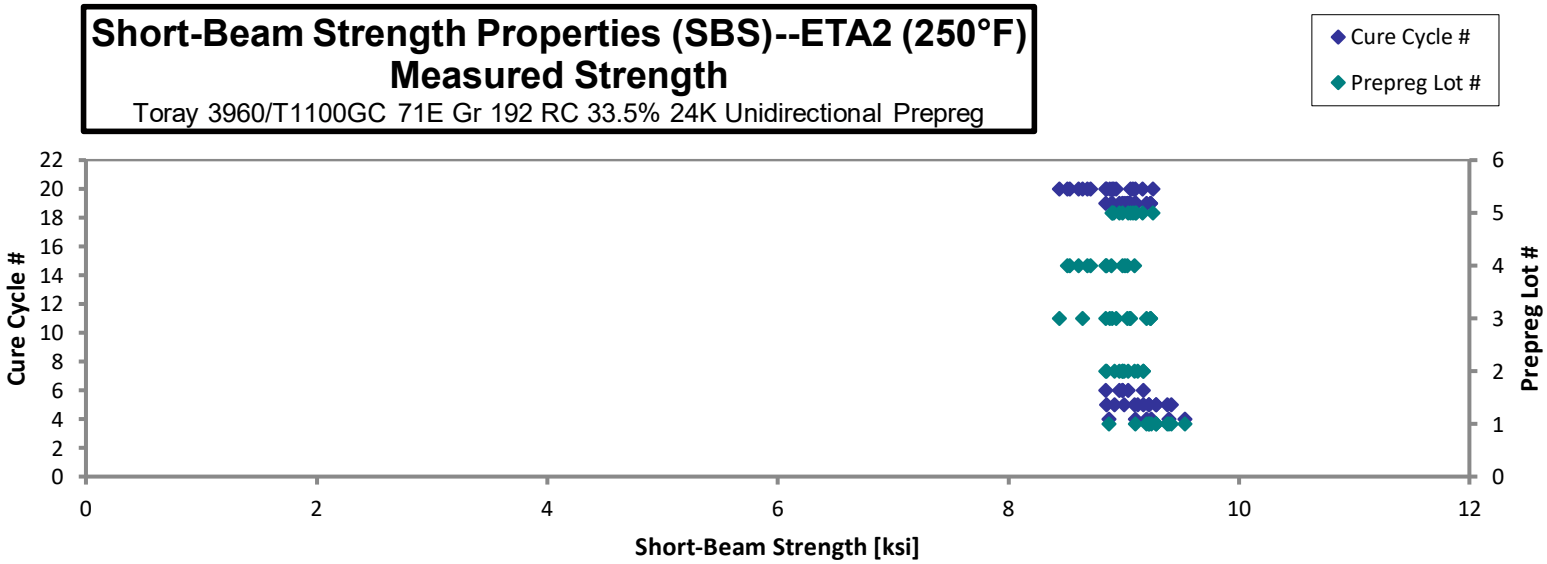
Average	**12.26**	**0.007287**
Standard Dev.	**0.2652**	
Coeff. of Var. [%]	**2.163**	
Min.	**11.70**	**0.006900**
Max.	**12.97**	**0.007543**
Number of Spec.	**60**	**60**


Short-Beam Strength Properties (SBS)--ETA1 (180°F)
Measured Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Short-Beam Strength [ksi]
0
2
4
6
8
10
12
14
16
18
20
22

Short-Beam Strength Properties (SBS)--ETA2 (250°F)
Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Avg. t_{ply} [in]	Failure Mode
NTP3961Q1-TC-T01-TC-SBS-A-C4-2-ETA2-1	A	C4	1	4	8.870	0.1028	14	0.007339	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-A-C4-2-ETA2-2	A	C4	1	4	9.240	0.1029	14	0.007350	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-A-C4-2-ETA2-3	A	C4	1	4	9.100	0.1032	14	0.007371	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-A-C4-2-ETA2-4	A	C4	1	4	9.200	0.1027	14	0.007332	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-A-C4-2-ETA2-5	A	C4	1	4	9.390	0.1015	14	0.007250	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-A-C4-2-ETA2-6	A	C4	1	4	9.530	0.1011	14	0.007218	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-A-C5-1-ETA2-1	A	C5	1	5	9.220	0.1034	14	0.007382	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-A-C5-1-ETA2-2	A	C5	1	5	9.380	0.1034	14	0.007382	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-A-C5-1-ETA2-3	A	C5	1	5	9.280	0.1030	14	0.007357	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-A-C5-1-ETA2-4	A	C5	1	5	9.220	0.1033	14	0.007375	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-A-C5-1-ETA2-5	A	C5	1	5	9.280	0.1034	14	0.007382	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-A-C5-1-ETA2-6	A	C5	1	5	9.410	0.1023	14	0.007307	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-B-C5-2-ETA2-1	B	C5	2	5	9.120	0.1017	14	0.007261	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-B-C5-2-ETA2-2	B	C5	2	5	9.000	0.1062	14	0.007586	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-B-C5-2-ETA2-3	B	C5	2	5	8.920	0.0995	14	0.007104	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-B-C5-2-ETA2-4	B	C5	2	5	8.850	0.1012	14	0.007229	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-B-C5-2-ETA2-5	B	C5	2	5	9.170	0.1003	14	0.007164	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-B-C5-2-ETA2-6	B	C5	2	5	9.090	0.1043	14	0.007450	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-B-C6-1-ETA2-1	B	C6	2	6	8.990	0.1021	14	0.007293	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-B-C6-1-ETA2-2	B	C6	2	6	9.040	0.0999	14	0.007136	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-B-C6-1-ETA2-3	B	C6	2	6	8.960	0.1030	14	0.007357	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-B-C6-1-ETA2-4	B	C6	2	6	8.840	0.1013	14	0.007236	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-B-C6-1-ETA2-5	B	C6	2	6	9.170	0.1037	14	0.007407	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-B-C6-1-ETA2-6	B	C6	2	6	8.990	0.1045	14	0.007464	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-C-C19-3-ETA2-1	C	C19	3	19	9.230	0.1021	14	0.007289	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-C-C19-3-ETA2-2	C	C19	3	19	9.230	0.1028	14	0.007343	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-C-C19-3-ETA2-3	C	C19	3	19	9.200	0.1023	14	0.007304	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-C-C19-3-ETA2-4	C	C19	3	19	8.900	0.1017	14	0.007261	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-C-C19-3-ETA2-5	C	C19	3	19	9.050	0.1018	14	0.007268	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-C-C19-3-ETA2-6	C	C19	3	19	9.030	0.1032	14	0.007371	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-C-C20-3-ETA2-1	C	C20	3	20	8.880	0.1017	14	0.007264	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-C-C20-3-ETA2-2	C	C20	3	20	8.440	0.09850	14	0.007036	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-C-C20-3-ETA2-3	C	C20	3	20	8.640	0.1029	14	0.007350	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-C-C20-3-ETA2-4	C	C20	3	20	9.060	0.1022	14	0.007296	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-C-C20-3-ETA2-5	C	C20	3	20	8.930	0.1015	14	0.007250	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-C-C20-3-ETA2-6	C	C20	3	20	8.840	0.1015	14	0.007246	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-D-C19-3-ETA2-1	D	C19	4	19	8.890	0.1014	14	0.007243	Inelastic Deformation
NTP3961Q1-TC-T01-TC-SBS-D-C19-3-ETA2-2	D	C19	4	19	8.840	0.1021	14	0.007293	Inelastic Deformation
NTP3961Q1-TC-T01-TC-SBS-D-C19-3-ETA2-3	D	C19	4	19	9.010	0.1016	14	0.007254	Inelastic Deformation
NTP3961Q1-TC-T01-TC-SBS-D-C19-3-ETA2-4	D	C19	4	19	9.030	0.1015	14	0.007246	Inelastic Deformation
NTP3961Q1-TC-T01-TC-SBS-D-C19-3-ETA2-5	D	C19	4	19	9.090	0.1014	14	0.007243	Inelastic Deformation
NTP3961Q1-TC-T01-TC-SBS-D-C19-3-ETA2-6	D	C19	4	19	8.990	0.1027	14	0.007336	Inelastic Deformation
NTP3961Q1-TC-T01-TC-SBS-D-C20-3-ETA2-1	D	C20	4	20	8.530	0.1028	14	0.007343	Inelastic Deformation
NTP3961Q1-TC-T01-TC-SBS-D-C20-3-ETA2-2	D	C20	4	20	8.610	0.1030	14	0.007354	Inelastic Deformation
NTP3961Q1-TC-T01-TC-SBS-D-C20-3-ETA2-3	D	C20	4	20	8.710	0.1011	14	0.007218	Inelastic Deformation
NTP3961Q1-TC-T01-TC-SBS-D-C20-3-ETA2-4	D	C20	4	20	8.850	0.1011	14	0.007218	Inelastic Deformation
NTP3961Q1-TC-T01-TC-SBS-D-C20-3-ETA2-5	D	C20	4	20	8.510	0.09960	14	0.007114	Inelastic Deformation
NTP3961Q1-TC-T01-TC-SBS-D-C20-3-ETA2-6	D	C20	4	20	8.680	0.1022	14	0.007300	Inelastic Deformation
NTP3961Q1-TC-T01-TC-SBS-E-C19-3-ETA2-1	E	C19	5	19	8.960	0.1018	14	0.007271	Inelastic Deformation
NTP3961Q1-TC-T01-TC-SBS-E-C19-3-ETA2-2	E	C19	5	19	8.900	0.09960	14	0.007114	Inelastic Deformation
NTP3961Q1-TC-T01-TC-SBS-E-C19-3-ETA2-3	E	C19	5	19	9.110	0.1030	14	0.007354	Inelastic Deformation
NTP3961Q1-TC-T01-TC-SBS-E-C19-3-ETA2-4	E	C19	5	19	8.990	0.1003	14	0.007164	Inelastic Deformation
NTP3961Q1-TC-T01-TC-SBS-E-C19-3-ETA2-6	E	C19	5	19	9.040	0.1021	14	0.007289	Inelastic Deformation
NTP3961Q1-TC-T01-TC-SBS-E-C19-3-ETA2-7	E	C19	5	19	9.060	0.1021	14	0.007293	Inelastic Deformation
NTP3961Q1-TC-T01-TC-SBS-E-C20-3-ETA2-1	E	C20	5	20	8.900	0.1010	14	0.007214	Inelastic Deformation
NTP3961Q1-TC-T01-TC-SBS-E-C20-3-ETA2-2	E	C20	5	20	8.910	0.1005	14	0.007179	Inelastic Deformation
NTP3961Q1-TC-T01-TC-SBS-E-C20-3-ETA2-3	E	C20	5	20	9.160	0.09975	14	0.007125	Inelastic Deformation
NTP3961Q1-TC-T01-TC-SBS-E-C20-3-ETA2-4	E	C20	5	20	9.080	0.1006	14	0.007186	Inelastic Deformation
NTP3961Q1-TC-T01-TC-SBS-E-C20-3-ETA2-5	E	C20	5	20	9.100	0.1003	14	0.007164	Inelastic Deformation
NTP3961Q1-TC-T01-TC-SBS-E-C20-3-ETA2-6	E	C20	5	20	9.250	0.1011	14	0.007221	Inelastic Deformation

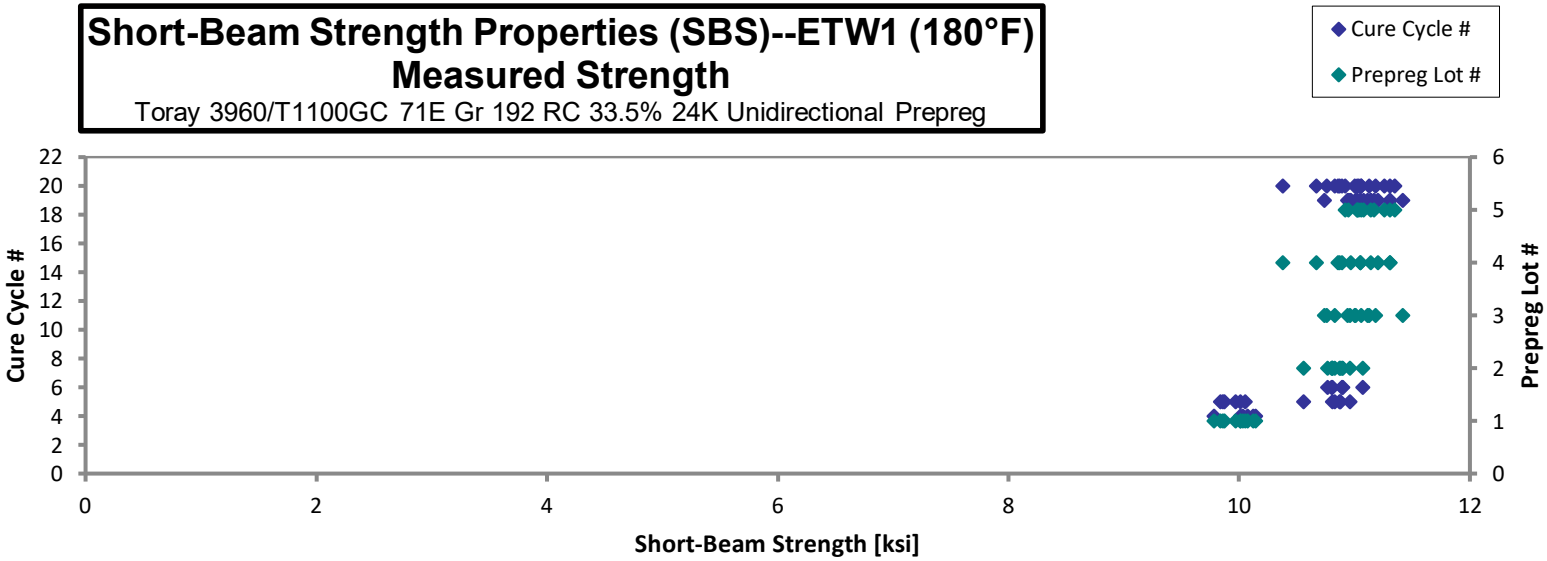
Average	**9.015**	**0.007279**
Standard Dev.	**0.2225**	
Coeff. of Var. [%]	**2.468**	
Min.	**8.440**	**0.007036**
Max.	**9.530**	**0.007586**
Number of Spec.	**60**	**60**


Short-Beam Strength Properties (SBS)--ETA2 (250°F)
Measured Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Short-Beam Strength [ksi]
0
2
4
6
8
10
12
0
2
4
6
8
10
12
14
16
18
20
22
0
1
2
3
4
5
6

Short-Beam Strength Properties (SBS)--ETW1 (180°F)
Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Avg. t_{ply} [in]	Failure Mode
NTP3961Q1-TC-T01-TC-SBS-A-C4-2-ETW1-1	A	C4	1	4	9.780	0.1025	14	0.007321	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-A-C4-2-ETW1-2	A	C4	1	4	10.01	0.1018	14	0.007268	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-A-C4-2-ETW1-3	A	C4	1	4	10.03	0.1022	14	0.007300	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-A-C4-2-ETW1-4	A	C4	1	4	10.12	0.1026	14	0.007325	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-A-C4-2-ETW1-5	A	C4	1	4	10.07	0.1025	14	0.007321	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-A-C4-2-ETW1-6	A	C4	1	4	10.14	0.1016	14	0.007257	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-A-C5-1-ETW1-1	A	C5	1	5	9.840	0.1035	14	0.007389	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-A-C5-1-ETW1-2	A	C5	1	5	9.860	0.1047	14	0.007475	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-A-C5-1-ETW1-3	A	C5	1	5	9.870	0.1038	14	0.007411	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-A-C5-1-ETW1-4	A	C5	1	5	10.05	0.1031	14	0.007364	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-A-C5-1-ETW1-5	A	C5	1	5	10.01	0.1035	14	0.007389	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-A-C5-1-ETW1-6	A	C5	1	5	9.970	0.1044	14	0.007454	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-B-C5-2-ETW1-1	B	C5	2	5	10.83	0.1046	14	0.007468	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-B-C5-2-ETW1-2	B	C5	2	5	10.81	0.1052	14	0.007511	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-B-C5-2-ETW1-4	B	C5	2	5	10.96	0.1040	14	0.007425	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-B-C5-2-ETW1-5	B	C5	2	5	10.87	0.1026	14	0.007325	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-B-C5-2-ETW1-6	B	C5	2	5	10.88	0.1025	14	0.007318	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-B-C5-2-ETW1-7	B	C5	2	5	10.56	0.1020	14	0.007282	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-B-C6-1-ETW1-1	B	C6	2	6	10.89	0.1026	14	0.007329	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-B-C6-1-ETW1-2	B	C6	2	6	10.90	0.1031	14	0.007364	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-B-C6-1-ETW1-3	B	C6	2	6	10.77	0.1034	14	0.007382	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-B-C6-1-ETW1-4	B	C6	2	6	11.07	0.1007	14	0.007193	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-B-C6-1-ETW1-5	B	C6	2	6	10.81	0.1002	14	0.007157	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-B-C6-1-ETW1-6	B	C6	2	6	10.80	0.1039	14	0.007421	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-C-C19-3-ETW1-1	C	C19	3	19	10.74	0.09980	14	0.007129	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-C-C19-3-ETW1-2	C	C19	3	19	11.01	0.1003	14	0.007161	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-C-C19-3-ETW1-3	C	C19	3	19	10.96	0.1023	14	0.007307	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-C-C19-3-ETW1-4	C	C19	3	19	11.42	0.1027	14	0.007336	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-C-C19-3-ETW1-5	C	C19	3	19	10.94	0.1005	14	0.007175	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-C-C19-3-ETW1-6	C	C19	3	19	11.11	0.1013	14	0.007236	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-C-C20-3-ETW1-2	C	C20	3	20	11.13	0.1022	14	0.007296	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-C-C20-3-ETW1-3	C	C20	3	20	10.83	0.1016	14	0.007257	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-C-C20-3-ETW1-4	C	C20	3	20	11.06	0.1002	14	0.007154	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-C-C20-3-ETW1-5	C	C20	3	20	10.76	0.1009	14	0.007204	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-C-C20-3-ETW1-6	C	C20	3	20	11.00	0.1032	14	0.007371	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-C-C20-3-ETW1-7	C	C20	3	20	11.18	0.1015	14	0.007250	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-D-C19-3-ETW1-1	D	C19	4	19	11.20	0.1023	14	0.007307	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-D-C19-3-ETW1-2	D	C19	4	19	11.31	0.09970	14	0.007121	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-D-C19-3-ETW1-3	D	C19	4	19	11.05	0.1002	14	0.007154	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-D-C19-3-ETW1-4	D	C19	4	19	11.14	0.1017	14	0.007264	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-D-C19-3-ETW1-5	D	C19	4	19	10.97	0.1016	14	0.007257	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-D-C19-3-ETW1-6	D	C19	4	19	11.05	0.1022	14	0.007300	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-D-C20-3-ETW1-1	D	C20	4	20	11.31	0.09990	14	0.007136	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-D-C20-3-ETW1-2	D	C20	4	20	10.86	0.1023	14	0.007304	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-D-C20-3-ETW1-3	D	C20	4	20	10.87	0.1015	14	0.007250	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-D-C20-3-ETW1-4	D	C20	4	20	10.89	0.1019	14	0.007275	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-D-C20-3-ETW1-5	D	C20	4	20	10.38	0.09980	14	0.007129	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-D-C20-3-ETW1-6	D	C20	4	20	10.67	0.09845	14	0.007032	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-E-C19-3-ETW1-1	E	C19	5	19	10.95	0.1007	14	0.007189	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-E-C19-3-ETW1-2	E	C19	5	19	11.31	0.09960	14	0.007114	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-E-C19-3-ETW1-3	E	C19	5	19	11.02	0.1014	14	0.007239	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-E-C19-3-ETW1-4	E	C19	5	19	11.08	0.1011	14	0.007221	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-E-C19-3-ETW1-5	E	C19	5	19	11.17	0.1030	14	0.007357	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-E-C19-3-ETW1-6	E	C19	5	19	11.14	0.1038	14	0.007414	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-E-C20-3-ETW1-1	E	C20	5	20	10.92	0.09935	14	0.007096	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-E-C20-3-ETW1-2	E	C20	5	20	11.04	0.09945	14	0.007104	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-E-C20-3-ETW1-3	E	C20	5	20	11.06	0.1024	14	0.007314	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-E-C20-3-ETW1-4	E	C20	5	20	11.26	0.1018	14	0.007271	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-E-C20-3-ETW1-5	E	C20	5	20	11.02	0.1034	14	0.007386	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-E-C20-3-ETW1-6	E	C20	5	20	11.35	0.1006	14	0.007186	Flexure in Compression

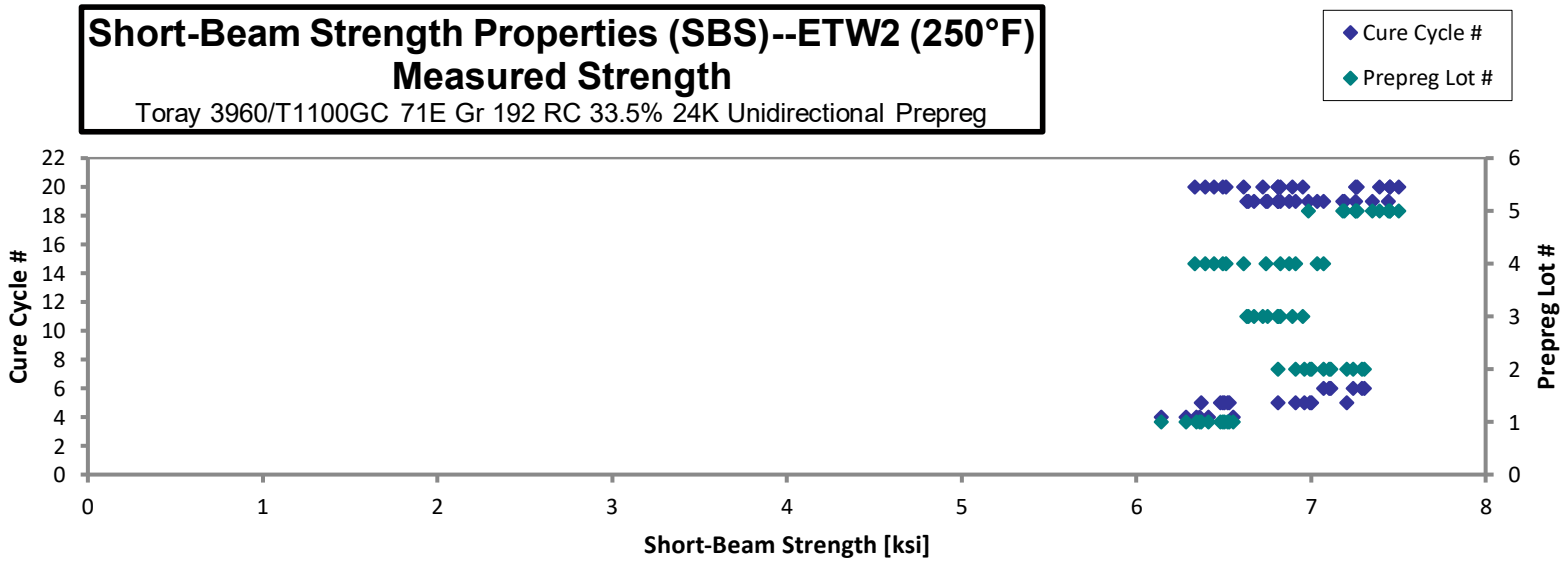
Average	**10.78**	**0.007279**
Standard Dev.	**0.4485**	
Coeff. of Var. [%]	**4.159**	
Min.	**9.780**	**0.007032**
Max.	**11.42**	**0.007511**
Number of Spec.	**60**	**60**


Short-Beam Strength Properties (SBS)--ETW1 (180°F)
Measured Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Short-Beam Strength [ksi]
0
2
4
6
8
10
12
0
2
4
6
8
10
12
14
16
18
20
22
0
1
2
3
4
5
6

Short-Beam Strength Properties (SBS)--ETW2 (250°F)
Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Avg. t_{ply} [in]	Failure Mode
NTP3961Q1-TC-T01-TC-SBS-A-C4-2-ETW2-1	A	C4	1	4	6.140	0.1031	14	0.007361	Inelastic Deformation
NTP3961Q1-TC-T01-TC-SBS-A-C4-2-ETW2-2	A	C4	1	4	6.280	0.1033	14	0.007375	Inelastic Deformation
NTP3961Q1-TC-T01-TC-SBS-A-C4-2-ETW2-3	A	C4	1	4	6.360	0.1025	14	0.007318	Inelastic Deformation
NTP3961Q1-TC-T01-TC-SBS-A-C4-2-ETW2-4	A	C4	1	4	6.340	0.1029	14	0.007350	Inelastic Deformation
NTP3961Q1-TC-T01-TC-SBS-A-C4-2-ETW2-5	A	C4	1	4	6.410	0.1023	14	0.007307	Inelastic Deformation
NTP3961Q1-TC-T01-TC-SBS-A-C4-2-ETW2-6	A	C4	1	4	6.550	0.1006	14	0.007186	Inelastic Deformation
NTP3961Q1-TC-T01-TC-SBS-A-C5-1-ETW2-1	A	C5	1	5	6.370	0.1021	14	0.007293	Inelastic Deformation
NTP3961Q1-TC-T01-TC-SBS-A-C5-1-ETW2-2	A	C5	1	5	6.500	0.1018	14	0.007271	Inelastic Deformation
NTP3961Q1-TC-T01-TC-SBS-A-C5-1-ETW2-3	A	C5	1	5	6.530	0.1022	14	0.007296	Inelastic Deformation
NTP3961Q1-TC-T01-TC-SBS-A-C5-1-ETW2-4	A	C5	1	5	6.490	0.1021	14	0.007293	Inelastic Deformation
NTP3961Q1-TC-T01-TC-SBS-A-C5-1-ETW2-5	A	C5	1	5	6.480	0.1025	14	0.007318	Inelastic Deformation
NTP3961Q1-TC-T01-TC-SBS-A-C5-1-ETW2-6	A	C5	1	5	6.520	0.1033	14	0.007375	Inelastic Deformation
NTP3961Q1-TC-T01-TC-SBS-B-C5-2-ETW2-1	B	C5	2	5	6.960	0.1018	14	0.007268	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-B-C5-2-ETW2-2	B	C5	2	5	7.200	0.1035	14	0.007393	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-B-C5-2-ETW2-3	B	C5	2	5	7.000	0.1009	14	0.007207	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-B-C5-2-ETW2-4	B	C5	2	5	6.990	0.1000	14	0.007143	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-B-C5-2-ETW2-5	B	C5	2	5	6.810	0.1017	14	0.007261	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-B-C5-2-ETW2-6	B	C5	2	5	6.910	0.1038	14	0.007414	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-B-C6-1-ETW2-2	B	C6	2	6	7.290	0.1010	14	0.007211	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-B-C6-1-ETW2-3	B	C6	2	6	7.110	0.1010	14	0.007214	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-B-C6-1-ETW2-4	B	C6	2	6	7.070	0.1020	14	0.007282	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-B-C6-1-ETW2-5	B	C6	2	6	7.300	0.1029	14	0.007346	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-B-C6-1-ETW2-6	B	C6	2	6	7.100	0.1005	14	0.007179	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-B-C6-1-ETW2-7	B	C6	2	6	7.240	0.1016	14	0.007254	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-C-C19-3-ETW2-2	C	C19	3	19	6.810	0.1022	14	0.007300	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-C-C19-3-ETW2-3	C	C19	3	19	6.640	0.1006	14	0.007186	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-C-C19-3-ETW2-4	C	C19	3	19	6.670	0.1018	14	0.007268	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-C-C19-3-ETW2-5	C	C19	3	19	6.750	0.1015	14	0.007246	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-C-C19-3-ETW2-6	C	C19	3	19	6.810	0.1025	14	0.007321	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-C-C19-3-ETW2-7	C	C19	3	19	6.630	0.1025	14	0.007321	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-C-C20-3-ETW2-2	C	C20	3	20	6.810	0.1027	14	0.007332	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-C-C20-3-ETW2-3	C	C20	3	20	6.820	0.1022	14	0.007300	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-C-C20-3-ETW2-4	C	C20	3	20	6.810	0.1028	14	0.007339	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-C-C20-3-ETW2-5	C	C20	3	20	6.950	0.1026	14	0.007325	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-C-C20-3-ETW2-6	C	C20	3	20	6.720	0.09950	14	0.007107	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-C-C20-3-ETW2-7	C	C20	3	20	6.890	0.1034	14	0.007382	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-D-C19-3-ETW2-2	D	C19	4	19	6.820	0.1001	14	0.007146	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-D-C19-3-ETW2-3	D	C19	4	19	7.070	0.09985	14	0.007132	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-D-C19-3-ETW2-5	D	C19	4	19	7.030	0.1006	14	0.007182	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-D-C19-3-ETW2-6	D	C19	4	19	6.740	0.1019	14	0.007275	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-D-C19-3-ETW2-7	D	C19	4	19	6.910	0.1003	14	0.007161	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-D-C19-3-ETW2-8	D	C19	4	19	6.870	0.1020	14	0.007282	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-D-C20-3-ETW2-1	D	C20	4	20	6.510	0.1015	14	0.007246	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-D-C20-3-ETW2-2	D	C20	4	20	6.440	0.1037	14	0.007404	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-D-C20-3-ETW2-3	D	C20	4	20	6.330	0.09895	14	0.007068	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-D-C20-3-ETW2-4	D	C20	4	20	6.490	0.1017	14	0.007261	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-D-C20-3-ETW2-5	D	C20	4	20	6.390	0.1005	14	0.007179	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-D-C20-3-ETW2-6	D	C20	4	20	6.610	0.1014	14	0.007243	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-E-C19-3-ETW2-1	E	C19	5	19	6.980	0.1022	14	0.007296	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-E-C19-3-ETW2-2	E	C19	5	19	7.190	0.1009	14	0.007204	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-E-C19-3-ETW2-3	E	C19	5	19	7.180	0.1019	14	0.007279	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-E-C19-3-ETW2-4	E	C19	5	19	7.350	0.1028	14	0.007339	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-E-C19-3-ETW2-5	E	C19	5	19	7.440	0.1015	14	0.007246	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-E-C19-3-ETW2-6	E	C19	5	19	7.250	0.1018	14	0.007268	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-E-C20-3-ETW2-1	E	C20	5	20	7.260	0.09985	14	0.007132	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-E-C20-3-ETW2-2	E	C20	5	20	7.450	0.1024	14	0.007314	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-E-C20-3-ETW2-3	E	C20	5	20	7.450	0.09935	14	0.007096	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-E-C20-3-ETW2-4	E	C20	5	20	7.250	0.1020	14	0.007282	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-E-C20-3-ETW2-5	E	C20	5	20	7.390	0.1010	14	0.007211	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS-E-C20-3-ETW2-6	E	C20	5	20	7.500	0.1028	14	0.007343	Flexure in Compression

Average	**6.853**	**0.007266**
Standard Dev.	**0.3526**	
Coeff. of Var. [%]	**5.145**	
Min.	**6.140**	**0.007068**
Max.	**7.500**	**0.007414**
Number of Spec.	**60**	**60**


Short-Beam Strength Properties (SBS)--ETW2 (250°F)
Measured Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Short-Beam Strength [ksi]
0
2
4
6
8
10
12
14
16
18
20
22
1
3
5
7

4.10 "25/50/25" Unnotched Tension 1 Properties (UNT1)

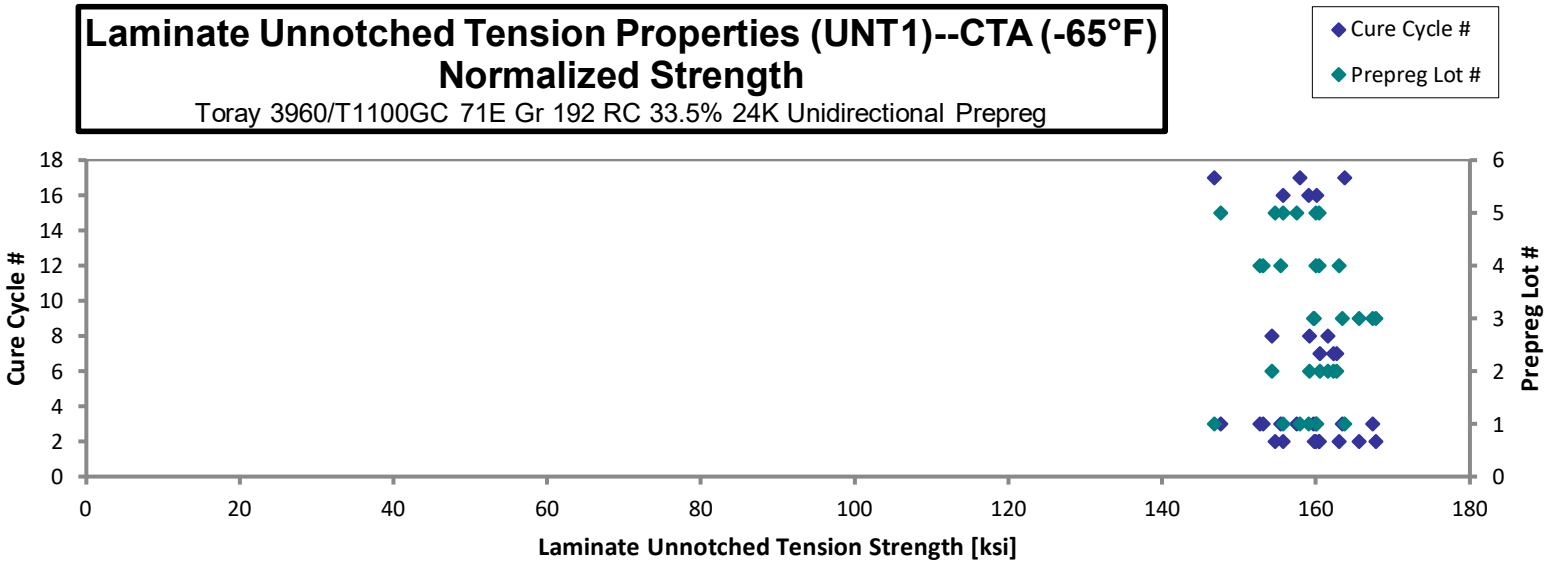
Laminate Unnotched Tension Properties (UNT1)--CTA (-65°F)
Strength & Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

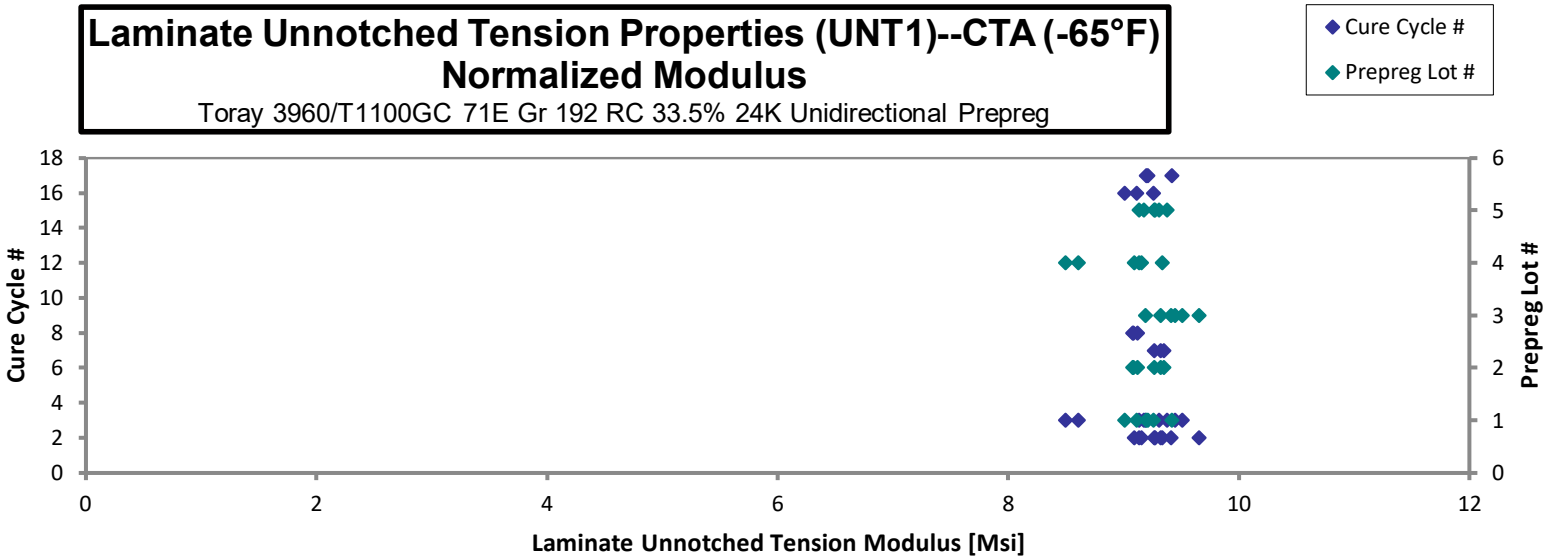
normalizing t_{ply} [in]
0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Modulus [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
NTP3961Q1-TC-T01-BT-UNT1-A-C16-1-CTA-1	A	C16	1	16	162.6	9.470	0.1126	16	XGM	0.007039	159.0	9.259
NTP3961Q1-TC-T01-BT-UNT1-A-C16-1-CTA-2	A	C16	1	16	159.1	9.060	0.1159	16	XGM	0.007244	160.0	9.115
NTP3961Q1-TC-T01-BT-UNT1-A-C16-1-CTA-3	A	C16	1	16	154.0	8.910	0.1165	16	XGB	0.007278	155.6	9.007
NTP3961Q1-TC-T01-BT-UNT1-A-C17-1-CTA-1	A	C17	1	17	160.4	9.340	0.1134	16	XGB	0.007089	157.9	9.196
NTP3961Q1-TC-T01-BT-UNT1-A-C17-1-CTA-2	A	C17	1	17	164.4	9.250	0.1147	16	XGM	0.007171	163.7	9.212
NTP3961Q1-TC-T01-BT-UNT1-A-C17-1-CTA-3	A	C17	1	17	145.6	9.340	0.1162	16	XGB	0.007259	146.8	9.417
NTP3961Q1-TC-T01-BT-UNT1-B-C7-1-CTA-1	B	C7	2	7	157.0	9.060	0.1178	16	XGV	0.007363	160.5	9.265
NTP3961Q1-TC-T01-BT-UNT1-B-C7-1-CTA-2	B	C7	2	7	157.1	9.030	0.1189	16	XGM	0.007433	162.2	9.322
NTP3961Q1-TC-T01-BT-UNT1-B-C7-1-CTA-3	B	C7	2	7	158.7	9.120	0.1181	16	XGM	0.007381	162.7	9.350
NTP3961Q1-TC-T01-BT-UNT1-B-C8-1-CTA-1	B	C8	2	8	151.8	8.970	0.1171	16	XGM	0.007319	154.3	9.119
NTP3961Q1-TC-T01-BT-UNT1-B-C8-1-CTA-2	B	C8	2	8	159.0	8.940	0.1170	16	XGM	0.007313	161.5	9.080
NTP3961Q1-TC-T01-BT-UNT1-B-C8-1-CTA-3	B	C8	2	8	156.1	8.910	0.1175	16	XGV	0.007341	159.1	9.084
NTP3961Q1-TC-T01-TC-UNT1-C-C2-2-CTA-1	C	C2	3	2	158.8	9.600	0.1159	16	AGM	0.007243	159.8	9.657
NTP3961Q1-TC-T01-TC-UNT1-C-C2-2-CTA-2	C	C2	3	2	167.4	9.390	0.1155	16	AGM	0.007216	167.7	9.411
NTP3961Q1-TC-T01-TC-UNT1-C-C2-2-CTA-3	C	C2	3	2	164.1	9.240	0.1162	16	AGM	0.007264	165.6	9.323
NTP3961Q1-TC-T01-TC-UNT1-C-C3-2-CTA-1	C	C3	3	3	163.0	9.430	0.1154	16	AGM	0.007214	163.4	9.449
NTP3961Q1-TC-T01-TC-UNT1-C-C3-2-CTA-2	C	C3	3	3	157.8	9.080	0.1166	16	AGM	0.007284	159.7	9.186
NTP3961Q1-TC-T01-TC-UNT1-C-C3-2-CTA-3	C	C3	3	3	164.4	9.340	0.1173	16	AGM	0.007329	167.3	9.507
NTP3961Q1-TC-T01-TC-UNT1-D-C2-2-CTA-1	D	C2	4	2	160.8	9.030	0.1168	16	XGV	0.007300	163.0	9.155
NTP3961Q1-TC-T01-TC-UNT1-D-C2-2-CTA-2	D	C2	4	2	158.5	9.010	0.1163	16	XGT	0.007266	159.9	9.092
NTP3961Q1-TC-T01-TC-UNT1-D-C2-2-CTA-3	D	C2	4	2	158.2	9.210	0.1168	16	XGM	0.007300	160.4	9.338
NTP3961Q1-TC-T01-TC-UNT1-D-C3-2-CTA-1	D	C3	4	3	152.5	9.100	0.1157	16	XGT	0.007228	153.1	9.136
NTP3961Q1-TC-T01-TC-UNT1-D-C3-2-CTA-2	D	C3	4	3	154.0	8.420	0.1162	16	AGM	0.007263	155.4	8.493
NTP3961Q1-TC-T01-TC-UNT1-D-C3-2-CTA-3	D	C3	4	3	149.7	8.440	0.1175	16	AGM	0.007341	152.6	8.605
NTP3961Q1-TC-T01-TC-UNT1-E-C2-2-CTA-1	E	C2	5	2	153.9	9.220	0.1158	16	XGT	0.007236	154.7	9.266
NTP3961Q1-TC-T01-TC-UNT1-E-C2-2-CTA-2	E	C2	5	2	159.2	9.070	0.1160	16	XGB	0.007251	160.3	9.134
NTP3961Q1-TC-T01-TC-UNT1-E-C2-2-CTA-3	E	C2	5	2	154.8	9.220	0.1159	16	XGT	0.007241	155.7	9.272
NTP3961Q1-TC-T01-TC-UNT1-E-C3-2-CTA-1	E	C3	5	3	147.7	9.180	0.1151	16	AGB	0.007196	147.6	9.174
NTP3961Q1-TC-T01-TC-UNT1-E-C3-2-CTA-2	E	C3	5	3	156.8	9.270	0.1157	16	AGT	0.007232	157.5	9.311
NTP3961Q1-TC-T01-TC-UNT1-E-C3-2-CTA-3	E	C3	5	3	159.1	9.330	0.1158	16	AGB	0.007236	159.9	9.377

	Strength [ksi]	Modulus [Msi]
Average	157.5	9.133
Standard Dev.	5.025	0.2578
Coeff. of Var. [%]	3.190	2.823
Min.	145.6	8.420
Max.	167.4	9.600
Number of Spec.	30	30

	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
$Average_{norm}$	0.007262	158.9	9.210
$Standard\ Dev._{norm}$		4.988	0.2306
$Coeff.\ of\ Var.\ [\%]_{norm}$		3.139	2.503
Min.	0.007039	146.8	8.493
Max.	0.007433	167.7	9.657
Number of Spec.	30	30	30


Laminate Unnotched Tension Properties (UNT1)--CTA (-65°F)
Normalized Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Unnotched Tension Strength [ksi]
0
2
4
6
8
10
12
14
16
18
0
1
2
3
4
5
6
0
20
40
60
80
100
120
140
160
180

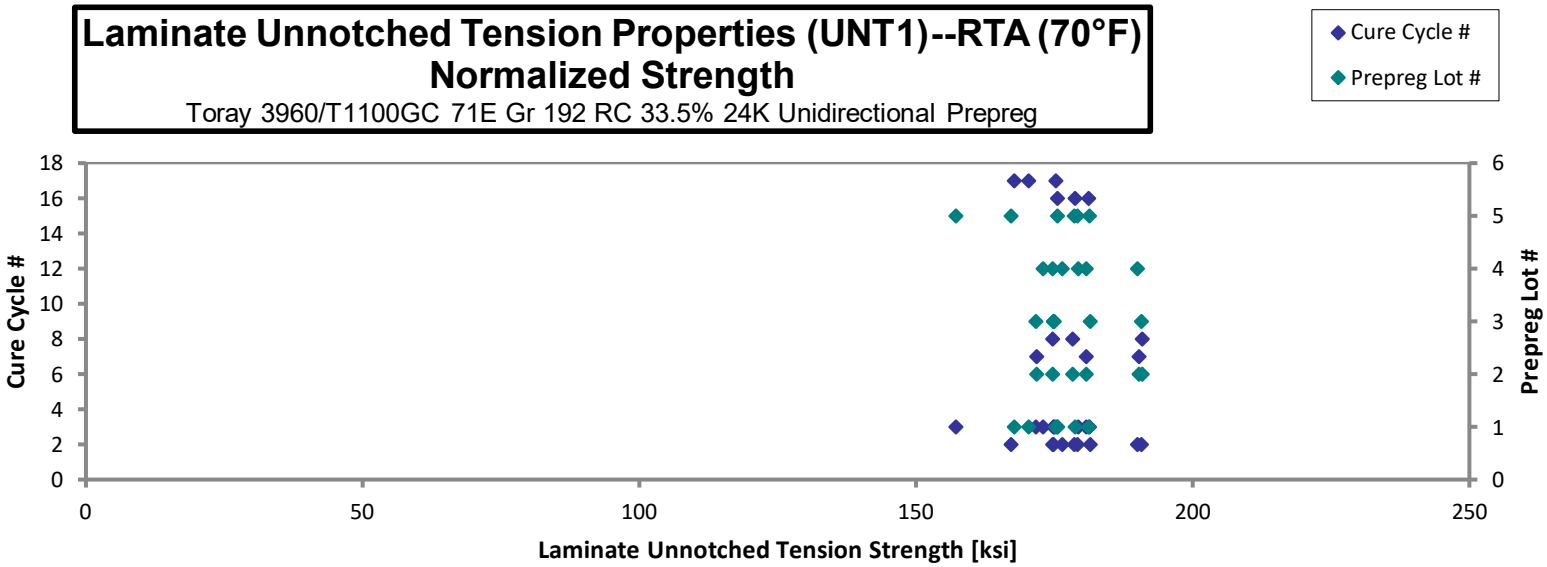

Laminate Unnotched Tension Properties (UNT1)--CTA (-65°F)
Normalized Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Unnotched Tension Modulus [Msi]
0
2
4
6
8
10
12
14
16
18

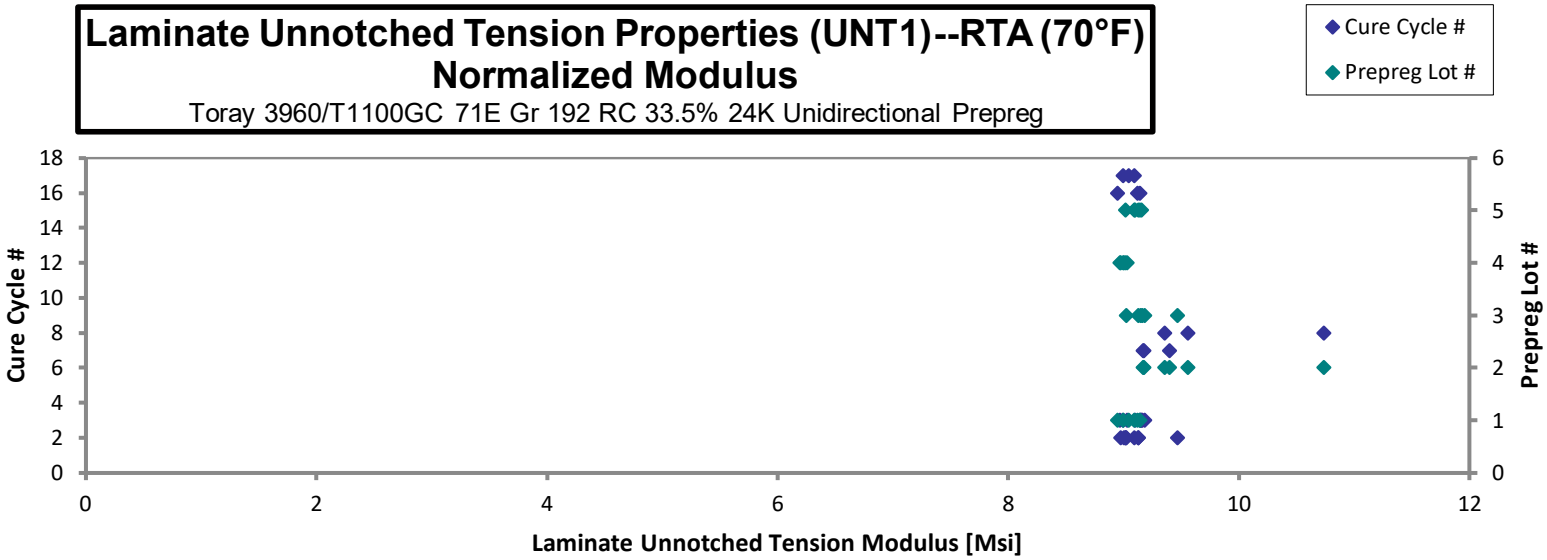
Laminate Unnotched Tension Properties (UNT1)--RTA (70°F)
Strength & Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

normalizing t_{ply} [in]: 0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Modulus [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
NTP3961Q1-TC-T01-BT-UNT1-A-C16-1-RTA-1	A	C16	1	16	174.9	8.910	0.1157	16	AGT	0.007230	175.6	8.947
NTP3961Q1-TC-T01-BT-UNT1-A-C16-1-RTA-2	A	C16	1	16	176.6	9.010	0.1166	16	AGB	0.007289	178.8	9.122
NTP3961Q1-TC-T01-BT-UNT1-A-C16-1-RTA-3	A	C16	1	16	179.2	9.040	0.1165	16	AGB	0.007279	181.2	9.140
NTP3961Q1-TC-T01-BT-UNT1-A-C17-1-RTA-1	A	C17	1	17	174.3	8.950	0.1158	16	AGT	0.007239	175.3	8.998
NTP3961Q1-TC-T01-BT-UNT1-A-C17-1-RTA-2	A	C17	1	17	170.8	9.070	0.1149	16	AGM	0.007181	170.4	9.046
NTP3961Q1-TC-T01-BT-UNT1-A-C17-1-RTA-3	A	C17	1	17	166.6	9.030	0.1160	16	AGM	0.007248	167.7	9.090
NTP3961Q1-TC-T01-BT-UNT1-B-C7-1-RTA-1	B	C7	2	7	183.4	9.050	0.1196	16	XGM	0.007475	190.4	9.396
NTP3961Q1-TC-T01-BT-UNT1-B-C7-1-RTA-2	B	C7	2	7	177.9	9.030	0.1171	16	XGM	0.007316	180.7	9.175
NTP3961Q1-TC-T01-BT-UNT1-B-C7-1-RTA-3	B	C7	2	7	167.7	8.950	0.1181	16	XGM	0.007378	171.8	9.171
NTP3961Q1-TC-T01-BT-UNT1-B-C8-1-RTA-1	B	C8	2	8	187.8	9.400	0.1171	16	XGM	0.007319	190.9	9.556
NTP3961Q1-TC-T01-BT-UNT1-B-C8-1-RTA-2	B	C8	2	8	175.6	10.57	0.1170	16	XGM	0.007313	178.3	10.74
NTP3961Q1-TC-T01-BT-UNT1-B-C8-1-RTA-3	B	C8	2	8	171.3	9.180	0.1175	16	XGM	0.007341	174.7	9.359
NTP3961Q1-TC-T01-TC-UNT1-C-C2-2-RTA-1	C	C2	3	2	174.0	8.980	0.1157	16	AGT	0.007233	174.8	9.021
NTP3961Q1-TC-T01-TC-UNT1-C-C2-2-RTA-2	C	C2	3	2	179.7	9.040	0.1164	16	AGT	0.007272	181.5	9.130
NTP3961Q1-TC-T01-TC-UNT1-C-C2-2-RTA-3	C	C2	3	2	188.7	9.370	0.1164	16	AGT	0.007276	190.7	9.468
NTP3961Q1-TC-T01-TC-UNT1-C-C3-2-RTA-1	C	C3	3	3	174.6	9.130	0.1154	16	AGT	0.007214	174.9	9.148
NTP3961Q1-TC-T01-TC-UNT1-C-C3-2-RTA-2	C	C3	3	3	172.9	9.080	0.1166	16	AGM	0.007284	174.9	9.186
NTP3961Q1-TC-T01-TC-UNT1-C-C3-2-RTA-3	C	C3	3	3	168.6	9.000	0.1173	16	AGM	0.007329	171.6	9.161
NTP3961Q1-TC-T01-TC-UNT1-D-C2-2-RTA-1	D	C2	4	2	185.6	8.800	0.1179	16	XGV	0.007369	190.0	9.006
NTP3961Q1-TC-T01-TC-UNT1-D-C2-2-RTA-2	D	C2	4	2	171.6	8.860	0.1173	16	XGT	0.007328	174.7	9.018
NTP3961Q1-TC-T01-TC-UNT1-D-C2-2-RTA-3	D	C2	4	2	172.0	8.750	0.1182	16	XGT	0.007384	176.4	8.974
NTP3961Q1-TC-T01-TC-UNT1-D-C3-2-RTA-1	D	C3	4	3	171.4	8.890	0.1163	16	XGT	0.007266	172.9	8.971
NTP3961Q1-TC-T01-TC-UNT1-D-C3-2-RTA-2	D	C3	4	3	176.8	8.830	0.1178	16	XGB	0.007363	180.8	9.029
NTP3961Q1-TC-T01-TC-UNT1-D-C3-2-RTA-3	D	C3	4	3	176.1	8.840	0.1173	16	XGM	0.007328	179.3	8.997
NTP3961Q1-TC-T01-TC-UNT1-E-C2-2-RTA-1	E	C2	5	2	177.1	8.990	0.1166	16	XGM	0.007284	179.2	9.095
NTP3961Q1-TC-T01-TC-UNT1-E-C2-2-RTA-3	E	C2	5	2	165.4	8.920	0.1165	16	XGM	0.007280	167.2	9.019
NTP3961Q1-TC-T01-TC-UNT1-E-C2-2-RTA-4	E	C2	5	2	176.6	9.030	0.1165	16	XGM	0.007280	178.6	9.130
NTP3961Q1-TC-T01-TC-UNT1-E-C3-2-RTA-1	E	C3	5	3	180.4	9.100	0.1159	16	XGM	0.007243	181.4	9.154
NTP3961Q1-TC-T01-TC-UNT1-E-C3-2-RTA-2	E	C3	5	3	156.5	9.100	0.1158	16	XGM	0.007235	157.2	9.144
NTP3961Q1-TC-T01-TC-UNT1-E-C3-2-RTA-3	E	C3	5	3	175.9	9.120	0.1150	16	AAB	0.007186	175.6	9.103

	Strength [ksi]	Modulus [Msi]		$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
Average	**175.0**	**9.067**	**$Average_{norm}$**	**0.007292**	**177.2**	**9.183**
Standard Dev.	**6.695**	**0.3183**	**$Standard\ Dev._{norm}$**		**7.314**	**0.3275**
Coeff. of Var. [%]	**3.826**	**3.510**	**$Coeff.\ of\ Var.\ [\%]_{norm}$**		**4.127**	**3.567**
Min.	**156.5**	**8.750**	**Min.**	**0.007181**	**157.2**	**8.947**
Max.	**188.7**	**10.57**	**Max.**	**0.007475**	**190.9**	**10.74**
Number of Spec.	**30**	**30**	**Number of Spec.**	**30**	**30**	**30**


Laminate Unnotched Tension Properties (UNT1)--RTA (70°F)
Normalized Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Unnotched Tension Strength [ksi]
0
50
100
150
200
250
0
2
4
6
8
10
12
14
16
18
0
1
2
3
4
5
6


Laminate Unnotched Tension Properties (UNT1)--RTA (70°F)
Normalized Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Unnotched Tension Modulus [Msi]
0
2
4
6
8
10
12
14
16
18

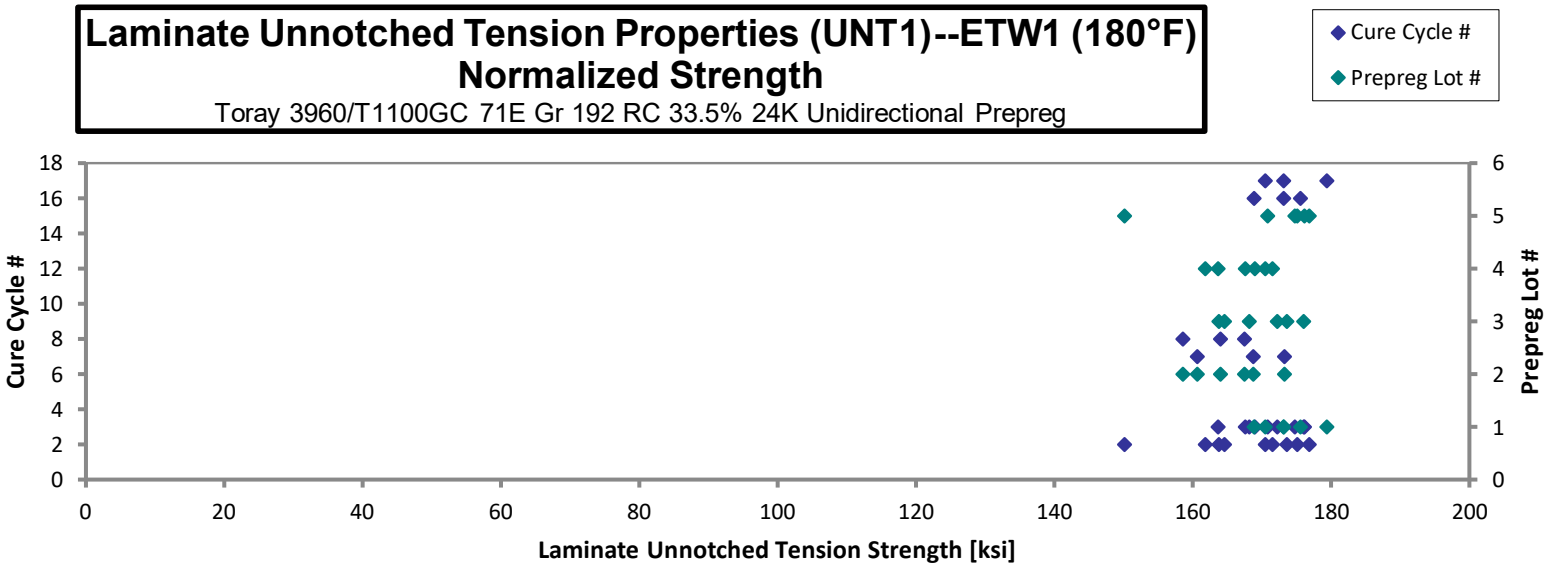
Laminate Unnotched Tension Properties (UNT1)--ETW1 (180°F)
Strength & Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

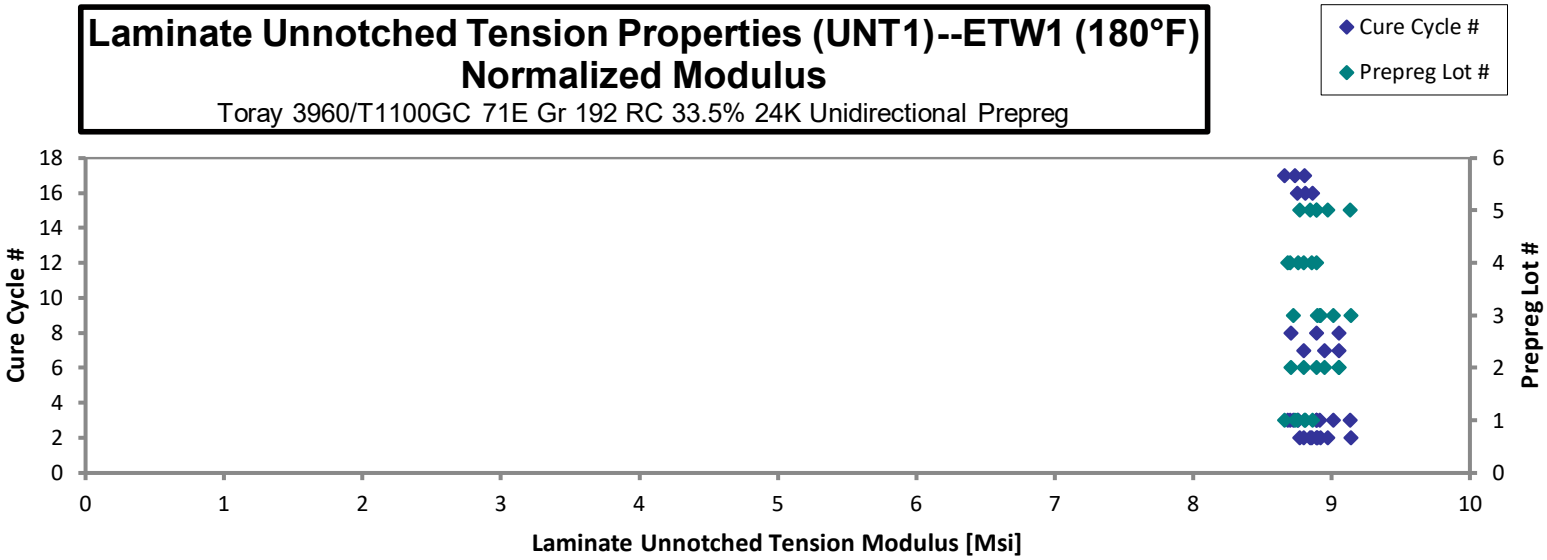
normalizing t_{ply} [in]: 0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Modulus [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
NTP3961Q1-TC-T01-BT-UNT1-A-C16-1-ETW1-1	A	C16	1	16	173.5	8.760	0.1166	16	XGV	0.007286	175.5	8.865
NTP3961Q1-TC-T01-BT-UNT1-A-C16-1-ETW1-2	A	C16	1	16	170.6	8.680	0.1169	16	XGV	0.007306	173.1	8.808
NTP3961Q1-TC-T01-BT-UNT1-A-C16-1-ETW1-3	A	C16	1	16	165.8	8.590	0.1174	16	XGV	0.007336	168.9	8.753
NTP3961Q1-TC-T01-BT-UNT1-A-C17-1-ETW1-1	A	C17	1	17	169.2	8.670	0.1161	16	XGV	0.007254	170.5	8.735
NTP3961Q1-TC-T01-BT-UNT1-A-C17-1-ETW1-2	A	C17	1	17	175.4	8.610	0.1178	16	XGV	0.007361	179.3	8.803
NTP3961Q1-TC-T01-BT-UNT1-A-C17-1-ETW1-3	A	C17	1	17	170.8	8.540	0.1168	16	XGV	0.007300	173.1	8.659
NTP3961Q1-TC-T01-BT-UNT1-B-C7-1-ETW1-1	B	C7	2	7	163.7	8.540	0.1187	16	XGV	0.007419	168.7	8.799
NTP3961Q1-TC-T01-BT-UNT1-B-C7-1-ETW1-2	B	C7	2	7	168.1	8.780	0.1188	16	XGV	0.007423	173.3	9.051
NTP3961Q1-TC-T01-BT-UNT1-B-C7-1-ETW1-3	B	C7	2	7	155.5	8.660	0.1191	16	XGV	0.007441	160.7	8.949
NTP3961Q1-TC-T01-BT-UNT1-B-C8-1-ETW1-1	B	C8	2	8	158.1	8.390	0.1195	16	XGV	0.007471	164.1	8.705
NTP3961Q1-TC-T01-BT-UNT1-B-C8-1-ETW1-2	B	C8	2	8	156.5	8.930	0.1168	16	XGV	0.007300	158.6	9.054
NTP3961Q1-TC-T01-BT-UNT1-B-C8-1-ETW1-3	B	C8	2	8	164.1	8.710	0.1176	16	XGV	0.007351	167.5	8.892
NTP3961Q1-TC-T01-TC-UNT1-C-C2-2-ETW1-1	C	C2	3	2	162.4	8.820	0.1162	16	XGM	0.007261	163.7	8.895
NTP3961Q1-TC-T01-TC-UNT1-C-C2-2-ETW1-2	C	C2	3	2	173.0	9.110	0.1156	16	XGV	0.007225	173.6	9.142
NTP3961Q1-TC-T01-TC-UNT1-C-C2-2-ETW1-3	C	C2	3	2	163.5	8.860	0.1160	16	XGM	0.007249	164.6	8.920
NTP3961Q1-TC-T01-TC-UNT1-C-C3-2-ETW1-1	C	C3	3	3	169.0	8.750	0.1174	16	XGM	0.007335	172.2	8.914
NTP3961Q1-TC-T01-TC-UNT1-C-C3-2-ETW1-2	C	C3	3	3	170.1	8.710	0.1192	16	XGM	0.007451	176.0	9.013
NTP3961Q1-TC-T01-TC-UNT1-C-C3-2-ETW1-3	C	C3	3	3	165.7	8.600	0.1169	16	XGM	0.007305	168.2	8.725
NTP3961Q1-TC-T01-TC-UNT1-D-C2-2-ETW1-1	D	C2	4	2	170.5	8.890	0.1152	16	XGV	0.007200	170.5	8.890
NTP3961Q1-TC-T01-TC-UNT1-D-C2-2-ETW1-2	D	C2	4	2	159.5	8.670	0.1169	16	XGV	0.007306	161.8	8.798
NTP3961Q1-TC-T01-TC-UNT1-D-C2-2-ETW1-3	D	C2	4	2	169.7	8.760	0.1165	16	XGV	0.007278	171.6	8.855
NTP3961Q1-TC-T01-TC-UNT1-D-C3-2-ETW1-1	D	C3	4	3	166.2	8.610	0.1172	16	XGV	0.007325	169.0	8.759
NTP3961Q1-TC-T01-TC-UNT1-D-C3-2-ETW1-2	D	C3	4	3	162.8	8.640	0.1158	16	XGV	0.007238	163.7	8.685
NTP3961Q1-TC-T01-TC-UNT1-D-C3-2-ETW1-3	D	C3	4	3	164.8	8.550	0.1172	16	XGV	0.007325	167.6	8.698
NTP3961Q1-TC-T01-TC-UNT1-E-C2-2-ETW1-1	E	C2	5	2	176.8	8.840	0.1153	16	XGV	0.007203	176.8	8.844
NTP3961Q1-TC-T01-TC-UNT1-E-C2-2-ETW1-2	E	C2	5	2	148.3	8.870	0.1166	16	DGV	0.007285	150.1	8.975
NTP3961Q1-TC-T01-TC-UNT1-E-C2-2-ETW1-3	E	C2	5	2	172.1	8.620	0.1172	16	XGV	0.007324	175.1	8.768
NTP3961Q1-TC-T01-TC-UNT1-E-C3-2-ETW1-1	E	C3	5	3	173.4	8.820	0.1161	16	XGV	0.007256	174.8	8.889
NTP3961Q1-TC-T01-TC-UNT1-E-C3-2-ETW1-2	E	C3	5	3	173.0	8.970	0.1173	16	XGV	0.007330	176.1	9.132
NTP3961Q1-TC-T01-TC-UNT1-E-C3-2-ETW1-3	E	C3	5	3	168.0	8.740	0.1172	16	XGV	0.007324	170.8	8.890

	Strength [ksi]	Modulus [Msi]
Average	**166.7**	**8.723**
Standard Dev.	**6.480**	**0.1505**
Coeff. of Var. [%]	**3.888**	**1.725**
Min.	**148.3**	**8.390**
Max.	**176.8**	**9.110**
Number of Spec.	**30**	**30**

	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
$Average_{norm}$	**0.007316**	**169.3**	**8.862**
Standard $Dev._{norm}$		**6.343**	**0.1289**
Coeff. of Var. $[\%]_{norm}$		**3.746**	**1.455**
Min.	**0.007200**	**150.1**	**8.659**
Max.	**0.007471**	**179.3**	**9.142**
Number of Spec.	**30**	**30**	**30**


Laminate Unnotched Tension Properties (UNT1)--ETW1 (180°F)
Normalized Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Unnotched Tension Strength [ksi]
0
2
4
6
8
10
12
14
16
18
0
1
2
3
4
5
6
0
20
40
60
80
100
120
140
160
180
200


Laminate Unnotched Tension Properties (UNT1)--ETW1 (180°F)
Normalized Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Unnotched Tension Modulus [Msi]
0
2
4
6
8
10
12
14
16
18
0
1
2
3
4
5
6
7
8
9
10

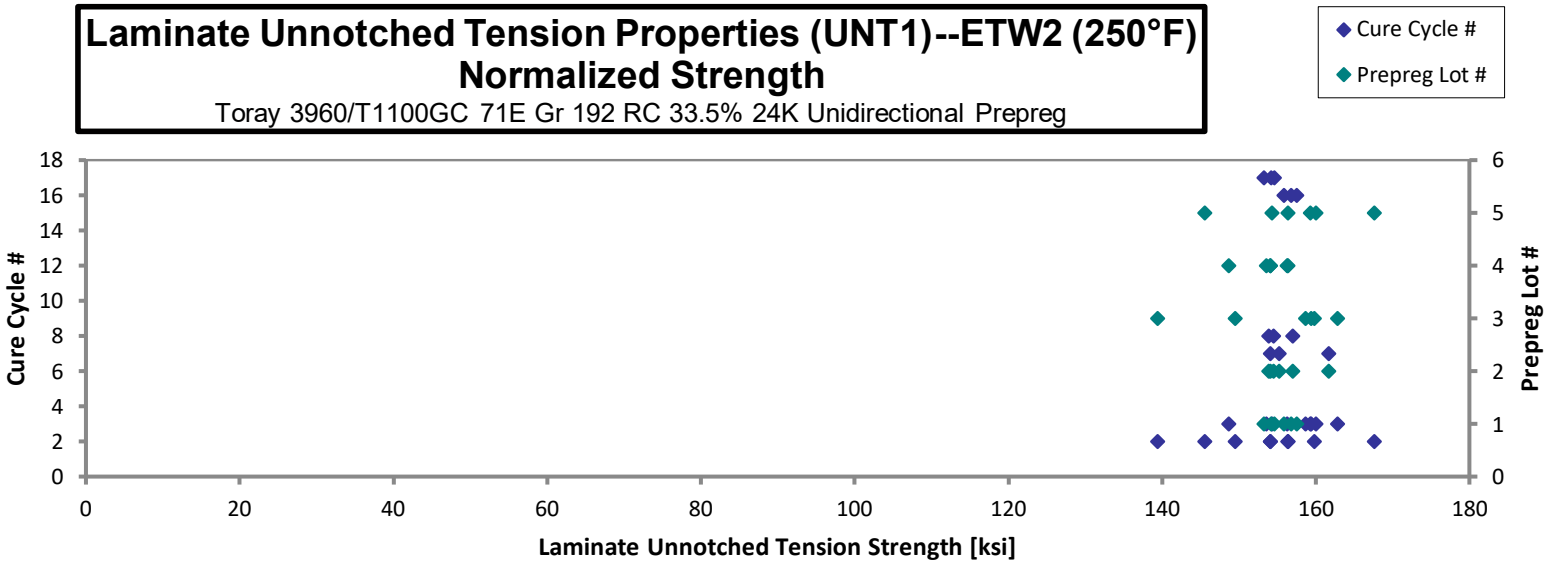
Laminate Unnotched Tension Properties (UNT1)--ETW2 (250°F)
Strength & Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

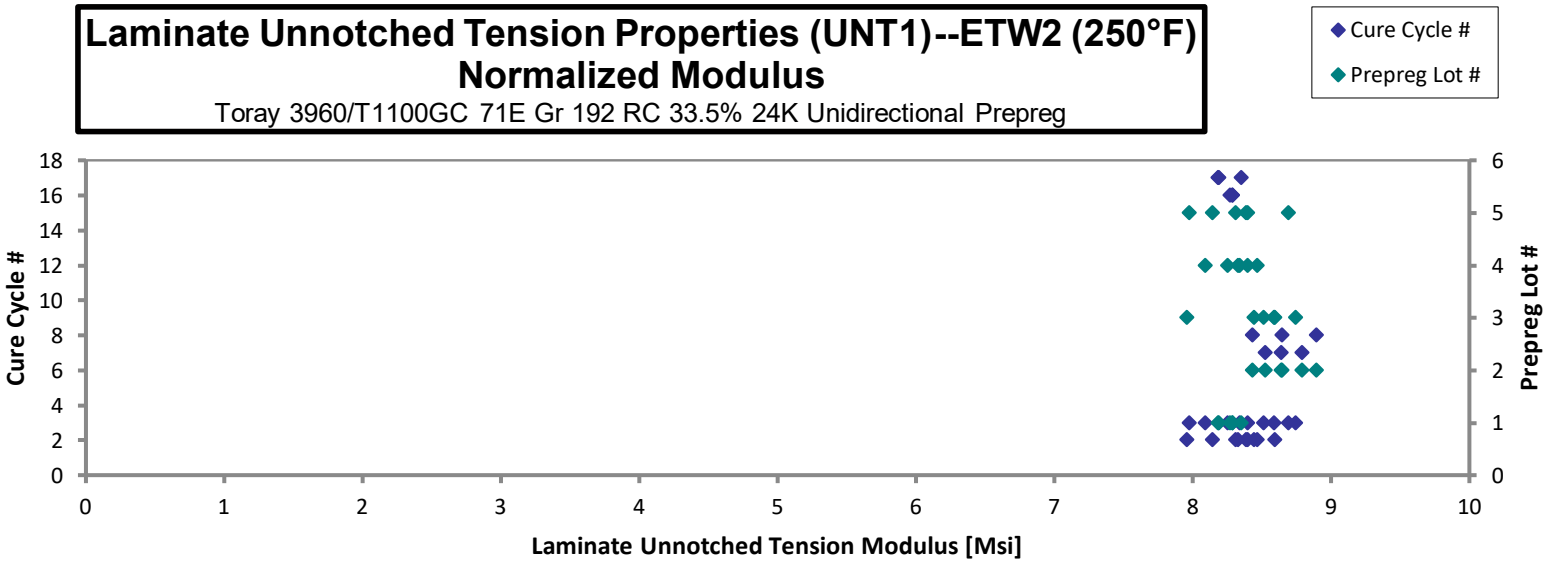
normalizing t_{ply} [in]: 0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Modulus [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
NTP3961Q1-TC-T01-BT-UNT1-A-C16-1-ETW2-2	A	C16	1	16	154.6	8.220	0.1162	16	XGM	0.007259	155.9	8.288
NTP3961Q1-TC-T01-BT-UNT1-A-C16-1-ETW2-3	A	C16	1	16	154.3	8.140	0.1171	16	AGM	0.007317	156.8	8.272
NTP3961Q1-TC-T01-BT-UNT1-A-C16-1-ETW2-4	A	C16	1	16	153.1	8.060	0.1185	16	XGV	0.007404	157.5	8.289
NTP3961Q1-TC-T01-BT-UNT1-A-C17-1-ETW2-1	A	C17	1	17	152.3	8.140	0.1159	16	XGV	0.007245	153.3	8.191
NTP3961Q1-TC-T01-BT-UNT1-A-C17-1-ETW2-2	A	C17	1	17	152.0	8.070	0.1169	16	XGM	0.007303	154.2	8.186
NTP3961Q1-TC-T01-BT-UNT1-A-C17-1-ETW2-3	A	C17	1	17	151.0	8.160	0.1179	16	XGM	0.007369	154.6	8.351
NTP3961Q1-TC-T01-BT-UNT1-B-C7-1-ETW2-1	B	C7	2	7	148.9	8.350	0.1192	16	XGV	0.007451	154.1	8.641
NTP3961Q1-TC-T01-BT-UNT1-B-C7-1-ETW2-2	B	C7	2	7	151.1	8.300	0.1184	16	XGV	0.007398	155.2	8.528
NTP3961Q1-TC-T01-BT-UNT1-B-C7-1-ETW2-3	B	C7	2	7	156.4	8.510	0.1191	16	XGV	0.007441	161.7	8.795
NTP3961Q1-TC-T01-BT-UNT1-B-C8-1-ETW2-1	B	C8	2	8	150.2	8.440	0.1180	16	XGV	0.007377	153.9	8.647
NTP3961Q1-TC-T01-BT-UNT1-B-C8-1-ETW2-2	B	C8	2	8	150.6	8.220	0.1182	16	XGV	0.007386	154.5	8.433
NTP3961Q1-TC-T01-BT-UNT1-B-C8-1-ETW2-3	B	C8	2	8	151.9	8.610	0.1191	16	XGV	0.007441	157.0	8.898
NTP3961Q1-TC-T01-TC-UNT1-C-C2-2-ETW2-1	C	C2	3	2	159.0	8.560	0.1157	16	XGM	0.007233	159.7	8.599
NTP3961Q1-TC-T01-TC-UNT1-C-C2-2-ETW2-2	C	C2	3	2	148.7	8.400	0.1158	16	XGM	0.007239	149.5	8.446
NTP3961Q1-TC-T01-TC-UNT1-C-C2-2-ETW2-3	C	C2	3	2	138.9	7.930	0.1157	16	XGM	0.007228	139.4	7.961
NTP3961Q1-TC-T01-TC-UNT1-C-C3-2-ETW2-1	C	C3	3	3	156.9	8.650	0.1165	16	XGM	0.007282	158.6	8.748
NTP3961Q1-TC-T01-TC-UNT1-C-C3-2-ETW2-2	C	C3	3	3	157.6	8.420	0.1165	16	XGM	0.007283	159.4	8.517
NTP3961Q1-TC-T01-TC-UNT1-C-C3-2-ETW2-3	C	C3	3	3	160.9	8.490	0.1166	16	XGV	0.007286	162.9	8.592
NTP3961Q1-TC-T01-TC-UNT1-D-C2-2-ETW2-1	D	C2	4	2	153.0	8.340	0.1160	16	XGV	0.007250	154.1	8.398
NTP3961Q1-TC-T01-TC-UNT1-D-C2-2-ETW2-2	D	C2	4	2	152.0	8.220	0.1168	16	XGV	0.007297	154.1	8.331
NTP3961Q1-TC-T01-TC-UNT1-D-C2-2-ETW2-3	D	C2	4	2	152.7	8.270	0.1180	16	XGV	0.007372	156.3	8.467
NTP3961Q1-TC-T01-TC-UNT1-D-C3-2-ETW2-1	D	C3	4	3	152.3	8.190	0.1162	16	XGV	0.007259	153.5	8.258
NTP3961Q1-TC-T01-TC-UNT1-D-C3-2-ETW2-2	D	C3	4	3	145.3	7.910	0.1179	16	XGV	0.007369	148.7	8.095
NTP3961Q1-TC-T01-TC-UNT1-D-C3-2-ETW2-3	D	C3	4	3	153.8	8.210	0.1171	16	XGV	0.007316	156.3	8.342
NTP3961Q1-TC-T01-TC-UNT1-E-C2-2-ETW2-1	E	C2	5	2	145.9	8.160	0.1150	16	XGV	0.007186	145.6	8.144
NTP3961Q1-TC-T01-TC-UNT1-E-C2-2-ETW2-2	E	C2	5	2	166.5	8.330	0.1160	16	XGV	0.007249	167.6	8.386
NTP3961Q1-TC-T01-TC-UNT1-E-C2-2-ETW2-3	E	C2	5	2	153.3	8.150	0.1176	16	XGV	0.007347	156.4	8.316
NTP3961Q1-TC-T01-TC-UNT1-E-C3-2-ETW2-1	E	C3	5	3	153.8	7.960	0.1155	16	XGV	0.007219	154.2	7.981
NTP3961Q1-TC-T01-TC-UNT1-E-C3-2-ETW2-2	E	C3	5	3	158.4	8.350	0.1159	16	XGV	0.007243	159.3	8.399
NTP3961Q1-TC-T01-TC-UNT1-E-C3-2-ETW2-3	E	C3	5	3	157.6	8.560	0.1170	16	XGV	0.007313	160.0	8.694

	Strength [ksi]	Modulus [Msi]
Average	**153.1**	**8.277**
Standard Dev.	**5.099**	**0.1981**
Coeff. of Var. [%]	**3.331**	**2.394**
Min.	**138.9**	**7.910**
Max.	**166.5**	**8.650**
Number of Spec.	**30**	**30**

	t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
$Average_{norm}$	**0.007312**	**155.5**	**8.406**
Standard $Dev._{norm}$		**5.217**	**0.2304**
Coeff. of Var. [%]$_{norm}$		**3.355**	**2.741**
Min.	**0.007186**	**139.4**	**7.961**
Max.	**0.007451**	**167.6**	**8.898**
Number of Spec.	**30**	**30**	**30**


Laminate Unnotched Tension Properties (UNT1)--ETW2 (250°F)
Normalized Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Unnotched Tension Strength [ksi]
0
2
4
6
8
10
12
14
16
18
0
1
2
3
4
5
6
0
20
40
60
80
100
120
140
160
180


Laminate Unnotched Tension Properties (UNT1)--ETW2 (250°F)
Normalized Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Unnotched Tension Modulus [Msi]
0
2
4
6
8
10
12
14
16
18
1
3
5
7
9

4.11 "10/80/10" Unnotched Tension 2 Properties (UNT2)

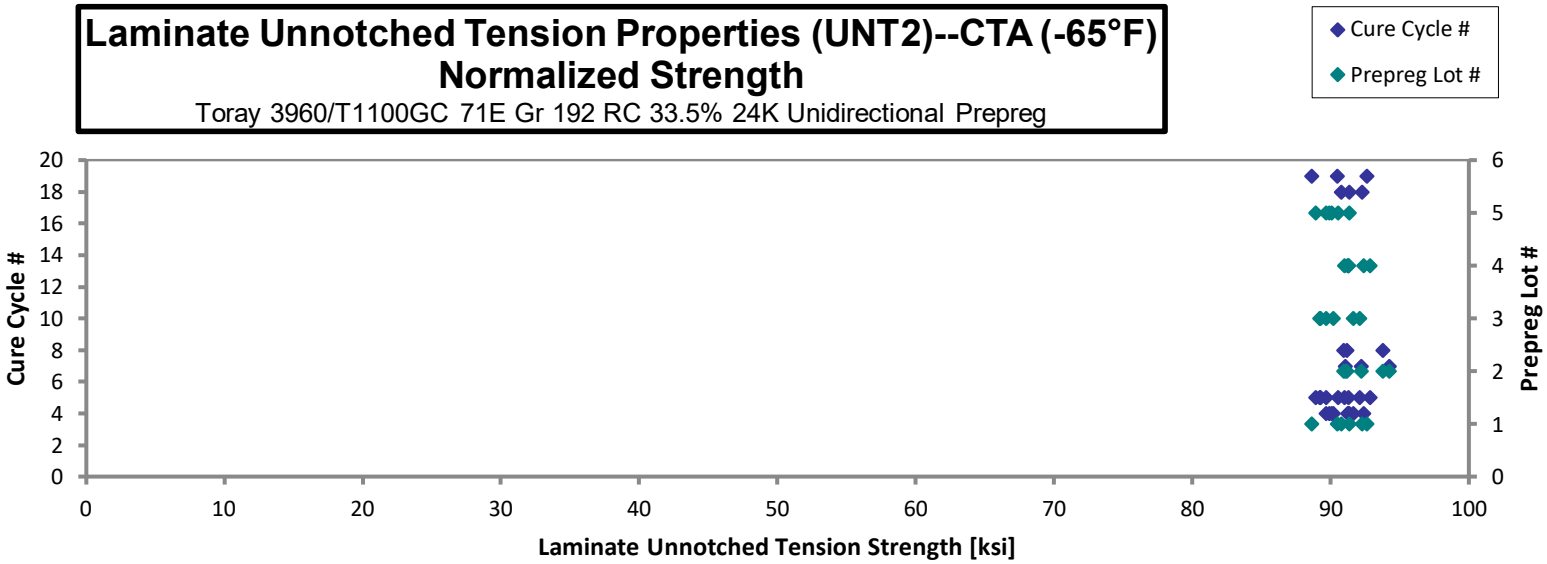
Laminate Unnotched Tension Properties (UNT2)--CTA (-65°F)
Strength & Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

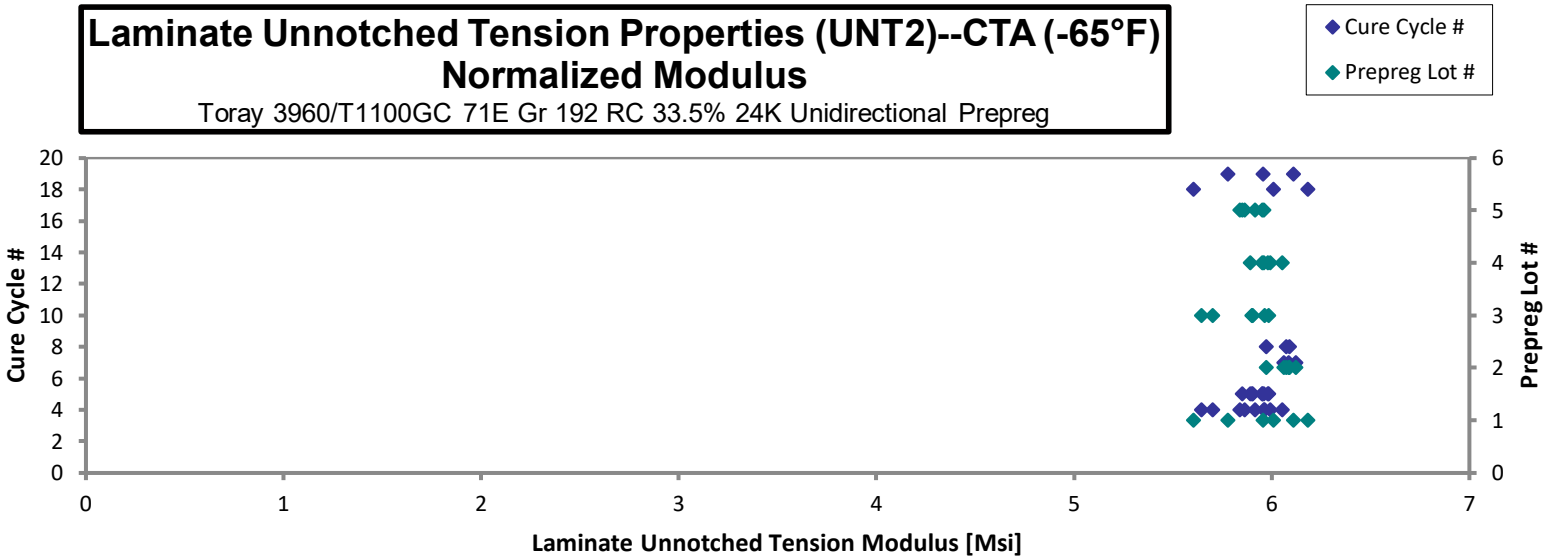
normalizing t_{ply} [in]
0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Modulus [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
NTP3961Q1-TC-T01-BT-UNT2-A-C18-1-CTA-1	A	C18	1	18	91.59	6.240	0.1427	20	AGB	0.007135	90.76	6.184
NTP3961Q1-TC-T01-BT-UNT2-A-C18-1-CTA-2	A	C18	1	18	90.14	5.930	0.1460	20	AGB	0.007298	91.36	6.010
NTP3961Q1-TC-T01-BT-UNT2-A-C18-1-CTA-5	A	C18	1	18	90.42	5.490	0.1470	20	AGB	0.007349	92.29	5.604
NTP3961Q1-TC-T01-BT-UNT2-A-C19-1-CTA-1	A	C19	1	19	91.11	5.940	0.1401	20	AGM	0.007005	88.64	5.779
NTP3961Q1-TC-T01-BT-UNT2-A-C19-1-CTA-2	A	C19	1	19	90.08	5.930	0.1447	20	AGB	0.007234	90.50	5.958
NTP3961Q1-TC-T01-BT-UNT2-A-C19-1-CTA-3	A	C19	1	19	91.16	6.010	0.1464	20	AGM	0.007319	92.66	6.109
NTP3961Q1-TC-T01-BT-UNT2-B-C7-1-CTA-1	B	C7	2	7	95.09	6.140	0.1427	20	AGM	0.007135	94.23	6.085
NTP3961Q1-TC-T01-BT-UNT2-B-C7-1-CTA-2	B	C7	2	7	89.87	6.040	0.1460	20	AGM	0.007298	91.09	6.122
NTP3961Q1-TC-T01-BT-UNT2-B-C7-1-CTA-3	B	C7	2	7	89.80	5.900	0.1479	20	AGM	0.007397	92.25	6.061
NTP3961Q1-TC-T01-BT-UNT2-B-C8-1-CTA-1	B	C8	2	8	88.50	5.910	0.1484	20	AGM	0.007421	91.21	6.091
NTP3961Q1-TC-T01-BT-UNT2-B-C8-1-CTA-2	B	C8	2	8	91.72	5.940	0.1473	20	AGM	0.007363	93.79	6.074
NTP3961Q1-TC-T01-BT-UNT2-B-C8-1-CTA-3	B	C8	2	8	89.09	5.850	0.1470	20	AGM	0.007351	90.95	5.972
NTP3961Q1-TC-T01-TC-UNT2-C-C4-2-CTA-1	C	C4	3	4	88.76	5.640	0.1455	20	DAT	0.007277	89.70	5.700
NTP3961Q1-TC-T01-TC-UNT2-C-C4-2-CTA-2	C	C4	3	4	90.13	5.550	0.1464	20	AAT	0.007322	91.65	5.644
NTP3961Q1-TC-T01-TC-UNT2-C-C4-2-CTA-3	C	C4	3	4	88.58	5.860	0.1466	20	AAT	0.007331	90.19	5.966
NTP3961Q1-TC-T01-TC-UNT2-C-C5-2-CTA-1	C	C5	3	5	88.75	5.870	0.1448	20	AGM	0.007240	89.24	5.903
NTP3961Q1-TC-T01-TC-UNT2-C-C5-2-CTA-2	C	C5	3	5	91.46	5.940	0.1451	20	AAT	0.007254	92.15	5.985
NTP3961Q1-TC-T01-TC-UNT2-C-C5-2-CTA-3	C	C5	3	5	88.49	5.850	0.1453	20	DGM	0.007264	89.28	5.902
NTP3961Q1-TC-T01-TC-UNT2-D-C4-2-CTA-1	D	C4	4	4	89.66	5.950	0.1466	20	AGB	0.007328	91.25	6.055
NTP3961Q1-TC-T01-TC-UNT2-D-C4-2-CTA-2	D	C4	4	4	89.91	5.900	0.1463	20	AGT	0.007313	91.31	5.992
NTP3961Q1-TC-T01-TC-UNT2-D-C4-2-CTA-3	D	C4	4	4	90.85	5.860	0.1465	20	AGB	0.007323	92.40	5.960
NTP3961Q1-TC-T01-TC-UNT2-D-C5-2-CTA-1	D	C5	4	5	89.00	5.760	0.1473	20	AGM	0.007363	91.01	5.890
NTP3961Q1-TC-T01-TC-UNT2-D-C5-2-CTA-2	D	C5	4	5	91.90	5.890	0.1456	20	AGM	0.007278	92.89	5.953
NTP3961Q1-TC-T01-TC-UNT2-D-C5-2-CTA-3	D	C5	4	5	89.13	5.840	0.1475	20	AGM	0.007375	91.30	5.982
NTP3961Q1-TC-T01-TC-UNT2-E-C4-2-CTA-1	E	C4	5	4	91.20	5.850	0.1443	20	M(A,D)GV	0.007216	91.40	5.863
NTP3961Q1-TC-T01-TC-UNT2-E-C4-2-CTA-2	E	C4	5	4	89.51	5.890	0.1447	20	M(A,D)GV	0.007233	89.92	5.917
NTP3961Q1-TC-T01-TC-UNT2-E-C4-2-CTA-3	E	C4	5	4	90.12	5.840	0.1440	20	M(A,D)GV	0.007199	90.11	5.839
NTP3961Q1-TC-T01-TC-UNT2-E-C5-2-CTA-1	E	C5	5	5	90.54	5.960	0.1441	20	M(A,D)GV	0.007203	90.57	5.962
NTP3961Q1-TC-T01-TC-UNT2-E-C5-2-CTA-2	E	C5	5	5	88.93	5.850	0.1440	20	M(A,D)GV	0.007202	88.95	5.851
NTP3961Q1-TC-T01-TC-UNT2-E-C5-2-CTA-3	E	C5	5	5	88.88	5.900	0.1453	20	M(A,D)GV	0.007265	89.68	5.953

	Strength [ksi]	Modulus [Msi]
Average	90.15	5.884
Standard Dev.	1.400	0.1450
Coeff. of Var. [%]	1.553	2.463
Min.	88.49	5.490
Max.	95.09	6.240
Number of Spec.	30	30

	t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
$Average_{norm}$	0.007276	91.09	5.945
$Standard\ Dev._{norm}$		1.367	0.1363
$Coeff.\ of\ Var.\ [\%]_{norm}$		1.500	2.292
Min.	0.007005	88.64	5.604
Max.	0.007421	94.23	6.184
Number of Spec.	30	30	30


Laminate Unnotched Tension Properties (UNT2)--CTA (-65°F)
Normalized Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Unnotched Tension Strength [ksi]
0
2
4
6
8
10
12
14
16
18
20
0
1
2
3
4
5
6
0
10
20
30
40
50
60
70
80
90
100


Laminate Unnotched Tension Properties (UNT2)--CTA (-65°F)
Normalized Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Unnotched Tension Modulus [Msi]
0
1
2
3
4
5
6
7
0
2
4
6
8
10
12
14
16
18
20
0
1
2
3
4
5
6

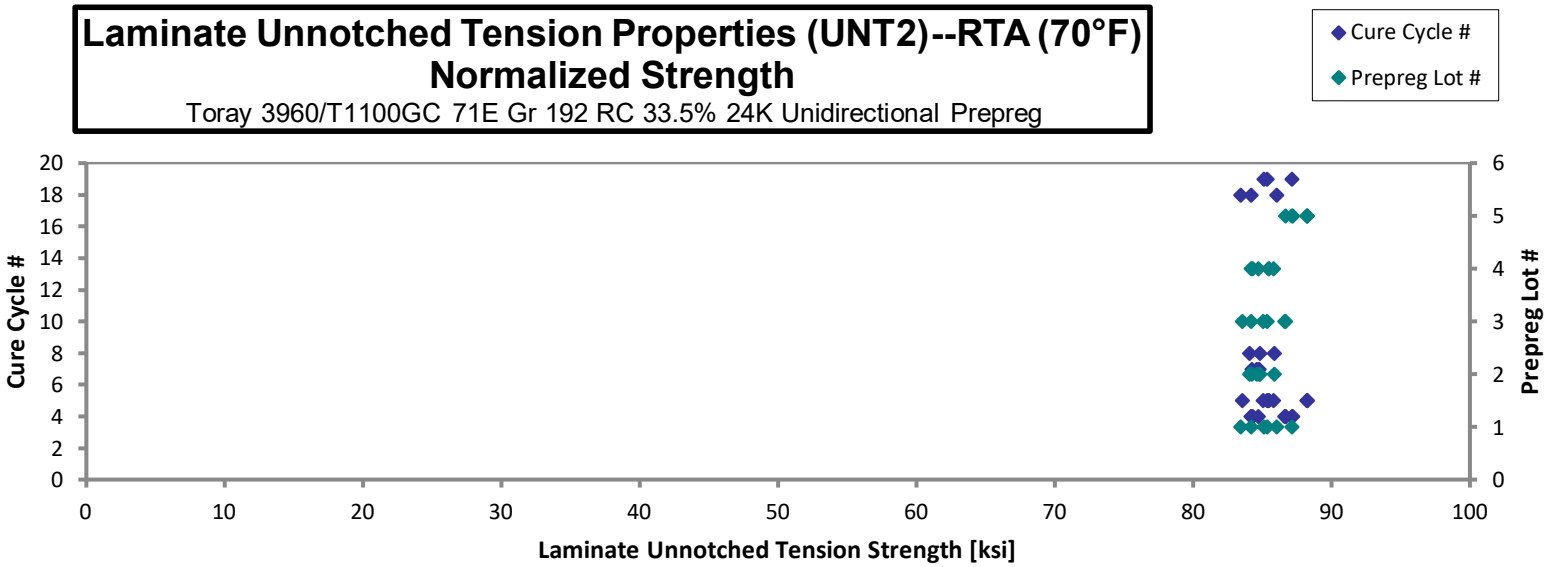
Laminate Unnotched Tension Properties (UNT2)--RTA (70°F)
Strength & Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

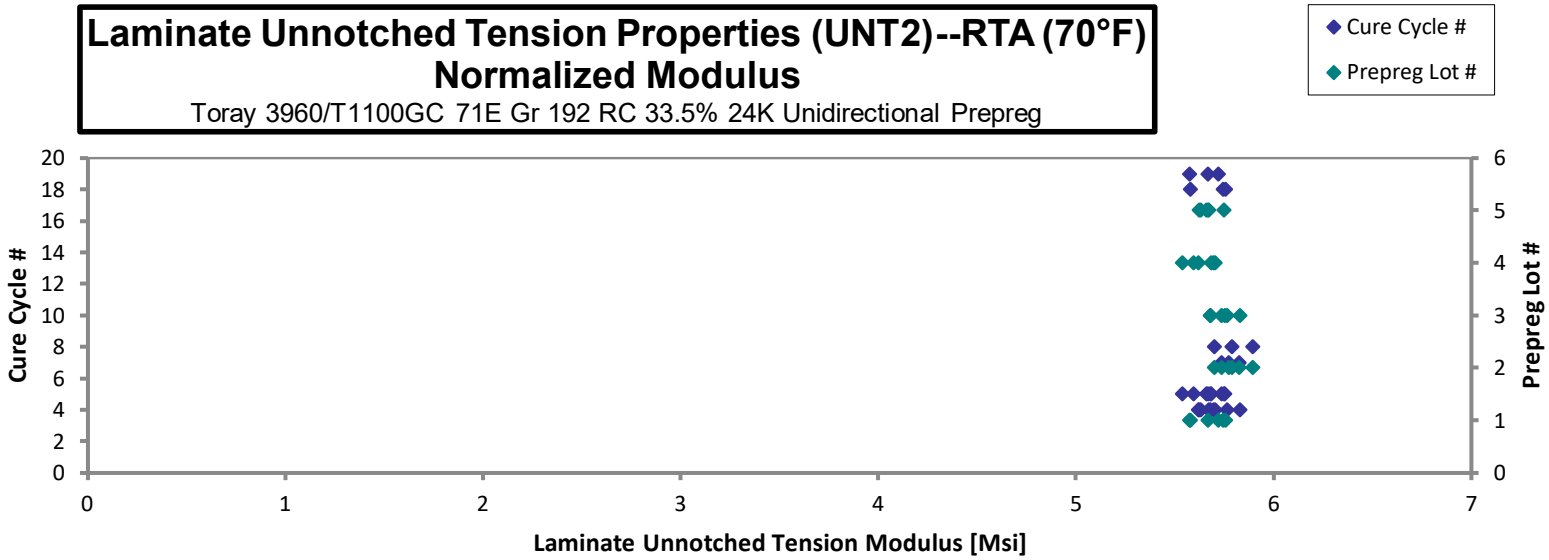
normalizing t_{ply} [in]: 0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Modulus [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
NTP3961Q1-TC-T01-BT-UNT2-A-C18-1-RTA-1	A	C18	1	18	84.25	5.640	0.1470	20	AWB	0.007352	86.02	5.759
NTP3961Q1-TC-T01-BT-UNT2-A-C18-1-RTA-2	A	C18	1	18	82.07	5.440	0.1478	20	AGB	0.007388	84.21	5.582
NTP3961Q1-TC-T01-BT-UNT2-A-C18-1-RTA-3	A	C18	1	18	81.48	5.610	0.1475	20	AGT	0.007374	83.44	5.745
NTP3961Q1-TC-T01-BT-UNT2-A-C19-1-RTA-1	A	C19	1	19	84.76	5.650	0.1446	20	AGM	0.007228	85.08	5.672
NTP3961Q1-TC-T01-BT-UNT2-A-C19-1-RTA-2	A	C19	1	19	86.52	5.680	0.1450	20	AGM	0.007252	87.14	5.721
NTP3961Q1-TC-T01-BT-UNT2-A-C19-1-RTA-3	A	C19	1	19	84.79	5.540	0.1450	20	AGM	0.007248	85.35	5.577
NTP3961Q1-TC-T01-BT-UNT2-B-C7-1-RTA-1	B	C7	2	7	82.99	5.720	0.1467	20	AGM	0.007337	84.56	5.828
NTP3961Q1-TC-T01-BT-UNT2-B-C7-1-RTA-2	B	C7	2	7	82.26	5.640	0.1475	20	AGM	0.007375	84.26	5.777
NTP3961Q1-TC-T01-BT-UNT2-B-C7-1-RTA-3	B	C7	2	7	83.16	5.630	0.1468	20	AGM	0.007338	84.75	5.738
NTP3961Q1-TC-T01-BT-UNT2-B-C8-1-RTA-1	B	C8	2	8	83.82	5.760	0.1475	20	AGM	0.007373	85.83	5.898
NTP3961Q1-TC-T01-BT-UNT2-B-C8-1-RTA-2	B	C8	2	8	83.14	5.680	0.1469	20	AGM	0.007343	84.79	5.793
NTP3961Q1-TC-T01-BT-UNT2-B-C8-1-RTA-3	B	C8	2	8	81.95	5.560	0.1477	20	AGM	0.007387	84.07	5.704
NTP3961Q1-TC-T01-TC-UNT2-C-C4-2-RTA-1	C	C4	3	4	84.74	5.640	0.1473	20	M(D,A)GM	0.007363	86.66	5.768
NTP3961Q1-TC-T01-TC-UNT2-C-C4-2-RTA-2	C	C4	3	4	82.96	5.600	0.1462	20	M(D,A)GM	0.007308	84.20	5.684
NTP3961Q1-TC-T01-TC-UNT2-C-C4-2-RTA-3	C	C4	3	4	85.12	5.730	0.1465	20	M(D,A)GM	0.007327	86.62	5.831
NTP3961Q1-TC-T01-TC-UNT2-C-C5-2-RTA-1	C	C5	3	5	81.87	5.570	0.1470	20	M(D,A)GM	0.007348	83.55	5.684
NTP3961Q1-TC-T01-TC-UNT2-C-C5-2-RTA-2	C	C5	3	5	83.74	5.630	0.1468	20	M(D,A)GM	0.007338	85.35	5.738
NTP3961Q1-TC-T01-TC-UNT2-C-C5-2-RTA-3	C	C5	3	5	83.49	5.650	0.1467	20	M(D,A)GM	0.007333	85.03	5.754
NTP3961Q1-TC-T01-TC-UNT2-D-C4-2-RTA-1	D	C4	4	4	82.82	5.600	0.1466	20	AGM	0.007328	84.29	5.699
NTP3961Q1-TC-T01-TC-UNT2-D-C4-2-RTA-2	D	C4	4	4	82.80	5.580	0.1473	20	AGM	0.007365	84.70	5.708
NTP3961Q1-TC-T01-TC-UNT2-D-C4-2-RTA-3	D	C4	4	4	83.42	5.570	0.1453	20	AGM	0.007265	84.17	5.620
NTP3961Q1-TC-T01-TC-UNT2-D-C5-2-RTA-1	D	C5	4	5	84.60	5.630	0.1455	20	AGM	0.007273	85.45	5.687
NTP3961Q1-TC-T01-TC-UNT2-D-C5-2-RTA-2	D	C5	4	5	84.37	5.450	0.1464	20	AGM	0.007320	85.78	5.541
NTP3961Q1-TC-T01-TC-UNT2-D-C5-2-RTA-3	D	C5	4	5	84.56	5.540	0.1455	20	AGM	0.007275	85.44	5.598
NTP3961Q1-TC-T01-TC-UNT2-E-C4-2-RTA-1	E	C4	5	4	86.34	5.620	0.1454	20	AGM	0.007268	87.16	5.673
NTP3961Q1-TC-T01-TC-UNT2-E-C4-2-RTA-2	E	C4	5	4	86.78	5.640	0.1438	20	AGM	0.007192	86.68	5.633
NTP3961Q1-TC-T01-TC-UNT2-E-C4-2-RTA-3	E	C4	5	4	86.81	5.600	0.1447	20	AGM	0.007233	87.21	5.626
NTP3961Q1-TC-T01-TC-UNT2-E-C5-2-RTA-1	E	C5	5	5	88.11	5.660	0.1442	20	AGM	0.007211	88.24	5.668
NTP3961Q1-TC-T01-TC-UNT2-E-C5-2-RTA-2	E	C5	5	5	87.89	5.730	0.1445	20	AGM	0.007226	88.20	5.750
NTP3961Q1-TC-T01-TC-UNT2-E-C5-2-RTA-3	E	C5	5	5	88.34	5.670	0.1438	20	AGM	0.007192	88.24	5.663

	Strength [ksi]	Modulus [Msi]
Average	84.33	5.622
Standard Dev.	1.928	0.07294
Coeff. of Var. [%]	2.286	1.297
Min.	81.48	5.440
Max.	88.34	5.760
Number of Spec.	30	30

	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
$Average_{norm}$	0.007305	85.55	5.704
$Standard\ Dev._{norm}$		1.392	0.08134
$Coeff.\ of\ Var.\ [\%]_{norm}$		1.628	1.426
Min.	0.007192	83.44	5.541
Max.	0.007388	88.24	5.898
Number of Spec.	30	30	30


Laminate Unnotched Tension Properties (UNT2)--RTA (70°F)
Normalized Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Unnotched Tension Strength [ksi]
0
2
4
6
8
10
12
14
16
18
20
0
1
2
3
4
5
6
0
10
20
30
40
50
60
70
80
90
100


Laminate Unnotched Tension Properties (UNT2)--RTA (70°F)
Normalized Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Unnotched Tension Modulus [Msi]
0
2
4
6
8
10
12
14
16
18
20
1
3
5
7

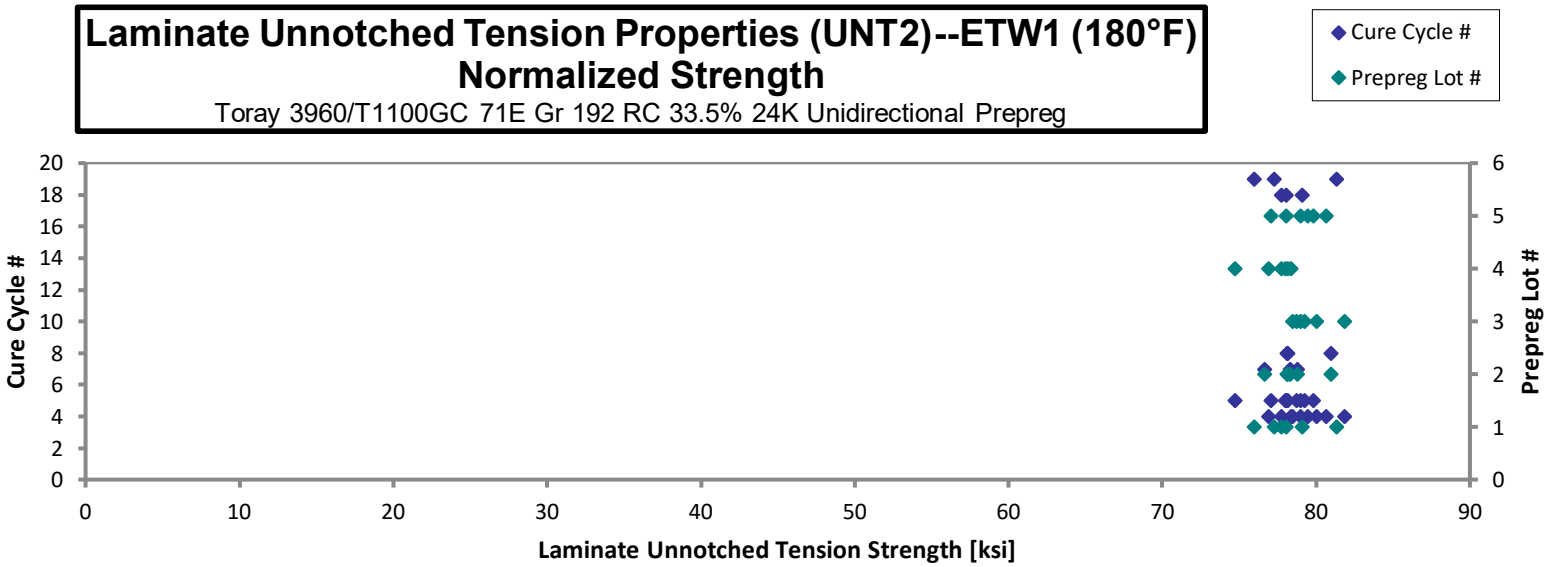
Laminate Unnotched Tension Properties (UNT2)--ETW1 (180°F)
Strength & Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

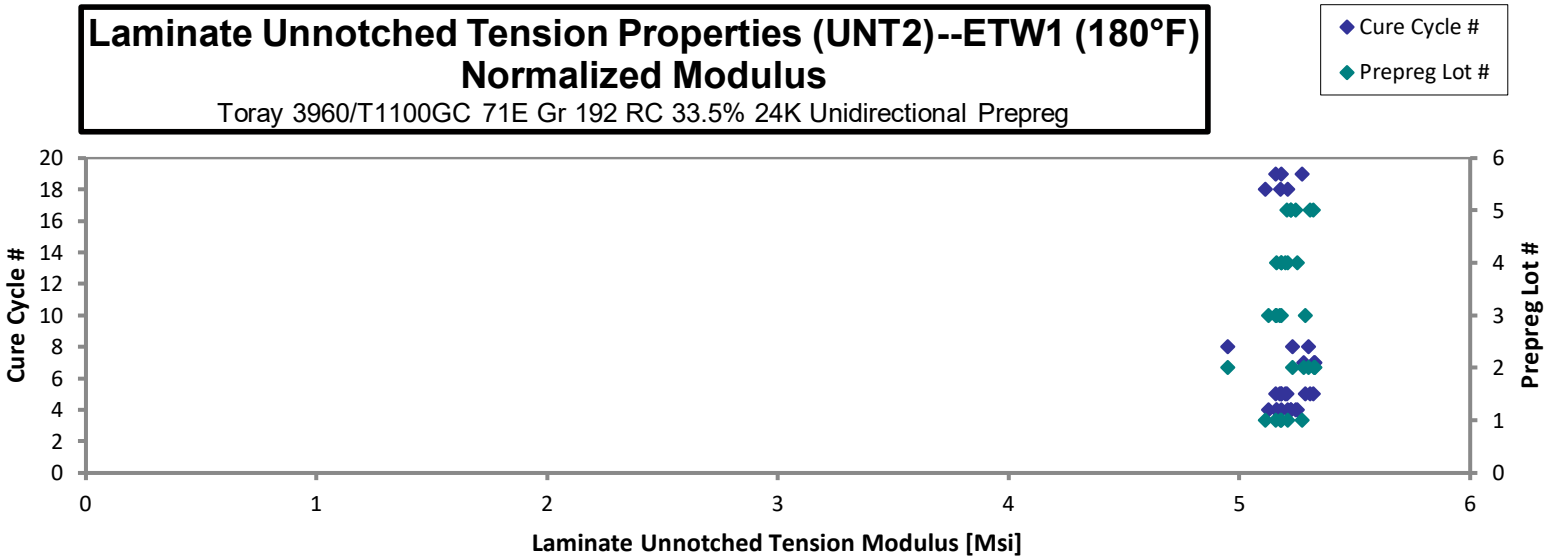
normalizing t_{ply} [in]: 0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Modulus [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
NTP3961Q1-TC-T01-BT-UNT2-A-C18-1-ETW1-1	A	C18	1	18	76.57	5.020	0.1467	20	(D/A)GV	0.007337	78.02	5.115
NTP3961Q1-TC-T01-BT-UNT2-A-C18-1-ETW1-2	A	C18	1	18	76.53	5.130	0.1463	20	(D/A)GV	0.007314	77.74	5.211
NTP3961Q1-TC-T01-BT-UNT2-A-C18-1-ETW1-3	A	C18	1	18	77.55	5.080	0.1468	20	(D/A)GV	0.007340	79.06	5.179
NTP3961Q1-TC-T01-BT-UNT2-A-C19-1-ETW1-1	A	C19	1	19	75.41	5.120	0.1451	20	XGV	0.007254	75.98	5.158
NTP3961Q1-TC-T01-BT-UNT2-A-C19-1-ETW1-2	A	C19	1	19	81.09	5.260	0.1444	20	XGV	0.007220	81.32	5.275
NTP3961Q1-TC-T01-BT-UNT2-A-C19-1-ETW1-3	A	C19	1	19	77.04	5.170	0.1444	20	XGV	0.007220	77.25	5.184
NTP3961Q1-TC-T01-BT-UNT2-B-C7-1-ETW1-1	B	C7	2	7	77.55	5.200	0.1462	20	DGM	0.007312	78.75	5.281
NTP3961Q1-TC-T01-BT-UNT2-B-C7-1-ETW1-2	B	C7	2	7	76.45	5.200	0.1475	20	DGM	0.007374	78.30	5.326
NTP3961Q1-TC-T01-BT-UNT2-B-C7-1-ETW1-3	B	C7	2	7	74.21	5.160	0.1487	20	DGM	0.007436	76.64	5.329
NTP3961Q1-TC-T01-BT-UNT2-B-C8-1-ETW1-1	B	C8	2	8	78.63	5.150	0.1482	20	DGM	0.007411	80.93	5.301
NTP3961Q1-TC-T01-BT-UNT2-B-C8-1-ETW1-2	B	C8	2	8	76.95	4.880	0.1462	20	DGM	0.007308	78.10	4.953
NTP3961Q1-TC-T01-BT-UNT2-B-C8-1-ETW1-3	B	C8	2	8	76.32	5.110	0.1475	20	DGM	0.007373	78.15	5.233
NTP3961Q1-TC-T01-TC-UNT2-C-C4-2-ETW1-1	C	C4	3	4	80.55	5.100	0.1463	20	DGM	0.007316	81.84	5.182
NTP3961Q1-TC-T01-TC-UNT2-C-C4-2-ETW1-2	C	C4	3	4	78.77	5.080	0.1463	20	DGM	0.007316	80.03	5.161
NTP3961Q1-TC-T01-TC-UNT2-C-C4-2-ETW1-3	C	C4	3	4	76.96	5.030	0.1468	20	DGM	0.007341	78.46	5.128
NTP3961Q1-TC-T01-TC-UNT2-C-C5-2-ETW1-1	C	C5	3	5	78.12	5.230	0.1456	20	DGM	0.007281	78.99	5.288
NTP3961Q1-TC-T01-TC-UNT2-C-C5-2-ETW1-2	C	C5	3	5	78.35	5.100	0.1457	20	DGM	0.007283	79.25	5.159
NTP3961Q1-TC-T01-TC-UNT2-C-C5-2-ETW1-3	C	C5	3	5	77.87	5.120	0.1456	20	DGM	0.007278	78.71	5.175
NTP3961Q1-TC-T01-TC-UNT2-D-C4-2-ETW1-1	D	C4	4	4	76.00	5.150	0.1457	20	DGV	0.007285	76.90	5.211
NTP3961Q1-TC-T01-TC-UNT2-D-C4-2-ETW1-2	D	C4	4	4	76.49	5.170	0.1464	20	DGV	0.007318	77.74	5.254
NTP3961Q1-TC-T01-TC-UNT2-D-C4-2-ETW1-3	D	C4	4	4	77.54	5.110	0.1455	20	DGV	0.007275	78.35	5.163
NTP3961Q1-TC-T01-TC-UNT2-D-C5-2-ETW1-1	D	C5	4	5	74.00	5.150	0.1454	20	DGV	0.007270	74.72	5.200
NTP3961Q1-TC-T01-TC-UNT2-D-C5-2-ETW1-2	D	C5	4	5	76.71	5.100	0.1464	20	DGV	0.007320	77.99	5.185
NTP3961Q1-TC-T01-TC-UNT2-D-C5-2-ETW1-3	D	C5	4	5	77.18	5.120	0.1458	20	DGV	0.007288	78.12	5.182
NTP3961Q1-TC-T01-TC-UNT2-E-C4-2-ETW1-3	E	C4	5	4	79.06	5.220	0.1447	20	DGV	0.007234	79.43	5.245
NTP3961Q1-TC-T01-TC-UNT2-E-C4-2-ETW1-1	E	C4	5	4	78.13	5.170	0.1456	20	DGV	0.007279	78.99	5.227
NTP3961Q1-TC-T01-TC-UNT2-E-C4-2-ETW1-2	E	C4	5	4	80.27	5.200	0.1447	20	DGV	0.007233	80.63	5.223
NTP3961Q1-TC-T01-TC-UNT2-E-C5-2-ETW1-1	E	C5	5	5	79.38	5.280	0.1448	20	DGV	0.007238	79.79	5.308
NTP3961Q1-TC-T01-TC-UNT2-E-C5-2-ETW1-2	E	C5	5	5	76.88	5.310	0.1444	20	DGV	0.007218	77.07	5.323
NTP3961Q1-TC-T01-TC-UNT2-E-C5-2-ETW1-3	E	C5	5	5	78.09	5.210	0.1439	20	DGV	0.007195	78.04	5.206

	Strength [ksi]	Modulus [Msi]
Average	77.49	5.144
Standard Dev.	1.636	0.08411
Coeff. of Var. [%]	2.112	1.635
Min.	74.00	4.880
Max.	81.09	5.310
Number of Spec.	30	30

	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
$Average_{norm}$	0.007295	78.51	5.212
$Standard\ Dev._{norm}$		1.538	0.07749
$Coeff.\ of\ Var.\ [\%]_{norm}$		1.958	1.487
Min.	0.007195	74.72	4.953
Max.	0.007436	81.84	5.329
Number of Spec.	30	30	30


Laminate Unnotched Tension Properties (UNT2)--ETW1 (180°F)
Normalized Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Unnotched Tension Strength [ksi]
0
2
4
6
8
10
12
14
16
18
20
0
1
2
3
4
5
6
0
10
20
30
40
50
60
70
80
90


Laminate Unnotched Tension Properties (UNT2)--ETW1 (180°F)
Normalized Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Unnotched Tension Modulus [Msi]
0
2
4
6
8
10
12
14
16
18
20
1
3
5

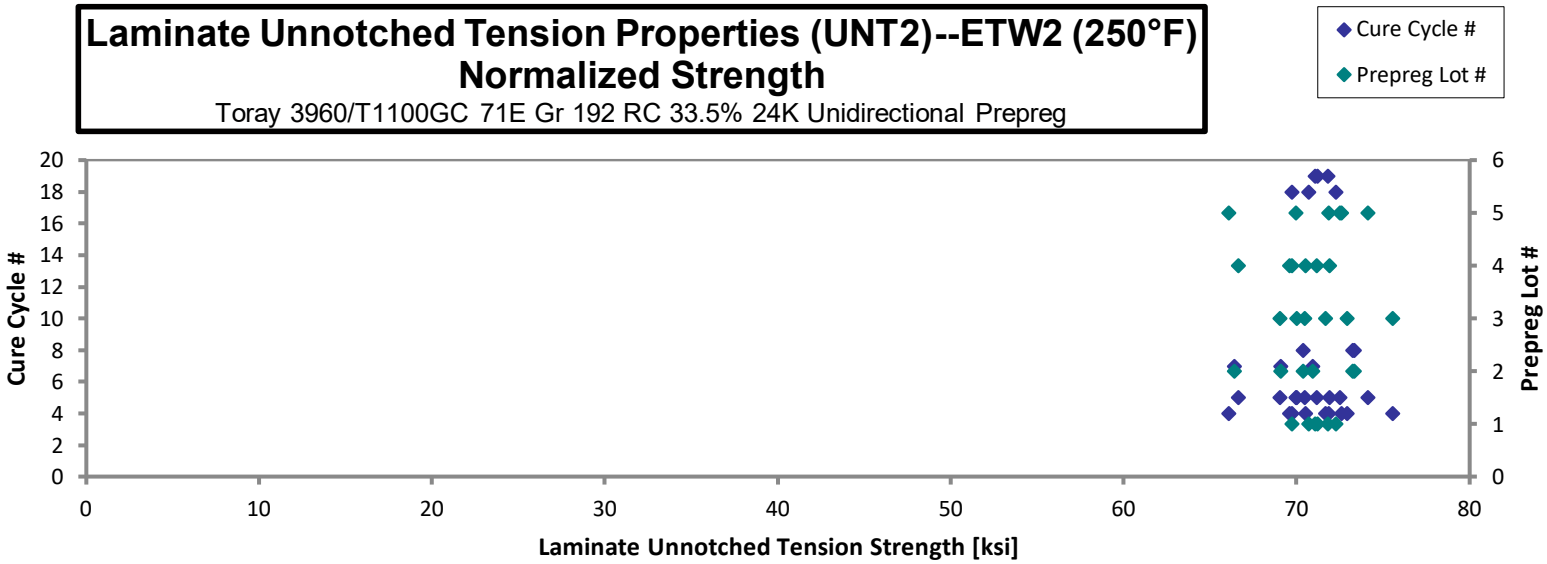
Laminate Unnotched Tension Properties (UNT2)--ETW2 (250°F)
Strength & Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

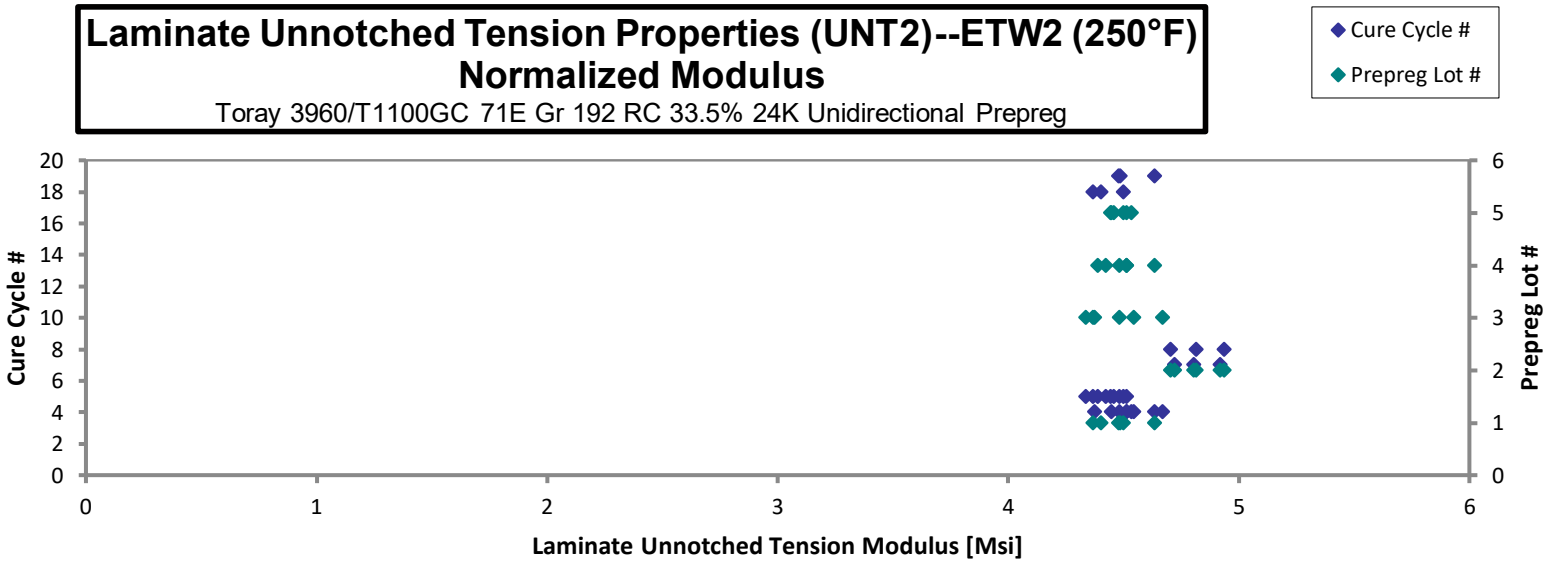
normalizing t_{ply} [in]
0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Modulus [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
NTP3961Q1-TC-T01-BT-UNT2-A-C18-1-ETW2-1	A	C18	1	18	71.57	4.450	0.1455	20	M(D,L)VV	0.007275	72.32	4.496
NTP3961Q1-TC-T01-BT-UNT2-A-C18-1-ETW2-2	A	C18	1	18	69.90	4.350	0.1457	20	M(D,L)VV	0.007287	70.74	4.402
NTP3961Q1-TC-T01-BT-UNT2-A-C18-1-ETW2-3	A	C18	1	18	68.39	4.280	0.1469	20	M(D,L)VV	0.007344	69.76	4.366
NTP3961Q1-TC-T01-BT-UNT2-A-C19-1-ETW2-2	A	C19	1	19	71.78	4.630	0.1441	20	M(D,L)VV	0.007204	71.82	4.633
NTP3961Q1-TC-T01-BT-UNT2-A-C19-1-ETW2-3	A	C19	1	19	70.49	4.440	0.1452	20	M(D,L)VV	0.007262	71.09	4.478
NTP3961Q1-TC-T01-BT-UNT2-A-C19-1-ETW2-4	A	C19	1	19	70.18	4.420	0.1461	20	M(D,L)VV	0.007307	71.22	4.485
NTP3961Q1-TC-T01-BT-UNT2-B-C7-1-ETW2-1	B	C7	2	7	66.87	4.760	0.1488	20	DGM	0.007441	69.10	4.919
NTP3961Q1-TC-T01-BT-UNT2-B-C7-1-ETW2-2	B	C7	2	7	64.33	4.570	0.1487	20	DGM	0.007436	66.43	4.719
NTP3961Q1-TC-T01-BT-UNT2-B-C7-1-ETW2-3	B	C7	2	7	69.02	4.670	0.1481	20	DGM	0.007404	70.98	4.802
NTP3961Q1-TC-T01-BT-UNT2-B-C8-1-ETW2-1	B	C8	2	8	71.83	4.830	0.1471	20	DGM	0.007355	73.38	4.934
NTP3961Q1-TC-T01-BT-UNT2-B-C8-1-ETW2-2	B	C8	2	8	68.72	4.590	0.1476	20	DGM	0.007378	70.42	4.703
NTP3961Q1-TC-T01-BT-UNT2-B-C8-1-ETW2-3	B	C8	2	8	71.24	4.680	0.1481	20	DGM	0.007406	73.27	4.814
NTP3961Q1-TC-T01-TC-UNT2-C-C4-2-ETW2-1	C	C4	3	4	71.21	4.510	0.1450	20	DGM	0.007251	71.71	4.542
NTP3961Q1-TC-T01-TC-UNT2-C-C4-2-ETW2-2	C	C4	3	4	72.21	4.330	0.1455	20	DGM	0.007273	72.94	4.374
NTP3961Q1-TC-T01-TC-UNT2-C-C4-2-ETW2-3	C	C4	3	4	74.83	4.620	0.1455	20	DGM	0.007273	75.58	4.667
NTP3961Q1-TC-T01-TC-UNT2-C-C5-2-ETW2-1	C	C5	3	5	67.70	4.280	0.1469	20	DGM	0.007347	69.08	4.367
NTP3961Q1-TC-T01-TC-UNT2-C-C5-2-ETW2-2	C	C5	3	5	68.79	4.260	0.1466	20	DGM	0.007328	70.01	4.335
NTP3961Q1-TC-T01-TC-UNT2-C-C5-2-ETW2-3	C	C5	3	5	69.25	4.400	0.1466	20	DGM	0.007329	70.49	4.479
NTP3961Q1-TC-T01-TC-UNT2-D-C4-2-ETW2-1	D	C4	4	4	68.93	4.460	0.1457	20	DGM	0.007285	69.74	4.513
NTP3961Q1-TC-T01-TC-UNT2-D-C4-2-ETW2-2	D	C4	4	4	69.09	4.600	0.1451	20	DGM	0.007253	69.59	4.634
NTP3961Q1-TC-T01-TC-UNT2-D-C4-2-ETW2-3	D	C4	4	4	69.10	4.390	0.1470	20	DGM	0.007350	70.54	4.481
NTP3961Q1-TC-T01-TC-UNT2-D-C5-2-ETW2-1	D	C5	4	5	69.73	4.330	0.1470	20	DGM	0.007350	71.18	4.420
NTP3961Q1-TC-T01-TC-UNT2-D-C5-2-ETW2-2	D	C5	4	5	65.82	4.330	0.1459	20	DGM	0.007293	66.67	4.386
NTP3961Q1-TC-T01-TC-UNT2-D-C5-2-ETW2-3	D	C5	4	5	70.48	4.420	0.1470	20	DGM	0.007350	71.95	4.512
NTP3961Q1-TC-T01-TC-UNT2-E-C4-2-ETW2-1	E	C4	5	4	71.08	4.460	0.1456	20	DGM	0.007282	71.88	4.510
NTP3961Q1-TC-T01-TC-UNT2-E-C4-2-ETW2-2	E	C4	5	4	65.69	4.420	0.1449	20	DGM	0.007244	66.09	4.447
NTP3961Q1-TC-T01-TC-UNT2-E-C4-2-ETW2-3	E	C4	5	4	72.12	4.500	0.1450	20	DGM	0.007250	72.62	4.531
NTP3961Q1-TC-T01-TC-UNT2-E-C5-2-ETW2-1	E	C5	5	5	72.05	4.470	0.1449	20	DGM	0.007247	72.52	4.499
NTP3961Q1-TC-T01-TC-UNT2-E-C5-2-ETW2-2	E	C5	5	5	69.46	4.410	0.1451	20	DGM	0.007253	69.97	4.442
NTP3961Q1-TC-T01-TC-UNT2-E-C5-2-ETW2-3	E	C5	5	5	74.38	4.470	0.1436	20	DGM	0.007179	74.16	4.457

	Strength [ksi]	Modulus [Msi]
Average	**69.87**	**4.478**
Standard Dev.	**2.370**	**0.1440**
Coeff. of Var. [%]	**3.392**	**3.216**
Min.	**64.33**	**4.260**
Max.	**74.83**	**4.830**
Number of Spec.	**30**	**30**

	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
$Average_{norm}$	**0.007308**	**70.91**	**4.545**
Standard $Dev._{norm}$		**2.149**	**0.1625**
Coeff. of Var. $[\%]_{norm}$		**3.031**	**3.576**
Min.	**0.007179**	**66.09**	**4.335**
Max.	**0.007441**	**75.58**	**4.934**
Number of Spec.	**30**	**30**	**30**


Laminate Unnotched Tension Properties (UNT2)--ETW2 (250°F)
Normalized Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Unnotched Tension Strength [ksi]
0
2
4
6
8
10
12
14
16
18
20
0
1
2
3
4
5
6
0
10
20
30
40
50
60
70
80


Laminate Unnotched Tension Properties (UNT2)--ETW2 (250°F)
Normalized Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Unnotched Tension Modulus [Msi]
0
2
4
6
8
10
12
14
16
18
20
1
3
5

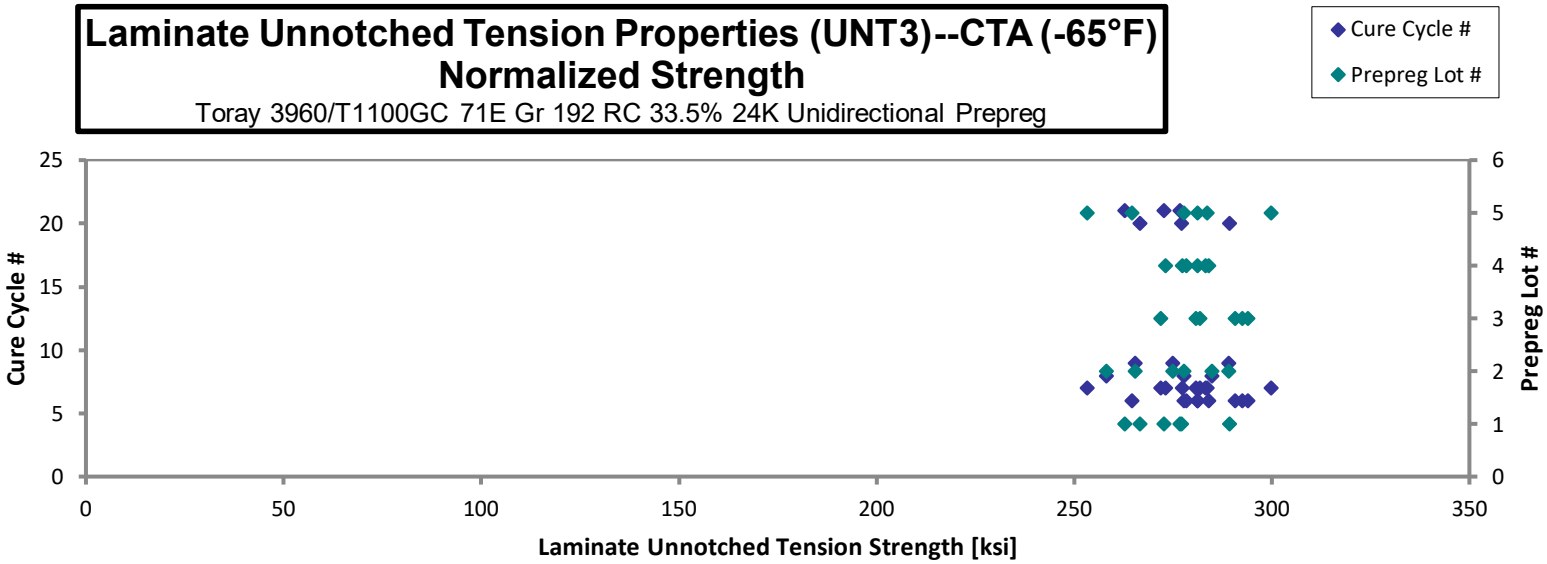
4.12 “50/40/10” Unnotched Tension 3 Properties (UNT3)

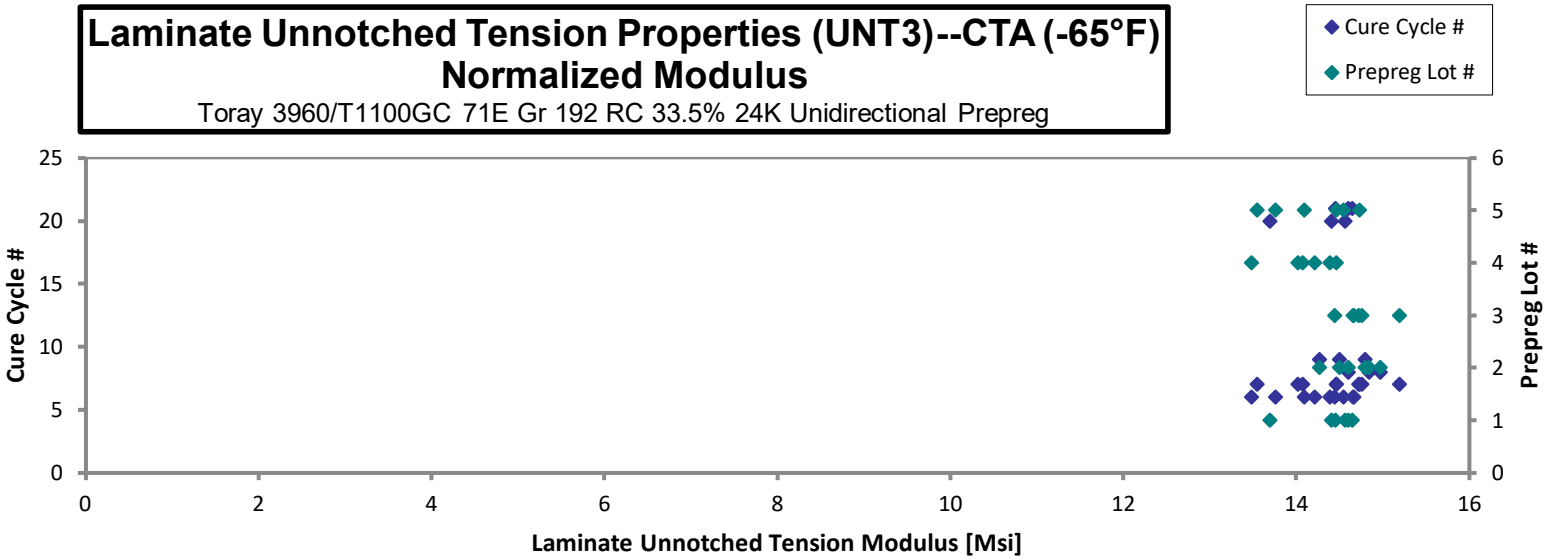
Laminate Unnotched Tension Properties (UNT3)--CTA (-65°F)
Strength & Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

normalizing t_{ply} [in]: 0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Modulus [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
NTP3961Q1-TC-T01-BT-UNT3-A-C20-1-CTA-1	A	C20	1	20	286.6	14.16	0.1393	20	XGV	0.006964	277.2	13.70
NTP3961Q1-TC-T01-BT-UNT3-A-C20-1-CTA-2	A	C20	1	20	287.8	14.34	0.1448	20	XGV	0.007239	289.3	14.42
NTP3961Q1-TC-T01-BT-UNT3-A-C20-1-CTA-3	A	C20	1	20	259.5	14.18	0.1479	20	XGB	0.007396	266.6	14.57
NTP3961Q1-TC-T01-BT-UNT3-A-C21-1-CTA-1	A	C21	1	21	275.7	14.82	0.1424	20	XGV	0.007120	272.6	14.66
NTP3961Q1-TC-T01-BT-UNT3-A-C21-1-CTA-2	A	C21	1	21	259.9	14.45	0.1456	20	XGV	0.007280	262.7	14.61
NTP3961Q1-TC-T01-BT-UNT3-A-C21-1-CTA-3	A	C21	1	21	273.0	14.26	0.1460	20	XGV	0.007299	276.7	14.46
NTP3961Q1-TC-T01-BT-UNT3-B-C8-1-CTA-1	B	C8	2	8	277.5	14.47	0.1478	20	XGV	0.007388	284.7	14.85
NTP3961Q1-TC-T01-BT-UNT3-B-C8-1-CTA-3	B	C8	2	8	268.0	14.10	0.1492	20	XGV	0.007460	277.7	14.61
NTP3961Q1-TC-T01-BT-UNT3-B-C8-1-CTA-4	B	C8	2	8	251.3	14.59	0.1479	20	XGV	0.007393	258.1	14.98
NTP3961Q1-TC-T01-BT-UNT3-B-C9-1-CTA-1	B	C9	2	9	272.1	14.36	0.1455	20	XGV	0.007274	274.8	14.51
NTP3961Q1-TC-T01-BT-UNT3-B-C9-1-CTA-4	B	C9	2	9	286.8	14.16	0.1452	20	XGV	0.007259	289.1	14.28
NTP3961Q1-TC-T01-BT-UNT3-B-C9-1-CTA-5	B	C9	2	9	261.5	14.58	0.1462	20	XGV	0.007311	265.5	14.80
NTP3961Q1-TC-T01-TC-UNT3-C-C6-2-CTA-1	C	C6	3	6	287.3	14.41	0.1466	20	DGV	0.007330	292.5	14.67
NTP3961Q1-TC-T01-TC-UNT3-C-C6-2-CTA-2	C	C6	3	6	291.3	14.53	0.1453	20	XGV	0.007266	294.0	14.66
NTP3961Q1-TC-T01-TC-UNT3-C-C6-2-CTA-3	C	C6	3	6	286.8	14.25	0.1460	20	XGV	0.007299	290.8	14.45
NTP3961Q1-TC-T01-TC-UNT3-C-C7-2-CTA-1	C	C7	3	7	265.9	14.44	0.1472	20	XMV	0.007360	271.8	14.76
NTP3961Q1-TC-T01-TC-UNT3-C-C7-2-CTA-2	C	C7	3	7	278.5	15.03	0.1457	20	XMV	0.007283	281.7	15.20
NTP3961Q1-TC-T01-TC-UNT3-C-C7-2-CTA-3	C	C7	3	7	276.9	14.52	0.1461	20	XMV	0.007303	280.9	14.73
NTP3961Q1-TC-T01-TC-UNT3-D-C6-2-CTA-1	D	C6	4	6	275.2	13.19	0.1472	20	XGV	0.007360	281.3	13.48
NTP3961Q1-TC-T01-TC-UNT3-D-C6-2-CTA-2	D	C6	4	6	272.6	13.92	0.1471	20	XGT	0.007355	278.4	14.22
NTP3961Q1-TC-T01-TC-UNT3-D-C6-2-CTA-3	D	C6	4	6	279.3	14.15	0.1465	20	XGV	0.007323	284.0	14.39
NTP3961Q1-TC-T01-TC-UNT3-D-C7-2-CTA-1	D	C7	4	7	268.3	13.78	0.1466	20	XGM	0.007328	273.1	14.02
NTP3961Q1-TC-T01-TC-UNT3-D-C7-2-CTA-2	D	C7	4	7	278.9	13.86	0.1463	20	XGM	0.007313	283.2	14.08
NTP3961Q1-TC-T01-TC-UNT3-D-C7-2-CTA-3	D	C7	4	7	272.9	14.24	0.1464	20	XGT	0.007318	277.3	14.47
NTP3961Q1-TC-T01-TC-UNT3-E-C6-2-CTA-1	E	C6	5	6	266.4	13.86	0.1430	20	XGV	0.007152	264.6	13.77
NTP3961Q1-TC-T01-TC-UNT3-E-C6-2-CTA-2	E	C6	5	6	278.2	14.57	0.1438	20	XGV	0.007190	277.8	14.55
NTP3961Q1-TC-T01-TC-UNT3-E-C6-2-CTA-3	E	C6	5	6	281.5	14.12	0.1438	20	XGV	0.007190	281.1	14.10
NTP3961Q1-TC-T01-TC-UNT3-E-C7-2-CTA-1	E	C7	5	7	254.9	13.64	0.1431	20	XGV	0.007156	253.3	13.56
NTP3961Q1-TC-T01-TC-UNT3-E-C7-2-CTA-2	E	C7	5	7	297.8	14.64	0.1450	20	XGV	0.007248	299.8	14.74
NTP3961Q1-TC-T01-TC-UNT3-E-C7-2-CTA-3	E	C7	5	7	283.9	14.48	0.1439	20	XGV	0.007194	283.7	14.47

	Strength [ksi]	Modulus [Msi]		$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
Average	275.2	14.27	$Average_{norm}$	278.1	14.42
Standard Dev.	11.13	0.3702	$Standard\ Dev._{norm}$	10.75	0.4104
Coeff. of Var. [%]	4.043	2.595	Coeff. of Var. $[\%]_{norm}$	3.864	2.845
Min.	251.3	13.19	Min.	253.3	13.48
Max.	297.8	15.03	Max.	299.8	15.20
Number of Spec.	30	30	Number of Spec.	30	30


Laminate Unnotched Tension Properties (UNT3)--CTA (-65°F)
Normalized Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Unnotched Tension Strength [ksi]
0
5
10
15
20
25
0
1
2
3
4
5
6
0
50
100
150
200
250
300
350

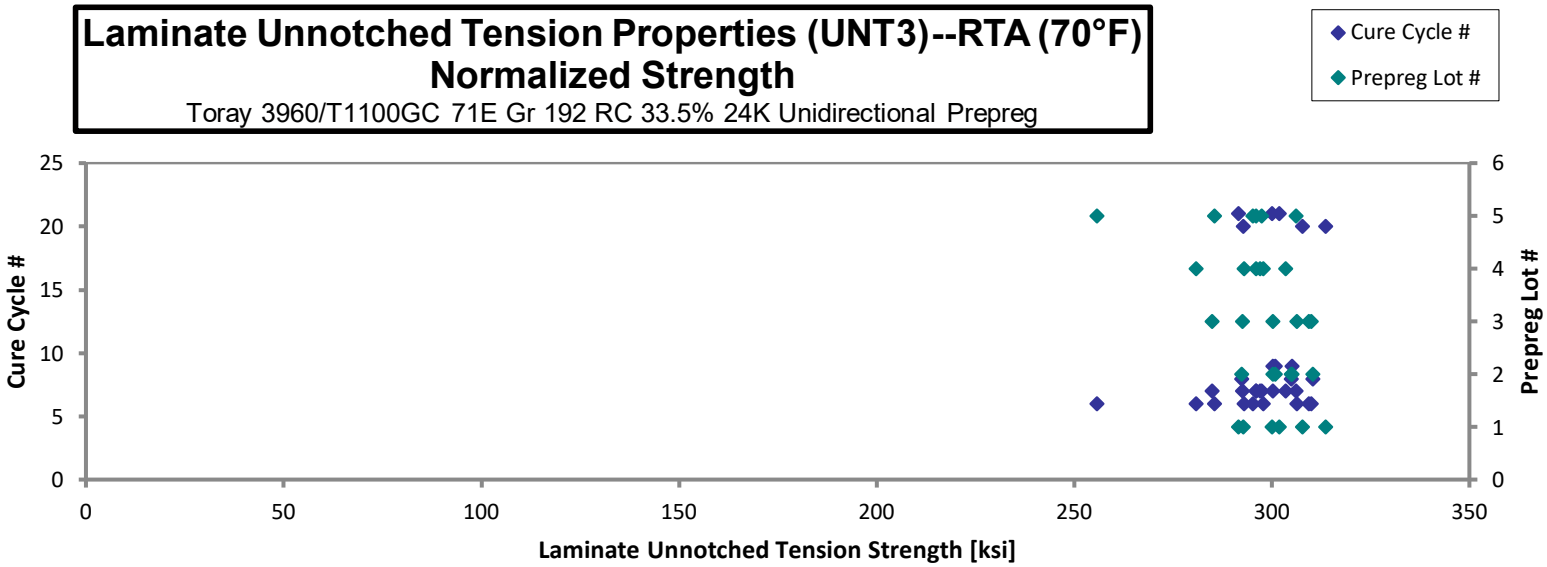

Laminate Unnotched Tension Properties (UNT3)--CTA (-65°F)
Normalized Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Unnotched Tension Modulus [Msi]
0
5
10
15
20
25
0
1
2
3
4
5
6
0
2
4
6
8
10
12
14
16

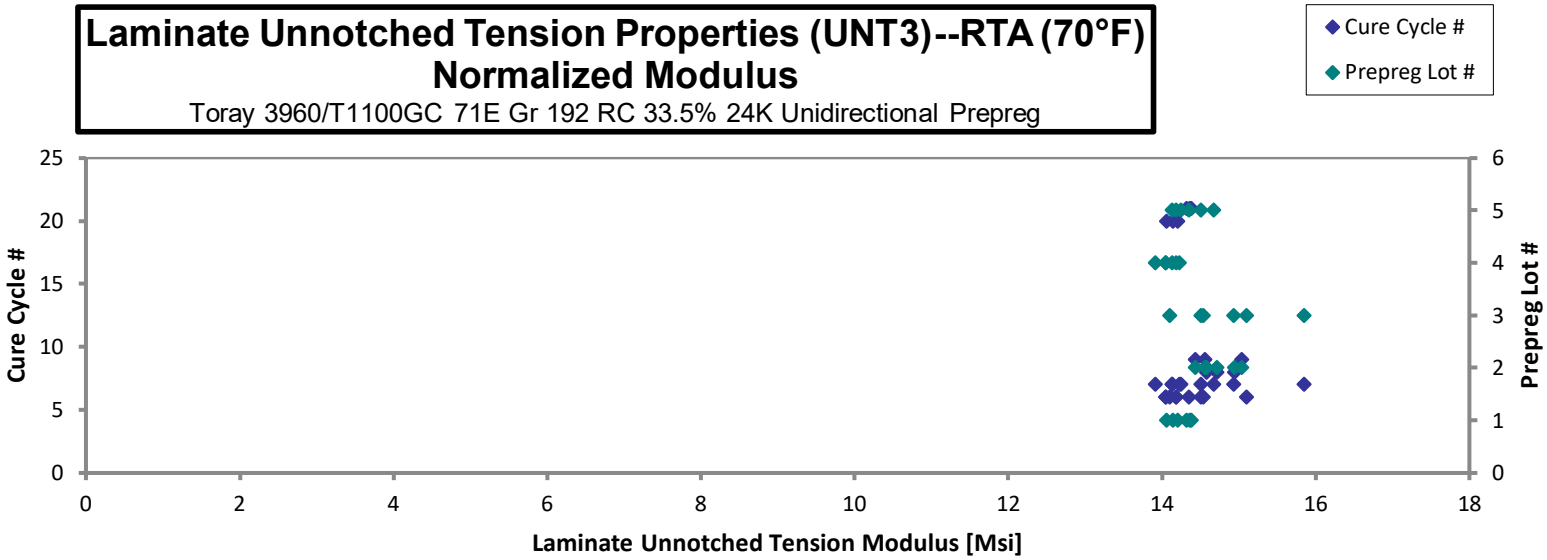
Laminate Unnotched Tension Properties (UNT3)--RTA (70°F)
Strength & Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

normalizing t_{ply} [in]
0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Modulus [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
NTP3961Q1-TC-T01-BT-UNT3-A-C20-1-RTA-1	A	C20	1	20	310.5	14.06	0.1455	20	AWB	0.007274	313.6	14.20
NTP3961Q1-TC-T01-BT-UNT3-A-C20-1-RTA-2	A	C20	1	20	291.0	14.06	0.1449	20	AGM	0.007243	292.7	14.14
NTP3961Q1-TC-T01-BT-UNT3-A-C20-1-RTA-3	A	C20	1	20	304.3	13.90	0.1456	20	AGT	0.007282	307.7	14.06
NTP3961Q1-TC-T01-BT-UNT3-A-C21-1-RTA-1	A	C21	1	21	288.0	14.20	0.1458	20	AGM	0.007289	291.6	14.37
NTP3961Q1-TC-T01-BT-UNT3-A-C21-1-RTA-3	A	C21	1	21	298.0	14.17	0.1459	20	AGM	0.007294	301.9	14.35
NTP3961Q1-TC-T01-BT-UNT3-A-C21-1-RTA-4	A	C21	1	21	297.2	14.18	0.1454	20	AGM	0.007268	300.0	14.31
NTP3961Q1-TC-T01-BT-UNT3-B-C8-1-RTA-1	B	C8	2	8	305.4	14.70	0.1463	20	AGT	0.007316	310.3	14.94
NTP3961Q1-TC-T01-BT-UNT3-B-C8-1-RTA-2	B	C8	2	8	299.6	14.46	0.1465	20	AGB	0.007326	304.9	14.71
NTP3961Q1-TC-T01-BT-UNT3-B-C8-1-RTA-3	B	C8	2	8	289.3	14.42	0.1456	20	AGT	0.007278	292.4	14.58
NTP3961Q1-TC-T01-BT-UNT3-B-C9-1-RTA-1	B	C9	2	9	295.6	14.80	0.1463	20	AGB	0.007314	300.3	15.03
NTP3961Q1-TC-T01-BT-UNT3-B-C9-1-RTA-2	B	C9	2	9	295.7	14.11	0.1486	20	AGM	0.007429	305.1	14.56
NTP3961Q1-TC-T01-BT-UNT3-B-C9-1-RTA-3	B	C9	2	9	296.6	14.22	0.1461	20	AGM	0.007304	300.8	14.43
NTP3961Q1-TC-T01-TC-UNT3-C-C6-2-RTA-1	C	C6	3	6	306.1	14.09	0.1441	20	AGT	0.007206	306.3	14.10
NTP3961Q1-TC-T01-TC-UNT3-C-C6-2-RTA-2	C	C6	3	6	304.1	14.26	0.1468	20	XAB	0.007338	309.9	14.53
NTP3961Q1-TC-T01-TC-UNT3-C-C6-2-RTA-4	C	C6	3	6	303.9	14.83	0.1466	20	AGT	0.007332	309.4	15.10
NTP3961Q1-TC-T01-TC-UNT3-C-C7-2-RTA-2	C	C7	3	7	281.6	15.67	0.1457	20	AGB	0.007283	284.9	15.85
NTP3961Q1-TC-T01-TC-UNT3-C-C7-2-RTA-3	C	C7	3	7	296.0	14.30	0.1461	20	AGB	0.007303	300.2	14.50
NTP3961Q1-TC-T01-TC-UNT3-C-C7-2-RTA-4	C	C7	3	7	286.2	14.60	0.1472	20	AGB	0.007361	292.6	14.93
NTP3961Q1-TC-T01-TC-UNT3-D-C6-2-RTA-1	D	C6	4	6	278.1	13.91	0.1454	20	XWB	0.007270	280.8	14.05
NTP3961Q1-TC-T01-TC-UNT3-D-C6-2-RTA-2	D	C6	4	6	291.1	13.87	0.1473	20	XGT	0.007363	297.7	14.18
NTP3961Q1-TC-T01-TC-UNT3-D-C6-2-RTA-3	D	C6	4	6	288.0	13.81	0.1465	20	XGM	0.007325	293.0	14.05
NTP3961Q1-TC-T01-TC-UNT3-D-C7-2-RTA-1	D	C7	4	7	287.8	13.74	0.1481	20	XGT	0.007403	295.9	14.13
NTP3961Q1-TC-T01-TC-UNT3-D-C7-2-RTA-2	D	C7	4	7	289.2	13.85	0.1479	20	XGB	0.007393	296.9	14.22
NTP3961Q1-TC-T01-TC-UNT3-D-C7-2-RTA-3	D	C7	4	7	298.3	13.68	0.1465	20	XGB	0.007323	303.4	13.91
NTP3961Q1-TC-T01-TC-UNT3-E-C6-2-RTA-1	E	C6	5	6	281.6	14.31	0.1459	20	XGB	0.007297	285.3	14.50
NTP3961Q1-TC-T01-TC-UNT3-E-C6-2-RTA-2	E	C6	5	6	257.4	14.28	0.1430	20	AGB	0.007150	255.6	14.18
NTP3961Q1-TC-T01-TC-UNT3-E-C6-2-RTA-3	E	C6	5	6	294.6	14.32	0.1443	20	XGT	0.007213	295.2	14.35
NTP3961Q1-TC-T01-TC-UNT3-E-C7-2-RTA-1	E	C7	5	7	292.1	14.06	0.1459	20	AGT	0.007295	295.9	14.25
NTP3961Q1-TC-T01-TC-UNT3-E-C7-2-RTA-2	E	C7	5	7	307.3	14.72	0.1435	20	AWT	0.007174	306.2	14.67
NTP3961Q1-TC-T01-TC-UNT3-E-C7-2-RTA-3	E	C7	5	7	297.4	14.12	0.1441	20	AGT	0.007203	297.5	14.13

Average	**293.7**	**14.26**		**Average$_{norm}$**	**0.007295**	**297.6**	**14.444**
Standard Dev.	**10.62**	**0.4065**		**Standard Dev.$_{norm}$**		**11.23**	**0.4101**
Coeff. of Var. [%]	**3.616**	**2.851**		**Coeff. of Var. [%]$_{norm}$**		**3.775**	**2.839**
Min.	**257.4**	**13.68**		**Min.**	**0.007150**	**255.6**	**13.91**
Max.	**310.5**	**15.67**		**Max.**	**0.007429**	**313.6**	**15.85**
Number of Spec.	**30**	**30**		**Number of Spec.**	**30**	**30**	**30**


Laminate Unnotched Tension Properties (UNT3)--RTA (70°F)
Normalized Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Unnotched Tension Strength [ksi]
0
5
10
15
20
25
0
1
2
3
4
5
6
0
50
100
150
200
250
300
350

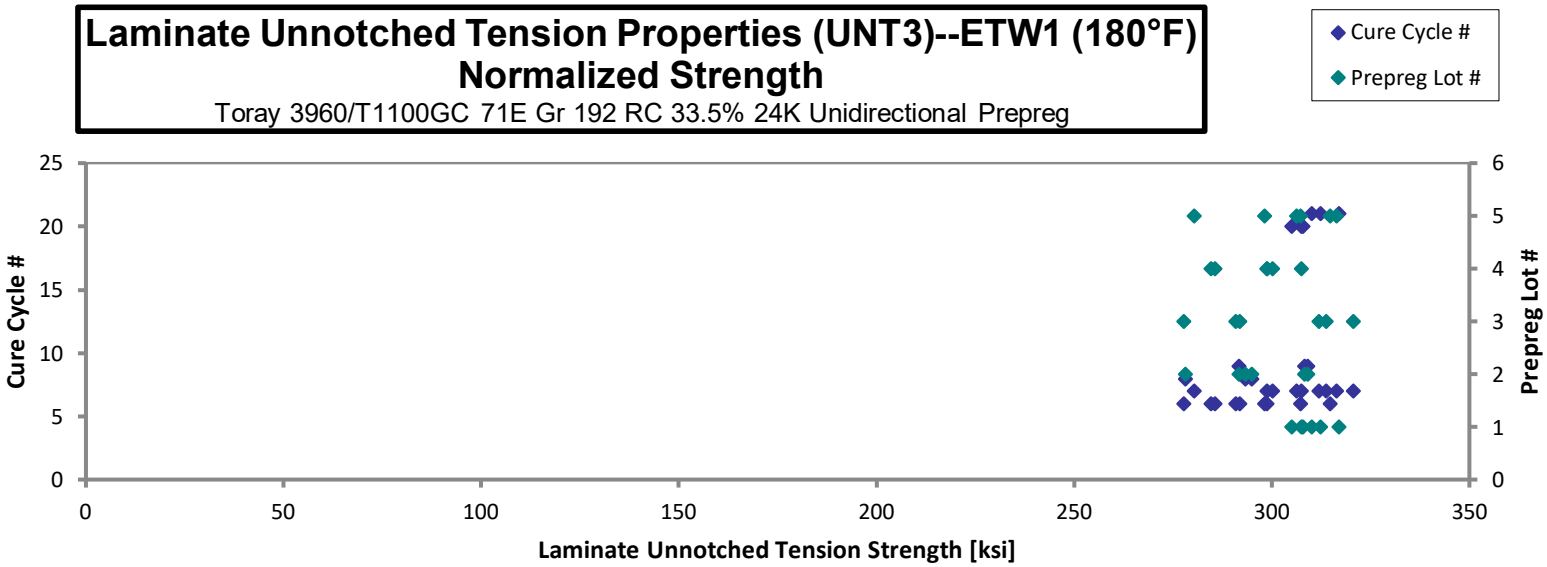

Laminate Unnotched Tension Properties (UNT3)--RTA (70°F)
Normalized Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Unnotched Tension Modulus [Msi]
0
5
10
15
20
25
0
1
2
3
4
5
6
0
2
4
6
8
10
12
14
16
18

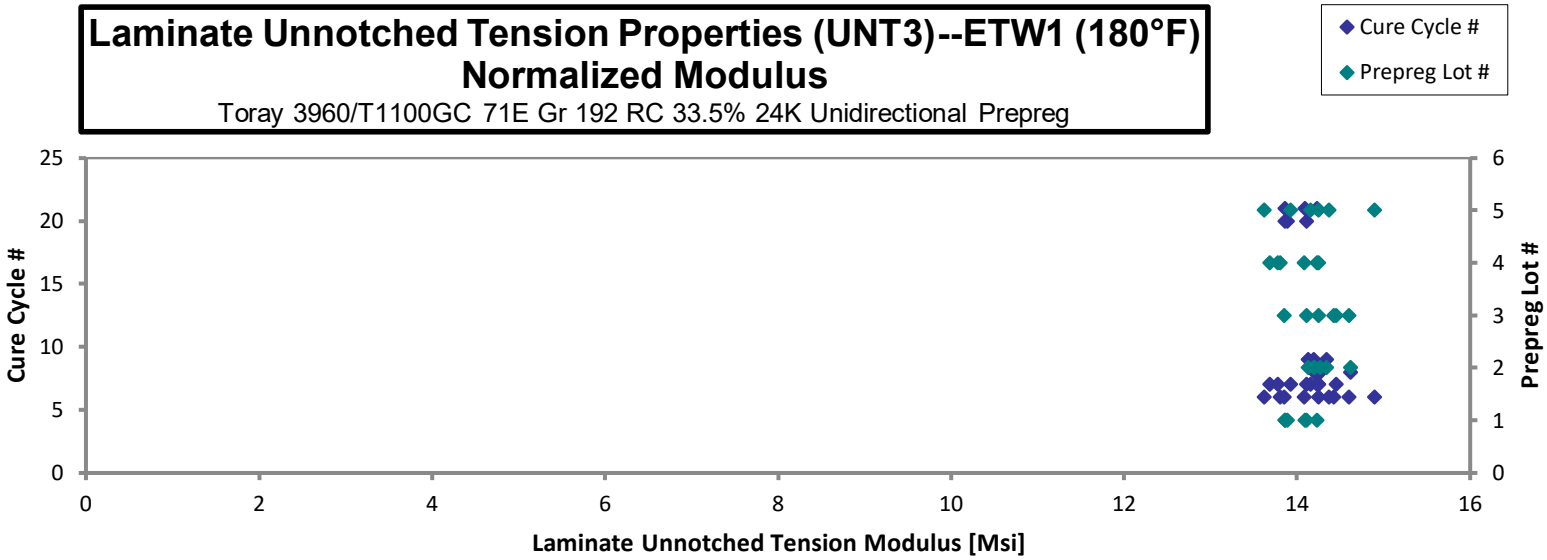
Laminate Unnotched Tension Properties (UNT3)--ETW1 (180°F)
Strength & Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

normalizing t_{ply} [in]: 0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Modulus [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
NTP3961Q1-TC-T01-BT-UNT3-A-C20-1-ETW1-1	A	C20	1	20	303.7	13.94	0.1458	20	XGV	0.007289	307.5	14.11
NTP3961Q1-TC-T01-BT-UNT3-A-C20-1-ETW1-2	A	C20	1	20	303.8	13.70	0.1460	20	XGV	0.007299	307.9	13.89
NTP3961Q1-TC-T01-BT-UNT3-A-C20-1-ETW1-3	A	C20	1	20	301.8	13.71	0.1456	20	XGV	0.007278	305.0	13.86
NTP3961Q1-TC-T01-BT-UNT3-A-C21-1-ETW1-1	A	C21	1	21	312.1	14.01	0.1462	20	XGV	0.007312	316.9	14.23
NTP3961Q1-TC-T01-BT-UNT3-A-C21-1-ETW1-2	A	C21	1	21	305.2	13.86	0.1464	20	XGV	0.007318	310.1	14.09
NTP3961Q1-TC-T01-BT-UNT3-A-C21-1-ETW1-3	A	C21	1	21	307.8	13.66	0.1461	20	XGV	0.007306	312.4	13.86
NTP3961Q1-TC-T01-BT-UNT3-B-C8-1-ETW1-1	B	C8	2	8	288.8	13.97	0.1471	20	XGV	0.007354	295.0	14.27
NTP3961Q1-TC-T01-BT-UNT3-B-C8-1-ETW1-2	B	C8	2	8	285.3	13.81	0.1481	20	DGV	0.007404	293.4	14.20
NTP3961Q1-TC-T01-BT-UNT3-B-C8-1-ETW1-3	B	C8	2	8	274.5	14.43	0.1459	20	XGV	0.007293	278.1	14.62
NTP3961Q1-TC-T01-BT-UNT3-B-C9-1-ETW1-1	B	C9	2	9	299.1	13.91	0.1484	20	XGV	0.007421	308.2	14.34
NTP3961Q1-TC-T01-BT-UNT3-B-C9-1-ETW1-2	B	C9	2	9	300.2	13.78	0.1483	20	XGV	0.007415	309.1	14.19
NTP3961Q1-TC-T01-BT-UNT3-B-C9-1-ETW1-3	B	C9	2	9	284.5	13.77	0.1477	20	XGV	0.007384	291.7	14.12
NTP3961Q1-TC-T01-TC-UNT3-C-C6-2-ETW1-1	C	C6	3	6	285.5	13.59	0.1468	20	XGV	0.007338	291.0	13.85
NTP3961Q1-TC-T01-TC-UNT3-C-C6-2-ETW1-2	C	C6	3	6	275.9	14.50	0.1450	20	XGM	0.007251	277.8	14.60
NTP3961Q1-TC-T01-TC-UNT3-C-C6-2-ETW1-3	C	C6	3	6	290.5	14.35	0.1448	20	XGM	0.007238	292.0	14.43
NTP3961Q1-TC-T01-TC-UNT3-C-C7-2-ETW1-1	C	C7	3	7	304.9	14.12	0.1473	20	XGV	0.007367	312.0	14.45
NTP3961Q1-TC-T01-TC-UNT3-C-C7-2-ETW1-2	C	C7	3	7	315.7	14.03	0.1463	20	XGV	0.007313	320.6	14.25
NTP3961Q1-TC-T01-TC-UNT3-C-C7-2-ETW1-3	C	C7	3	7	307.7	13.83	0.1469	20	XGV	0.007343	313.8	14.10
NTP3961Q1-TC-T01-TC-UNT3-D-C6-2-ETW1-1	D	C6	4	6	283.0	13.72	0.1449	20	XGV	0.007243	284.7	13.80
NTP3961Q1-TC-T01-TC-UNT3-D-C6-2-ETW1-2	D	C6	4	6	283.4	14.13	0.1452	20	XGV	0.007258	285.7	14.24
NTP3961Q1-TC-T01-TC-UNT3-D-C6-2-ETW1-3	D	C6	4	6	296.3	13.96	0.1452	20	XGV	0.007260	298.7	14.08
NTP3961Q1-TC-T01-TC-UNT3-D-C7-2-ETW1-2	D	C7	4	7	295.5	13.55	0.1464	20	XGV	0.007318	300.3	13.77
NTP3961Q1-TC-T01-TC-UNT3-D-C7-2-ETW1-3	D	C7	4	7	293.0	13.42	0.1469	20	XGV	0.007343	298.7	13.69
NTP3961Q1-TC-T01-TC-UNT3-D-C7-2-ETW1-4	D	C7	4	7	307.5	14.23	0.1440	20	XGV	0.007200	307.5	14.23
NTP3961Q1-TC-T01-TC-UNT3-E-C6-2-ETW1-1	E	C6	5	6	295.9	13.51	0.1452	20	XGV	0.007258	298.2	13.62
NTP3961Q1-TC-T01-TC-UNT3-E-C6-2-ETW1-2	E	C6	5	6	305.6	14.82	0.1448	20	XGV	0.007238	307.2	14.90
NTP3961Q1-TC-T01-TC-UNT3-E-C6-2-ETW1-3	E	C6	5	6	314.0	14.33	0.1444	20	XGV	0.007218	314.8	14.37
NTP3961Q1-TC-T01-TC-UNT3-E-C7-2-ETW1-1	E	C7	5	7	279.7	13.89	0.1444	20	XGV	0.007219	280.4	13.93
NTP3961Q1-TC-T01-TC-UNT3-E-C7-2-ETW1-2	E	C7	5	7	303.2	14.01	0.1455	20	XGV	0.007273	306.2	14.15
NTP3961Q1-TC-T01-TC-UNT3-E-C7-2-ETW1-3	E	C7	5	7	313.2	14.11	0.1454	20	XGV	0.007272	316.4	14.25

Average	**297.2**	**13.96**	**Average$_{norm}$**	**0.007300**	**301.4**	**14.15**
Standard Dev.	**11.78**	**0.3164**	**Standard Dev.$_{norm}$**		**12.11**	**0.2901**
Coeff. of Var. [%]	**3.965**	**2.267**	**Coeff. of Var. [%]$_{norm}$**		**4.020**	**2.051**
Min.	**274.5**	**13.42**	**Min.**	**0.007200**	**277.8**	**13.62**
Max.	**315.7**	**14.82**	**Max.**	**0.007421**	**320.6**	**14.90**
Number of Spec.	**30**	**30**	**Number of Spec.**	**30**	**30**	**30**


Laminate Unnotched Tension Properties (UNT3)--ETW1 (180°F)
Normalized Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Unnotched Tension Strength [ksi]
0
5
10
15
20
25
0
1
2
3
4
5
6
0
50
100
150
200
250
300
350


Laminate Unnotched Tension Properties (UNT3)--ETW1 (180°F)
Normalized Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Unnotched Tension Modulus [Msi]
0
2
4
6
8
10
12
14
16
0
5
10
15
20
25
0
1
2
3
4
5
6

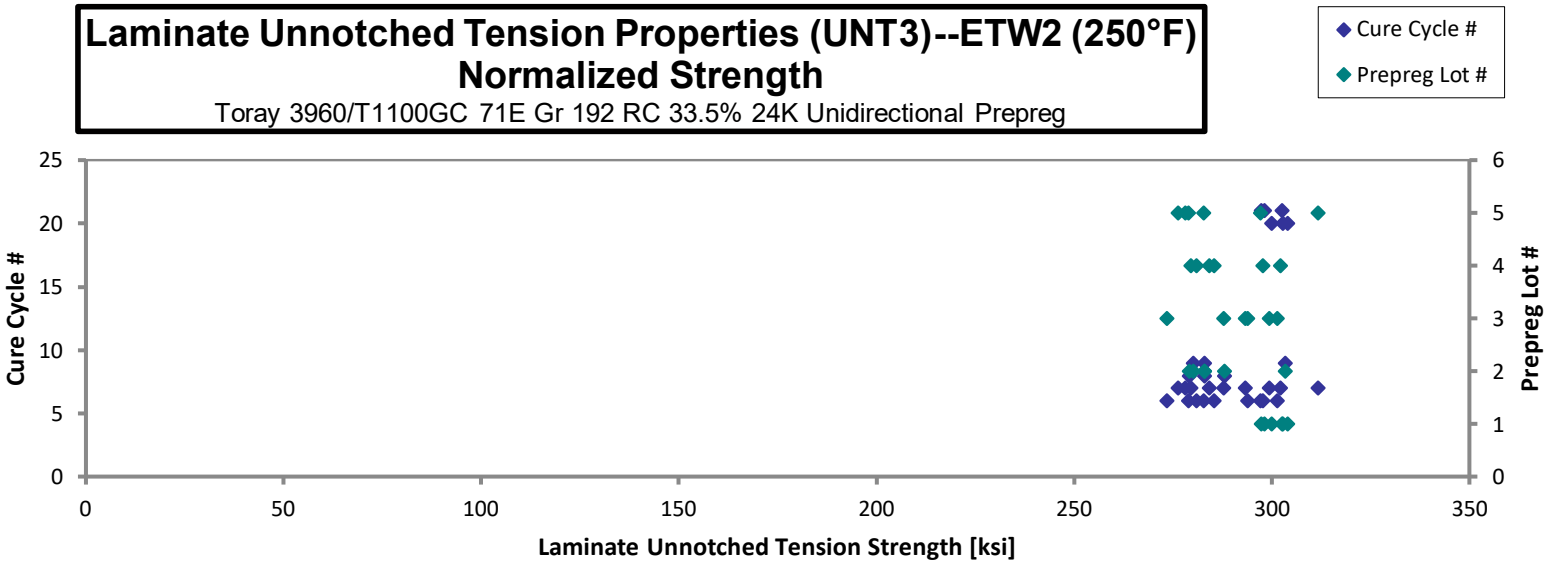
Laminate Unnotched Tension Properties (UNT3)--ETW2 (250°F)
Strength & Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

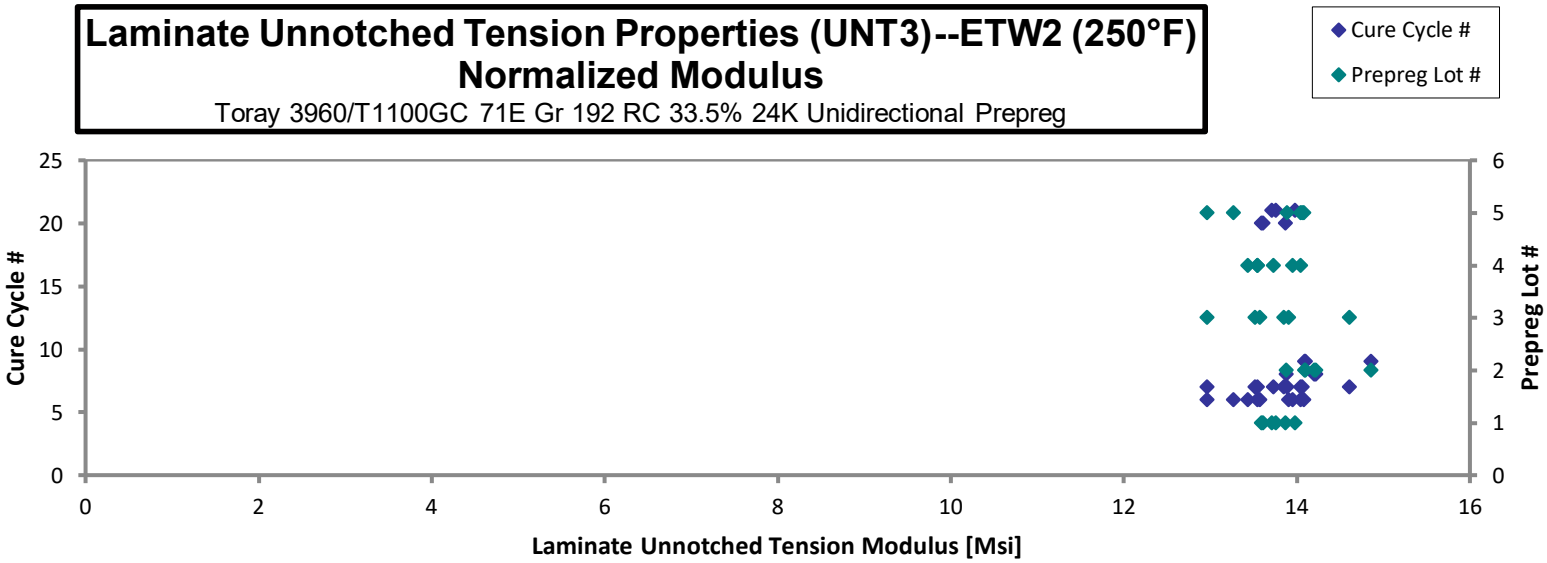
normalizing t_{ply} [in]
0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Modulus [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
NTP3961Q1-TC-T01-BT-UNT3-A-C20-1-ETW2-1	A	C20	1	20	302.2	13.51	0.1449	20	XGM	0.007243	304.0	13.59
NTP3961Q1-TC-T01-BT-UNT3-A-C20-1-ETW2-3	A	C20	1	20	297.1	13.73	0.1454	20	XGM	0.007270	300.0	13.86
NTP3961Q1-TC-T01-BT-UNT3-A-C20-1-ETW2-4	A	C20	1	20	298.1	13.40	0.1462	20	XGM	0.007312	302.7	13.61
NTP3961Q1-TC-T01-BT-UNT3-A-C21-1-ETW2-1	A	C21	1	21	295.4	13.85	0.1453	20	XGM	0.007266	298.1	13.98
NTP3961Q1-TC-T01-BT-UNT3-A-C21-1-ETW2-2	A	C21	1	21	298.8	13.54	0.1458	20	XGM	0.007290	302.5	13.71
NTP3961Q1-TC-T01-BT-UNT3-A-C21-1-ETW2-3	A	C21	1	21	291.7	13.49	0.1468	20	XGM	0.007342	297.4	13.76
NTP3961Q1-TC-T01-BT-UNT3-B-C8-1-ETW2-1	B	C8	2	8	282.0	13.90	0.1471	20	XGM	0.007353	288.0	14.19
NTP3961Q1-TC-T01-BT-UNT3-B-C8-1-ETW2-2	B	C8	2	8	275.7	14.04	0.1458	20	XGM	0.007291	279.2	14.22
NTP3961Q1-TC-T01-BT-UNT3-B-C8-1-ETW2-3	B	C8	2	8	278.6	13.66	0.1463	20	XGM	0.007316	283.1	13.88
NTP3961Q1-TC-T01-BT-UNT3-B-C9-1-ETW2-1	B	C9	2	9	275.9	13.88	0.1462	20	XGM	0.007308	280.1	14.09
NTP3961Q1-TC-T01-BT-UNT3-B-C9-1-ETW2-2	B	C9	2	9	279.6	13.93	0.1458	20	XGM	0.007288	283.0	14.10
NTP3961Q1-TC-T01-BT-UNT3-B-C9-1-ETW2-3	B	C9	2	9	300.6	14.72	0.1454	20	XGM	0.007268	303.4	14.86
NTP3961Q1-TC-T01-TC-UNT3-C-C6-2-ETW2-2	C	C6	3	6	298.5	13.77	0.1454	20	XGM	0.007272	301.5	13.91
NTP3961Q1-TC-T01-TC-UNT3-C-C6-2-ETW2-3	C	C6	3	6	273.9	12.98	0.1438	20	XGM	0.007191	273.5	12.96
NTP3961Q1-TC-T01-TC-UNT3-C-C6-2-ETW2-4	C	C6	3	6	291.0	13.44	0.1454	20	XGM	0.007272	293.9	13.57
NTP3961Q1-TC-T01-TC-UNT3-C-C7-2-ETW2-1	C	C7	3	7	298.9	13.49	0.1442	20	XGM	0.007211	299.4	13.51
NTP3961Q1-TC-T01-TC-UNT3-C-C7-2-ETW2-2	C	C7	3	7	284.4	14.43	0.1457	20	XGM	0.007286	287.8	14.60
NTP3961Q1-TC-T01-TC-UNT3-C-C7-2-ETW2-3	C	C7	3	7	291.4	13.76	0.1450	20	XGM	0.007248	293.4	13.85
NTP3961Q1-TC-T01-TC-UNT3-D-C6-2-ETW2-1	D	C6	4	6	291.1	13.24	0.1473	20	XGV	0.007365	297.7	13.54
NTP3961Q1-TC-T01-TC-UNT3-D-C6-2-ETW2-2	D	C6	4	6	274.4	13.63	0.1474	20	XGV	0.007370	280.9	13.95
NTP3961Q1-TC-T01-TC-UNT3-D-C6-2-ETW2-3	D	C6	4	6	281.7	13.25	0.1460	20	XGV	0.007298	285.5	13.43
NTP3961Q1-TC-T01-TC-UNT3-D-C7-2-ETW2-1	D	C7	4	7	282.3	13.64	0.1450	20	XGV	0.007248	284.1	13.73
NTP3961Q1-TC-T01-TC-UNT3-D-C7-2-ETW2-2	D	C7	4	7	299.5	13.92	0.1453	20	XGV	0.007265	302.2	14.05
NTP3961Q1-TC-T01-TC-UNT3-D-C7-2-ETW2-3	D	C7	4	7	276.5	13.40	0.1456	20	XGV	0.007278	279.5	13.54
NTP3961Q1-TC-T01-TC-UNT3-E-C6-2-ETW2-1	E	C6	5	6	283.1	13.28	0.1438	20	XGV	0.007191	282.7	13.26
NTP3961Q1-TC-T01-TC-UNT3-E-C6-2-ETW2-2	E	C6	5	6	293.4	13.87	0.1458	20	XGV	0.007291	297.1	14.04
NTP3961Q1-TC-T01-TC-UNT3-E-C6-2-ETW2-3	E	C6	5	6	274.6	13.86	0.1463	20	XGV	0.007316	279.0	14.08
NTP3961Q1-TC-T01-TC-UNT3-E-C7-2-ETW2-1	E	C7	5	7	278.4	12.98	0.1438	20	XGV	0.007191	278.0	12.96
NTP3961Q1-TC-T01-TC-UNT3-E-C7-2-ETW2-2	E	C7	5	7	310.2	13.99	0.1447	20	XGV	0.007235	311.7	14.06
NTP3961Q1-TC-T01-TC-UNT3-E-C7-2-ETW2-3	E	C7	5	7	274.5	13.79	0.1450	20	XGV	0.007249	276.4	13.88

	Strength [ksi]	Modulus [Msi]
Average	**287.8**	**13.68**
Standard Dev.	**10.53**	**0.3743**
Coeff. of Var. [%]	**3.659**	**2.736**
Min.	**273.9**	**12.98**
Max.	**310.2**	**14.72**
Number of Spec.	**30**	**30**

	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
$Average_{norm}$	**0.007277**	**290.9**	**13.83**
Standard $Dev._{norm}$		**10.53**	**0.4063**
Coeff. of Var. $[\%]_{norm}$		**3.620**	**2.939**
Min.	**0.007191**	**273.5**	**12.96**
Max.	**0.007370**	**311.7**	**14.86**
Number of Spec.	**30**	**30**	**30**


Laminate Unnotched Tension Properties (UNT3)--ETW2 (250°F)
Normalized Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Unnotched Tension Strength [ksi]
0
5
10
15
20
25
0
1
2
3
4
5
6
0
50
100
150
200
250
300
350


Laminate Unnotched Tension Properties (UNT3)--ETW2 (250°F)
Normalized Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Unnotched Tension Modulus [Msi]
0
5
10
15
20
25
0
1
2
3
4
5
6
0
2
4
6
8
10
12
14
16

4.13 “25/50/25” Unnotched Compression 1 Properties (UNC1)

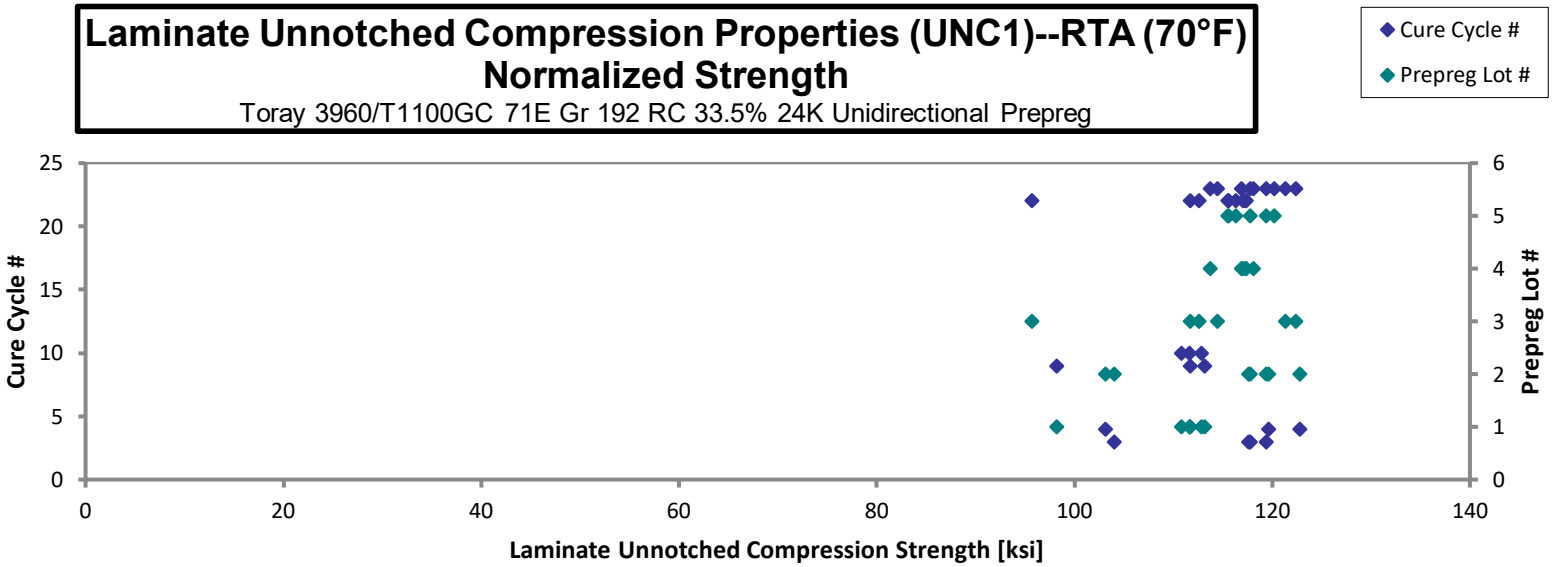
Laminate Unnotched Compression Properties (UNC1)--RTA (70°F)
Strength & Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

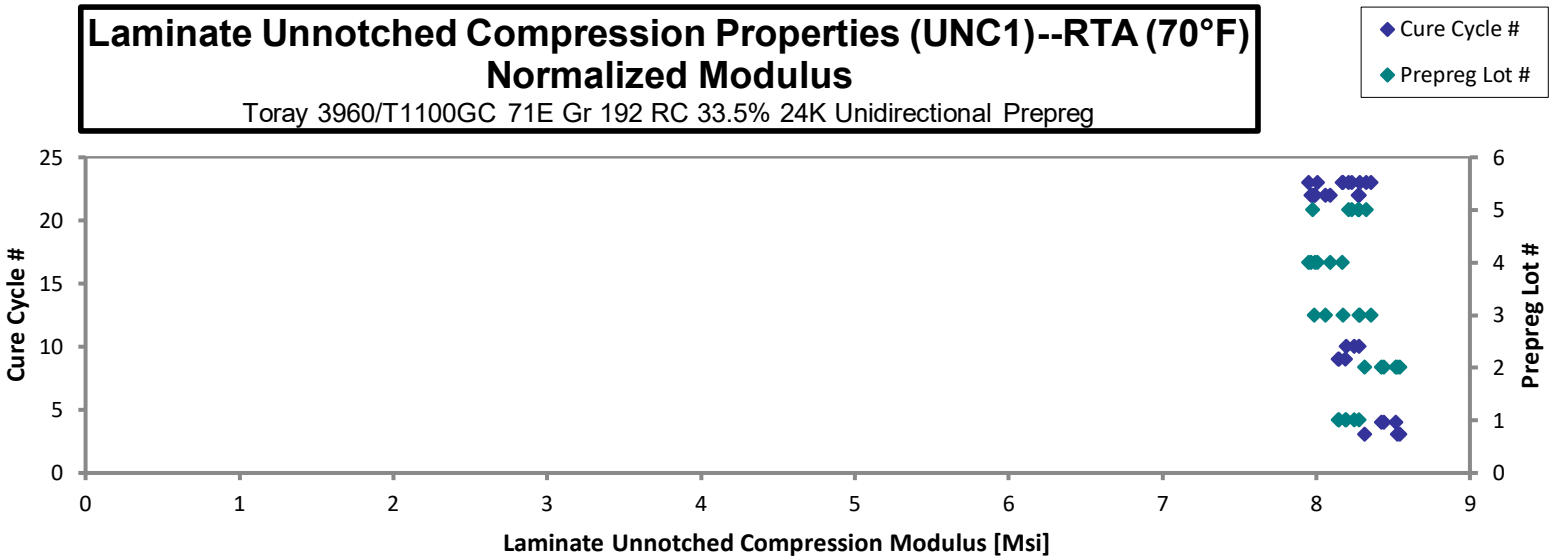
normalizing t_{ply} [in]: 0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Modulus (avg.**) [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
NTP3961Q1-TC-T01-BT-UNC1-A-C9-1-RTA-1	A	C9	1	9	95.43	7.960	0.1185	16	HGM	0.007407	98.17	8.189
NTP3961Q1-TC-T01-BT-UNC1-A-C9-1-RTA-2	A	C9	1	9	109.0	7.950	0.1180	16	HGB	0.007372	111.6	8.140
NTP3961Q1-TC-T01-BT-UNC1-A-C9-1-RTA-3	A	C9	1	9	111.0	7.990	0.1175	16	HGM	0.007343	113.1	8.148
NTP3961Q1-TC-T01-BT-UNC1-A-C10-1-RTA-1	A	C10	1	10	110.6	8.110	0.1176	16	HAB	0.007347	112.8	8.275
NTP3961Q1-TC-T01-BT-UNC1-A-C10-1-RTA-2	A	C10	1	10	109.9	8.070	0.1170	16	BGM	0.007310	111.6	8.193
NTP3961Q1-TC-T01-BT-UNC1-A-C10-1-RTA-3	A	C10	1	10	109.6	8.150	0.1165	16	BGM	0.007283	110.8	8.244
NTP3961Q1-TC-T01-BT-UNC1-B-C3-1-RTA-1	B	C3	2	3	101.6	8.330	0.1179	16	BGM	0.007369	104.0	8.526
NTP3961Q1-TC-T01-BT-UNC1-B-C3-1-RTA-2	B	C3	2	3	118.2	8.230	0.1164	16	BGM	0.007274	119.4	8.314
NTP3961Q1-TC-T01-BT-UNC1-B-C3-1-RTA-3*	B	C3	2	3	117.7		0.1152	16	BGM	0.007198	117.7	
NTP3961Q1-TC-T01-BT-UNC1-B-C3-1-RTA-4	B	C3	2	3	113.0	8.210	0.1199	16	BGM	0.007491	117.6	8.541
NTP3961Q1-TC-T01-BT-UNC1-B-C4-1-RTA-1	B	C4	2	4	100.1	8.180	0.1186	16	BGM	0.007414	103.1	8.424
NTP3961Q1-TC-T01-BT-UNC1-B-C4-1-RTA-2	B	C4	2	4	117.9	8.100	0.1200	16	BGM	0.007499	122.8	8.436
NTP3961Q1-TC-T01-BT-UNC1-B-C4-1-RTA-3	B	C4	2	4	115.7	8.240	0.1191	16	BGM	0.007441	119.6	8.515
NTP3961Q1-TC-T01-TC-UNC1-C-C22-3-RTA-1	C	C22	3	22	96.12	8.100	0.1146	16	BAT	0.007163	95.63	8.059
NTP3961Q1-TC-T01-TC-UNC1-C-C22-3-RTA-2	C	C22	3	22	112.0	7.950	0.1157	16	BAB	0.007233	112.6	7.987
NTP3961Q1-TC-T01-TC-UNC1-C-C22-3-RTA-3	C	C22	3	22	110.3	8.170	0.1167	16	BAB	0.007291	111.7	8.274
NTP3961Q1-TC-T01-TC-UNC1-C-C23-3-RTA-1	C	C23	3	23	112.2	8.120	0.1175	16	BGM	0.007341	114.4	8.279
NTP3961Q1-TC-T01-TC-UNC1-C-C23-3-RTA-2	C	C23	3	23	118.3	8.150	0.1181	16	BAB	0.007382	121.3	8.356
NTP3961Q1-TC-T01-TC-UNC1-C-C23-3-RTA-3	C	C23	3	23	120.3	8.030	0.1172	16	BAB	0.007325	122.3	8.169
NTP3961Q1-TC-T01-TC-UNC1-D-C22-3-RTA-1	D	C22	4	22	116.6	8.060	0.1156	16	BGM	0.007225	117.0	8.088
NTP3961Q1-TC-T01-TC-UNC1-D-C22-3-RTA-2	D	C22	4	22	117.5	8.000	0.1150	16	BGM	0.007189	117.3	7.988
NTP3961Q1-TC-T01-TC-UNC1-D-C22-3-RTA-3	D	C22	4	22	117.2	7.960	0.1153	16	BGM	0.007203	117.2	7.963
NTP3961Q1-TC-T01-TC-UNC1-D-C23-3-RTA-1	D	C23	4	23	116.8	7.920	0.1165	16	BGM	0.007279	118.0	8.007
NTP3961Q1-TC-T01-TC-UNC1-D-C23-3-RTA-2	D	C23	4	23	115.6	8.080	0.1165	16	BGM	0.007279	116.8	8.168
NTP3961Q1-TC-T01-TC-UNC1-D-C23-3-RTA-3	D	C23	4	23	113.0	7.900	0.1159	16	BGM	0.007246	113.7	7.950
NTP3961Q1-TC-T01-TC-UNC1-E-C22-3-RTA-1	E	C22	5	22	116.4	7.980	0.1151	16	BGM	0.007196	116.3	7.975
NTP3961Q1-TC-T01-TC-UNC1-E-C22-3-RTA-2	E	C22	5	22	115.3	8.260	0.1155	16	BGM	0.007216	115.6	8.278
NTP3961Q1-TC-T01-TC-UNC1-E-C22-3-RTA-3	E	C22	5	22	115.2	8.250	0.1155	16	BGM	0.007218	115.4	8.270
NTP3961Q1-TC-T01-TC-UNC1-E-C23-3-RTA-1	E	C23	5	23	119.2	8.140	0.1162	16	BGB	0.007260	120.2	8.208
NTP3961Q1-TC-T01-TC-UNC1-E-C23-3-RTA-2	E	C23	5	23	118.0	8.230	0.1165	16	BGM	0.007282	119.4	8.324
NTP3961Q1-TC-T01-TC-UNC1-E-C23-3-RTA-3	E	C23	5	23	116.2	8.120	0.1167	16	BGM	0.007296	117.8	8.228

*Excluded modulus due to bending ≥10% at 0.2% strain
**Average of back to back strain gages

	Strength [ksi]	Modulus (avg.**) [Msi]		$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
Average	**112.8**	**8.098**	**$Average_{norm}$**	**0.007302**	**114.3**	**8.217**
Standard Dev.	**6.512**	**0.1154**	**Standard $Dev._{norm}$**		**6.498**	**0.1703**
Coeff. of Var. [%]	**5.775**	**1.425**	**Coeff. of Var. $[\%]_{norm}$**		**5.682**	**2.072**
Min.	**95.43**	**7.900**	**Min.**	**0.007163**	**95.63**	**7.950**
Max.	**120.3**	**8.330**	**Max.**	**0.007499**	**122.8**	**8.541**
Number of Spec.	**31**	**30**	**Number of Spec.**	**31**	**31**	**30**


Laminate Unnotched Compression Properties (UNC1)--RTA (70°F)
Normalized Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Unnotched Compression Strength [ksi]
0
5
10
15
20
25
0
1
2
3
4
5
6
0
20
40
60
80
100
120
140


Laminate Unnotched Compression Properties (UNC1)--RTA (70°F)
Normalized Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Unnotched Compression Modulus [Msi]
0
5
10
15
20
25
0
1
2
3
4
5
6
0
1
2
3
4
5
6
7
8
9

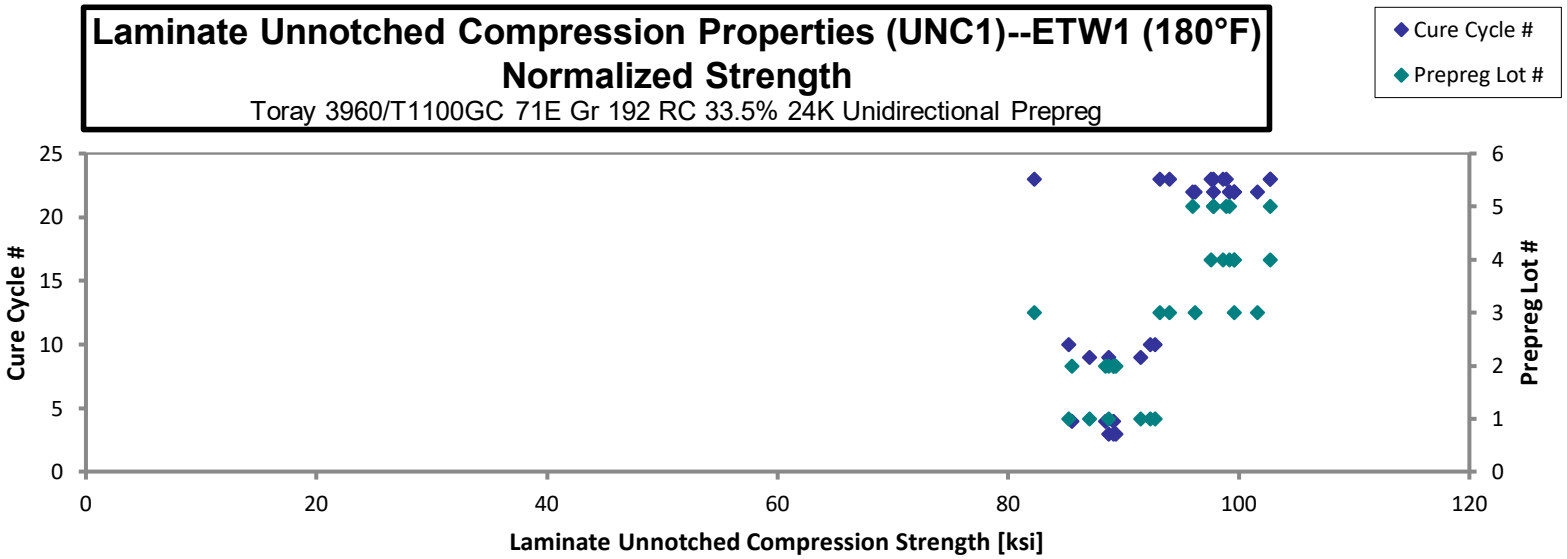
Laminate Unnotched Compression Properties (UNC1)--ETW1 (180°F)
Strength & Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

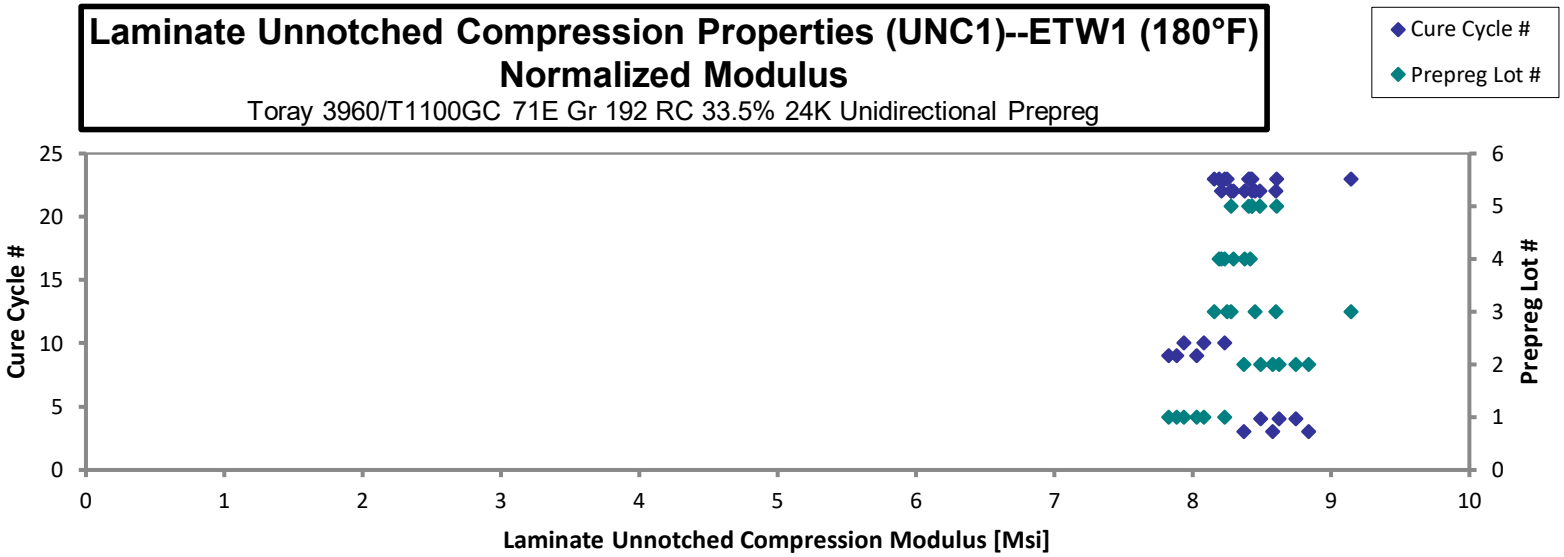
normalizing t_{ply} [in]
0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Modulus (avg.*) [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
NTP3961Q1-TC-T01-BT-UNC1-A-C9-1-ETW1-1	A	C9	1	9	87.01	7.870	0.1175	16	BAT	0.007344	88.75	8.027
NTP3961Q1-TC-T01-BT-UNC1-A-C9-1-ETW1-2	A	C9	1	9	85.94	7.730	0.1167	16	BAT	0.007291	87.03	7.828
NTP3961Q1-TC-T01-BT-UNC1-A-C9-1-ETW1-3	A	C9	1	9	90.27	7.780	0.1168	16	BGT	0.007297	91.48	7.885
NTP3961Q1-TC-T01-BT-UNC1-A-C10-1-ETW1-1	A	C10	1	10	83.55	7.780	0.1176	16	BGT	0.007348	85.26	7.939
NTP3961Q1-TC-T01-BT-UNC1-A-C10-1-ETW1-2	A	C10	1	10	90.65	8.080	0.1174	16	BAT	0.007336	92.37	8.233
NTP3961Q1-TC-T01-BT-UNC1-A-C10-1-ETW1-4	A	C10	1	10	91.35	7.960	0.1169	16	BGT	0.007308	92.72	8.080
NTP3961Q1-TC-T01-BT-UNC1-B-C3-1-ETW1-1	B	C3	2	3	87.58	8.220	0.1173	16	BAT	0.007330	89.16	8.368
NTP3961Q1-TC-T01-BT-UNC1-B-C3-1-ETW1-2	B	C3	2	3	87.20	8.630	0.1180	16	BGM	0.007377	89.34	8.842
NTP3961Q1-TC-T01-BT-UNC1-B-C3-1-ETW1-3	B	C3	2	3	86.78	8.390	0.1178	16	BAT	0.007360	88.71	8.576
NTP3961Q1-TC-T01-BT-UNC1-B-C4-1-ETW1-1	B	C4	2	4	86.71	8.260	0.1184	16	BAT	0.007402	89.14	8.492
NTP3961Q1-TC-T01-BT-UNC1-B-C4-1-ETW1-2	B	C4	2	4	86.03	8.510	0.1184	16	BGM	0.007400	88.42	8.746
NTP3961Q1-TC-T01-BT-UNC1-B-C4-1-ETW1-3	B	C4	2	4	83.30	8.400	0.1183	16	BGM	0.007394	85.55	8.627
NTP3961Q1-TC-T01-TC-UNC1-C-C22-3-ETW1-1	C	C22	3	22	97.37	8.260	0.1179	16	HGM	0.007369	99.65	8.454
NTP3961Q1-TC-T01-TC-UNC1-C-C22-3-ETW1-3	C	C22	3	22	99.56	8.430	0.1176	16	BAT	0.007349	101.6	8.604
NTP3961Q1-TC-T01-TC-UNC1-C-C22-3-ETW1-4	C	C22	3	22	94.84	8.160	0.1169	16	BGM	0.007307	96.25	8.281
NTP3961Q1-TC-T01-TC-UNC1-C-C23-3-ETW1-1	C	C23	3	23	78.18	7.750	0.1213	16	BAT	0.007579	82.29	8.158
NTP3961Q1-TC-T01-TC-UNC1-C-C23-3-ETW1-2	C	C23	3	23	93.34	8.190	0.1160	16	BAT	0.007251	94.00	8.248
NTP3961Q1-TC-T01-TC-UNC1-C-C23-3-ETW1-3	C	C23	3	23	92.28	9.060	0.1163	16	BAT	0.007269	93.16	9.147
NTP3961Q1-TC-T01-TC-UNC1-D-C22-3-ETW1-1	D	C22	4	22	99.01	8.330	0.1159	16	BGM	0.007243	99.59	8.379
NTP3961Q1-TC-T01-TC-UNC1-D-C22-3-ETW1-2	D	C22	4	22	98.96	8.240	0.1160	16	BAT	0.007250	99.65	8.297
NTP3961Q1-TC-T01-TC-UNC1-D-C22-3-ETW1-3	D	C22	4	22	99.70	8.250	0.1147	16	BAB	0.007166	99.22	8.211
NTP3961Q1-TC-T01-TC-UNC1-D-C23-3-ETW1-1	D	C23	4	23	97.42	8.180	0.1154	16	BGM	0.007211	97.57	8.193
NTP3961Q1-TC-T01-TC-UNC1-D-C23-3-ETW1-2	D	C23	4	23	101.6	8.320	0.1165	16	BGM	0.007282	102.7	8.415
NTP3961Q1-TC-T01-TC-UNC1-D-C23-3-ETW1-3	D	C23	4	23	97.82	8.160	0.1162	16	BGM	0.007263	98.68	8.232
NTP3961Q1-TC-T01-TC-UNC1-E-C22-3-ETW1-1	E	C22	5	22	96.26	8.300	0.1149	16	BAB	0.007183	96.03	8.281
NTP3961Q1-TC-T01-TC-UNC1-E-C22-3-ETW1-2	E	C22	5	22	98.97	8.470	0.1154	16	BAB	0.007214	99.17	8.487
NTP3961Q1-TC-T01-TC-UNC1-E-C22-3-ETW1-3	E	C22	5	22	97.09	8.370	0.1160	16	BAB	0.007252	97.79	8.430
NTP3961Q1-TC-T01-TC-UNC1-E-C23-3-ETW1-1	E	C23	5	23	98.67	8.590	0.1155	16	BGM	0.007216	98.89	8.609
NTP3961Q1-TC-T01-TC-UNC1-E-C23-3-ETW1-2	E	C23	5	23	97.14	8.370	0.1160	16	BGM	0.007251	97.82	8.429
NTP3961Q1-TC-T01-TC-UNC1-E-C23-3-ETW1-3	E	C23	5	23	102.2	8.360	0.1158	16	BGM	0.007238	102.8	8.404

*Average of back to back strain gages

	Strength [ksi]	Modulus (avg.*) [Msi]		$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
Average	**92.89**	**8.247**	**Average$_{norm}$**	**0.007303**	**94.16**	**8.363**
Standard Dev.	**6.408**	**0.2881**	**Standard Dev.$_{norm}$**		**5.743**	**0.2832**
Coeff. of Var. [%]	**6.898**	**3.493**	**Coeff. of Var. [%]$_{norm}$**		**6.100**	**3.386**
Min.	**78.18**	**7.730**	**Min.**	**0.007166**	**82.29**	**7.828**
Max.	**102.2**	**9.060**	**Max.**	**0.007579**	**102.8**	**9.147**
Number of Spec.	**30**	**30**	**Number of Spec.**	**30**	**30**	**30**


Laminate Unnotched Compression Properties (UNC1)--ETW1 (180°F)
Normalized Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Unnotched Compression Strength [ksi]
0
5
10
15
20
25
0
1
2
3
4
5
6
0
20
40
60
80
100
120


Laminate Unnotched Compression Properties (UNC1)--ETW1 (180°F)
Normalized Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Unnotched Compression Modulus [Msi]
0
5
10
15
20
25
0
1
2
3
4
5
6
0
1
2
3
4
5
6
7
8
9
10

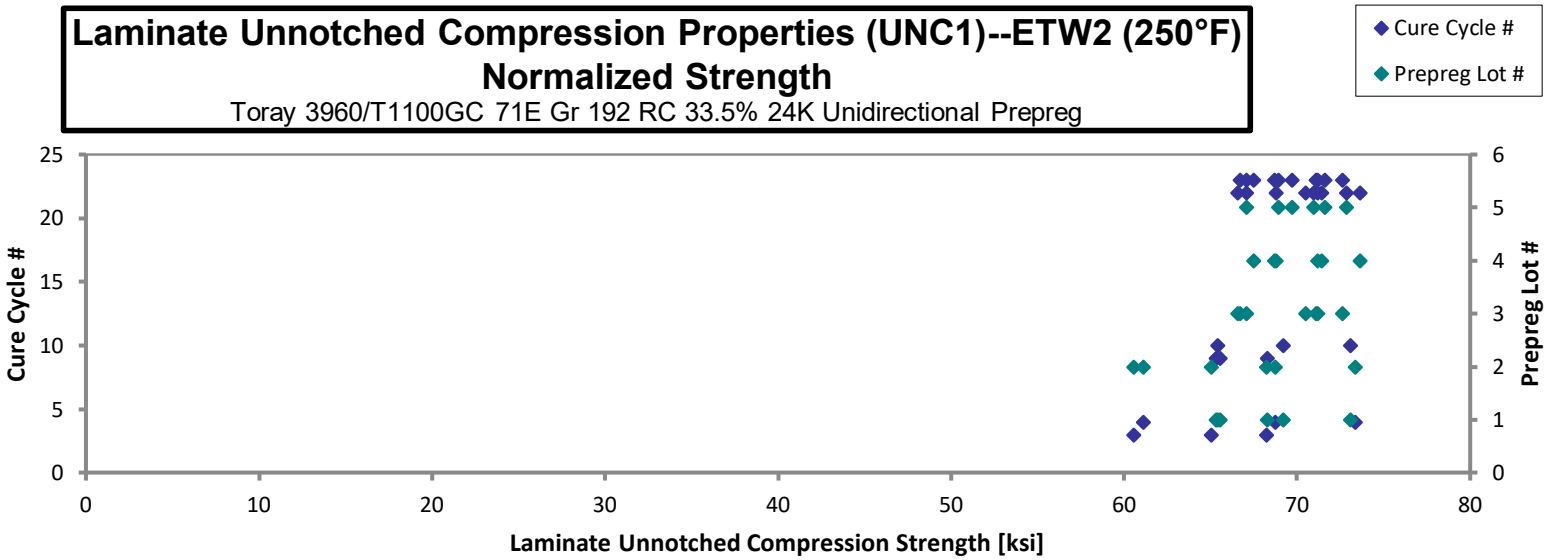
Laminate Unnotched Compression Properties (UNC1)--ETW2 (250°F)
Strength & Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

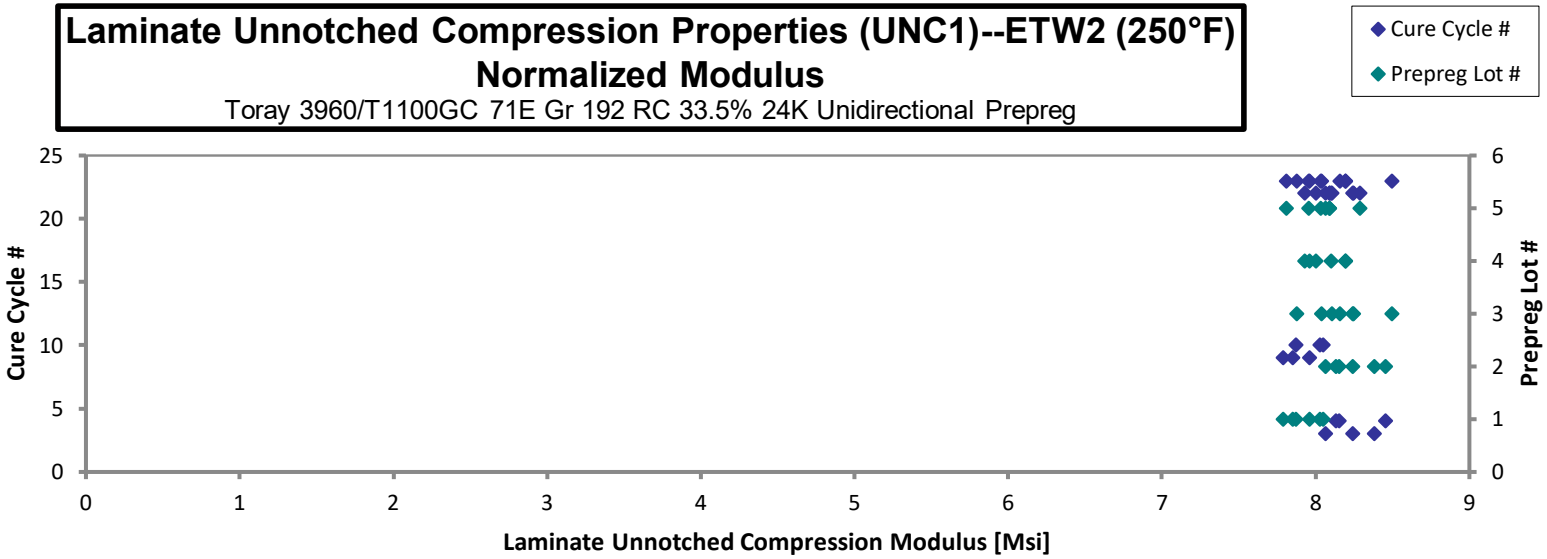
normalizing t_{ply} [in]
0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Modulus (avg.**) [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
NTP3961Q1-TC-T01-BT-UNC1-A-C9-1-ETW2-1	A	C9	1	9	64.55	7.670	0.1170	16	BGM	0.007310	65.54	7.787
NTP3961Q1-TC-T01-BT-UNC1-A-C9-1-ETW2-2	A	C9	1	9	67.31	7.740	0.1169	16	BAT	0.007303	68.27	7.851
NTP3961Q1-TC-T01-BT-UNC1-A-C9-1-ETW2-3	A	C9	1	9	64.87	7.910	0.1160	16	BAT	0.007247	65.29	7.961
NTP3961Q1-TC-T01-BT-UNC1-A-C10-1-ETW2-2	A	C10	1	10	64.58	7.770	0.1167	16	BAT	0.007294	65.43	7.872
NTP3961Q1-TC-T01-BT-UNC1-A-C10-1-ETW2-3	A	C10	1	10	68.85	8.010	0.1158	16	BAT	0.007235	69.18	8.049
NTP3961Q1-TC-T01-BT-UNC1-A-C10-1-ETW2-5	A	C10	1	10	73.35	8.060	0.1148	16	TAT	0.007173	73.07	8.029
NTP3961Q1-TC-T01-BT-UNC1-B-C3-1-ETW2-1	B	C3	2	3	63.21	7.840	0.1185	16	BGM	0.007407	65.03	8.065
NTP3961Q1-TC-T01-BT-UNC1-B-C3-1-ETW2-3	B	C3	2	3	59.10	8.040	0.1181	16	BAT	0.007378	60.56	8.239
NTP3961Q1-TC-T01-BT-UNC1-B-C3-1-ETW2-2	B	C3	2	3	66.90	8.220	0.1175	16	TGM	0.007344	68.24	8.384
NTP3961Q1-TC-T01-BT-UNC1-B-C4-1-ETW2-1	B	C4	2	4	60.44	8.060	0.1165	16	BAT	0.007281	61.12	8.151
NTP3961Q1-TC-T01-BT-UNC1-B-C4-1-ETW2-2	B	C4	2	4	71.16	8.200	0.1188	16	BAT	0.007422	73.35	8.453
NTP3961Q1-TC-T01-BT-UNC1-B-C4-1-ETW2-3	B	C4	2	4	66.88	7.910	0.1184	16	BGM	0.007401	68.74	8.130
NTP3961Q1-TC-T01-TC-UNC1-C-C22-3-ETW2-1	C	C22	3	22	66.12	8.050	0.1160	16	HGM	0.007249	66.57	8.105
NTP3961Q1-TC-T01-TC-UNC1-C-C22-3-ETW2-3	C	C22	3	22	68.36	7.990	0.1188	16	HGM	0.007425	70.50	8.240
NTP3961Q1-TC-T01-TC-UNC1-C-C22-3-ETW2-4	C	C22	3	22	70.63	8.180	0.1161	16	HGM	0.007258	71.20	8.246
NTP3961Q1-TC-T01-TC-UNC1-C-C23-3-ETW2-2	C	C23	3	23	65.63	8.360	0.1171	16	HAT	0.007319	66.71	8.498
NTP3961Q1-TC-T01-TC-UNC1-C-C23-3-ETW2-3	C	C23	3	23	65.56	7.700	0.1179	16	HGM	0.007368	67.09	7.879
NTP3961Q1-TC-T01-TC-UNC1-C-C23-3-ETW2-4	C	C23	3	23	70.83	8.130	0.1156	16	HGM	0.007226	71.08	8.159
NTP3961Q1-TC-T01-TC-UNC1-C-C23-3-ETW2-5	C	C23	3	23	71.62	7.930	0.1168	16	HGM	0.007300	72.61	8.040
NTP3961Q1-TC-T01-TC-UNC1-D-C22-3-ETW2-2	D	C22	4	22	73.70	8.110	0.1151	16	BGB	0.007193	73.62	8.102
NTP3961Q1-TC-T01-TC-UNC1-D-C22-3-ETW2-3	D	C22	4	22	71.58	8.020	0.1149	16	BGM	0.007183	71.41	8.001
NTP3961Q1-TC-T01-TC-UNC1-D-C22-3-ETW2-4	D	C22	4	22	69.14	7.970	0.1146	16	BGM	0.007161	68.77	7.927
NTP3961Q1-TC-T01-TC-UNC1-D-C23-3-ETW2-1	D	C23	4	23	68.31	7.920	0.1158	16	BGM	0.007238	68.67	7.962
NTP3961Q1-TC-T01-TC-UNC1-D-C23-3-ETW2-2	D	C23	4	23	70.80	8.150	0.1158	16	BGT	0.007239	71.19	8.195
NTP3961Q1-TC-T01-TC-UNC1-D-C23-3-ETW2-3	D	C23	4	23	66.46	8.070	0.1170	16	BGM	0.007313	67.50	8.196
NTP3961Q1-TC-T01-TC-UNC1-E-C22-3-ETW2-1	E	C22	5	22	67.03	8.060	0.1153	16	BAB	0.007203	67.06	8.063
NTP3961Q1-TC-T01-TC-UNC1-E-C22-3-ETW2-2*	E	C22	5	22		8.020	0.1163	16	BAB	0.007266		8.093
NTP3961Q1-TC-T01-TC-UNC1-E-C22-3-ETW2-3	E	C22	5	22	69.58	7.930	0.1175	16	BGM	0.007344	70.98	8.089
NTP3961Q1-TC-T01-TC-UNC1-E-C22-3-ETW2-4	E	C22	5	22	71.93	8.180	0.1167	16	BGM	0.007294	72.87	8.287
NTP3961Q1-TC-T01-TC-UNC1-E-C23-3-ETW2-3	E	C23	5	23	67.98	7.920	0.1168	16	BGB	0.007301	68.93	8.031
NTP3961Q1-TC-T01-TC-UNC1-E-C23-3-ETW2-4	E	C23	5	23	69.87	7.970	0.1150	16	BAT	0.007185	69.72	7.953
NTP3961Q1-TC-T01-TC-UNC1-E-C23-3-ETW2-5	E	C23	5	23	71.52	7.800	0.1154	16	BAB	0.007210	71.62	7.811

*Excluded strength due to buckling
**Average of back to back strain gages

	Strength	Modulus		$Strength_{norm}$	$Modulus_{norm}$
Average	**68.00**	**7.997**	**Average$_{norm}$**	**0.007283**	**68.77**	**8.089**
Standard Dev.	**3.512**	**0.1587**	**Standard Dev.$_{norm}$**		**3.299**	**0.1744**
Coeff. of Var. [%]	**5.164**	**1.984**	**Coeff. of Var. [%]$_{norm}$**		**4.796**	**2.155**
Min.	**59.10**	**7.670**	**Min.**	**0.007161**	**60.56**	**7.787**
Max.	**73.70**	**8.360**	**Max.**	**0.007425**	**73.62**	**8.498**
Number of Spec.	**31**	**32**	**Number of Spec.**	**32**	**31**	**32**


Laminate Unnotched Compression Properties (UNC1)--ETW2 (250°F)
Normalized Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Unnotched Compression Strength [ksi]
0
5
10
15
20
25
0
1
2
3
4
5
6
0
10
20
30
40
50
60
70
80


Laminate Unnotched Compression Properties (UNC1)--ETW2 (250°F)
Normalized Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Unnotched Compression Modulus [Msi]
0
5
10
15
20
25
0
1
2
3
4
5
6
0
1
2
3
4
5
6
7
8
9

4.14 "10/80/10" Unnotched Compression 2 Properties (UNC2)

Laminate Unnotched Compression Properties (UNC2)--RTA (70°F)
Strength & Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

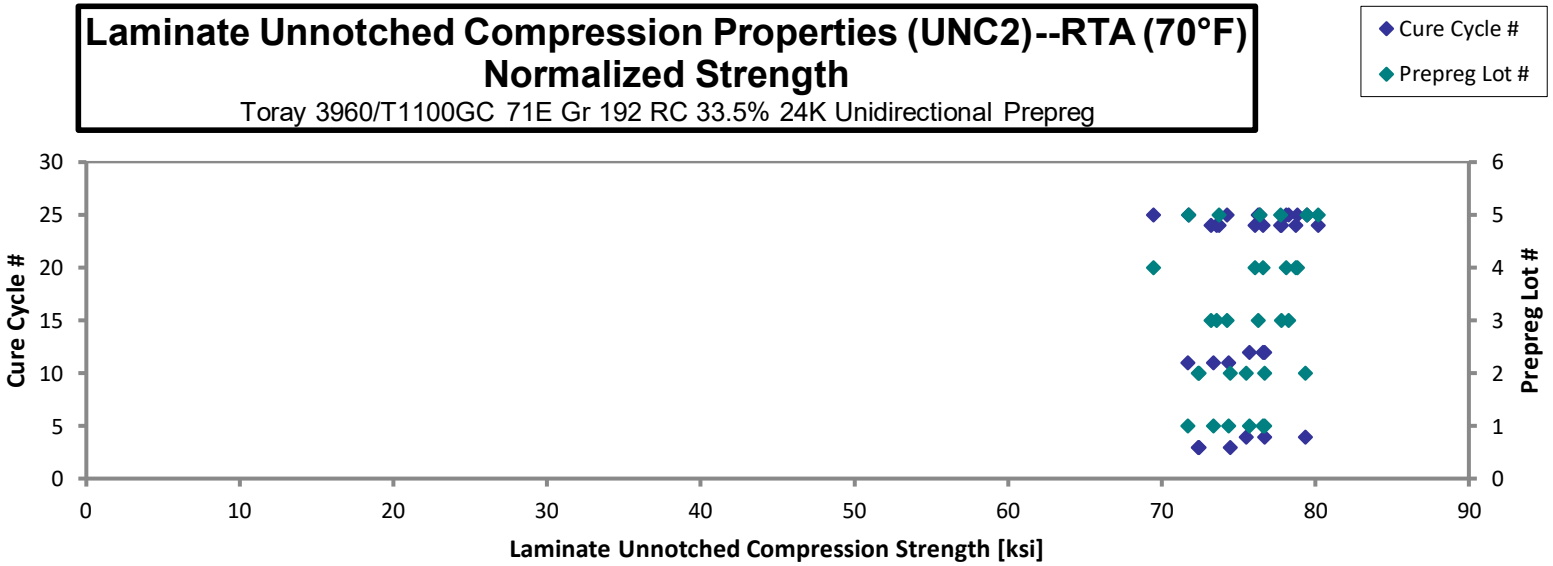
normalizing t_{ply} [in]
0.007200

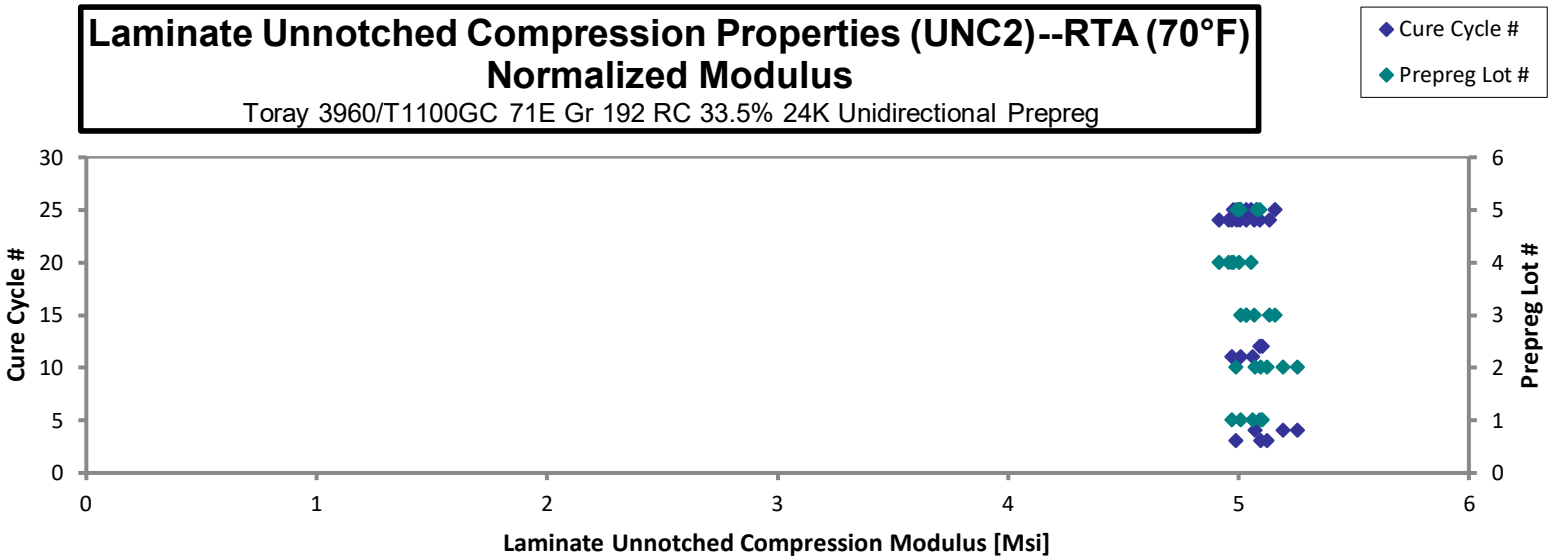
Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Modulus (avg.**) [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
NTP3961Q1-TC-T01-BT-UNC2-A-C11-1-RTA-1	A	C11	1	11	72.60	4.890	0.1476	20	HGM	0.007378	74.39	5.011
NTP3961Q1-TC-T01-BT-UNC2-A-C11-1-RTA-2	A	C11	1	11	70.11	4.860	0.1473	20	HGM	0.007367	71.73	4.972
NTP3961Q1-TC-T01-BT-UNC2-A-C11-1-RTA-3	A	C11	1	11	71.90	4.960	0.1470	20	HGM	0.007348	73.38	5.062
NTP3961Q1-TC-T01-BT-UNC2-A-C12-1-RTA-1	A	C12	1	12	75.98	5.050	0.1452	20	HGM	0.007260	76.61	5.092
NTP3961Q1-TC-T01-BT-UNC2-A-C12-1-RTA-2	A	C12	1	12	76.06	5.060	0.1453	20	HGM	0.007263	76.73	5.104
NTP3961Q1-TC-T01-BT-UNC2-A-C12-1-RTA-3*	A	C12	1	12	75.13		0.1452	20	HGM	0.007258	75.74	
NTP3961Q1-TC-T01-BT-UNC2-B-C3-1-RTA-1	B	C3	2	3	71.70	4.940	0.1455	20	BGM	0.007274	72.44	4.991
NTP3961Q1-TC-T01-BT-UNC2-B-C3-1-RTA-2	B	C3	2	3	71.18	5.040	0.1464	20	BGM	0.007322	72.38	5.125
NTP3961Q1-TC-T01-BT-UNC2-B-C3-1-RTA-3	B	C3	2	3	72.92	4.990	0.1471	20	BGM	0.007356	74.49	5.098
NTP3961Q1-TC-T01-BT-UNC2-B-C4-1-RTA-1	B	C4	2	4	78.25	5.120	0.1461	20	BGM	0.007303	79.37	5.193
NTP3961Q1-TC-T01-BT-UNC2-B-C4-1-RTA-2	B	C4	2	4	74.09	5.160	0.1467	20	BGM	0.007337	75.49	5.258
NTP3961Q1-TC-T01-BT-UNC2-B-C4-1-RTA-3	B	C4	2	4	75.77	5.010	0.1458	20	BGM	0.007289	76.71	5.072
NTP3961Q1-TC-T01-TC-UNC2-C-C24-3-RTA-1	C	C24	3	24	73.22	5.010	0.1447	20	BGM	0.007235	73.58	5.034
NTP3961Q1-TC-T01-TC-UNC2-C-C24-3-RTA-2	C	C24	3	24	77.12	5.090	0.1453	20	BGM	0.007264	77.81	5.135
NTP3961Q1-TC-T01-TC-UNC2-C-C24-3-RTA-3	C	C24	3	24	72.80	5.040	0.1448	20	BGM	0.007242	73.22	5.069
NTP3961Q1-TC-T01-TC-UNC2-C-C25-3-RTA-1	C	C25	3	25	77.72	5.000	0.1450	20	BAT	0.007250	78.26	5.035
NTP3961Q1-TC-T01-TC-UNC2-C-C25-3-RTA-2	C	C25	3	25	75.69	4.970	0.1452	20	BGM	0.007258	76.30	5.010
NTP3961Q1-TC-T01-TC-UNC2-C-C25-3-RTA-3	C	C25	3	25	73.70	5.120	0.1451	20	BGM	0.007256	74.27	5.159
NTP3961Q1-TC-T01-TC-UNC2-D-C24-3-RTA-1	D	C24	4	24	77.98	4.870	0.1454	20	BGM	0.007270	78.74	4.917
NTP3961Q1-TC-T01-TC-UNC2-D-C24-3-RTA-2	D	C24	4	24	76.15	4.940	0.1449	20	BGM	0.007244	76.62	4.970
NTP3961Q1-TC-T01-TC-UNC2-D-C24-3-RTA-4	D	C24	4	24	75.83	4.940	0.1445	20	BGM	0.007224	76.08	4.956
NTP3961Q1-TC-T01-TC-UNC2-D-C25-3-RTA-1	D	C25	4	25	76.89	4.900	0.1463	20	BGM	0.007316	78.12	4.979
NTP3961Q1-TC-T01-TC-UNC2-D-C25-3-RTA-2	D	C25	4	25	77.85	4.990	0.1459	20	BGM	0.007294	78.87	5.055
NTP3961Q1-TC-T01-TC-UNC2-D-C25-3-RTA-3	D	C25	4	25	68.75	4.950	0.1456	20	BGM	0.007278	69.49	5.003
NTP3961Q1-TC-T01-TC-UNC2-E-C24-3-RTA-2	E	C24	5	24	79.52	5.050	0.1453	20	BGM	0.007263	80.22	5.094
NTP3961Q1-TC-T01-TC-UNC2-E-C24-3-RTA-1	E	C24	5	24	76.90	4.950	0.1456	20	BGM	0.007281	77.76	5.005
NTP3961Q1-TC-T01-TC-UNC2-E-C24-3-RTA-3	E	C24	5	24	73.12	4.950	0.1452	20	BGM	0.007262	73.74	4.992
NTP3961Q1-TC-T01-TC-UNC2-E-C25-3-RTA-1	E	C25	5	25	75.83	4.970	0.1451	20	BGM	0.007254	76.40	5.007
NTP3961Q1-TC-T01-TC-UNC2-E-C25-3-RTA-2	E	C25	5	25	78.37	5.010	0.1460	20	BGM	0.007301	79.46	5.080
NTP3961Q1-TC-T01-TC-UNC2-E-C25-3-RTA-3	E	C25	5	25	70.90	4.940	0.1458	20	BGM	0.007289	71.78	5.001

*Excluded modulus due to bending ≥10% at 0.2% strain
**Average of back to back strain gages

	Strength [ksi]	Modulus (avg.**) [Msi]
Average	74.80	4.992
Standard Dev.	2.768	0.07485
Coeff. of Var. [%]	3.700	1.499
Min.	68.75	4.860
Max.	79.52	5.160
Number of Spec.	30	29

	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
$Average_{norm}$	0.007284	75.67	5.051
$Standard\ Dev._{norm}$		2.688	0.0761
$Coeff.\ of\ Var.\ [\%]_{norm}$		3.553	1.506
Min.	0.007224	69.49	4.917
Max.	0.007378	80.22	5.258
Number of Spec.	30	30	29


Laminate Unnotched Compression Properties (UNC2)--RTA (70°F)
Normalized Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Unnotched Compression Strength [ksi]
0
5
10
15
20
25
30
0
1
2
3
4
5
6
0
10
20
30
40
50
60
70
80
90


Laminate Unnotched Compression Properties (UNC2)--RTA (70°F)
Normalized Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Unnotched Compression Modulus [Msi]
0
5
10
15
20
25
30
1
2
3
4
6

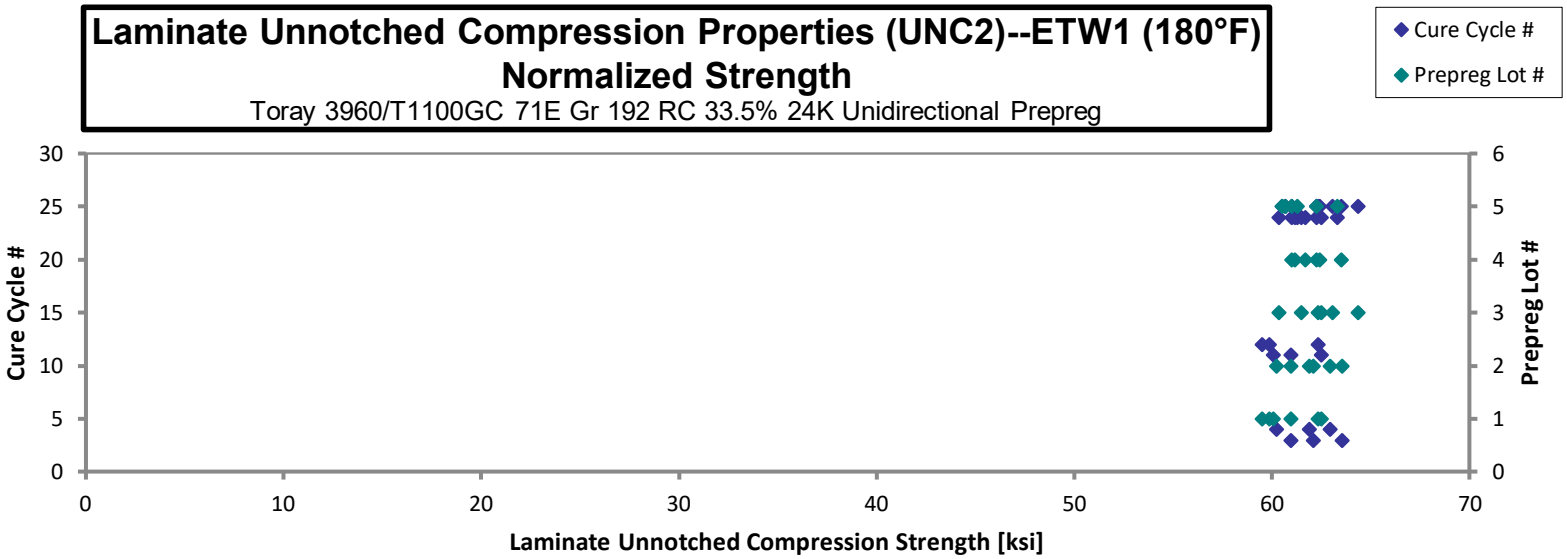
Laminate Unnotched Compression Properties (UNC2)--ETW1 (180°F)
Strength & Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

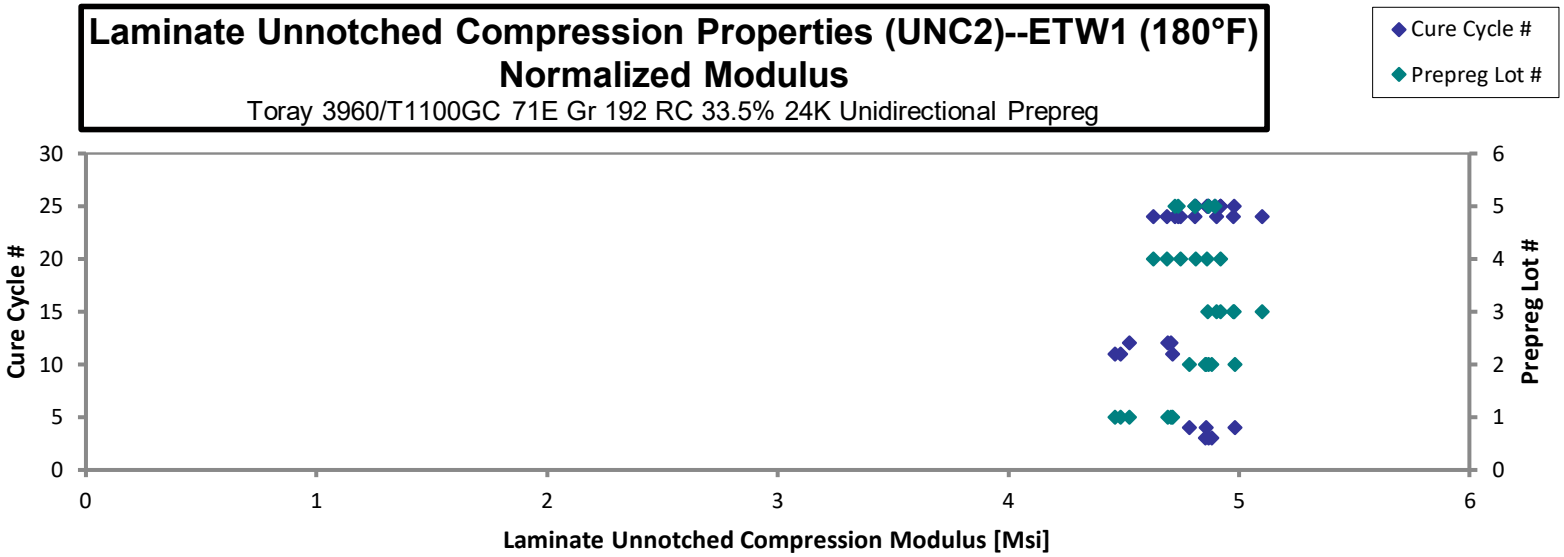
normalizing t_{ply} [in]
0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Modulus (avg.*) [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
NTP3961Q1-TC-T01-BT-UNC2-A-C11-1-ETW1-1	A	C11	1	11	60.61	4.570	0.1485	20	BGM	0.007423	62.49	4.712
NTP3961Q1-TC-T01-BT-UNC2-A-C11-1-ETW1-2	A	C11	1	11	59.41	4.350	0.1478	20	BGM	0.007388	60.96	4.464
NTP3961Q1-TC-T01-BT-UNC2-A-C11-1-ETW1-3	A	C11	1	11	58.64	4.380	0.1475	20	BGM	0.007374	60.06	4.486
NTP3961Q1-TC-T01-BT-UNC2-A-C12-1-ETW1-1	A	C12	1	12	58.35	4.600	0.1468	20	BGM	0.007342	59.50	4.690
NTP3961Q1-TC-T01-BT-UNC2-A-C12-1-ETW1-2	A	C12	1	12	58.78	4.440	0.1467	20	BGM	0.007336	59.89	4.524
NTP3961Q1-TC-T01-BT-UNC2-A-C12-1-ETW1-4	A	C12	1	12	60.95	4.600	0.1473	20	BGT	0.007363	62.33	4.704
NTP3961Q1-TC-T01-BT-UNC2-B-C3-1-ETW1-1	B	C3	2	3	59.39	4.740	0.1479	20	BGM	0.007393	60.98	4.867
NTP3961Q1-TC-T01-BT-UNC2-B-C3-1-ETW1-2	B	C3	2	3	62.10	4.770	0.1474	20	BGM	0.007368	63.55	4.881
NTP3961Q1-TC-T01-BT-UNC2-B-C3-1-ETW1-3	B	C3	2	3	60.73	4.750	0.1472	20	BGM	0.007360	62.08	4.856
NTP3961Q1-TC-T01-BT-UNC2-B-C4-1-ETW1-1	B	C4	2	4	61.02	4.830	0.1486	20	BGM	0.007428	62.95	4.983
NTP3961Q1-TC-T01-BT-UNC2-B-C4-1-ETW1-2	B	C4	2	4	58.52	4.720	0.1482	20	BGM	0.007409	60.22	4.857
NTP3961Q1-TC-T01-BT-UNC2-B-C4-1-ETW1-3	B	C4	2	4	61.06	4.720	0.1460	20	BGM	0.007299	61.90	4.785
NTP3961Q1-TC-T01-TC-UNC2-C-C24-3-ETW1-3	C	C24	3	24	62.37	5.090	0.1443	20	BGM	0.007215	62.50	5.101
NTP3961Q1-TC-T01-TC-UNC2-C-C24-3-ETW1-4	C	C24	3	24	61.46	4.900	0.1441	20	BGM	0.007203	61.49	4.902
NTP3961Q1-TC-T01-TC-UNC2-C-C24-3-ETW1-5	C	C24	3	24	59.42	4.900	0.1463	20	BGM	0.007313	60.35	4.977
NTP3961Q1-TC-T01-TC-UNC2-C-C25-3-ETW1-1	C	C25	3	25	62.85	4.850	0.1445	20	BGM	0.007223	63.05	4.865
NTP3961Q1-TC-T01-TC-UNC2-C-C25-3-ETW1-2	C	C25	3	25	62.21	4.910	0.1443	20	BGM	0.007216	62.34	4.921
NTP3961Q1-TC-T01-TC-UNC2-C-C25-3-ETW1-3	C	C25	3	25	63.62	4.920	0.1457	20	BGM	0.007286	64.38	4.978
NTP3961Q1-TC-T01-TC-UNC2-D-C24-3-ETW1-1	D	C24	4	24	60.92	4.670	0.1446	20	DGM	0.007228	61.15	4.688
NTP3961Q1-TC-T01-TC-UNC2-D-C24-3-ETW1-2	D	C24	4	24	60.73	4.610	0.1446	20	DGM	0.007230	60.98	4.629
NTP3961Q1-TC-T01-TC-UNC2-D-C24-3-ETW1-3	D	C24	4	24	60.68	4.670	0.1464	20	DGM	0.007321	61.70	4.748
NTP3961Q1-TC-T01-TC-UNC2-D-C25-3-ETW1-1	D	C25	4	25	61.33	4.740	0.1462	20	DGM	0.007309	62.26	4.812
NTP3961Q1-TC-T01-TC-UNC2-D-C25-3-ETW1-2	D	C25	4	25	62.06	4.810	0.1473	20	DGM	0.007367	63.50	4.921
NTP3961Q1-TC-T01-TC-UNC2-D-C25-3-ETW1-3	D	C25	4	25	61.77	4.810	0.1455	20	DGM	0.007277	62.43	4.861
NTP3961Q1-TC-T01-TC-UNC2-E-C24-3-ETW1-1	E	C24	5	24	62.67	4.760	0.1455	20	DGM	0.007276	63.33	4.810
NTP3961Q1-TC-T01-TC-UNC2-E-C24-3-ETW1-2	E	C24	5	24	61.24	4.660	0.1464	20	DGM	0.007318	62.24	4.736
NTP3961Q1-TC-T01-TC-UNC2-E-C24-3-ETW1-3	E	C24	5	24	60.88	4.690	0.1450	20	DGM	0.007249	61.29	4.722
NTP3961Q1-TC-T01-TC-UNC2-E-C25-3-ETW1-1	E	C25	5	25	60.60	4.860	0.1442	20	DGM	0.007211	60.69	4.867
NTP3961Q1-TC-T01-TC-UNC2-E-C25-3-ETW1-2	E	C25	5	25	60.44	4.890	0.1442	20	DGM	0.007208	60.51	4.895
NTP3961Q1-TC-T01-TC-UNC2-E-C25-3-ETW1-3	E	C25	5	25	60.60	4.780	0.1449	20	DGM	0.007246	60.98	4.810

*Average of back to back strain gages

Average	**60.85**	**4.733**	**Average$_{norm}$**	**0.007306**	**61.74**	**4.802**
Standard Dev.	**1.331**	**0.1640**	**Standard Dev.$_{norm}$**		**1.219**	**0.1483**
Coeff. of Var. [%]	**2.187**	**3.464**	**Coeff. of Var. [%]$_{norm}$**		**1.974**	**3.089**
Min.	**58.35**	**4.350**	**Min.**	**0.007203**	**59.50**	**4.464**
Max.	**63.62**	**5.090**	**Max.**	**0.007428**	**64.38**	**5.101**
Number of Spec.	**30**	**30**	**Number of Spec.**	**30**	**30**	**30**


Laminate Unnotched Compression Properties (UNC2)--ETW1 (180°F)
Normalized Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Unnotched Compression Strength [ksi]
0
5
10
15
20
25
30
0
1
2
3
4
5
6
0
10
20
30
40
50
60
70


Laminate Unnotched Compression Properties (UNC2)--ETW1 (180°F)
Normalized Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Unnotched Compression Modulus [Msi]
0
5
10
15
20
25
30
0
1
2
3
4
5
6

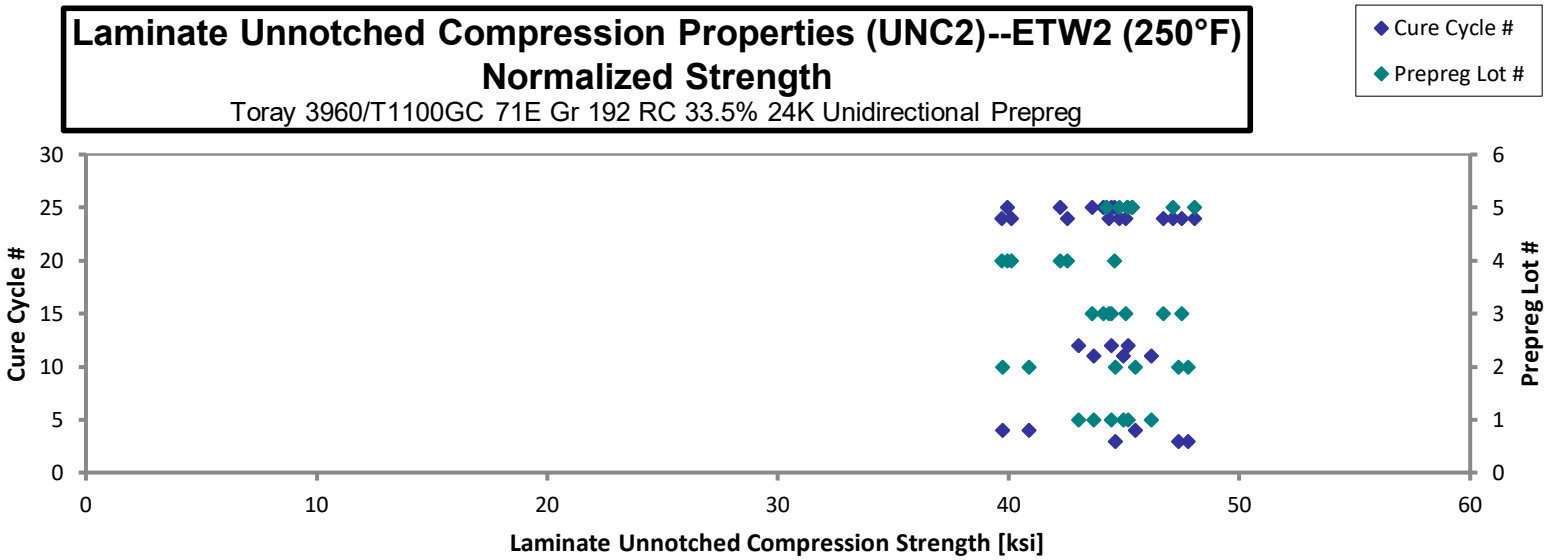
Laminate Unnotched Compression Properties (UNC2)--ETW2 (250°F)
Strength & Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

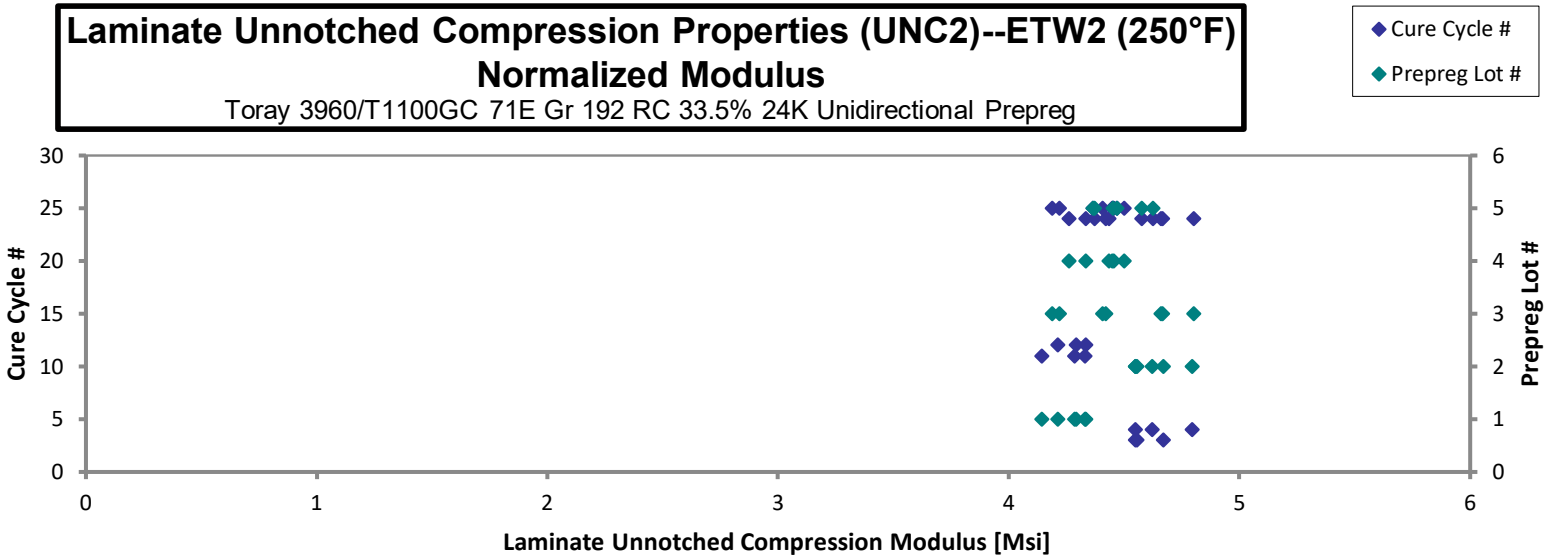
normalizing t_{ply} [in]
0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Modulus (avg.*) [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
NTP3961Q1-TC-T01-BT-UNC2-A-C11-1-ETW2-1	A	C11	1	11	41.85	3.970	0.1503	20	BGM	0.007513	43.67	4.143
NTP3961Q1-TC-T01-BT-UNC2-A-C11-1-ETW2-2	A	C11	1	11	43.25	4.120	0.1498	20	BGM	0.007488	44.98	4.285
NTP3961Q1-TC-T01-BT-UNC2-A-C11-1-ETW2-4	A	C11	1	11	44.79	4.200	0.1484	20	BGM	0.007422	46.17	4.329
NTP3961Q1-TC-T01-BT-UNC2-A-C12-1-ETW2-1	A	C12	1	12	41.78	4.090	0.1483	20	BGM	0.007413	43.01	4.211
NTP3961Q1-TC-T01-BT-UNC2-A-C12-1-ETW2-2	A	C12	1	12	44.02	4.180	0.1478	20	BGM	0.007392	45.19	4.291
NTP3961Q1-TC-T01-BT-UNC2-A-C12-1-ETW2-3	A	C12	1	12	43.49	4.240	0.1471	20	BGM	0.007357	44.44	4.332
NTP3961Q1-TC-T01-BT-UNC2-B-C3-1-ETW2-1	B	C3	2	3	43.86	4.590	0.1465	20	BAT	0.007326	44.62	4.670
NTP3961Q1-TC-T01-BT-UNC2-B-C3-1-ETW2-2	B	C3	2	3	46.78	4.460	0.1471	20	BGM	0.007353	47.77	4.555
NTP3961Q1-TC-T01-BT-UNC2-B-C3-1-ETW2-3	B	C3	2	3	45.70	4.390	0.1492	20	BGM	0.007459	47.34	4.548
NTP3961Q1-TC-T01-BT-UNC2-B-C4-1-ETW2-1	B	C4	2	4	38.94	4.460	0.1469	20	TGM	0.007344	39.72	4.549
NTP3961Q1-TC-T01-BT-UNC2-B-C4-1-ETW2-2	B	C4	2	4	44.50	4.690	0.1472	20	BGM	0.007359	45.48	4.794
NTP3961Q1-TC-T01-BT-UNC2-B-C4-1-ETW2-3	B	C4	2	4	39.99	4.520	0.1472	20	BGM	0.007362	40.89	4.621
NTP3961Q1-TC-T01-TC-UNC2-C-C24-3-ETW2-1	C	C24	3	24	43.32	4.320	0.1474	20	DGM	0.007368	44.33	4.421
NTP3961Q1-TC-T01-TC-UNC2-C-C24-3-ETW2-2	C	C24	3	24	44.52	4.740	0.1458	20	HGM	0.007292	45.09	4.800
NTP3961Q1-TC-T01-TC-UNC2-C-C24-3-ETW2-3	C	C24	3	24	46.05	4.600	0.1460	20	DGM	0.007302	46.70	4.665
NTP3961Q1-TC-T01-TC-UNC2-C-C24-3-ETW2-5	C	C24	3	24	46.86	4.600	0.1459	20	DGM	0.007296	47.48	4.661
NTP3961Q1-TC-T01-TC-UNC2-C-C25-3-ETW2-1	C	C25	3	25	44.22	4.200	0.1447	20	DGM	0.007234	44.43	4.220
NTP3961Q1-TC-T01-TC-UNC2-C-C25-3-ETW2-2	C	C25	3	25	44.02	4.180	0.1443	20	DGM	0.007215	44.11	4.189
NTP3961Q1-TC-T01-TC-UNC2-C-C25-3-ETW2-3	C	C25	3	25	43.37	4.380	0.1448	20	DGM	0.007242	43.62	4.405
NTP3961Q1-TC-T01-TC-UNC2-D-C24-3-ETW2-2	D	C24	4	24	39.50	4.240	0.1448	20	DGM	0.007238	39.71	4.262
NTP3961Q1-TC-T01-TC-UNC2-D-C24-3-ETW2-3	D	C24	4	24	40.07	4.430	0.1442	20	DGM	0.007208	40.11	4.435
NTP3961Q1-TC-T01-TC-UNC2-D-C24-3-ETW2-4	D	C24	4	24	42.34	4.310	0.1447	20	DGM	0.007237	42.55	4.332
NTP3961Q1-TC-T01-TC-UNC2-D-C25-3-ETW2-1	D	C25	4	25	41.43	4.370	0.1468	20	DGM	0.007338	42.22	4.453
NTP3961Q1-TC-T01-TC-UNC2-D-C25-3-ETW2-2	D	C25	4	25	39.21	4.370	0.1466	20	DGM	0.007331	39.92	4.449
NTP3961Q1-TC-T01-TC-UNC2-D-C25-3-ETW2-3	D	C25	4	25	43.79	4.420	0.1466	20	DGM	0.007328	44.57	4.499
NTP3961Q1-TC-T01-TC-UNC2-E-C24-3-ETW2-1	E	C24	5	24	47.48	4.570	0.1458	20	DGM	0.007288	48.06	4.626
NTP3961Q1-TC-T01-TC-UNC2-E-C24-3-ETW2-2	E	C24	5	24	46.85	4.550	0.1448	20	DGM	0.007240	47.11	4.575
NTP3961Q1-TC-T01-TC-UNC2-E-C24-3-ETW2-3	E	C24	5	24	44.47	4.340	0.1450	20	DGM	0.007252	44.79	4.371
NTP3961Q1-TC-T01-TC-UNC2-E-C25-3-ETW2-1	E	C25	5	25	43.59	4.300	0.1461	20	DGM	0.007307	44.23	4.364
NTP3961Q1-TC-T01-TC-UNC2-E-C25-3-ETW2-2	E	C25	5	25	44.12	4.370	0.1473	20	DGM	0.007365	45.13	4.470
NTP3961Q1-TC-T01-TC-UNC2-E-C25-3-ETW2-3	E	C25	5	25	44.30	4.350	0.1474	20	DGM	0.007369	45.34	4.452

*Average of back to back strain gages

Average	**43.50**	**4.373**	**Average$_{norm}$**	**0.007330**	**44.28**	**4.451**
Standard Dev.	**2.296**	**0.1815**	**Standard Dev.$_{norm}$**		**2.371**	**0.1741**
Coeff. of Var. [%]	**5.278**	**4.150**	**Coeff. of Var. [%]$_{norm}$**		**5.353**	**3.911**
Min.	**38.94**	**3.970**	**Min.**	**0.007208**	**39.71**	**4.143**
Max.	**47.48**	**4.740**	**Max.**	**0.007513**	**48.06**	**4.800**
Number of Spec.	**31**	**31**	**Number of Spec.**	**31**	**31**	**31**


Laminate Unnotched Compression Properties (UNC2)--ETW2 (250°F)
Normalized Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Unnotched Compression Strength [ksi]
0
5
10
15
20
25
30
0
1
2
3
4
5
6
0
10
20
30
40
50
60


Laminate Unnotched Compression Properties (UNC2)--ETW2 (250°F)
Normalized Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Unnotched Compression Modulus [Msi]
0
5
10
15
20
25
30
1
2
3
4
6

4.15 “50/40/10” Unnotched Compression 3 Properties (UNC3)

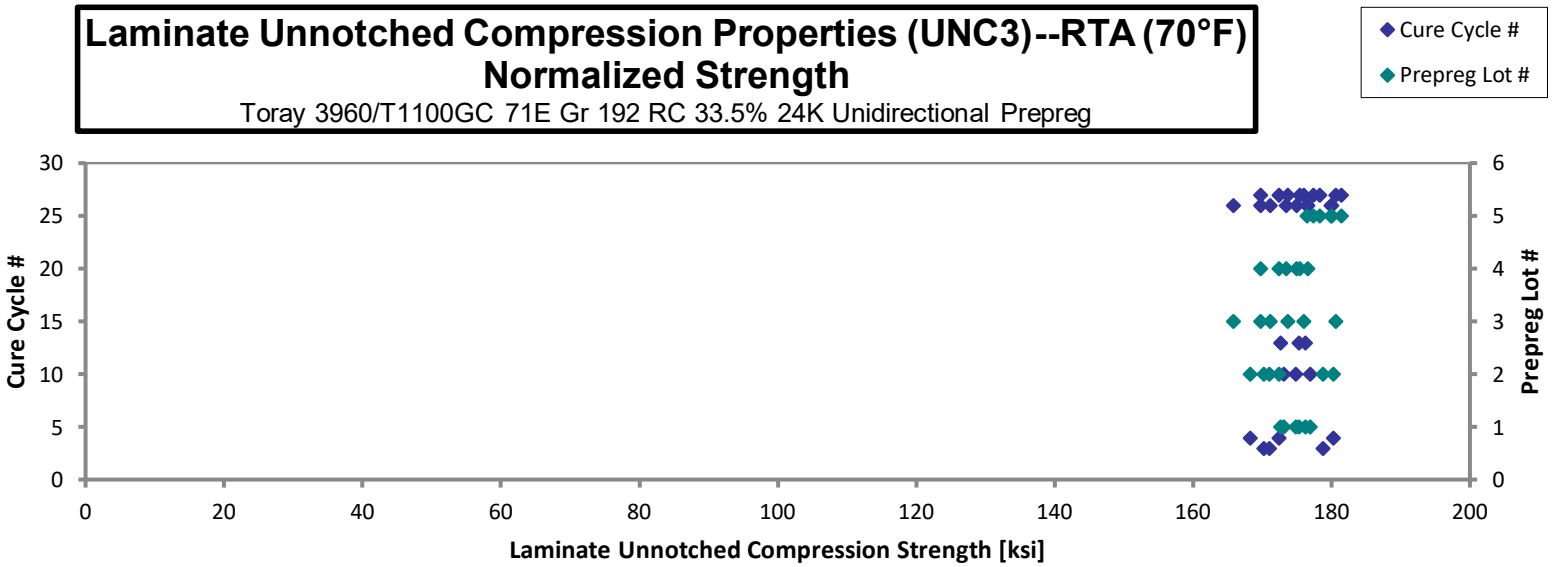
Laminate Unnotched Compression Properties (UNC3)--RTA (70°F)
Strength & Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

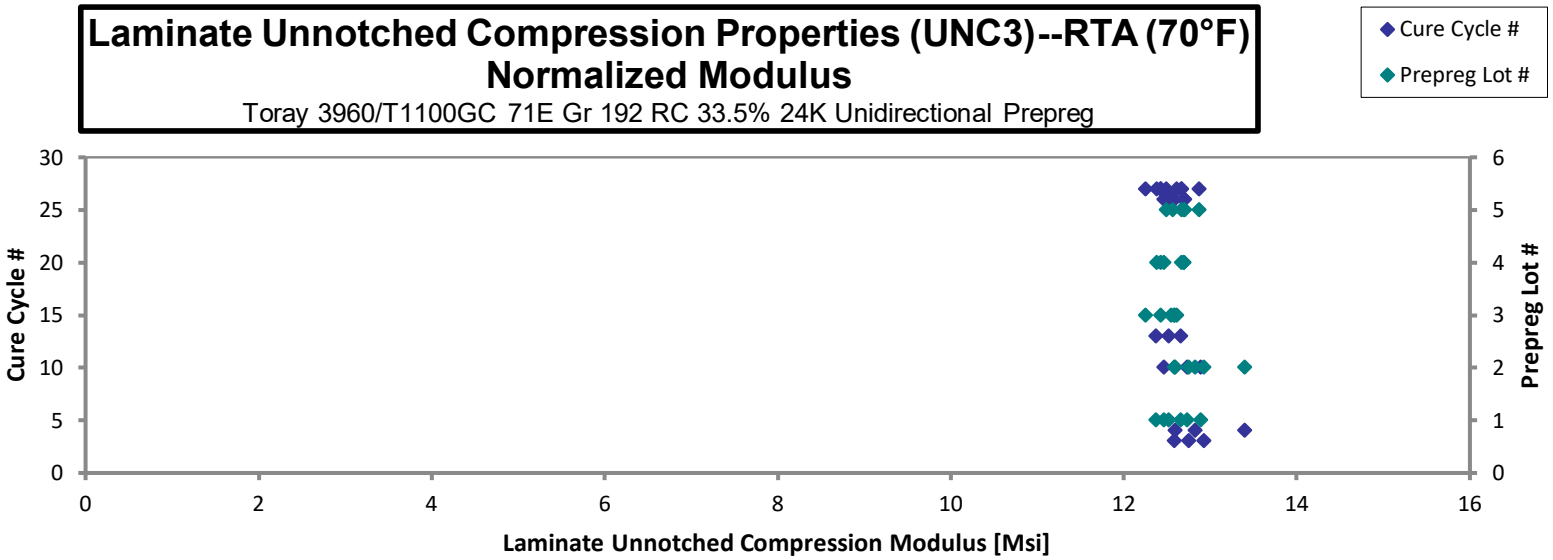
normalizing t_{ply} [in]
0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Modulus (avg.*) [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
NTP3961Q1-TC-T01-BT-UNC3-A-C10-1-RTA-1	A	C10	1	10	174.2	12.69	0.1463	20	HGV	0.007313	176.9	12.89
NTP3961Q1-TC-T01-BT-UNC3-A-C10-1-RTA-2	A	C10	1	10	172.3	12.54	0.1462	20	BGM	0.007308	174.9	12.73
NTP3961Q1-TC-T01-BT-UNC3-A-C10-1-RTA-3	A	C10	1	10	170.5	12.27	0.1462	20	BGM	0.007311	173.1	12.46
NTP3961Q1-TC-T01-BT-UNC3-A-C13-1-RTA-1	A	C13	1	13	171.5	12.38	0.1472	20	BGB	0.007358	175.3	12.65
NTP3961Q1-TC-T01-BT-UNC3-A-C13-1-RTA-2	A	C13	1	13	169.8	12.16	0.1464	20	HGB	0.007322	172.6	12.37
NTP3961Q1-TC-T01-BT-UNC3-A-C13-1-RTA-3	A	C13	1	13	173.8	12.34	0.1461	20	HGB	0.007304	176.3	12.52
NTP3961Q1-TC-T01-BT-UNC3-B-C3-1-RTA-1	B	C3	2	3	171.6	12.41	0.1500	20	BGM	0.007498	178.7	12.92
NTP3961Q1-TC-T01-BT-UNC3-B-C3-1-RTA-2	B	C3	2	3	165.2	12.31	0.1492	20	BGM	0.007458	171.1	12.75
NTP3961Q1-TC-T01-BT-UNC3-B-C3-1-RTA-3	B	C3	2	3	162.0	11.97	0.1513	20	BGM	0.007567	170.2	12.58
NTP3961Q1-TC-T01-BT-UNC3-B-C4-1-RTA-1	B	C4	2	4	169.4	12.38	0.1465	20	BGM	0.007325	172.4	12.59
NTP3961Q1-TC-T01-BT-UNC3-B-C4-1-RTA-2	B	C4	2	4	164.0	13.06	0.1477	20	BGM	0.007386	168.2	13.40
NTP3961Q1-TC-T01-BT-UNC3-B-C4-1-RTA-3	B	C4	2	4	176.3	12.54	0.1473	20	BGM	0.007364	180.3	12.83
NTP3961Q1-TC-T01-TC-UNC3-C-C26-3-RTA-1	C	C26	3	26	165.4	12.55	0.1444	20	BAB	0.007218	165.8	12.58
NTP3961Q1-TC-T01-TC-UNC3-C-C26-3-RTA-2	C	C26	3	26	170.5	12.54	0.1445	20	BAT	0.007224	171.1	12.58
NTP3961Q1-TC-T01-TC-UNC3-C-C26-3-RTA-3	C	C26	3	26	169.3	12.51	0.1444	20	BAB	0.007222	169.8	12.55
NTP3961Q1-TC-T01-TC-UNC3-C-C27-3-RTA-1	C	C27	3	27	173.6	12.08	0.1460	20	BGM	0.007302	176.0	12.25
NTP3961Q1-TC-T01-TC-UNC3-C-C27-3-RTA-2	C	C27	3	27	179.1	12.32	0.1452	20	BAB	0.007260	180.6	12.42
NTP3961Q1-TC-T01-TC-UNC3-C-C27-3-RTA-3	C	C27	3	27	171.9	12.48	0.1455	20	BAT	0.007275	173.7	12.61
NTP3961Q1-TC-T01-TC-UNC3-D-C26-3-RTA-1	D	C26	4	26	172.1	12.59	0.1451	20	BGM	0.007257	173.5	12.69
NTP3961Q1-TC-T01-TC-UNC3-D-C26-3-RTA-2	D	C26	4	26	172.5	12.28	0.1461	20	BAT	0.007306	175.0	12.46
NTP3961Q1-TC-T01-TC-UNC3-D-C26-3-RTA-3	D	C26	4	26	176.1	12.66	0.1444	20	BGT	0.007219	176.5	12.69
NTP3961Q1-TC-T01-TC-UNC3-D-C27-3-RTA-1	D	C27	4	27	173.4	12.28	0.1457	20	XGM	0.007284	175.4	12.42
NTP3961Q1-TC-T01-TC-UNC3-D-C27-3-RTA-2	D	C27	4	27	171.7	12.33	0.1446	20	XGM	0.007228	172.4	12.38
NTP3961Q1-TC-T01-TC-UNC3-D-C27-3-RTA-3	D	C27	4	27	168.5	12.57	0.1451	20	XGM	0.007253	169.7	12.66
NTP3961Q1-TC-T01-TC-UNC3-E-C26-3-RTA-1	E	C26	5	26	178.2	12.44	0.1454	20	XGM	0.007271	180.0	12.56
NTP3961Q1-TC-T01-TC-UNC3-E-C26-3-RTA-2	E	C26	5	26	174.2	12.53	0.1459	20	XGM	0.007294	176.5	12.69
NTP3961Q1-TC-T01-TC-UNC3-E-C26-3-RTA-3	E	C26	5	26	178.1	12.57	0.1455	20	XGM	0.007277	180.0	12.70
NTP3961Q1-TC-T01-TC-UNC3-E-C27-3-RTA-1	E	C27	5	27	178.4	12.56	0.1432	20	XGM	0.007158	177.4	12.49
NTP3961Q1-TC-T01-TC-UNC3-E-C27-3-RTA-2	E	C27	5	27	180.0	12.77	0.1451	20	XGM	0.007257	181.5	12.87
NTP3961Q1-TC-T01-TC-UNC3-E-C27-3-RTA-3	E	C27	5	27	176.6	12.54	0.1454	20	XGM	0.007270	178.3	12.66

*Average of back to back strain gages

	Strength [ksi]	Modulus (avg.*) [Msi]		Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
Average	**172.3**	**12.46**	**$Average_{norm}$**	**0.007303**	**174.8**	**12.63**
Standard Dev.	**4.526**	**0.2122**	**Standard $Dev._{norm}$**		**3.971**	**0.2162**
Coeff. of Var. [%]	**2.626**	**1.703**	**Coeff. of Var. $[\%]_{norm}$**		**2.272**	**1.712**
Min.	**162.0**	**11.97**	**Min.**	**0.007158**	**165.8**	**12.25**
Max.	**180.0**	**13.06**	**Max.**	**0.007567**	**181.5**	**13.40**
Number of Spec.	**30**	**30**	**Number of Spec.**	**30**	**30**	**30**


Laminate Unnotched Compression Properties (UNC3)--RTA (70°F)
Normalized Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Unnotched Compression Strength [ksi]
0
5
10
15
20
25
30
0
1
2
3
4
5
6
0
20
40
60
80
100
120
140
160
180
200


Laminate Unnotched Compression Properties (UNC3)--RTA (70°F)
Normalized Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Unnotched Compression Modulus [Msi]
0
2
4
6
8
10
12
14
16
0
5
10
15
20
25
30
0
1
2
3
4
5
6

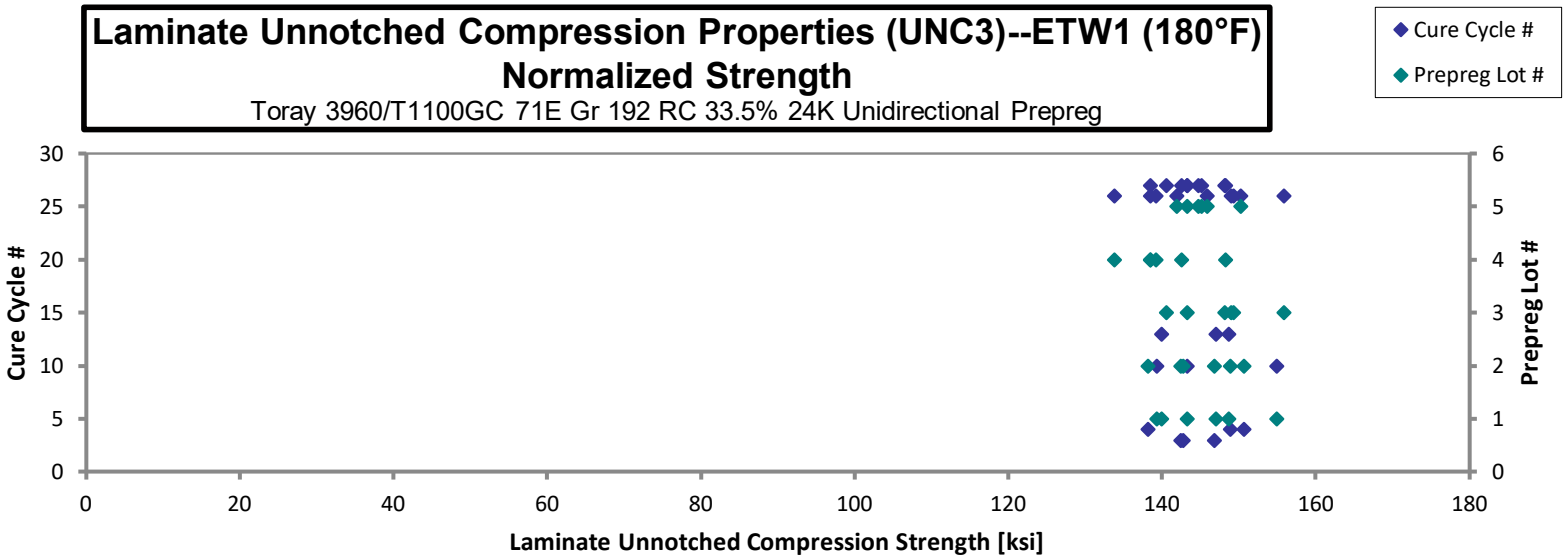
Laminate Unnotched Compression Properties (UNC3)--ETW1 (180°F)
Strength & Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

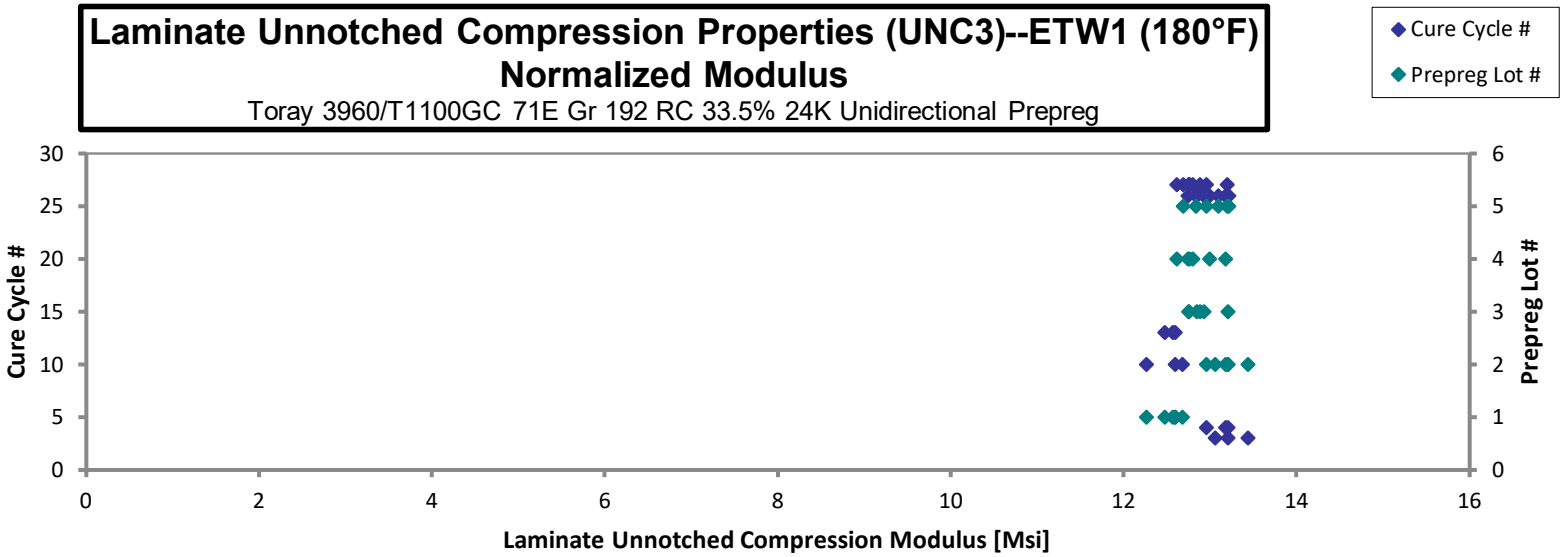
normalizing t_{ply} [in]
0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Modulus (avg.*) [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
NTP3961Q1-TC-T01-BT-UNC3-A-C10-1-ETW1-1	A	C10	1	10	151.7	12.42	0.1471	20	BAB	0.007355	154.9	12.69
NTP3961Q1-TC-T01-BT-UNC3-A-C10-1-ETW1-2	A	C10	1	10	137.2	12.41	0.1463	20	BGM	0.007313	139.4	12.60
NTP3961Q1-TC-T01-BT-UNC3-A-C10-1-ETW1-3	A	C10	1	10	141.4	12.10	0.1460	20	BAT	0.007299	143.3	12.27
NTP3961Q1-TC-T01-BT-UNC3-A-C13-1-ETW1-1	A	C13	1	13	137.7	12.40	0.1464	20	BGB	0.007318	139.9	12.60
NTP3961Q1-TC-T01-BT-UNC3-A-C13-1-ETW1-2	A	C13	1	13	144.7	12.37	0.1464	20	BAT	0.007319	147.1	12.57
NTP3961Q1-TC-T01-BT-UNC3-A-C13-1-ETW1-3	A	C13	1	13	146.6	12.30	0.1461	20	BAT	0.007303	148.7	12.48
NTP3961Q1-TC-T01-BT-UNC3-B-C3-1-ETW1-1	B	C3	2	3	145.0	13.27	0.1459	20	BAB	0.007294	146.9	13.44
NTP3961Q1-TC-T01-BT-UNC3-B-C3-1-ETW1-2	B	C3	2	3	139.7	12.92	0.1473	20	BGM	0.007363	142.8	13.21
NTP3961Q1-TC-T01-BT-UNC3-B-C3-1-ETW1-3	B	C3	2	3	139.6	12.80	0.1470	20	BAB	0.007348	142.5	13.06
NTP3961Q1-TC-T01-BT-UNC3-B-C4-1-ETW1-3	B	C4	2	4	145.0	12.71	0.1496	20	BGM	0.007482	150.7	13.21
NTP3961Q1-TC-T01-BT-UNC3-B-C4-1-ETW1-2	B	C4	2	4	147.5	13.05	0.1454	20	BAT	0.007272	149.0	13.18
NTP3961Q1-TC-T01-BT-UNC3-B-C4-1-ETW1-1	B	C4	2	4	136.6	12.81	0.1457	20	BAB	0.007284	138.2	12.96
NTP3961Q1-TC-T01-TC-UNC3-C-C26-3-ETW1-1	C	C26	3	26	145.5	12.51	0.1479	20	BGM	0.007394	149.4	12.85
NTP3961Q1-TC-T01-TC-UNC3-C-C26-3-ETW1-2	C	C26	3	26	145.3	12.88	0.1477	20	BGM	0.007387	149.0	13.21
NTP3961Q1-TC-T01-TC-UNC3-C-C26-3-ETW1-3	C	C26	3	26	153.8	12.76	0.1460	20	BGM	0.007300	155.9	12.94
NTP3961Q1-TC-T01-TC-UNC3-C-C27-3-ETW1-1	C	C27	3	27	143.2	12.74	0.1442	20	BAB	0.007208	143.4	12.75
NTP3961Q1-TC-T01-TC-UNC3-C-C27-3-ETW1-2	C	C27	3	27	147.7	12.85	0.1445	20	BAB	0.007223	148.2	12.89
NTP3961Q1-TC-T01-TC-UNC3-C-C27-3-ETW1-3	C	C27	3	27	139.8	12.69	0.1448	20	BAB	0.007239	140.6	12.76
NTP3961Q1-TC-T01-TC-UNC3-D-C26-3-ETW1-1	D	C26	4	26	137.8	12.86	0.1455	20	BGM	0.007277	139.3	13.00
NTP3961Q1-TC-T01-TC-UNC3-D-C26-3-ETW1-2	D	C26	4	26	133.4	13.14	0.1445	20	BGM	0.007224	133.8	13.18
NTP3961Q1-TC-T01-TC-UNC3-D-C26-3-ETW1-3	D	C26	4	26	138.0	12.70	0.1445	20	BGM	0.007226	138.5	12.74
NTP3961Q1-TC-T01-TC-UNC3-D-C27-3-ETW1-1	D	C27	4	27	146.3	12.60	0.1459	20	BAT	0.007295	148.3	12.77
NTP3961Q1-TC-T01-TC-UNC3-D-C27-3-ETW1-2	D	C27	4	27	141.6	12.71	0.1450	20	BGM	0.007251	142.6	12.80
NTP3961Q1-TC-T01-TC-UNC3-D-C27-3-ETW1-3	D	C27	4	27	137.8	12.55	0.1448	20	BGM	0.007240	138.5	12.62
NTP3961Q1-TC-T01-TC-UNC3-E-C26-3-ETW1-1	E	C26	5	26	143.2	12.98	0.1467	20	BAT	0.007333	145.9	13.22
NTP3961Q1-TC-T01-TC-UNC3-E-C26-3-ETW1-2	E	C26	5	26	150.5	12.85	0.1439	20	BGM	0.007193	150.3	12.84
NTP3961Q1-TC-T01-TC-UNC3-E-C26-3-ETW1-3	E	C26	5	26	141.5	13.06	0.1445	20	BGM	0.007224	142.0	13.10
NTP3961Q1-TC-T01-TC-UNC3-E-C27-3-ETW1-1	E	C27	5	27	143.8	12.61	0.1449	20	BGM	0.007247	144.7	12.69
NTP3961Q1-TC-T01-TC-UNC3-E-C27-3-ETW1-2	E	C27	5	27	144.1	12.86	0.1451	20	BGM	0.007255	145.2	12.96
NTP3961Q1-TC-T01-TC-UNC3-E-C27-3-ETW1-3	E	C27	5	27	142.0	13.09	0.1453	20	BGM	0.007263	143.3	13.20

*Average of back to back strain gages

Average	**142.9**	**12.73**	**Average$_{norm}$**	**0.007291**	**144.7**	**12.89**
Standard Dev.	**4.744**	**0.2710**	**Standard Dev.$_{norm}$**		**5.155**	**0.2725**
Coeff. of Var. [%]	**3.319**	**2.129**	**Coeff. of Var. [%]$_{norm}$**		**3.562**	**2.114**
Min.	**133.4**	**12.10**	**Min.**	**0.007193**	**133.8**	**12.27**
Max.	**153.8**	**13.27**	**Max.**	**0.007482**	**155.9**	**13.44**
Number of Spec.	**30**	**30**	**Number of Spec.**	**30**	**30**	**30**


Laminate Unnotched Compression Properties (UNC3)--ETW1 (180°F)
Normalized Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Unnotched Compression Strength [ksi]
0
5
10
15
20
25
30
0
1
2
3
4
5
6
0
20
40
60
80
100
120
140
160
180


Laminate Unnotched Compression Properties (UNC3)--ETW1 (180°F)
Normalized Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Unnotched Compression Modulus [Msi]
0
5
10
15
20
25
30
0
1
2
3
4
5
6
0
2
4
6
8
10
12
14
16

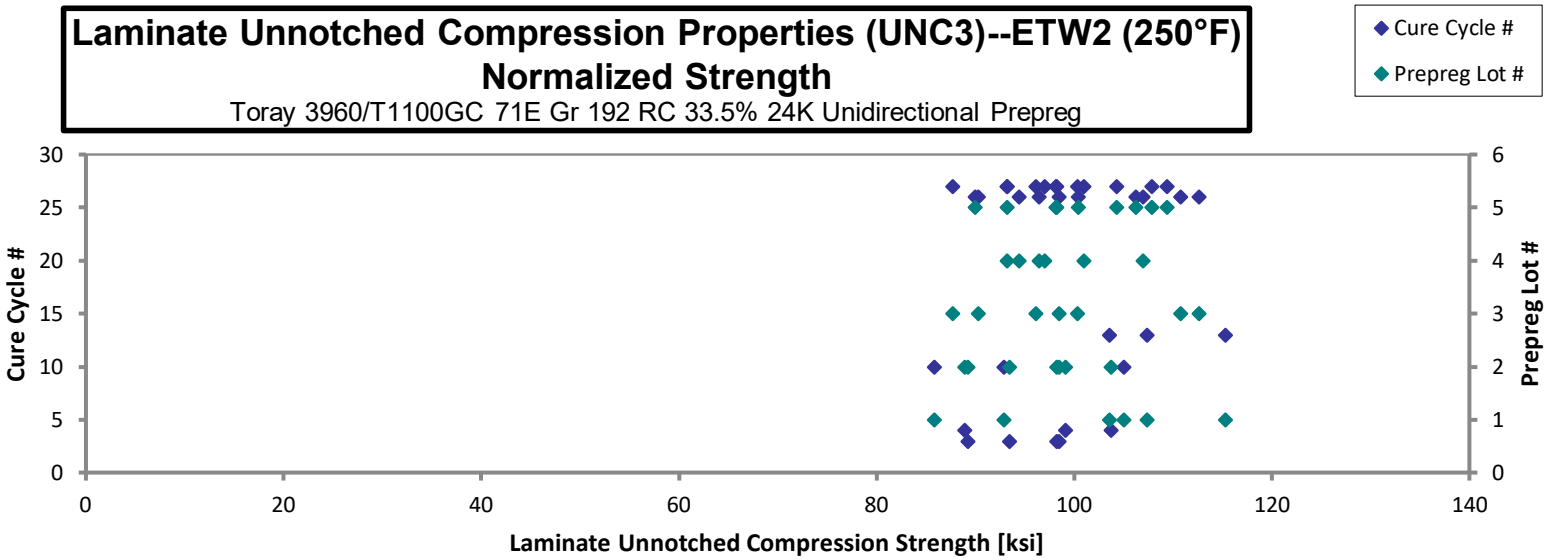
Laminate Unnotched Compression Properties (UNC3)--ETW2 (250°F)
Strength & Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

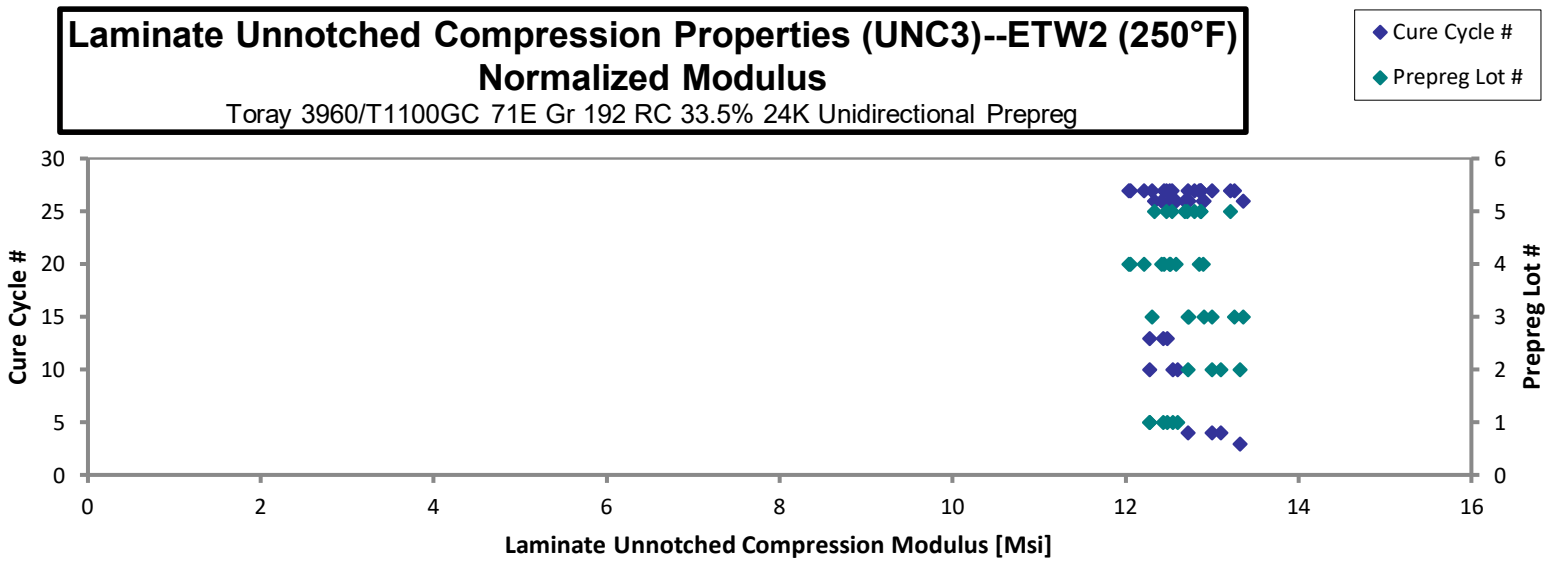
normalizing t_{ply} [in]: 0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Modulus (avg.*****) [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
NTP3961Q1-TC-T01-BT-UNC3-A-C10-1-ETW2-1	A	C10	1	10	90.28	12.19	0.1482	20	BGM	0.007411	92.92	12.55
NTP3961Q1-TC-T01-BT-UNC3-A-C10-1-ETW2-2	A	C10	1	10	83.70	11.98	0.1476	20	BAB	0.007382	85.81	12.28
NTP3961Q1-TC-T01-BT-UNC3-A-C10-1-ETW2-3	A	C10	1	10	102.4	12.29	0.1478	20	BGM	0.007388	105.0	12.61
NTP3961Q1-TC-T01-BT-UNC3-A-C13-1-ETW2-1	A	C13	1	13	105.5	12.07	0.1466	20	BAT	0.007329	107.3	12.29
NTP3961Q1-TC-T01-BT-UNC3-A-C13-1-ETW2-2	A	C13	1	13	100.7	12.14	0.1481	20	BAT	0.007403	103.5	12.48
NTP3961Q1-TC-T01-BT-UNC3-A-C13-1-ETW2-3	A	C13	1	13	113.2	12.21	0.1467	20	BAT	0.007336	115.3	12.44
NTP3961Q1-TC-T01-BT-UNC3-B-C3-1-ETW2-1*	B	C3	2	3	87.80		0.1464	20	BAB	0.007322	89.28	
NTP3961Q1-TC-T01-BT-UNC3-B-C3-1-ETW2-2*	B	C3	2	3	95.19		0.1490	20	BGM	0.007449	98.48	
NTP3961Q1-TC-T01-BT-UNC3-B-C3-1-ETW2-3*	B	C3	2	3	95.37		0.1484	20	BGM	0.007418	98.26	
NTP3961Q1-TC-T01-BT-UNC3-B-C3-1-ETW2-4	B	C3	2	3	90.41	12.89	0.1489	20	BGM	0.007443	93.46	13.33
NTP3961Q1-TC-T01-BT-UNC3-B-C4-1-ETW2-1	B	C4	2	4	101.7	12.75	0.1469	20	BAT	0.007343	103.7	13.00
NTP3961Q1-TC-T01-BT-UNC3-B-C4-1-ETW2-2	B	C4	2	4	97.29	12.49	0.1467	20	BAT	0.007335	99.11	12.72
NTP3961Q1-TC-T01-BT-UNC3-B-C4-1-ETW2-3	B	C4	2	4	88.50	13.04	0.1447	20	TAT	0.007237	88.95	13.11
NTP3961Q1-TC-T01-TC-UNC3-C-C26-3-ETW2-1*	C	C26	3	26	87.52		0.1485	20	BGM	0.007426	90.26	
NTP3961Q1-TC-T01-TC-UNC3-C-C26-3-ETW2-2*	C	C26	3	26	107.7		0.1506	20	BGM	0.007528	112.6	
NTP3961Q1-TC-T01-TC-UNC3-C-C26-3-ETW2-3	C	C26	3	26	106.7	12.43	0.1496	20	BGM	0.007481	110.8	12.91
NTP3961Q1-TC-T01-TC-UNC3-C-C26-3-ETW2-4	C	C26	3	26	97.65	12.63	0.1452	20	HGM	0.007260	98.46	12.74
NTP3961Q1-TC-T01-TC-UNC3-C-C26-3-ETW2-5**	C	C26	3	26		13.24	0.1453	20	HGM	0.007265		13.36
NTP3961Q1-TC-T01-TC-UNC3-C-C27-3-ETW2-1**	C	C27	3	27		12.64	0.1450	20	BGM	0.007251		12.73
NTP3961Q1-TC-T01-TC-UNC3-C-C27-3-ETW2-2**	C	C27	3	27		12.33	0.1438	20	BGM	0.007188		12.31
NTP3961Q1-TC-T01-TC-UNC3-C-C27-3-ETW2-3	C	C27	3	27	98.24	12.99	0.1470	20	BGM	0.007351	100.3	13.26
NTP3961Q1-TC-T01-TC-UNC3-C-C27-3-ETW2-5	C	C27	3	27	94.20	12.75	0.1469	20	HGM	0.007346	96.10	13.01
NTP3961Q1-TC-T01-TC-UNC3-C-C27-3-ETW2-4*	C	C27	3	27	87.32		0.1446	20	BGM	0.007230	87.68	
NTP3961Q1-TC-T01-TC-UNC3-D-C26-3-ETW2-2***	D	C26	4	26		12.45	0.1448	20	CIT	0.007241		12.52
NTP3961Q1-TC-T01-TC-UNC3-D-C26-3-ETW2-3	D	C26	4	26	93.20	12.74	0.1458	20	BGM	0.007292	94.38	12.90
NTP3961Q1-TC-T01-TC-UNC3-D-C26-3-ETW2-4	D	C26	4	26	106.2	12.50	0.1450	20	BGM	0.007250	106.9	12.59
NTP3961Q1-TC-T01-TC-UNC3-D-C26-3-ETW2-1	D	C26	4	26	95.10	12.24	0.1461	20	BGM	0.007304	96.47	12.42
NTP3961Q1-TC-T01-TC-UNC3-D-C27-3-ETW2-2	D	C27	4	27	92.13	12.31	0.1457	20	BGM	0.007283	93.19	12.45
NTP3961Q1-TC-T01-TC-UNC3-D-C27-3-ETW2-3**	D	C27	4	27		12.72	0.1456	20	CIB	0.007278		12.86
NTP3961Q1-TC-T01-TC-UNC3-D-C27-3-ETW2-5**	D	C27	4	27		12.00	0.1445	20	BGM	0.007226		12.04
NTP3961Q1-TC-T01-TC-UNC3-D-C27-3-ETW1-5**&****	D	C27	4	27		12.40	0.1454	20	BAB	0.007268		12.52
NTP3961Q1-TC-T01-TC-UNC3-D-C27-3-ETW1-4****	D	C27	4	27	100.0	12.11	0.1453	20	BAB	0.007266	101.0	12.22
NTP3961Q1-TC-T01-TC-UNC3-D-C27-3-ETW2-4	D	C27	4	27	97.06	12.06	0.1440	20	BGM	0.007198	97.03	12.06
NTP3961Q1-TC-T01-TC-UNC3-E-C26-3-ETW2-1	E	C26	5	26	104.7	12.51	0.1461	20	BAT	0.007304	106.2	12.69
NTP3961Q1-TC-T01-TC-UNC3-E-C26-3-ETW2-2	E	C26	5	26	98.88	12.15	0.1463	20	BGM	0.007313	100.4	12.34
NTP3961Q1-TC-T01-TC-UNC3-E-C26-3-ETW2-4	E	C26	5	26	88.15	12.46	0.1470	20	BGM	0.007348	89.96	12.72
NTP3961Q1-TC-T01-TC-UNC3-E-C27-3-ETW2-2	E	C27	5	27	97.52	13.13	0.1449	20	BGM	0.007245	98.13	13.21
NTP3961Q1-TC-T01-TC-UNC3-E-C27-3-ETW2-3	E	C27	5	27	92.36	12.75	0.1454	20	BGM	0.007268	93.23	12.87
NTP3961Q1-TC-T01-TC-UNC3-E-C27-3-ETW2-5	E	C27	5	27	103.7	12.46	0.1449	20	BGM	0.007245	104.3	12.54
NTP3961Q1-TC-T01-TC-UNC3-E-C27-3-ETW1-4****	E	C27	5	27	106.8	12.35	0.1454	20	BAB	0.007272	107.9	12.47
NTP3961Q1-TC-T01-TC-UNC3-E-C27-3-ETW1-5****	E	C27	5	27	109.3	12.79	0.1441	20	BGM	0.007207	109.4	12.80
NTP3961Q1-TC-T01-TC-UNC3-E-C27-3-ETW2-4	E	C27	5	27	97.61	12.80	0.1449	20	BGM	0.007244	98.21	12.88

*Excluded modulus due to bending ≥10% at 0.2% strain
**Excluded strength due to buckling
***Excluded strength due to invalid failure mode
****ETW1 specimens were tested as ETW2 condition
*****Average of back to back strain gages

	Strength	Modulus		t_{ply}	$Strength_{norm}$	$Modulus_{norm}$
Average	**97.54**	**12.50**	**$Average_{norm}$**	**0.007313**	**99.26**	**12.67**
Standard Dev.	**7.293**	**0.3310**	**$Standard\ Dev._{norm}$**		**7.492**	**0.3407**
Coeff. of Var. [%]	**7.477**	**2.648**	**$Coeff.\ of\ Var.\ [\%]_{norm}$**		**7.547**	**2.688**
Min.	**83.70**	**11.98**	**Min.**	**0.007188**	**85.81**	**12.04**
Max.	**113.2**	**13.24**	**Max.**	**0.007528**	**115.3**	**13.36**
Number of Spec.	**35**	**36**	**Number of Spec.**	**42**	**35**	**36**


Laminate Unnotched Compression Properties (UNC3)--ETW2 (250°F)
Normalized Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Unnotched Compression Strength [ksi]
0
5
10
15
20
25
30
0
1
2
3
4
5
6
0
20
40
60
80
100
120
140

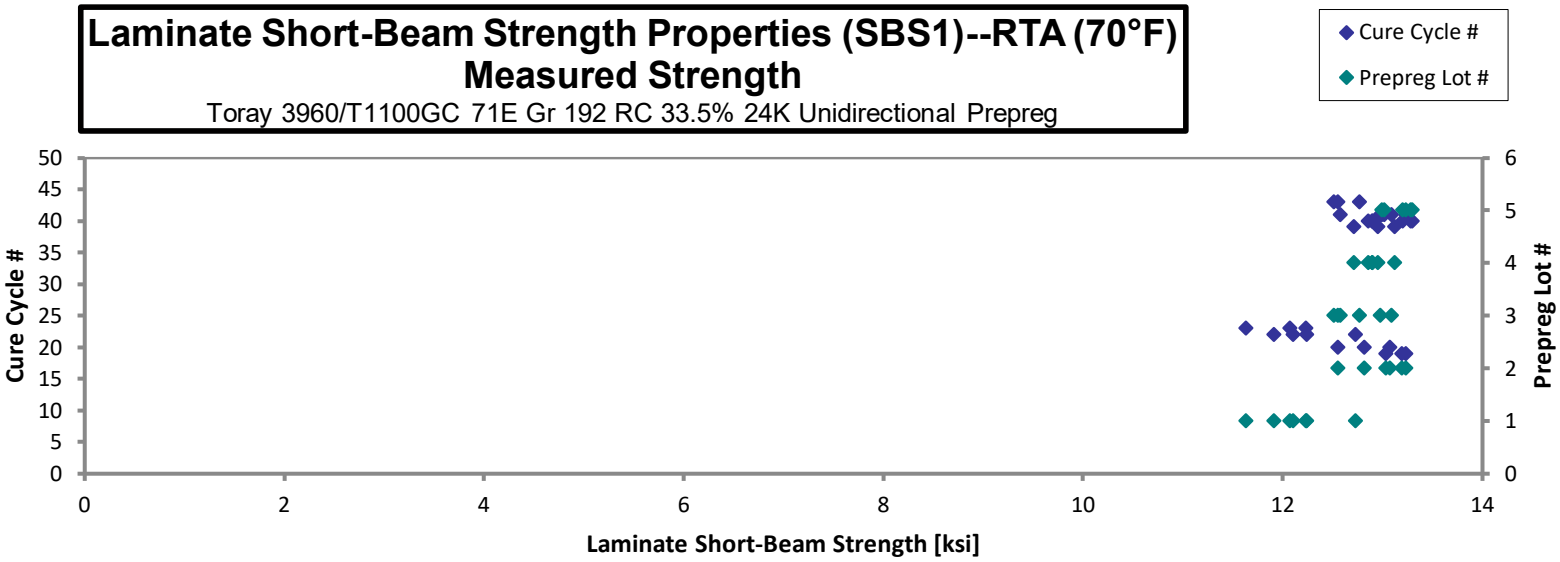

Laminate Unnotched Compression Properties (UNC3)--ETW2 (250°F)
Normalized Modulus
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Unnotched Compression Modulus [Msi]
0
2
4
6
8
10
12
14
16
0
5
10
15
20
25
30
0
1
2
3
4
5
6

4.16 Laminate Short-Beam Strength Properties (SBS1)

Laminate Short-Beam Strength Properties (SBS1)--RTA (70°F)
Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

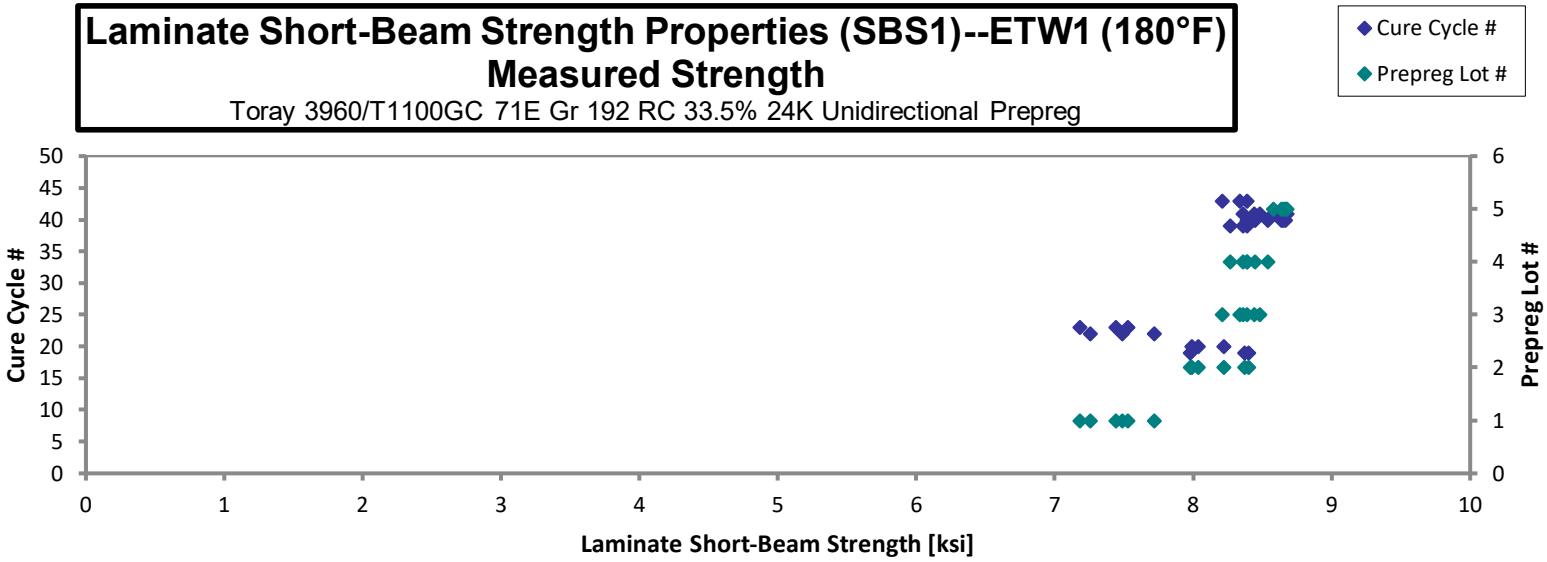
Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Avg. t_{ply} [in]	Failure Mode
NTP3961Q1-TC-T01-BT-SBS1-A-C22-1-RTA-1	A	C22	1	22	11.91	0.1681	24	0.007002	Interlaminar Shear
NTP3961Q1-TC-T01-BT-SBS1-A-C22-1-RTA-2	A	C22	1	22	12.73	0.1726	24	0.007192	Interlaminar Shear
NTP3961Q1-TC-T01-BT-SBS1-A-C22-1-RTA-3	A	C22	1	22	12.10	0.1762	24	0.007342	Interlaminar Shear
NTP3961Q1-TC-T01-BT-SBS1-A-C22-1-RTA-4	A	C22	1	22	12.24	0.1775	24	0.007394	Interlaminar Shear
NTP3961Q1-TC-T01-BT-SBS1-A-C23-1-RTA-1	A	C23	1	23	12.07	0.1695	24	0.007063	Interlaminar Shear
NTP3961Q1-TC-T01-BT-SBS1-A-C23-1-RTA-2	A	C23	1	23	11.63	0.1760	24	0.007333	Interlaminar Shear
NTP3961Q1-TC-T01-BT-SBS1-A-C23-1-RTA-3	A	C23	1	23	12.23	0.1742	24	0.007258	Interlaminar Shear
NTP3961Q1-TC-T01-BT-SBS1-B-C19-1-RTA-1	B	C19	2	19	13.23	0.1731	24	0.007213	Flexure in Compression
NTP3961Q1-TC-T01-BT-SBS1-B-C19-1-RTA-2	B	C19	2	19	13.19	0.1712	24	0.007133	Flexure in Compression
NTP3961Q1-TC-T01-BT-SBS1-B-C19-1-RTA-3	B	C19	2	19	13.03	0.1714	24	0.007142	Flexure in Compression
NTP3961Q1-TC-T01-BT-SBS1-B-C20-1-RTA-1	B	C20	2	20	12.55	0.1765	24	0.007354	Flexure in Compression
NTP3961Q1-TC-T01-BT-SBS1-B-C20-1-RTA-2	B	C20	2	20	13.07	0.1741	24	0.007252	Flexure in Compression
NTP3961Q1-TC-T01-BT-SBS1-B-C20-1-RTA-3	B	C20	2	20	12.82	0.1760	24	0.007333	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS1-C-C41-1-RTA-1	C	C41	3	41	13.09	0.1752	24	0.007298	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS1-C-C41-1-RTA-2	C	C41	3	41	12.58	0.1755	24	0.007310	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS1-C-C41-1-RTA-3	C	C41	3	41	12.98	0.1776	24	0.007400	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS1-C-C43-1-RTA-1	C	C43	3	43	12.55	0.1747	24	0.007277	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS1-C-C43-1-RTA-2	C	C43	3	43	12.51	0.1760	24	0.007331	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS1-C-C43-1-RTA-3	C	C43	3	43	12.77	0.1744	24	0.007265	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS1-D-C39-2-RTA-1	D	C39	4	39	12.95	0.1753	24	0.007302	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS1-D-C39-2-RTA-2	D	C39	4	39	13.12	0.1759	24	0.007329	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS1-D-C39-2-RTA-3	D	C39	4	39	12.71	0.1750	24	0.007290	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS1-D-C40-1-RTA-1	D	C40	4	40	12.86	0.1774	24	0.007390	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS1-D-C40-1-RTA-2	D	C40	4	40	12.90	0.1759	24	0.007327	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS1-D-C40-1-RTA-3	D	C40	4	40	12.90	0.1744	24	0.007267	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS1-E-C40-2-RTA-1	E	C40	5	40	13.30	0.1731	24	0.007210	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS1-E-C40-2-RTA-2	E	C40	5	40	13.28	0.1733	24	0.007221	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS1-E-C40-2-RTA-3	E	C40	5	40	13.20	0.1745	24	0.007269	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS1-E-C41-1-RTA-1	E	C41	5	41	13.23	0.1751	24	0.007294	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS1-E-C41-1-RTA-2	E	C41	5	41	12.99	0.1737	24	0.007235	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS1-E-C41-1-RTA-3	E	C41	5	41	13.02	0.1745	24	0.007271	Flexure in Compression

Average	**12.77**	**0.007268**
Standard Dev.	**0.4357**	
Coeff. of Var. [%]	**3.413**	
Min.	**11.63**	**0.007002**
Max.	**13.30**	**0.007400**
Number of Spec.	**31**	**31**


Laminate Short-Beam Strength Properties (SBS1)--RTA (70°F)
Measured Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Short-Beam Strength [ksi]
0
5
10
15
20
25
30
35
40
45
50
0
1
2
3
4
5
6
0
2
4
6
8
10
12
14

Laminate Short-Beam Strength Properties (SBS1)--ETW1 (180°F)
Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

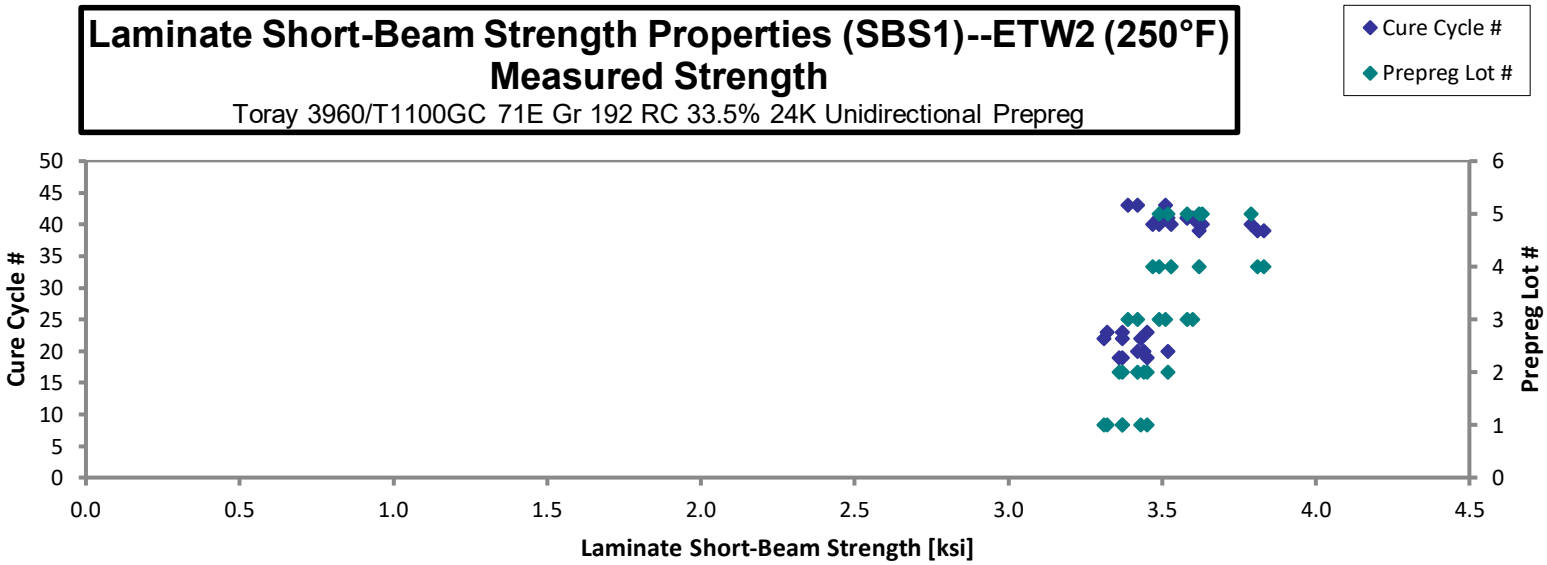
Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Avg. t_{ply} [in]	Failure Mode
NTP3961Q1-TC-T01-BT-SBS1-A-C22-1-ETW1-1	A	C22	1	22	7.260	0.1676	24	0.006983	Inelastic Deformation
NTP3961Q1-TC-T01-BT-SBS1-A-C22-1-ETW1-2	A	C22	1	22	7.490	0.1737	24	0.007238	Flexure in Compression
NTP3961Q1-TC-T01-BT-SBS1-A-C22-1-ETW1-3	A	C22	1	22	7.720	0.1759	24	0.007329	Inelastic Deformation
NTP3961Q1-TC-T01-BT-SBS1-A-C23-1-ETW1-1	A	C23	1	23	7.180	0.1692	24	0.007048	Inelastic Deformation
NTP3961Q1-TC-T01-BT-SBS1-A-C23-1-ETW1-2	A	C23	1	23	7.530	0.1736	24	0.007233	Inelastic Deformation
NTP3961Q1-TC-T01-BT-SBS1-A-C23-1-ETW1-3	A	C23	1	23	7.440	0.1764	24	0.007348	Inelastic Deformation
NTP3961Q1-TC-T01-BT-SBS1-B-C19-1-ETW1-1	B	C19	2	19	8.370	0.1752	24	0.007298	Inelastic Deformation
NTP3961Q1-TC-T01-BT-SBS1-B-C19-1-ETW1-2	B	C19	2	19	8.400	0.1761	24	0.007338	Inelastic Deformation
NTP3961Q1-TC-T01-BT-SBS1-B-C19-1-ETW1-3	B	C19	2	19	7.980	0.1765	24	0.007354	Inelastic Deformation
NTP3961Q1-TC-T01-BT-SBS1-B-C20-1-ETW1-1	B	C20	2	20	8.040	0.1741	24	0.007252	Inelastic Deformation
NTP3961Q1-TC-T01-BT-SBS1-B-C20-1-ETW1-2	B	C20	2	20	7.990	0.1723	24	0.007179	Inelastic Deformation
NTP3961Q1-TC-T01-BT-SBS1-B-C20-1-ETW1-3	B	C20	2	20	8.220	0.1766	24	0.007356	Inelastic Deformation
NTP3961Q1-TC-T01-TC-SBS1-C-C41-1-ETW1-1	C	C41	3	41	8.480	0.1728	24	0.007200	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS1-C-C41-1-ETW1-2	C	C41	3	41	8.440	0.1743	24	0.007260	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS1-C-C41-1-ETW1-3	C	C41	3	41	8.360	0.1749	24	0.007288	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS1-C-C43-1-ETW1-1	C	C43	3	43	8.210	0.1751	24	0.007294	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS1-C-C43-1-ETW1-2	C	C43	3	43	8.340	0.1754	24	0.007308	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS1-C-C43-1-ETW1-3	C	C43	3	43	8.390	0.1741	24	0.007252	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS1-D-C39-2-ETW1-1	D	C39	4	39	8.270	0.1738	24	0.007242	Interlaminar Shear
NTP3961Q1-TC-T01-TC-SBS1-D-C39-2-ETW1-2	D	C39	4	39	8.390	0.1743	24	0.007263	Interlaminar Shear
NTP3961Q1-TC-T01-TC-SBS1-D-C39-2-ETW1-3	D	C39	4	39	8.360	0.1752	24	0.007300	Interlaminar Shear
NTP3961Q1-TC-T01-TC-SBS1-D-C40-1-ETW1-1	D	C40	4	40	8.540	0.1757	24	0.007319	Interlaminar Shear
NTP3961Q1-TC-T01-TC-SBS1-D-C40-1-ETW1-2	D	C40	4	40	8.450	0.1753	24	0.007304	Interlaminar Shear
NTP3961Q1-TC-T01-TC-SBS1-D-C40-1-ETW1-3	D	C40	4	40	8.390	0.1775	24	0.007396	Interlaminar Shear
NTP3961Q1-TC-T01-TC-SBS1-E-C40-2-ETW1-1	E	C40	5	40	8.670	0.1768	24	0.007367	Interlaminar Shear
NTP3961Q1-TC-T01-TC-SBS1-E-C40-2-ETW1-2	E	C40	5	40	8.640	0.1733	24	0.007219	Interlaminar Shear
NTP3961Q1-TC-T01-TC-SBS1-E-C40-2-ETW1-3	E	C40	5	40	8.650	0.1720	24	0.007165	Interlaminar Shear
NTP3961Q1-TC-T01-TC-SBS1-E-C41-1-ETW1-1	E	C41	5	41	8.580	0.1763	24	0.007346	Interlaminar Shear
NTP3961Q1-TC-T01-TC-SBS1-E-C41-1-ETW1-2	E	C41	5	41	8.680	0.1751	24	0.007294	Interlaminar Shear
NTP3961Q1-TC-T01-TC-SBS1-E-C41-1-ETW1-3	E	C41	5	41	8.670	0.1757	24	0.007319	Interlaminar Shear
				Average	**8.204**			**0.007270**	
				Standard Dev.	**0.4388**				
				Coeff. of Var. [%]	**5.348**				
				Min.	**7.180**			**0.006983**	
				Max.	**8.680**			**0.007396**	
				Number of Spec.	**30**			**30**	


Laminate Short-Beam Strength Properties (SBS1)--ETW1 (180°F)
Measured Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Short-Beam Strength [ksi]
0
5
10
15
20
25
30
35
40
45
50
0
1
2
3
4
5
6
0
1
2
3
4
5
6
7
8
9
10

Laminate Short-Beam Strength Properties (SBS1)--ETW2 (250°F)
Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Avg. t_{ply} [in]	Failure Mode
NTP3961Q1-TC-T01-BT-SBS1-A-C22-1-ETW2-1	A	C22	1	22	3.430	0.1649	24	0.006871	Inelastic Deformation
NTP3961Q1-TC-T01-BT-SBS1-A-C22-1-ETW2-2	A	C22	1	22	3.310	0.1746	24	0.007275	Inelastic Deformation
NTP3961Q1-TC-T01-BT-SBS1-A-C22-1-ETW2-3	A	C22	1	22	3.370	0.1762	24	0.007340	Inelastic Deformation
NTP3961Q1-TC-T01-BT-SBS1-A-C23-1-ETW2-1	A	C23	1	23	3.370	0.1682	24	0.007006	Inelastic Deformation
NTP3961Q1-TC-T01-BT-SBS1-A-C23-1-ETW2-2	A	C23	1	23	3.320	0.1739	24	0.007246	Inelastic Deformation
NTP3961Q1-TC-T01-BT-SBS1-A-C23-1-ETW2-3	A	C23	1	23	3.450	0.1764	24	0.007348	Inelastic Deformation
NTP3961Q1-TC-T01-BT-SBS1-B-C19-1-ETW2-2	B	C19	2	19	3.360	0.1732	24	0.007215	Inelastic Deformation
NTP3961Q1-TC-T01-BT-SBS1-B-C19-1-ETW2-3	B	C19	2	19	3.450	0.1750	24	0.007292	Inelastic Deformation
NTP3961Q1-TC-T01-BT-SBS1-B-C19-1-ETW2-4	B	C19	2	19	3.370	0.1731	24	0.007210	Inelastic Deformation
NTP3961Q1-TC-T01-BT-SBS1-B-C20-1-ETW2-1	B	C20	2	20	3.420	0.1741	24	0.007254	Inelastic Deformation
NTP3961Q1-TC-T01-BT-SBS1-B-C20-1-ETW2-2	B	C20	2	20	3.520	0.1766	24	0.007356	Inelastic Deformation
NTP3961Q1-TC-T01-BT-SBS1-B-C20-1-ETW2-3	B	C20	2	20	3.440	0.1742	24	0.007256	Inelastic Deformation
NTP3961Q1-TC-T01-TC-SBS1-C-C41-1-ETW2-3	C	C41	3	41	3.490	0.1756	24	0.007317	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS1-C-C41-1-ETW2-4	C	C41	3	41	3.580	0.1752	24	0.007298	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS1-C-C41-1-ETW2-5	C	C41	3	41	3.600	0.1753	24	0.007304	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS1-C-C43-1-ETW2-1	C	C43	3	43	3.510	0.1729	24	0.007204	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS1-C-C43-1-ETW2-2	C	C43	3	43	3.420	0.1750	24	0.007292	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS1-C-C43-1-ETW2-3	C	C43	3	43	3.390	0.1758	24	0.007323	Flexure in Compression
NTP3961Q1-TC-T01-TC-SBS1-D-C39-2-ETW2-1	D	C39	4	39	3.620	0.1743	24	0.007263	Inelastic Deformation
NTP3961Q1-TC-T01-TC-SBS1-D-C39-2-ETW2-2	D	C39	4	39	3.810	0.1739	24	0.007244	Inelastic Deformation
NTP3961Q1-TC-T01-TC-SBS1-D-C39-2-ETW2-3	D	C39	4	39	3.830	0.1746	24	0.007273	Inelastic Deformation
NTP3961Q1-TC-T01-TC-SBS1-D-C40-1-ETW2-1	D	C40	4	40	3.470	0.1750	24	0.007292	Interlaminar Shear
NTP3961Q1-TC-T01-TC-SBS1-D-C40-1-ETW2-2	D	C40	4	40	3.490	0.1756	24	0.007317	Interlaminar Shear
NTP3961Q1-TC-T01-TC-SBS1-D-C40-1-ETW2-3	D	C40	4	40	3.530	0.1741	24	0.007254	Interlaminar Shear
NTP3961Q1-TC-T01-TC-SBS1-E-C40-2-ETW2-1	E	C40	5	40	3.630	0.1748	24	0.007281	Interlaminar Shear
NTP3961Q1-TC-T01-TC-SBS1-E-C40-2-ETW2-2	E	C40	5	40	3.620	0.1757	24	0.007319	Interlaminar Shear
NTP3961Q1-TC-T01-TC-SBS1-E-C40-2-ETW2-3	E	C40	5	40	3.790	0.1736	24	0.007231	Interlaminar Shear
NTP3961Q1-TC-T01-TC-SBS1-E-C41-1-ETW2-1	E	C41	5	41	3.520	0.1744	24	0.007265	Interlaminar Shear
NTP3961Q1-TC-T01-TC-SBS1-E-C41-1-ETW2-2	E	C41	5	41	3.580	0.1741	24	0.007254	Interlaminar Shear
NTP3961Q1-TC-T01-TC-SBS1-E-C41-1-ETW2-3	E	C41	5	41	3.490	0.1760	24	0.007333	Interlaminar Shear

Average	**3.506**	**0.007258**
Standard Dev.	**0.1360**	
Coeff. of Var. [%]	**3.880**	
Min.	**3.310**	**0.006871**
Max.	**3.830**	**0.007356**
Number of Spec.	**30**	**30**


Laminate Short-Beam Strength Properties (SBS1)--ETW2 (250°F)
Measured Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Short-Beam Strength [ksi]
0
5
10
15
20
25
30
35
40
45
50
0
1
2
3
4
5
6
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3.5
4.0
4.5

4.17 "25/50/25" Open-Hole Tension 1 Properties (OHT1)

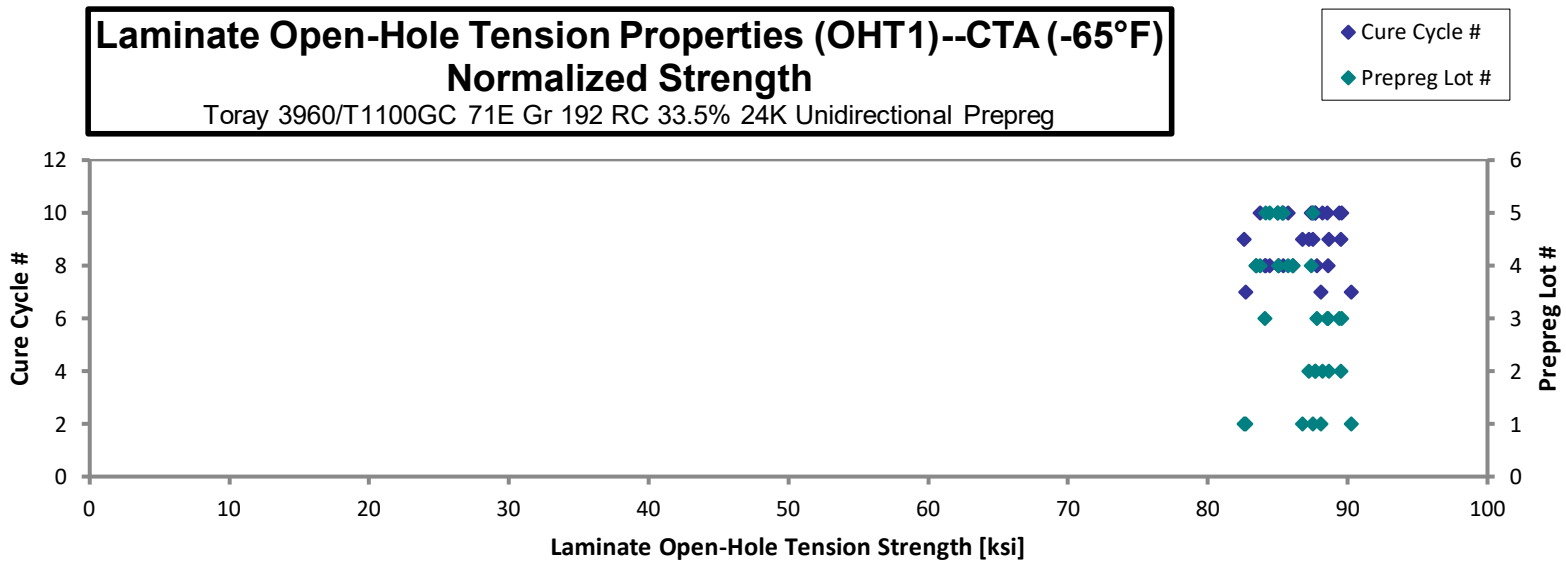
Laminate Open-Hole Tension Properties (OHT1)--CTA (-65°F)
Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

normalizing t_{ply} [in]
0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]
NTP3961Q1-TC-T01-BT-OHT1-A-C7-1-CTA-1	A	C7	1	7	94.20	0.1104	16	MGM	0.006902	90.30
NTP3961Q1-TC-T01-BT-OHT1-A-C7-1-CTA-2	A	C7	1	7	89.30	0.1137	16	MGM	0.007103	88.10
NTP3961Q1-TC-T01-BT-OHT1-A-C7-1-CTA-3	A	C7	1	7	83.50	0.1142	16	MGM	0.007134	82.74
NTP3961Q1-TC-T01-BT-OHT1-A-C9-1-CTA-1	A	C9	1	9	89.80	0.1123	16	MGM	0.007019	87.55
NTP3961Q1-TC-T01-BT-OHT1-A-C9-1-CTA-2	A	C9	1	9	86.30	0.1159	16	MGM	0.007241	86.79
NTP3961Q1-TC-T01-BT-OHT1-A-C9-1-CTA-3	A	C9	1	9	82.00	0.1161	16	MGM	0.007256	82.64
NTP3961Q1-TC-T01-BT-OHT1-B-C9-1-CTA-1	B	C9	2	9	85.00	0.1183	16	AGM	0.007391	87.25
NTP3961Q1-TC-T01-BT-OHT1-B-C9-1-CTA-2	B	C9	2	9	86.60	0.1191	16	AGM	0.007443	89.52
NTP3961Q1-TC-T01-BT-OHT1-B-C9-1-CTA-3	B	C9	2	9	86.60	0.1180	16	AGM	0.007376	88.71
NTP3961Q1-TC-T01-BT-OHT1-B-C10-1-CTA-1	B	C10	2	10	85.10	0.1194	16	AGM	0.007463	88.21
NTP3961Q1-TC-T01-BT-OHT1-B-C10-1-CTA-2	B	C10	2	10	84.30	0.1199	16	AGM	0.007491	87.70
NTP3961Q1-TC-T01-BT-OHT1-B-C10-1-CTA-3	B	C10	2	10	84.90	0.1190	16	AGM	0.007439	87.72
NTP3961Q1-TC-T01-TC-OHT1-C-C8-1-CTA-1	C	C8	3	8	83.50	0.1161	16	MGM	0.007253	84.12
NTP3961Q1-TC-T01-TC-OHT1-C-C8-1-CTA-2	C	C8	3	8	88.60	0.1153	16	MGM	0.007203	88.64
NTP3961Q1-TC-T01-TC-OHT1-C-C8-1-CTA-3	C	C8	3	8	86.00	0.1177	16	MGM	0.007353	87.83
NTP3961Q1-TC-T01-TC-OHT1-C-C10-1-CTA-1	C	C10	3	10	87.90	0.1161	16	MGM	0.007253	88.55
NTP3961Q1-TC-T01-TC-OHT1-C-C10-1-CTA-2	C	C10	3	10	88.10	0.1172	16	MGM	0.007322	89.59
NTP3961Q1-TC-T01-TC-OHT1-C-C10-1-CTA-3	C	C10	3	10	87.80	0.1174	16	MGM	0.007335	89.45
NTP3961Q1-TC-T01-TC-OHT1-D-C8-1-CTA-1	D	C8	4	8	82.90	0.1160	16	AGM	0.007250	83.48
NTP3961Q1-TC-T01-TC-OHT1-D-C8-1-CTA-2	D	C8	4	8	83.80	0.1184	16	AGM	0.007400	86.13
NTP3961Q1-TC-T01-TC-OHT1-D-C8-1-CTA-3	D	C8	4	8	84.60	0.1159	16	AGM	0.007241	85.08
NTP3961Q1-TC-T01-TC-OHT1-D-C10-1-CTA-1	D	C10	4	10	83.00	0.1163	16	AGM	0.007269	83.79
NTP3961Q1-TC-T01-TC-OHT1-D-C10-1-CTA-2	D	C10	4	10	87.30	0.1154	16	AGM	0.007213	87.45
NTP3961Q1-TC-T01-TC-OHT1-D-C10-1-CTA-3	D	C10	4	10	84.90	0.1164	16	AGM	0.007275	85.78
NTP3961Q1-TC-T01-TC-OHT1-E-C8-1-CTA-1	E	C8	5	8	85.00	0.1145	16	AGM	0.007153	84.45
NTP3961Q1-TC-T01-TC-OHT1-E-C8-1-CTA-2	E	C8	5	8	85.10	0.1156	16	AGM	0.007226	85.40
NTP3961Q1-TC-T01-TC-OHT1-E-C8-1-CTA-3	E	C8	5	8	84.10	0.1153	16	AGM	0.007205	84.16
NTP3961Q1-TC-T01-TC-OHT1-E-C10-1-CTA-1	E	C10	5	10	86.00	0.1143	16	AGM	0.007146	85.35
NTP3961Q1-TC-T01-TC-OHT1-E-C10-1-CTA-2	E	C10	5	10	84.60	0.1158	16	AGM	0.007238	85.05
NTP3961Q1-TC-T01-TC-OHT1-E-C10-1-CTA-3	E	C10	5	10	86.80	0.1162	16	AGM	0.007259	87.52

Average	**85.92**	
Standard Dev.	**2.505**	
Coeff. of Var. [%]	**2.915**	
Min.	**82.00**	
Max.	**94.20**	
Number of Spec.	**30**	

$Average_{norm}$	**0.007262**	**86.63**
Standard $Dev._{norm}$		**2.173**
Coeff. of Var. $[\%]_{norm}$		**2.509**
Min.	**0.006902**	**82.64**
Max.	**0.007491**	**90.30**
Number of Spec.	**30**	**30**


Laminate Open-Hole Tension Properties (OHT1)--CTA (-65°F)
Normalized Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Open-Hole Tension Strength [ksi]
0
2
4
6
8
10
12
0
1
2
3
4
5
6
0
10
20
30
40
50
60
70
80
90
100

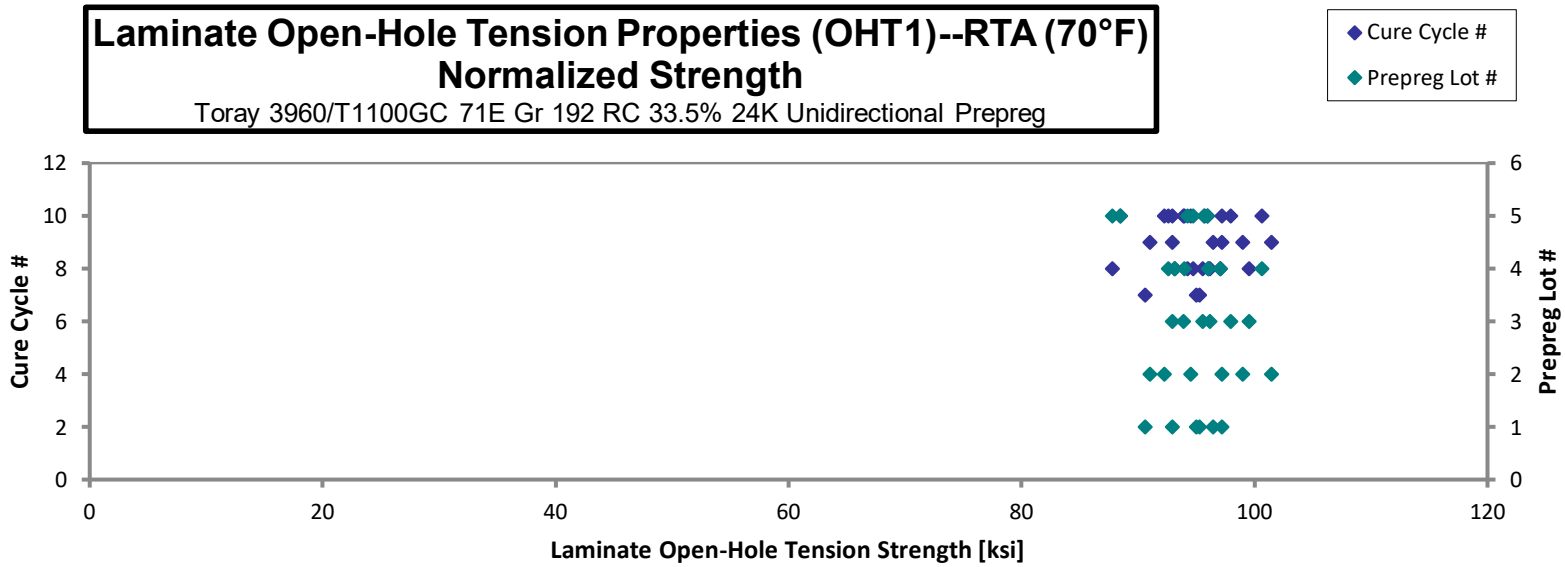
Laminate Open-Hole Tension Properties (OHT1)--RTA (70°F)
Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

normalizing t_{ply} [in]
0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]
NTP3961Q1-TC-T01-BT-OHT1-A-C7-1-RTA-1	A	C7	1	7	94.80	0.1155	16	AGM	0.007216	95.01
NTP3961Q1-TC-T01-BT-OHT1-A-C7-1-RTA-2	A	C7	1	7	89.60	0.1165	16	AGM	0.007280	90.60
NTP3961Q1-TC-T01-BT-OHT1-A-C7-1-RTA-3	A	C7	1	7	94.70	0.1159	16	AGM	0.007244	95.28
NTP3961Q1-TC-T01-BT-OHT1-A-C9-1-RTA-1	A	C9	1	9	97.70	0.1147	16	AGM	0.007166	97.24
NTP3961Q1-TC-T01-BT-OHT1-A-C9-1-RTA-2	A	C9	1	9	96.30	0.1154	16	AGM	0.007213	96.47
NTP3961Q1-TC-T01-BT-OHT1-A-C9-1-RTA-3	A	C9	1	9	93.20	0.1149	16	AGM	0.007180	92.94
NTP3961Q1-TC-T01-BT-OHT1-B-C9-1-RTA-1	B	C9	2	9	88.90	0.1180	16	MGM	0.007373	91.03
NTP3961Q1-TC-T01-BT-OHT1-B-C9-1-RTA-2	B	C9	2	9	98.00	0.1193	16	MGM	0.007456	101.5
NTP3961Q1-TC-T01-BT-OHT1-B-C9-1-RTA-3	B	C9	2	9	96.00	0.1188	16	MGM	0.007425	99.00
NTP3961Q1-TC-T01-BT-OHT1-B-C10-1-RTA-1	B	C10	2	10	88.90	0.1196	16	MGM	0.007475	92.30
NTP3961Q1-TC-T01-BT-OHT1-B-C10-1-RTA-2	B	C10	2	10	91.30	0.1193	16	MGM	0.007456	94.55
NTP3961Q1-TC-T01-BT-OHT1-B-C10-1-RTA-3	B	C10	2	10	93.50	0.1198	16	MGM	0.007486	97.22
NTP3961Q1-TC-T01-TC-OHT1-C-C8-1-RTA-1	C	C8	3	8	94.40	0.1174	16	AGM	0.007338	96.21
NTP3961Q1-TC-T01-TC-OHT1-C-C8-1-RTA-2	C	C8	3	8	98.10	0.1169	16	AGM	0.007305	99.53
NTP3961Q1-TC-T01-TC-OHT1-C-C8-1-RTA-3	C	C8	3	8	94.40	0.1166	16	AGM	0.007288	95.56
NTP3961Q1-TC-T01-TC-OHT1-C-C10-1-RTA-1	C	C10	3	10	96.80	0.1166	16	AGM	0.007288	97.98
NTP3961Q1-TC-T01-TC-OHT1-C-C10-1-RTA-2	C	C10	3	10	91.80	0.1167	16	AGM	0.007291	92.96
NTP3961Q1-TC-T01-TC-OHT1-C-C10-1-RTA-3	C	C10	3	10	92.60	0.1168	16	AGM	0.007302	93.91
NTP3961Q1-TC-T01-TC-OHT1-D-C8-1-RTA-1	D	C8	4	8	92.90	0.1156	16	AGM	0.007222	93.18
NTP3961Q1-TC-T01-TC-OHT1-D-C8-1-RTA-2	D	C8	4	8	94.90	0.1166	16	AGM	0.007284	96.01
NTP3961Q1-TC-T01-TC-OHT1-D-C8-1-RTA-3	D	C8	4	8	96.60	0.1158	16	AGM	0.007234	97.06
NTP3961Q1-TC-T01-TC-OHT1-D-C10-1-RTA-1	D	C10	4	10	91.70	0.1164	16	AGM	0.007272	92.62
NTP3961Q1-TC-T01-TC-OHT1-D-C10-1-RTA-2	D	C10	4	10	99.30	0.1168	16	AGM	0.007297	100.6
NTP3961Q1-TC-T01-TC-OHT1-D-C10-1-RTA-3	D	C10	4	10	93.40	0.1159	16	AGM	0.007244	93.97
NTP3961Q1-TC-T01-TC-OHT1-E-C8-1-RTA-1	E	C8	5	8	93.90	0.1156	16	AGM	0.007227	94.25
NTP3961Q1-TC-T01-TC-OHT1-E-C8-1-RTA-2	E	C8	5	8	87.70	0.1154	16	AGM	0.007209	87.81
NTP3961Q1-TC-T01-TC-OHT1-E-C8-1-RTA-3	E	C8	5	8	95.10	0.1148	16	AGM	0.007175	94.77
NTP3961Q1-TC-T01-TC-OHT1-E-C10-1-RTA-1	E	C10	5	10	94.60	0.1169	16	AGM	0.007303	95.95
NTP3961Q1-TC-T01-TC-OHT1-E-C10-1-RTA-2	E	C10	5	10	88.50	0.1152	16	AGM	0.007198	88.47
NTP3961Q1-TC-T01-TC-OHT1-E-C10-1-RTA-3	E	C10	5	10	95.20	0.1158	16	AGM	0.007238	95.70

Average	**93.83**	
Standard Dev.	**3.029**	
Coeff. of Var. [%]	**3.228**	
Min.	**87.70**	
Max.	**99.30**	
Number of Spec.	**30**	

$Average_{norm}$	**0.007289**	**94.99**
Standard $Dev._{norm}$		**3.201**
Coeff. of Var. $[\%]_{norm}$		**3.370**
Min.	**0.007166**	**87.81**
Max.	**0.007486**	**101.5**
Number of Spec.	**30**	**30**


Laminate Open-Hole Tension Properties (OHT1)--RTA (70°F)
Normalized Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Open-Hole Tension Strength [ksi]
0
2
4
6
8
10
12
0
1
2
3
4
5
6
0
20
40
60
80
100
120

Laminate Open-Hole Tension Properties (OHT1)--ETW1 (180°F)
Strength

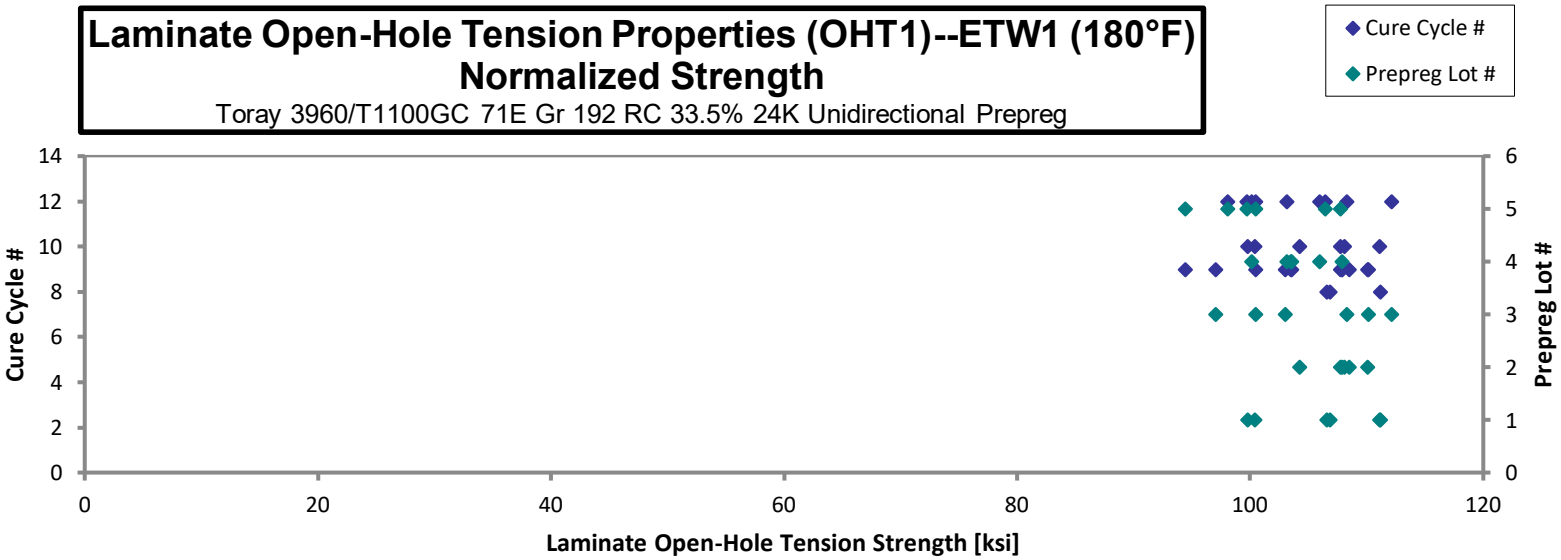
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

normalizing t_{ply} [in]
0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]
NTP3961Q1-TC-T01-BT-OHT1-A-C8-1-ETW1-1	A	C8	1	8	116.2	0.1102	16	MGM	0.006889	111.2
NTP3961Q1-TC-T01-BT-OHT1-A-C8-1-ETW1-2	A	C8	1	8	107.6	0.1141	16	MGM	0.007132	106.6
NTP3961Q1-TC-T01-BT-OHT1-A-C8-1-ETW1-3	A	C8	1	8	107.9	0.1141	16	MGM	0.007131	106.9
NTP3961Q1-TC-T01-BT-OHT1-A-C10-1-ETW1-1	A	C10	1	10	105.7	0.1094	16	MGM	0.006839	100.4
NTP3961Q1-TC-T01-BT-OHT1-A-C10-1-ETW1-2	A	C10	1	10	110.6	0.1158	16	MGM	0.007234	111.1
NTP3961Q1-TC-T01-BT-OHT1-A-C10-1-ETW1-3	A	C10	1	10	99.10	0.1160	16	MGM	0.007250	99.79
NTP3961Q1-TC-T01-BT-OHT1-B-C9-2-ETW1-1	B	C9	2	9	107.3	0.1182	16	AGM	0.007385	110.1
NTP3961Q1-TC-T01-BT-OHT1-B-C9-2-ETW1-2	B	C9	2	9	105.3	0.1181	16	AGM	0.007379	107.9
NTP3961Q1-TC-T01-BT-OHT1-B-C9-2-ETW1-3	B	C9	2	9	104.5	0.1196	16	AGM	0.007476	108.5
NTP3961Q1-TC-T01-BT-OHT1-B-C10-2-ETW1-1	B	C10	2	10	106.0	0.1171	16	AGM	0.007318	107.7
NTP3961Q1-TC-T01-BT-OHT1-B-C10-2-ETW1-2	B	C10	2	10	100.9	0.1190	16	AGM	0.007436	104.2
NTP3961Q1-TC-T01-BT-OHT1-B-C10-2-ETW1-3	B	C10	2	10	105.0	0.1186	16	AGM	0.007413	108.1
NTP3961Q1-TC-T01-TC-OHT1-C-C9-1-ETW1-1	C	C9	3	9	97.20	0.1150	16	AGM	0.007188	97.04
NTP3961Q1-TC-T01-TC-OHT1-C-C9-1-ETW1-2	C	C9	3	9	109.5	0.1159	16	AGM	0.007241	110.1
NTP3961Q1-TC-T01-TC-OHT1-C-C9-1-ETW1-3	C	C9	3	9	101.8	0.1166	16	AGM	0.007285	103.0
NTP3961Q1-TC-T01-TC-OHT1-C-C12-1-ETW1-1	C	C12	3	12	100.1	0.1156	16	AGM	0.007226	100.5
NTP3961Q1-TC-T01-TC-OHT1-C-C12-1-ETW1-2	C	C12	3	12	107.0	0.1166	16	AGM	0.007289	108.3
NTP3961Q1-TC-T01-TC-OHT1-C-C12-1-ETW1-3	C	C12	3	12	111.3	0.1161	16	AGM	0.007256	112.2
NTP3961Q1-TC-T01-TC-OHT1-D-C9-1-ETW1-1	D	C9	4	9	107.2	0.1159	16	AGM	0.007244	107.9
NTP3961Q1-TC-T01-TC-OHT1-D-C9-1-ETW1-2	D	C9	4	9	103.0	0.1158	16	AGM	0.007234	103.5
NTP3961Q1-TC-T01-TC-OHT1-D-C9-1-ETW1-3	D	C9	4	9	103.0	0.1159	16	AGM	0.007241	103.6
NTP3961Q1-TC-T01-TC-OHT1-D-C12-1-ETW1-1	D	C12	4	12	104.8	0.1165	16	AGM	0.007278	105.9
NTP3961Q1-TC-T01-TC-OHT1-D-C12-1-ETW1-2	D	C12	4	12	101.2	0.1174	16	AGM	0.007338	103.1
NTP3961Q1-TC-T01-TC-OHT1-D-C12-1-ETW1-3	D	C12	4	12	99.60	0.1158	16	AGM	0.007238	100.1
NTP3961Q1-TC-T01-TC-OHT1-E-C9-1-ETW1-1	E	C9	5	9	95.10	0.1144	16	AGM	0.007151	94.45
NTP3961Q1-TC-T01-TC-OHT1-E-C9-1-ETW1-2	E	C9	5	9	99.60	0.1162	16	AGM	0.007264	100.5
NTP3961Q1-TC-T01-TC-OHT1-E-C9-1-ETW1-3	E	C9	5	9	107.7	0.1153	16	AGM	0.007203	107.7
NTP3961Q1-TC-T01-TC-OHT1-E-C12-1-ETW1-1	E	C12	5	12	100.6	0.1142	16	AGM	0.007134	99.68
NTP3961Q1-TC-T01-TC-OHT1-E-C12-1-ETW1-2	E	C12	5	12	105.7	0.1160	16	AGM	0.007249	106.4
NTP3961Q1-TC-T01-TC-OHT1-E-C12-1-ETW1-3	E	C12	5	12	98.20	0.1151	16	AGM	0.007193	98.10

Average	**104.3**	
Standard Dev.	**4.667**	
Coeff. of Var. [%]	**4.475**	
Min.	**95.10**	
Max.	**116.2**	
Number of Spec.	**30**	

$Average_{norm}$	**0.007238**	**104.8**
$Standard\ Dev._{norm}$		**4.652**
$Coeff.\ of\ Var.\ [\%]_{norm}$		**4.438**
Min.	**0.006839**	**94.45**
Max.	**0.007476**	**112.2**
Number of Spec.	**30**	**30**


Laminate Open-Hole Tension Properties (OHT1)--ETW1 (180°F)
Normalized Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Open-Hole Tension Strength [ksi]
0
2
4
6
8
10
12
14
0
1
2
3
4
5
6
0
20
40
60
80
100
120

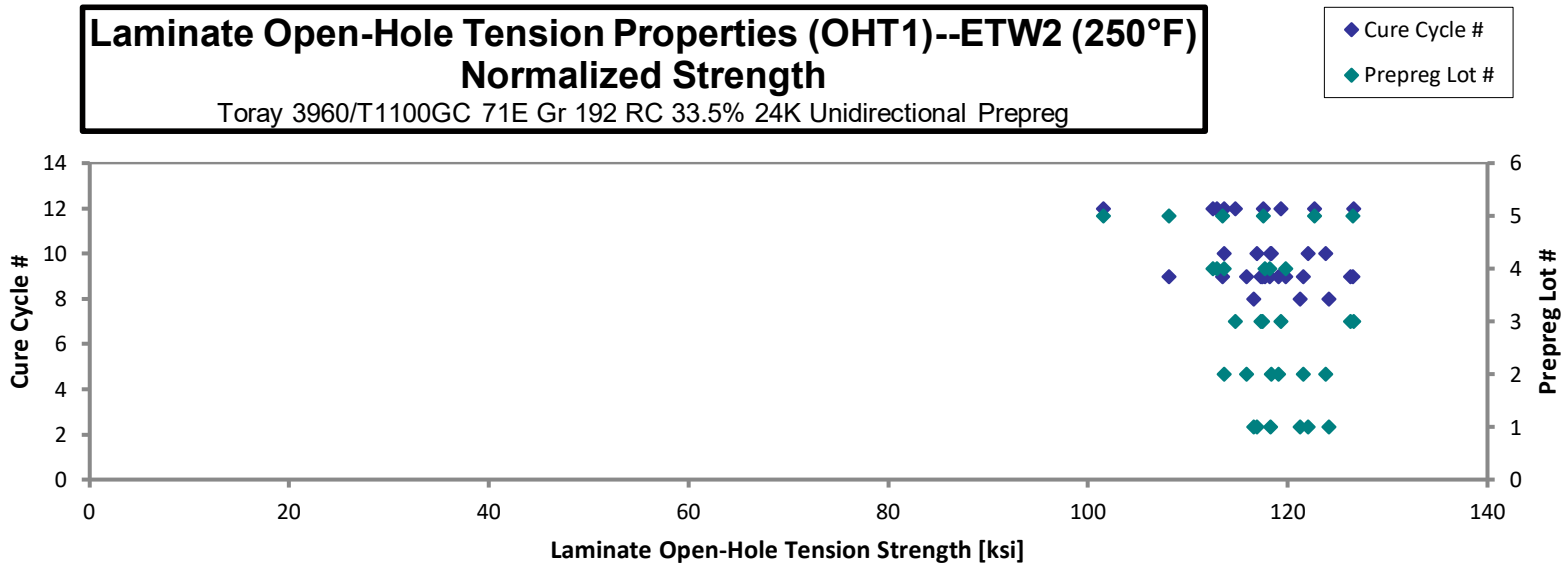
Laminate Open-Hole Tension Properties (OHT1)--ETW2 (250°F)
Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

normalizing t_{ply} [in]
0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]
NTP3961Q1-TC-T01-BT-OHT1-A-C8-1-ETW2-1	A	C8	1	8	123.3	0.1160	16	MGM	0.007252	124.2
NTP3961Q1-TC-T01-BT-OHT1-A-C8-1-ETW2-2	A	C8	1	8	116.1	0.1157	16	MGM	0.007231	116.6
NTP3961Q1-TC-T01-BT-OHT1-A-C8-1-ETW2-3	A	C8	1	8	120.8	0.1157	16	MGM	0.007228	121.3
NTP3961Q1-TC-T01-BT-OHT1-A-C10-1-ETW2-1	A	C10	1	10	116.9	0.1152	16	MGM	0.007201	116.9
NTP3961Q1-TC-T01-BT-OHT1-A-C10-1-ETW2-2	A	C10	1	10	117.1	0.1164	16	MGM	0.007277	118.4
NTP3961Q1-TC-T01-BT-OHT1-A-C10-1-ETW2-3	A	C10	1	10	123.1	0.1142	16	MGM	0.007138	122.0
NTP3961Q1-TC-T01-BT-OHT1-B-C9-2-ETW2-1	B	C9	2	9	114.8	0.1195	16	MGM	0.007471	119.1
NTP3961Q1-TC-T01-BT-OHT1-B-C9-2-ETW2-2	B	C9	2	9	117.7	0.1190	16	MGM	0.007438	121.6
NTP3961Q1-TC-T01-BT-OHT1-B-C9-2-ETW2-3	B	C9	2	9	110.5	0.1209	16	MGM	0.007553	115.9
NTP3961Q1-TC-T01-BT-OHT1-B-C10-2-ETW2-1	B	C10	2	10	110.0	0.1191	16	MGM	0.007443	113.7
NTP3961Q1-TC-T01-BT-OHT1-B-C10-2-ETW2-2	B	C10	2	10	120.6	0.1183	16	MGM	0.007394	123.9
NTP3961Q1-TC-T01-BT-OHT1-B-C10-2-ETW2-3	B	C10	2	10	113.5	0.1202	16	MGM	0.007509	118.4
NTP3961Q1-TC-T01-TC-OHT1-C-C9-1-ETW2-1	C	C9	3	9	115.8	0.1167	16	AGM	0.007294	117.3
NTP3961Q1-TC-T01-TC-OHT1-C-C9-1-ETW2-2	C	C9	3	9	123.9	0.1175	16	AGM	0.007341	126.3
NTP3961Q1-TC-T01-TC-OHT1-C-C9-1-ETW2-3	C	C9	3	9	116.7	0.1160	16	AGM	0.007248	117.5
NTP3961Q1-TC-T01-TC-OHT1-C-C12-1-ETW2-1	C	C12	3	12	117.4	0.1171	16	AGM	0.007318	119.3
NTP3961Q1-TC-T01-TC-OHT1-C-C12-1-ETW2-2	C	C12	3	12	113.1	0.1169	16	M(A,D)GV	0.007305	114.7
NTP3961Q1-TC-T01-TC-OHT1-C-C12-1-ETW2-3	C	C12	3	12	124.7	0.1170	16	AGM	0.007313	126.6
NTP3961Q1-TC-T01-TC-OHT1-D-C9-1-ETW2-1	D	C9	4	9	116.4	0.1166	16	AGM	0.007284	117.8
NTP3961Q1-TC-T01-TC-OHT1-D-C9-1-ETW2-2	D	C9	4	9	118.4	0.1151	16	AGM	0.007191	118.2
NTP3961Q1-TC-T01-TC-OHT1-D-C9-1-ETW2-3	D	C9	4	9	117.5	0.1175	16	AGM	0.007341	119.8
NTP3961Q1-TC-T01-TC-OHT1-D-C12-1-ETW2-1	D	C12	4	12	111.7	0.1165	16	AGM	0.007281	113.0
NTP3961Q1-TC-T01-TC-OHT1-D-C12-1-ETW2-2	D	C12	4	12	112.4	0.1165	16	AGM	0.007281	113.7
NTP3961Q1-TC-T01-TC-OHT1-D-C12-1-ETW2-3	D	C12	4	12	112.2	0.1156	16	AGM	0.007222	112.5
NTP3961Q1-TC-T01-TC-OHT1-E-C9-1-ETW2-1	E	C9	5	9	113.4	0.1153	16	AGM	0.007206	113.5
NTP3961Q1-TC-T01-TC-OHT1-E-C9-1-ETW2-2	E	C9	5	9	108.2	0.1151	16	AGM	0.007194	108.1
NTP3961Q1-TC-T01-TC-OHT1-E-C9-1-ETW2-3	E	C9	5	9	125.8	0.1159	16	AGM	0.007241	126.5
NTP3961Q1-TC-T01-TC-OHT1-E-C12-1-ETW2-1	E	C12	5	12	116.7	0.1161	16	AGM	0.007256	117.6
NTP3961Q1-TC-T01-TC-OHT1-E-C12-1-ETW2-2	E	C12	5	12	101.8	0.1150	16	AGM	0.007185	101.6
NTP3961Q1-TC-T01-TC-OHT1-E-C12-1-ETW2-3	E	C12	5	12	123.2	0.1148	16	AGM	0.007174	122.8

Average	**116.5**	
Standard Dev.	**5.386**	
Coeff. of Var. [%]	**4.625**	
Min.	**101.8**	
Max.	**125.8**	
Number of Spec.	**30**	

$Average_{norm}$	**0.007294**	**118.0**
Standard $Dev._{norm}$		**5.436**
Coeff. of $Var._{norm}$ [%]		**4.608**
Min.	**0.007138**	**101.6**
Max.	**0.007553**	**126.6**
Number of Spec.	**30**	**30**


Laminate Open-Hole Tension Properties (OHT1)--ETW2 (250°F)
Normalized Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Open-Hole Tension Strength [ksi]
0
20
40
60
80
100
120
140
0
2
4
6
8
10
12
14
0
1
2
3
4
5
6

4.18 "10/80/10" Open-Hole Tension 2 Properties (OHT2)

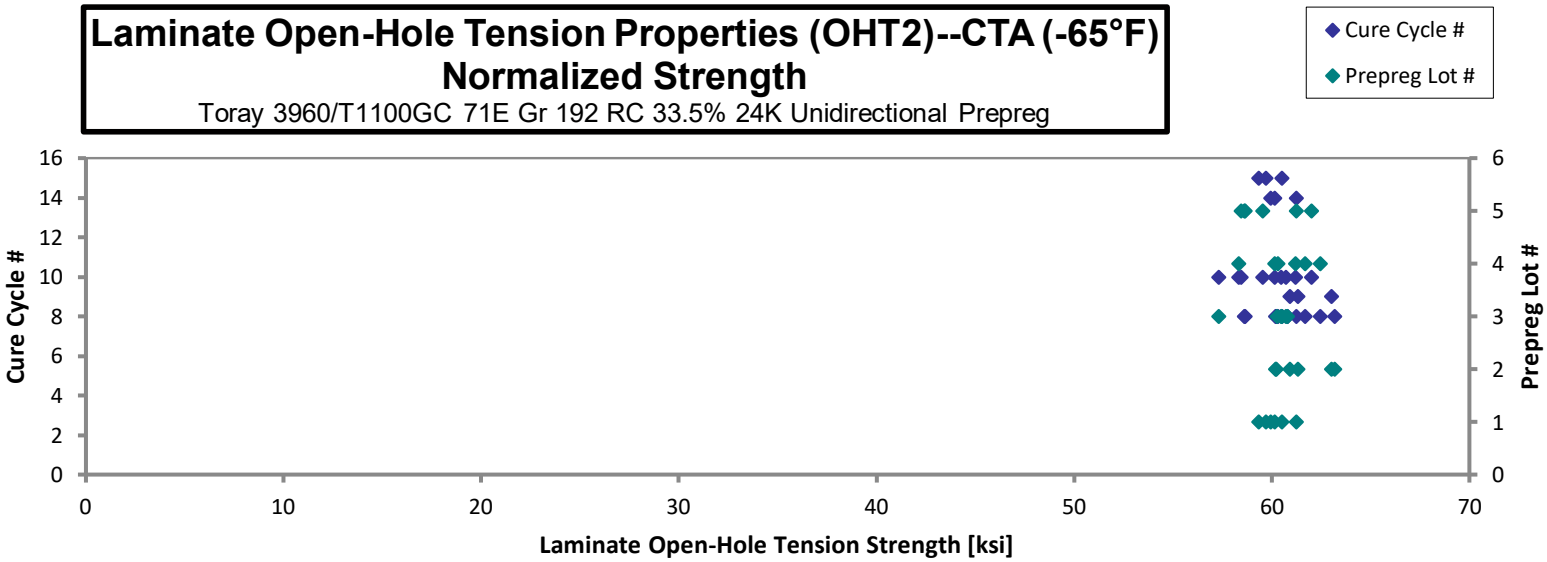
Laminate Open-Hole Tension Properties (OHT2)--CTA (-65°F)
Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

normalizing t_{ply} [in]
0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]
NTP3961Q1-TC-T01-BT-OHT2-A-C14-1-CTA-1	A	C14	1	14	63.10	0.1398	20	AGM	0.006989	61.25
NTP3961Q1-TC-T01-BT-OHT2-A-C14-1-CTA-2	A	C14	1	14	60.60	0.1430	20	AGM	0.007148	60.16
NTP3961Q1-TC-T01-BT-OHT2-A-C14-1-CTA-3	A	C14	1	14	59.40	0.1454	20	AGM	0.007268	59.96
NTP3961Q1-TC-T01-BT-OHT2-A-C15-1-CTA-1	A	C15	1	15	61.70	0.1385	20	AGM	0.006925	59.34
NTP3961Q1-TC-T01-BT-OHT2-A-C15-1-CTA-2	A	C15	1	15	59.70	0.1440	20	AGM	0.007202	59.71
NTP3961Q1-TC-T01-BT-OHT2-A-C15-1-CTA-3	A	C15	1	15	59.60	0.1463	20	AGM	0.007313	60.53
NTP3961Q1-TC-T01-BT-OHT2-B-C8-1-CTA-1	B	C8	2	8	58.80	0.1475	20	AGM	0.007373	60.21
NTP3961Q1-TC-T01-BT-OHT2-B-C8-1-CTA-2	B	C8	2	8	60.90	0.1495	20	AGM	0.007473	63.21
NTP3961Q1-TC-T01-BT-OHT2-B-C8-1-CTA-3	B	C8	2	8	58.80	0.1475	20	AGM	0.007376	60.23
NTP3961Q1-TC-T01-BT-OHT2-B-C9-1-CTA-1	B	C9	2	9	61.60	0.1474	20	AGM	0.007369	63.05
NTP3961Q1-TC-T01-BT-OHT2-B-C9-1-CTA-2	B	C9	2	9	59.40	0.1477	20	AGM	0.007387	60.94
NTP3961Q1-TC-T01-BT-OHT2-B-C9-1-CTA-3	B	C9	2	9	59.30	0.1489	20	AGM	0.007446	61.32
NTP3961Q1-TC-T01-TC-OHT2-C-C8-2-CTA-1	C	C8	3	8	59.50	0.1459	20	AGM	0.007293	60.27
NTP3961Q1-TC-T01-TC-OHT2-C-C8-2-CTA-2	C	C8	3	8	59.60	0.1469	20	AGM	0.007346	60.80
NTP3961Q1-TC-T01-TC-OHT2-C-C8-2-CTA-3	C	C8	3	8	59.30	0.1470	20	AGM	0.007351	60.54
NTP3961Q1-TC-T01-TC-OHT2-C-C10-2-CTA-1	C	C10	3	10	56.90	0.1450	20	AGM	0.007252	57.31
NTP3961Q1-TC-T01-TC-OHT2-C-C10-2-CTA-2	C	C10	3	10	59.00	0.1477	20	AGM	0.007383	60.50
NTP3961Q1-TC-T01-TC-OHT2-C-C10-2-CTA-3	C	C10	3	10	59.60	0.1467	20	AGM	0.007337	60.73
NTP3961Q1-TC-T01-TC-OHT2-D-C8-2-CTA-1	D	C8	4	8	59.50	0.1460	20	AGM	0.007298	60.31
NTP3961Q1-TC-T01-TC-OHT2-D-C8-2-CTA-2	D	C8	4	8	61.50	0.1463	20	AGM	0.007315	62.48
NTP3961Q1-TC-T01-TC-OHT2-D-C8-2-CTA-3	D	C8	4	8	61.60	0.1443	20	AGM	0.007213	61.71
NTP3961Q1-TC-T01-TC-OHT2-D-C10-2-CTA-1	D	C10	4	10	59.30	0.1461	20	AGM	0.007303	60.14
NTP3961Q1-TC-T01-TC-OHT2-D-C10-2-CTA-2	D	C10	4	10	57.90	0.1451	20	AGM	0.007255	58.34
NTP3961Q1-TC-T01-TC-OHT2-D-C10-2-CTA-3	D	C10	4	10	59.80	0.1474	20	AGM	0.007370	61.21
NTP3961Q1-TC-T01-TC-OHT2-E-C8-2-CTA-1	E	C8	5	8	60.70	0.1453	20	AGM	0.007267	61.26
NTP3961Q1-TC-T01-TC-OHT2-E-C8-2-CTA-2	E	C8	5	8	58.20	0.1451	20	AGM	0.007256	58.65
NTP3961Q1-TC-T01-TC-OHT2-E-C8-2-CTA-3	E	C8	5	8	58.70	0.1439	20	AGM	0.007193	58.64
NTP3961Q1-TC-T01-TC-OHT2-E-C10-2-CTA-1	E	C10	5	10	58.90	0.1456	20	AGM	0.007280	59.55
NTP3961Q1-TC-T01-TC-OHT2-E-C10-2-CTA-2	E	C10	5	10	58.20	0.1446	20	AGM	0.007232	58.45
NTP3961Q1-TC-T01-TC-OHT2-E-C10-2-CTA-3	E	C10	5	10	62.00	0.1441	20	AGM	0.007203	62.03

Average	**59.77**	
Standard Dev.	**1.371**	
Coeff. of Var. [%]	**2.294**	
Min.	**56.90**	
Max.	**63.10**	
Number of Spec.	**30**	

$Average_{norm}$	**0.007280**	**60.43**
Standard $Dev._{norm}$		**1.360**
Coeff. of Var. $[\%]_{norm}$		**2.250**
Min.	**0.006925**	**57.31**
Max.	**0.007473**	**63.21**
Number of Spec.	**30**	**30**


Laminate Open-Hole Tension Properties (OHT2)--CTA (-65°F)
Normalized Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Open-Hole Tension Strength [ksi]
0
2
4
6
8
10
12
14
16
0
1
2
3
4
5
6
0
10
20
30
40
50
60
70

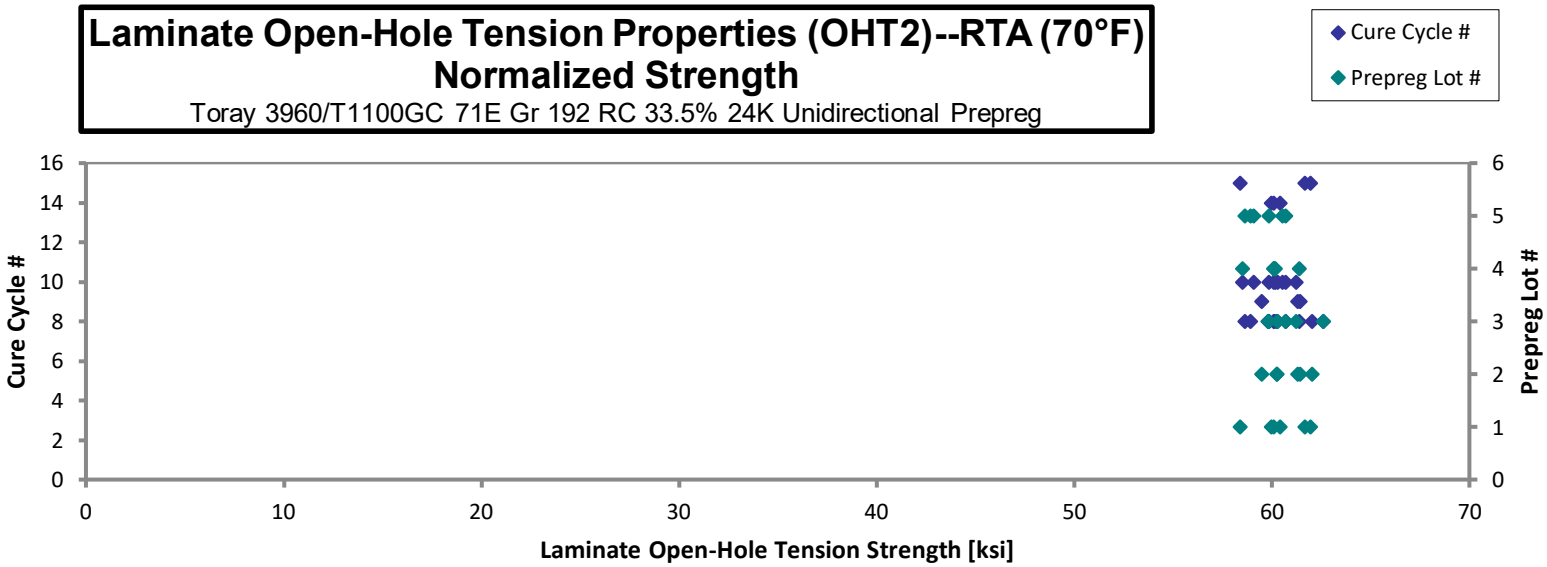
Laminate Open-Hole Tension Properties (OHT2)--RTA (70°F)
Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

normalizing t_{ply} [in]
0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]
NTP3961Q1-TC-T01-BT-OHT2-A-C14-1-RTA-1	A	C14	1	14	59.70	0.1446	20	AGM	0.007229	59.94
NTP3961Q1-TC-T01-BT-OHT2-A-C14-1-RTA-2	A	C14	1	14	59.40	0.1465	20	AGM	0.007324	60.42
NTP3961Q1-TC-T01-BT-OHT2-A-C14-1-RTA-3	A	C14	1	14	59.40	0.1457	20	AGM	0.007283	60.08
NTP3961Q1-TC-T01-BT-OHT2-A-C15-1-RTA-1	A	C15	1	15	57.90	0.1452	20	AGM	0.007258	58.36
NTP3961Q1-TC-T01-BT-OHT2-A-C15-1-RTA-2	A	C15	1	15	61.50	0.1451	20	AGM	0.007254	61.96
NTP3961Q1-TC-T01-BT-OHT2-A-C15-1-RTA-3	A	C15	1	15	61.30	0.1449	20	AGM	0.007243	61.67
NTP3961Q1-TC-T01-BT-OHT2-B-C8-1-RTA-1	B	C8	2	8	58.70	0.1478	20	AGM	0.007390	60.25
NTP3961Q1-TC-T01-BT-OHT2-B-C8-1-RTA-2	B	C8	2	8	59.60	0.1499	20	AGM	0.007495	62.04
NTP3961Q1-TC-T01-BT-OHT2-B-C8-1-RTA-3	B	C8	2	8	58.80	0.1475	20	AGM	0.007377	60.24
NTP3961Q1-TC-T01-BT-OHT2-B-C9-1-RTA-1	B	C9	2	9	58.10	0.1474	20	AGM	0.007372	59.48
NTP3961Q1-TC-T01-BT-OHT2-B-C9-1-RTA-2	B	C9	2	9	59.60	0.1481	20	AGM	0.007406	61.30
NTP3961Q1-TC-T01-BT-OHT2-B-C9-1-RTA-3	B	C9	2	9	59.80	0.1479	20	AGM	0.007394	61.41
NTP3961Q1-TC-T01-TC-OHT2-C-C8-2-RTA-1	C	C8	3	8	58.30	0.1477	20	AGM	0.007384	59.79
NTP3961Q1-TC-T01-TC-OHT2-C-C8-2-RTA-2	C	C8	3	8	59.20	0.1476	20	AGM	0.007379	60.67
NTP3961Q1-TC-T01-TC-OHT2-C-C8-2-RTA-3	C	C8	3	8	60.80	0.1483	20	AGM	0.007413	62.59
NTP3961Q1-TC-T01-TC-OHT2-C-C10-2-RTA-1	C	C10	3	10	60.00	0.1469	20	AGM	0.007347	61.22
NTP3961Q1-TC-T01-TC-OHT2-C-C10-2-RTA-2	C	C10	3	10	58.60	0.1470	20	AGM	0.007350	59.82
NTP3961Q1-TC-T01-TC-OHT2-C-C10-2-RTA-3	C	C10	3	10	59.10	0.1469	20	AGM	0.007344	60.28
NTP3961Q1-TC-T01-TC-OHT2-D-C8-2-RTA-1	D	C8	4	8	59.40	0.1457	20	AGM	0.007283	60.08
NTP3961Q1-TC-T01-TC-OHT2-D-C8-2-RTA-2	D	C8	4	8	59.50	0.1456	20	AGM	0.007278	60.14
NTP3961Q1-TC-T01-TC-OHT2-D-C8-2-RTA-3	D	C8	4	8	60.50	0.1461	20	AGM	0.007305	61.38
NTP3961Q1-TC-T01-TC-OHT2-D-C10-2-RTA-1	D	C10	4	10	58.30	0.1445	20	AGM	0.007225	58.50
NTP3961Q1-TC-T01-TC-OHT2-D-C10-2-RTA-2	D	C10	4	10	60.20	0.1438	20	AGM	0.007188	60.10
NTP3961Q1-TC-T01-TC-OHT2-D-C10-2-RTA-3	D	C10	4	10	60.00	0.1444	20	AGM	0.007220	60.17
NTP3961Q1-TC-T01-TC-OHT2-E-C8-2-RTA-1	E	C8	5	8	58.10	0.1453	20	AGM	0.007267	58.64
NTP3961Q1-TC-T01-TC-OHT2-E-C8-2-RTA-2	E	C8	5	8	59.30	0.1453	20	AGM	0.007265	59.84
NTP3961Q1-TC-T01-TC-OHT2-E-C8-2-RTA-3	E	C8	5	8	58.80	0.1443	20	AGM	0.007213	58.90
NTP3961Q1-TC-T01-TC-OHT2-E-C10-2-RTA-1	E	C10	5	10	58.60	0.1452	20	AGM	0.007258	59.07
NTP3961Q1-TC-T01-TC-OHT2-E-C10-2-RTA-2	E	C10	5	10	60.20	0.1452	20	AGM	0.007259	60.69
NTP3961Q1-TC-T01-TC-OHT2-E-C10-2-RTA-3	E	C10	5	10	60.30	0.1446	20	AGM	0.007229	60.54

Average	**59.43**	
Standard Dev.	**0.9282**	
Coeff. of Var. [%]	**1.562**	
Min.	**57.90**	
Max.	**61.50**	
Number of Spec.	**30**	

$Average_{norm}$	**0.007308**	**60.32**
$Standard\ Dev._{norm}$		**1.058**
$Coeff.\ of\ Var.\ [\%]_{norm}$		**1.754**
Min.	**0.007188**	**58.36**
Max.	**0.007495**	**62.59**
Number of Spec.	**30**	**30**


Laminate Open-Hole Tension Properties (OHT2)--RTA (70°F)
Normalized Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Open-Hole Tension Strength [ksi]
0
2
4
6
8
10
12
14
16
0
1
2
3
4
5
6
0
10
20
30
40
50
60
70

Laminate Open-Hole Tension Properties (OHT2)--ETW1 (180°F)
Strength

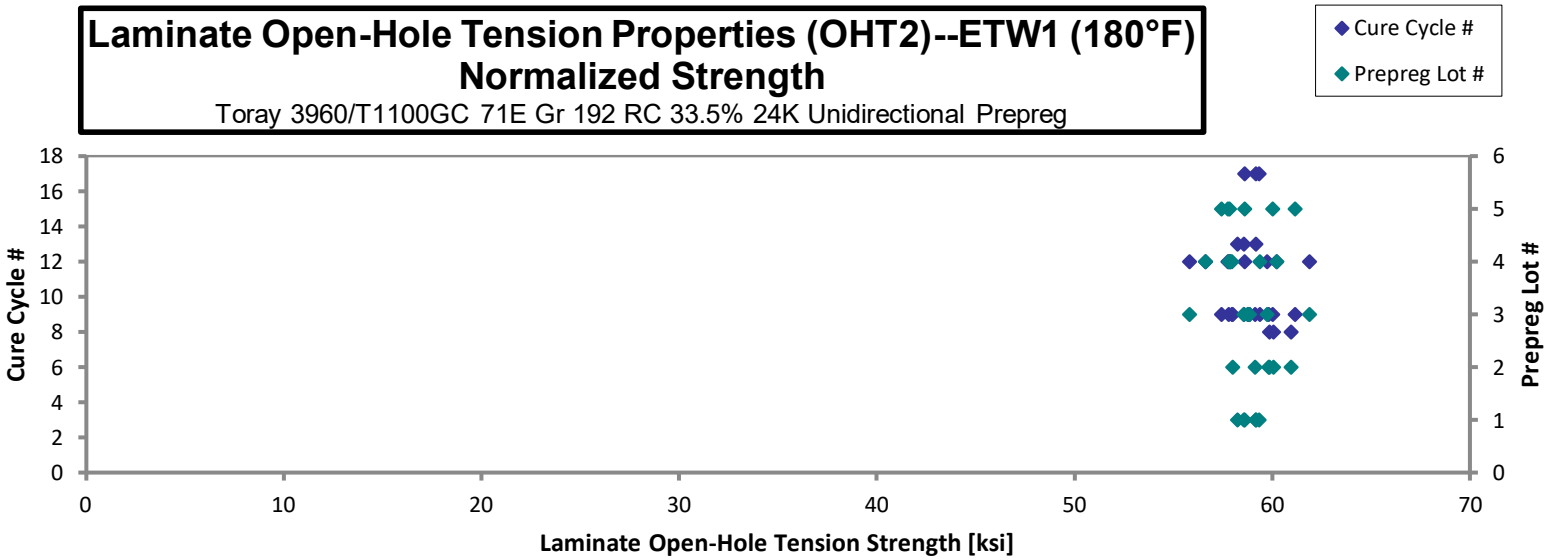
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

normalizing t_{ply} [in]
0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]
NTP3961Q1-TC-T01-BT-OHT2-A-C13-1-ETW1-1	A	C13	1	13	62.20	0.1348	20	MGM	0.006742	58.24
NTP3961Q1-TC-T01-BT-OHT2-A-C13-1-ETW1-2	A	C13	1	13	59.30	0.1422	20	AGM	0.007108	58.54
NTP3961Q1-TC-T01-BT-OHT2-A-C13-1-ETW1-3	A	C13	1	13	59.10	0.1441	20	AGM	0.007204	59.13
NTP3961Q1-TC-T01-BT-OHT2-A-C17-1-ETW1-1	A	C17	1	17	57.60	0.1479	20	AGM	0.007393	59.14
NTP3961Q1-TC-T01-BT-OHT2-A-C17-1-ETW1-2	A	C17	1	17	57.50	0.1485	20	MGM	0.007426	59.30
NTP3961Q1-TC-T01-BT-OHT2-A-C17-1-ETW1-3	A	C17	1	17	56.90	0.1482	20	AGM	0.007412	58.57
NTP3961Q1-TC-T01-BT-OHT2-B-C8-2-ETW1-1	B	C8	2	8	58.90	0.1490	20	AGM	0.007448	60.92
NTP3961Q1-TC-T01-BT-OHT2-B-C8-2-ETW1-2	B	C8	2	8	58.30	0.1484	20	AGM	0.007418	60.06
NTP3961Q1-TC-T01-BT-OHT2-B-C8-2-ETW1-3	B	C8	2	8	58.50	0.1473	20	AGM	0.007366	59.84
NTP3961Q1-TC-T01-BT-OHT2-B-C9-2-ETW1-1	B	C9	2	9	58.40	0.1475	20	AGM	0.007373	59.80
NTP3961Q1-TC-T01-BT-OHT2-B-C9-2-ETW1-2	B	C9	2	9	57.80	0.1473	20	AGM	0.007365	59.12
NTP3961Q1-TC-T01-BT-OHT2-B-C9-2-ETW1-3	B	C9	2	9	56.40	0.1480	20	AGM	0.007399	57.96
NTP3961Q1-TC-T01-TC-OHT2-C-C9-2-ETW1-1	C	C9	3	9	57.40	0.1474	20	AGM	0.007371	58.76
NTP3961Q1-TC-T01-TC-OHT2-C-C9-2-ETW1-2	C	C9	3	9	57.80	0.1466	20	AGM	0.007329	58.84
NTP3961Q1-TC-T01-TC-OHT2-C-C9-2-ETW1-3	C	C9	3	9	57.60	0.1464	20	AGM	0.007320	58.56
NTP3961Q1-TC-T01-TC-OHT2-C-C12-2-ETW1-1	C	C12	3	12	54.60	0.1472	20	AGM	0.007358	55.79
NTP3961Q1-TC-T01-TC-OHT2-C-C12-2-ETW1-2	C	C12	3	12	60.70	0.1468	20	AGM	0.007338	61.86
NTP3961Q1-TC-T01-TC-OHT2-C-C12-2-ETW1-3	C	C12	3	12	58.30	0.1475	20	AGM	0.007375	59.72
NTP3961Q1-TC-T01-TC-OHT2-D-C9-2-ETW1-1	D	C9	4	9	58.00	0.1435	20	AGM	0.007173	57.78
NTP3961Q1-TC-T01-TC-OHT2-D-C9-2-ETW1-2	D	C9	4	9	57.00	0.1464	20	AGM	0.007320	57.95
NTP3961Q1-TC-T01-TC-OHT2-D-C9-2-ETW1-3	D	C9	4	9	59.20	0.1444	20	AGM	0.007220	59.36
NTP3961Q1-TC-T01-TC-OHT2-D-C12-2-ETW1-1	D	C12	4	12	55.80	0.1461	20	AGM	0.007305	56.61
NTP3961Q1-TC-T01-TC-OHT2-D-C12-2-ETW1-2	D	C12	4	12	57.90	0.1439	20	AGM	0.007195	57.86
NTP3961Q1-TC-T01-TC-OHT2-D-C12-2-ETW1-3	D	C12	4	12	59.40	0.1459	20	AGM	0.007295	60.18
NTP3961Q1-TC-T01-TC-OHT2-E-C9-2-ETW1-1	E	C9	5	9	57.00	0.1451	20	AGM	0.007253	57.42
NTP3961Q1-TC-T01-TC-OHT2-E-C9-2-ETW1-2	E	C9	5	9	59.70	0.1447	20	AGM	0.007237	60.00
NTP3961Q1-TC-T01-TC-OHT2-E-C9-2-ETW1-3	E	C9	5	9	61.30	0.1437	20	AGM	0.007183	61.15
NTP3961Q1-TC-T01-TC-OHT2-E-C12-2-ETW1-1	E	C12	5	12	57.20	0.1453	20	AGM	0.007267	57.73
NTP3961Q1-TC-T01-TC-OHT2-E-C12-2-ETW1-2	E	C12	5	12	58.10	0.1452	20	AGM	0.007259	58.58
NTP3961Q1-TC-T01-TC-OHT2-E-C12-2-ETW1-3	E	C12	5	12	57.40	0.1451	20	AGM	0.007253	57.82

Average	**58.18**	
Standard Dev.	**1.550**	
Coeff. of Var. [%]	**2.664**	
Min.	**54.60**	
Max.	**62.20**	
Number of Spec.	**30**	

$Average_{norm}$	**0.007290**	**58.89**
Standard $Dev._{norm}$		**1.309**
Coeff. of Var. $[\%]_{norm}$		**2.224**
Min.	**0.006742**	**55.79**
Max.	**0.007448**	**61.86**
Number of Spec.	**30**	**30**


Laminate Open-Hole Tension Properties (OHT2)--ETW1 (180°F)
Normalized Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Open-Hole Tension Strength [ksi]
0
2
4
6
8
10
12
14
16
18
0
1
2
3
4
5
6
0
10
20
30
40
50
60
70

Laminate Open-Hole Tension Properties (OHT2)--ETW2 (250°F)
Strength

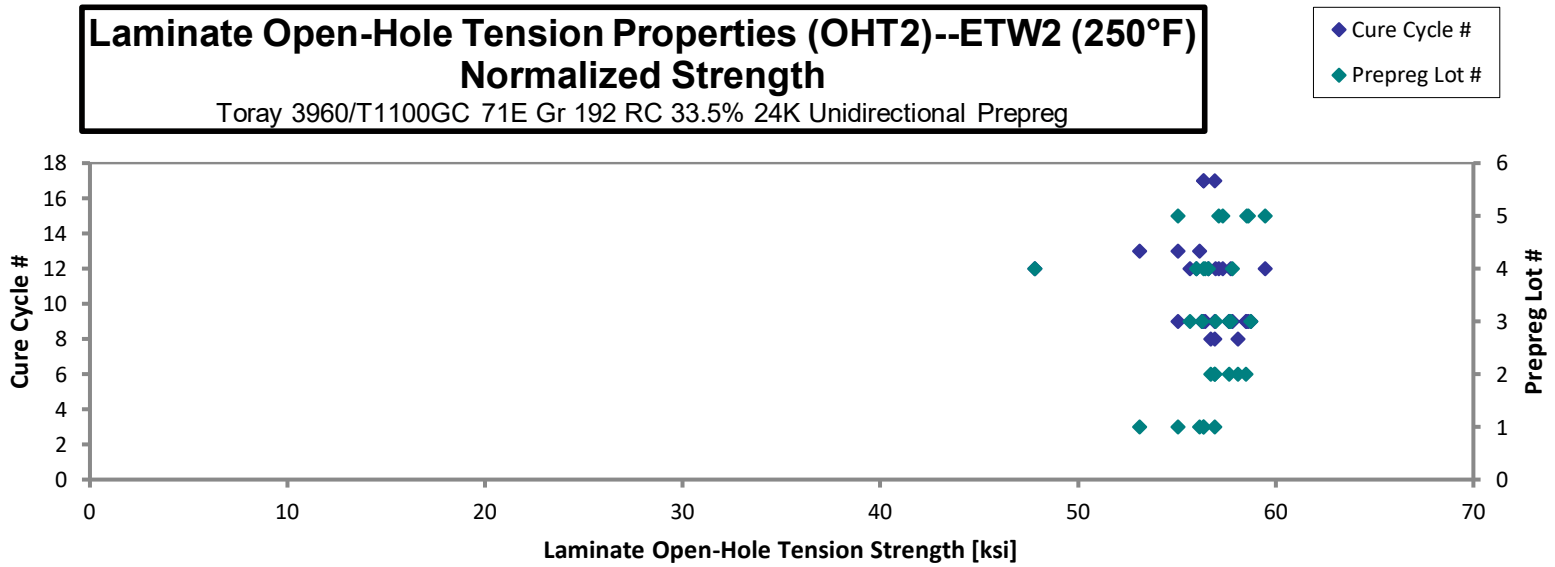
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

normalizing t_{ply} [in]
0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]
NTP3961Q1-TC-T01-BT-OHT2-A-C13-1-ETW2-1	A	C13	1	13	55.80	0.1450	20	MGM	0.007248	56.17
NTP3961Q1-TC-T01-BT-OHT2-A-C13-1-ETW2-2	A	C13	1	13	53.90	0.1472	20	MGM	0.007358	55.08
NTP3961Q1-TC-T01-BT-OHT2-A-C13-1-ETW2-3	A	C13	1	13	52.40	0.1461	20	MGM	0.007303	53.15
NTP3961Q1-TC-T01-BT-OHT2-A-C17-1-ETW2-1	A	C17	1	17	54.90	0.1479	20	MGM	0.007393	56.37
NTP3961Q1-TC-T01-BT-OHT2-A-C17-1-ETW2-2	A	C17	1	17	55.00	0.1476	20	MGM	0.007378	56.36
NTP3961Q1-TC-T01-BT-OHT2-A-C17-1-ETW2-3	A	C17	1	17	55.40	0.1480	20	MGM	0.007401	56.94
NTP3961Q1-TC-T01-BT-OHT2-B-C8-2-ETW2-1	B	C8	2	8	55.20	0.1486	20	AGM	0.007428	56.94
NTP3961Q1-TC-T01-BT-OHT2-B-C8-2-ETW2-2	B	C8	2	8	56.30	0.1486	20	AGM	0.007429	58.09
NTP3961Q1-TC-T01-BT-OHT2-B-C8-2-ETW2-3	B	C8	2	8	54.60	0.1496	20	AGM	0.007479	56.72
NTP3961Q1-TC-T01-BT-OHT2-B-C9-2-ETW2-1	B	C9	2	9	55.50	0.1478	20	AGM	0.007388	56.95
NTP3961Q1-TC-T01-BT-OHT2-B-C9-2-ETW2-2	B	C9	2	9	55.30	0.1502	20	AGM	0.007510	57.68
NTP3961Q1-TC-T01-BT-OHT2-B-C9-2-ETW2-3	B	C9	2	9	56.30	0.1497	20	AGM	0.007483	58.51
NTP3961Q1-TC-T01-TC-OHT2-C-C9-2-ETW2-1	C	C9	3	9	55.00	0.1474	20	M(A,D)GV	0.007368	56.28
NTP3961Q1-TC-T01-TC-OHT2-C-C9-2-ETW2-2	C	C9	3	9	57.40	0.1474	20	M(A,D)GV	0.007368	58.74
NTP3961Q1-TC-T01-TC-OHT2-C-C9-2-ETW2-3	C	C9	3	9	55.90	0.1486	20	M(A,D)GV	0.007429	57.68
NTP3961Q1-TC-T01-TC-OHT2-C-C12-2-ETW2-1	C	C12	3	12	54.20	0.1479	20	AGM	0.007397	55.68
NTP3961Q1-TC-T01-TC-OHT2-C-C12-2-ETW2-2	C	C12	3	12	56.20	0.1480	20	AGM	0.007400	57.76
NTP3961Q1-TC-T01-TC-OHT2-C-C12-2-ETW2-3	C	C12	3	12	55.50	0.1479	20	AGM	0.007393	56.98
NTP3961Q1-TC-T01-TC-OHT2-D-C9-2-ETW2-1	D	C9	4	9	56.60	0.1436	20	AGM	0.007180	56.44
NTP3961Q1-TC-T01-TC-OHT2-D-C9-2-ETW2-2	D	C9	4	9	57.50	0.1448	20	AGM	0.007240	57.82
NTP3961Q1-TC-T01-TC-OHT2-D-C9-2-ETW2-3	D	C9	4	9	55.60	0.1460	20	AGM	0.007300	56.37
NTP3961Q1-TC-T01-TC-OHT2-D-C12-2-ETW2-1	D	C12	4	12	47.80	0.1441	20	AGM	0.007205	47.83
NTP3961Q1-TC-T01-TC-OHT2-D-C12-2-ETW2-2	D	C12	4	12	55.40	0.1456	20	AGM	0.007278	56.00
NTP3961Q1-TC-T01-TC-OHT2-D-C12-2-ETW2-3	D	C12	4	12	56.20	0.1451	20	AGM	0.007253	56.61
NTP3961Q1-TC-T01-TC-OHT2-E-C9-2-ETW2-1	E	C9	5	9	54.90	0.1445	20	AGM	0.007226	55.09
NTP3961Q1-TC-T01-TC-OHT2-E-C9-2-ETW2-2	E	C9	5	9	58.20	0.1449	20	AGM	0.007246	58.57
NTP3961Q1-TC-T01-TC-OHT2-E-C9-2-ETW2-3	E	C9	5	9	57.90	0.1459	20	AGM	0.007293	58.65
NTP3961Q1-TC-T01-TC-OHT2-E-C12-2-ETW2-1	E	C12	5	12	56.70	0.1452	20	AGM	0.007258	57.16
NTP3961Q1-TC-T01-TC-OHT2-E-C12-2-ETW2-2	E	C12	5	12	56.90	0.1451	20	AGM	0.007254	57.33
NTP3961Q1-TC-T01-TC-OHT2-E-C12-2-ETW2-3	E	C12	5	12	59.20	0.1447	20	AGM	0.007235	59.49

Average	**55.59**	
Standard Dev.	**2.005**	
Coeff. of Var. [%]	**3.607**	
Min.	**47.80**	
Max.	**59.20**	
Number of Spec.	**30**	

$Average_{norm}$	**0.007337**	**56.65**
$Standard\ Dev._{norm}$		**2.104**
$Coeff.\ of\ Var.\ [\%]_{norm}$		**3.714**
Min.	**0.007180**	**47.83**
Max.	**0.007510**	**59.49**
Number of Spec.	**30**	**30**


Laminate Open-Hole Tension Properties (OHT2)--ETW2 (250°F)
Normalized Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Open-Hole Tension Strength [ksi]
0
2
4
6
8
10
12
14
16
18
0
1
2
3
4
5
6
0
10
20
30
40
50
60
70

4.19 "50/40/10" Open-Hole Tension 3 Properties (OHT3)

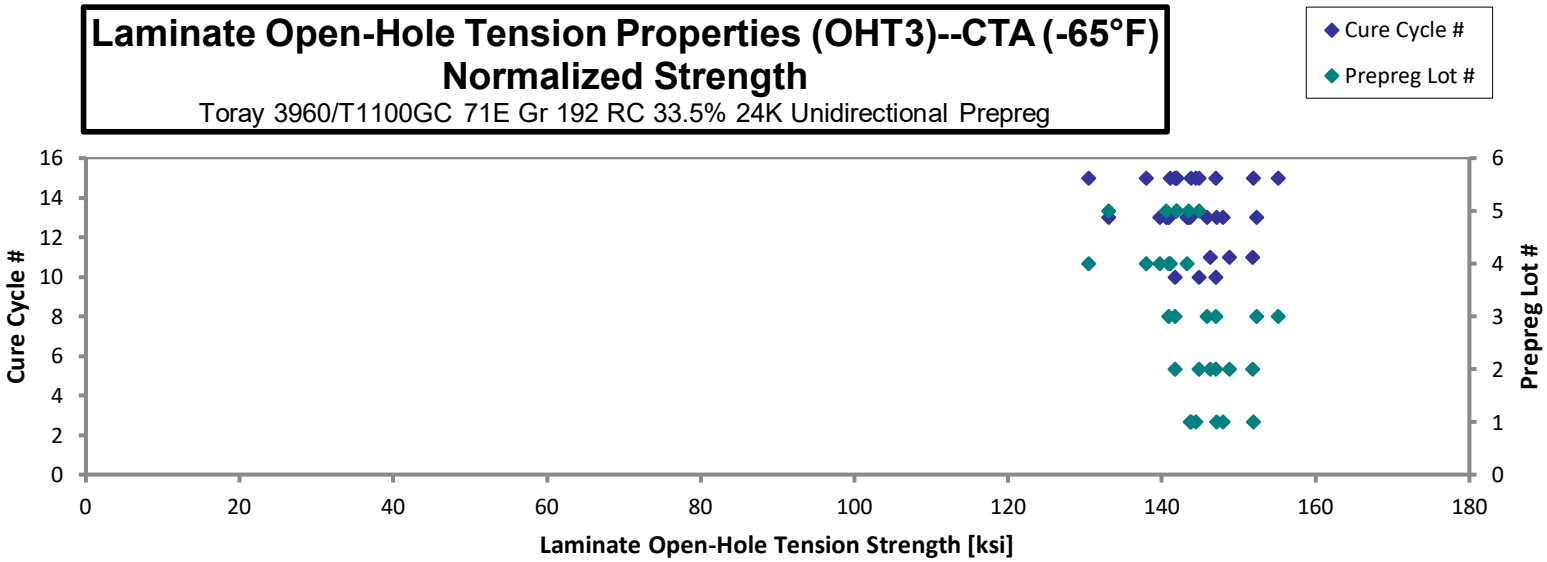
Laminate Open-Hole Tension Properties (OHT3)--CTA (-65°F)
Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

normalizing t_{ply} [in]
0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]
NTP3961Q1-TC-T01-BT-OHT3-A-C13-1-CTA-1	A	C13	1	13	148.6	0.1393	20	MGM	0.006965	143.7
NTP3961Q1-TC-T01-BT-OHT3-A-C13-1-CTA-2	A	C13	1	13	145.5	0.1457	20	MGM	0.007283	147.2
NTP3961Q1-TC-T01-BT-OHT3-A-C13-1-CTA-3	A	C13	1	13	147.0	0.1450	20	MGM	0.007248	148.0
NTP3961Q1-TC-T01-BT-OHT3-A-C15-1-CTA-1	A	C15	1	15	146.5	0.1414	20	MGM	0.007070	143.9
NTP3961Q1-TC-T01-BT-OHT3-A-C15-1-CTA-2	A	C15	1	15	151.8	0.1441	20	MGM	0.007207	151.9
NTP3961Q1-TC-T01-BT-OHT3-A-C15-1-CTA-3	A	C15	1	15	142.3	0.1462	20	MGM	0.007309	144.5
NTP3961Q1-TC-T01-BT-OHT3-B-C10-1-CTA-1	B	C10	2	10	139.1	0.1467	20	MGM	0.007335	141.7
NTP3961Q1-TC-T01-BT-OHT3-B-C10-1-CTA-2	B	C10	2	10	140.5	0.1484	20	MGM	0.007421	144.8
NTP3961Q1-TC-T01-BT-OHT3-B-C10-1-CTA-3	B	C10	2	10	141.6	0.1495	20	MGM	0.007476	147.0
NTP3961Q1-TC-T01-BT-OHT3-B-C11-1-CTA-1	B	C11	2	11	147.0	0.1458	20	MGM	0.007290	148.8
NTP3961Q1-TC-T01-BT-OHT3-B-C11-1-CTA-2	B	C11	2	11	142.4	0.1480	20	MGM	0.007399	146.3
NTP3961Q1-TC-T01-BT-OHT3-B-C11-1-CTA-3	B	C11	2	11	148.7	0.1470	20	MGM	0.007350	151.8
NTP3961Q1-TC-T01-TC-OHT3-C-C13-1-CTA-1	C	C13	3	13	140.1	0.1448	20	MGM	0.007241	140.9
NTP3961Q1-TC-T01-TC-OHT3-C-C13-1-CTA-2	C	C13	3	13	152.5	0.1438	20	MGM	0.007191	152.3
NTP3961Q1-TC-T01-TC-OHT3-C-C13-1-CTA-3	C	C13	3	13	142.8	0.1472	20	MGM	0.007358	145.9
NTP3961Q1-TC-T01-TC-OHT3-C-C15-1-CTA-1	C	C15	3	15	145.6	0.1455	20	MGM	0.007273	147.1
NTP3961Q1-TC-T01-TC-OHT3-C-C15-1-CTA-2	C	C15	3	15	141.0	0.1448	20	MGM	0.007239	141.8
NTP3961Q1-TC-T01-TC-OHT3-C-C15-1-CTA-3	C	C15	3	15	153.3	0.1458	20	MGM	0.007288	155.2
NTP3961Q1-TC-T01-TC-OHT3-D-C13-1-CTA-1	D	C13	4	13	137.2	0.1467	20	LGM	0.007333	139.7
NTP3961Q1-TC-T01-TC-OHT3-D-C13-1-CTA-2	D	C13	4	13	142.4	0.1449	20	LGM	0.007245	143.3
NTP3961Q1-TC-T01-TC-OHT3-D-C13-1-CTA-3	D	C13	4	13	140.3	0.1447	20	LGM	0.007233	140.9
NTP3961Q1-TC-T01-TC-OHT3-D-C15-1-CTA-1	D	C15	4	15	129.3	0.1453	20	LGM	0.007265	130.5
NTP3961Q1-TC-T01-TC-OHT3-D-C15-1-CTA-2	D	C15	4	15	138.0	0.1472	20	LGM	0.007360	141.1
NTP3961Q1-TC-T01-TC-OHT3-D-C15-1-CTA-3	D	C15	4	15	137.8	0.1442	20	LGM	0.007210	138.0
NTP3961Q1-TC-T01-TC-OHT3-E-C13-1-CTA-1	E	C13	5	13	132.4	0.1448	20	LGM	0.007240	133.1
NTP3961Q1-TC-T01-TC-OHT3-E-C13-1-CTA-2	E	C13	5	13	138.8	0.1459	20	LGM	0.007293	140.6
NTP3961Q1-TC-T01-TC-OHT3-E-C13-1-CTA-3	E	C13	5	13	141.5	0.1460	20	LGM	0.007300	143.5
NTP3961Q1-TC-T01-TC-OHT3-E-C15-1-CTA-1	E	C15	5	15	141.3	0.1447	20	LGM	0.007233	141.9
NTP3961Q1-TC-T01-TC-OHT3-E-C15-1-CTA-2	E	C15	5	15	140.6	0.1454	20	LGM	0.007269	141.9
NTP3961Q1-TC-T01-TC-OHT3-E-C15-1-CTA-3	E	C15	5	15	144.0	0.1449	20	LGM	0.007243	144.9

Average	**142.7**	
Standard Dev.	**5.417**	
Coeff. of Var. [%]	**3.797**	
Min.	**129.3**	
Max.	**153.3**	
Number of Spec.	**30**	

$Average_{norm}$	**0.007272**	**144.07**
Standard $Dev._{norm}$		**5.286**
Coeff. of Var. $[\%]_{norm}$		**3.669**
Min.	**0.006965**	**130.5**
Max.	**0.007476**	**155.2**
Number of Spec.	**30**	**30**

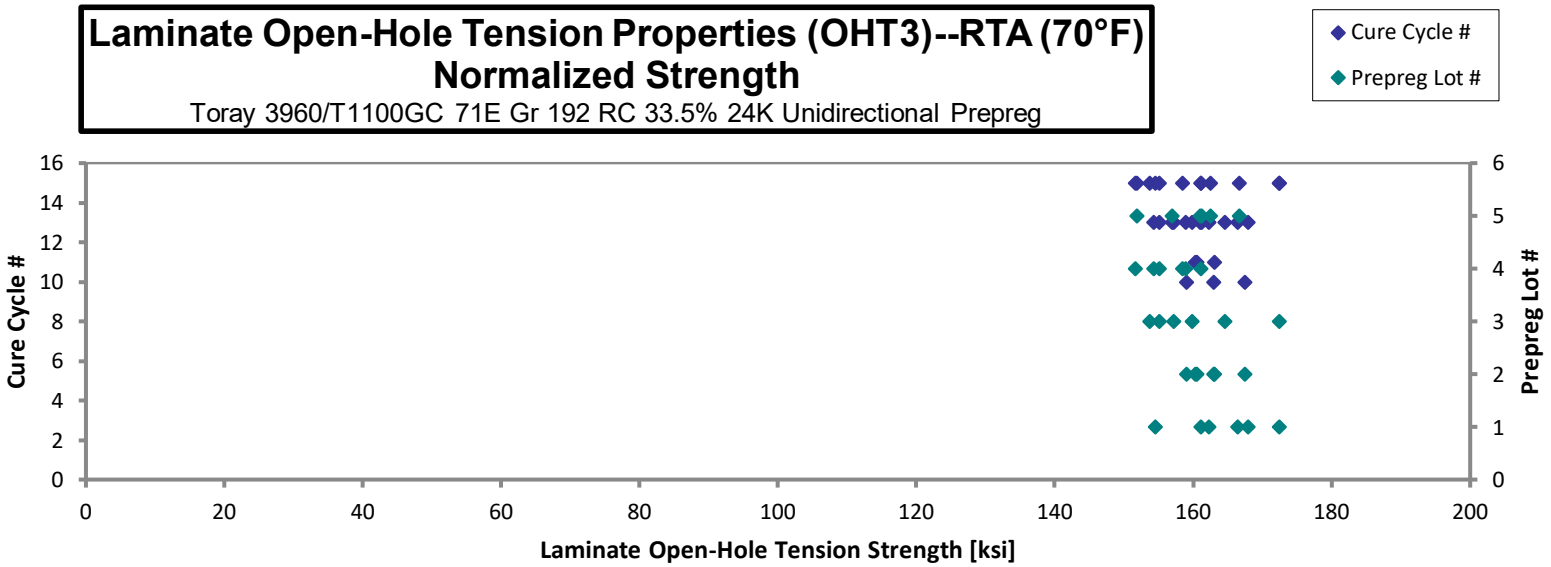

Laminate Open-Hole Tension Properties (OHT3)--CTA (-65°F)
Normalized Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Open-Hole Tension Strength [ksi]
0
2
4
6
8
10
12
14
16
0
1
2
3
4
5
6
0
20
40
60
80
100
120
140
160
180

Laminate Open-Hole Tension Properties (OHT3)--RTA (70°F)
Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

normalizing t_{ply} [in]
0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]
NTP3961Q1-TC-T01-BT-OHT3-A-C13-1-RTA-1	A	C13	1	13	164.8	0.1454	20	AGM	0.007270	166.4
NTP3961Q1-TC-T01-BT-OHT3-A-C13-1-RTA-2	A	C13	1	13	161.3	0.1449	20	AGM	0.007243	162.3
NTP3961Q1-TC-T01-BT-OHT3-A-C13-1-RTA-3	A	C13	1	13	166.8	0.1450	20	AGM	0.007248	167.9
NTP3961Q1-TC-T01-BT-OHT3-A-C15-1-RTA-1	A	C15	1	15	171.4	0.1449	20	AGM	0.007245	172.5
NTP3961Q1-TC-T01-BT-OHT3-A-C15-1-RTA-2	A	C15	1	15	159.8	0.1451	20	AGM	0.007257	161.1
NTP3961Q1-TC-T01-BT-OHT3-A-C15-1-RTA-3	A	C15	1	15	153.8	0.1446	20	AGM	0.007231	154.5
NTP3961Q1-TC-T01-BT-OHT3-B-C10-1-RTA-1	B	C10	2	10	156.0	0.1468	20	MGM	0.007341	159.0
NTP3961Q1-TC-T01-BT-OHT3-B-C10-1-RTA-2	B	C10	2	10	163.7	0.1473	20	MGM	0.007366	167.5
NTP3961Q1-TC-T01-BT-OHT3-B-C10-1-RTA-3	B	C10	2	10	158.8	0.1478	20	MGM	0.007388	162.9
NTP3961Q1-TC-T01-BT-OHT3-B-C11-1-RTA-1	B	C11	2	11	156.3	0.1479	20	MGM	0.007395	160.5
NTP3961Q1-TC-T01-BT-OHT3-B-C11-1-RTA-2	B	C11	2	11	157.6	0.1465	20	MGM	0.007325	160.3
NTP3961Q1-TC-T01-BT-OHT3-B-C11-1-RTA-3	B	C11	2	11	160.3	0.1465	20	MGM	0.007326	163.1
NTP3961Q1-TC-T01-TC-OHT3-C-C13-1-RTA-1	C	C13	3	13	155.9	0.1476	20	AGM	0.007379	159.8
NTP3961Q1-TC-T01-TC-OHT3-C-C13-1-RTA-2	C	C13	3	13	152.7	0.1482	20	AGM	0.007410	157.2
NTP3961Q1-TC-T01-TC-OHT3-C-C13-1-RTA-3	C	C13	3	13	161.5	0.1468	20	AGM	0.007339	164.6
NTP3961Q1-TC-T01-TC-OHT3-C-C15-1-RTA-1	C	C15	3	15	169.1	0.1468	20	AGM	0.007342	172.4
NTP3961Q1-TC-T01-TC-OHT3-C-C15-1-RTA-2	C	C15	3	15	150.4	0.1472	20	AGM	0.007358	153.7
NTP3961Q1-TC-T01-TC-OHT3-C-C15-1-RTA-3	C	C15	3	15	151.8	0.1471	20	AGM	0.007354	155.0
NTP3961Q1-TC-T01-TC-OHT3-D-C13-1-RTA-1	D	C13	4	13	158.6	0.1443	20	AGM	0.007215	158.9
NTP3961Q1-TC-T01-TC-OHT3-D-C13-1-RTA-2	D	C13	4	13	154.9	0.1442	20	AGM	0.007210	155.1
NTP3961Q1-TC-T01-TC-OHT3-D-C13-1-RTA-3	D	C13	4	13	154.8	0.1436	20	AGM	0.007178	154.3
NTP3961Q1-TC-T01-TC-OHT3-D-C15-1-RTA-1	D	C15	4	15	150.9	0.1447	20	AGM	0.007233	151.6
NTP3961Q1-TC-T01-TC-OHT3-D-C15-1-RTA-2	D	C15	4	15	159.6	0.1429	20	AGM	0.007145	158.4
NTP3961Q1-TC-T01-TC-OHT3-D-C15-1-RTA-3	D	C15	4	15	160.6	0.1444	20	AGM	0.007220	161.0
NTP3961Q1-TC-T01-TC-OHT3-E-C13-1-RTA-1	E	C13	5	13	158.9	0.1459	20	AGM	0.007293	160.9
NTP3961Q1-TC-T01-TC-OHT3-E-C13-1-RTA-2	E	C13	5	13	156.0	0.1449	20	AGM	0.007245	157.0
NTP3961Q1-TC-T01-TC-OHT3-E-C13-1-RTA-3	E	C13	5	13	161.8	0.1435	20	AGM	0.007176	161.2
NTP3961Q1-TC-T01-TC-OHT3-E-C15-1-RTA-1	E	C15	5	15	161.2	0.1452	20	AGM	0.007258	162.5
NTP3961Q1-TC-T01-TC-OHT3-E-C15-1-RTA-2	E	C15	5	15	150.3	0.1455	20	AGM	0.007275	151.9
NTP3961Q1-TC-T01-TC-OHT3-E-C15-1-RTA-3	E	C15	5	15	165.7	0.1448	20	AGM	0.007241	166.6

	Strength		$Strength_{norm}$
Average	**158.8**	**$Average_{norm}$**	**0.007283**	**160.7**
Standard Dev.	**5.418**	**$Standard\ Dev._{norm}$**		**5.464**
Coeff. of Var. [%]	**3.411**	**$Coeff.\ of\ Var.\ [\%]_{norm}$**		**3.401**
Min.	**150.3**	**Min.**	**0.007145**	**151.6**
Max.	**171.4**	**Max.**	**0.007410**	**172.5**
Number of Spec.	**30**	**Number of Spec.**	**30**	**30**


Laminate Open-Hole Tension Properties (OHT3)--RTA (70°F)
Normalized Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Open-Hole Tension Strength [ksi]
0
2
4
6
8
10
12
14
16
0
1
2
3
4
5
6
0
20
40
60
80
100
120
140
160
180
200

Laminate Open-Hole Tension Properties (OHT3)--ETW1 (180°F)
Strength

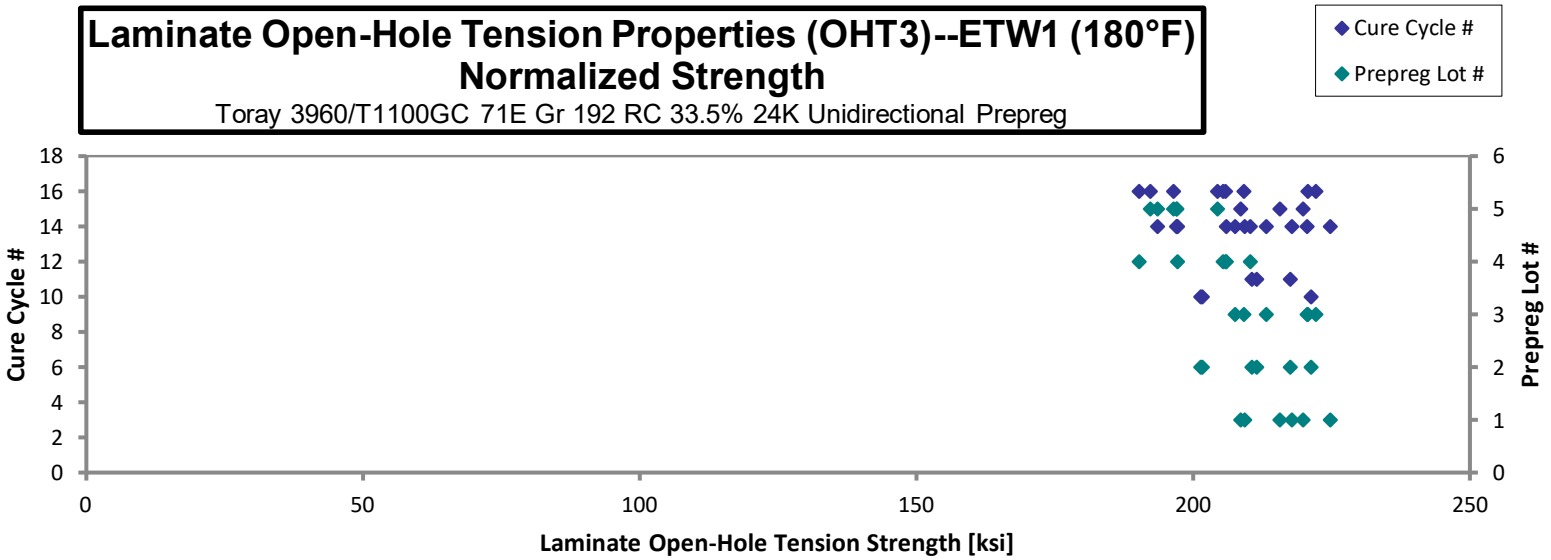
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

normalizing t_{ply} [in]
0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]
NTP3961Q1-TC-T01-BT-OHT3-A-C14-1-ETW1-2	A	C14	1	14	226.5	0.1429	20	XGV	0.007143	224.7
NTP3961Q1-TC-T01-BT-OHT3-A-C14-1-ETW1-3	A	C14	1	14	208.9	0.1442	20	XGM	0.007212	209.2
NTP3961Q1-TC-T01-BT-OHT3-A-C14-1-ETW1-4	A	C14	1	14	217.2	0.1444	20	XGM	0.007220	217.8
NTP3961Q1-TC-T01-BT-OHT3-A-C15-2-ETW1-1	A	C15	1	15	229.5	0.1379	20	XGV	0.006893	219.7
NTP3961Q1-TC-T01-BT-OHT3-A-C15-2-ETW1-2	A	C15	1	15	214.6	0.1447	20	XGV	0.007236	215.7
NTP3961Q1-TC-T01-BT-OHT3-A-C15-2-ETW1-3	A	C15	1	15	207.4	0.1448	20	XGM	0.007238	208.5
NTP3961Q1-TC-T01-BT-OHT3-B-C10-2-ETW1-1	B	C10	2	10	197.4	0.1468	20	AGM	0.007342	201.3
NTP3961Q1-TC-T01-BT-OHT3-B-C10-2-ETW1-2	B	C10	2	10	217.6	0.1464	20	XGM	0.007319	221.2
NTP3961Q1-TC-T01-BT-OHT3-B-C10-2-ETW1-3	B	C10	2	10	196.8	0.1475	20	AGM	0.007373	201.5
NTP3961Q1-TC-T01-BT-OHT3-B-C11-2-ETW1-1	B	C11	2	11	207.8	0.1465	20	AGM	0.007327	211.5
NTP3961Q1-TC-T01-BT-OHT3-B-C11-2-ETW1-2	B	C11	2	11	206.0	0.1472	20	AGM	0.007361	210.6
NTP3961Q1-TC-T01-BT-OHT3-B-C11-2-ETW1-3	B	C11	2	11	212.9	0.1471	20	AGM	0.007356	217.5
NTP3961Q1-TC-T01-TC-OHT3-C-C14-1-ETW1-2	C	C14	3	14	204.4	0.1462	20	AGM	0.007309	207.5
NTP3961Q1-TC-T01-TC-OHT3-C-C14-1-ETW1-3	C	C14	3	14	215.9	0.1471	20	AGM	0.007354	220.5
NTP3961Q1-TC-T01-TC-OHT3-C-C14-1-ETW1-4	C	C14	3	14	210.4	0.1458	20	AGM	0.007292	213.1
NTP3961Q1-TC-T01-TC-OHT3-C-C16-1-ETW1-1	C	C16	3	16	205.2	0.1467	20	AGM	0.007336	209.1
NTP3961Q1-TC-T01-TC-OHT3-C-C16-1-ETW1-2	C	C16	3	16	219.8	0.1446	20	AGM	0.007228	220.6
NTP3961Q1-TC-T01-TC-OHT3-C-C16-1-ETW1-3	C	C16	3	16	219.3	0.1458	20	AGM	0.007292	222.1
NTP3961Q1-TC-T01-TC-OHT3-D-C14-1-ETW1-1	D	C14	4	14	204.7	0.1449	20	AGM	0.007245	206.0
NTP3961Q1-TC-T01-TC-OHT3-D-C14-1-ETW1-2	D	C14	4	14	193.7	0.1466	20	AGM	0.007328	197.1
NTP3961Q1-TC-T01-TC-OHT3-D-C14-1-ETW1-3	D	C14	4	14	207.1	0.1462	20	AGM	0.007308	210.2
NTP3961Q1-TC-T01-TC-OHT3-D-C16-1-ETW1-1	D	C16	4	16	204.4	0.1447	20	AGM	0.007233	205.3
NTP3961Q1-TC-T01-TC-OHT3-D-C16-1-ETW1-2	D	C16	4	16	192.2	0.1425	20	AGM	0.007125	190.2
NTP3961Q1-TC-T01-TC-OHT3-D-C16-1-ETW1-3	D	C16	4	16	206.1	0.1438	20	AGM	0.007188	205.7
NTP3961Q1-TC-T01-TC-OHT3-E-C14-1-ETW1-1	E	C14	5	14	192.6	0.1446	20	AGM	0.007232	193.4
NTP3961Q1-TC-T01-TC-OHT3-E-C14-1-ETW1-2	E	C14	5	14	193.8	0.1463	20	AGM	0.007315	196.9
NTP3961Q1-TC-T01-TC-OHT3-E-C14-1-ETW1-3	E	C14	5	14	195.9	0.1448	20	AGM	0.007239	197.0
NTP3961Q1-TC-T01-TC-OHT3-E-C16-1-ETW1-1	E	C16	5	16	204.8	0.1437	20	AGM	0.007183	204.3
NTP3961Q1-TC-T01-TC-OHT3-E-C16-1-ETW1-2	E	C16	5	16	189.4	0.1461	20	AGM	0.007304	192.1
NTP3961Q1-TC-T01-TC-OHT3-E-C16-1-ETW1-3	E	C16	5	16	195.2	0.1449	20	AGM	0.007245	196.4

Average	**206.6**	
Standard Dev.	**10.46**	
Coeff. of Var. [%]	**5.065**	
Min.	**189.4**	
Max.	**229.5**	
Number of Spec.	**30**	

$Average_{norm}$	**0.007259**	**208.2**
Standard $Dev._{norm}$		**9.819**
Coeff. of Var. $[\%]_{norm}$		**4.715**
Min.	**0.006893**	**190.2**
Max.	**0.007373**	**224.7**
Number of Spec.	**30**	**30**


Laminate Open-Hole Tension Properties (OHT3)--ETW1 (180°F)
Normalized Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Open-Hole Tension Strength [ksi]
0
50
100
150
200
250
0
2
4
6
8
10
12
14
16
18
0
1
2
3
4
5
6

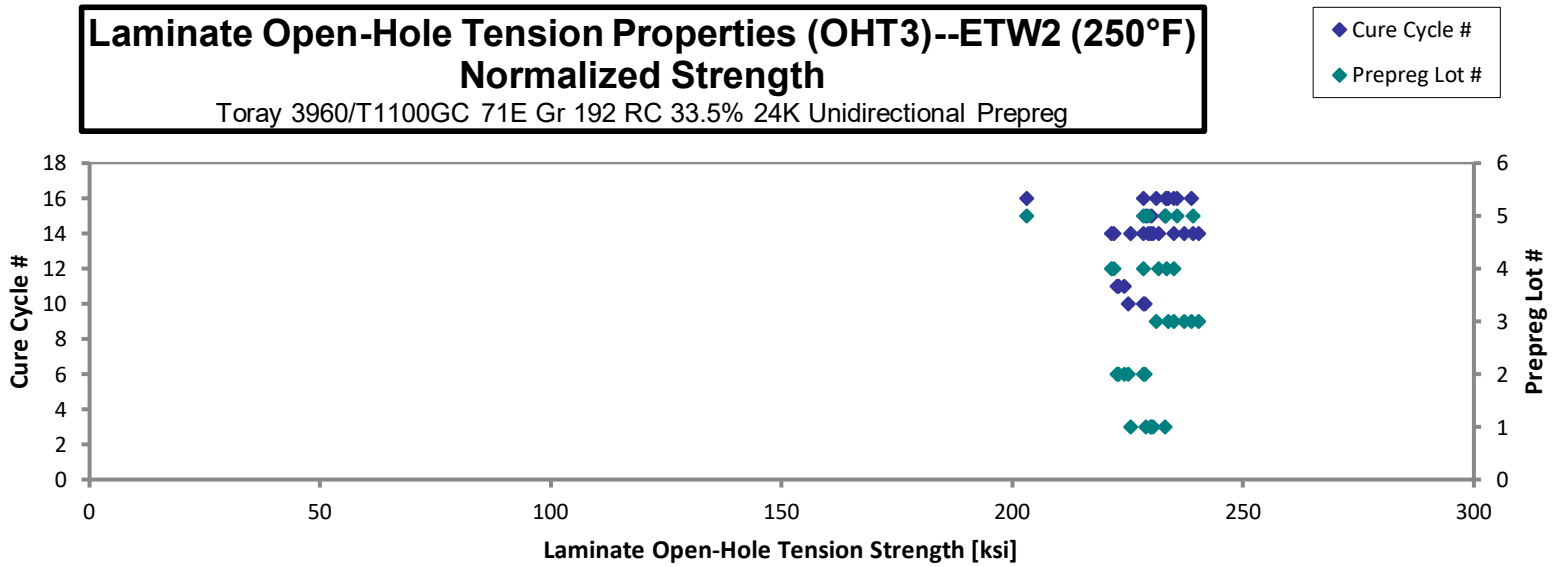
Laminate Open-Hole Tension Properties (OHT3)--ETW2 (250°F)
Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

normalizing t_{ply} [in]
0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]
NTP3961Q1-TC-T01-BT-OHT3-A-C14-1-ETW2-1	A	C14	1	14	232.7	0.1426	20	XGM	0.007132	230.5
NTP3961Q1-TC-T01-BT-OHT3-A-C14-1-ETW2-2	A	C14	1	14	232.7	0.1423	20	XGM	0.007117	230.0
NTP3961Q1-TC-T01-BT-OHT3-A-C14-1-ETW2-3	A	C14	1	14	227.3	0.1430	20	XGM	0.007148	225.7
NTP3961Q1-TC-T01-BT-OHT3-A-C15-2-ETW2-1	A	C15	1	15	231.6	0.1431	20	XGM	0.007154	230.1
NTP3961Q1-TC-T01-BT-OHT3-A-C15-2-ETW2-2	A	C15	1	15	231.8	0.1448	20	XGM	0.007242	233.1
NTP3961Q1-TC-T01-BT-OHT3-A-C15-2-ETW2-3	A	C15	1	15	228.9	0.1441	20	XGM	0.007203	229.0
NTP3961Q1-TC-T01-BT-OHT3-B-C10-2-ETW2-1	B	C10	2	10	223.1	0.1477	20	MGM	0.007383	228.8
NTP3961Q1-TC-T01-BT-OHT3-B-C10-2-ETW2-2	B	C10	2	10	224.4	0.1466	20	MGM	0.007330	228.5
NTP3961Q1-TC-T01-BT-OHT3-B-C10-2-ETW2-3	B	C10	2	10	220.4	0.1471	20	MGM	0.007357	225.2
NTP3961Q1-TC-T01-BT-OHT3-B-C11-2-ETW2-1	B	C11	2	11	220.4	0.1466	20	MGM	0.007329	224.3
NTP3961Q1-TC-T01-BT-OHT3-B-C11-2-ETW2-2	B	C11	2	11	217.1	0.1478	20	MGM	0.007388	222.8
NTP3961Q1-TC-T01-BT-OHT3-B-C11-2-ETW2-3	B	C11	2	11	219.7	0.1463	20	MGM	0.007313	223.1
NTP3961Q1-TC-T01-TC-OHT3-C-C14-1-ETW2-2	C	C14	3	14	229.4	0.1475	20	XGV	0.007375	235.0
NTP3961Q1-TC-T01-TC-OHT3-C-C14-1-ETW2-3	C	C14	3	14	233.7	0.1482	20	XGV	0.007409	240.5
NTP3961Q1-TC-T01-TC-OHT3-C-C14-1-ETW2-4	C	C14	3	14	230.3	0.1484	20	XGV	0.007422	237.4
NTP3961Q1-TC-T01-TC-OHT3-C-C16-1-ETW2-1	C	C16	3	16	227.8	0.1461	20	XGV	0.007307	231.2
NTP3961Q1-TC-T01-TC-OHT3-C-C16-1-ETW2-2	C	C16	3	16	233.8	0.1471	20	XGV	0.007355	238.8
NTP3961Q1-TC-T01-TC-OHT3-C-C16-1-ETW2-3	C	C16	3	16	230.0	0.1464	20	XGV	0.007319	233.8
NTP3961Q1-TC-T01-TC-OHT3-D-C14-1-ETW2-1	D	C14	4	14	233.9	0.1427	20	XGM	0.007135	231.8
NTP3961Q1-TC-T01-TC-OHT3-D-C14-1-ETW2-2	D	C14	4	14	219.3	0.1459	20	XGM	0.007293	222.1
NTP3961Q1-TC-T01-TC-OHT3-D-C14-1-ETW2-4	D	C14	4	14	220.3	0.1448	20	XGM	0.007240	221.5
NTP3961Q1-TC-T01-TC-OHT3-D-C16-1-ETW2-1	D	C16	4	16	234.4	0.1445	20	AGM	0.007223	235.1
NTP3961Q1-TC-T01-TC-OHT3-D-C16-1-ETW2-2	D	C16	4	16	225.4	0.1460	20	AGM	0.007298	228.5
NTP3961Q1-TC-T01-TC-OHT3-D-C16-1-ETW2-3	D	C16	4	16	233.2	0.1442	20	AGM	0.007210	233.5
NTP3961Q1-TC-T01-TC-OHT3-E-C14-1-ETW2-1	E	C14	5	14	225.6	0.1465	20	XGV	0.007327	229.6
NTP3961Q1-TC-T01-TC-OHT3-E-C14-1-ETW2-3	E	C14	5	14	238.0	0.1448	20	XGV	0.007238	239.3
NTP3961Q1-TC-T01-TC-OHT3-E-C14-1-ETW2-4	E	C14	5	14	225.9	0.1456	20	XGV	0.007279	228.4
NTP3961Q1-TC-T01-TC-OHT3-E-C16-1-ETW2-1	E	C16	5	16	230.1	0.1460	20	XGV	0.007301	233.3
NTP3961Q1-TC-T01-TC-OHT3-E-C16-1-ETW2-2	E	C16	5	16	201.2	0.1454	20	XGV	0.007270	203.2
NTP3961Q1-TC-T01-TC-OHT3-E-C16-1-ETW2-3	E	C16	5	16	233.5	0.1454	20	XGV	0.007268	235.7

Average	**227.2**	
Standard Dev.	**7.378**	
Coeff. of Var. [%]	**3.248**	
Min.	**201.2**	
Max.	**238.0**	
Number of Spec.	**30**	

$Average_{norm}$	**0.007279**	**229.7**
Standard $Dev._{norm}$		**7.189**
Coeff. of Var. $[\%]_{norm}$		**3.130**
Min.	**0.007117**	**203.2**
Max.	**0.007422**	**240.5**
Number of Spec.	**30**	**30**


Laminate Open-Hole Tension Properties (OHT3)--ETW2 (250°F)
Normalized Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Open-Hole Tension Strength [ksi]
0
50
100
150
200
250
300
0
2
4
6
8
10
12
14
16
18
0
1
2
3
4
5
6

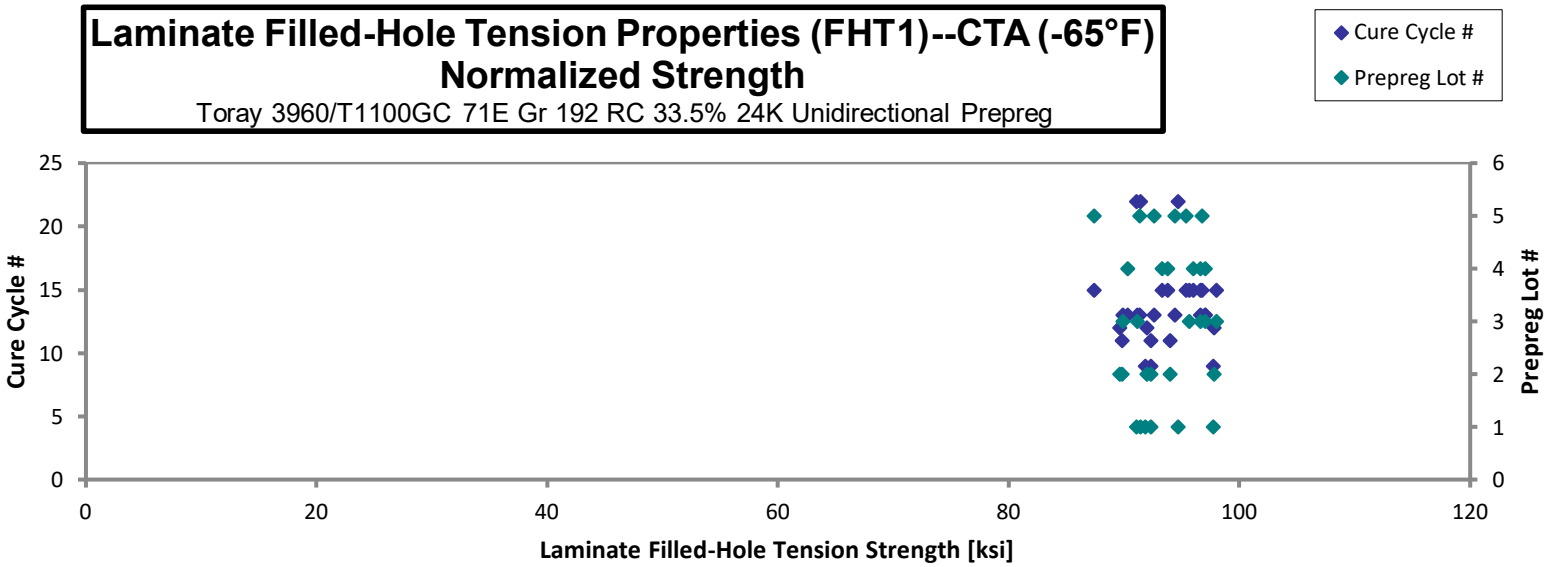
4.20 "25/50/25" Filled-Hole Tension 1 Properties (FHT1)

Laminate Filled-Hole Tension Properties (FHT1)--CTA (-65°F)
Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

normalizing t_{ply} [in]
0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]
NTP3961Q1-TC-T01-BT-FHT1-A-C9-1-CTA-1	A	C9	1	9	96.60	0.1102	16	LGM	0.006884	92.37
NTP3961Q1-TC-T01-BT-FHT1-A-C9-1-CTA-2	A	C9	1	9	98.70	0.1141	16	LGM	0.007130	97.74
NTP3961Q1-TC-T01-BT-FHT1-A-C9-1-CTA-3	A	C9	1	9	91.90	0.1152	16	LGM	0.007199	91.88
NTP3961Q1-TC-T01-BT-FHT1-A-C22-1-CTA-1	A	C22	1	22	92.90	0.1175	16	LGM	0.007341	94.72
NTP3961Q1-TC-T01-BT-FHT1-A-C22-1-CTA-2	A	C22	1	22	88.80	0.1182	16	LGM	0.007388	91.11
NTP3961Q1-TC-T01-BT-FHT1-A-C22-1-CTA-3	A	C22	1	22	90.00	0.1171	16	LGM	0.007319	91.49
NTP3961Q1-TC-T01-BT-FHT1-B-C11-1-CTA-1	B	C11	2	11	86.30	0.1200	16	AGM	0.007500	89.90
NTP3961Q1-TC-T01-BT-FHT1-B-C11-1-CTA-2	B	C11	2	11	90.20	0.1180	16	AGM	0.007375	92.39
NTP3961Q1-TC-T01-BT-FHT1-B-C11-1-CTA-3	B	C11	2	11	91.70	0.1182	16	AGM	0.007384	94.05
NTP3961Q1-TC-T01-BT-FHT1-B-C12-1-CTA-1	B	C12	2	12	96.70	0.1165	16	AGM	0.007283	97.82
NTP3961Q1-TC-T01-BT-FHT1-B-C12-1-CTA-2	B	C12	2	12	87.20	0.1185	16	AGM	0.007405	89.68
NTP3961Q1-TC-T01-BT-FHT1-B-C12-1-CTA-3	B	C12	2	12	89.20	0.1189	16	AGM	0.007428	92.03
NTP3961Q1-TC-T01-TC-FHT1-C-C13-2-CTA-1	C	C13	3	13	88.60	0.1169	16	LGM	0.007307	89.92
NTP3961Q1-TC-T01-TC-FHT1-C-C13-2-CTA-2	C	C13	3	13	91.10	0.1153	16	LGM	0.007206	91.18
NTP3961Q1-TC-T01-TC-FHT1-C-C13-2-CTA-3	C	C13	3	13	95.20	0.1175	16	LGM	0.007344	97.11
NTP3961Q1-TC-T01-TC-FHT1-C-C15-2-CTA-1	C	C15	3	15	95.40	0.1167	16	LGM	0.007294	96.65
NTP3961Q1-TC-T01-TC-FHT1-C-C15-2-CTA-2	C	C15	3	15	93.70	0.1176	16	LGM	0.007352	95.68
NTP3961Q1-TC-T01-TC-FHT1-C-C15-2-CTA-3	C	C15	3	15	96.10	0.1176	16	LGM	0.007347	98.06
NTP3961Q1-TC-T01-TC-FHT1-D-C13-2-CTA-1	D	C13	4	13	96.80	0.1150	16	AGM	0.007188	96.64
NTP3961Q1-TC-T01-TC-FHT1-D-C13-2-CTA-2	D	C13	4	13	97.70	0.1144	16	AGM	0.007152	97.05
NTP3961Q1-TC-T01-TC-FHT1-D-C13-2-CTA-3	D	C13	4	13	90.70	0.1148	16	AGM	0.007172	90.35
NTP3961Q1-TC-T01-TC-FHT1-D-C15-2-CTA-1	D	C15	4	15	93.40	0.1157	16	AGM	0.007233	93.83
NTP3961Q1-TC-T01-TC-FHT1-D-C15-2-CTA-2	D	C15	4	15	95.80	0.1155	16	AGM	0.007216	96.02
NTP3961Q1-TC-T01-TC-FHT1-D-C15-2-CTA-3	D	C15	4	15	92.90	0.1158	16	AGM	0.007236	93.37
NTP3961Q1-TC-T01-TC-FHT1-E-C13-2-CTA-1	E	C13	5	13	90.80	0.1160	16	AGM	0.007249	91.41
NTP3961Q1-TC-T01-TC-FHT1-E-C13-2-CTA-2	E	C13	5	13	93.40	0.1165	16	AGM	0.007283	94.48
NTP3961Q1-TC-T01-TC-FHT1-E-C13-2-CTA-3	E	C13	5	13	92.20	0.1158	16	AGM	0.007235	92.65
NTP3961Q1-TC-T01-TC-FHT1-E-C15-2-CTA-1	E	C15	5	15	87.30	0.1154	16	AGM	0.007211	87.44
NTP3961Q1-TC-T01-TC-FHT1-E-C15-2-CTA-2	E	C15	5	15	95.20	0.1154	16	AGM	0.007214	95.39
NTP3961Q1-TC-T01-TC-FHT1-E-C15-2-CTA-3	E	C15	5	15	96.70	0.1153	16	AGM	0.007206	96.78

	Strength		$Strength_{norm}$
Average	92.77	$Average_{norm}$	0.007269	93.64
Standard Dev.	3.415	$Standard\ Dev._{norm}$		2.907
Coeff. of Var. [%]	3.681	$Coeff.\ of\ Var.\ [\%]_{norm}$		3.105
Min.	86.30	Min.	0.006884	87.44
Max.	98.70	Max.	0.007500	98.06
Number of Spec.	30	Number of Spec.	30	30


Laminate Filled-Hole Tension Properties (FHT1)--CTA (-65°F)
Normalized Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Filled-Hole Tension Strength [ksi]
0
5
10
15
20
25
0
1
2
3
4
5
6
0
20
40
60
80
100
120

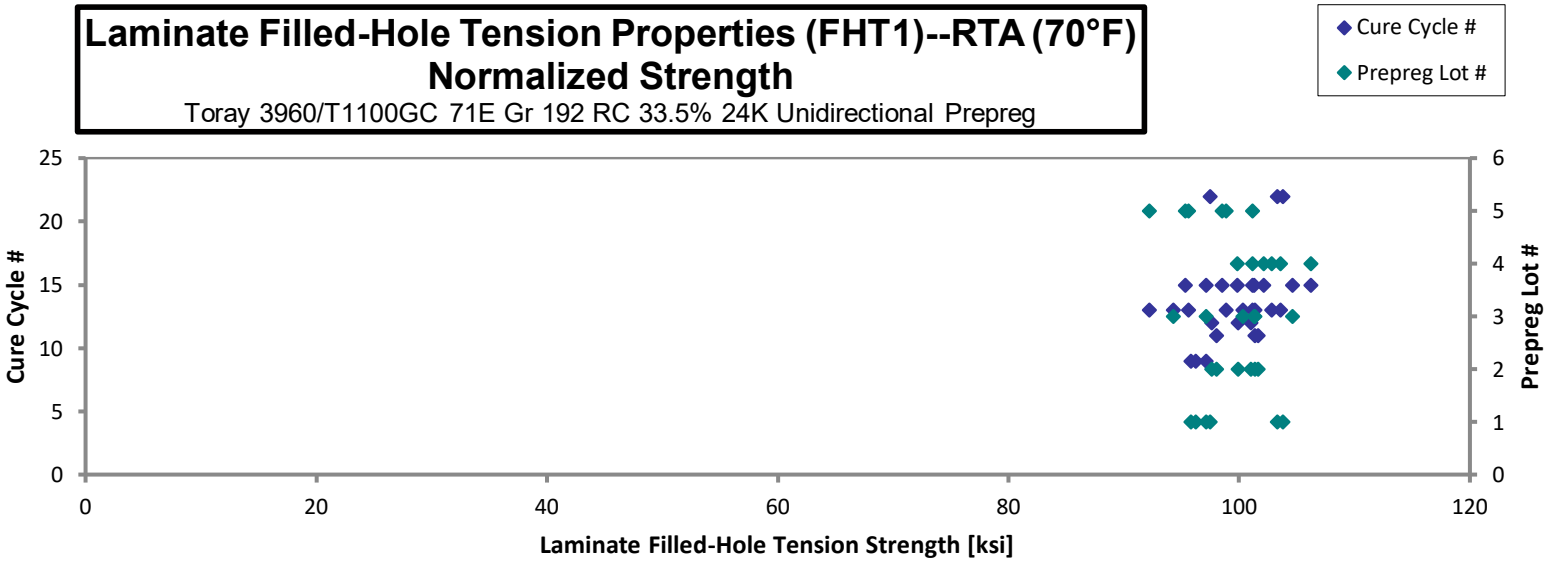
Laminate Filled-Hole Tension Properties (FHT1)--RTA (70°F)
Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

normalizing t_{ply} [in]
0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]
NTP3961Q1-TC-T01-BT-FHT1-A-C9-1-RTA-1	A	C9	1	9	99.50	0.1114	16	MGM	0.006961	96.20
NTP3961Q1-TC-T01-BT-FHT1-A-C9-1-RTA-2	A	C9	1	9	99.90	0.1120	16	MGM	0.007002	97.15
NTP3961Q1-TC-T01-BT-FHT1-A-C9-1-RTA-3	A	C9	1	9	98.20	0.1124	16	MGM	0.007023	95.78
NTP3961Q1-TC-T01-BT-FHT1-A-C22-1-RTA-1	A	C22	1	22	103.0	0.1161	16	MGM	0.007254	103.8
NTP3961Q1-TC-T01-BT-FHT1-A-C22-1-RTA-2	A	C22	1	22	94.90	0.1184	16	MGM	0.007397	97.49
NTP3961Q1-TC-T01-BT-FHT1-A-C22-1-RTA-3	A	C22	1	22	99.70	0.1193	16	MGM	0.007458	103.3
NTP3961Q1-TC-T01-BT-FHT1-B-C12-1-RTA-1	B	C12	2	12	97.10	0.1186	16	MGM	0.007409	99.92
NTP3961Q1-TC-T01-BT-FHT1-B-C12-1-RTA-2	B	C12	2	12	98.30	0.1184	16	MGM	0.007400	101.0
NTP3961Q1-TC-T01-BT-FHT1-B-C12-1-RTA-3	B	C12	2	12	95.20	0.1181	16	MGM	0.007381	97.60
NTP3961Q1-TC-T01-BT-FHT1-B-C11-1-RTA-1	B	C11	2	11	98.80	0.1185	16	MGM	0.007405	101.6
NTP3961Q1-TC-T01-BT-FHT1-B-C11-1-RTA-2	B	C11	2	11	96.00	0.1176	16	MGM	0.007351	98.01
NTP3961Q1-TC-T01-BT-FHT1-B-C11-1-RTA-3	B	C11	2	11	98.90	0.1181	16	MGM	0.007379	101.4
NTP3961Q1-TC-T01-TC-FHT1-C-C13-2-RTA-1	C	C13	3	13	94.10	0.1155	16	MGM	0.007216	94.31
NTP3961Q1-TC-T01-TC-FHT1-C-C13-2-RTA-2	C	C13	3	13	98.30	0.1176	16	MGM	0.007348	100.3
NTP3961Q1-TC-T01-TC-FHT1-C-C13-2-RTA-3	C	C13	3	13	100.0	0.1168	16	MGM	0.007300	101.4
NTP3961Q1-TC-T01-TC-FHT1-C-C15-2-RTA-1	C	C15	3	15	99.20	0.1176	16	MGM	0.007350	101.3
NTP3961Q1-TC-T01-TC-FHT1-C-C15-2-RTA-2	C	C15	3	15	102.7	0.1174	16	MGM	0.007336	104.6
NTP3961Q1-TC-T01-TC-FHT1-C-C15-2-RTA-3	C	C15	3	15	95.00	0.1178	16	MGM	0.007360	97.11
NTP3961Q1-TC-T01-TC-FHT1-D-C13-2-RTA-1	D	C13	4	13	100.2	0.1163	16	AGM	0.007269	101.2
NTP3961Q1-TC-T01-TC-FHT1-D-C13-2-RTA-2	D	C13	4	13	102.5	0.1156	16	AGM	0.007222	102.8
NTP3961Q1-TC-T01-TC-FHT1-D-C13-2-RTA-3	D	C13	4	13	103.8	0.1150	16	AGM	0.007184	103.6
NTP3961Q1-TC-T01-TC-FHT1-D-C15-2-RTA-1	D	C15	4	15	106.0	0.1155	16	AGM	0.007216	106.2
NTP3961Q1-TC-T01-TC-FHT1-D-C15-2-RTA-2	D	C15	4	15	101.5	0.1159	16	AGM	0.007244	102.1
NTP3961Q1-TC-T01-TC-FHT1-D-C15-2-RTA-3	D	C15	4	15	99.40	0.1157	16	AGM	0.007231	99.83
NTP3961Q1-TC-T01-TC-FHT1-E-C13-2-RTA-1	E	C13	5	13	98.50	0.1157	16	AGM	0.007228	98.88
NTP3961Q1-TC-T01-TC-FHT1-E-C13-2-RTA-2	E	C13	5	13	91.90	0.1156	16	AGM	0.007222	92.18
NTP3961Q1-TC-T01-TC-FHT1-E-C13-2-RTA-3	E	C13	5	13	95.00	0.1159	16	AGM	0.007244	95.58
NTP3961Q1-TC-T01-TC-FHT1-E-C15-2-RTA-1	E	C15	5	15	101.5	0.1148	16	AGM	0.007174	101.1
NTP3961Q1-TC-T01-TC-FHT1-E-C15-2-RTA-2	E	C15	5	15	94.40	0.1163	16	AGM	0.007269	95.31
NTP3961Q1-TC-T01-TC-FHT1-E-C15-2-RTA-3	E	C15	5	15	97.70	0.1162	16	AGM	0.007260	98.51

Average	**98.71**	
Standard Dev.	**3.233**	
Coeff. of Var. [%]	**3.275**	
Min.	**91.90**	
Max.	**106.0**	
Number of Spec.	**30**	

$Average_{norm}$	**0.007270**	**99.65**
Standard $Dev._{norm}$		**3.332**
Coeff. of Var. $[\%]_{norm}$		**3.344**
Min.	**0.006961**	**92.18**
Max.	**0.007458**	**106.2**
Number of Spec.	**30**	**30**


Laminate Filled-Hole Tension Properties (FHT1)--RTA (70°F)
Normalized Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Filled-Hole Tension Strength [ksi]
0
5
10
15
20
25
0
1
2
3
4
5
6
0
20
40
60
80
100
120

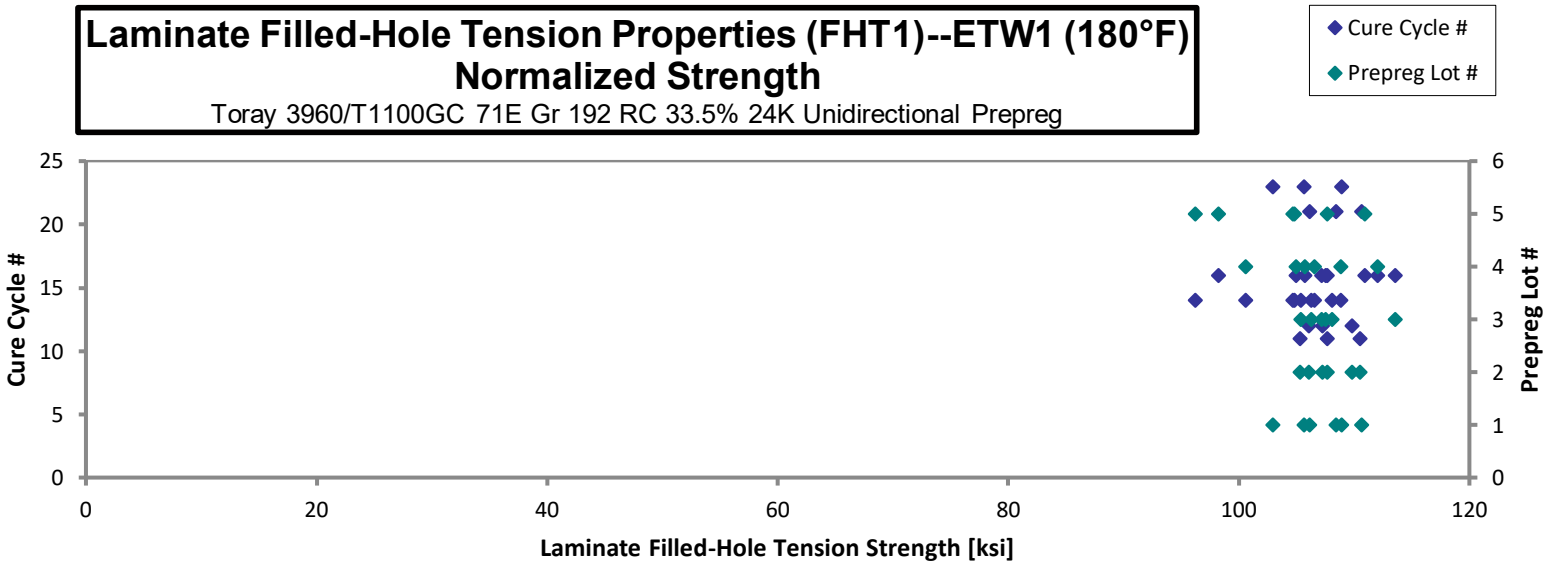
Laminate Filled-Hole Tension Properties (FHT1)--ETW1 (180°F)
Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

normalizing t_{ply} [in]
0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]
NTP3961Q1-TC-T01-BT-FHT1-A-C21-1-ETW1-1	A	C21	1	21	108.4	0.1176	16	MGM	0.007347	110.6
NTP3961Q1-TC-T01-BT-FHT1-A-C21-1-ETW1-2	A	C21	1	21	105.0	0.1190	16	MGM	0.007435	108.4
NTP3961Q1-TC-T01-BT-FHT1-A-C21-1-ETW1-3	A	C21	1	21	103.2	0.1185	16	MGM	0.007403	106.1
NTP3961Q1-TC-T01-BT-FHT1-A-C23-1-ETW1-1	A	C23	1	23	107.6	0.1166	16	MGM	0.007285	108.9
NTP3961Q1-TC-T01-BT-FHT1-A-C23-1-ETW1-2	A	C23	1	23	103.1	0.1181	16	MGM	0.007379	105.7
NTP3961Q1-TC-T01-BT-FHT1-A-C23-1-ETW1-3	A	C23	1	23	101.0	0.1174	16	MGM	0.007339	103.0
NTP3961Q1-TC-T01-BT-FHT1-B-C11-2-ETW1-1	B	C11	2	11	102.6	0.1182	16	MGM	0.007388	105.3
NTP3961Q1-TC-T01-BT-FHT1-B-C11-2-ETW1-2	B	C11	2	11	104.3	0.1189	16	MGM	0.007432	107.7
NTP3961Q1-TC-T01-BT-FHT1-B-C11-2-ETW1-3	B	C11	2	11	108.6	0.1172	16	MGM	0.007325	110.5
NTP3961Q1-TC-T01-BT-FHT1-B-C12-2-ETW1-1	B	C12	2	12	107.3	0.1179	16	MGM	0.007369	109.8
NTP3961Q1-TC-T01-BT-FHT1-B-C12-2-ETW1-2	B	C12	2	12	103.8	0.1177	16	MGM	0.007357	106.1
NTP3961Q1-TC-T01-BT-FHT1-B-C12-2-ETW1-3	B	C12	2	12	103.7	0.1192	16	MGM	0.007447	107.3
NTP3961Q1-TC-T01-TC-FHT1-C-C14-2-ETW1-1	C	C14	3	14	103.7	0.1170	16	AGM	0.007313	105.3
NTP3961Q1-TC-T01-TC-FHT1-C-C14-2-ETW1-2	C	C14	3	14	105.3	0.1162	16	AGM	0.007264	106.2
NTP3961Q1-TC-T01-TC-FHT1-C-C14-2-ETW1-3	C	C14	3	14	105.9	0.1175	16	AGM	0.007346	108.0
NTP3961Q1-TC-T01-TC-FHT1-C-C16-2-ETW1-1	C	C16	3	16	105.0	0.1176	16	AGM	0.007349	107.2
NTP3961Q1-TC-T01-TC-FHT1-C-C16-2-ETW1-2	C	C16	3	16	104.6	0.1184	16	AGM	0.007402	107.5
NTP3961Q1-TC-T01-TC-FHT1-C-C16-2-ETW1-3	C	C16	3	16	111.2	0.1177	16	AGM	0.007353	113.6
NTP3961Q1-TC-T01-TC-FHT1-D-C14-2-ETW1-2	D	C14	4	14	100.5	0.1153	16	AGM	0.007204	100.6
NTP3961Q1-TC-T01-TC-FHT1-D-C14-2-ETW1-3	D	C14	4	14	106.6	0.1152	16	AGM	0.007197	106.6
NTP3961Q1-TC-T01-TC-FHT1-D-C14-2-ETW1-4	D	C14	4	14	109.4	0.1146	16	AGM	0.007163	108.8
NTP3961Q1-TC-T01-TC-FHT1-D-C16-2-ETW1-1	D	C16	4	16	111.1	0.1162	16	AGM	0.007260	112.0
NTP3961Q1-TC-T01-TC-FHT1-D-C16-2-ETW1-2	D	C16	4	16	104.7	0.1155	16	AGM	0.007216	104.9
NTP3961Q1-TC-T01-TC-FHT1-D-C16-2-ETW1-3	D	C16	4	16	105.7	0.1152	16	AGM	0.007201	105.7
NTP3961Q1-TC-T01-TC-FHT1-E-C14-2-ETW1-1	E	C14	5	14	96.00	0.1154	16	AGM	0.007213	96.18
NTP3961Q1-TC-T01-TC-FHT1-E-C14-2-ETW1-2	E	C14	5	14	104.6	0.1153	16	AGM	0.007205	104.7
NTP3961Q1-TC-T01-TC-FHT1-E-C14-2-ETW1-3	E	C14	5	14	104.6	0.1155	16	AGM	0.007216	104.8
NTP3961Q1-TC-T01-TC-FHT1-E-C16-2-ETW1-1	E	C16	5	16	97.50	0.1161	16	AGM	0.007253	98.22
NTP3961Q1-TC-T01-TC-FHT1-E-C16-2-ETW1-2	E	C16	5	16	107.0	0.1159	16	AGM	0.007246	107.7
NTP3961Q1-TC-T01-TC-FHT1-E-C16-2-ETW1-3	E	C16	5	16	110.4	0.1158	16	AGM	0.007235	110.9

Average	**105.1**	
Standard Dev.	**3.526**	
Coeff. of Var. [%]	**3.355**	
Min.	**96.00**	
Max.	**111.2**	
Number of Spec.	**30**	

$Average_{norm}$	**0.007305**	**106.6**
$Standard\ Dev._{norm}$		**3.723**
Coeff. of Var. $[\%]_{norm}$		**3.492**
Min.	**0.007163**	**96.18**
Max.	**0.007447**	**113.6**
Number of Spec.	**30**	**30**


Laminate Filled-Hole Tension Properties (FHT1)--ETW1 (180°F)
Normalized Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Filled-Hole Tension Strength [ksi]
0
5
10
15
20
25
0
1
2
3
4
5
6
0
20
40
60
80
100
120

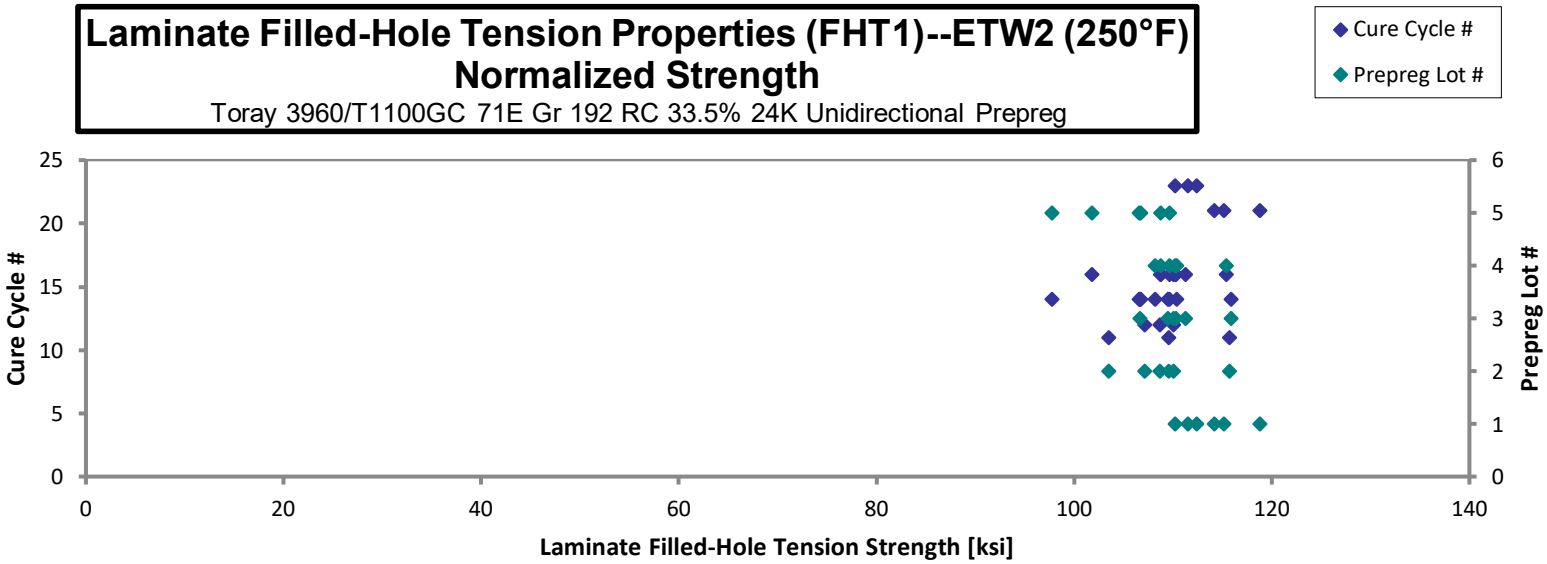
Laminate Filled-Hole Tension Properties (FHT1)--ETW2 (250°F)
Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

normalizing t_{ply} [in]
0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]
NTP3961Q1-TC-T01-BT-FHT1-A-C21-1-ETW2-1	A	C21	1	21	111.3	0.1182	16	MGM	0.007389	114.2
NTP3961Q1-TC-T01-BT-FHT1-A-C21-1-ETW2-2	A	C21	1	21	116.5	0.1175	16	MGM	0.007344	118.8
NTP3961Q1-TC-T01-BT-FHT1-A-C21-1-ETW2-3	A	C21	1	21	111.5	0.1190	16	MGM	0.007439	115.2
NTP3961Q1-TC-T01-BT-FHT1-A-C23-1-ETW2-1	A	C23	1	23	106.2	0.1196	16	MGM	0.007473	110.2
NTP3961Q1-TC-T01-BT-FHT1-A-C23-1-ETW2-2	A	C23	1	23	109.3	0.1175	16	MGM	0.007346	111.5
NTP3961Q1-TC-T01-BT-FHT1-A-C23-1-ETW2-3	A	C23	1	23	110.6	0.1171	16	MGM	0.007319	112.4
NTP3961Q1-TC-T01-BT-FHT1-B-C11-2-ETW2-1	B	C11	2	11	106.8	0.1182	16	MGM	0.007389	109.6
NTP3961Q1-TC-T01-BT-FHT1-B-C11-2-ETW2-2	B	C11	2	11	100.9	0.1182	16	MGM	0.007388	103.5
NTP3961Q1-TC-T01-BT-FHT1-B-C11-2-ETW2-3	B	C11	2	11	112.5	0.1185	16	MGM	0.007406	115.7
NTP3961Q1-TC-T01-BT-FHT1-B-C12-2-ETW2-2	B	C12	2	12	107.2	0.1183	16	MGM	0.007391	110.0
NTP3961Q1-TC-T01-BT-FHT1-B-C12-2-ETW2-1	B	C12	2	12	105.6	0.1186	16	MGM	0.007413	108.7
NTP3961Q1-TC-T01-BT-FHT1-B-C12-2-ETW2-3	B	C12	2	12	103.9	0.1188	16	MGM	0.007427	107.2
NTP3961Q1-TC-T01-TC-FHT1-C-C14-2-ETW2-1	C	C14	3	14	106.1	0.1158	16	AGM	0.007236	106.6
NTP3961Q1-TC-T01-TC-FHT1-C-C14-2-ETW2-2	C	C14	3	14	107.8	0.1170	16	AGM	0.007314	109.5
NTP3961Q1-TC-T01-TC-FHT1-C-C14-2-ETW2-3	C	C14	3	14	113.4	0.1177	16	AGM	0.007356	115.9
NTP3961Q1-TC-T01-TC-FHT1-C-C16-2-ETW2-1	C	C16	3	16	108.8	0.1166	16	AGM	0.007286	110.1
NTP3961Q1-TC-T01-TC-FHT1-C-C16-2-ETW2-2	C	C16	3	16	108.7	0.1169	16	AGM	0.007306	110.3
NTP3961Q1-TC-T01-TC-FHT1-C-C16-2-ETW2-3	C	C16	3	16	109.0	0.1177	16	AGM	0.007353	111.3
NTP3961Q1-TC-T01-TC-FHT1-D-C14-2-ETW2-1	D	C14	4	14	108.4	0.1150	16	AGM	0.007189	108.2
NTP3961Q1-TC-T01-TC-FHT1-D-C14-2-ETW2-2	D	C14	4	14	108.8	0.1161	16	AGM	0.007257	109.7
NTP3961Q1-TC-T01-TC-FHT1-D-C14-2-ETW2-3	D	C14	4	14	109.5	0.1162	16	AGM	0.007261	110.4
NTP3961Q1-TC-T01-TC-FHT1-D-C16-2-ETW2-1	D	C16	4	16	108.2	0.1158	16	AGM	0.007239	108.8
NTP3961Q1-TC-T01-TC-FHT1-D-C16-2-ETW2-2	D	C16	4	16	109.6	0.1159	16	AGM	0.007241	110.2
NTP3961Q1-TC-T01-TC-FHT1-D-C16-2-ETW2-3	D	C16	4	16	115.0	0.1156	16	AGM	0.007227	115.4
NTP3961Q1-TC-T01-TC-FHT1-E-C14-2-ETW2-1	E	C14	5	14	107.1	0.1147	16	AGM	0.007166	106.6
NTP3961Q1-TC-T01-TC-FHT1-E-C14-2-ETW2-2	E	C14	5	14	97.10	0.1160	16	AGM	0.007247	97.73
NTP3961Q1-TC-T01-TC-FHT1-E-C14-2-ETW2-3	E	C14	5	14	106.6	0.1154	16	AGM	0.007210	106.7
NTP3961Q1-TC-T01-TC-FHT1-E-C16-2-ETW2-1	E	C16	5	16	108.5	0.1155	16	AGM	0.007219	108.8
NTP3961Q1-TC-T01-TC-FHT1-E-C16-2-ETW2-2	E	C16	5	16	101.1	0.1160	16	AGM	0.007249	101.8
NTP3961Q1-TC-T01-TC-FHT1-E-C16-2-ETW2-3	E	C16	5	16	108.9	0.1160	16	AGM	0.007252	109.7

Average	**108.2**	
Standard Dev.	**3.989**	
Coeff. of Var. [%]	**3.688**	
Min.	**97.10**	
Max.	**116.5**	
Number of Spec.	**30**	

$Average_{norm}$	**0.007311**	**109.8**
Standard $Dev._{norm}$		**4.310**
Coeff. of Var. $[\%]_{norm}$		**3.924**
Min.	**0.007166**	**97.73**
Max.	**0.007473**	**118.8**
Number of Spec.	**30**	**30**


Laminate Filled-Hole Tension Properties (FHT1)--ETW2 (250°F)
Normalized Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Filled-Hole Tension Strength [ksi]
0
5
10
15
20
25
0
1
2
3
4
5
6
0
20
40
60
80
100
120
140

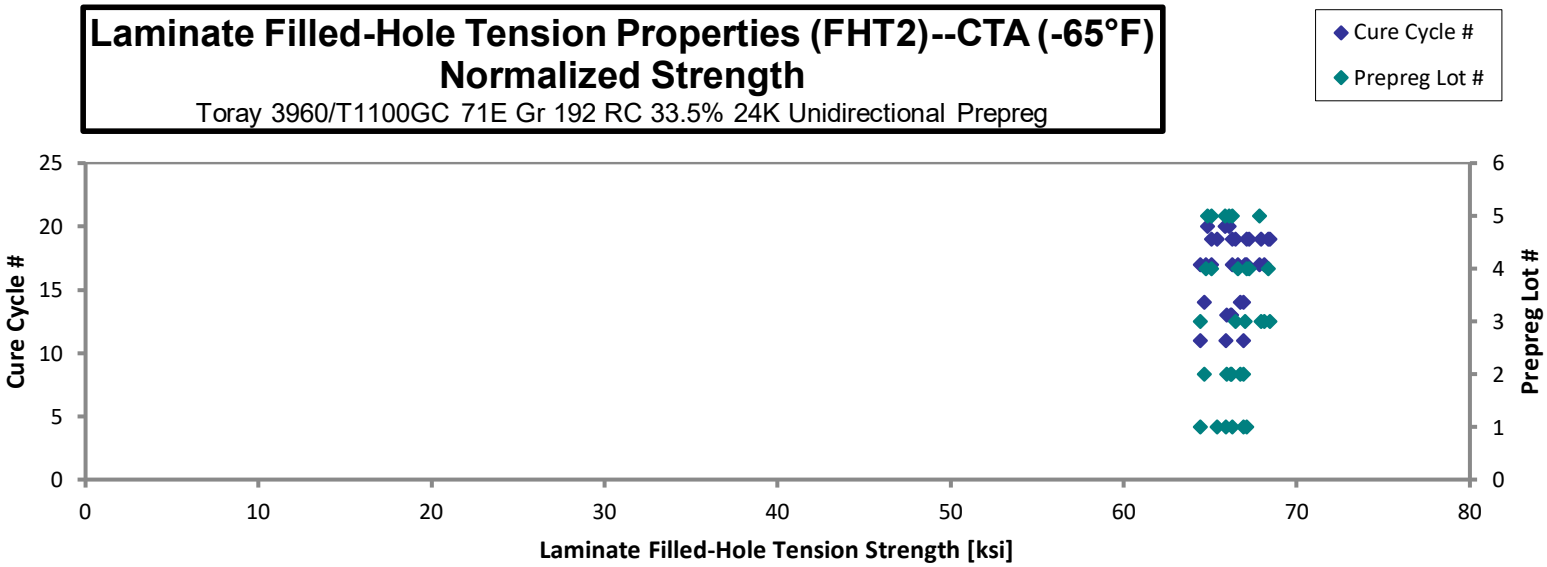
4.21 "10/80/10" Filled-Hole Tension 2 Properties (FHT2)

Laminate Filled-Hole Tension Properties (FHT2)--CTA (-65°F)
Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

normalizing t_{ply} [in]
0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]
NTP3961Q1-TC-T01-BT-FHT2-A-C11-1-CTA-1	A	C11	1	11	68.40	0.1388	20	MGM	0.006939	65.92
NTP3961Q1-TC-T01-BT-FHT2-A-C11-1-CTA-2	A	C11	1	11	67.00	0.1439	20	MGM	0.007193	66.93
NTP3961Q1-TC-T01-BT-FHT2-A-C11-1-CTA-3	A	C11	1	11	64.40	0.1441	20	MGM	0.007203	64.42
NTP3961Q1-TC-T01-BT-FHT2-A-C19-1-CTA-1	A	C19	1	19	63.80	0.1477	20	AGM	0.007383	65.42
NTP3961Q1-TC-T01-BT-FHT2-A-C19-1-CTA-2	A	C19	1	19	64.70	0.1476	20	AGM	0.007378	66.30
NTP3961Q1-TC-T01-BT-FHT2-A-C19-1-CTA-3	A	C19	1	19	66.00	0.1465	20	AGM	0.007323	67.13
NTP3961Q1-TC-T01-BT-FHT2-B-C13-1-CTA-1	B	C13	2	13	65.20	0.1462	20	AGM	0.007312	66.21
NTP3961Q1-TC-T01-BT-FHT2-B-C13-1-CTA-2	B	C13	2	13	65.30	0.1461	20	AGM	0.007305	66.25
NTP3961Q1-TC-T01-BT-FHT2-B-C13-1-CTA-3	B	C13	2	13	64.50	0.1473	20	AGM	0.007363	65.96
NTP3961Q1-TC-T01-BT-FHT2-B-C14-1-CTA-1	B	C14	2	14	65.40	0.1474	20	AGM	0.007370	66.94
NTP3961Q1-TC-T01-BT-FHT2-B-C14-1-CTA-2	B	C14	2	14	62.80	0.1483	20	AGM	0.007415	64.68
NTP3961Q1-TC-T01-BT-FHT2-B-C14-1-CTA-3	B	C14	2	14	65.40	0.1470	20	AGM	0.007348	66.74
NTP3961Q1-TC-T01-TC-FHT2-C-C17-1-CTA-1	C	C17	3	17	66.90	0.1467	20	LGM	0.007334	68.15
NTP3961Q1-TC-T01-TC-FHT2-C-C17-1-CTA-2	C	C17	3	17	65.80	0.1467	20	LGM	0.007333	67.02
NTP3961Q1-TC-T01-TC-FHT2-C-C17-1-CTA-3	C	C17	3	17	63.30	0.1466	20	LGM	0.007329	64.43
NTP3961Q1-TC-T01-TC-FHT2-C-C19-1-CTA-1	C	C19	3	19	67.80	0.1454	20	LGM	0.007271	68.46
NTP3961Q1-TC-T01-TC-FHT2-C-C19-1-CTA-2	C	C19	3	19	66.50	0.1471	20	LGM	0.007355	67.93
NTP3961Q1-TC-T01-TC-FHT2-C-C19-1-CTA-3	C	C19	3	19	65.60	0.1459	20	LGM	0.007293	66.45
NTP3961Q1-TC-T01-TC-FHT2-D-C17-1-CTA-1	D	C17	4	17	67.10	0.1441	20	AGM	0.007203	67.13
NTP3961Q1-TC-T01-TC-FHT2-D-C17-1-CTA-2	D	C17	4	17	66.50	0.1442	20	AGM	0.007211	66.60
NTP3961Q1-TC-T01-TC-FHT2-D-C17-1-CTA-3	D	C17	4	17	64.20	0.1452	20	AGM	0.007260	64.74
NTP3961Q1-TC-T01-TC-FHT2-D-C19-1-CTA-1	D	C19	4	19	65.20	0.1437	20	AGM	0.007185	65.06
NTP3961Q1-TC-T01-TC-FHT2-D-C19-1-CTA-2	D	C19	4	19	67.10	0.1443	20	AGM	0.007217	67.25
NTP3961Q1-TC-T01-TC-FHT2-D-C19-1-CTA-3	D	C19	4	19	68.20	0.1443	20	AGM	0.007217	68.36
NTP3961Q1-TC-T01-TC-FHT2-E-C17-1-CTA-1	E	C17	5	17	65.70	0.1452	20	AGM	0.007262	66.26
NTP3961Q1-TC-T01-TC-FHT2-E-C17-1-CTA-2	E	C17	5	17	67.00	0.1459	20	AGM	0.007294	67.87
NTP3961Q1-TC-T01-TC-FHT2-E-C17-1-CTA-3	E	C17	5	17	64.90	0.1444	20	AGM	0.007218	65.06
NTP3961Q1-TC-T01-TC-FHT2-E-C20-1-CTA-1	E	C20	5	20	64.50	0.1448	20	AGM	0.007239	64.85
NTP3961Q1-TC-T01-TC-FHT2-E-C20-1-CTA-2	E	C20	5	20	65.80	0.1447	20	AGM	0.007234	66.11
NTP3961Q1-TC-T01-TC-FHT2-E-C20-1-CTA-3	E	C20	5	20	65.50	0.1448	20	AGM	0.007242	65.88

	Strength [ksi]		$Strength_{norm}$ [ksi]
Average	65.68	$Average_{norm}$	0.007274	66.35
Standard Dev.	1.380	$Standard\ Dev._{norm}$		1.172
Coeff. of Var. [%]	2.100	$Coeff.\ of\ Var.\ [\%]_{norm}$		1.766
Min.	62.80	Min.	0.006939	64.42
Max.	68.40	Max.	0.007415	68.46
Number of Spec.	30	Number of Spec.	30	30


Laminate Filled-Hole Tension Properties (FHT2)--CTA (-65°F)
Normalized Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Filled-Hole Tension Strength [ksi]
0
5
10
15
20
25
0
1
2
3
4
5
6
0
10
20
30
40
50
60
70
80

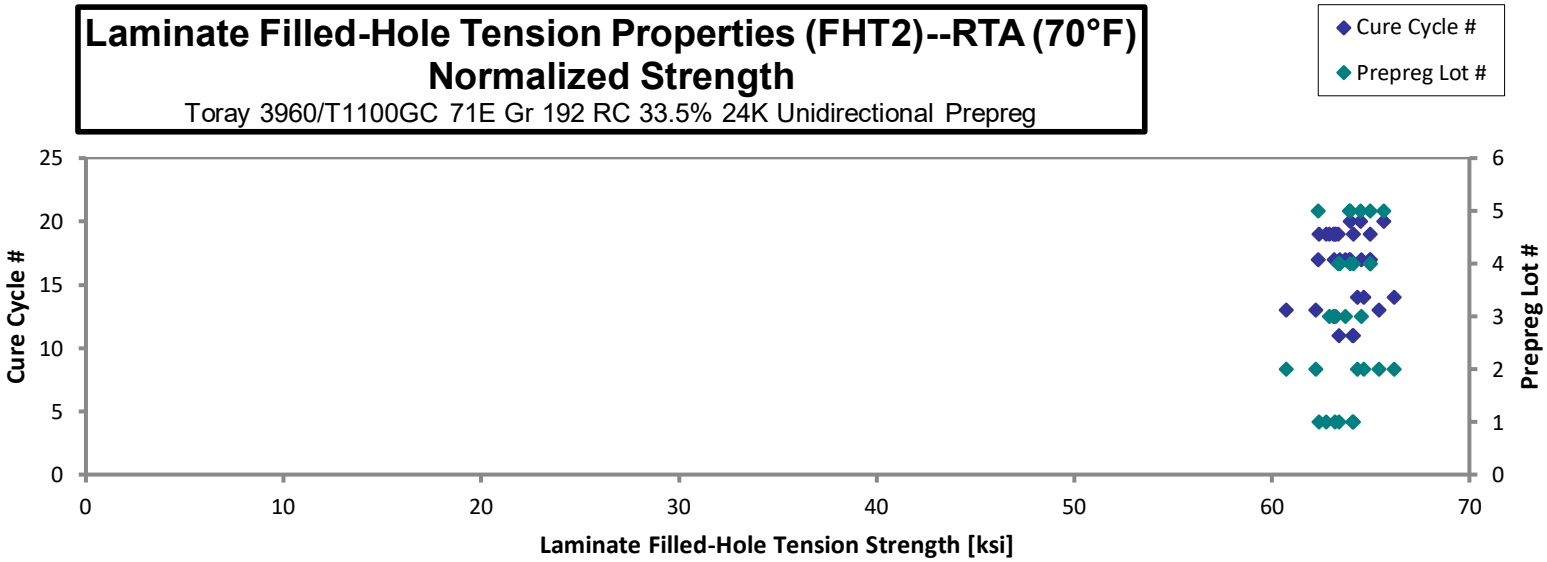
Laminate Filled-Hole Tension Properties (FHT2)--RTA (70°F)
Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

normalizing t_{ply} [in]
0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]
NTP3961Q1-TC-T01-BT-FHT2-A-C11-1-RTA-1	A	C11	1	11	64.50	0.1430	20	MGM	0.007152	64.07
NTP3961Q1-TC-T01-BT-FHT2-A-C11-1-RTA-2	A	C11	1	11	64.30	0.1436	20	MGM	0.007180	64.12
NTP3961Q1-TC-T01-BT-FHT2-A-C11-1-RTA-3	A	C11	1	11	64.20	0.1422	20	MGM	0.007109	63.39
NTP3961Q1-TC-T01-BT-FHT2-A-C19-1-RTA-1	A	C19	1	19	61.00	0.1473	20	MGM	0.007366	62.40
NTP3961Q1-TC-T01-BT-FHT2-A-C19-1-RTA-2	A	C19	1	19	62.20	0.1463	20	MGM	0.007313	63.18
NTP3961Q1-TC-T01-BT-FHT2-A-C19-1-RTA-3	A	C19	1	19	61.80	0.1463	20	MGM	0.007313	62.77
NTP3961Q1-TC-T01-BT-FHT2-B-C13-1-RTA-1	B	C13	2	13	59.50	0.1470	20	AGM	0.007349	60.73
NTP3961Q1-TC-T01-BT-FHT2-B-C13-1-RTA-2	B	C13	2	13	64.20	0.1468	20	AGM	0.007339	65.44
NTP3961Q1-TC-T01-BT-FHT2-B-C13-1-RTA-3	B	C13	2	13	60.80	0.1474	20	AGM	0.007370	62.24
NTP3961Q1-TC-T01-BT-FHT2-B-C14-1-RTA-1	B	C14	2	14	64.80	0.1471	20	MGM	0.007357	66.21
NTP3961Q1-TC-T01-BT-FHT2-B-C14-1-RTA-2	B	C14	2	14	62.70	0.1478	20	MGM	0.007388	64.33
NTP3961Q1-TC-T01-BT-FHT2-B-C14-1-RTA-3	B	C14	2	14	63.00	0.1477	20	MGM	0.007387	64.63
NTP3961Q1-TC-T01-TC-FHT2-C-C17-1-RTA-1	C	C17	3	17	62.10	0.1464	20	AGM	0.007320	63.14
NTP3961Q1-TC-T01-TC-FHT2-C-C17-1-RTA-2	C	C17	3	17	62.40	0.1470	20	AGM	0.007351	63.70
NTP3961Q1-TC-T01-TC-FHT2-C-C17-1-RTA-3	C	C17	3	17	63.50	0.1463	20	AGM	0.007316	64.52
NTP3961Q1-TC-T01-TC-FHT2-C-C19-1-RTA-1	C	C19	3	19	61.70	0.1473	20	AGM	0.007366	63.12
NTP3961Q1-TC-T01-TC-FHT2-C-C19-1-RTA-2	C	C19	3	19	61.70	0.1476	20	AGM	0.007382	63.26
NTP3961Q1-TC-T01-TC-FHT2-C-C19-1-RTA-3	C	C19	3	19	61.40	0.1476	20	AGM	0.007378	62.92
NTP3961Q1-TC-T01-TC-FHT2-D-C17-1-RTA-1	D	C17	4	17	62.30	0.1466	20	AGM	0.007332	63.44
NTP3961Q1-TC-T01-TC-FHT2-D-C17-1-RTA-2	D	C17	4	17	63.80	0.1444	20	AGM	0.007218	63.96
NTP3961Q1-TC-T01-TC-FHT2-D-C17-1-RTA-3	D	C17	4	17	65.10	0.1437	20	AGM	0.007187	64.98
NTP3961Q1-TC-T01-TC-FHT2-D-C19-1-RTA-1	D	C19	4	19	64.30	0.1455	20	AGM	0.007277	64.98
NTP3961Q1-TC-T01-TC-FHT2-D-C19-1-RTA-2	D	C19	4	19	62.70	0.1455	20	AGM	0.007275	63.35
NTP3961Q1-TC-T01-TC-FHT2-D-C19-1-RTA-3	D	C19	4	19	63.80	0.1447	20	AGM	0.007237	64.12
NTP3961Q1-TC-T01-TC-FHT2-E-C17-1-RTA-1	E	C17	5	17	63.40	0.1452	20	AGM	0.007259	63.92
NTP3961Q1-TC-T01-TC-FHT2-E-C17-1-RTA-2	E	C17	5	17	64.10	0.1459	20	AGM	0.007297	64.96
NTP3961Q1-TC-T01-TC-FHT2-E-C17-1-RTA-3	E	C17	5	17	61.70	0.1455	20	AGM	0.007273	62.33
NTP3961Q1-TC-T01-TC-FHT2-E-C20-1-RTA-1	E	C20	5	20	63.40	0.1453	20	AGM	0.007263	63.95
NTP3961Q1-TC-T01-TC-FHT2-E-C20-1-RTA-2	E	C20	5	20	64.00	0.1451	20	AGM	0.007255	64.49
NTP3961Q1-TC-T01-TC-FHT2-E-C20-1-RTA-3	E	C20	5	20	64.90	0.1457	20	AGM	0.007287	65.68

Average	**62.98**	
Standard Dev.	**1.395**	
Coeff. of Var. [%]	**2.215**	
Min.	**59.50**	
Max.	**65.10**	
Number of Spec.	**30**	

$Average_{norm}$	**0.007296**	**63.81**
$Standard\ Dev._{norm}$		**1.151**
$Coeff.\ of\ Var.\ [\%]_{norm}$		**1.803**
Min.	**0.007109**	**60.73**
Max.	**0.007388**	**66.21**
Number of Spec.	**30**	**30**


Laminate Filled-Hole Tension Properties (FHT2)--RTA (70°F)
Normalized Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Filled-Hole Tension Strength [ksi]
0
5
10
15
20
25
0
1
2
3
4
5
6
0
10
20
30
40
50
60
70

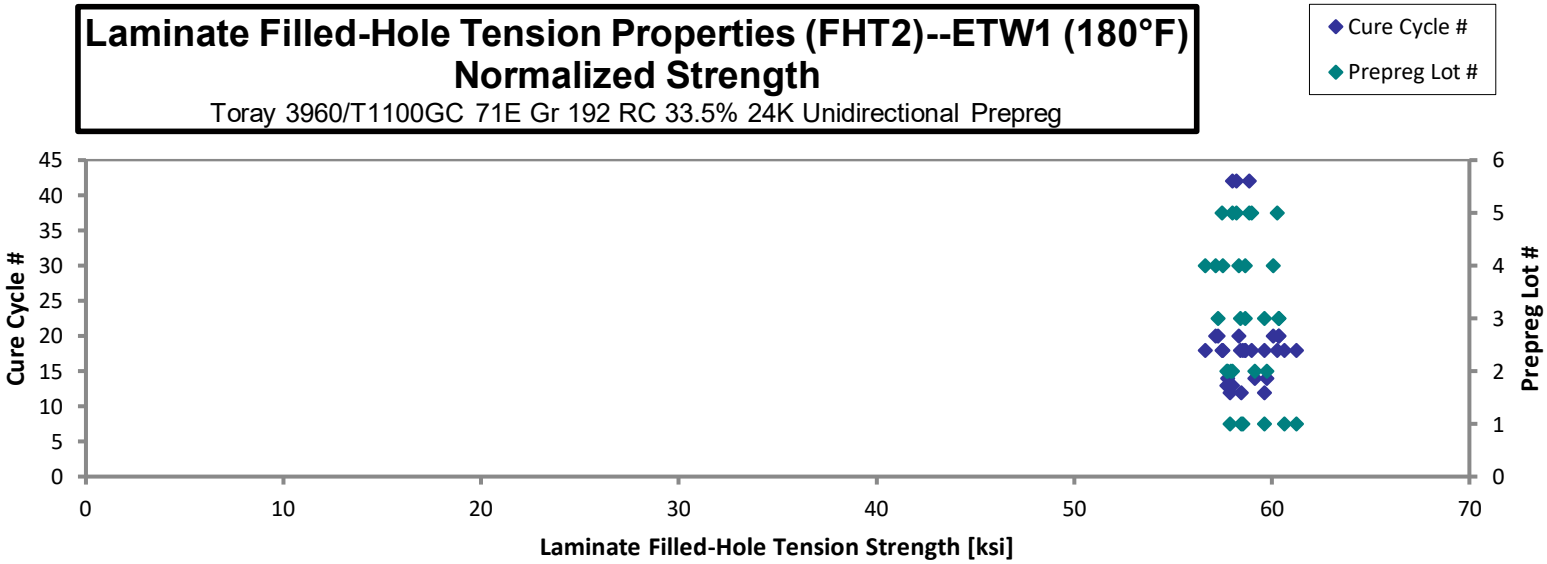
Laminate Filled-Hole Tension Properties (FHT2)--ETW1 (180°F)
Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

normalizing t_{ply} [in]
0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]
NTP3961Q1-TC-T01-BT-FHT2-A-C12-1-ETW1-1	A	C12	1	12	60.20	0.1385	20	MGM	0.006923	57.88
NTP3961Q1-TC-T01-BT-FHT2-A-C12-1-ETW1-2	A	C12	1	12	60.20	0.1426	20	MGM	0.007131	59.62
NTP3961Q1-TC-T01-BT-FHT2-A-C12-1-ETW1-3	A	C12	1	12	58.10	0.1449	20	MGM	0.007244	58.46
NTP3961Q1-TC-T01-BT-FHT2-A-C18-1-ETW1-1	A	C18	1	18	57.20	0.1473	20	MGM	0.007367	58.52
NTP3961Q1-TC-T01-BT-FHT2-A-C18-1-ETW1-2	A	C18	1	18	59.70	0.1478	20	MGM	0.007388	61.25
NTP3961Q1-TC-T01-BT-FHT2-A-C18-1-ETW1-3	A	C18	1	18	58.80	0.1485	20	MGM	0.007423	60.62
NTP3961Q1-TC-T01-BT-FHT2-B-C13-2-ETW1-1	B	C13	2	13	56.80	0.1463	20	AGM	0.007316	57.71
NTP3961Q1-TC-T01-BT-FHT2-B-C13-2-ETW1-2	B	C13	2	13	56.60	0.1474	20	AGM	0.007368	57.92
NTP3961Q1-TC-T01-BT-FHT2-B-C13-2-ETW1-3	B	C13	2	13	56.80	0.1471	20	AGM	0.007353	58.01
NTP3961Q1-TC-T01-BT-FHT2-B-C14-2-ETW1-1	B	C14	2	14	57.80	0.1474	20	AGM	0.007368	59.14
NTP3961Q1-TC-T01-BT-FHT2-B-C14-2-ETW1-2	B	C14	2	14	58.70	0.1466	20	AGM	0.007328	59.74
NTP3961Q1-TC-T01-BT-FHT2-B-C14-2-ETW1-3	B	C14	2	14	56.40	0.1475	20	AGM	0.007373	57.75
NTP3961Q1-TC-T01-TC-FHT2-C-C18-1-ETW1-1	C	C18	3	18	57.70	0.1458	20	AGM	0.007288	58.40
NTP3961Q1-TC-T01-TC-FHT2-C-C18-1-ETW1-2	C	C18	3	18	57.60	0.1467	20	AGM	0.007334	58.67
NTP3961Q1-TC-T01-TC-FHT2-C-C18-1-ETW1-3	C	C18	3	18	58.40	0.1470	20	AGM	0.007350	59.62
NTP3961Q1-TC-T01-TC-FHT2-C-C20-1-ETW1-1	C	C20	3	20	56.80	0.1452	20	AGM	0.007260	57.27
NTP3961Q1-TC-T01-TC-FHT2-C-C20-1-ETW1-2	C	C20	3	20	59.40	0.1463	20	AGM	0.007317	60.36
NTP3961Q1-TC-T01-TC-FHT2-C-C20-1-ETW1-3	C	C20	3	20	59.50	0.1461	20	AGM	0.007303	60.35
NTP3961Q1-TC-T01-TC-FHT2-D-C18-1-ETW1-1	D	C18	4	18	56.20	0.1451	20	AGM	0.007257	56.64
NTP3961Q1-TC-T01-TC-FHT2-D-C18-1-ETW1-2	D	C18	4	18	57.40	0.1443	20	AGM	0.007215	57.52
NTP3961Q1-TC-T01-TC-FHT2-D-C18-1-ETW1-3	D	C18	4	18	58.30	0.1449	20	AGM	0.007245	58.66
NTP3961Q1-TC-T01-TC-FHT2-D-C20-1-ETW1-1	D	C20	4	20	59.70	0.1450	20	AGM	0.007248	60.09
NTP3961Q1-TC-T01-TC-FHT2-D-C20-1-ETW1-2	D	C20	4	20	56.80	0.1449	20	AGM	0.007244	57.15
NTP3961Q1-TC-T01-TC-FHT2-D-C20-1-ETW1-3	D	C20	4	20	58.00	0.1449	20	AGM	0.007243	58.35
NTP3961Q1-TC-T01-TC-FHT2-E-C18-1-ETW1-1	E	C18	5	18	58.50	0.1452	20	AGM	0.007260	58.99
NTP3961Q1-TC-T01-TC-FHT2-E-C18-1-ETW1-2	E	C18	5	18	60.00	0.1447	20	AGM	0.007235	60.29
NTP3961Q1-TC-T01-TC-FHT2-E-C18-1-ETW1-3	E	C18	5	18	57.00	0.1452	20	AGM	0.007259	57.47
NTP3961Q1-TC-T01-TC-FHT2-E-C42-1-ETW1-1	E	C42	5	42	57.60	0.1456	20	AGM	0.007278	58.22
NTP3961Q1-TC-T01-TC-FHT2-E-C42-1-ETW1-2	E	C42	5	42	57.40	0.1456	20	AGM	0.007279	58.03
NTP3961Q1-TC-T01-TC-FHT2-E-C42-1-ETW1-3	E	C42	5	42	58.80	0.1442	20	AGM	0.007208	58.87

Average	**58.08**	
Standard Dev.	**1.205**	
Coeff. of Var. [%]	**2.074**	
Min.	**56.20**	
Max.	**60.20**	
Number of Spec.	**30**	

$Average_{norm}$	**0.007280**	**58.72**
Standard $Dev._{norm}$		**1.167**
Coeff. of Var. $[\%]_{norm}$		**1.987**
Min.	**0.006923**	**56.64**
Max.	**0.007423**	**61.25**
Number of Spec.	**30**	**30**


Laminate Filled-Hole Tension Properties (FHT2)--ETW1 (180°F)
Normalized Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Filled-Hole Tension Strength [ksi]
0
5
10
15
20
25
30
35
40
45
0
1
2
3
4
5
6
0
10
20
30
40
50
60
70

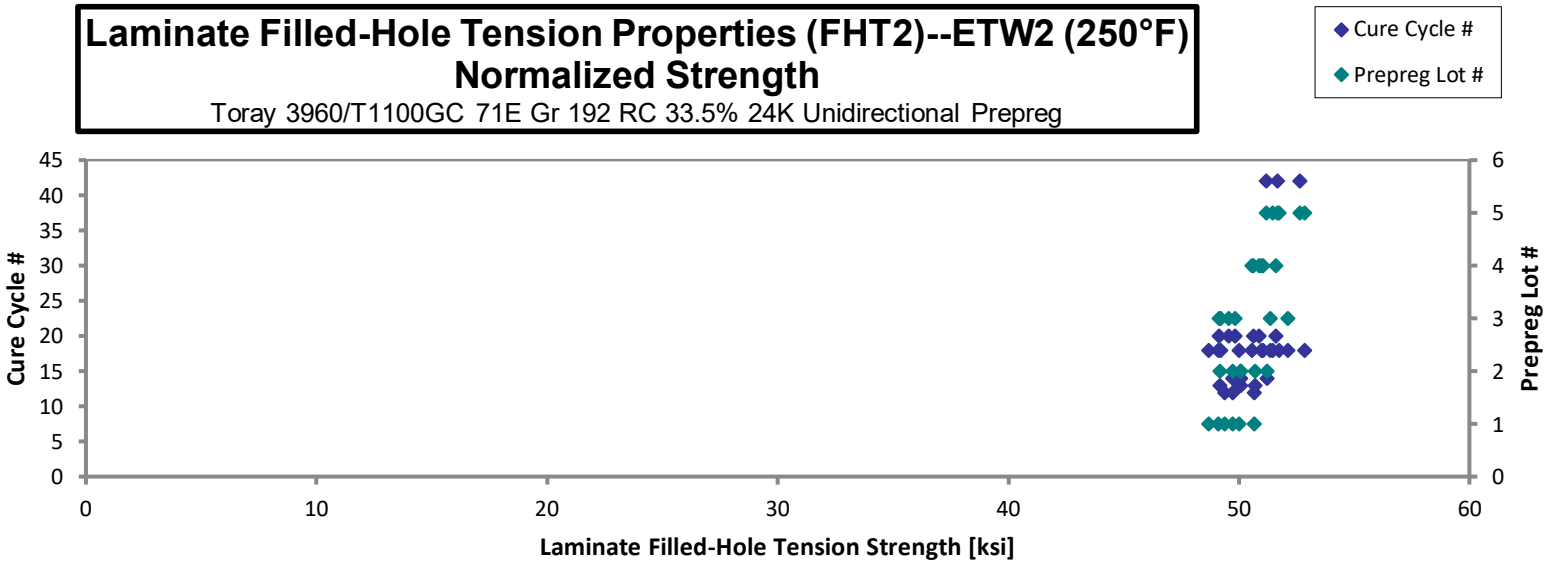
Laminate Filled-Hole Tension Properties (FHT2)--ETW2 (250°F)
Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

normalizing t_{ply} [in]
0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]
NTP3961Q1-TC-T01-BT-FHT2-A-C12-1-ETW2-1	A	C12	1	12	50.00	0.1433	20	MGM	0.007163	49.74
NTP3961Q1-TC-T01-BT-FHT2-A-C12-1-ETW2-2	A	C12	1	12	50.90	0.1433	20	MGM	0.007167	50.66
NTP3961Q1-TC-T01-BT-FHT2-A-C12-1-ETW2-3	A	C12	1	12	49.80	0.1428	20	MGM	0.007142	49.40
NTP3961Q1-TC-T01-BT-FHT2-A-C18-1-ETW2-1	A	C18	1	18	47.80	0.1480	20	MGM	0.007398	49.11
NTP3961Q1-TC-T01-BT-FHT2-A-C18-1-ETW2-2	A	C18	1	18	48.50	0.1485	20	MGM	0.007426	50.02
NTP3961Q1-TC-T01-BT-FHT2-A-C18-1-ETW2-3	A	C18	1	18	47.80	0.1466	20	MGM	0.007332	48.67
NTP3961Q1-TC-T01-BT-FHT2-B-C13-2-ETW2-1	B	C13	2	13	49.30	0.1481	20	AGM	0.007403	50.69
NTP3961Q1-TC-T01-BT-FHT2-B-C13-2-ETW2-2	B	C13	2	13	48.80	0.1478	20	AGM	0.007391	50.09
NTP3961Q1-TC-T01-BT-FHT2-B-C13-2-ETW2-3	B	C13	2	13	48.60	0.1457	20	AGM	0.007287	49.18
NTP3961Q1-TC-T01-BT-FHT2-B-C14-2-ETW2-1	B	C14	2	14	49.80	0.1481	20	AGM	0.007405	51.22
NTP3961Q1-TC-T01-BT-FHT2-B-C14-2-ETW2-2	B	C14	2	14	48.70	0.1481	20	AGM	0.007404	50.08
NTP3961Q1-TC-T01-BT-FHT2-B-C14-2-ETW2-3	B	C14	2	14	48.50	0.1477	20	AGM	0.007384	49.74
NTP3961Q1-TC-T01-TC-FHT2-C-C18-1-ETW2-1	C	C18	3	18	47.90	0.1479	20	AGM	0.007394	49.19
NTP3961Q1-TC-T01-TC-FHT2-C-C18-1-ETW2-2	C	C18	3	18	50.30	0.1470	20	AGM	0.007352	51.36
NTP3961Q1-TC-T01-TC-FHT2-C-C18-1-ETW2-3	C	C18	3	18	51.40	0.1460	20	AGM	0.007301	52.12
NTP3961Q1-TC-T01-TC-FHT2-C-C20-1-ETW2-1	C	C20	3	20	48.40	0.1462	20	AGM	0.007310	49.14
NTP3961Q1-TC-T01-TC-FHT2-C-C20-1-ETW2-2	C	C20	3	20	48.70	0.1474	20	AGM	0.007368	49.84
NTP3961Q1-TC-T01-TC-FHT2-C-C20-1-ETW2-3	C	C20	3	20	48.60	0.1468	20	AGM	0.007342	49.56
NTP3961Q1-TC-T01-TC-FHT2-D-C18-1-ETW2-1	D	C18	4	18	50.40	0.1444	20	AGM	0.007222	50.55
NTP3961Q1-TC-T01-TC-FHT2-D-C18-1-ETW2-2	D	C18	4	18	51.00	0.1441	20	AGM	0.007206	51.04
NTP3961Q1-TC-T01-TC-FHT2-D-C18-1-ETW2-3	D	C18	4	18	50.60	0.1450	20	AGM	0.007252	50.96
NTP3961Q1-TC-T01-TC-FHT2-D-C20-1-ETW2-1	D	C20	4	20	51.50	0.1443	20	AGM	0.007213	51.59
NTP3961Q1-TC-T01-TC-FHT2-D-C20-1-ETW2-2	D	C20	4	20	50.30	0.1450	20	AGM	0.007249	50.64
NTP3961Q1-TC-T01-TC-FHT2-D-C20-1-ETW2-3	D	C20	4	20	50.70	0.1445	20	AGM	0.007227	50.89
NTP3961Q1-TC-T01-TC-FHT2-E-C18-1-ETW2-1	E	C18	5	18	51.00	0.1461	20	AGM	0.007307	51.75
NTP3961Q1-TC-T01-TC-FHT2-E-C18-1-ETW2-2	E	C18	5	18	52.30	0.1456	20	AGM	0.007278	52.86
NTP3961Q1-TC-T01-TC-FHT2-E-C18-1-ETW2-3	E	C18	5	18	51.00	0.1453	20	AGM	0.007267	51.47
NTP3961Q1-TC-T01-TC-FHT2-E-C42-1-ETW2-1	E	C42	5	42	51.20	0.1453	20	AGM	0.007264	51.66
NTP3961Q1-TC-T01-TC-FHT2-E-C42-1-ETW2-2	E	C42	5	42	50.70	0.1453	20	AGM	0.007267	51.17
NTP3961Q1-TC-T01-TC-FHT2-E-C42-1-ETW2-3	E	C42	5	42	52.10	0.1455	20	AGM	0.007273	52.63

Average	**49.89**	
Standard Dev.	**1.325**	
Coeff. of Var. [%]	**2.656**	
Min.	**47.80**	
Max.	**52.30**	
Number of Spec.	**30**	

$Average_{norm}$	**0.007299**	**50.57**
Standard $Dev._{norm}$		**1.097**
Coeff. of Var. $[\%]_{norm}$		**2.170**
Min.	**0.007142**	**48.67**
Max.	**0.007426**	**52.86**
Number of Spec.	**30**	**30**


Laminate Filled-Hole Tension Properties (FHT2)--ETW2 (250°F)
Normalized Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Filled-Hole Tension Strength [ksi]
0
5
10
15
20
25
30
35
40
45
0
1
2
3
4
5
6
0
10
20
30
40
50
60

4.22 "50/40/10" Filled-Hole Tension 3 Properties (FHT3)

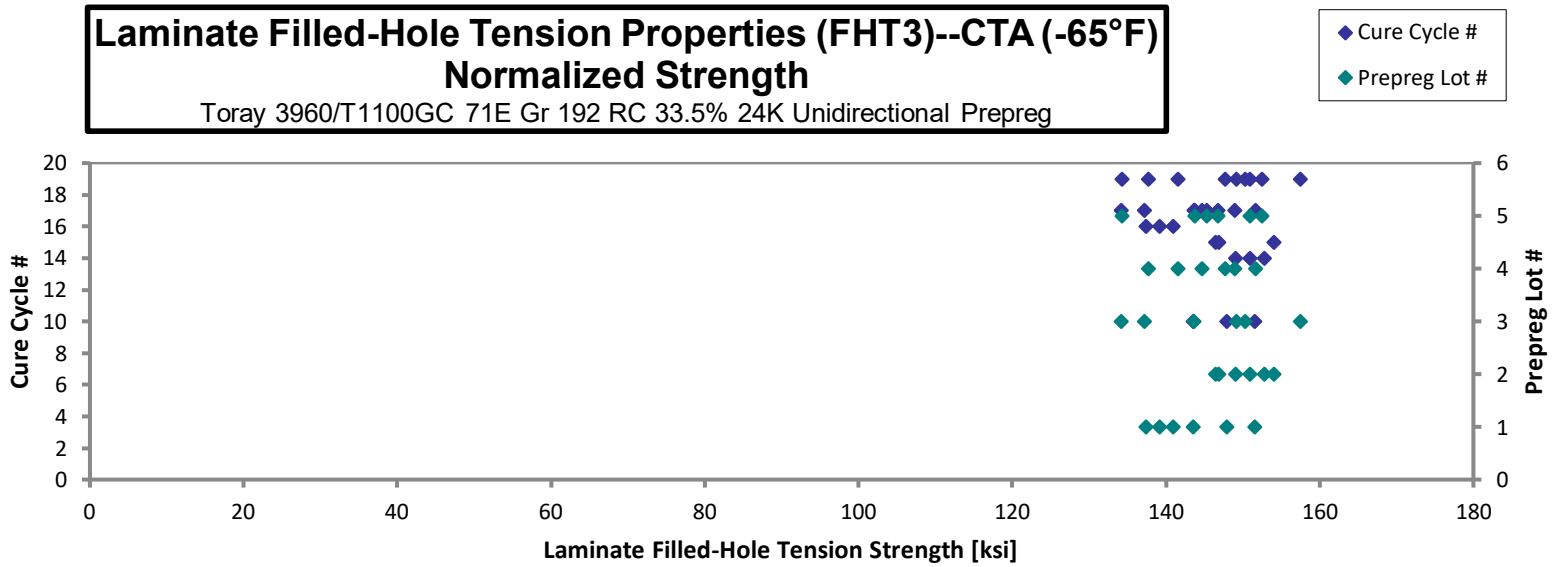
Laminate Filled-Hole Tension Properties (FHT3)--CTA (-65°F)
Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

normalizing t_{ply} [in]
0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]
NTP3961Q1-TC-T01-BT-FHT3-A-C10-1-CTA-1	A	C10	1	10	156.3	0.1396	20	MGM	0.006980	151.5
NTP3961Q1-TC-T01-BT-FHT3-A-C10-1-CTA-2	A	C10	1	10	143.3	0.1443	20	MGM	0.007216	143.6
NTP3961Q1-TC-T01-BT-FHT3-A-C10-1-CTA-3	A	C10	1	10	146.7	0.1453	20	MGM	0.007263	148.0
NTP3961Q1-TC-T01-BT-FHT3-A-C16-1-CTA-1	A	C16	1	16	144.9	0.1401	20	MGM	0.007006	141.0
NTP3961Q1-TC-T01-BT-FHT3-A-C16-1-CTA-2	A	C16	1	16	137.7	0.1438	20	MGM	0.007188	137.5
NTP3961Q1-TC-T01-BT-FHT3-A-C16-1-CTA-3	A	C16	1	16	139.0	0.1443	20	MGM	0.007213	139.2
NTP3961Q1-TC-T01-BT-FHT3-B-C14-1-CTA-2	B	C14	2	14	147.9	0.1488	20	AGM	0.007438	152.8
NTP3961Q1-TC-T01-BT-FHT3-B-C14-1-CTA-3	B	C14	2	14	146.7	0.1482	20	AGM	0.007408	150.9
NTP3961Q1-TC-T01-BT-FHT3-B-C14-1-CTA-4	B	C14	2	14	144.7	0.1483	20	AGM	0.007417	149.1
NTP3961Q1-TC-T01-BT-FHT3-B-C15-1-CTA-1	B	C15	2	15	143.1	0.1474	20	AGM	0.007372	146.5
NTP3961Q1-TC-T01-BT-FHT3-B-C15-1-CTA-2	B	C15	2	15	141.7	0.1493	20	AGM	0.007463	146.9
NTP3961Q1-TC-T01-BT-FHT3-B-C15-1-CTA-3	B	C15	2	15	151.5	0.1464	20	AGM	0.007321	154.0
NTP3961Q1-TC-T01-TC-FHT3-C-C17-2-CTA-1	C	C17	3	17	132.5	0.1459	20	LGM	0.007295	134.2
NTP3961Q1-TC-T01-TC-FHT3-C-C17-2-CTA-2	C	C17	3	17	135.0	0.1463	20	LGM	0.007316	137.2
NTP3961Q1-TC-T01-TC-FHT3-C-C17-2-CTA-3	C	C17	3	17	142.0	0.1457	20	LGM	0.007285	143.7
NTP3961Q1-TC-T01-TC-FHT3-C-C19-2-CTA-1	C	C19	3	19	149.8	0.1434	20	LGM	0.007170	149.2
NTP3961Q1-TC-T01-TC-FHT3-C-C19-2-CTA-2	C	C19	3	19	157.9	0.1436	20	LGM	0.007182	157.5
NTP3961Q1-TC-T01-TC-FHT3-C-C19-2-CTA-3	C	C19	3	19	148.9	0.1454	20	LGM	0.007270	150.3
NTP3961Q1-TC-T01-TC-FHT3-D-C17-2-CTA-1	D	C17	4	17	142.6	0.1462	20	AGM	0.007308	144.7
NTP3961Q1-TC-T01-TC-FHT3-D-C17-2-CTA-2	D	C17	4	17	146.9	0.1461	20	AGM	0.007303	149.0
NTP3961Q1-TC-T01-TC-FHT3-D-C17-2-CTA-3	D	C17	4	17	150.4	0.1452	20	AGM	0.007262	151.7
NTP3961Q1-TC-T01-TC-FHT3-D-C19-2-CTA-1	D	C19	4	19	136.0	0.1459	20	AGM	0.007294	137.8
NTP3961Q1-TC-T01-TC-FHT3-D-C19-2-CTA-2	D	C19	4	19	140.6	0.1451	20	AGM	0.007253	141.6
NTP3961Q1-TC-T01-TC-FHT3-D-C19-2-CTA-3	D	C19	4	19	146.4	0.1453	20	AGM	0.007265	147.7
NTP3961Q1-TC-T01-TC-FHT3-E-C17-2-CTA-1	E	C17	5	17	143.2	0.1462	20	AGM	0.007309	145.4
NTP3961Q1-TC-T01-TC-FHT3-E-C17-2-CTA-2	E	C17	5	17	141.9	0.1459	20	AGM	0.007297	143.8
NTP3961Q1-TC-T01-TC-FHT3-E-C17-2-CTA-3	E	C17	5	17	145.5	0.1453	20	AGM	0.007265	146.8
NTP3961Q1-TC-T01-TC-FHT3-E-C19-2-CTA-1	E	C19	5	19	133.5	0.1449	20	AGM	0.007244	134.3
NTP3961Q1-TC-T01-TC-FHT3-E-C19-2-CTA-2	E	C19	5	19	149.4	0.1455	20	AGM	0.007277	151.0
NTP3961Q1-TC-T01-TC-FHT3-E-C19-2-CTA-3	E	C19	5	19	152.0	0.1445	20	AGM	0.007223	152.5

Average	**144.6**	
Standard Dev.	**6.188**	
Coeff. of Var. [%]	**4.280**	
Min.	**132.5**	
Max.	**157.9**	
Number of Spec.	**30**	

$Average_{norm}$	**0.007270**	**146.0**
$Standard\ Dev._{norm}$		**6.028**
Coeff. of Var. $[\%]_{norm}$		**4.129**
Min.	**0.006980**	**134.2**
Max.	**0.007463**	**157.5**
Number of Spec.	**30**	**30**


Laminate Filled-Hole Tension Properties (FHT3)--CTA (-65°F)
Normalized Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Filled-Hole Tension Strength [ksi]
0
2
4
6
8
10
12
14
16
18
20
0
1
2
3
4
5
6
0
20
40
60
80
100
120
140
160
180

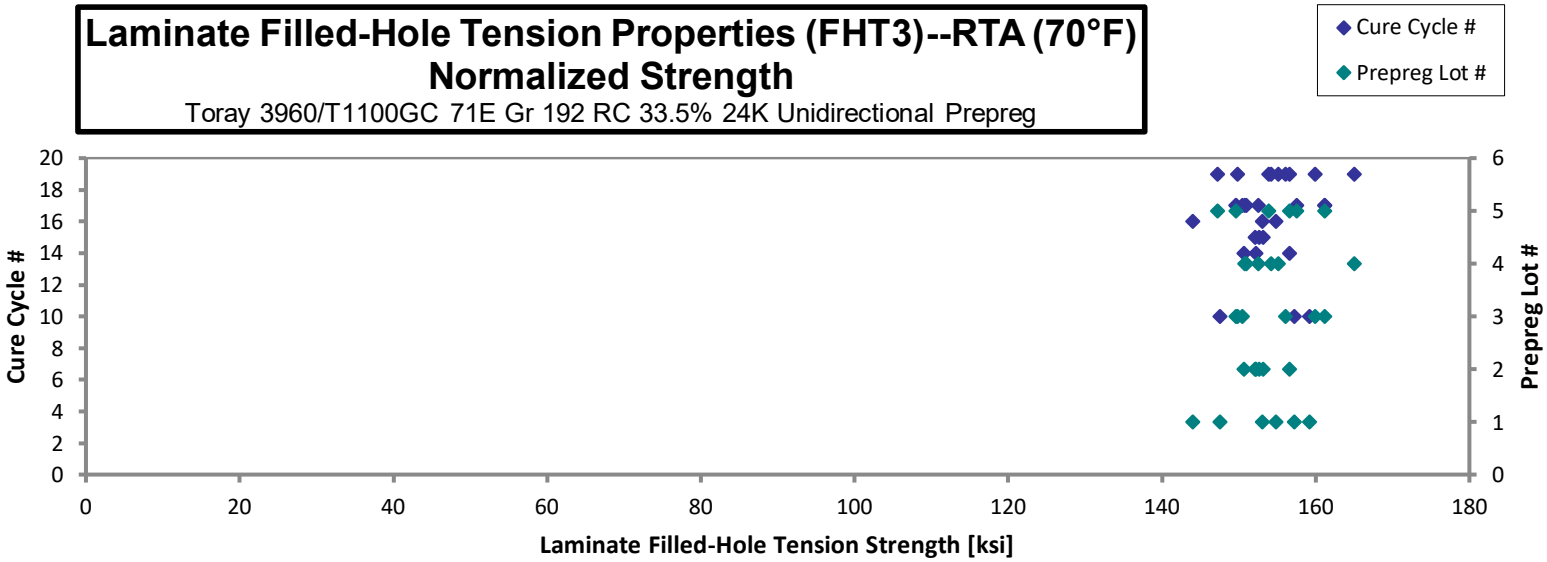
Laminate Filled-Hole Tension Properties (FHT3)--RTA (70°F)
Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

normalizing t_{ply} [in]
0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]
NTP3961Q1-TC-T01-BT-FHT3-A-C10-1-RTA-1	A	C10	1	10	159.0	0.1442	20	MGM	0.007210	159.2
NTP3961Q1-TC-T01-BT-FHT3-A-C10-1-RTA-2	A	C10	1	10	157.3	0.1439	20	MGM	0.007195	157.2
NTP3961Q1-TC-T01-BT-FHT3-A-C10-1-RTA-3	A	C10	1	10	148.7	0.1429	20	MGM	0.007145	147.6
NTP3961Q1-TC-T01-BT-FHT3-A-C16-1-RTA-1	A	C16	1	16	154.0	0.1431	20	MGM	0.007155	153.0
NTP3961Q1-TC-T01-BT-FHT3-A-C16-1-RTA-2	A	C16	1	16	155.9	0.1430	20	MGM	0.007152	154.8
NTP3961Q1-TC-T01-BT-FHT3-A-C16-1-RTA-3	A	C16	1	16	145.7	0.1423	20	MGM	0.007115	144.0
NTP3961Q1-TC-T01-BT-FHT3-B-C14-1-RTA-1	B	C14	2	14	151.0	0.1494	20	MGM	0.007468	156.6
NTP3961Q1-TC-T01-BT-FHT3-B-C14-1-RTA-2	B	C14	2	14	146.4	0.1482	20	MGM	0.007408	150.6
NTP3961Q1-TC-T01-BT-FHT3-B-C14-1-RTA-3	B	C14	2	14	147.5	0.1486	20	MGM	0.007429	152.2
NTP3961Q1-TC-T01-BT-FHT3-B-C15-1-RTA-1	B	C15	2	15	148.1	0.1484	20	MGM	0.007419	152.6
NTP3961Q1-TC-T01-BT-FHT3-B-C15-1-RTA-2	B	C15	2	15	150.5	0.1465	20	MGM	0.007325	153.1
NTP3961Q1-TC-T01-BT-FHT3-B-C15-1-RTA-3	B	C15	2	15	148.0	0.1480	20	MGM	0.007400	152.1
NTP3961Q1-TC-T01-TC-FHT3-C-C17-2-RTA-1	C	C17	3	17	148.6	0.1458	20	MGM	0.007290	150.5
NTP3961Q1-TC-T01-TC-FHT3-C-C17-2-RTA-2	C	C17	3	17	158.4	0.1465	20	MGM	0.007325	161.2
NTP3961Q1-TC-T01-TC-FHT3-C-C17-2-RTA-3	C	C17	3	17	147.4	0.1462	20	MGM	0.007308	149.6
NTP3961Q1-TC-T01-TC-FHT3-C-C19-2-RTA-1	C	C19	3	19	148.0	0.1458	20	MGM	0.007291	149.9
NTP3961Q1-TC-T01-TC-FHT3-C-C19-2-RTA-2	C	C19	3	19	156.7	0.1469	20	MGM	0.007347	159.9
NTP3961Q1-TC-T01-TC-FHT3-C-C19-2-RTA-3	C	C19	3	19	152.8	0.1471	20	MGM	0.007353	156.0
NTP3961Q1-TC-T01-TC-FHT3-D-C17-2-RTA-1	D	C17	4	17	151.3	0.1437	20	AGM	0.007185	151.0
NTP3961Q1-TC-T01-TC-FHT3-D-C17-2-RTA-2	D	C17	4	17	150.9	0.1456	20	AGM	0.007281	152.6
NTP3961Q1-TC-T01-TC-FHT3-D-C17-2-RTA-3	D	C17	4	17	149.0	0.1457	20	AGM	0.007283	150.7
NTP3961Q1-TC-T01-TC-FHT3-D-C19-2-RTA-1	D	C19	4	19	155.2	0.1439	20	AGM	0.007195	155.1
NTP3961Q1-TC-T01-TC-FHT3-D-C19-2-RTA-2	D	C19	4	19	152.7	0.1454	20	AGM	0.007271	154.2
NTP3961Q1-TC-T01-TC-FHT3-D-C19-2-RTA-3	D	C19	4	19	164.8	0.1442	20	AGM	0.007211	165.0
NTP3961Q1-TC-T01-TC-FHT3-E-C17-2-RTA-1	E	C17	5	17	147.1	0.1465	20	AGM	0.007326	149.7
NTP3961Q1-TC-T01-TC-FHT3-E-C17-2-RTA-2	E	C17	5	17	158.7	0.1462	20	AGM	0.007312	161.2
NTP3961Q1-TC-T01-TC-FHT3-E-C17-2-RTA-3	E	C17	5	17	155.2	0.1462	20	AGM	0.007308	157.5
NTP3961Q1-TC-T01-TC-FHT3-E-C19-2-RTA-1	E	C19	5	19	146.9	0.1443	20	AGM	0.007215	147.2
NTP3961Q1-TC-T01-TC-FHT3-E-C19-2-RTA-2	E	C19	5	19	151.6	0.1462	20	AGM	0.007308	153.9
NTP3961Q1-TC-T01-TC-FHT3-E-C19-2-RTA-3	E	C19	5	19	154.5	0.1460	20	AGM	0.007298	156.6

Average	**152.1**	
Standard Dev.	**4.705**	
Coeff. of Var. [%]	**3.094**	
Min.	**145.7**	
Max.	**164.8**	
Number of Spec.	**30**	

$Average_{norm}$	**0.007284**	**153.8**
$Standard\ Dev._{norm}$		**4.650**
$Coeff.\ of\ Var.\ [\%]_{norm}$		**3.023**
Min.	**0.007115**	**144.0**
Max.	**0.007468**	**165.0**
Number of Spec.	**30**	**30**


Laminate Filled-Hole Tension Properties (FHT3)--RTA (70°F)
Normalized Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Filled-Hole Tension Strength [ksi]
0
2
4
6
8
10
12
14
16
18
20
0
1
2
3
4
5
6
0
20
40
60
80
100
120
140
160
180

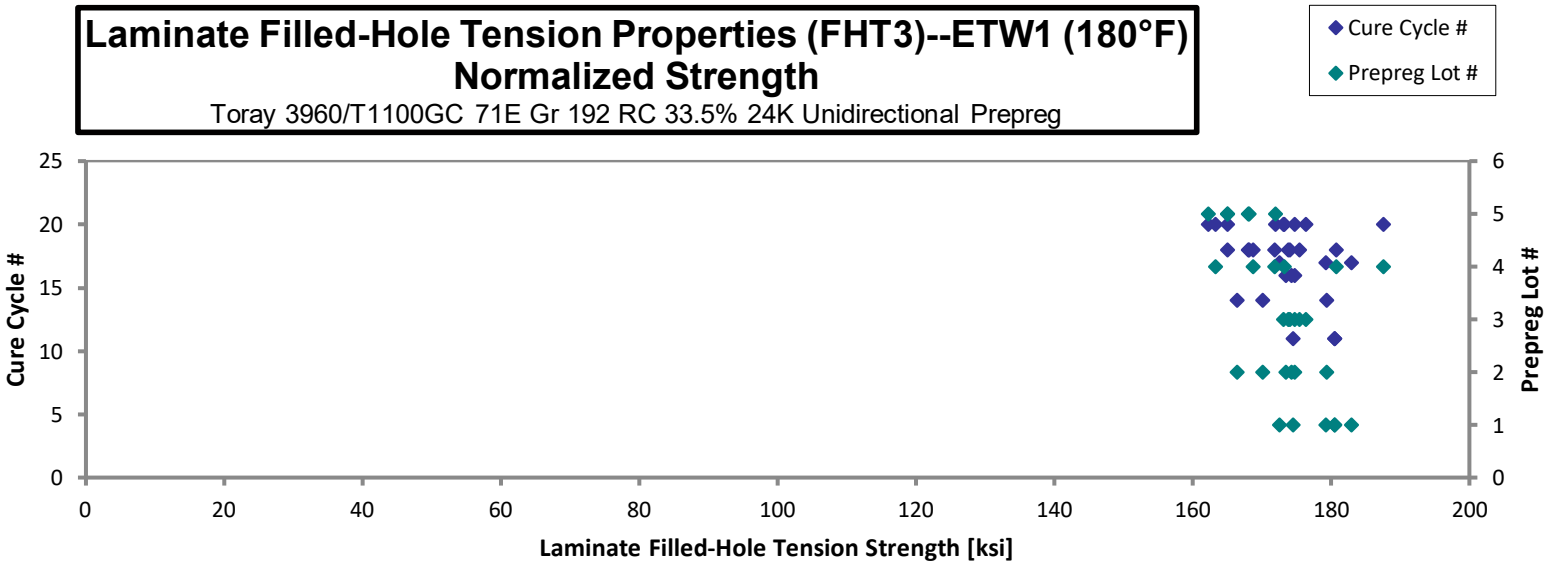
Laminate Filled-Hole Tension Properties (FHT3)--ETW1 (180°F)
Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

normalizing t_{ply} [in]
0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]
NTP3961Q1-TC-T01-BT-FHT3-A-C11-1-ETW1-1	A	C11	1	11	181.3	0.1387	20	MGM	0.006933	174.6
NTP3961Q1-TC-T01-BT-FHT3-A-C11-1-ETW1-2	A	C11	1	11	181.5	0.1432	20	MGM	0.007162	180.5
NTP3961Q1-TC-T01-BT-FHT3-A-C11-1-ETW1-3	A	C11	1	11	181.6	0.1432	20	MGM	0.007160	180.6
NTP3961Q1-TC-T01-BT-FHT3-A-C17-1-ETW1-1	A	C17	1	17	189.6	0.1390	20	MGM	0.006948	183.0
NTP3961Q1-TC-T01-BT-FHT3-A-C17-1-ETW1-2	A	C17	1	17	182.0	0.1419	20	MGM	0.007093	179.3
NTP3961Q1-TC-T01-BT-FHT3-A-C17-1-ETW1-3	A	C17	1	17	174.2	0.1427	20	MGM	0.007133	172.6
NTP3961Q1-TC-T01-BT-FHT3-B-C14-2-ETW1-1	B	C14	2	14	161.4	0.1486	20	MGM	0.007428	166.5
NTP3961Q1-TC-T01-BT-FHT3-B-C14-2-ETW1-2	B	C14	2	14	166.0	0.1476	20	MGM	0.007378	170.1
NTP3961Q1-TC-T01-BT-FHT3-B-C14-2-ETW1-3	B	C14	2	14	173.0	0.1493	20	MGM	0.007465	179.4
NTP3961Q1-TC-T01-BT-FHT3-B-C16-1-ETW1-1	B	C16	2	16	169.8	0.1472	20	MGM	0.007359	173.5
NTP3961Q1-TC-T01-BT-FHT3-B-C16-1-ETW1-2	B	C16	2	16	169.7	0.1483	20	MGM	0.007416	174.8
NTP3961Q1-TC-T01-BT-FHT3-B-C16-1-ETW1-3	B	C16	2	16	169.8	0.1478	20	MGM	0.007390	174.3
NTP3961Q1-TC-T01-TC-FHT3-C-C18-2-ETW1-1	C	C18	3	18	173.9	0.1453	20	MGM	0.007263	175.4
NTP3961Q1-TC-T01-TC-FHT3-C-C18-2-ETW1-2	C	C18	3	18	173.4	0.1444	20	MGM	0.007218	173.8
NTP3961Q1-TC-T01-TC-FHT3-C-C18-2-ETW1-3	C	C18	3	18	169.6	0.1478	20	MGM	0.007388	174.0
NTP3961Q1-TC-T01-TC-FHT3-C-C20-2-ETW1-1	C	C20	3	20	174.9	0.1452	20	MGM	0.007260	176.4
NTP3961Q1-TC-T01-TC-FHT3-C-C20-2-ETW1-2	C	C20	3	20	169.0	0.1475	20	MGM	0.007375	173.1
NTP3961Q1-TC-T01-TC-FHT3-C-C20-2-ETW1-3	C	C20	3	20	171.7	0.1465	20	MGM	0.007327	174.7
NTP3961Q1-TC-T01-TC-FHT3-D-C18-2-ETW1-1	D	C18	4	18	166.5	0.1460	20	AGM	0.007299	168.8
NTP3961Q1-TC-T01-TC-FHT3-D-C18-2-ETW1-2	D	C18	4	18	170.0	0.1456	20	AGM	0.007279	171.9
NTP3961Q1-TC-T01-TC-FHT3-D-C18-2-ETW1-3	D	C18	4	18	178.8	0.1456	20	AGM	0.007279	180.8
NTP3961Q1-TC-T01-TC-FHT3-D-C20-2-ETW1-1	D	C20	4	20	160.5	0.1466	20	AGM	0.007329	163.4
NTP3961Q1-TC-T01-TC-FHT3-D-C20-2-ETW1-2	D	C20	4	20	171.2	0.1457	20	AGM	0.007285	173.2
NTP3961Q1-TC-T01-TC-FHT3-D-C20-2-ETW1-3	D	C20	4	20	187.9	0.1438	20	AGM	0.007190	187.6
NTP3961Q1-TC-T01-TC-FHT3-E-C18-2-ETW1-1	E	C18	5	18	166.6	0.1453	20	MGM	0.007263	168.1
NTP3961Q1-TC-T01-TC-FHT3-E-C18-2-ETW1-2	E	C18	5	18	166.7	0.1452	20	MGM	0.007262	168.1
NTP3961Q1-TC-T01-TC-FHT3-E-C18-2-ETW1-3	E	C18	5	18	163.8	0.1452	20	MGM	0.007258	165.1
NTP3961Q1-TC-T01-TC-FHT3-E-C20-2-ETW1-1	E	C20	5	20	164.5	0.1445	20	MGM	0.007227	165.1
NTP3961Q1-TC-T01-TC-FHT3-E-C20-2-ETW1-2	E	C20	5	20	161.0	0.1452	20	MGM	0.007259	162.3
NTP3961Q1-TC-T01-TC-FHT3-E-C20-2-ETW1-3	E	C20	5	20	169.0	0.1465	20	MGM	0.007326	171.9

Average	**172.0**	
Standard Dev.	**7.551**	
Coeff. of Var. [%]	**4.391**	
Min.	**160.5**	
Max.	**189.6**	
Number of Spec.	**30**	

$Average_{norm}$	**0.007265**	**173.4**
Standard $Dev._{norm}$		**5.996**
Coeff. of Var. $[\%]_{norm}$		**3.457**
Min.	**0.006933**	**162.3**
Max.	**0.007465**	**187.6**
Number of Spec.	**30**	**30**


Laminate Filled-Hole Tension Properties (FHT3)--ETW1 (180°F)
Normalized Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Filled-Hole Tension Strength [ksi]
0
5
10
15
20
25
0
1
2
3
4
5
6
0
20
40
60
80
100
120
140
160
180
200

Laminate Filled-Hole Tension Properties (FHT3)--ETW2 (250°F)
Strength

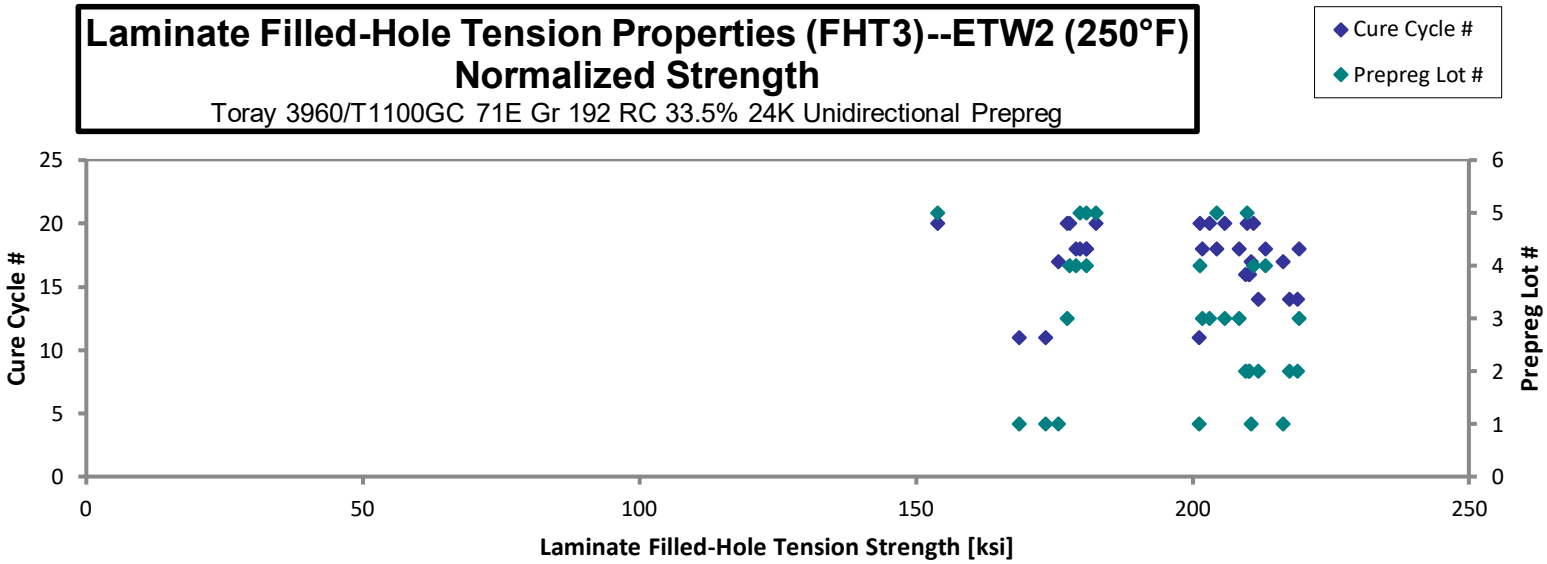
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

normalizing t_{ply} [in]
0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]
NTP3961Q1-TC-T01-BT-FHT3-A-C11-1-ETW2-2	A	C11	1	11	172.1	0.1412	20	MGM	0.007058	168.7
NTP3961Q1-TC-T01-BT-FHT3-A-C11-1-ETW2-3	A	C11	1	11	175.8	0.1421	20	MGM	0.007105	173.5
NTP3961Q1-TC-T01-BT-FHT3-A-C11-1-ETW2-4	A	C11	1	11	203.5	0.1424	20	MGM	0.007121	201.3
NTP3961Q1-TC-T01-BT-FHT3-A-C17-1-ETW2-3	A	C17	1	17	177.4	0.1427	20	MGM	0.007134	175.8
NTP3961Q1-TC-T01-BT-FHT3-A-C17-1-ETW2-4	A	C17	1	17	212.7	0.1426	20	XGM	0.007128	210.6
NTP3961Q1-TC-T01-BT-FHT3-A-C17-1-ETW2-5	A	C17	1	17	217.4	0.1433	20	XGM	0.007167	216.4
NTP3961Q1-TC-T01-BT-FHT3-B-C14-2-ETW2-2	B	C14	2	14	212.3	0.1476	20	MGM	0.007380	217.6
NTP3961Q1-TC-T01-BT-FHT3-B-C14-2-ETW2-3	B	C14	2	14	205.7	0.1484	20	MGM	0.007418	211.9
NTP3961Q1-TC-T01-BT-FHT3-B-C14-2-ETW2-4	B	C14	2	14	212.4	0.1485	20	MGM	0.007425	219.0
NTP3961Q1-TC-T01-BT-FHT3-B-C16-1-ETW2-1	B	C16	2	16	206.2	0.1469	20	MGM	0.007345	210.4
NTP3961Q1-TC-T01-BT-FHT3-B-C16-1-ETW2-2	B	C16	2	16	206.8	0.1459	20	MGM	0.007296	209.5
NTP3961Q1-TC-T01-BT-FHT3-B-C16-1-ETW2-3	B	C16	2	16	205.8	0.1471	20	MGM	0.007353	210.2
NTP3961Q1-TC-T01-TC-FHT3-C-C18-2-ETW2-1	C	C18	3	18	200.3	0.1451	20	XGV	0.007255	201.8
NTP3961Q1-TC-T01-TC-FHT3-C-C18-2-ETW2-2	C	C18	3	18	203.7	0.1474	20	XGV	0.007368	208.5
NTP3961Q1-TC-T01-TC-FHT3-C-C18-2-ETW2-3	C	C18	3	18	214.9	0.1470	20	XGV	0.007348	219.3
NTP3961Q1-TC-T01-TC-FHT3-C-C20-2-ETW2-1	C	C20	3	20	198.5	0.1474	20	XGV	0.007368	203.1
NTP3961Q1-TC-T01-TC-FHT3-C-C20-2-ETW2-2	C	C20	3	20	174.2	0.1466	20	XGV	0.007331	177.4
NTP3961Q1-TC-T01-TC-FHT3-C-C20-2-ETW2-3	C	C20	3	20	200.7	0.1477	20	XGV	0.007385	205.9
NTP3961Q1-TC-T01-TC-FHT3-D-C18-2-ETW2-1	D	C18	4	18	210.4	0.1459	20	MGM	0.007294	213.1
NTP3961Q1-TC-T01-TC-FHT3-D-C18-2-ETW2-2	D	C18	4	18	178.7	0.1457	20	MGM	0.007284	180.8
NTP3961Q1-TC-T01-TC-FHT3-D-C18-2-ETW2-3	D	C18	4	18	178.5	0.1444	20	MGM	0.007218	178.9
NTP3961Q1-TC-T01-TC-FHT3-D-C20-2-ETW2-1	D	C20	4	20	177.7	0.1441	20	MGM	0.007204	177.8
NTP3961Q1-TC-T01-TC-FHT3-D-C20-2-ETW2-2	D	C20	4	20	199.2	0.1455	20	MGM	0.007277	201.3
NTP3961Q1-TC-T01-TC-FHT3-D-C20-2-ETW2-3	D	C20	4	20	209.5	0.1451	20	MGM	0.007254	211.1
NTP3961Q1-TC-T01-TC-FHT3-E-C18-2-ETW2-1	E	C18	5	18	179.4	0.1451	20	MGM	0.007256	180.8
NTP3961Q1-TC-T01-TC-FHT3-E-C18-2-ETW2-2	E	C18	5	18	203.7	0.1445	20	MGM	0.007224	204.4
NTP3961Q1-TC-T01-TC-FHT3-E-C18-2-ETW2-3	E	C18	5	18	176.9	0.1463	20	MGM	0.007313	179.7
NTP3961Q1-TC-T01-TC-FHT3-E-C20-2-ETW2-1	E	C20	5	20	180.9	0.1453	20	MGM	0.007264	182.51
NTP3961Q1-TC-T01-TC-FHT3-E-C20-2-ETW2-2	E	C20	5	20	152.4	0.1455	20	MGM	0.007276	154.0
NTP3961Q1-TC-T01-TC-FHT3-E-C20-2-ETW2-3	E	C20	5	20	208.0	0.1453	20	MGM	0.007265	209.9

Average	**195.2**	
Standard Dev.	**16.91**	
Coeff. of Var. [%]	**8.665**	
Min.	**152.4**	
Max.	**217.4**	
Number of Spec.	**30**	

$Average_{norm}$	**0.007270**	**197.2**
Standard $Dev._{norm}$		**18.06**
Coeff. of Var. $[\%]_{norm}$		**9.159**
Min.	**0.007058**	**154.0**
Max.	**0.007425**	**219.3**
Number of Spec.	**30**	**30**


Laminate Filled-Hole Tension Properties (FHT3)--ETW2 (250°F)
Normalized Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Filled-Hole Tension Strength [ksi]
0
5
10
15
20
25
0
1
2
3
4
5
6
0
50
100
150
200
250

4.23 "25/50/25" Open-Hole Compression 1 Properties (OHC1)

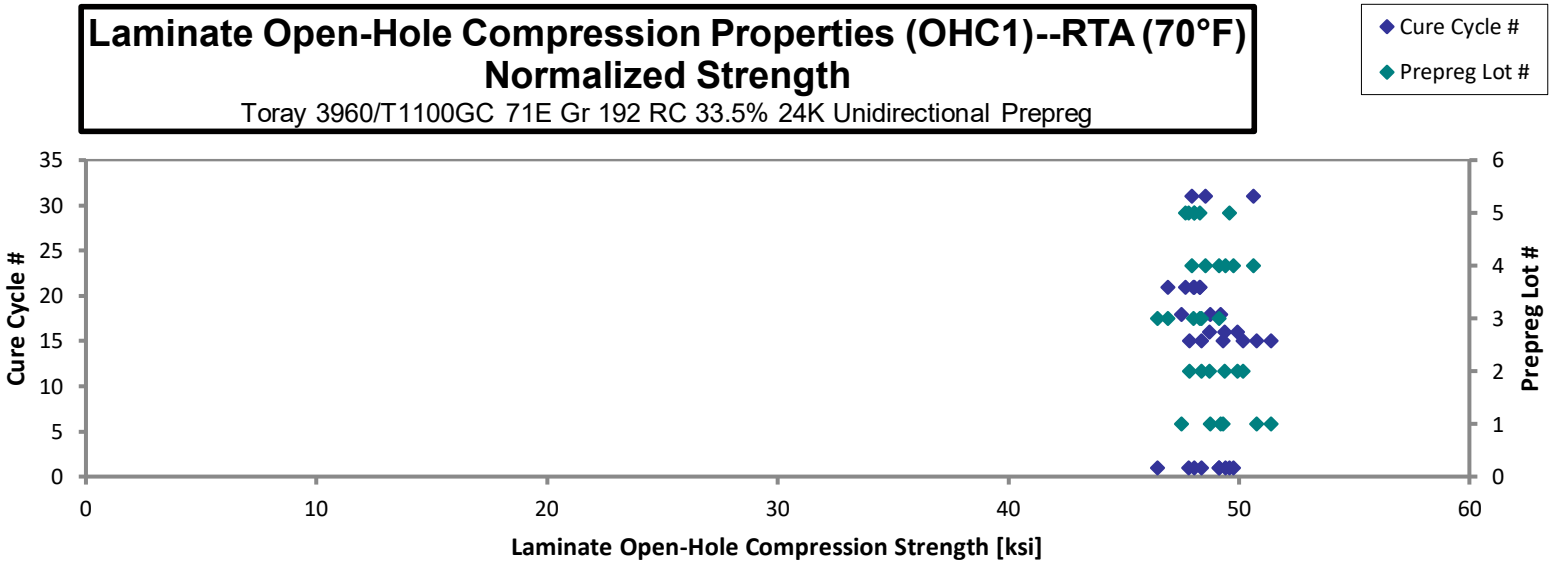
Laminate Open-Hole Compression Properties (OHC1)--RTA (70°F)
Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

normalizing t_{ply} [in]
0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]
NTP3961Q1-TC-T01-BT-OHC1-A-C15-1-RTA-1	A	C15	1	15	50.81	0.1678	24	LGM	0.006990	49.33
NTP3961Q1-TC-T01-BT-OHC1-A-C15-1-RTA-2	A	C15	1	15	51.39	0.1728	24	LGM	0.007201	51.40
NTP3961Q1-TC-T01-BT-OHC1-A-C15-1-RTA-3	A	C15	1	15	50.19	0.1748	24	LGM	0.007284	50.77
NTP3961Q1-TC-T01-BT-OHC1-A-C18-1-RTA-1	A	C18	1	18	47.34	0.1779	24	LGM	0.007413	48.74
NTP3961Q1-TC-T01-BT-OHC1-A-C18-1-RTA-2	A	C18	1	18	46.64	0.1760	24	LGM	0.007333	47.50
NTP3961Q1-TC-T01-BT-OHC1-A-C18-1-RTA-3	A	C18	1	18	48.33	0.1759	24	LGM	0.007329	49.20
NTP3961Q1-TC-T01-BT-OHC1-B-C15-1-RTA-1	B	C15	2	15	48.84	0.1776	24	LGM	0.007398	50.19
NTP3961Q1-TC-T01-BT-OHC1-B-C15-1-RTA-2	B	C15	2	15	46.19	0.1791	24	LGM	0.007461	47.86
NTP3961Q1-TC-T01-BT-OHC1-B-C15-1-RTA-3	B	C15	2	15	47.05	0.1776	24	LGM	0.007401	48.37
NTP3961Q1-TC-T01-BT-OHC1-B-C16-1-RTA-1	B	C16	2	16	49.09	0.1758	24	LGM	0.007323	49.93
NTP3961Q1-TC-T01-BT-OHC1-B-C16-1-RTA-2	B	C16	2	16	48.05	0.1776	24	LGM	0.007399	49.38
NTP3961Q1-TC-T01-BT-OHC1-B-C16-1-RTA-3	B	C16	2	16	46.82	0.1798	24	LGM	0.007490	48.70
NTP3961Q1-TC-T01-TC-OHC1-C-C1-2-RTA-1	C	C1	3	1	46.09	0.1742	24	LGM	0.007260	46.47
NTP3961Q1-TC-T01-TC-OHC1-C-C1-2-RTA-2	C	C1	3	1	48.51	0.1751	24	LGM	0.007295	49.15
NTP3961Q1-TC-T01-TC-OHC1-C-C1-2-RTA-3	C	C1	3	1	47.26	0.1769	24	LGM	0.007370	48.38
NTP3961Q1-TC-T01-TC-OHC1-C-C21-2-RTA-1	C	C21	3	21	46.55	0.1742	24	LGM	0.007257	46.92
NTP3961Q1-TC-T01-TC-OHC1-C-C21-2-RTA-2	C	C21	3	21	47.69	0.1740	24	LGM	0.007251	48.03
NTP3961Q1-TC-T01-TC-OHC1-C-C21-2-RTA-3	C	C21	3	21	47.87	0.1744	24	LGM	0.007267	48.32
NTP3961Q1-TC-T01-TC-OHC1-D-C1-2-RTA-1	D	C1	4	1	49.14	0.1750	24	LGM	0.007291	49.76
NTP3961Q1-TC-T01-TC-OHC1-D-C1-2-RTA-2	D	C1	4	1	48.78	0.1741	24	LGM	0.007253	49.14
NTP3961Q1-TC-T01-TC-OHC1-D-C1-2-RTA-3	D	C1	4	1	49.10	0.1739	24	LGM	0.007245	49.41
NTP3961Q1-TC-T01-TC-OHC1-D-C31-2-RTA-1	D	C31	4	31	47.28	0.1753	24	LGM	0.007303	47.95
NTP3961Q1-TC-T01-TC-OHC1-D-C31-2-RTA-2	D	C31	4	31	50.29	0.1740	24	LGM	0.007250	50.64
NTP3961Q1-TC-T01-TC-OHC1-D-C31-2-RTA-3	D	C31	4	31	48.06	0.1745	24	LGM	0.007271	48.54
NTP3961Q1-TC-T01-TC-OHC1-E-C1-2-RTA-1	E	C1	5	1	49.48	0.1731	24	LGM	0.007214	49.57
NTP3961Q1-TC-T01-TC-OHC1-E-C1-2-RTA-2	E	C1	5	1	47.78	0.1730	24	LGM	0.007207	47.82
NTP3961Q1-TC-T01-TC-OHC1-E-C1-2-RTA-3	E	C1	5	1	47.60	0.1745	24	LGM	0.007269	48.06
NTP3961Q1-TC-T01-TC-OHC1-E-C21-2-RTA-1	E	C21	5	21	47.69	0.1728	24	LGM	0.007200	47.69
NTP3961Q1-TC-T01-TC-OHC1-E-C21-2-RTA-2	E	C21	5	21	47.47	0.1750	24	LGM	0.007290	48.06
NTP3961Q1-TC-T01-TC-OHC1-E-C21-2-RTA-3	E	C21	5	21	47.82	0.1745	24	LGM	0.007271	48.29

Average	**48.17**	
Standard Dev.	**1.333**	
Coeff. of Var. [%]	**2.767**	
Min.	**46.09**	
Max.	**51.39**	
Number of Spec.	**30**	

$Average_{norm}$	**0.007293**	**48.79**
Standard $Dev._{norm}$		**1.132**
Coeff. of Var. $[\%]_{norm}$		**2.321**
Min.	**0.006990**	**46.47**
Max.	**0.007490**	**51.40**
Number of Spec.	**30**	**30**


Laminate Open-Hole Compression Properties (OHC1)--RTA (70°F)
Normalized Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Open-Hole Compression Strength [ksi]
0
5
10
15
20
25
30
35
0
1
2
3
4
5
6
0
10
20
30
40
50
60

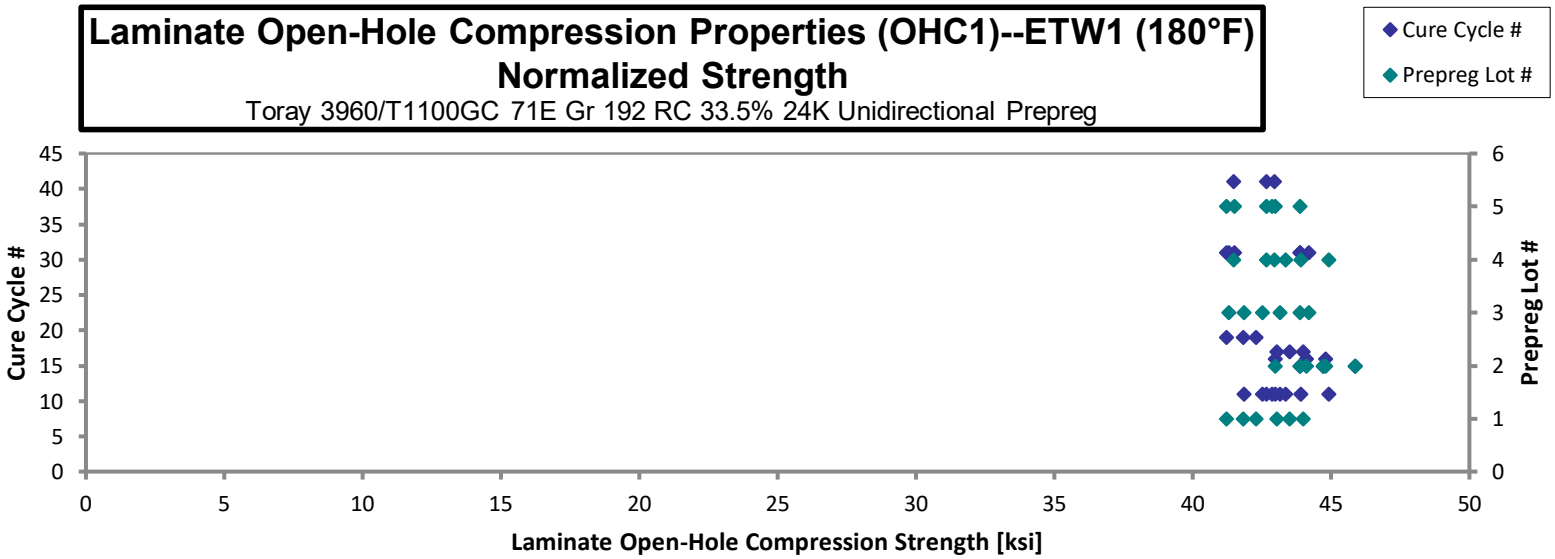
Laminate Open-Hole Compression Properties (OHC1)--ETW1 (180°F)
Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

normalizing t_{ply} [in]
0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]
NTP3961Q1-TC-T01-BT-OHC1-A-C17-1-ETW1-1	A	C17	1	17	45.53	0.1651	24	LGM	0.006879	43.50
NTP3961Q1-TC-T01-BT-OHC1-A-C17-1-ETW1-2	A	C17	1	17	43.34	0.1716	24	LGM	0.007148	43.03
NTP3961Q1-TC-T01-BT-OHC1-A-C17-1-ETW1-3	A	C17	1	17	43.75	0.1738	24	LGM	0.007240	43.99
NTP3961Q1-TC-T01-BT-OHC1-A-C19-1-ETW1-1	A	C19	1	19	41.03	0.1781	24	LGM	0.007422	42.30
NTP3961Q1-TC-T01-BT-OHC1-A-C19-1-ETW1-2	A	C19	1	19	40.71	0.1775	24	LGM	0.007396	41.82
NTP3961Q1-TC-T01-BT-OHC1-A-C19-1-ETW1-4	A	C19	1	19	40.12	0.1775	24	LGM	0.007395	41.21
NTP3961Q1-TC-T01-BT-OHC1-B-C15-2-ETW1-3	B	C15	2	15	42.61	0.1780	24	LGM	0.007415	43.88
NTP3961Q1-TC-T01-BT-OHC1-B-C15-2-ETW1-4	B	C15	2	15	43.40	0.1781	24	LGM	0.007419	44.72
NTP3961Q1-TC-T01-BT-OHC1-B-C15-2-ETW1-5	B	C15	2	15	44.65	0.1775	24	LGM	0.007394	45.85
NTP3961Q1-TC-T01-BT-OHC1-B-C16-2-ETW1-1	B	C16	2	16	43.79	0.1768	24	LGM	0.007365	44.79
NTP3961Q1-TC-T01-BT-OHC1-B-C16-2-ETW1-2	B	C16	2	16	42.68	0.1786	24	LGM	0.007440	44.10
NTP3961Q1-TC-T01-BT-OHC1-B-C16-2-ETW1-3	B	C16	2	16	41.87	0.1774	24	LGM	0.007392	42.99
NTP3961Q1-TC-T01-TC-OHC1-C-C11-2-ETW1-1	C	C11	3	11	42.74	0.1745	24	LGM	0.007270	43.16
NTP3961Q1-TC-T01-TC-OHC1-C-C11-2-ETW1-2	C	C11	3	11	41.29	0.1751	24	LGM	0.007297	41.85
NTP3961Q1-TC-T01-TC-OHC1-C-C11-2-ETW1-3	C	C11	3	11	41.98	0.1750	24	LGM	0.007291	42.51
NTP3961Q1-TC-T01-TC-OHC1-C-C31-2-ETW1-1	C	C31	3	31	41.27	0.1730	24	LGM	0.007206	41.31
NTP3961Q1-TC-T01-TC-OHC1-C-C31-2-ETW1-2	C	C31	3	31	43.61	0.1738	24	LGM	0.007243	43.87
NTP3961Q1-TC-T01-TC-OHC1-C-C31-2-ETW1-3	C	C31	3	31	43.79	0.1744	24	LGM	0.007267	44.20
NTP3961Q1-TC-T01-TC-OHC1-D-C11-2-ETW1-1	D	C11	4	11	43.77	0.1734	24	LGM	0.007223	43.91
NTP3961Q1-TC-T01-TC-OHC1-D-C11-2-ETW1-2	D	C11	4	11	43.16	0.1736	24	LGM	0.007232	43.35
NTP3961Q1-TC-T01-TC-OHC1-D-C11-2-ETW1-3	D	C11	4	11	44.83	0.1731	24	LGM	0.007213	44.91
NTP3961Q1-TC-T01-TC-OHC1-D-C41-2-ETW1-1	D	C41	4	41	42.42	0.1738	24	LGM	0.007242	42.67
NTP3961Q1-TC-T01-TC-OHC1-D-C41-2-ETW1-2	D	C41	4	41	41.08	0.1745	24	LGM	0.007269	41.47
NTP3961Q1-TC-T01-TC-OHC1-D-C41-2-ETW1-3	D	C41	4	41	42.93	0.1729	24	LGM	0.007204	42.95
NTP3961Q1-TC-T01-TC-OHC1-E-C11-2-ETW1-1	E	C11	5	11	42.77	0.1736	24	LGM	0.007234	42.97
NTP3961Q1-TC-T01-TC-OHC1-E-C11-2-ETW1-2	E	C11	5	11	42.52	0.1742	24	LGM	0.007258	42.86
NTP3961Q1-TC-T01-TC-OHC1-E-C11-2-ETW1-3	E	C11	5	11	42.48	0.1735	24	LGM	0.007228	42.65
NTP3961Q1-TC-T01-TC-OHC1-E-C31-2-ETW1-1	E	C31	5	31	41.54	0.1726	24	LGM	0.007192	41.49
NTP3961Q1-TC-T01-TC-OHC1-E-C31-2-ETW1-2	E	C31	5	31	41.07	0.1734	24	LGM	0.007226	41.22
NTP3961Q1-TC-T01-TC-OHC1-E-C31-2-ETW1-3	E	C31	5	31	43.62	0.1738	24	LGM	0.007240	43.86

Average	**42.68**	
Standard Dev.	**1.303**	
Coeff. of Var. [%]	**3.053**	
Min.	**40.12**	
Max.	**45.53**	
Number of Spec.	**30**	

$Average_{norm}$	**0.007275**	**43.11**
Standard $Dev._{norm}$		**1.208**
Coeff. of Var. $[\%]_{norm}$		**2.801**
Min.	**0.006879**	**41.21**
Max.	**0.007440**	**45.85**
Number of Spec.	**30**	**30**


Laminate Open-Hole Compression Properties (OHC1)--ETW1 (180°F)
Normalized Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Open-Hole Compression Strength [ksi]
0
5
10
15
20
25
30
35
40
45
50
0
1
2
3
4
5
6

Laminate Open-Hole Compression Properties (OHC1)--ETW2 (250°F)
Strength

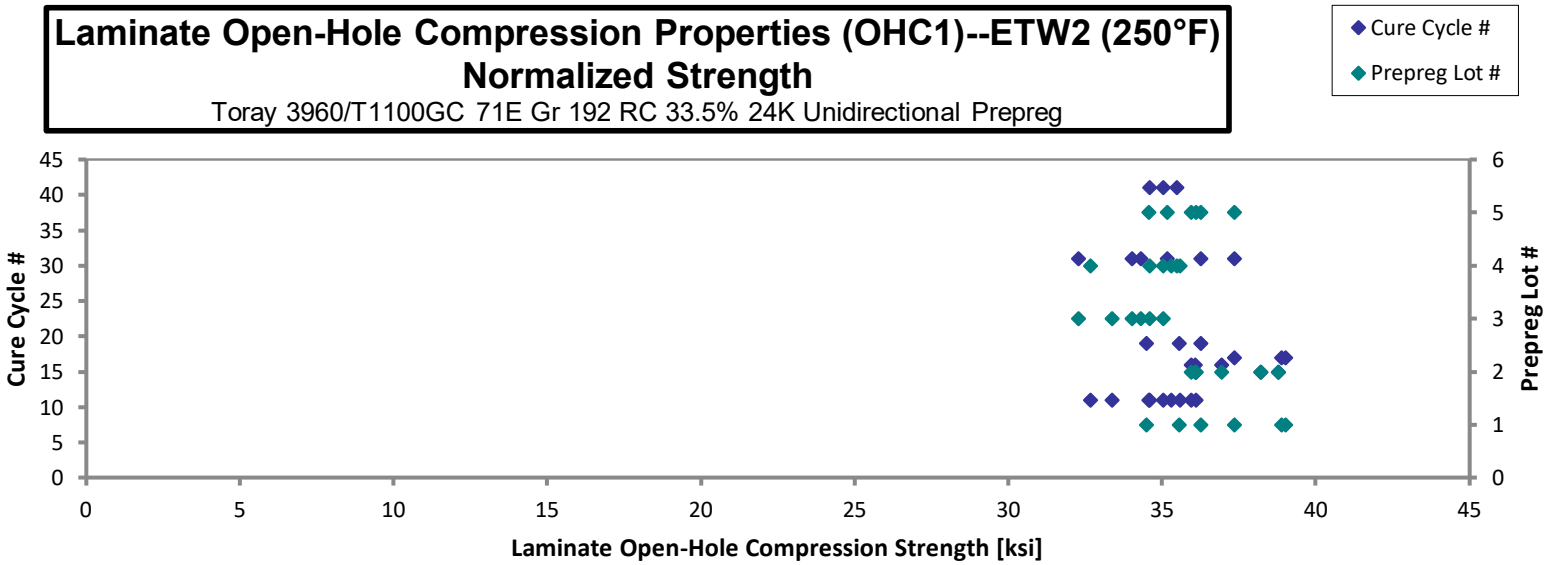
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

normalizing t_{ply} [in]
0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]
NTP3961Q1-TC-T01-BT-OHC1-A-C17-1-ETW2-1	A	C17	1	17	37.31	0.1730	24	LGM	0.007209	37.36
NTP3961Q1-TC-T01-BT-OHC1-A-C17-1-ETW2-2	A	C17	1	17	38.53	0.1745	24	LGM	0.007270	38.90
NTP3961Q1-TC-T01-BT-OHC1-A-C17-1-ETW2-3	A	C17	1	17	39.02	0.1728	24	LGM	0.007199	39.02
NTP3961Q1-TC-T01-BT-OHC1-A-C19-1-ETW2-1	A	C19	1	19	35.16	0.1783	24	LGM	0.007427	36.27
NTP3961Q1-TC-T01-BT-OHC1-A-C19-1-ETW2-2	A	C19	1	19	34.57	0.1777	24	LGM	0.007405	35.56
NTP3961Q1-TC-T01-BT-OHC1-A-C19-1-ETW2-3	A	C19	1	19	33.60	0.1775	24	LGM	0.007394	34.51
NTP3961Q1-TC-T01-BT-OHC1-B-C15-2-ETW2-1	B	C15	2	15	37.82	0.1773	24	LGM	0.007385	38.79
NTP3961Q1-TC-T01-BT-OHC1-B-C15-2-ETW2-2	B	C15	2	15	35.42	0.1762	24	LGM	0.007343	36.12
NTP3961Q1-TC-T01-BT-OHC1-B-C15-2-ETW2-3	B	C15	2	15	37.36	0.1768	24	LGM	0.007368	38.23
NTP3961Q1-TC-T01-BT-OHC1-B-C16-2-ETW2-1	B	C16	2	16	34.84	0.1784	24	LGM	0.007433	35.97
NTP3961Q1-TC-T01-BT-OHC1-B-C16-2-ETW2-2	B	C16	2	16	35.97	0.1775	24	LGM	0.007394	36.94
NTP3961Q1-TC-T01-BT-OHC1-B-C16-2-ETW2-3	B	C16	2	16	35.10	0.1777	24	LGM	0.007404	36.10
NTP3961Q1-TC-T01-TC-OHC1-C-C11-2-ETW2-1	C	C11	3	11	32.92	0.1752	24	LGM	0.007300	33.38
NTP3961Q1-TC-T01-TC-OHC1-C-C11-2-ETW2-2	C	C11	3	11	34.40	0.1761	24	LGM	0.007336	35.05
NTP3961Q1-TC-T01-TC-OHC1-C-C11-2-ETW2-3	C	C11	3	11	33.94	0.1762	24	LGM	0.007342	34.61
NTP3961Q1-TC-T01-TC-OHC1-C-C31-2-ETW2-1	C	C31	3	31	32.07	0.1740	24	LGM	0.007248	32.29
NTP3961Q1-TC-T01-TC-OHC1-C-C31-2-ETW2-2	C	C31	3	31	33.87	0.1737	24	LGM	0.007235	34.04
NTP3961Q1-TC-T01-TC-OHC1-C-C31-2-ETW2-3	C	C31	3	31	33.69	0.1761	24	LGM	0.007336	34.33
NTP3961Q1-TC-T01-TC-OHC1-D-C11-2-ETW2-1	D	C11	4	11	35.54	0.1731	24	LGM	0.007212	35.60
NTP3961Q1-TC-T01-TC-OHC1-D-C11-2-ETW2-2	D	C11	4	11	32.64	0.1731	24	LGM	0.007211	32.69
NTP3961Q1-TC-T01-TC-OHC1-D-C11-2-ETW2-3	D	C11	4	11	35.29	0.1729	24	LGM	0.007203	35.31
NTP3961Q1-TC-T01-TC-OHC1-D-C41-2-ETW2-1	D	C41	4	41	35.31	0.1737	24	LGM	0.007238	35.49
NTP3961Q1-TC-T01-TC-OHC1-D-C41-2-ETW2-2	D	C41	4	41	34.31	0.1743	24	LGM	0.007264	34.61
NTP3961Q1-TC-T01-TC-OHC1-D-C41-2-ETW2-3	D	C41	4	41	35.06	0.1728	24	LGM	0.007199	35.06
NTP3961Q1-TC-T01-TC-OHC1-E-C11-2-ETW2-1	E	C11	5	11	35.71	0.1747	24	LGM	0.007280	36.11
NTP3961Q1-TC-T01-TC-OHC1-E-C11-2-ETW2-2	E	C11	5	11	35.54	0.1748	24	LGM	0.007284	35.95
NTP3961Q1-TC-T01-TC-OHC1-E-C11-2-ETW2-3	E	C11	5	11	34.55	0.1730	24	LGM	0.007208	34.59
NTP3961Q1-TC-T01-TC-OHC1-E-C31-2-ETW2-1	E	C31	5	31	36.85	0.1752	24	LGM	0.007299	37.36
NTP3961Q1-TC-T01-TC-OHC1-E-C31-2-ETW2-2	E	C31	5	31	35.97	0.1743	24	LGM	0.007260	36.27
NTP3961Q1-TC-T01-TC-OHC1-E-C31-2-ETW2-3	E	C31	5	31	34.97	0.1738	24	LGM	0.007242	35.17

Average	**35.24**	
Standard Dev.	**1.643**	
Coeff. of Var. [%]	**4.662**	
Min.	**32.07**	
Max.	**39.02**	
Number of Spec.	**30**	

$Average_{norm}$	**0.007298**	**35.72**
$Standard\ Dev._{norm}$		**1.689**
$Coeff.\ of\ Var.\ [\%]_{norm}$		**4.727**
Min.	**0.007199**	**32.29**
Max.	**0.007433**	**39.02**
Number of Spec.	**30**	**30**


Laminate Open-Hole Compression Properties (OHC1)--ETW2 (250°F)
Normalized Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Open-Hole Compression Strength [ksi]
0
5
10
15
20
25
30
35
40
45
0
1
2
3
4
5
6

4.24 "10/80/10" Open-Hole Compression 2 Properties (OHC2)

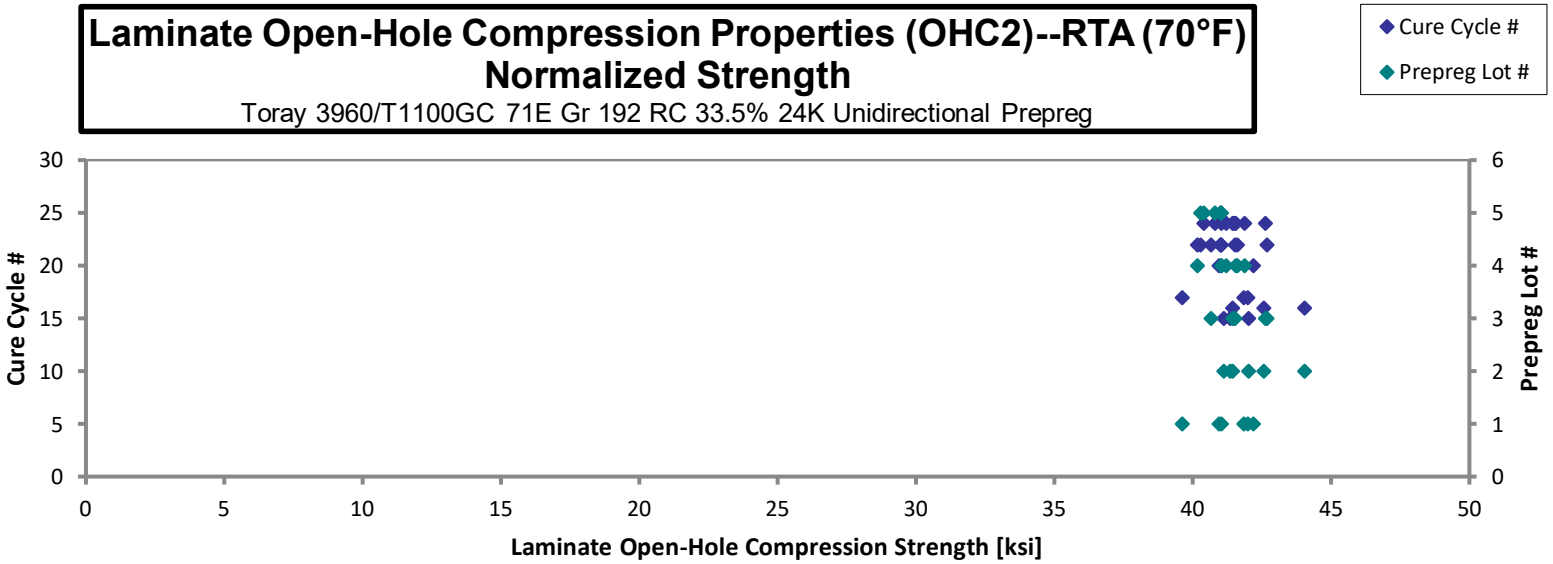
Laminate Open-Hole Compression Properties (OHC2)--RTA (70°F)
Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

normalizing t_{ply} [in]
0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]
NTP3961Q1-TC-T01-BT-OHC2-A-C17-1-RTA-1	A	C17	1	17	40.66	0.1403	20	AGM	0.007017	39.62
NTP3961Q1-TC-T01-BT-OHC2-A-C17-1-RTA-3	A	C17	1	17	41.51	0.1458	20	AGM	0.007288	42.01
NTP3961Q1-TC-T01-BT-OHC2-A-C17-1-RTA-4	A	C17	1	17	41.30	0.1460	20	AGM	0.007298	41.86
NTP3961Q1-TC-T01-BT-OHC2-A-C20-1-RTA-1	A	C20	1	20	41.91	0.1450	20	AGM	0.007249	42.20
NTP3961Q1-TC-T01-BT-OHC2-A-C20-1-RTA-2	A	C20	1	20	39.94	0.1477	20	AGM	0.007386	40.97
NTP3961Q1-TC-T01-BT-OHC2-A-C20-1-RTA-3	A	C20	1	20	40.08	0.1475	20	AGM	0.007373	41.04
NTP3961Q1-TC-T01-BT-OHC2-B-C15-1-RTA-1	B	C15	2	15	40.75	0.1486	20	LGM	0.007428	42.04
NTP3961Q1-TC-T01-BT-OHC2-B-C15-1-RTA-2	B	C15	2	15	39.83	0.1496	20	LGM	0.007478	41.37
NTP3961Q1-TC-T01-BT-OHC2-B-C15-1-RTA-3	B	C15	2	15	39.65	0.1494	20	LGM	0.007471	41.14
NTP3961Q1-TC-T01-BT-OHC2-B-C16-1-RTA-1	B	C16	2	16	42.96	0.1477	20	LGM	0.007385	44.06
NTP3961Q1-TC-T01-BT-OHC2-B-C16-1-RTA-2	B	C16	2	16	41.77	0.1468	20	LGM	0.007340	42.58
NTP3961Q1-TC-T01-BT-OHC2-B-C16-1-RTA-3	B	C16	2	16	40.28	0.1482	20	LGM	0.007410	41.45
NTP3961Q1-TC-T01-TC-OHC2-C-C22-1-RTA-1	C	C22	3	22	41.16	0.1453	20	AGM	0.007266	41.53
NTP3961Q1-TC-T01-TC-OHC2-C-C22-1-RTA-2	C	C22	3	22	41.98	0.1465	20	AGM	0.007323	42.69
NTP3961Q1-TC-T01-TC-OHC2-C-C22-1-RTA-3	C	C22	3	22	40.02	0.1463	20	AGM	0.007316	40.66
NTP3961Q1-TC-T01-TC-OHC2-C-C24-1-RTA-1	C	C24	3	24	41.15	0.1453	20	AGM	0.007265	41.52
NTP3961Q1-TC-T01-TC-OHC2-C-C24-1-RTA-2	C	C24	3	24	42.48	0.1446	20	AGM	0.007228	42.65
NTP3961Q1-TC-T01-TC-OHC2-C-C24-1-RTA-3	C	C24	3	24	41.07	0.1453	20	AGM	0.007265	41.44
NTP3961Q1-TC-T01-TC-OHC2-D-C22-1-RTA-1	D	C22	4	22	41.30	0.1431	20	LGM	0.007154	41.04
NTP3961Q1-TC-T01-TC-OHC2-D-C22-1-RTA-2	D	C22	4	22	40.13	0.1442	20	LGM	0.007208	40.17
NTP3961Q1-TC-T01-TC-OHC2-D-C22-1-RTA-3	D	C22	4	22	41.42	0.1447	20	LGM	0.007234	41.62
NTP3961Q1-TC-T01-TC-OHC2-D-C24-1-RTA-1	D	C24	4	24	40.93	0.1450	20	LGM	0.007250	41.21
NTP3961Q1-TC-T01-TC-OHC2-D-C24-1-RTA-2	D	C24	4	24	41.58	0.1450	20	LGM	0.007252	41.88
NTP3961Q1-TC-T01-TC-OHC2-D-C24-1-RTA-3	D	C24	4	24	41.45	0.1444	20	LGM	0.007220	41.57
NTP3961Q1-TC-T01-TC-OHC2-E-C22-1-RTA-1	E	C22	5	22	40.99	0.1441	20	LGM	0.007204	41.01
NTP3961Q1-TC-T01-TC-OHC2-E-C22-1-RTA-2	E	C22	5	22	40.28	0.1440	20	AGM	0.007202	40.29
NTP3961Q1-TC-T01-TC-OHC2-E-C22-1-RTA-3	E	C22	5	22	40.77	0.1449	20	LGM	0.007243	41.01
NTP3961Q1-TC-T01-TC-OHC2-E-C24-1-RTA-1	E	C24	5	24	40.10	0.1452	20	LGM	0.007258	40.42
NTP3961Q1-TC-T01-TC-OHC2-E-C24-1-RTA-2	E	C24	5	24	41.01	0.1441	20	LGM	0.007204	41.03
NTP3961Q1-TC-T01-TC-OHC2-E-C24-1-RTA-3	E	C24	5	24	40.89	0.1437	20	LGM	0.007186	40.81

Average	**40.98**	
Standard Dev.	**0.8005**	
Coeff. of Var. [%]	**1.953**	
Min.	**39.65**	
Max.	**42.96**	
Number of Spec.	**30**	

$Average_{norm}$	**0.007280**	**41.43**
Standard $Dev._{norm}$		**0.8788**
Coeff. of Var. $[\%]_{norm}$		**2.121**
Min.	**0.007017**	**39.62**
Max.	**0.007478**	**44.06**
Number of Spec.	**30**	**30**


Laminate Open-Hole Compression Properties (OHC2)--RTA (70°F)
Normalized Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Open-Hole Compression Strength [ksi]
0
5
10
15
20
25
30
35
40
45
50
0
1
2
3
4
5
6

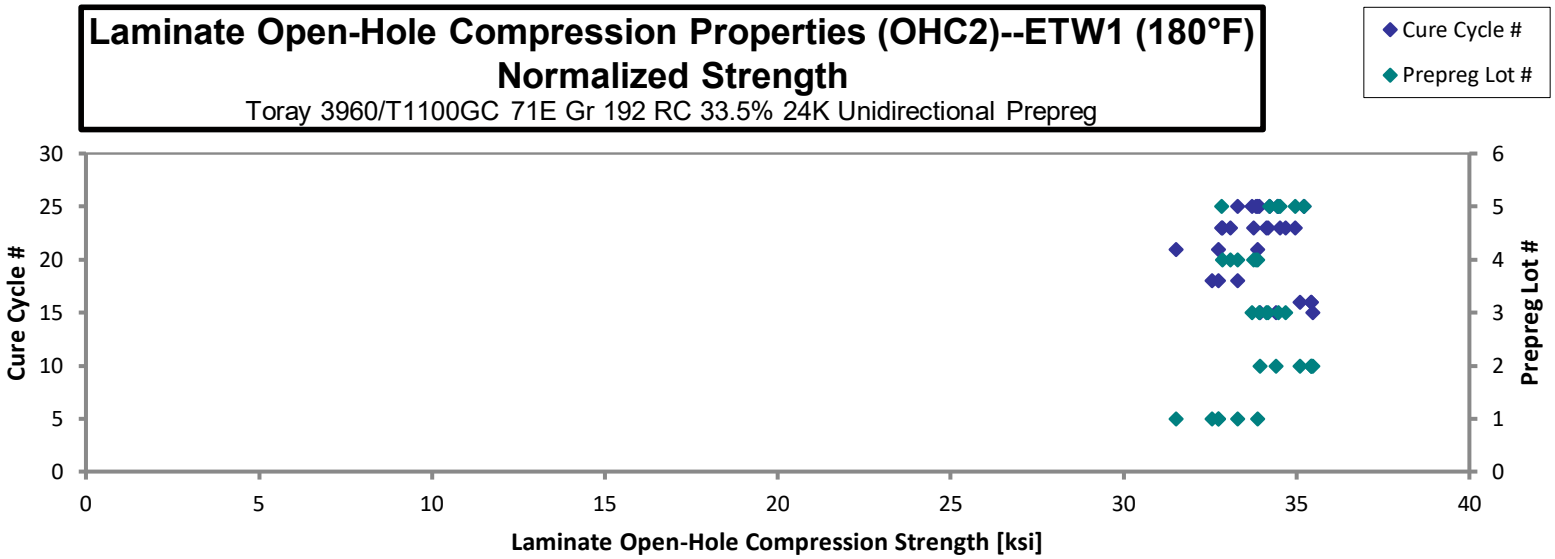
Laminate Open-Hole Compression Properties (OHC2)--ETW1 (180°F)
Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

normalizing t_{ply} [in]
0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]
NTP3961Q1-TC-T01-BT-OHC2-A-C18-1-ETW1-1	A	C18	1	18	31.89	0.1470	20	AGM	0.007348	32.55
NTP3961Q1-TC-T01-BT-OHC2-A-C18-1-ETW1-2	A	C18	1	18	32.11	0.1468	20	AGM	0.007340	32.73
NTP3961Q1-TC-T01-BT-OHC2-A-C18-1-ETW1-3	A	C18	1	18	32.22	0.1488	20	LGM	0.007441	33.30
NTP3961Q1-TC-T01-BT-OHC2-A-C21-1-ETW1-1	A	C21	1	21	30.89	0.1469	20	LGM	0.007344	31.51
NTP3961Q1-TC-T01-BT-OHC2-A-C21-1-ETW1-2	A	C21	1	21	31.93	0.1477	20	AGM	0.007384	32.75
NTP3961Q1-TC-T01-BT-OHC2-A-C21-1-ETW1-3	A	C21	1	21	33.37	0.1462	20	AGM	0.007310	33.88
NTP3961Q1-TC-T01-BT-OHC2-B-C15-2-ETW1-1	B	C15	2	15	33.14	0.1495	20	LGM	0.007475	34.41
NTP3961Q1-TC-T01-BT-OHC2-B-C15-2-ETW1-2	B	C15	2	15	32.90	0.1486	20	LGM	0.007430	33.95
NTP3961Q1-TC-T01-BT-OHC2-B-C15-2-ETW1-3	B	C15	2	15	34.45	0.1483	20	LGM	0.007413	35.47
NTP3961Q1-TC-T01-BT-OHC2-B-C16-2-ETW1-1	B	C16	2	16	34.42	0.1469	20	AGM	0.007343	35.10
NTP3961Q1-TC-T01-BT-OHC2-B-C16-2-ETW1-2	B	C16	2	16	34.74	0.1469	20	AGM	0.007343	35.43
NTP3961Q1-TC-T01-BT-OHC2-B-C16-2-ETW1-3	B	C16	2	16	34.15	0.1494	20	AGM	0.007468	35.42
NTP3961Q1-TC-T01-TC-OHC2-C-C23-1-ETW1-1	C	C23	3	23	34.46	0.1449	20	MGM	0.007245	34.68
NTP3961Q1-TC-T01-TC-OHC2-C-C23-1-ETW1-2	C	C23	3	23	33.94	0.1450	20	MGM	0.007252	34.18
NTP3961Q1-TC-T01-TC-OHC2-C-C23-1-ETW1-3	C	C23	3	23	33.92	0.1449	20	MGM	0.007245	34.13
NTP3961Q1-TC-T01-TC-OHC2-C-C25-1-ETW1-1	C	C25	3	25	34.11	0.1456	20	MGM	0.007278	34.48
NTP3961Q1-TC-T01-TC-OHC2-C-C25-1-ETW1-2	C	C25	3	25	33.68	0.1450	20	MGM	0.007251	33.92
NTP3961Q1-TC-T01-TC-OHC2-C-C25-1-ETW1-3	C	C25	3	25	33.26	0.1459	20	MGM	0.007297	33.71
NTP3961Q1-TC-T01-TC-OHC2-D-C23-1-ETW1-1	D	C23	4	23	33.60	0.1447	20	LGM	0.007235	33.76
NTP3961Q1-TC-T01-TC-OHC2-D-C23-1-ETW1-2	D	C23	4	23	32.67	0.1448	20	LGM	0.007239	32.85
NTP3961Q1-TC-T01-TC-OHC2-D-C23-1-ETW1-3	D	C23	4	23	32.88	0.1449	20	LGM	0.007247	33.09
NTP3961Q1-TC-T01-TC-OHC2-D-C25-1-ETW1-1	D	C25	4	25	33.45	0.1458	20	LGM	0.007291	33.87
NTP3961Q1-TC-T01-TC-OHC2-D-C25-1-ETW1-2	D	C25	4	25	32.83	0.1460	20	LGM	0.007302	33.29
NTP3961Q1-TC-T01-TC-OHC2-D-C25-1-ETW1-3	D	C25	4	25	33.63	0.1449	20	LGM	0.007243	33.83
NTP3961Q1-TC-T01-TC-OHC2-E-C23-1-ETW1-1	E	C23	5	23	32.74	0.1444	20	LGM	0.007221	32.83
NTP3961Q1-TC-T01-TC-OHC2-E-C23-1-ETW1-2	E	C23	5	23	34.84	0.1445	20	LGM	0.007224	34.96
NTP3961Q1-TC-T01-TC-OHC2-E-C23-1-ETW1-3	E	C23	5	23	34.63	0.1436	20	LGM	0.007178	34.52
NTP3961Q1-TC-T01-TC-OHC2-E-C25-1-ETW1-1	E	C25	5	25	34.23	0.1449	20	LGM	0.007246	34.45
NTP3961Q1-TC-T01-TC-OHC2-E-C25-1-ETW1-2	E	C25	5	25	34.13	0.1444	20	LGM	0.007221	34.23
NTP3961Q1-TC-T01-TC-OHC2-E-C25-1-ETW1-3	E	C25	5	25	35.18	0.1441	20	LGM	0.007205	35.20

Average	**33.48**	
Standard Dev.	**1.023**	
Coeff. of Var. [%]	**3.056**	
Min.	**30.89**	
Max.	**35.18**	
Number of Spec.	**30**	

$Average_{norm}$	**0.007302**	**33.95**
Standard $Dev._{norm}$		**0.9714**
Coeff. of Var. $[\%]_{norm}$		**2.861**
Min.	**0.007178**	**31.51**
Max.	**0.007475**	**35.47**
Number of Spec.	**30**	**30**


Laminate Open-Hole Compression Properties (OHC2)--ETW1 (180°F)
Normalized Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Open-Hole Compression Strength [ksi]
0
5
10
15
20
25
30
35
40
0
1
2
3
4
5
6

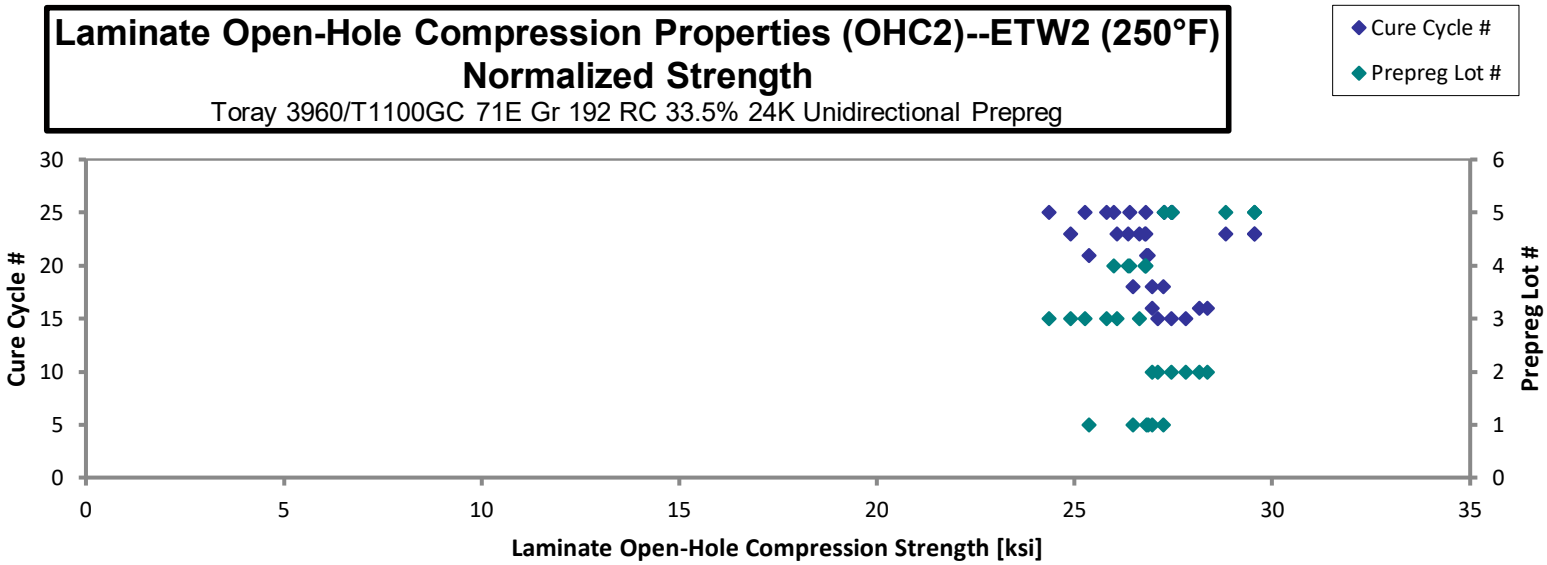
Laminate Open-Hole Compression Properties (OHC2)--ETW2 (250°F)
Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

normalizing t_{ply} [in]
0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]
NTP3961Q1-TC-T01-BT-OHC2-A-C18-1-ETW2-1	A	C18	1	18	26.65	0.1457	20	LGM	0.007285	26.96
NTP3961Q1-TC-T01-BT-OHC2-A-C18-1-ETW2-2	A	C18	1	18	25.88	0.1473	20	LGM	0.007363	26.46
NTP3961Q1-TC-T01-BT-OHC2-A-C18-1-ETW2-3	A	C18	1	18	27.12	0.1447	20	LGM	0.007233	27.24
NTP3961Q1-TC-T01-BT-OHC2-A-C21-1-ETW2-1	A	C21	1	21	26.39	0.1466	20	LGM	0.007328	26.86
NTP3961Q1-TC-T01-BT-OHC2-A-C21-1-ETW2-2	A	C21	1	21	26.42	0.1462	20	LGM	0.007310	26.82
NTP3961Q1-TC-T01-BT-OHC2-A-C21-1-ETW2-3	A	C21	1	21	25.01	0.1461	20	LGM	0.007303	25.37
NTP3961Q1-TC-T01-BT-OHC2-B-C15-2-ETW2-1	B	C15	2	15	26.77	0.1476	20	LGM	0.007382	27.44
NTP3961Q1-TC-T01-BT-OHC2-B-C15-2-ETW2-2	B	C15	2	15	26.17	0.1492	20	LGM	0.007458	27.11
NTP3961Q1-TC-T01-BT-OHC2-B-C15-2-ETW2-3	B	C15	2	15	26.89	0.1489	20	LGM	0.007446	27.81
NTP3961Q1-TC-T01-BT-OHC2-B-C16-2-ETW2-1	B	C16	2	16	26.05	0.1491	20	LGM	0.007453	26.96
NTP3961Q1-TC-T01-BT-OHC2-B-C16-2-ETW2-2	B	C16	2	16	27.38	0.1480	20	LGM	0.007402	28.15
NTP3961Q1-TC-T01-BT-OHC2-B-C16-2-ETW2-3	B	C16	2	16	27.14	0.1504	20	LGM	0.007520	28.35
NTP3961Q1-TC-T01-TC-OHC2-C-C23-1-ETW2-1	C	C23	3	23	26.47	0.1449	20	LGM	0.007243	26.63
NTP3961Q1-TC-T01-TC-OHC2-C-C23-1-ETW2-2	C	C23	3	23	24.74	0.1449	20	LGM	0.007243	24.89
NTP3961Q1-TC-T01-TC-OHC2-C-C23-1-ETW2-3	C	C23	3	23	25.96	0.1446	20	LGM	0.007229	26.06
NTP3961Q1-TC-T01-TC-OHC2-C-C25-1-ETW2-1	C	C25	3	25	24.46	0.1433	20	LGM	0.007167	24.35
NTP3961Q1-TC-T01-TC-OHC2-C-C25-1-ETW2-2	C	C25	3	25	25.09	0.1449	20	LGM	0.007247	25.25
NTP3961Q1-TC-T01-TC-OHC2-C-C25-1-ETW2-3	C	C25	3	25	25.67	0.1448	20	LGM	0.007238	25.81
NTP3961Q1-TC-T01-TC-OHC2-D-C23-1-ETW2-1	D	C23	4	23	26.78	0.1441	20	LGM	0.007207	26.80
NTP3961Q1-TC-T01-TC-OHC2-D-C23-1-ETW2-2	D	C23	4	23	26.21	0.1448	20	LGM	0.007239	26.35
NTP3961Q1-TC-T01-TC-OHC2-D-C23-1-ETW2-3	D	C23	4	23	26.63	0.1448	20	LGM	0.007238	26.77
NTP3961Q1-TC-T01-TC-OHC2-D-C25-1-ETW2-1	D	C25	4	25	26.59	0.1451	20	LGM	0.007255	26.79
NTP3961Q1-TC-T01-TC-OHC2-D-C25-1-ETW2-2	D	C25	4	25	25.69	0.1456	20	LGM	0.007280	25.98
NTP3961Q1-TC-T01-TC-OHC2-D-C25-1-ETW2-3	D	C25	4	25	26.27	0.1447	20	LGM	0.007234	26.39
NTP3961Q1-TC-T01-TC-OHC2-E-C23-1-ETW2-1	E	C23	5	23	29.54	0.1440	20	LGM	0.007201	29.54
NTP3961Q1-TC-T01-TC-OHC2-E-C23-1-ETW2-2	E	C23	5	23	29.42	0.1446	20	LGM	0.007230	29.54
NTP3961Q1-TC-T01-TC-OHC2-E-C23-1-ETW2-3	E	C23	5	23	28.60	0.1451	20	LGM	0.007253	28.81
NTP3961Q1-TC-T01-TC-OHC2-E-C25-1-ETW2-1	E	C25	5	25	27.38	0.1443	20	LGM	0.007217	27.44
NTP3961Q1-TC-T01-TC-OHC2-E-C25-1-ETW2-2	E	C25	5	25	27.38	0.1445	20	LGM	0.007223	27.47
NTP3961Q1-TC-T01-TC-OHC2-E-C25-1-ETW2-3	E	C25	5	25	27.02	0.1452	20	LGM	0.007262	27.25

Average	**26.59**	
Standard Dev.	**1.169**	
Coeff. of Var. [%]	**4.395**	
Min.	**24.46**	
Max.	**29.54**	
Number of Spec.	**30**	

$Average_{norm}$	**0.007289**	**26.92**
Standard $Dev._{norm}$		**1.211**
Coeff. of Var. $[\%]_{norm}$		**4.498**
Min.	**0.007167**	**24.35**
Max.	**0.007520**	**29.54**
Number of Spec.	**30**	**30**


Laminate Open-Hole Compression Properties (OHC2)--ETW2 (250°F)
Normalized Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Open-Hole Compression Strength [ksi]
0
5
10
15
20
25
30
35
0
1
2
3
4
5
6

4.25 "50/40/10" Open-Hole Compression 3 Properties (OHC3)

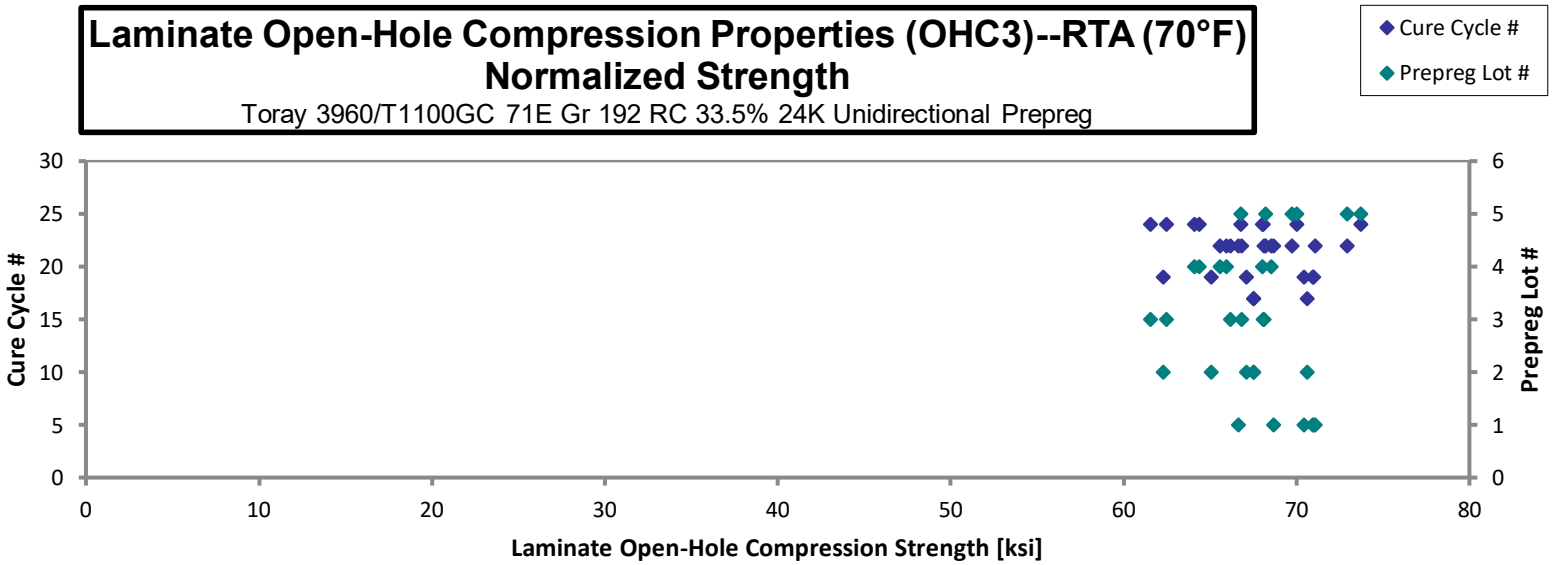
Laminate Open-Hole Compression Properties (OHC3)--RTA (70°F)
Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

normalizing t_{ply} [in]
0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]
NTP3961Q1-TC-T01-BT-OHC3-A-C19-1-RTA-1	A	C19	1	19	68.35	0.1484	20	LGM	0.007420	70.44
NTP3961Q1-TC-T01-BT-OHC3-A-C19-1-RTA-2	A	C19	1	19	69.17	0.1478	20	LGM	0.007390	71.00
NTP3961Q1-TC-T01-BT-OHC3-A-C19-1-RTA-3	A	C19	1	19	68.34	0.1495	20	LGM	0.007475	70.95
NTP3961Q1-TC-T01-BT-OHC3-A-C22-1-RTA-1	A	C22	1	22	67.20	0.1472	20	LGM	0.007358	68.67
NTP3961Q1-TC-T01-BT-OHC3-A-C22-1-RTA-2	A	C22	1	22	64.57	0.1486	20	LGM	0.007428	66.61
NTP3961Q1-TC-T01-BT-OHC3-A-C22-1-RTA-3	A	C22	1	22	69.55	0.1471	20	LGM	0.007356	71.05
NTP3961Q1-TC-T01-BT-OHC3-B-C17-1-RTA-1	B	C17	2	17	66.32	0.1533	20	LGM	0.007665	70.60
NTP3961Q1-TC-T01-BT-OHC3-B-C17-1-RTA-2	B	C17	2	17	64.81	0.1500	20	LGM	0.007500	67.51
NTP3961Q1-TC-T01-BT-OHC3-B-C17-1-RTA-3	B	C17	2	17	64.49	0.1507	20	LGM	0.007535	67.49
NTP3961Q1-TC-T01-BT-OHC3-B-C19-2-RTA-1	B	C19	2	19	63.60	0.1473	20	LGM	0.007365	65.06
NTP3961Q1-TC-T01-BT-OHC3-B-C19-2-RTA-2	B	C19	2	19	61.19	0.1466	20	LGM	0.007330	62.29
NTP3961Q1-TC-T01-BT-OHC3-B-C19-2-RTA-3	B	C19	2	19	65.75	0.1469	20	LGM	0.007345	67.07
NTP3961Q1-TC-T01-TC-OHC3-C-C22-2-RTA-1	C	C22	3	22	65.88	0.1447	20	LGM	0.007233	66.18
NTP3961Q1-TC-T01-TC-OHC3-C-C22-2-RTA-2	C	C22	3	22	68.25	0.1438	20	LGM	0.007188	68.14
NTP3961Q1-TC-T01-TC-OHC3-C-C22-2-RTA-3	C	C22	3	22	66.46	0.1448	20	LGM	0.007238	66.81
NTP3961Q1-TC-T01-TC-OHC3-C-C24-2-RTA-1	C	C24	3	24	61.94	0.1431	20	LGM	0.007154	61.54
NTP3961Q1-TC-T01-TC-OHC3-C-C24-2-RTA-2	C	C24	3	24	62.49	0.1440	20	LGM	0.007199	62.48
NTP3961Q1-TC-T01-TC-OHC3-C-C24-2-RTA-3	C	C24	3	24	68.05	0.1440	20	LGM	0.007200	68.05
NTP3961Q1-TC-T01-TC-OHC3-D-C22-2-RTA-1	D	C22	4	22	65.12	0.1450	20	LGM	0.007251	65.58
NTP3961Q1-TC-T01-TC-OHC3-D-C22-2-RTA-2	D	C22	4	22	68.41	0.1443	20	LGM	0.007215	68.55
NTP3961Q1-TC-T01-TC-OHC3-D-C22-2-RTA-3	D	C22	4	22	65.91	0.1441	20	LGM	0.007205	65.96
NTP3961Q1-TC-T01-TC-OHC3-D-C24-2-RTA-1	D	C24	4	24	63.93	0.1450	20	LGM	0.007250	64.37
NTP3961Q1-TC-T01-TC-OHC3-D-C24-2-RTA-2	D	C24	4	24	67.69	0.1447	20	LGM	0.007236	68.02
NTP3961Q1-TC-T01-TC-OHC3-D-C24-2-RTA-3	D	C24	4	24	64.15	0.1439	20	LGM	0.007194	64.10
NTP3961Q1-TC-T01-TC-OHC3-E-C22-2-RTA-1	E	C22	5	22	70.10	0.1432	20	LGM	0.007161	69.72
NTP3961Q1-TC-T01-TC-OHC3-E-C22-2-RTA-2	E	C22	5	22	72.20	0.1454	20	LGM	0.007272	72.92
NTP3961Q1-TC-T01-TC-OHC3-E-C22-2-RTA-3	E	C22	5	22	67.53	0.1454	20	LGM	0.007271	68.19
NTP3961Q1-TC-T01-TC-OHC3-E-C24-2-RTA-1	E	C24	5	24	70.23	0.1436	20	LGM	0.007178	70.01
NTP3961Q1-TC-T01-TC-OHC3-E-C24-2-RTA-2	E	C24	5	24	66.11	0.1455	20	LGM	0.007274	66.79
NTP3961Q1-TC-T01-TC-OHC3-E-C24-2-RTA-3	E	C24	5	24	73.16	0.1451	20	LGM	0.007254	73.71

Average	**66.70**	
Standard Dev.	**2.862**	
Coeff. of Var. [%]	**4.290**	
Min.	**61.19**	
Max.	**73.16**	
Number of Spec.	**30**	

$Average_{norm}$	**0.007305**	**67.66**
Standard $Dev._{norm}$		**3.006**
Coeff. of Var. $[\%]_{norm}$		**4.443**
Min.	**0.007154**	**61.54**
Max.	**0.007665**	**73.71**
Number of Spec.	**30**	**30**


Laminate Open-Hole Compression Properties (OHC3)--RTA (70°F)
Normalized Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Open-Hole Compression Strength [ksi]
0
5
10
15
20
25
30
1
2
3
4
6
10
20
30
40
50
60
70
80

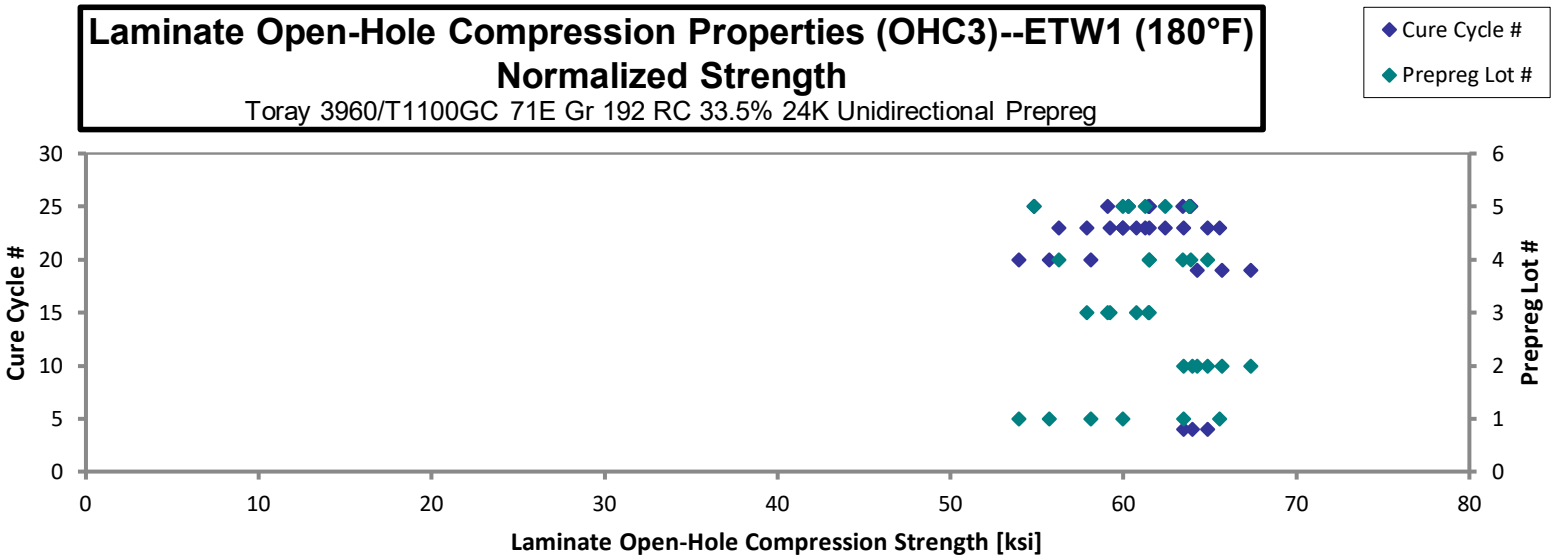
Laminate Open-Hole Compression Properties (OHC3)--ETW1 (180°F)
Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

normalizing t_{ply} [in]
0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]
NTP3961Q1-TC-T01-BT-OHC3-A-C20-1-ETW1-1	A	C20	1	20	52.56	0.1478	20	LGM	0.007392	53.96
NTP3961Q1-TC-T01-BT-OHC3-A-C20-1-ETW1-2	A	C20	1	20	56.85	0.1473	20	LGM	0.007366	58.16
NTP3961Q1-TC-T01-BT-OHC3-A-C20-1-ETW1-3	A	C20	1	20	54.53	0.1472	20	LGM	0.007359	55.73
NTP3961Q1-TC-T01-BT-OHC3-A-C23-1-ETW1-1	A	C23	1	23	64.43	0.1466	20	LGM	0.007328	65.57
NTP3961Q1-TC-T01-BT-OHC3-A-C23-1-ETW1-2	A	C23	1	23	58.53	0.1476	20	LGM	0.007379	59.99
NTP3961Q1-TC-T01-BT-OHC3-A-C23-1-ETW1-3	A	C23	1	23	62.19	0.1470	20	LGM	0.007351	63.49
NTP3961Q1-TC-T01-BT-OHC3-B-C4-1-ETW1-1	B	C4	2	4	62.31	0.1479	20	LGM	0.007395	64.00
NTP3961Q1-TC-T01-BT-OHC3-B-C4-1-ETW1-2	B	C4	2	4	62.42	0.1465	20	LGM	0.007326	63.51
NTP3961Q1-TC-T01-BT-OHC3-B-C4-1-ETW1-3	B	C4	2	4	64.25	0.1454	20	LGM	0.007271	64.88
NTP3961Q1-TC-T01-BT-OHC3-B-C19-1-ETW1-1	B	C19	2	19	65.76	0.1476	20	LGM	0.007380	67.40
NTP3961Q1-TC-T01-BT-OHC3-B-C19-1-ETW1-2	B	C19	2	19	64.13	0.1476	20	LGM	0.007380	65.73
NTP3961Q1-TC-T01-BT-OHC3-B-C19-1-ETW1-3	B	C19	2	19	61.71	0.1500	20	LGM	0.007499	64.27
NTP3961Q1-TC-T01-TC-OHC3-C-C23-2-ETW1-1	C	C23	3	23	60.49	0.1446	20	LGM	0.007232	60.75
NTP3961Q1-TC-T01-TC-OHC3-C-C23-2-ETW1-2	C	C23	3	23	59.56	0.1433	20	LGM	0.007163	59.25
NTP3961Q1-TC-T01-TC-OHC3-C-C23-2-ETW1-3	C	C23	3	23	57.99	0.1437	20	LGM	0.007187	57.88
NTP3961Q1-TC-T01-TC-OHC3-C-C25-2-ETW1-1	C	C25	3	25	61.31	0.1445	20	LGM	0.007223	61.50
NTP3961Q1-TC-T01-TC-OHC3-C-C25-2-ETW1-2	C	C25	3	25	58.71	0.1450	20	LGM	0.007249	59.11
NTP3961Q1-TC-T01-TC-OHC3-C-C25-2-ETW1-3	C	C25	3	25	61.36	0.1443	20	LGM	0.007213	61.47
NTP3961Q1-TC-T01-TC-OHC3-D-C23-2-ETW1-1	D	C23	4	23	61.07	0.1451	20	LGM	0.007254	61.53
NTP3961Q1-TC-T01-TC-OHC3-D-C23-2-ETW1-2	D	C23	4	23	56.35	0.1439	20	LGM	0.007193	56.29
NTP3961Q1-TC-T01-TC-OHC3-D-C23-2-ETW1-3	D	C23	4	23	64.80	0.1442	20	LGM	0.007210	64.89
NTP3961Q1-TC-T01-TC-OHC3-D-C25-2-ETW1-1	D	C25	4	25	63.03	0.1450	20	LGM	0.007248	63.45
NTP3961Q1-TC-T01-TC-OHC3-D-C25-2-ETW1-2	D	C25	4	25	61.00	0.1453	20	LGM	0.007263	61.53
NTP3961Q1-TC-T01-TC-OHC3-D-C25-2-ETW1-3	D	C25	4	25	63.62	0.1446	20	LGM	0.007232	63.90
NTP3961Q1-TC-T01-TC-OHC3-E-C23-2-ETW1-1	E	C23	5	23	61.42	0.1437	20	LGM	0.007183	61.27
NTP3961Q1-TC-T01-TC-OHC3-E-C23-2-ETW1-2	E	C23	5	23	59.63	0.1449	20	LGM	0.007244	59.99
NTP3961Q1-TC-T01-TC-OHC3-E-C23-2-ETW1-3	E	C23	5	23	61.81	0.1455	20	LGM	0.007275	62.45
NTP3961Q1-TC-T01-TC-OHC3-E-C25-2-ETW1-1	E	C25	5	25	63.87	0.1439	20	LGM	0.007196	63.83
NTP3961Q1-TC-T01-TC-OHC3-E-C25-2-ETW1-2	E	C25	5	25	59.90	0.1449	20	LGM	0.007247	60.29
NTP3961Q1-TC-T01-TC-OHC3-E-C25-2-ETW1-3	E	C25	5	25	54.15	0.1459	20	LGM	0.007293	54.85

Average	**60.66**	
Standard Dev.	**3.303**	
Coeff. of Var. [%]	**5.445**	
Min.	**52.56**	
Max.	**65.76**	
Number of Spec.	**30**	

$Average_{norm}$	**0.007284**	**61.36**
$Standard\ Dev._{norm}$		**3.387**
$Coeff.\ of\ Var.\ [\%]_{norm}$		**5.520**
Min.	**0.007163**	**53.96**
Max.	**0.007499**	**67.40**
Number of Spec.	**30**	**30**


Laminate Open-Hole Compression Properties (OHC3)--ETW1 (180°F)
Normalized Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Open-Hole Compression Strength [ksi]
0
5
10
15
20
25
30
0
1
2
3
4
5
6
0
10
20
30
40
50
60
70
80

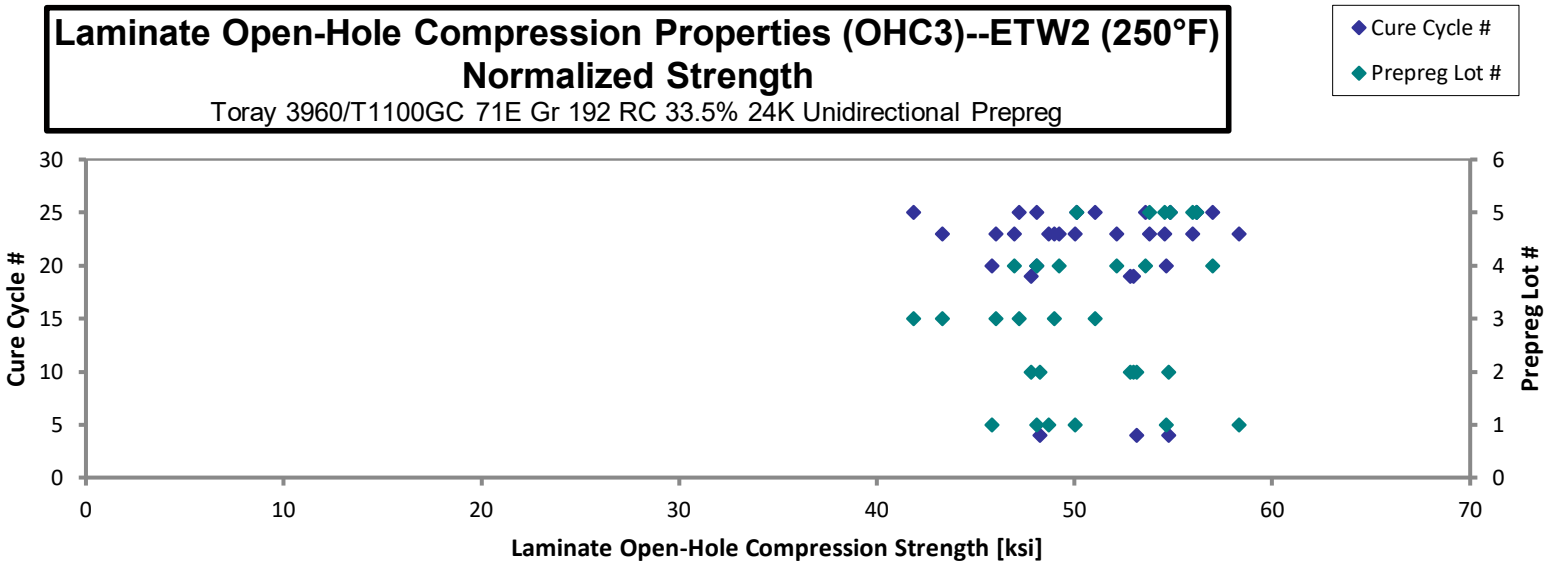
Laminate Open-Hole Compression Properties (OHC3)--ETW2 (250°F)
Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

normalizing t_{ply} [in]
0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]
NTP3961Q1-TC-T01-BT-OHC3-A-C20-1-ETW2-1	A	C20	1	20	44.62	0.1480	20	LGM	0.007398	45.84
NTP3961Q1-TC-T01-BT-OHC3-A-C20-1-ETW2-2	A	C20	1	20	54.11	0.1455	20	LGM	0.007273	54.66
NTP3961Q1-TC-T01-BT-OHC3-A-C20-1-ETW2-3	A	C20	1	20	47.13	0.1469	20	LGM	0.007347	48.09
NTP3961Q1-TC-T01-BT-OHC3-A-C23-1-ETW2-1	A	C23	1	23	47.19	0.1487	20	LGM	0.007433	48.71
NTP3961Q1-TC-T01-BT-OHC3-A-C23-1-ETW2-2	A	C23	1	23	57.08	0.1472	20	LGM	0.007358	58.33
NTP3961Q1-TC-T01-BT-OHC3-A-C23-1-ETW2-3	A	C23	1	23	48.88	0.1474	20	LGM	0.007369	50.03
NTP3961Q1-TC-T01-BT-OHC3-B-C4-1-ETW2-1	B	C4	2	4	47.43	0.1466	20	LGM	0.007328	48.27
NTP3961Q1-TC-T01-BT-OHC3-B-C4-1-ETW2-2	B	C4	2	4	53.54	0.1473	20	LGM	0.007363	54.75
NTP3961Q1-TC-T01-BT-OHC3-B-C4-1-ETW2-3	B	C4	2	4	51.81	0.1477	20	LGM	0.007384	53.13
NTP3961Q1-TC-T01-BT-OHC3-B-C19-1-ETW2-1	B	C19	2	19	46.67	0.1475	20	LGM	0.007376	47.81
NTP3961Q1-TC-T01-BT-OHC3-B-C19-1-ETW2-2	B	C19	2	19	51.62	0.1474	20	LGM	0.007368	52.82
NTP3961Q1-TC-T01-BT-OHC3-B-C19-1-ETW2-3	B	C19	2	19	51.16	0.1492	20	LGM	0.007458	52.99
NTP3961Q1-TC-T01-TC-OHC3-C-C23-2-ETW2-1	C	C23	3	23	48.76	0.1447	20	LGM	0.007235	49.00
NTP3961Q1-TC-T01-TC-OHC3-C-C23-2-ETW2-2	C	C23	3	23	43.34	0.1439	20	LGM	0.007194	43.30
NTP3961Q1-TC-T01-TC-OHC3-C-C23-2-ETW2-3	C	C23	3	23	45.76	0.1448	20	LGM	0.007241	46.02
NTP3961Q1-TC-T01-TC-OHC3-C-C25-2-ETW2-1	C	C25	3	25	41.68	0.1447	20	LGM	0.007233	41.87
NTP3961Q1-TC-T01-TC-OHC3-C-C25-2-ETW2-2	C	C25	3	25	50.89	0.1444	20	LGM	0.007220	51.03
NTP3961Q1-TC-T01-TC-OHC3-C-C25-2-ETW2-3	C	C25	3	25	46.60	0.1459	20	LGM	0.007296	47.22
NTP3961Q1-TC-T01-TC-OHC3-D-C23-1-ETW2-1	D	C23	4	23	51.72	0.1452	20	LGM	0.007258	52.14
NTP3961Q1-TC-T01-TC-OHC3-D-C23-1-ETW2-2	D	C23	4	23	46.44	0.1456	20	LGM	0.007278	46.94
NTP3961Q1-TC-T01-TC-OHC3-D-C23-1-ETW2-3	D	C23	4	23	49.04	0.1446	20	LGM	0.007228	49.23
NTP3961Q1-TC-T01-TC-OHC3-D-C25-2-ETW2-1	D	C25	4	25	53.00	0.1456	20	LGM	0.007282	53.60
NTP3961Q1-TC-T01-TC-OHC3-D-C25-2-ETW2-2	D	C25	4	25	47.31	0.1464	20	LGM	0.007320	48.10
NTP3961Q1-TC-T01-TC-OHC3-D-C25-2-ETW2-3	D	C25	4	25	56.60	0.1450	20	LGM	0.007249	56.99
NTP3961Q1-TC-T01-TC-OHC3-E-C23-2-ETW2-1	E	C23	5	23	53.44	0.1449	20	LGM	0.007247	53.79
NTP3961Q1-TC-T01-TC-OHC3-E-C23-2-ETW2-2	E	C23	5	23	54.31	0.1447	20	LGM	0.007236	54.58
NTP3961Q1-TC-T01-TC-OHC3-E-C23-2-ETW2-3	E	C23	5	23	55.86	0.1443	20	LGM	0.007213	55.96
NTP3961Q1-TC-T01-TC-OHC3-E-C25-2-ETW2-1	E	C25	5	25	49.67	0.1453	20	LGM	0.007263	50.10
NTP3961Q1-TC-T01-TC-OHC3-E-C25-2-ETW2-2	E	C25	5	25	56.10	0.1442	20	LGM	0.007210	56.18
NTP3961Q1-TC-T01-TC-OHC3-E-C25-2-ETW2-3	E	C25	5	25	54.75	0.1442	20	LGM	0.007212	54.84

Average	**50.22**	
Standard Dev.	**4.135**	
Coeff. of Var. [%]	**8.234**	
Min.	**41.68**	
Max.	**57.08**	
Number of Spec.	**30**	

$Average_{norm}$	**0.007295**	**50.88**
Standard $Dev._{norm}$		**4.138**
Coeff. of Var. $[\%]_{norm}$		**8.133**
Min.	**0.007194**	**41.87**
Max.	**0.007458**	**58.33**
Number of Spec.	**30**	**30**


Laminate Open-Hole Compression Properties (OHC3)--ETW2 (250°F)
Normalized Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Open-Hole Compression Strength [ksi]
0
5
10
15
20
25
30
0
1
2
3
4
5
6
0
10
20
30
40
50
60
70

4.26 "25/50/25" Filled-Hole Compression 1 Properties (FHC1)

Laminate Filled-Hole Compression Properties (FHC1)--RTA (70°F)
Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

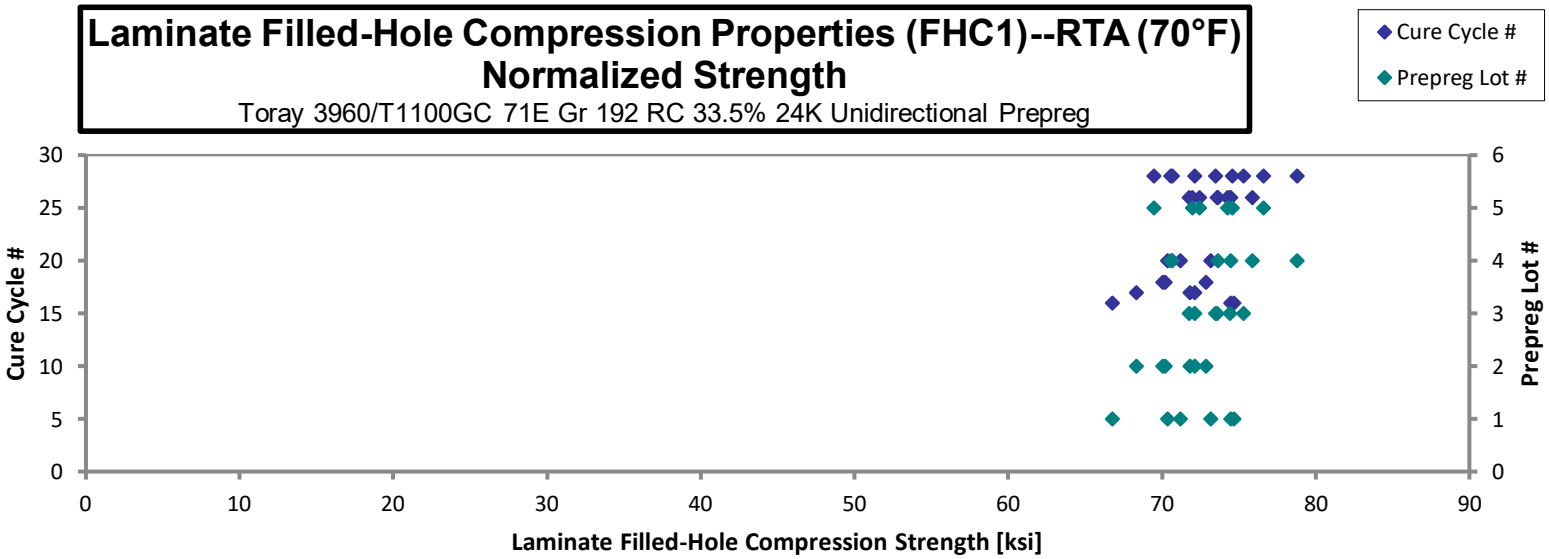
normalizing t_{ply} [in]
0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]
NTP3961Q1-TC-T01-BT-FHC1-A-C16-1-RTA-1	A	C16	1	16	69.54	0.1660	24	LGM	0.006917	66.81
NTP3961Q1-TC-T01-BT-FHC1-A-C16-1-RTA-2	A	C16	1	16	74.41	0.1730	24	LGM	0.007208	74.49
NTP3961Q1-TC-T01-BT-FHC1-A-C16-1-RTA-3	A	C16	1	16	73.22	0.1763	24	LGM	0.007346	74.71
NTP3961Q1-TC-T01-BT-FHC1-A-C20-1-RTA-1	A	C20	1	20	68.49	0.1776	24	LGM	0.007400	70.40
NTP3961Q1-TC-T01-BT-FHC1-A-C20-1-RTA-2	A	C20	1	20	69.02	0.1783	24	LGM	0.007428	71.21
NTP3961Q1-TC-T01-BT-FHC1-A-C20-1-RTA-3	A	C20	1	20	70.67	0.1790	24	LGM	0.007457	73.19
NTP3961Q1-TC-T01-BT-FHC1-B-C17-1-RTA-1	B	C17	2	17	69.93	0.1775	24	LGM	0.007395	71.82
NTP3961Q1-TC-T01-BT-FHC1-B-C17-1-RTA-2	B	C17	2	17	66.39	0.1780	24	LGM	0.007415	68.37
NTP3961Q1-TC-T01-BT-FHC1-B-C17-1-RTA-3	B	C17	2	17	69.48	0.1794	24	LGM	0.007476	72.15
NTP3961Q1-TC-T01-BT-FHC1-B-C18-2-RTA-1	B	C18	2	18	70.45	0.1787	24	LGM	0.007446	72.86
NTP3961Q1-TC-T01-BT-FHC1-B-C18-2-RTA-2	B	C18	2	18	67.50	0.1794	24	LGM	0.007473	70.06
NTP3961Q1-TC-T01-BT-FHC1-B-C18-2-RTA-3	B	C18	2	18	67.74	0.1792	24	LGM	0.007467	70.25
NTP3961Q1-TC-T01-TC-FHC1-C-C26-1-RTA-1	C	C26	3	26	73.16	0.1739	24	LGM	0.007246	73.63
NTP3961Q1-TC-T01-TC-FHC1-C-C26-1-RTA-2	C	C26	3	26	73.73	0.1745	24	LGM	0.007271	74.46
NTP3961Q1-TC-T01-TC-FHC1-C-C26-1-RTA-3	C	C26	3	26	70.68	0.1755	24	LGM	0.007313	71.78
NTP3961Q1-TC-T01-TC-FHC1-C-C28-1-RTA-1	C	C28	3	28	72.72	0.1747	24	LGM	0.007279	73.52
NTP3961Q1-TC-T01-TC-FHC1-C-C28-1-RTA-2	C	C28	3	28	71.06	0.1755	24	LGM	0.007313	72.17
NTP3961Q1-TC-T01-TC-FHC1-C-C28-1-RTA-3	C	C28	3	28	73.60	0.1769	24	LGM	0.007371	75.35
NTP3961Q1-TC-T01-TC-FHC1-D-C26-1-RTA-2	D	C26	4	26	75.28	0.1742	24	LGM	0.007260	75.90
NTP3961Q1-TC-T01-TC-FHC1-D-C26-1-RTA-3	D	C26	4	26	72.90	0.1746	24	LGM	0.007274	73.65
NTP3961Q1-TC-T01-TC-FHC1-D-C26-1-RTA-4	D	C26	4	26	73.25	0.1758	24	LGM	0.007323	74.50
NTP3961Q1-TC-T01-TC-FHC1-D-C28-1-RTA-1	D	C28	4	28	69.91	0.1747	24	LGM	0.007278	70.67
NTP3961Q1-TC-T01-TC-FHC1-D-C28-1-RTA-2	D	C28	4	28	69.76	0.1749	24	LGM	0.007287	70.60
NTP3961Q1-TC-T01-TC-FHC1-D-C28-1-RTA-3	D	C28	4	28	77.75	0.1752	24	LGM	0.007298	78.81
NTP3961Q1-TC-T01-TC-FHC1-E-C26-1-RTA-1	E	C26	5	26	71.88	0.1742	24	LGM	0.007258	72.46
NTP3961Q1-TC-T01-TC-FHC1-E-C26-1-RTA-2	E	C26	5	26	71.61	0.1738	24	LGM	0.007240	72.01
NTP3961Q1-TC-T01-TC-FHC1-E-C26-1-RTA-3	E	C26	5	26	73.77	0.1740	24	LGM	0.007251	74.30
NTP3961Q1-TC-T01-TC-FHC1-E-C28-1-RTA-1	E	C28	5	28	69.11	0.1738	24	LGM	0.007243	69.52
NTP3961Q1-TC-T01-TC-FHC1-E-C28-1-RTA-2	E	C28	5	28	75.91	0.1744	24	LGM	0.007267	76.61
NTP3961Q1-TC-T01-TC-FHC1-E-C28-1-RTA-3	E	C28	5	28	74.12	0.1739	24	LGM	0.007244	74.57

*Fasteners torqued to 50 in-lb

Average	**71.57**	
Standard Dev.	**2.695**	
Coeff. of Var. [%]	**3.766**	
Min.	**66.39**	
Max.	**77.75**	
Number of Spec.	**30**	

$Average_{norm}$	**0.007315**	**72.69**
Standard $Dev._{norm}$		**2.543**
Coeff. of Var. $[\%]_{norm}$		**3.498**
Min.	**0.006917**	**66.81**
Max.	**0.007476**	**78.81**
Number of Spec.	**30**	**30**


Laminate Filled-Hole Compression Properties (FHC1)--RTA (70°F)
Normalized Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Filled-Hole Compression Strength [ksi]
0
5
10
15
20
25
30
0
1
2
3
4
5
6
0
10
20
30
40
50
60
70
80
90

Laminate Filled-Hole Compression Properties (FHC1)--ETW1 (180°F)
Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

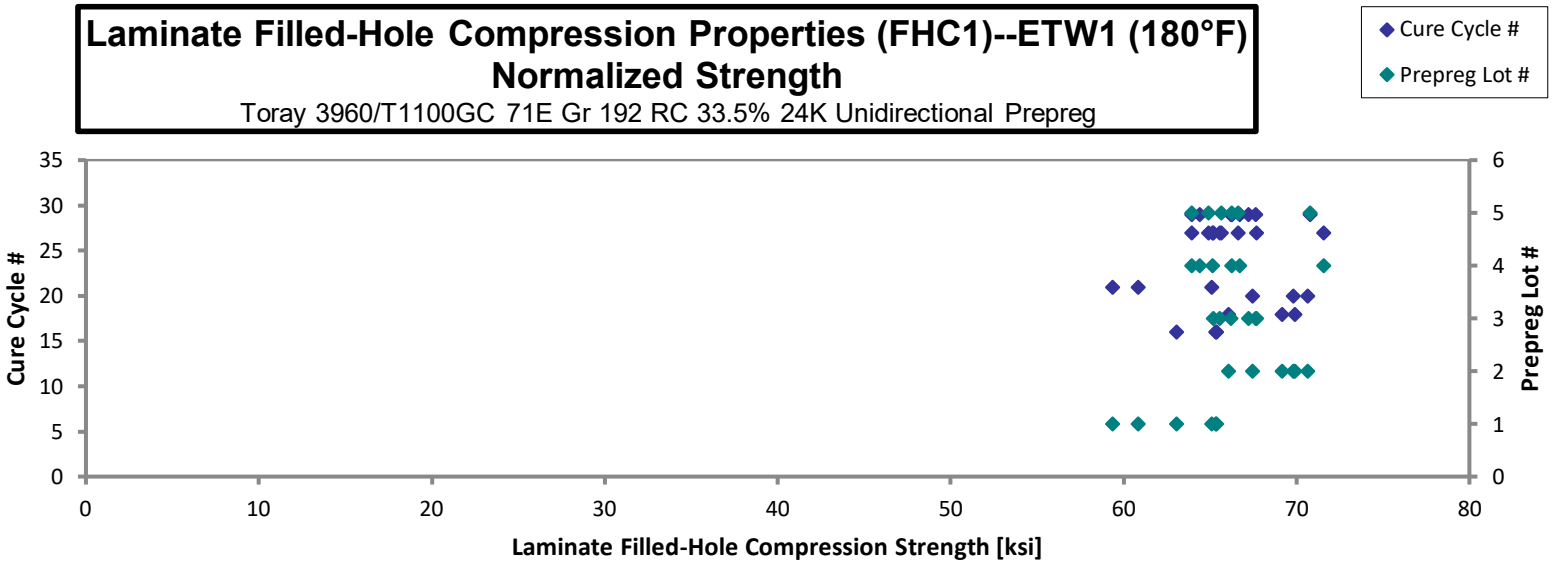
normalizing t_{ply} [in]
0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]
NTP3961Q1-TC-T01-BT-FHC1-A-C16-2-ETW1-1	A	C16	1	16	63.41	0.1718	24	MGM	0.007158	63.04
NTP3961Q1-TC-T01-BT-FHC1-A-C16-2-ETW1-2	A	C16	1	16	64.39	0.1754	24	MGM	0.007308	65.36
NTP3961Q1-TC-T01-BT-FHC1-A-C16-2-ETW1-3	A	C16	1	16	64.15	0.1760	24	MGM	0.007333	65.34
NTP3961Q1-TC-T01-BT-FHC1-A-C21-1-ETW1-2	A	C21	1	21	59.52	0.1766	24	MGM	0.007360	60.84
NTP3961Q1-TC-T01-BT-FHC1-A-C21-1-ETW1-3	A	C21	1	21	58.03	0.1768	24	MGM	0.007367	59.37
NTP3961Q1-TC-T01-BT-FHC1-A-C21-1-ETW1-4	A	C21	1	21	63.25	0.1778	24	MGM	0.007410	65.09
NTP3961Q1-TC-T01-BT-FHC1-B-C18-1-ETW1-3	B	C18	2	18	63.86	0.1788	24	LGF	0.007451	66.09
NTP3961Q1-TC-T01-BT-FHC1-B-C18-1-ETW1-2	B	C18	2	18	67.02	0.1783	24	LGF	0.007430	69.16
NTP3961Q1-TC-T01-BT-FHC1-B-C18-1-ETW1-1	B	C18	2	18	67.78	0.1783	24	LGF	0.007427	69.92
NTP3961Q1-TC-T01-BT-FHC1-B-C20-1-ETW1-1	B	C20	2	20	68.02	0.1795	24	LGF	0.007477	70.64
NTP3961Q1-TC-T01-BT-FHC1-B-C20-1-ETW1-2	B	C20	2	20	67.60	0.1785	24	LGF	0.007437	69.82
NTP3961Q1-TC-T01-BT-FHC1-B-C20-1-ETW1-3	B	C20	2	20	64.29	0.1813	24	LGF	0.007553	67.44
NTP3961Q1-TC-T01-TC-FHC1-C-C27-1-ETW1-1	C	C27	3	27	63.99	0.1760	24	LGF	0.007333	65.18
NTP3961Q1-TC-T01-TC-FHC1-C-C27-1-ETW1-2	C	C27	3	27	64.64	0.1752	24	LGF	0.007300	65.54
NTP3961Q1-TC-T01-TC-FHC1-C-C27-1-ETW1-3	C	C27	3	27	66.78	0.1751	24	LGF	0.007296	67.67
NTP3961Q1-TC-T01-TC-FHC1-C-C29-1-ETW1-1	C	C29	3	29	66.24	0.1753	24	LGF	0.007305	67.20
NTP3961Q1-TC-T01-TC-FHC1-C-C29-1-ETW1-2	C	C29	3	29	66.88	0.1748	24	LGF	0.007283	67.65
NTP3961Q1-TC-T01-TC-FHC1-C-C29-1-ETW1-3	C	C29	3	29	65.01	0.1760	24	LGF	0.007334	66.22
NTP3961Q1-TC-T01-TC-FHC1-D-C27-1-ETW1-1	D	C27	4	27	70.62	0.1751	24	LGF	0.007296	71.56
NTP3961Q1-TC-T01-TC-FHC1-D-C27-1-ETW1-2	D	C27	4	27	64.39	0.1749	24	LGF	0.007285	65.15
NTP3961Q1-TC-T01-TC-FHC1-D-C27-1-ETW1-3	D	C27	4	27	63.42	0.1742	24	LGF	0.007259	63.94
NTP3961Q1-TC-T01-TC-FHC1-D-C29-1-ETW1-1	D	C29	4	29	65.58	0.1746	24	LGF	0.007275	66.27
NTP3961Q1-TC-T01-TC-FHC1-D-C29-1-ETW1-2	D	C29	4	29	63.16	0.1762	24	LGF	0.007342	64.40
NTP3961Q1-TC-T01-TC-FHC1-D-C29-1-ETW1-3	D	C29	4	29	66.00	0.1747	24	LGF	0.007278	66.72
NTP3961Q1-TC-T01-TC-FHC1-E-C27-1-ETW1-1	E	C27	5	27	64.38	0.1743	24	LGF	0.007261	64.92
NTP3961Q1-TC-T01-TC-FHC1-E-C27-1-ETW1-2	E	C27	5	27	66.09	0.1742	24	LGF	0.007259	66.63
NTP3961Q1-TC-T01-TC-FHC1-E-C27-1-ETW1-3	E	C27	5	27	64.80	0.1750	24	LGF	0.007292	65.63
NTP3961Q1-TC-T01-TC-FHC1-E-C29-1-ETW1-1	E	C29	5	29	65.63	0.1744	24	LGF	0.007267	66.24
NTP3961Q1-TC-T01-TC-FHC1-E-C29-1-ETW1-2	E	C29	5	29	63.62	0.1737	24	LGF	0.007238	63.95
NTP3961Q1-TC-T01-TC-FHC1-E-C29-1-ETW1-3	E	C29	5	29	69.88	0.1750	24	LGF	0.007292	70.77

*Fasters torqued to 50 in-lb

Average	**65.08**	
Standard Dev.	**2.566**	
Coeff. of Var. [%]	**3.942**	
Min.	**58.03**	
Max.	**70.62**	
Number of Spec.	**30**	

$Average_{norm}$	**0.007330**	**66.26**
Standard $Dev._{norm}$		**2.743**
Coeff. of Var. $[\%]_{norm}$		**4.139**
Min.	**0.007158**	**59.37**
Max.	**0.007553**	**71.56**
Number of Spec.	**30**	**30**


Laminate Filled-Hole Compression Properties (FHC1)--ETW1 (180°F)
Normalized Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Filled-Hole Compression Strength [ksi]
0
5
10
15
20
25
30
35
0
1
2
3
4
5
6
0
10
20
30
40
50
60
70
80

Laminate Filled-Hole Compression Properties (FHC1)--ETW2 (250°F)
Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

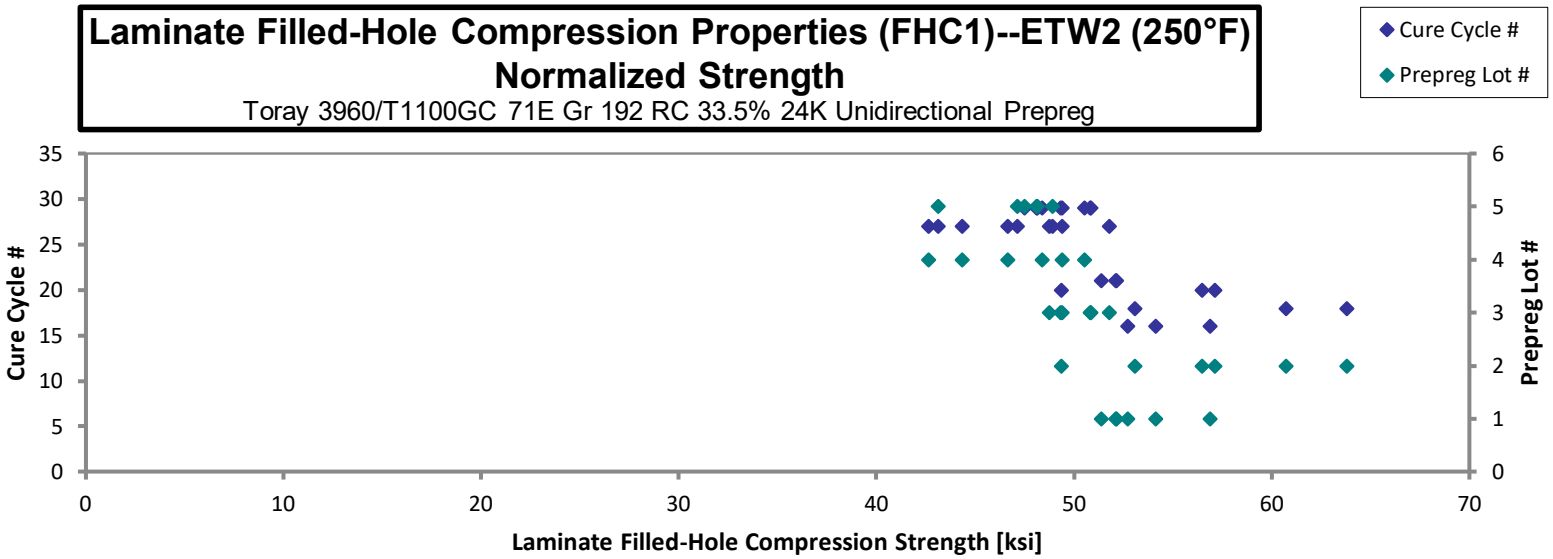
normalizing t_{ply} [in]
0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]
NTP3961Q1-TC-T01-BT-FHC1-A-C16-2-ETW2-1	A	C16	1	16	51.93	0.1754	24	LGF	0.007308	52.71
NTP3961Q1-TC-T01-BT-FHC1-A-C16-2-ETW2-2	A	C16	1	16	55.80	0.1762	24	LGF	0.007342	56.90
NTP3961Q1-TC-T01-BT-FHC1-A-C16-2-ETW2-3	A	C16	1	16	53.59	0.1746	24	LGF	0.007275	54.15
NTP3961Q1-TC-T01-BT-FHC1-A-C21-1-ETW2-1	A	C21	1	21	51.44	0.1751	24	LGF	0.007296	52.12
NTP3961Q1-TC-T01-BT-FHC1-A-C21-1-ETW2-2	A	C21	1	21	50.86	0.1772	24	LGF	0.007383	52.16
NTP3961Q1-TC-T01-BT-FHC1-A-C21-1-ETW2-3	A	C21	1	21	50.05	0.1774	24	LGF	0.007392	51.38
NTP3961Q1-TC-T01-BT-FHC1-B-C18-1-ETW2-1	B	C18	2	18	51.74	0.1773	24	LGF	0.007388	53.09
NTP3961Q1-TC-T01-BT-FHC1-B-C18-1-ETW2-2	B	C18	2	18	61.97	0.1780	24	LGF	0.007416	63.83
NTP3961Q1-TC-T01-BT-FHC1-B-C18-1-ETW2-3	B	C18	2	18	59.10	0.1776	24	LGF	0.007399	60.73
NTP3961Q1-TC-T01-BT-FHC1-B-C20-1-ETW2-1	B	C20	2	20	47.68	0.1789	24	LGF	0.007453	49.36
NTP3961Q1-TC-T01-BT-FHC1-B-C20-1-ETW2-2	B	C20	2	20	55.16	0.1790	24	LGF	0.007459	57.14
NTP3961Q1-TC-T01-BT-FHC1-B-C20-1-ETW2-3	B	C20	2	20	54.59	0.1788	24	LGF	0.007449	56.48
NTP3961Q1-TC-T01-TC-FHC1-C-C27-1-ETW2-2	C	C27	3	27	48.61	0.1756	24	LGF	0.007317	49.40
NTP3961Q1-TC-T01-TC-FHC1-C-C27-1-ETW2-4	C	C27	3	27	47.55	0.1772	24	LGF	0.007381	48.75
NTP3961Q1-TC-T01-TC-FHC1-C-C27-1-ETW2-5	C	C27	3	27	50.56	0.1770	24	LGF	0.007375	51.79
NTP3961Q1-TC-T01-TC-FHC1-C-C29-1-ETW2-1	C	C29	3	29	48.14	0.1771	24	LGM	0.007379	49.34
NTP3961Q1-TC-T01-TC-FHC1-C-C29-1-ETW2-2	C	C29	3	29	49.48	0.1774	24	LGM	0.007393	50.81
NTP3961Q1-TC-T01-TC-FHC1-C-C29-1-ETW2-3	C	C29	3	29	49.46	0.1777	24	LGM	0.007405	50.87
NTP3961Q1-TC-T01-TC-FHC1-D-C27-1-ETW2-1	D	C27	4	27	46.23	0.1744	24	LGF	0.007265	46.64
NTP3961Q1-TC-T01-TC-FHC1-D-C27-1-ETW2-2	D	C27	4	27	43.84	0.1748	24	LGF	0.007282	44.34
NTP3961Q1-TC-T01-TC-FHC1-D-C27-1-ETW2-3	D	C27	4	27	42.29	0.1743	24	LGF	0.007264	42.66
NTP3961Q1-TC-T01-TC-FHC1-D-C29-1-ETW2-1	D	C29	4	29	48.26	0.1769	24	LGF	0.007370	49.40
NTP3961Q1-TC-T01-TC-FHC1-D-C29-1-ETW2-2	D	C29	4	29	47.32	0.1767	24	LGF	0.007361	48.38
NTP3961Q1-TC-T01-TC-FHC1-D-C29-1-ETW2-3	D	C29	4	29	50.12	0.1742	24	LGF	0.007259	50.53
NTP3961Q1-TC-T01-TC-FHC1-E-C27-1-ETW2-1	E	C27	5	27	42.72	0.1745	24	LGF	0.007269	43.13
NTP3961Q1-TC-T01-TC-FHC1-E-C27-1-ETW2-2	E	C27	5	27	48.65	0.1738	24	LGF	0.007243	48.94
NTP3961Q1-TC-T01-TC-FHC1-E-C27-1-ETW2-3	E	C27	5	27	46.92	0.1737	24	LGF	0.007236	47.15
NTP3961Q1-TC-T01-TC-FHC1-E-C29-1-ETW2-1	E	C29	5	29	47.82	0.1741	24	LGF	0.007253	48.17
NTP3961Q1-TC-T01-TC-FHC1-E-C29-1-ETW2-2	E	C29	5	29	47.65	0.1744	24	LGF	0.007268	48.10
NTP3961Q1-TC-T01-TC-FHC1-E-C29-1-ETW2-3	E	C29	5	29	47.32	0.1735	24	LGF	0.007230	47.52

*Fasters torqued to 30-50 in-lb

Average	**49.90**	
Standard Dev.	**4.358**	
Coeff. of Var. [%]	**8.735**	
Min.	**42.29**	
Max.	**61.97**	
Number of Spec.	**30**	

$Average_{norm}$	**0.007337**	**50.87**
$Standard\ Dev._{norm}$		**4.724**
$Coeff.\ of\ Var.\ [\%]_{norm}$		**9.287**
Min.	**0.007230**	**42.66**
Max.	**0.007459**	**63.83**
Number of Spec.	**30**	**30**


Laminate Filled-Hole Compression Properties (FHC1)--ETW2 (250°F)
Normalized Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Filled-Hole Compression Strength [ksi]
0
5
10
15
20
25
30
35
0
1
2
3
4
5
6
0
10
20
30
40
50
60
70

4.27 "10/80/10" Filled-Hole Compression 2 Properties (FHC2)

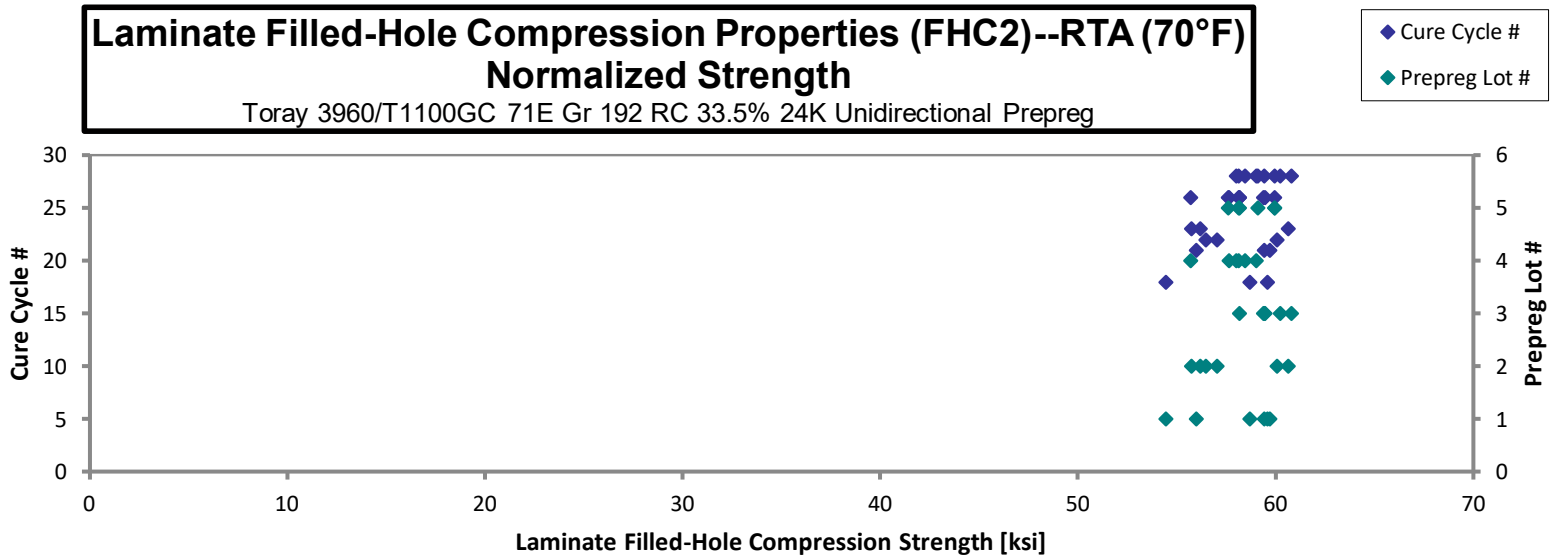
Laminate Filled-Hole Compression Properties (FHC2)--RTA (70°F)
Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

normalizing t_{ply} [in]
0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]
NTP3961Q1-TC-T01-BT-FHC2-A-C18-1-RTA-1	A	C18	1	18	58.41	0.1470	20	AGM	0.007348	59.61
NTP3961Q1-TC-T01-BT-FHC2-A-C18-1-RTA-2	A	C18	1	18	53.15	0.1476	20	AGM	0.007378	54.46
NTP3961Q1-TC-T01-BT-FHC2-A-C18-1-RTA-3	A	C18	1	18	57.32	0.1475	20	AGM	0.007377	58.73
NTP3961Q1-TC-T01-BT-FHC2-A-C21-1-RTA-1	A	C21	1	21	54.20	0.1488	20	AGM	0.007439	56.00
NTP3961Q1-TC-T01-BT-FHC2-A-C21-1-RTA-2	A	C21	1	21	58.17	0.1479	20	AGM	0.007393	59.73
NTP3961Q1-TC-T01-BT-FHC2-A-C21-1-RTA-3	A	C21	1	21	57.86	0.1480	20	AGM	0.007401	59.47
NTP3961Q1-TC-T01-BT-FHC2-B-C22-1-RTA-1	B	C22	2	22	58.79	0.1472	20	LGM	0.007361	60.10
NTP3961Q1-TC-T01-BT-FHC2-B-C22-1-RTA-2	B	C22	2	22	55.92	0.1470	20	LGM	0.007348	57.07
NTP3961Q1-TC-T01-BT-FHC2-B-C22-1-RTA-3	B	C22	2	22	55.77	0.1459	20	LGM	0.007294	56.50
NTP3961Q1-TC-T01-BT-FHC2-B-C23-1-RTA-1	B	C23	2	23	54.78	0.1466	20	LGM	0.007329	55.76
NTP3961Q1-TC-T01-BT-FHC2-B-C23-1-RTA-2	B	C23	2	23	55.67	0.1454	20	LGM	0.007269	56.20
NTP3961Q1-TC-T01-BT-FHC2-B-C23-1-RTA-3	B	C23	2	23	59.03	0.1480	20	LGM	0.007401	60.67
NTP3961Q1-TC-T01-TC-FHC2-C-C26-2-RTA-1	C	C26	3	26	58.66	0.1460	20	LGM	0.007300	59.47
NTP3961Q1-TC-T01-TC-FHC2-C-C26-2-RTA-2	C	C26	3	26	58.42	0.1464	20	AGM	0.007320	59.39
NTP3961Q1-TC-T01-TC-FHC2-C-C26-2-RTA-3	C	C26	3	26	57.16	0.1466	20	AGM	0.007330	58.19
NTP3961Q1-TC-T01-TC-FHC2-C-C28-2-RTA-1	C	C28	3	28	58.45	0.1465	20	MGM	0.007325	59.46
NTP3961Q1-TC-T01-TC-FHC2-C-C28-2-RTA-2	C	C28	3	28	59.68	0.1468	20	LGM	0.007340	60.84
NTP3961Q1-TC-T01-TC-FHC2-C-C28-2-RTA-3	C	C28	3	28	58.96	0.1472	20	LGM	0.007360	60.27
NTP3961Q1-TC-T01-TC-FHC2-D-C26-2-RTA-1	D	C26	4	26	55.41	0.1448	20	LGM	0.007242	55.73
NTP3961Q1-TC-T01-TC-FHC2-D-C26-2-RTA-2	D	C26	4	26	57.47	0.1457	20	LGM	0.007284	58.14
NTP3961Q1-TC-T01-TC-FHC2-D-C26-2-RTA-3	D	C26	4	26	56.86	0.1460	20	LGM	0.007301	57.65
NTP3961Q1-TC-T01-TC-FHC2-D-C28-2-RTA-1	D	C28	4	28	57.30	0.1470	20	LGM	0.007351	58.50
NTP3961Q1-TC-T01-TC-FHC2-D-C28-2-RTA-2	D	C28	4	28	58.21	0.1461	20	LGM	0.007303	59.04
NTP3961Q1-TC-T01-TC-FHC2-D-C28-2-RTA-3	D	C28	4	28	57.67	0.1450	20	LGM	0.007248	58.05
NTP3961Q1-TC-T01-TC-FHC2-E-C26-2-RTA-1	E	C26	5	26	57.88	0.1448	20	LGM	0.007241	58.21
NTP3961Q1-TC-T01-TC-FHC2-E-C26-2-RTA-2	E	C26	5	26	59.65	0.1448	20	LGM	0.007242	59.99
NTP3961Q1-TC-T01-TC-FHC2-E-C26-2-RTA-3	E	C26	5	26	57.54	0.1442	20	LGM	0.007210	57.62
NTP3961Q1-TC-T01-TC-FHC2-E-C28-2-RTA-1	E	C28	5	28	59.28	0.1457	20	LGM	0.007285	59.98
NTP3961Q1-TC-T01-TC-FHC2-E-C28-2-RTA-2	E	C28	5	28	58.51	0.1456	20	LGM	0.007278	59.14
NTP3961Q1-TC-T01-TC-FHC2-E-C28-2-RTA-3	E	C28	5	28	57.95	0.1445	20	LGM	0.007224	58.14

*Fasteners torqued to 50 in-lb

	Strength		$Strength_{norm}$
Average	57.47	$Average_{norm}$	0.007317	58.40
Standard Dev.	1.620	$Standard\ Dev._{norm}$		1.644
Coeff. of Var. [%]	2.818	$Coeff.\ of\ Var.\ [\%]_{norm}$		2.815
Min.	53.15	Min.	0.007210	54.46
Max.	59.68	Max.	0.007439	60.84
Number of Spec.	30	Number of Spec.	30	30


Laminate Filled-Hole Compression Properties (FHC2)--RTA (70°F)
Normalized Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Filled-Hole Compression Strength [ksi]
0
5
10
15
20
25
30
0
1
2
3
4
5
6
0
10
20
30
40
50
60
70

Laminate Filled-Hole Compression Properties (FHC2)--ETW1 (180°F)
Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

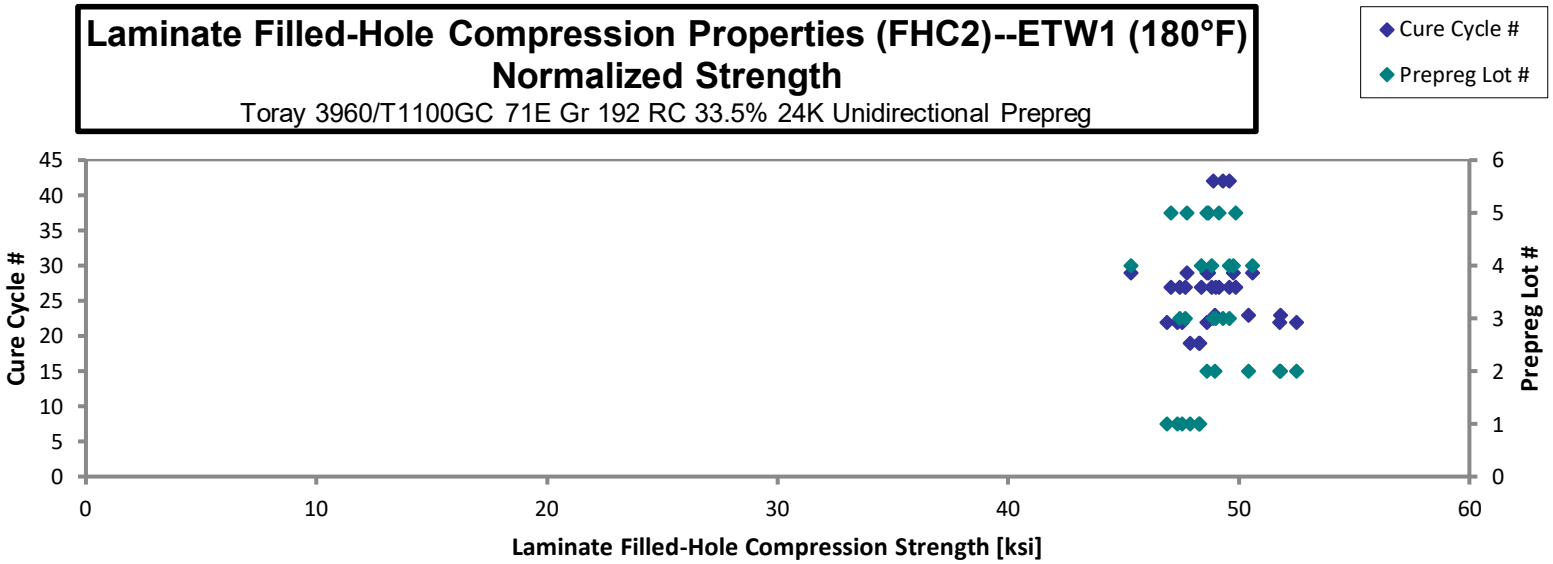
normalizing t_{ply} [in]: 0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]
NTP3961Q1-TC-T01-BT-FHC2-A-C19-1-ETW1-3	A	C19	1	19	46.57	0.1493	20	AGM	0.007465	48.28
NTP3961Q1-TC-T01-BT-FHC2-A-C19-1-ETW1-4	A	C19	1	19	47.45	0.1453	20	AGM	0.007265	47.88
NTP3961Q1-TC-T01-BT-FHC2-A-C19-1-ETW1-5	A	C19	1	19	47.40	0.1468	20	AGM	0.007340	48.32
NTP3961Q1-TC-T01-BT-FHC2-A-C22-1-ETW1-1	A	C22	1	22	46.20	0.1462	20	MGM	0.007308	46.89
NTP3961Q1-TC-T01-BT-FHC2-A-C22-1-ETW1-2	A	C22	1	22	46.35	0.1471	20	MGM	0.007356	47.35
NTP3961Q1-TC-T01-BT-FHC2-A-C22-1-ETW1-3	A	C22	1	22	46.21	0.1482	20	MGM	0.007408	47.54
NTP3961Q1-TC-T01-BT-FHC2-B-C22-2-ETW1-1	B	C22	2	22	50.72	0.1470	20	MGF	0.007348	51.76
NTP3961Q1-TC-T01-BT-FHC2-B-C22-2-ETW1-2	B	C22	2	22	47.38	0.1477	20	MGF	0.007387	48.61
NTP3961Q1-TC-T01-BT-FHC2-B-C22-2-ETW1-3	B	C22	2	22	51.44	0.1470	20	MGF	0.007348	52.49
NTP3961Q1-TC-T01-BT-FHC2-B-C23-2-ETW1-1	B	C23	2	23	50.74	0.1471	20	MGF	0.007354	51.83
NTP3961Q1-TC-T01-BT-FHC2-B-C23-2-ETW1-2	B	C23	2	23	47.86	0.1474	20	MGF	0.007368	48.98
NTP3961Q1-TC-T01-BT-FHC2-B-C23-2-ETW1-3	B	C23	2	23	49.61	0.1464	20	MGF	0.007319	50.43
NTP3961Q1-TC-T01-TC-FHC2-C-C27-2-ETW1-1	C	C27	3	27	46.61	0.1473	20	LGF	0.007367	47.69
NTP3961Q1-TC-T01-TC-FHC2-C-C27-2-ETW1-2	C	C27	3	27	46.40	0.1473	20	LGF	0.007363	47.45
NTP3961Q1-TC-T01-TC-FHC2-C-C27-2-ETW1-3	C	C27	3	27	47.81	0.1476	20	LGF	0.007379	49.00
NTP3961Q1-TC-T01-TC-FHC2-C-C42-2-ETW1-1	C	C42	3	42	48.77	0.1443	20	LGF	0.007217	48.88
NTP3961Q1-TC-T01-TC-FHC2-C-C42-2-ETW1-2	C	C42	3	42	48.84	0.1454	20	LGF	0.007271	49.32
NTP3961Q1-TC-T01-TC-FHC2-C-C42-2-ETW1-3	C	C42	3	42	48.72	0.1466	20	LGF	0.007328	49.58
NTP3961Q1-TC-T01-TC-FHC2-D-C27-2-ETW1-1	D	C27	4	27	48.80	0.1463	20	LGF	0.007316	49.58
NTP3961Q1-TC-T01-TC-FHC2-D-C27-2-ETW1-2	D	C27	4	27	48.44	0.1451	20	LGF	0.007256	48.81
NTP3961Q1-TC-T01-TC-FHC2-D-C27-2-ETW1-3	D	C27	4	27	47.98	0.1452	20	LGF	0.007260	48.38
NTP3961Q1-TC-T01-TC-FHC2-D-C29-2-ETW1-1	D	C29	4	29	49.12	0.1459	20	LGF	0.007296	49.77
NTP3961Q1-TC-T01-TC-FHC2-D-C29-2-ETW1-2	D	C29	4	29	50.24	0.1451	20	LGF	0.007253	50.61
NTP3961Q1-TC-T01-TC-FHC2-D-C29-2-ETW1-3	D	C29	4	29	44.95	0.1452	20	LGF	0.007258	45.31
NTP3961Q1-TC-T01-TC-FHC2-E-C27-2-ETW1-1	E	C27	5	27	46.77	0.1449	20	LGF	0.007243	47.05
NTP3961Q1-TC-T01-TC-FHC2-E-C27-2-ETW1-2	E	C27	5	27	48.35	0.1464	20	LGF	0.007318	49.14
NTP3961Q1-TC-T01-TC-FHC2-E-C27-2-ETW1-3	E	C27	5	27	49.35	0.1455	20	LGF	0.007274	49.86
NTP3961Q1-TC-T01-TC-FHC2-E-C29-2-ETW1-1	E	C29	5	29	47.93	0.1463	20	LGF	0.007314	48.69
NTP3961Q1-TC-T01-TC-FHC2-E-C29-2-ETW1-2	E	C29	5	29	48.20	0.1453	20	LGF	0.007263	48.62
NTP3961Q1-TC-T01-TC-FHC2-E-C29-2-ETW1-3	E	C29	5	29	47.24	0.1456	20	LGF	0.007280	47.76

*Fasters torqued to 30-50 in-lb

Average	**48.08**	
Standard Dev.	**1.534**	
Coeff. of Var. [%]	**3.190**	
Min.	**44.95**	
Max.	**51.44**	
Number of Spec.	**30**	

$Average_{norm}$	**0.007317**	**48.86**
$Standard\ Dev._{norm}$		**1.547**
$Coeff.\ of\ Var.\ [\%]_{norm}$		**3.166**
Min.	**0.007217**	**45.31**
Max.	**0.007465**	**52.49**
Number of Spec.	**30**	**30**


Laminate Filled-Hole Compression Properties (FHC2)--ETW1 (180°F)
Normalized Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Filled-Hole Compression Strength [ksi]
0
5
10
15
20
25
30
35
40
45
0
1
2
3
4
5
6
0
10
20
30
40
50
60

Laminate Filled-Hole Compression Properties (FHC2)--ETW2 (250°F)
Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

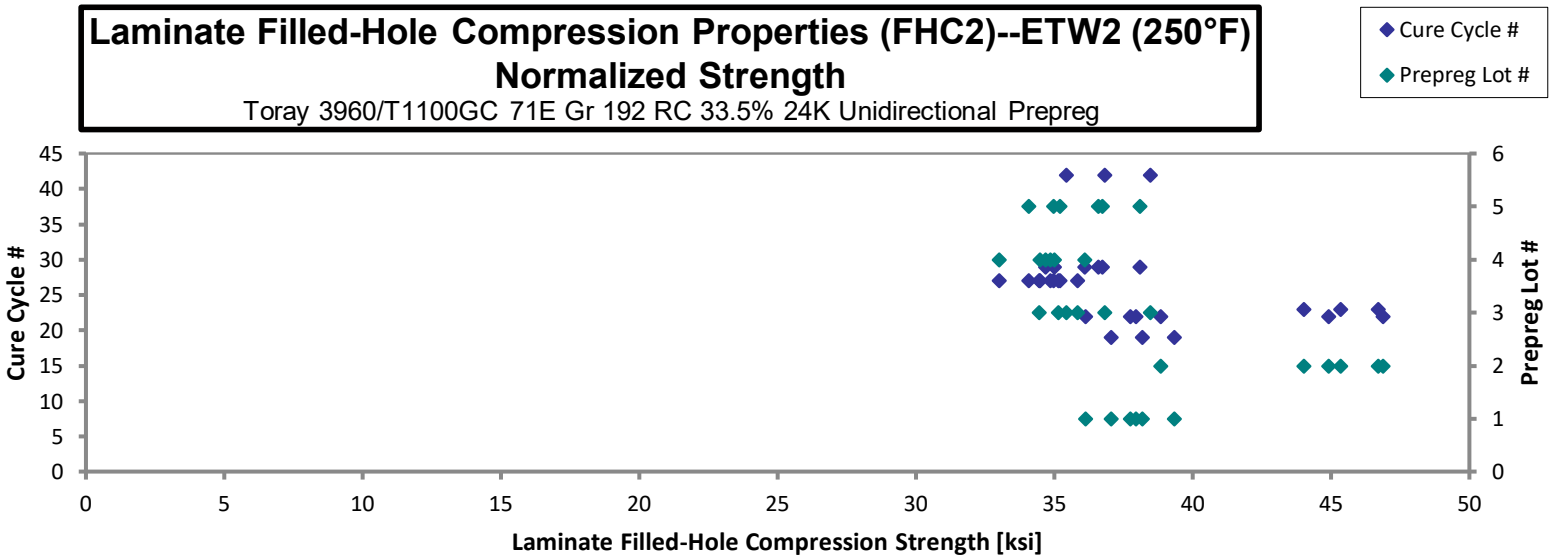
normalizing t_{ply} [in]
0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]
NTP3961Q1-TC-T01-BT-FHC2-A-C19-1-ETW2-1	A	C19	1	19	36.11	0.1478	20	LGF	0.007390	37.06
NTP3961Q1-TC-T01-BT-FHC2-A-C19-1-ETW2-2	A	C19	1	19	38.44	0.1474	20	LGF	0.007370	39.35
NTP3961Q1-TC-T01-BT-FHC2-A-C19-1-ETW2-3	A	C19	1	19	37.24	0.1476	20	MGF	0.007380	38.17
NTP3961Q1-TC-T01-BT-FHC2-A-C22-1-ETW2-1	A	C22	1	22	35.10	0.1482	20	LGF	0.007409	36.12
NTP3961Q1-TC-T01-BT-FHC2-A-C22-1-ETW2-2	A	C22	1	22	37.06	0.1475	20	LGF	0.007374	37.96
NTP3961Q1-TC-T01-BT-FHC2-A-C22-1-ETW2-3	A	C22	1	22	36.39	0.1493	20	LGF	0.007467	37.74
NTP3961Q1-TC-T01-BT-FHC2-B-C22-2-ETW2-2	B	C22	2	22	37.82	0.1480	20	MGF	0.007398	38.86
NTP3961Q1-TC-T01-BT-FHC2-B-C22-2-ETW2-3	B	C22	2	22	44.78	0.1445	20	MGF	0.007223	44.92
NTP3961Q1-TC-T01-BT-FHC2-B-C22-2-ETW2-4	B	C22	2	22	45.98	0.1468	20	MGF	0.007340	46.87
NTP3961Q1-TC-T01-BT-FHC2-B-C23-2-ETW2-1	B	C23	2	23	43.45	0.1459	20	MGF	0.007294	44.02
NTP3961Q1-TC-T01-BT-FHC2-B-C23-2-ETW2-2	B	C23	2	23	45.85	0.1467	20	MGF	0.007337	46.72
NTP3961Q1-TC-T01-BT-FHC2-B-C23-2-ETW2-3	B	C23	2	23	44.69	0.1461	20	MGF	0.007305	45.34
NTP3961Q1-TC-T01-TC-FHC2-C-C27-2-ETW2-1	C	C27	3	27	34.38	0.1472	20	LGF	0.007360	35.14
NTP3961Q1-TC-T01-TC-FHC2-C-C27-2-ETW2-2	C	C27	3	27	33.79	0.1469	20	LGF	0.007343	34.46
NTP3961Q1-TC-T01-TC-FHC2-C-C27-2-ETW2-3	C	C27	3	27	35.44	0.1456	20	LGF	0.007281	35.84
NTP3961Q1-TC-T01-TC-FHC2-C-C42-2-ETW2-2	C	C42	3	42	36.65	0.1447	20	LGF	0.007237	36.84
NTP3961Q1-TC-T01-TC-FHC2-C-C42-2-ETW2-4	C	C42	3	42	35.12	0.1453	20	LGF	0.007266	35.44
NTP3961Q1-TC-T01-TC-FHC2-C-C42-2-ETW2-5	C	C42	3	42	37.99	0.1458	20	LGF	0.007290	38.46
NTP3961Q1-TC-T01-TC-FHC2-D-C27-2-ETW2-1	D	C27	4	27	34.12	0.1456	20	LGF	0.007278	34.49
NTP3961Q1-TC-T01-TC-FHC2-D-C27-2-ETW2-2	D	C27	4	27	32.82	0.1449	20	LGF	0.007244	33.02
NTP3961Q1-TC-T01-TC-FHC2-D-C27-2-ETW2-3	D	C27	4	27	34.41	0.1458	20	LGF	0.007292	34.85
NTP3961Q1-TC-T01-TC-FHC2-D-C29-2-ETW2-1	D	C29	4	29	34.42	0.1464	20	LGF	0.007319	34.99
NTP3961Q1-TC-T01-TC-FHC2-D-C29-2-ETW2-2	D	C29	4	29	34.01	0.1469	20	LGF	0.007343	34.68
NTP3961Q1-TC-T01-TC-FHC2-D-C29-2-ETW2-3	D	C29	4	29	35.58	0.1461	20	LGF	0.007307	36.11
NTP3961Q1-TC-T01-TC-FHC2-E-C27-2-ETW2-1	E	C27	5	27	34.89	0.1453	20	LGF	0.007265	35.20
NTP3961Q1-TC-T01-TC-FHC2-E-C27-2-ETW2-2	E	C27	5	27	33.89	0.1448	20	LGF	0.007240	34.08
NTP3961Q1-TC-T01-TC-FHC2-E-C27-2-ETW2-3	E	C27	5	27	34.43	0.1462	20	LGF	0.007311	34.96
NTP3961Q1-TC-T01-TC-FHC2-E-C29-2-ETW2-1	E	C29	5	29	36.37	0.1454	20	LGF	0.007272	36.73
NTP3961Q1-TC-T01-TC-FHC2-E-C29-2-ETW2-2	E	C29	5	29	36.37	0.1449	20	LGF	0.007246	36.60
NTP3961Q1-TC-T01-TC-FHC2-E-C29-2-ETW2-3	E	C29	5	29	37.82	0.1450	20	LGF	0.007252	38.09

*Fasters torqued to 30-50 in-lb

Average	**37.18**	
Standard Dev.	**3.821**	
Coeff. of Var. [%]	**10.28**	
Min.	**32.82**	
Max.	**45.98**	
Number of Spec.	**30**	

$Average_{norm}$	**0.007314**	**37.77**
$Standard\ Dev._{norm}$		**3.889**
$Coeff.\ of\ Var.\ [\%]_{norm}$		**10.30**
Min.	**0.007223**	**33.02**
Max.	**0.007467**	**46.87**
Number of Spec.	**30**	**30**


Laminate Filled-Hole Compression Properties (FHC2)--ETW2 (250°F)
Normalized Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Filled-Hole Compression Strength [ksi]
0
5
10
15
20
25
30
35
40
45
50
0
1
2
3
4
5
6

4.28 "50/40/10" Filled-Hole Compression 3 Properties (FHC3)

Laminate Filled-Hole Compression Properties (FHC3)--RTA (70°F)
Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

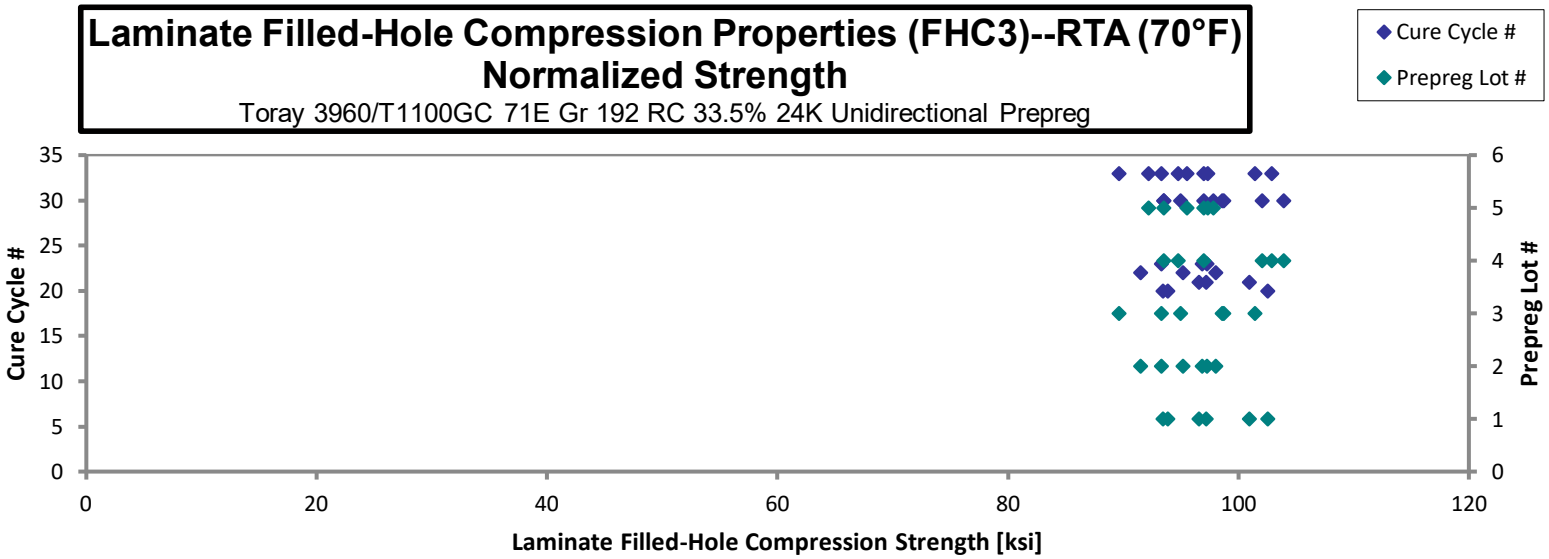
normalizing t_{ply} [in]
0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]
NTP3961Q1-TC-T01-BT-FHC3-A-C20-1-RTA-1	A	C20	1	20	100.5	0.1470	20	LGM	0.007351	102.6
NTP3961Q1-TC-T01-BT-FHC3-A-C20-1-RTA-2	A	C20	1	20	92.07	0.1463	20	LGM	0.007313	93.51
NTP3961Q1-TC-T01-BT-FHC3-A-C20-1-RTA-3	A	C20	1	20	91.84	0.1473	20	LGM	0.007363	93.91
NTP3961Q1-TC-T01-BT-FHC3-A-C21-1-RTA-1	A	C21	1	21	98.27	0.1480	20	LGM	0.007400	101.0
NTP3961Q1-TC-T01-BT-FHC3-A-C21-1-RTA-2	A	C21	1	21	94.63	0.1479	20	LGM	0.007395	97.19
NTP3961Q1-TC-T01-BT-FHC3-A-C21-1-RTA-3	A	C21	1	21	94.62	0.1470	20	LGM	0.007350	96.59
NTP3961Q1-TC-T01-BT-FHC3-B-C22-1-RTA-1	B	C22	2	22	96.68	0.1461	20	LGM	0.007304	98.08
NTP3961Q1-TC-T01-BT-FHC3-B-C22-1-RTA-2	B	C22	2	22	90.71	0.1453	20	LGM	0.007264	91.52
NTP3961Q1-TC-T01-BT-FHC3-B-C22-1-RTA-3	B	C22	2	22	92.25	0.1487	20	LGM	0.007433	95.23
NTP3961Q1-TC-T01-BT-FHC3-B-C23-1-RTA-1	B	C23	2	23	95.93	0.1460	20	LGM	0.007302	97.28
NTP3961Q1-TC-T01-BT-FHC3-B-C23-1-RTA-2	B	C23	2	23	91.85	0.1463	20	LGM	0.007315	93.32
NTP3961Q1-TC-T01-BT-FHC3-B-C23-1-RTA-3	B	C23	2	23	95.28	0.1465	20	LGM	0.007323	96.91
NTP3961Q1-TC-T01-TC-FHC3-C-C30-1-RTA-1	C	C30	3	30	97.83	0.1454	20	LGM	0.007270	98.78
NTP3961Q1-TC-T01-TC-FHC3-C-C30-1-RTA-2	C	C30	3	30	93.42	0.1464	20	LGM	0.007320	94.98
NTP3961Q1-TC-T01-TC-FHC3-C-C30-1-RTA-3	C	C30	3	30	97.12	0.1462	20	LGM	0.007310	98.60
NTP3961Q1-TC-T01-TC-FHC3-C-C33-1-RTA-1	C	C33	3	33	93.03	0.1445	20	LGM	0.007225	93.35
NTP3961Q1-TC-T01-TC-FHC3-C-C33-1-RTA-2	C	C33	3	33	100.8	0.1450	20	LGM	0.007250	101.4
NTP3961Q1-TC-T01-TC-FHC3-C-C33-1-RTA-3	C	C33	3	33	88.27	0.1463	20	LGM	0.007315	89.68
NTP3961Q1-TC-T01-TC-FHC3-D-C30-1-RTA-1	D	C30	4	30	91.04	0.1480	20	LGM	0.007398	93.54
NTP3961Q1-TC-T01-TC-FHC3-D-C30-1-RTA-2	D	C30	4	30	102.0	0.1468	20	LGM	0.007338	103.9
NTP3961Q1-TC-T01-TC-FHC3-D-C30-1-RTA-3	D	C30	4	30	100.9	0.1456	20	LGM	0.007280	102.1
NTP3961Q1-TC-T01-TC-FHC3-D-C33-1-RTA-1	D	C33	4	33	101.0	0.1467	20	LGM	0.007336	102.9
NTP3961Q1-TC-T01-TC-FHC3-D-C33-1-RTA-2	D	C33	4	33	95.20	0.1468	20	LGM	0.007338	97.02
NTP3961Q1-TC-T01-TC-FHC3-D-C33-1-RTA-3	D	C33	4	33	93.78	0.1456	20	LGM	0.007278	94.80
NTP3961Q1-TC-T01-TC-FHC3-E-C30-1-RTA-1	E	C30	5	30	93.69	0.1438	20	LGM	0.007188	93.53
NTP3961Q1-TC-T01-TC-FHC3-E-C30-1-RTA-2	E	C30	5	30	96.47	0.1461	20	LGM	0.007303	97.84
NTP3961Q1-TC-T01-TC-FHC3-E-C30-1-RTA-3	E	C30	5	30	95.57	0.1462	20	LGM	0.007308	97.00
NTP3961Q1-TC-T01-TC-FHC3-E-C33-1-RTA-1	E	C33	5	33	97.32	0.1440	20	LGM	0.007202	97.34
NTP3961Q1-TC-T01-TC-FHC3-E-C33-1-RTA-2	E	C33	5	33	94.64	0.1454	20	LGM	0.007269	95.55
NTP3961Q1-TC-T01-TC-FHC3-E-C33-1-RTA-3	E	C33	5	33	91.42	0.1453	20	LGM	0.007266	92.25

*Fasteners torqued to 50 in-lb

Average	**95.27**	
Standard Dev.	**3.494**	
Coeff. of Var. [%]	**3.668**	
Min.	**88.27**	
Max.	**102.0**	
Number of Spec.	**30**	

$Average_{norm}$	**0.007310**	**96.72**
Standard $Dev._{norm}$		**3.592**
Coeff. of Var. $[\%]_{norm}$		**3.714**
Min.	**0.007188**	**89.68**
Max.	**0.007433**	**103.9**
Number of Spec.	**30**	**30**


Laminate Filled-Hole Compression Properties (FHC3)--RTA (70°F)
Normalized Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Filled-Hole Compression Strength [ksi]
0
5
10
15
20
25
30
35
0
1
2
3
4
5
6
0
20
40
60
80
100
120

Laminate Filled-Hole Compression Properties (FHC3)--ETW1 (180°F)
Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

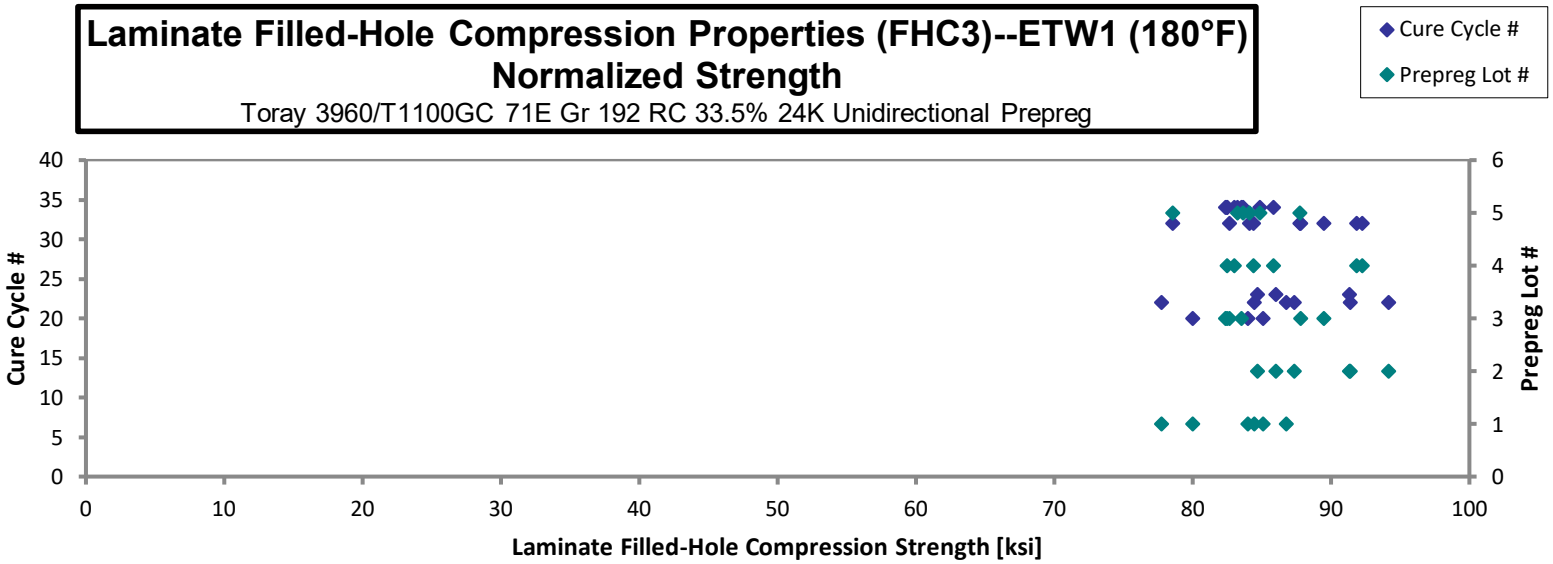
normalizing t_{ply} [in]
0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]
NTP3961Q1-TC-T01-BT-FHC3-A-C20-2-ETW1-1	A	C20	1	20	83.11	0.1474	20	MGM	0.007370	85.07
NTP3961Q1-TC-T01-BT-FHC3-A-C20-2-ETW1-2	A	C20	1	20	79.46	0.1450	20	MGM	0.007250	80.01
NTP3961Q1-TC-T01-BT-FHC3-A-C20-2-ETW1-3	A	C20	1	20	83.43	0.1450	20	MGM	0.007250	84.01
NTP3961Q1-TC-T01-BT-FHC3-A-C22-1-ETW1-1	A	C22	1	22	82.61	0.1472	20	MGM	0.007360	84.45
NTP3961Q1-TC-T01-BT-FHC3-A-C22-1-ETW1-2	A	C22	1	22	76.27	0.1468	20	MGM	0.007340	77.75
NTP3961Q1-TC-T01-BT-FHC3-A-C22-1-ETW1-3	A	C22	1	22	85.09	0.1468	20	MGM	0.007340	86.74
NTP3961Q1-TC-T01-BT-FHC3-B-C22-2-ETW1-1	B	C22	2	22	90.90	0.1492	20	LGF	0.007460	94.18
NTP3961Q1-TC-T01-BT-FHC3-B-C22-2-ETW1-2	B	C22	2	22	85.17	0.1477	20	LGF	0.007386	87.36
NTP3961Q1-TC-T01-BT-FHC3-B-C22-2-ETW1-3	B	C22	2	22	90.01	0.1463	20	LGF	0.007313	91.42
NTP3961Q1-TC-T01-BT-FHC3-B-C23-2-ETW1-1	B	C23	2	23	82.13	0.1485	20	LGF	0.007424	84.69
NTP3961Q1-TC-T01-BT-FHC3-B-C23-2-ETW1-2	B	C23	2	23	83.92	0.1476	20	LGF	0.007379	86.01
NTP3961Q1-TC-T01-BT-FHC3-B-C23-2-ETW1-3	B	C23	2	23	88.85	0.1480	20	LGF	0.007400	91.32
NTP3961Q1-TC-T01-TC-FHC3-C-C32-1-ETW1-1	C	C32	3	32	82.45	0.1444	20	LGF	0.007221	82.68
NTP3961Q1-TC-T01-TC-FHC3-C-C32-1-ETW1-2	C	C32	3	32	89.10	0.1446	20	LGF	0.007231	89.48
NTP3961Q1-TC-T01-TC-FHC3-C-C32-1-ETW1-3	C	C32	3	32	87.01	0.1454	20	LGF	0.007268	87.83
NTP3961Q1-TC-T01-TC-FHC3-C-C34-1-ETW1-1	C	C34	3	34	81.42	0.1457	20	LGF	0.007285	82.38
NTP3961Q1-TC-T01-TC-FHC3-C-C34-1-ETW1-2	C	C34	3	34	82.01	0.1448	20	LGF	0.007242	82.48
NTP3961Q1-TC-T01-TC-FHC3-C-C34-1-ETW1-3	C	C34	3	34	83.04	0.1449	20	LGF	0.007243	83.54
NTP3961Q1-TC-T01-TC-FHC3-D-C32-1-ETW1-1	D	C32	4	32	90.26	0.1472	20	LGF	0.007359	92.25
NTP3961Q1-TC-T01-TC-FHC3-D-C32-1-ETW1-2	D	C32	4	32	90.48	0.1462	20	LGF	0.007308	91.84
NTP3961Q1-TC-T01-TC-FHC3-D-C32-1-ETW1-3	D	C32	4	32	83.39	0.1457	20	LGF	0.007286	84.38
NTP3961Q1-TC-T01-TC-FHC3-D-C34-1-ETW1-1	D	C34	4	34	81.26	0.1462	20	LGF	0.007308	82.47
NTP3961Q1-TC-T01-TC-FHC3-D-C34-1-ETW1-2	D	C34	4	34	81.22	0.1472	20	LGF	0.007358	83.00
NTP3961Q1-TC-T01-TC-FHC3-D-C34-1-ETW1-3	D	C34	4	34	84.80	0.1458	20	LGF	0.007291	85.87
NTP3961Q1-TC-T01-TC-FHC3-E-C32-1-ETW1-1	E	C32	5	32	84.58	0.1432	20	LGF	0.007160	84.11
NTP3961Q1-TC-T01-TC-FHC3-E-C32-1-ETW1-2	E	C32	5	32	77.83	0.1454	20	LGF	0.007270	78.59
NTP3961Q1-TC-T01-TC-FHC3-E-C32-1-ETW1-3	E	C32	5	32	86.73	0.1457	20	LGF	0.007287	87.77
NTP3961Q1-TC-T01-TC-FHC3-E-C34-1-ETW1-1	E	C34	5	34	84.66	0.1444	20	LGF	0.007218	84.87
NTP3961Q1-TC-T01-TC-FHC3-E-C34-1-ETW1-2	E	C34	5	34	82.05	0.1461	20	LGF	0.007307	83.26
NTP3961Q1-TC-T01-TC-FHC3-E-C34-1-ETW1-3	E	C34	5	34	82.30	0.1464	20	LGF	0.007318	83.65

*Fasteners torqued to 50 in-lb

Average	**84.18**	
Standard Dev.	**3.691**	
Coeff. of Var. [%]	**4.385**	
Min.	**76.27**	
Max.	**90.90**	
Number of Spec.	**30**	

$Average_{norm}$	**0.007308**	**85.45**
Standard $Dev._{norm}$		**3.991**
Coeff. of Var. $[\%]_{norm}$		**4.671**
Min.	**0.007160**	**77.75**
Max.	**0.007460**	**94.18**
Number of Spec.	**30**	**30**


Laminate Filled-Hole Compression Properties (FHC3)--ETW1 (180°F)
Normalized Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Filled-Hole Compression Strength [ksi]
0
5
10
15
20
25
30
35
40
0
1
2
3
4
5
6
0
10
20
30
40
50
60
70
80
90
100

Laminate Filled-Hole Compression Properties (FHC3)--ETW2 (250°F)
Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

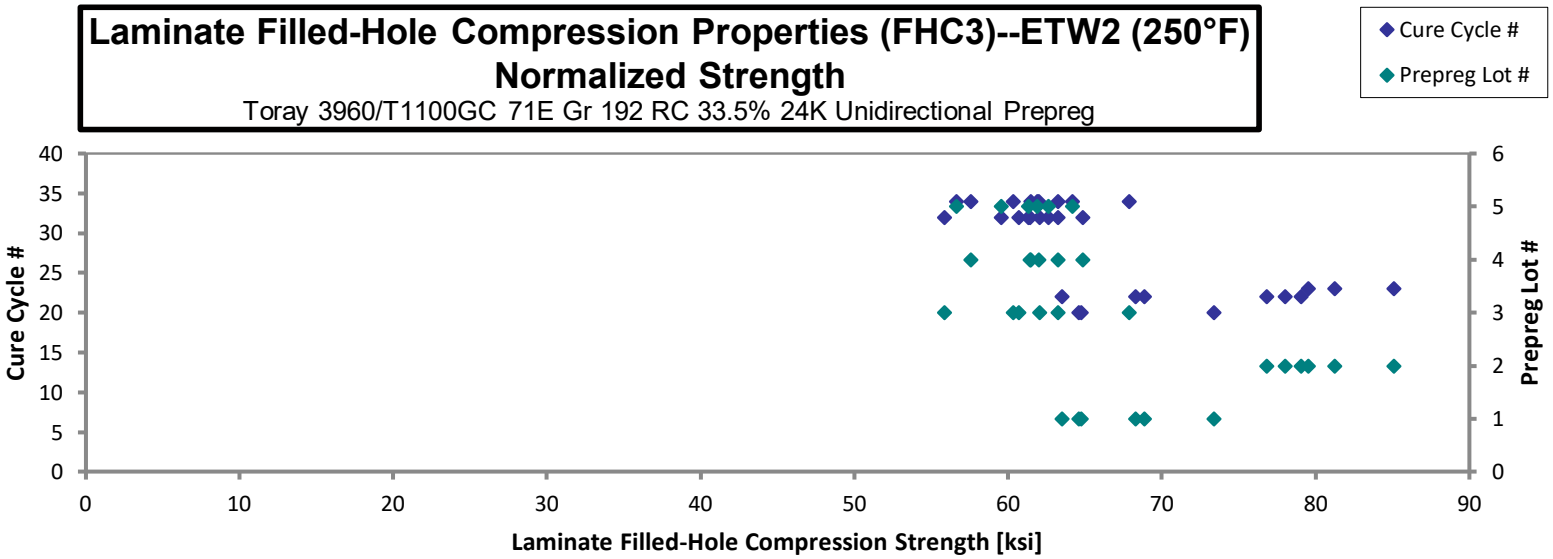
normalizing t_{ply} [in]
0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]
NTP3961Q1-TC-T01-BT-FHC3-A-C20-2-ETW2-1	A	C20	1	20	63.35	0.1473	20	LGF	0.007365	64.80
NTP3961Q1-TC-T01-BT-FHC3-A-C20-2-ETW2-2	A	C20	1	20	62.94	0.1478	20	LGF	0.007390	64.60
NTP3961Q1-TC-T01-BT-FHC3-A-C20-2-ETW2-3	A	C20	1	20	72.25	0.1463	20	LGF	0.007315	73.40
NTP3961Q1-TC-T01-BT-FHC3-A-C22-1-ETW2-1	A	C22	1	22	62.17	0.1472	20	LGF	0.007360	63.55
NTP3961Q1-TC-T01-BT-FHC3-A-C22-1-ETW2-2	A	C22	1	22	66.83	0.1472	20	LGF	0.007360	68.32
NTP3961Q1-TC-T01-BT-FHC3-A-C22-1-ETW2-3	A	C22	1	22	67.32	0.1474	20	LGF	0.007370	68.91
NTP3961Q1-TC-T01-BT-FHC3-B-C22-2-ETW2-1	B	C22	2	22	77.02	0.1459	20	LGF	0.007296	78.04
NTP3961Q1-TC-T01-BT-FHC3-B-C22-2-ETW2-2	B	C22	2	22	75.01	0.1476	20	LGF	0.007378	76.86
NTP3961Q1-TC-T01-BT-FHC3-B-C22-2-ETW2-3	B	C22	2	22	77.45	0.1470	20	LGF	0.007351	79.07
NTP3961Q1-TC-T01-BT-FHC3-B-C23-2-ETW2-1	B	C23	2	23	80.11	0.1461	20	LGF	0.007306	81.28
NTP3961Q1-TC-T01-BT-FHC3-B-C23-2-ETW2-2	B	C23	2	23	78.21	0.1465	20	LGF	0.007326	79.57
NTP3961Q1-TC-T01-BT-FHC3-B-C23-2-ETW2-3	B	C23	2	23	83.24	0.1472	20	LGF	0.007360	85.09
NTP3961Q1-TC-T01-TC-FHC3-C-C32-1-ETW2-1	C	C32	3	32	61.14	0.1462	20	LGF	0.007312	62.09
NTP3961Q1-TC-T01-TC-FHC3-C-C32-1-ETW2-2	C	C32	3	32	54.97	0.1464	20	LGF	0.007318	55.87
NTP3961Q1-TC-T01-TC-FHC3-C-C32-1-ETW2-3	C	C32	3	32	59.98	0.1458	20	LGF	0.007290	60.73
NTP3961Q1-TC-T01-TC-FHC3-C-C34-1-ETW2-2	C	C34	3	34	59.49	0.1461	20	LGF	0.007303	60.34
NTP3961Q1-TC-T01-TC-FHC3-C-C34-1-ETW2-3	C	C34	3	34	66.70	0.1466	20	LGF	0.007328	67.88
NTP3961Q1-TC-T01-TC-FHC3-C-C34-1-ETW2-4	C	C34	3	34	62.54	0.1456	20	LGF	0.007282	63.25
NTP3961Q1-TC-T01-TC-FHC3-D-C32-1-ETW2-1	D	C32	4	32	61.14	0.1490	20	LGF	0.007451	63.27
NTP3961Q1-TC-T01-TC-FHC3-D-C32-1-ETW2-2	D	C32	4	32	63.33	0.1476	20	LGF	0.007379	64.90
NTP3961Q1-TC-T01-TC-FHC3-D-C32-1-ETW2-3	D	C32	4	32	60.20	0.1470	20	LGF	0.007349	61.45
NTP3961Q1-TC-T01-TC-FHC3-D-C34-1-ETW2-1	D	C34	4	34	57.03	0.1455	20	LGF	0.007273	57.60
NTP3961Q1-TC-T01-TC-FHC3-D-C34-1-ETW2-2	D	C34	4	34	61.18	0.1447	20	LGF	0.007237	61.49
NTP3961Q1-TC-T01-TC-FHC3-D-C34-1-ETW2-3	D	C34	4	34	61.40	0.1454	20	LGF	0.007272	62.01
NTP3961Q1-TC-T01-TC-FHC3-E-C32-1-ETW2-1	E	C32	5	32	62.25	0.1450	20	LGF	0.007248	62.66
NTP3961Q1-TC-T01-TC-FHC3-E-C32-1-ETW2-2	E	C32	5	32	58.90	0.1457	20	LGF	0.007286	59.60
NTP3961Q1-TC-T01-TC-FHC3-E-C32-1-ETW2-3	E	C32	5	32	60.14	0.1469	20	LGF	0.007343	61.33
NTP3961Q1-TC-T01-TC-FHC3-E-C34-1-ETW2-1	E	C34	5	34	55.98	0.1458	20	LGF	0.007288	56.66
NTP3961Q1-TC-T01-TC-FHC3-E-C34-1-ETW2-2	E	C34	5	34	61.29	0.1455	20	LGF	0.007277	61.94
NTP3961Q1-TC-T01-TC-FHC3-E-C34-1-ETW2-3	E	C34	5	34	63.31	0.1461	20	LGF	0.007303	64.21

*Fasteners torqued to 50 in-lb

Average	**65.23**	
Standard Dev.	**7.630**	
Coeff. of Var. [%]	**11.70**	
Min.	**54.97**	
Max.	**83.24**	
Number of Spec.	**30**	

$Average_{norm}$	**0.007324**	**66.36**
$Standard\ Dev._{norm}$		**7.869**
$Coeff.\ of\ Var.\ [\%]_{norm}$		**11.86**
Min.	**0.007237**	**55.87**
Max.	**0.007451**	**85.09**
Number of Spec.	**30**	**30**


Laminate Filled-Hole Compression Properties (FHC3)--ETW2 (250°F)
Normalized Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Filled-Hole Compression Strength [ksi]
0
5
10
15
20
25
30
35
40
0
1
2
3
4
5
6
0
10
20
30
40
50
60
70
80
90

4.29 "25/50/25" Single-Shear Bearing 1 Properties (SSB1)

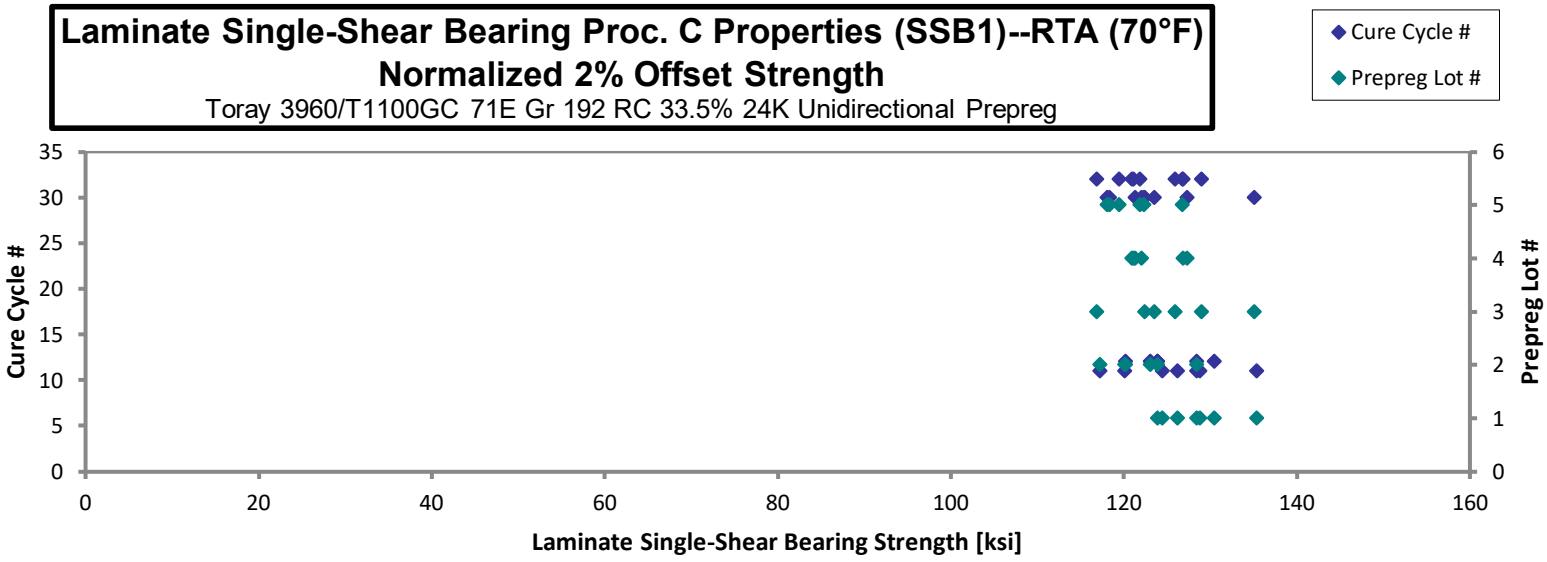
Laminate Single-Shear Bearing Proc. C Properties (SSB1)--RTA (70°F)
Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

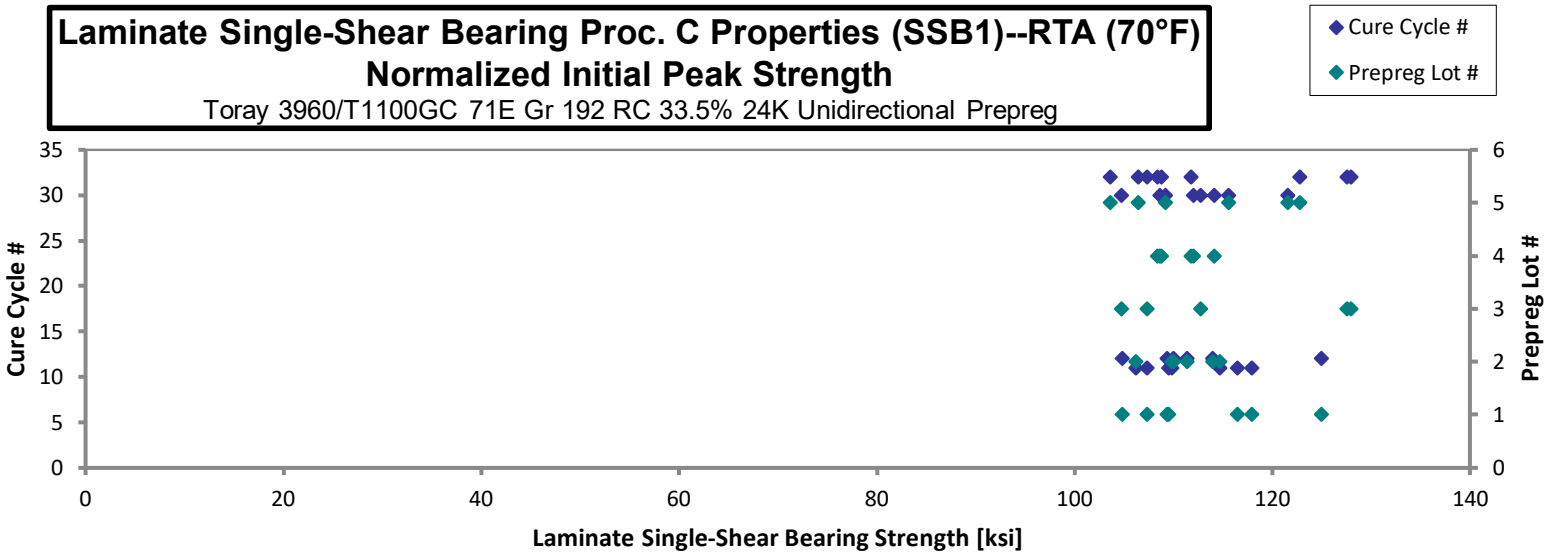
normalizing t_{ply} [in]: 0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	2% Offset Strength [ksi]	Initial Peak Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	2% Offset $Strength_{norm}$ [ksi]	Initial Peak $Strength_{norm}$ [ksi]
NTP3961Q1-TC-T01-BT-SSB1-A-C11-1-RTA-1	A	C11	1	11	124.2	116.3	0.1153	16	B1BN (Y3S)	0.007208	124.4	116.5
NTP3961Q1-TC-T01-BT-SSB1-A-C11-1-RTA-2	A	C11	1	11	127.2	116.4	0.1167	16	B1BN (Y3S)	0.007291	128.8	117.9
NTP3961Q1-TC-T01-BT-SSB1-A-C11-1-RTA-3	A	C11	1	11	124.2	105.6	0.1170	16	B1BN (Y3S)	0.007313	126.2	107.3
NTP3961Q1-TC-T01-BT-SSB1-A-C11-1-RTA-4	A	C11	1	11	133.2	107.8	0.1170	16	B1BN (E3S)	0.007313	135.3	109.4
NTP3961Q1-TC-T01-BT-SSB1-A-C12-1-RTA-1	A	C12	1	12	127.2	103.8	0.1163	16	B1BN (Y3S)	0.007268	128.4	104.8
NTP3961Q1-TC-T01-BT-SSB1-A-C12-1-RTA-2	A	C12	1	12	128.1	107.4	0.1172	16	B1BN (Y3S)	0.007327	130.4	109.3
NTP3961Q1-TC-T01-BT-SSB1-A-C12-1-RTA-3	A	C12	1	12	120.0	121.0	0.1189	16	B1BN (Y3S)	0.007433	123.9	124.9
NTP3961Q1-TC-T01-BT-SSB1-B-C11-1-RTA-1	B	C11	2	11	126.0	112.6	0.1173	16	B1BN	0.007332	128.3	114.7
NTP3961Q1-TC-T01-BT-SSB1-B-C11-1-RTA-2	B	C11	2	11	115.6	104.7	0.1168	16	B1BN	0.007301	117.2	106.2
NTP3961Q1-TC-T01-BT-SSB1-B-C11-1-RTA-3	B	C11	2	11	118.0	107.9	0.1172	16	B1BN	0.007326	120.0	109.8
NTP3961Q1-TC-T01-BT-SSB1-B-C12-1-RTA-1	B	C12	2	12	120.4	108.2	0.1185	16	B1BN	0.007406	123.8	111.3
NTP3961Q1-TC-T01-BT-SSB1-B-C12-1-RTA-2	B	C12	2	12	120.8	111.8	0.1174	16	B1BN	0.007335	123.0	113.9
NTP3961Q1-TC-T01-BT-SSB1-B-C12-1-RTA-3	B	C12	2	12	117.8	107.9	0.1175	16	B1BN	0.007341	120.1	110.0
NTP3961Q1-TC-T01-TC-SSB1-C-C30-2-RTA-1	C	C30	3	30	122.4	104.7	0.1153	16	B1I	0.007203	122.4	104.7
NTP3961Q1-TC-T01-TC-SSB1-C-C30-2-RTA-2	C	C30	3	30	122.4	111.8	0.1162	16	B1I	0.007261	123.4	112.7
NTP3961Q1-TC-T01-TC-SSB1-C-C30-2-RTA-3	C	C30	3	30	132.5		0.1174	16	B1I	0.007336	135.0	
NTP3961Q1-TC-T01-TC-SSB1-C-C32-2-RTA-1*	C	C32	3	32	116.9	107.3	0.1152	16	B1B	0.007200	116.9	107.3
NTP3961Q1-TC-T01-TC-SSB1-C-C32-2-RTA-2	C	C32	3	32	125.4	127.4	0.1157	16	B1B	0.007229	125.9	127.9
NTP3961Q1-TC-T01-TC-SSB1-C-C32-2-RTA-3	C	C32	3	32	128.8	127.4	0.1153	16	B1B	0.007207	128.9	127.5
NTP3961Q1-TC-T01-TC-SSB1-D-C30-2-RTA-1	D	C30	4	30	120.1	112.3	0.1170	16	B1B	0.007313	122.0	114.1
NTP3961Q1-TC-T01-TC-SSB1-D-C30-2-RTA-2	D	C30	4	30	119.4	106.9	0.1170	16	B1B	0.007313	121.3	108.6
NTP3961Q1-TC-T01-TC-SSB1-D-C30-2-RTA-3	D	C30	4	30	124.3	109.3	0.1180	16	B1B	0.007375	127.3	112.0
NTP3961Q1-TC-T01-TC-SSB1-D-C32-2-RTA-1	D	C32	4	32	120.1	107.6	0.1160	16	B1B	0.007250	120.9	108.4
NTP3961Q1-TC-T01-TC-SSB1-D-C32-2-RTA-2	D	C32	4	32	119.2	107.1	0.1170	16	B1B	0.007313	121.1	108.8
NTP3961Q1-TC-T01-TC-SSB1-D-C32-2-RTA-3	D	C32	4	32	123.8	109.1	0.1180	16	B1B	0.007375	126.8	111.7
NTP3961Q1-TC-T01-TC-SSB1-E-C30-2-RTA-1	E	C30	5	30	118.5	115.7	0.1150	16	B1B	0.007188	118.3	115.5
NTP3961Q1-TC-T01-TC-SSB1-E-C30-2-RTA-2	E	C30	5	30	121.4	120.7	0.1160	16	B1B	0.007250	122.3	121.5
NTP3961Q1-TC-T01-TC-SSB1-E-C30-2-RTA-3	E	C30	5	30	116.2	107.5	0.1170	16	B1B	0.007313	118.1	109.1
NTP3961Q1-TC-T01-TC-SSB1-E-C32-2-RTA-1	E	C32	5	32	121.0	102.8	0.1160	16	B1B	0.007250	121.8	103.6
NTP3961Q1-TC-T01-TC-SSB1-E-C32-2-RTA-2	E	C32	5	32	119.6	106.6	0.1150	16	B1B	0.007188	119.4	106.4
NTP3961Q1-TC-T01-TC-SSB1-E-C32-2-RTA-3	E	C32	5	32	125.9	121.9	0.1160	16	B1B	0.007250	126.7	122.8

*Fastener torque at 45 in-lb

Average	122.6	111.3	$Average_{norm}$	0.007290	124.1	112.6
Standard Dev.	4.507	6.708	$Standard\ Dev._{norm}$		4.721	6.667
Coeff. of Var. [%]	3.677	6.029	Coeff. of Var. $[\%]_{norm}$		3.803	5.920
Min.	115.6	102.8	Min.	0.007188	116.9	103.6
Max.	133.2	127.4	Max.	0.007433	135.3	127.9
Number of Spec.	31	30	Number of Spec.	31	31	30


Laminate Single-Shear Bearing Proc. C Properties (SSB1)--RTA (70°F)
Normalized 2% Offset Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Single-Shear Bearing Strength [ksi]
0
5
10
15
20
25
30
35
0
1
2
3
4
5
6
0
20
40
60
80
100
120
140
160


Laminate Single-Shear Bearing Proc. C Properties (SSB1)--RTA (70°F)
Normalized Initial Peak Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Single-Shear Bearing Strength [ksi]
0
5
10
15
20
25
30
35
0
1
2
3
4
5
6
0
20
40
60
80
100
120
140

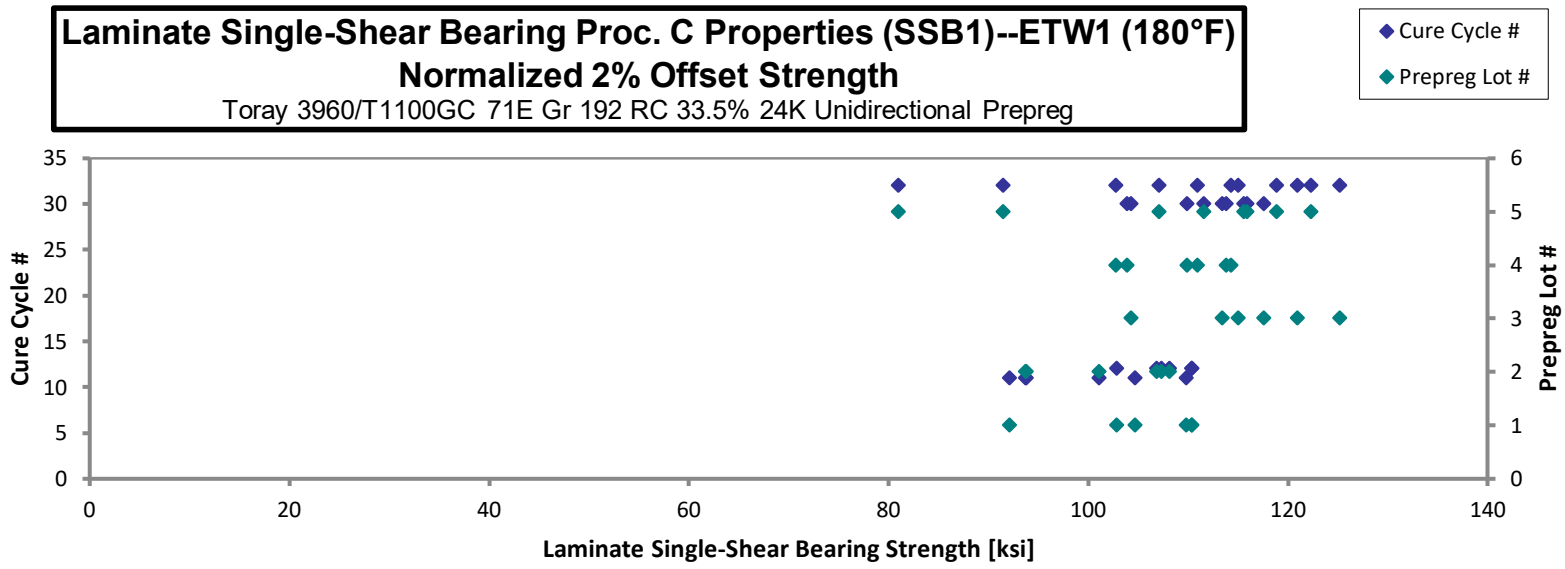
Laminate Single-Shear Bearing Proc. C Properties (SSB1)--ETW1 (180°F)
Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

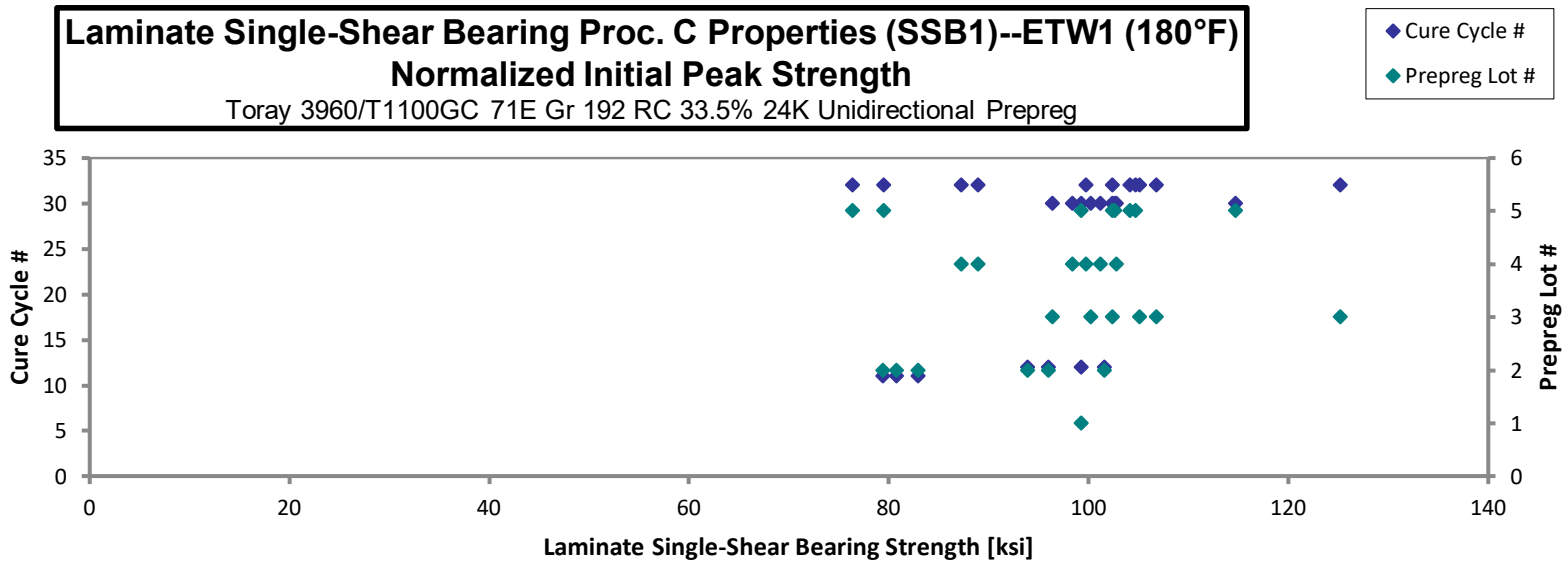
normalizing t_{ply} [in]: 0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	2% Offset Strength [ksi]	Initial Peak Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	2% Offset $Strength_{norm}$ [ksi]	Initial Peak $Strength_{norm}$ [ksi]
NTP3961Q1-TC-T01-BT-SSB1-A-C11-1-ETW1-1	A	C11	1	11	104.0		0.1159	16	B1BN (Y3S)	0.007241	104.6	
NTP3961Q1-TC-T01-BT-SSB1-A-C11-1-ETW1-2	A	C11	1	11	107.4		0.1178	16	B1BN (Y3S)	0.007363	109.8	
NTP3961Q1-TC-T01-BT-SSB1-A-C11-1-ETW1-3	A	C11	1	11	90.10		0.1178	16	B1BN (Y3S)	0.007361	92.12	
NTP3961Q1-TC-T01-BT-SSB1-A-C12-1-ETW1-1	A	C12	1	12	102.1	98.59	0.1160	16	B1BN (Y3S)	0.007250	102.8	99.27
NTP3961Q1-TC-T01-BT-SSB1-A-C12-1-ETW1-2	A	C12	1	12	107.9		0.1178	16	B1BN (Y3S)	0.007361	110.4	
NTP3961Q1-TC-T01-BT-SSB1-A-C12-1-ETW1-3	A	C12	1	12	107.5		0.1183	16	B1BN (Y3S)	0.007394	110.4	
NTP3961Q1-TC-T01-BT-SSB1-B-C11-1-ETW1-2	B	C11	2	11	99.04	81.26	0.1176	16	B1I Y3S	0.007348	101.1	82.92
NTP3961Q1-TC-T01-BT-SSB1-B-C11-1-ETW1-3	B	C11	2	11	91.04	77.19	0.1185	16	B1I Y3S	0.007408	93.67	79.42
NTP3961Q1-TC-T01-BT-SSB1-B-C11-1-ETW1-4	B	C11	2	11	93.13	80.24	0.1160	16	B1I Y3S	0.007251	93.78	80.80
NTP3961Q1-TC-T01-BT-SSB1-B-C12-1-ETW1-1	B	C12	2	12	105.2	94.49	0.1170	16	B1I Y3S	0.007313	106.8	95.97
NTP3961Q1-TC-T01-BT-SSB1-B-C12-1-ETW1-2	B	C12	2	12	104.8	99.21	0.1180	16	B1I Y3S	0.007375	107.3	101.6
NTP3961Q1-TC-T01-BT-SSB1-B-C12-1-ETW1-3	B	C12	2	12	105.5	91.69	0.1180	16	B1I Y3S	0.007375	108.1	93.92
NTP3961Q1-TC-T01-TC-SSB1-C-C30-2-ETW1-1	C	C30	3	30	103.5	95.77	0.1160	16	B1I Y3S	0.007250	104.3	96.44
NTP3961Q1-TC-T01-TC-SSB1-C-C30-2-ETW1-2	C	C30	3	30	113.6	100.4	0.1150	16	B1I Y3S	0.007188	113.4	100.2
NTP3961Q1-TC-T01-TC-SSB1-C-C30-2-ETW1-3	C	C30	3	30	115.7	100.8	0.1170	16	B1I Y3S	0.007313	117.5	102.4
NTP3961Q1-TC-T01-TC-SSB1-C-C32-2-ETW1-1	C	C32	3	32	125.4	125.4	0.1150	16	B1I Y3S	0.007188	125.2	125.2
NTP3961Q1-TC-T01-TC-SSB1-C-C32-2-ETW1-2	C	C32	3	32	121.1	107.0	0.1150	16	B1I Y3S	0.007188	120.9	106.8
NTP3961Q1-TC-T01-TC-SSB1-C-C32-2-ETW1-3	C	C32	3	32	114.2	104.4	0.1160	16	B1I Y3S	0.007250	115.0	105.1
NTP3961Q1-TC-T01-TC-SSB1-D-C30-2-ETW1-1	D	C30	4	30	112.0	96.87	0.1170	16	B1I / Y3S	0.007314	113.8	98.41
NTP3961Q1-TC-T01-TC-SSB1-D-C30-2-ETW1-2	D	C30	4	30	108.2	99.62	0.1170	16	B1I / Y3S	0.007313	109.9	101.2
NTP3961Q1-TC-T01-TC-SSB1-D-C30-2-ETW1-3	D	C30	4	30	102.2	101.2	0.1170	16	B1I / Y3S	0.007313	103.8	102.8
NTP3961Q1-TC-T01-TC-SSB1-D-C32-2-ETW1-1	D	C32	4	32	101.2	87.56	0.1170	16	B1I / Y3S	0.007313	102.8	88.93
NTP3961Q1-TC-T01-TC-SSB1-D-C32-2-ETW1-2	D	C32	4	32	110.1	99.07	0.1160	16	B1I / Y3S	0.007250	110.9	99.76
NTP3961Q1-TC-T01-TC-SSB1-D-C32-2-ETW1-3	D	C32	4	32	111.6	85.22	0.1180	16	B1I / Y3S	0.007375	114.3	87.29
NTP3961Q1-TC-T01-TC-SSB1-E-C30-2-ETW1-1	E	C30	5	30	114.8	114.0	0.1160	16	B1I / Y3S	0.007250	115.6	114.7
NTP3961Q1-TC-T01-TC-SSB1-E-C30-2-ETW1-2	E	C30	5	30	110.8	98.61	0.1160	16	B1I / Y3S	0.007250	111.6	99.29
NTP3961Q1-TC-T01-TC-SSB1-E-C30-2-ETW1-3	E	C30	5	30	115.1	102.0	0.1160	16	B1I / Y3S	0.007250	115.9	102.7
NTP3961Q1-TC-T01-TC-SSB1-E-C32-2-ETW1-1	E	C32	5	32	80.37	75.88	0.1160	16	B1I / Y3S	0.007250	80.93	76.41
NTP3961Q1-TC-T01-TC-SSB1-E-C32-2-ETW1-2	E	C32	5	32	118.0	101.7	0.1160	16	B1I / Y3S	0.007250	118.8	102.4
NTP3961Q1-TC-T01-TC-SSB1-E-C32-2-ETW1-3	E	C32	5	32	121.4	103.4	0.1160	16	B1I / Y3S	0.007250	122.3	104.1
NTP3961Q1-TC-T01-TC-SSB1-E-C32-2-ETW1-4	E	C32	5	32	105.4	103.1	0.1170	16	B1I / Y3S	0.007313	107.1	104.8
NTP3961Q1-TC-T01-TC-SSB1-E-C32-2-ETW1-5	E	C32	5	32	90.03	78.29	0.1170	16	B1I / Y3S	0.007313	91.4	79.51

Average	**106.6**	**96.40**	
Standard Dev.	**10.06**	**11.45**	
Coeff. of Var. [%]	**9.438**	**11.88**	
Min.	**80.37**	**75.88**	
Max.	**125.4**	**125.4**	
Number of Spec.	**32**	**27**	

$Average_{norm}$	**0.007294**	**108.0**	**97.49**
Standard $Dev._{norm}$		**9.833**	**11.16**
Coeff. of Var. $[\%]_{norm}$		**9.104**	**11.45**
Min.	**0.007188**	**80.93**	**76.41**
Max.	**0.007408**	**125.2**	**125.2**
Number of Spec.	**32**	**32**	**27**


Laminate Single-Shear Bearing Proc. C Properties (SSB1)--ETW1 (180°F)
Normalized 2% Offset Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Single-Shear Bearing Strength [ksi]
0
5
10
15
20
25
30
35
0
1
2
3
4
5
6
0
20
40
60
80
100
120
140

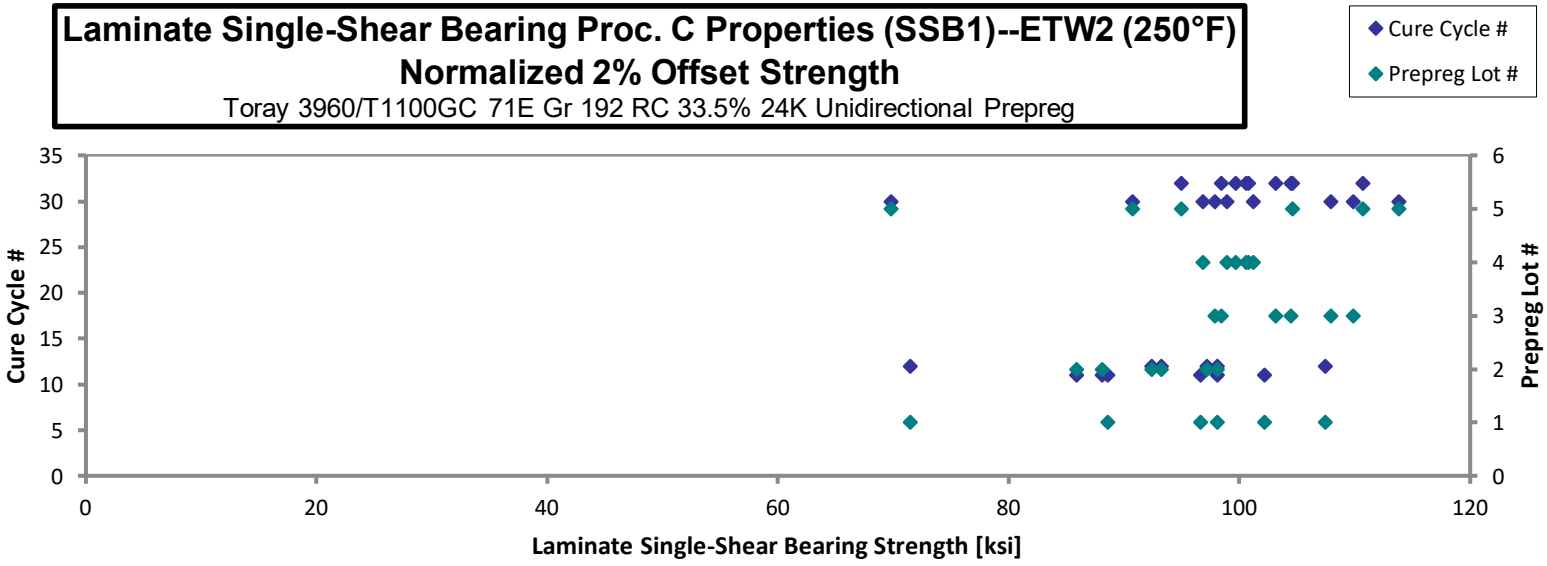

Laminate Single-Shear Bearing Proc. C Properties (SSB1)--ETW1 (180°F)
Normalized Initial Peak Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Single-Shear Bearing Strength [ksi]
0
5
10
15
20
25
30
35
0
1
2
3
4
5
6
0
20
40
60
80
100
120
140

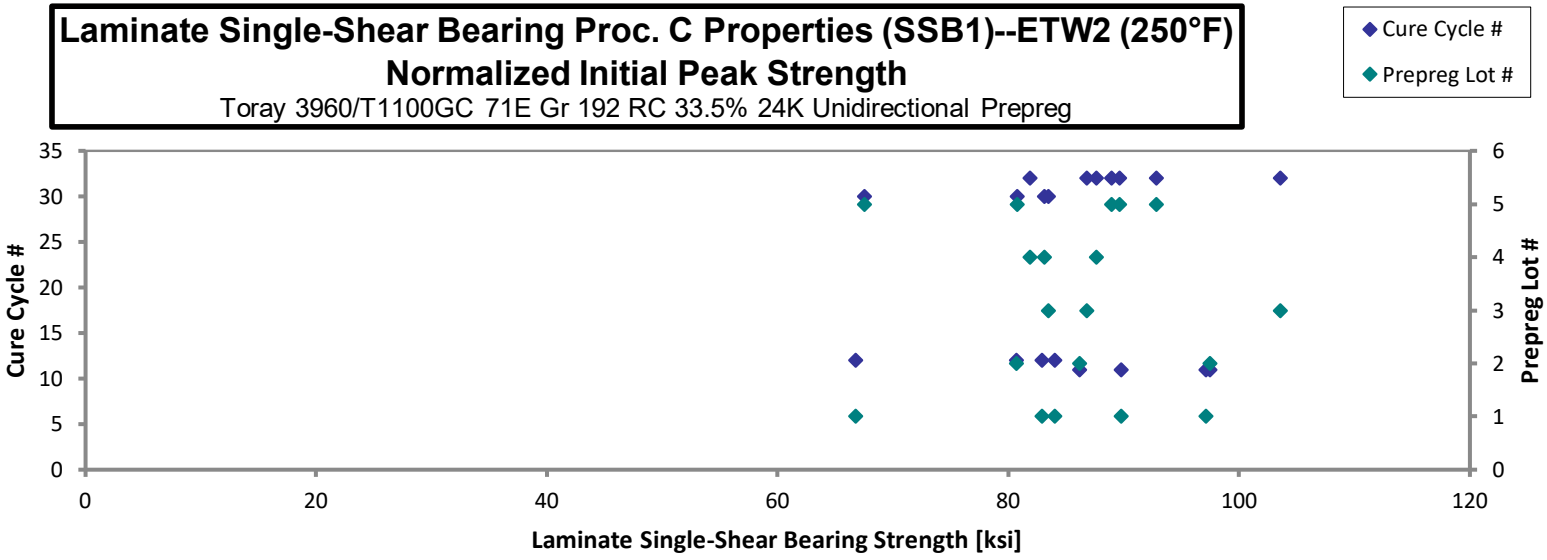
Laminate Single-Shear Bearing Proc. C Properties (SSB1)--ETW2 (250°F)
Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

normalizing t_{ply} [in]
0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	2% Offset Strength [ksi]	Initial Peak Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	2% Offset $Strength_{norm}$ [ksi]	Initial Peak $Strength_{norm}$ [ksi]
NTP3961Q1-TC-T01-BT-SSB1-A-C11-1-ETW2-1	A	C11	1	11	87.20	88.34	0.1171	16	B1BN	0.007319	88.65	89.80
NTP3961Q1-TC-T01-BT-SSB1-A-C11-1-ETW2-2	A	C11	1	11	95.17	95.67	0.1170	16	B1BN	0.007311	96.64	97.15
NTP3961Q1-TC-T01-BT-SSB1-A-C11-1-ETW2-3	A	C11	1	11	101.8		0.1158	16	B1BN	0.007234	102.2	
NTP3961Q1-TC-T01-BT-SSB1-A-C12-1-ETW2-2	A	C12	1	12	96.92	81.92	0.1166	16	B1BN	0.007288	98.11	82.92
NTP3961Q1-TC-T01-BT-SSB1-A-C12-1-ETW2-3	A	C12	1	12	106.7	83.45	0.1161	16	B1BN	0.007253	107.5	84.07
NTP3961Q1-TC-T01-BT-SSB1-A-C12-1-ETW2-4	A	C12	1	12	70.57	65.91	0.1167	16	B1BN	0.007294	71.50	66.77
NTP3961Q1-TC-T01-BT-SSB1-B-C11-1-ETW2-1	B	C11	2	11	83.22		0.1190	16	B1I	0.007434	85.93	
NTP3961Q1-TC-T01-BT-SSB1-B-C11-1-ETW2-2	B	C11	2	11	86.54	84.66	0.1173	16	B1I	0.007331	88.12	86.20
NTP3961Q1-TC-T01-BT-SSB1-B-C11-1-ETW2-3	B	C11	2	11	95.65	95.04	0.1182	16	B1I	0.007384	98.10	97.47
NTP3961Q1-TC-T01-BT-SSB1-B-C12-1-ETW2-1	B	C12	2	12	91.59		0.1174	16	B1I	0.007334	93.30	
NTP3961Q1-TC-T01-BT-SSB1-B-C12-1-ETW2-2	B	C12	2	12	95.06		0.1178	16	B1I	0.007364	97.23	
NTP3961Q1-TC-T01-BT-SSB1-B-C12-1-ETW2-3	B	C12	2	12	90.30	78.87	0.1179	16	B1I	0.007371	92.44	80.74
NTP3961Q1-TC-T01-TC-SSB1-C-C30-2-ETW2-1	C	C30	3	30	97.45		0.1158	16	B1I	0.007234	97.92	
NTP3961Q1-TC-T01-TC-SSB1-C-C30-2-ETW2-2	C	C30	3	30	108.2		0.1171	16	B1I	0.007319	109.9	
NTP3961Q1-TC-T01-TC-SSB1-C-C30-2-ETW2-3	C	C30	3	30	105.9	81.85	0.1175	16	B1I	0.007344	108.0	83.49
NTP3961Q1-TC-T01-TC-SSB1-C-C32-2-ETW2-1	C	C32	3	32	99.18		0.1144	16	B1I	0.007149	98.47	
NTP3961Q1-TC-T01-TC-SSB1-C-C32-2-ETW2-2	C	C32	3	32	104.8	87.07	0.1149	16	B1I	0.007179	104.5	86.81
NTP3961Q1-TC-T01-TC-SSB1-C-C32-2-ETW2-4	C	C32	3	32	101.6	101.9	0.1171	16	B1I	0.007316	103.2	103.6
NTP3961Q1-TC-T01-TC-SSB1-D-C30-2-ETW2-1	D	C30	4	30	95.41	81.84	0.1170	16	B1I / Y3S	0.007313	96.90	83.12
NTP3961Q1-TC-T01-TC-SSB1-D-C30-2-ETW2-2	D	C30	4	30	97.40		0.1170	16	B1I / Y3S	0.007313	98.92	
NTP3961Q1-TC-T01-TC-SSB1-D-C30-2-ETW2-3	D	C30	4	30	100.5		0.1160	16	B1I / Y3S	0.007250	101.2	
NTP3961Q1-TC-T01-TC-SSB1-D-C32-2-ETW2-1	D	C32	4	32	98.24		0.1180	16	B1I / Y3S	0.007375	100.6	
NTP3961Q1-TC-T01-TC-SSB1-D-C32-2-ETW2-2	D	C32	4	32	98.20	86.32	0.1170	16	B1I / Y3S	0.007313	99.73	87.67
NTP3961Q1-TC-T01-TC-SSB1-D-C32-2-ETW2-3	D	C32	4	32	98.40	79.97	0.1180	16	B1I / Y3S	0.007375	100.8	81.91
NTP3961Q1-TC-T01-TC-SSB1-E-C30-2-ETW2-1	E	C30	5	30	89.77	79.89	0.1165	16	B1BN	0.007278	90.74	80.76
NTP3961Q1-TC-T01-TC-SSB1-E-C30-2-ETW2-2	E	C30	5	30	112.7		0.1164	16	B1BN	0.007276	113.9	
NTP3961Q1-TC-T01-TC-SSB1-E-C30-2-ETW2-3	E	C30	5	30	69.01	66.71	0.1166	16	B1BN	0.007288	69.85	67.53
NTP3961Q1-TC-T01-TC-SSB1-E-C32-2-ETW2-1	E	C32	5	32	94.96	88.94	0.1153	16	B1BN	0.007203	95.00	88.98
NTP3961Q1-TC-T01-TC-SSB1-E-C32-2-ETW2-2	E	C32	5	32	109.7	91.99	0.1163	16	B1BN	0.007269	110.7	92.87
NTP3961Q1-TC-T01-TC-SSB1-E-C32-2-ETW2-3	E	C32	5	32	103.7	88.91	0.1162	16	B1BN	0.007263	104.6	89.68

Average	**96.19**	**84.70**	**Average$_{norm}$**	**0.007299**	**97.49**	**85.87**
Standard Dev.	**9.958**	**8.869**	**Standard Dev.$_{norm}$**		**9.901**	**9.013**
Coeff. of Var. [%]	**10.35**	**10.47**	**Coeff. of Var. [%]$_{norm}$**		**10.16**	**10.50**
Min.	**69.01**	**65.91**	**Min.**	**0.007149**	**69.85**	**66.77**
Max.	**112.7**	**101.9**	**Max.**	**0.007434**	**113.9**	**103.6**
Number of Spec.	**30**	**19**	**Number of Spec.**	**30**	**30**	**19**


Laminate Single-Shear Bearing Proc. C Properties (SSB1)--ETW2 (250°F)
Normalized 2% Offset Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Single-Shear Bearing Strength [ksi]
0
5
10
15
20
25
30
35
0
1
2
3
4
5
6
0
20
40
60
80
100
120


Laminate Single-Shear Bearing Proc. C Properties (SSB1)--ETW2 (250°F)
Normalized Initial Peak Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Single-Shear Bearing Strength [ksi]
0
5
10
15
20
25
30
35
0
1
2
3
4
5
6
0
20
40
60
80
100
120

4.30 "10/80/10" Single-Shear Bearing 2 Properties (SSB2)

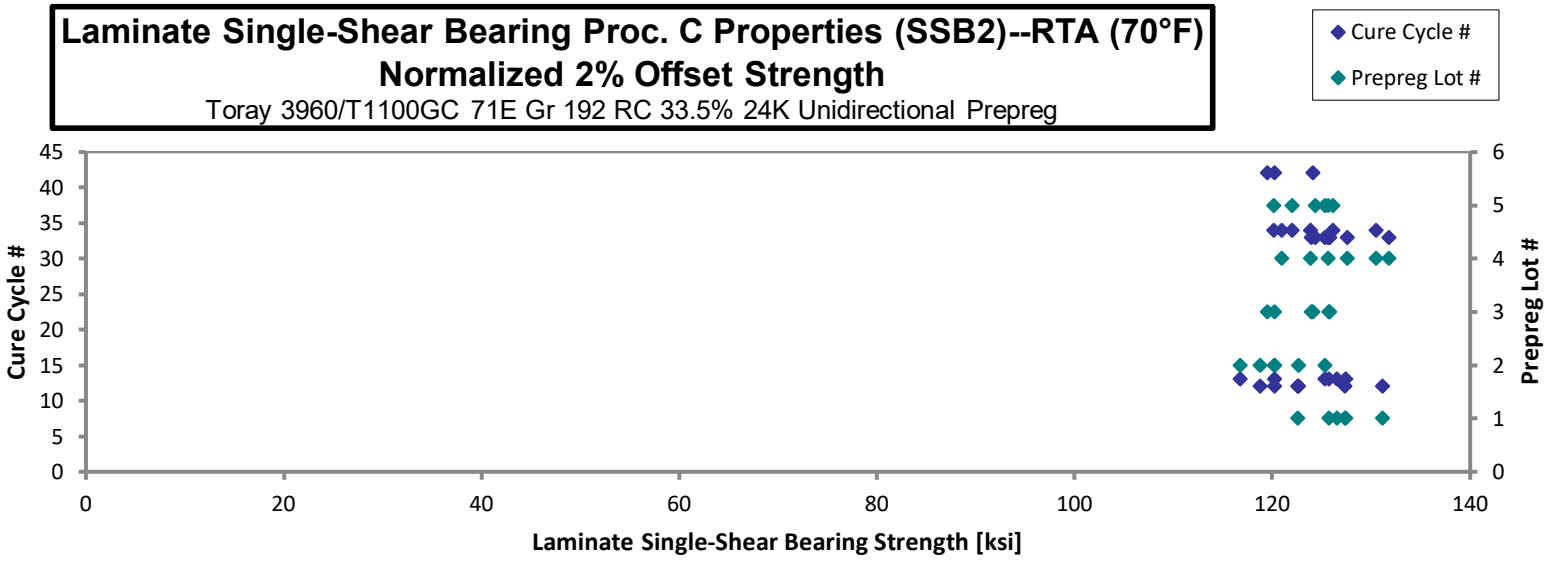
Laminate Single-Shear Bearing Proc. C Properties (SSB2)--RTA (70°F)
Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

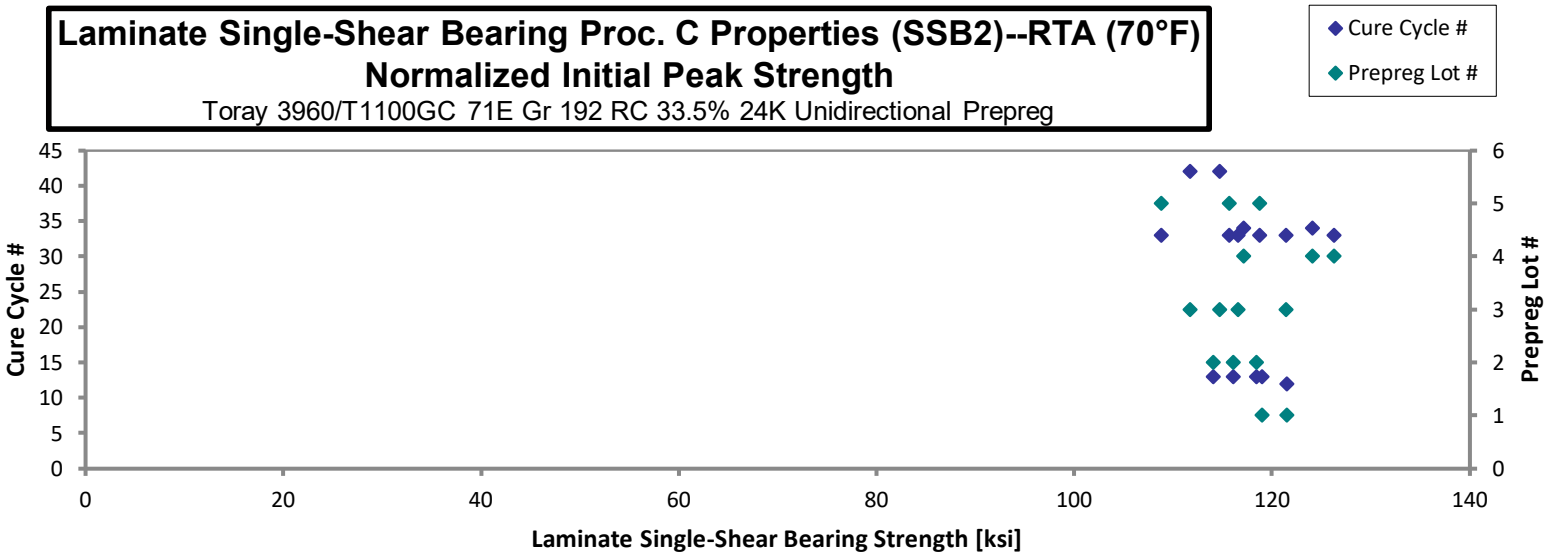
normalizing t_{ply} [in]
0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	2% Offset Strength [ksi]	Initial Peak Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	2% Offset $Strength_{norm}$ [ksi]	Initial Peak $Strength_{norm}$ [ksi]
NTP3961Q1-TC-T01-BT-SSB2-A-C12-1-RTA-1	A	C12	1	12	127.5	121.6	0.1438	20	B1BN (Y3S)	0.007192	127.4	121.5
NTP3961Q1-TC-T01-BT-SSB2-A-C12-1-RTA-2	A	C12	1	12	127.2		0.1485	20	B1BN (Y3S)	0.007424	131.1	
NTP3961Q1-TC-T01-BT-SSB2-A-C12-1-RTA-3	A	C12	1	12	119.6		0.1475	20	B1BN (Y3S)	0.007375	122.5	
NTP3961Q1-TC-T01-BT-SSB2-A-C13-1-RTA-2	A	C13	1	13	125.5		0.1451	20	B1BN (Y3S)	0.007256	126.5	
NTP3961Q1-TC-T01-BT-SSB2-A-C13-1-RTA-3	A	C13	1	13	121.1		0.1495	20	B1BN (Y3S)	0.007475	125.7	
NTP3961Q1-TC-T01-BT-SSB2-A-C13-1-RTA-1	A	C13	1	13	124.9	116.6	0.1470	20	B1BN (Y3S)	0.007348	127.4	119.0
NTP3961Q1-TC-T01-BT-SSB2-B-C12-1-RTA-1	B	C12	2	12	117.6		0.1472	20	B1BN (YH3, E3S)	0.007361	120.2	
NTP3961Q1-TC-T01-BT-SSB2-B-C12-1-RTA-2	B	C12	2	12	121.0		0.1459	20	B1BN (YH3, E3S)	0.007296	122.6	
NTP3961Q1-TC-T01-BT-SSB2-B-C12-1-RTA-3	B	C12	2	12	115.7		0.1478	20	B1BN (YH3, E3S)	0.007390	118.8	
NTP3961Q1-TC-T01-BT-SSB2-B-C13-1-RTA-1	B	C13	2	13	114.0	111.4	0.1475	20	B1BN (YH3, E3S)	0.007373	116.7	114.0
NTP3961Q1-TC-T01-BT-SSB2-B-C13-1-RTA-2	B	C13	2	13	121.5	114.9	0.1485	20	B1BN (YH3, E3S)	0.007425	125.3	118.4
NTP3961Q1-TC-T01-BT-SSB2-B-C13-1-RTA-3	B	C13	2	13	118.4	114.4	0.1462	20	B1BN (YH3, E3S)	0.007310	120.2	116.1
NTP3961Q1-TC-T01-TC-SSB2-C-C33-2-RTA-1	C	C33	3	33	122.9	120.4	0.1452	20	B1B	0.007262	123.9	121.4
NTP3961Q1-TC-T01-TC-SSB2-C-C33-2-RTA-2	C	C33	3	33	124.5		0.1455	20	B1B	0.007276	125.8	
NTP3961Q1-TC-T01-TC-SSB2-C-C33-2-RTA-3	C	C33	3	33	123.2	114.3	0.1469	20	B1N	0.007345	125.7	116.6
NTP3961Q1-TC-T01-TC-SSB2-C-C42-2-RTA-1	C	C42	3	42	118.2	110.5	0.1456	20	B1N	0.007282	119.5	111.7
NTP3961Q1-TC-T01-TC-SSB2-C-C42-2-RTA-2	C	C42	3	42	119.3	113.9	0.1451	20	B1N	0.007253	120.2	114.7
NTP3961Q1-TC-T01-TC-SSB2-C-C42-2-RTA-3	C	C42	3	42	123.5		0.1448	20	B1N	0.007238	124.1	
NTP3961Q1-TC-T01-TC-SSB2-D-C33-2-RTA-1	D	C33	4	33	123.9		0.1460	20	B1B	0.007300	125.6	
NTP3961Q1-TC-T01-TC-SSB2-D-C33-2-RTA-2	D	C33	4	33	129.1		0.1470	20	B1B	0.007350	131.8	
NTP3961Q1-TC-T01-TC-SSB2-D-C33-2-RTA-3	D	C33	4	33	125.8	124.6	0.1460	20	B1B	0.007300	127.6	126.3
NTP3961Q1-TC-T01-TC-SSB2-D-C34-2-RTA-1	D	C34	4	34	119.3		0.1460	20	B1B	0.007300	120.9	
NTP3961Q1-TC-T01-TC-SSB2-D-C34-2-RTA-2	D	C34	4	34	122.2	122.4	0.1460	20	B1B	0.007300	123.8	124.1
NTP3961Q1-TC-T01-TC-SSB2-D-C34-2-RTA-3	D	C34	4	34	128.7	115.5	0.1460	20	B1B	0.007300	130.5	117.1
NTP3961Q1-TC-T01-TC-SSB2-E-C33-2-RTA-1	E	C33	5	33	124.8	117.9	0.1450	20	B1B	0.007250	125.6	118.7
NTP3961Q1-TC-T01-TC-SSB2-E-C33-2-RTA-2	E	C33	5	33	122.7	107.3	0.1460	20	B1B	0.007300	124.4	108.8
NTP3961Q1-TC-T01-TC-SSB2-E-C33-2-RTA-3	E	C33	5	33	123.6	114.1	0.1460	20	B1B	0.007300	125.3	115.7
NTP3961Q1-TC-T01-TC-SSB2-E-C34-2-RTA-1	E	C34	5	34	119.3		0.1450	20	B1B	0.007250	120.1	
NTP3961Q1-TC-T01-TC-SSB2-E-C34-2-RTA-2	E	C34	5	34	125.3		0.1450	20	B1B	0.007250	126.1	
NTP3961Q1-TC-T01-TC-SSB2-E-C34-2-RTA-3	E	C34	5	34	121.2		0.1450	20	B1B	0.007250	122.0	

Average	**122.4**	**116.0**	
Standard Dev.	**3.716**	**4.722**	
Coeff. of Var. [%]	**3.037**	**4.072**	
Min.	**114.0**	**107.3**	
Max.	**129.1**	**124.6**	
Number of Spec.	**30**	**15**	

$Average_{norm}$	**0.007311**	**124.2**	**117.6**
Standard $Dev._{norm}$		**3.680**	**4.564**
Coeff. of Var. $[\%]_{norm}$		**2.962**	**3.881**
Min.	**0.007192**	**116.7**	**108.8**
Max.	**0.007475**	**131.8**	**126.3**
Number of Spec.	**30**	**30**	**15**


Laminate Single-Shear Bearing Proc. C Properties (SSB2)--RTA (70°F)
Normalized 2% Offset Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Single-Shear Bearing Strength [ksi]
0
5
10
15
20
25
30
35
40
45
0
1
2
3
4
5
6
0
20
40
60
80
100
120
140

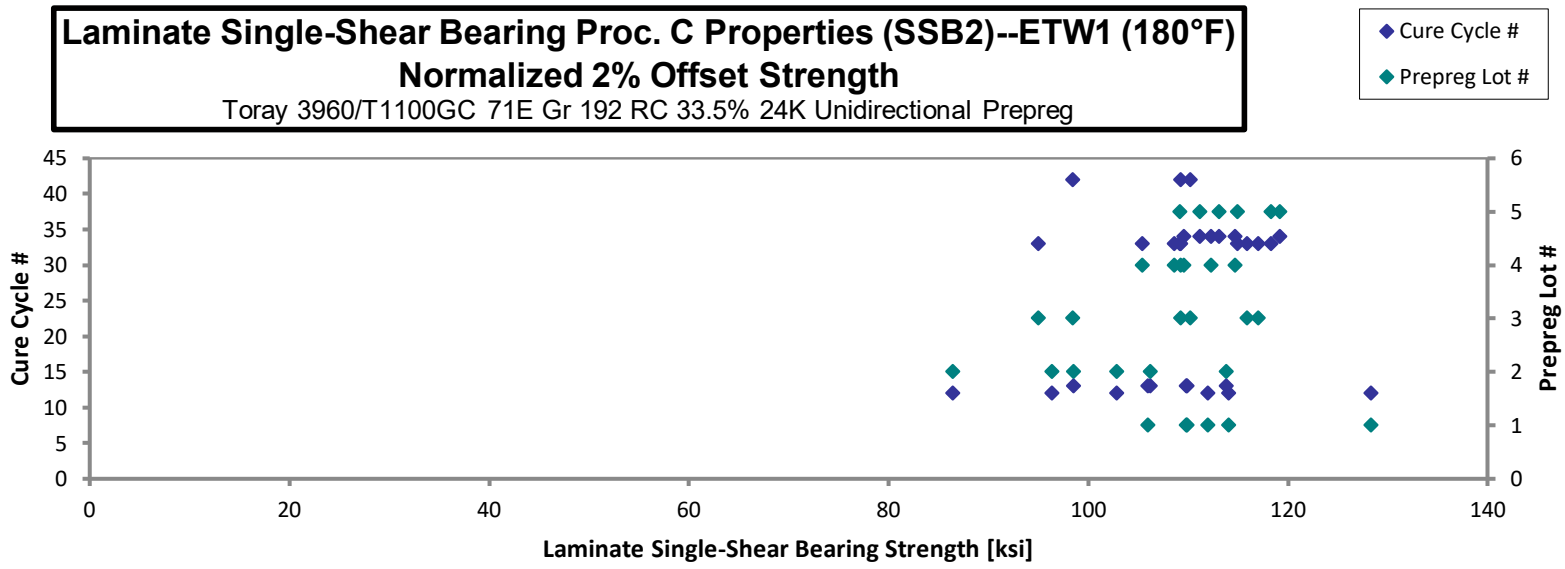

Laminate Single-Shear Bearing Proc. C Properties (SSB2)--RTA (70°F)
Normalized Initial Peak Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Single-Shear Bearing Strength [ksi]
0
5
10
15
20
25
30
35
40
45
0
1
2
3
4
5
6
0
20
40
60
80
100
120
140

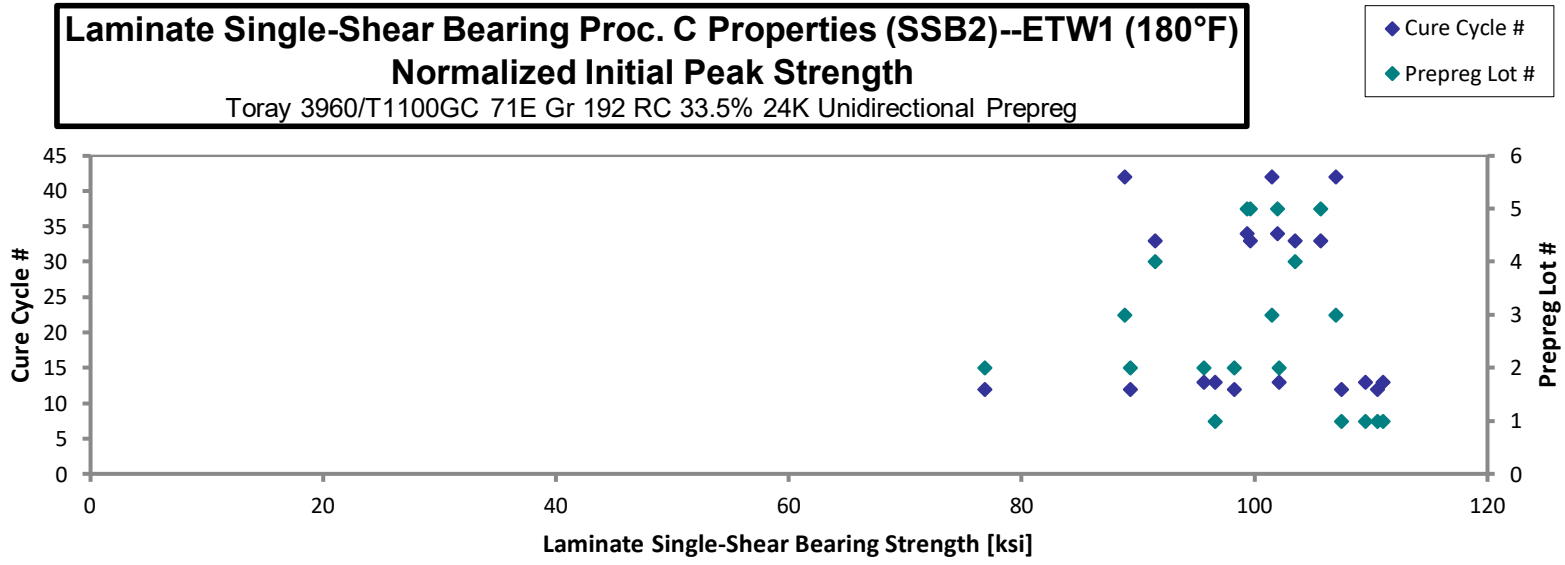
Laminate Single-Shear Bearing Proc. C Properties (SSB2)--ETW1 (180°F)
Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

normalizing t_{ply} [in]
0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	2% Offset Strength [ksi]	Initial Peak Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	2% Offset $Strength_{norm}$ [ksi]	Initial Peak $Strength_{norm}$ [ksi]
NTP3961Q1-TC-T01-BT-SSB2-A-C12-1-ETW1-2	A	C12	1	12	125.2	104.8	0.1476	20	B1BN (Y3S)	0.007380	128.3	107.4
NTP3961Q1-TC-T01-BT-SSB2-A-C12-1-ETW1-3	A	C12	1	12	109.4	108.0	0.1474	20	B1BN (Y3S)	0.007368	111.9	110.5
NTP3961Q1-TC-T01-BT-SSB2-A-C12-1-ETW1-4	A	C12	1	12	113.1		0.1452	20	B1BN (Y3S)	0.007259	114.0	
NTP3961Q1-TC-T01-BT-SSB2-A-C13-1-ETW1-2	A	C13	1	13	106.7	107.8	0.1482	20	B1B (Y3S)	0.007412	109.8	111.0
NTP3961Q1-TC-T01-BT-SSB2-A-C13-1-ETW1-3	A	C13	1	13	106.6	106.2	0.1485	20	B1B (Y3S)	0.007423	109.9	109.5
NTP3961Q1-TC-T01-BT-SSB2-A-C13-1-ETW1-4	A	C13	1	13	103.9	94.72	0.1468	20	B1B (E3S)	0.007341	105.9	96.57
NTP3961Q1-TC-T01-BT-SSB2-B-C12-1-ETW1-1	B	C12	2	12	84.80	75.40	0.1467	20	B1I Y3S	0.007336	86.40	76.82
NTP3961Q1-TC-T01-BT-SSB2-B-C12-1-ETW1-2	B	C12	2	12	94.82	96.71	0.1463	20	B1I Y3S	0.007315	96.33	98.25
NTP3961Q1-TC-T01-BT-SSB2-B-C12-1-ETW1-4	B	C12	2	12	100.3	87.12	0.1477	20	B1I Y3S	0.007383	102.8	89.33
NTP3961Q1-TC-T01-BT-SSB2-B-C13-1-ETW1-1	B	C13	2	13	97.11		0.1460	20	B1I Y3S	0.007300	98.46	
NTP3961Q1-TC-T01-BT-SSB2-B-C13-1-ETW1-2	B	C13	2	13	111.3	93.50	0.1472	20	B1I Y3S	0.007362	113.8	95.60
NTP3961Q1-TC-T01-BT-SSB2-B-C13-1-ETW1-3	B	C13	2	13	103.7	99.66	0.1475	20	B1I Y3S	0.007376	106.2	102.1
NTP3961Q1-TC-T01-TC-SSB2-C-C33-2-ETW1-1	C	C33	3	33	114.6		0.1457	20	B1I / Y1S	0.007283	115.9	
NTP3961Q1-TC-T01-TC-SSB2-C-C33-2-ETW1-2	C	C33	3	33	94.46		0.1448	20	B1I / Y1S	0.007238	94.96	
NTP3961Q1-TC-T01-TC-SSB2-C-C33-2-ETW1-3	C	C33	3	33	115.0		0.1465	20	B1I / Y1S	0.007324	117.0	
NTP3961Q1-TC-T01-TC-SSB2-C-C42-2-ETW1-1	C	C42	3	42	108.9	100.4	0.1456	20	B1I / Y3S	0.007280	110.2	101.5
NTP3961Q1-TC-T01-TC-SSB2-C-C42-2-ETW1-2	C	C42	3	42	97.50	87.97	0.1454	20	B1I / Y3S	0.007268	98.42	88.80
NTP3961Q1-TC-T01-TC-SSB2-C-C42-2-ETW1-3	C	C42	3	42	107.6	105.3	0.1462	20	B1I / Y3S	0.007312	109.2	106.9
NTP3961Q1-TC-T01-TC-SSB2-D-C33-2-ETW1-1	D	C33	4	33	107.1		0.1460	20	B1I / Y3S	0.007300	108.5	
NTP3961Q1-TC-T01-TC-SSB2-D-C33-2-ETW1-2	D	C33	4	33	103.9	90.16	0.1460	20	B1I / Y3S	0.007300	105.4	91.41
NTP3961Q1-TC-T01-TC-SSB2-D-C33-2-ETW1-3	D	C33	4	33	107.8	102.1	0.1460	20	B1I / Y3S	0.007300	109.2	103.5
NTP3961Q1-TC-T01-TC-SSB2-D-C34-2-ETW1-1	D	C34	4	34	111.5		0.1450	20	B1I / Y3S	0.007250	112.2	
NTP3961Q1-TC-T01-TC-SSB2-D-C34-2-ETW1-2	D	C34	4	34	113.1		0.1460	20	B1I / Y3S	0.007300	114.7	
NTP3961Q1-TC-T01-TC-SSB2-D-C34-2-ETW1-3	D	C34	4	34	107.3		0.1470	20	B1I / Y3S	0.007350	109.5	
NTP3961Q1-TC-T01-TC-SSB2-E-C33-2-ETW1-1	E	C33	5	33	114.1		0.1450	20	B1I / Y3S	0.007250	114.9	
NTP3961Q1-TC-T01-TC-SSB2-E-C33-2-ETW1-2	E	C33	5	33	116.7	104.2	0.1460	20	B1I / Y3S	0.007300	118.3	105.6
NTP3961Q1-TC-T01-TC-SSB2-E-C33-2-ETW1-3	E	C33	5	33	108.4	98.92	0.1450	20	B1I / Y3S	0.007250	109.2	99.61
NTP3961Q1-TC-T01-TC-SSB2-E-C34-2-ETW1-1	E	C34	5	34	113.1	99.33	0.1440	20	B1I / Y3S	0.007200	113.1	99.33
NTP3961Q1-TC-T01-TC-SSB2-E-C34-2-ETW1-2	E	C34	5	34	118.3		0.1450	20	B1I / Y3S	0.007250	119.1	
NTP3961Q1-TC-T01-TC-SSB2-E-C34-2-ETW1-3	E	C34	5	34	109.7	100.5	0.1460	20	B1I / Y3S	0.007300	111.2	101.9

Average	**107.5**	**98.04**		**$Average_{norm}$**	**0.007310**	**109.2**	**99.78**
Standard Dev.	**8.192**	**8.368**		**Standard $Dev._{norm}$**		**8.285**	**8.705**
Coeff. of Var. [%]	**7.619**	**8.535**		**Coeff. of Var. $[\%]_{norm}$**		**7.590**	**8.725**
Min.	**84.80**	**75.40**		**Min.**	**0.007200**	**86.40**	**76.82**
Max.	**125.2**	**108.0**		**Max.**	**0.007423**	**128.3**	**111.0**
Number of Spec.	**30**	**19**		**Number of Spec.**	**30**	**30**	**19**


Laminate Single-Shear Bearing Proc. C Properties (SSB2)--ETW1 (180°F)
Normalized 2% Offset Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Single-Shear Bearing Strength [ksi]
0 20 40 60 80 100 120 140
0 5 10 15 20 25 30 35 40 45
0 1 2 3 4 5 6


Laminate Single-Shear Bearing Proc. C Properties (SSB2)--ETW1 (180°F)
Normalized Initial Peak Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Single-Shear Bearing Strength [ksi]
0 20 40 60 80 100 120
0 5 10 15 20 25 30 35 40 45
0 1 2 3 4 5 6

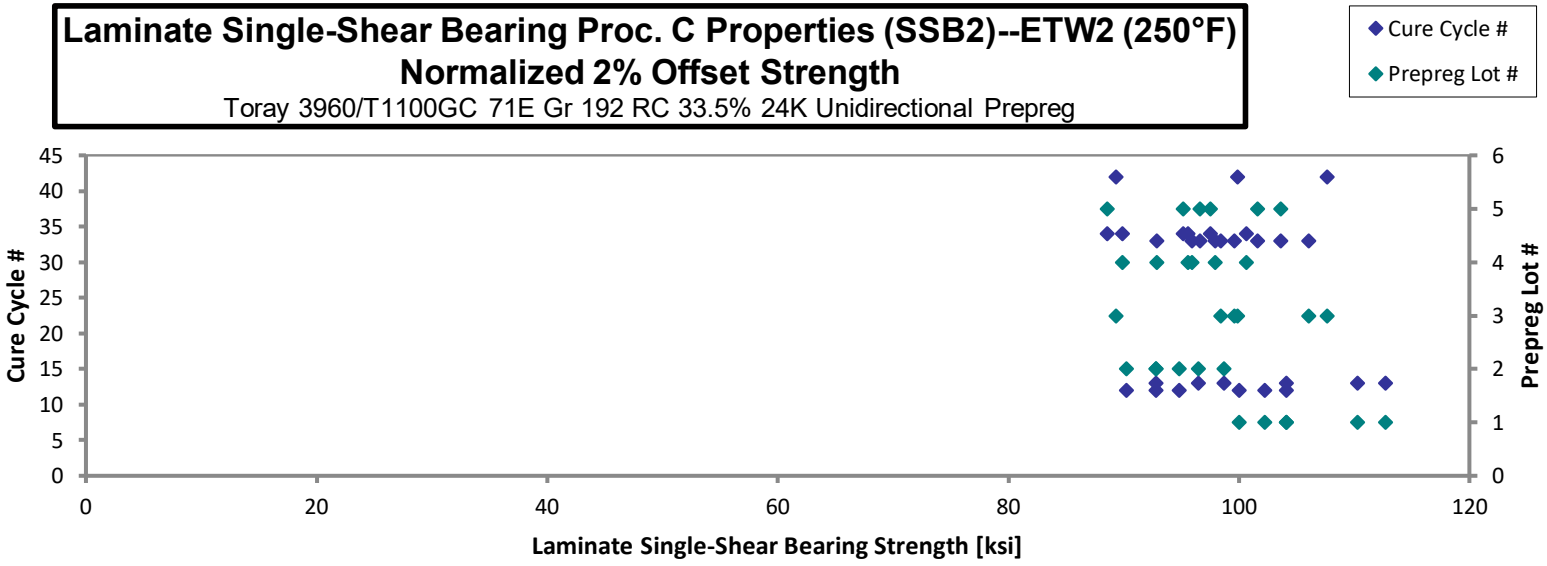
Laminate Single-Shear Bearing Proc. C Properties (SSB2)--ETW2 (250°F)
Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

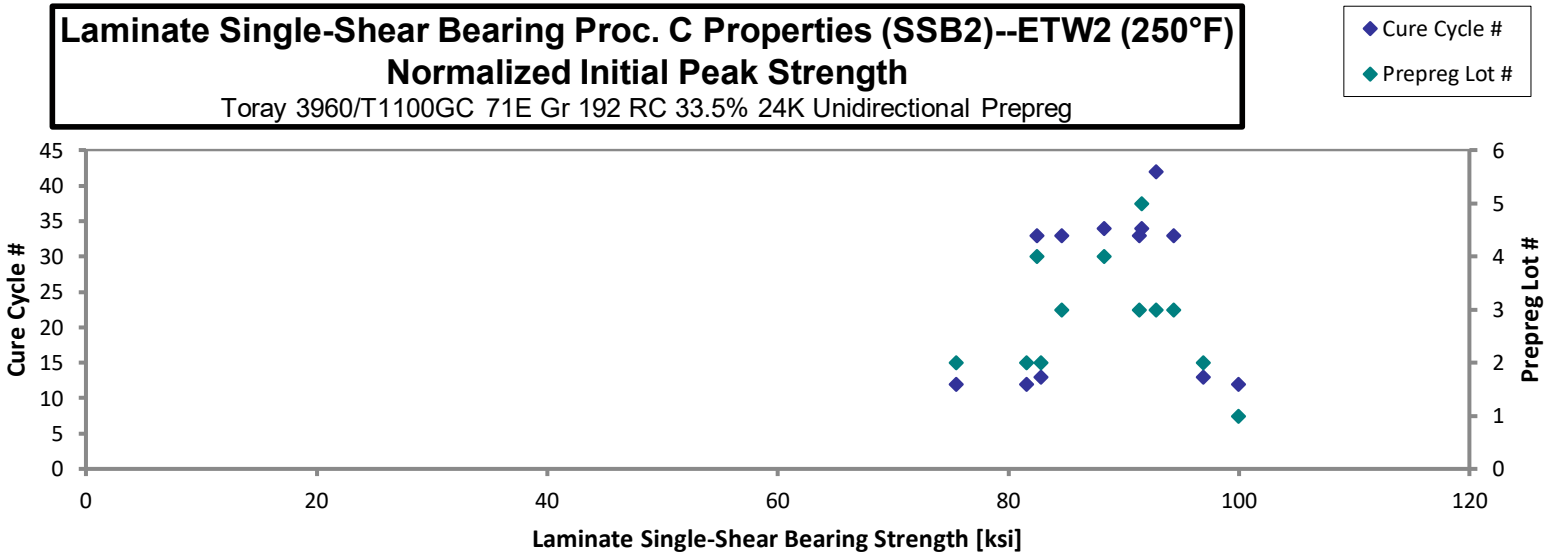
normalizing t_{ply} [in]
0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	2% Offset Strength [ksi]	Initial Peak Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	2% Offset $Strength_{norm}$ [ksi]	Initial Peak $Strength_{norm}$ [ksi]
NTP3961Q1-TC-T01-BT-SSB2-A-C12-1-ETW2-1	A	C12	1	12	99.47		0.1480	20	B1B (Y3S)	0.007399	102.2	
NTP3961Q1-TC-T01-BT-SSB2-A-C12-1-ETW2-2	A	C12	1	12	98.73	98.64	0.1459	20	B1B (Y3S)	0.007293	100.0	99.91
NTP3961Q1-TC-T01-BT-SSB2-A-C12-1-ETW2-4	A	C12	1	12	101.4		0.1478	20	B1B (Y3S)	0.007392	104.1	
NTP3961Q1-TC-T01-BT-SSB2-A-C13-1-ETW2-1	A	C13	1	13	102.6		0.1461	20	B1B (Y3S)	0.007305	104.1	
NTP3961Q1-TC-T01-BT-SSB2-A-C13-1-ETW2-2	A	C13	1	13	111.0		0.1462	20	B1B (Y3S)	0.007308	112.7	
NTP3961Q1-TC-T01-BT-SSB2-A-C13-1-ETW2-3	A	C13	1	13	108.2		0.1468	20	B1B (Y3S)	0.007338	110.2	
NTP3961Q1-TC-T01-BT-SSB2-B-C12-1-ETW2-1	B	C12	2	12	90.63		0.1475	20	B1I / Y3S	0.007373	92.80	
NTP3961Q1-TC-T01-BT-SSB2-B-C12-1-ETW2-2	B	C12	2	12	88.70	80.17	0.1465	20	B1I / Y3S	0.007325	90.24	81.56
NTP3961Q1-TC-T01-BT-SSB2-B-C12-1-ETW2-3	B	C12	2	12	92.04	73.24	0.1483	20	B1I / Y3S	0.007414	94.78	75.42
NTP3961Q1-TC-T01-BT-SSB2-B-C13-1-ETW2-1	B	C13	2	13	90.48	80.77	0.1477	20	B1I / Y3S	0.007383	92.77	82.82
NTP3961Q1-TC-T01-BT-SSB2-B-C13-1-ETW2-2	B	C13	2	13	94.53	94.92	0.1470	20	B1I / Y3S	0.007348	96.47	96.86
NTP3961Q1-TC-T01-BT-SSB2-B-C13-1-ETW2-3	B	C13	2	13	96.40		0.1475	20	B1I / Y3S	0.007373	98.71	
NTP3961Q1-TC-T01-TC-SSB2-C-C33-2-ETW2-1	C	C33	3	33	97.11	90.14	0.1459	20	B1I / Y3S	0.007294	98.38	91.32
NTP3961Q1-TC-T01-TC-SSB2-C-C33-2-ETW2-2	C	C33	3	33	97.97	92.77	0.1464	20	B1I / Y3S	0.007318	99.58	94.29
NTP3961Q1-TC-T01-TC-SSB2-C-C33-2-ETW2-3	C	C33	3	33	104.5	83.38	0.1461	20	B1I / Y3S	0.007307	106.0	84.61
NTP3961Q1-TC-T01-TC-SSB2-C-C42-2-ETW2-1	C	C42	3	42	88.72	92.15	0.1450	20	B1I / Y3S	0.007250	89.34	92.79
NTP3961Q1-TC-T01-TC-SSB2-C-C42-2-ETW2-2	C	C42	3	42	99.18		0.1450	20	B1I / Y3S	0.007250	99.87	
NTP3961Q1-TC-T01-TC-SSB2-C-C42-2-ETW2-3	C	C42	3	42	106.9		0.1450	20	B1I / Y3S	0.007250	107.6	
NTP3961Q1-TC-T01-TC-SSB2-D-C33-2-ETW2-1	D	C33	4	33	91.62	81.32	0.1460	20	B1I / Y3S	0.007300	92.89	82.45
NTP3961Q1-TC-T01-TC-SSB2-D-C33-2-ETW2-2	D	C33	4	33	94.61		0.1460	20	B1I / Y3S	0.007300	95.92	
NTP3961Q1-TC-T01-TC-SSB2-D-C33-2-ETW2-3	D	C33	4	33	96.59		0.1460	20	B1I / Y3S	0.007300	97.93	
NTP3961Q1-TC-T01-TC-SSB2-D-C34-2-ETW2-1	D	C34	4	34	88.62	87.09	0.1460	20	B1I / Y3S	0.007300	89.85	88.30
NTP3961Q1-TC-T01-TC-SSB2-D-C34-2-ETW2-2	D	C34	4	34	94.28		0.1460	20	B1I / Y3S	0.007300	95.59	
NTP3961Q1-TC-T01-TC-SSB2-D-C34-2-ETW2-3	D	C34	4	34	98.58		0.1470	20	B1I / Y3S	0.007350	100.6	
NTP3961Q1-TC-T01-TC-SSB2-E-C33-2-ETW2-1	E	C33	5	33	95.99		0.1449	20	B1BN	0.007246	96.60	
NTP3961Q1-TC-T01-TC-SSB2-E-C33-2-ETW2-2	E	C33	5	33	100.4		0.1458	20	B1BN	0.007289	101.6	
NTP3961Q1-TC-T01-TC-SSB2-E-C33-2-ETW2-3	E	C33	5	33	102.1		0.1461	20	B1BN	0.007306	103.6	
NTP3961Q1-TC-T01-TC-SSB2-E-C34-2-ETW2-2	E	C34	5	34	96.97		0.1448	20	B1BN	0.007238	97.48	
NTP3961Q1-TC-T01-TC-SSB2-E-C34-2-ETW2-3	E	C34	5	34	94.71	91.13	0.1447	20	B1BN	0.007233	95.14	91.55
NTP3961Q1-TC-T01-TC-SSB2-E-C34-2-ETW2-4	E	C34	5	34	87.35		0.1460	20	B1BN	0.007299	88.55	

Average	**97.01**	**87.14**	
Standard Dev.	**5.998**	**7.415**	
Coeff. of Var. [%]	**6.183**	**8.509**	
Min.	**87.35**	**73.24**	
Max.	**111.0**	**98.64**	
Number of Spec.	**30**	**12**	

$Average_{norm}$	**0.007313**	**98.52**	**88.49**
Standard $Dev._{norm}$		**6.081**	**7.215**
Coeff. of Var. $[\%]_{norm}$		**6.172**	**8.153**
Min.	**0.007233**	**88.55**	**75.42**
Max.	**0.007414**	**112.7**	**99.91**
Number of Spec.	**30**	**30**	**12**


Laminate Single-Shear Bearing Proc. C Properties (SSB2)--ETW2 (250°F)
Normalized 2% Offset Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Single-Shear Bearing Strength [ksi]
0
5
10
15
20
25
30
35
40
45
0
1
2
3
4
5
6
0
20
40
60
80
100
120


Laminate Single-Shear Bearing Proc. C Properties (SSB2)--ETW2 (250°F)
Normalized Initial Peak Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Single-Shear Bearing Strength [ksi]
0
5
10
15
20
25
30
35
40
45
0
1
2
3
4
5
6
0
20
40
60
80
100
120

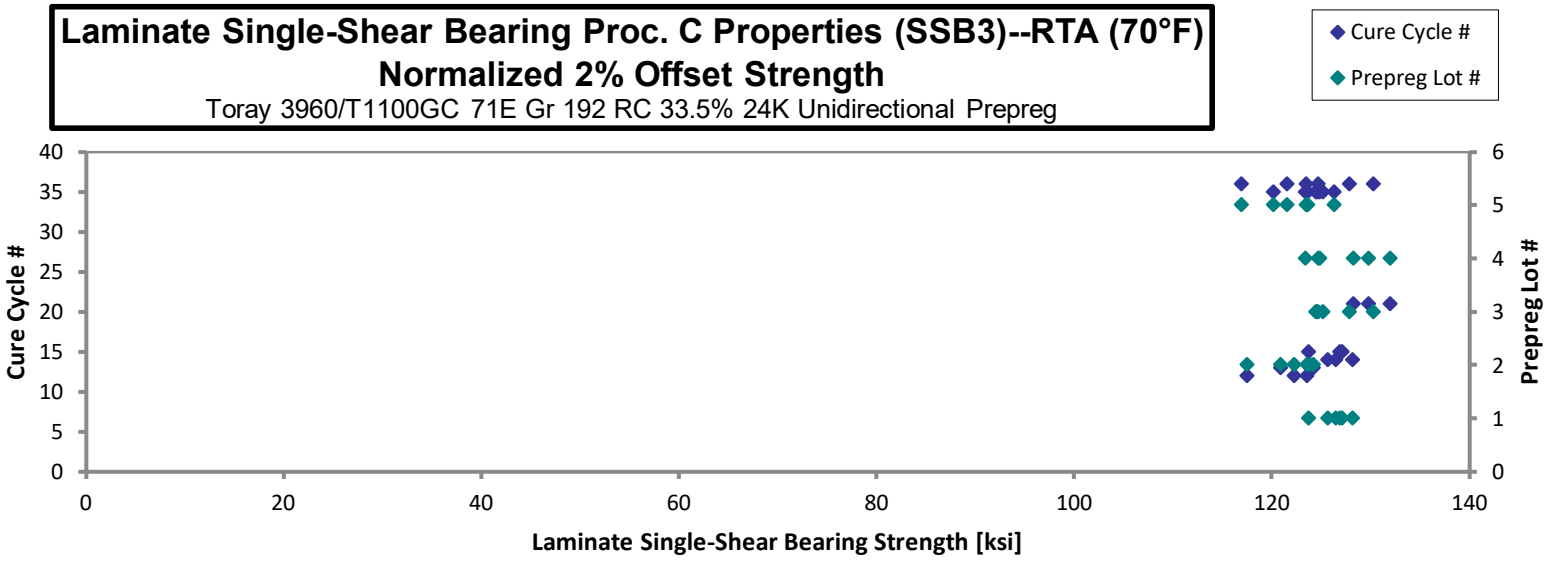
4.31 "50/40/10" Single-Shear Bearing 3 Properties (SSB3)

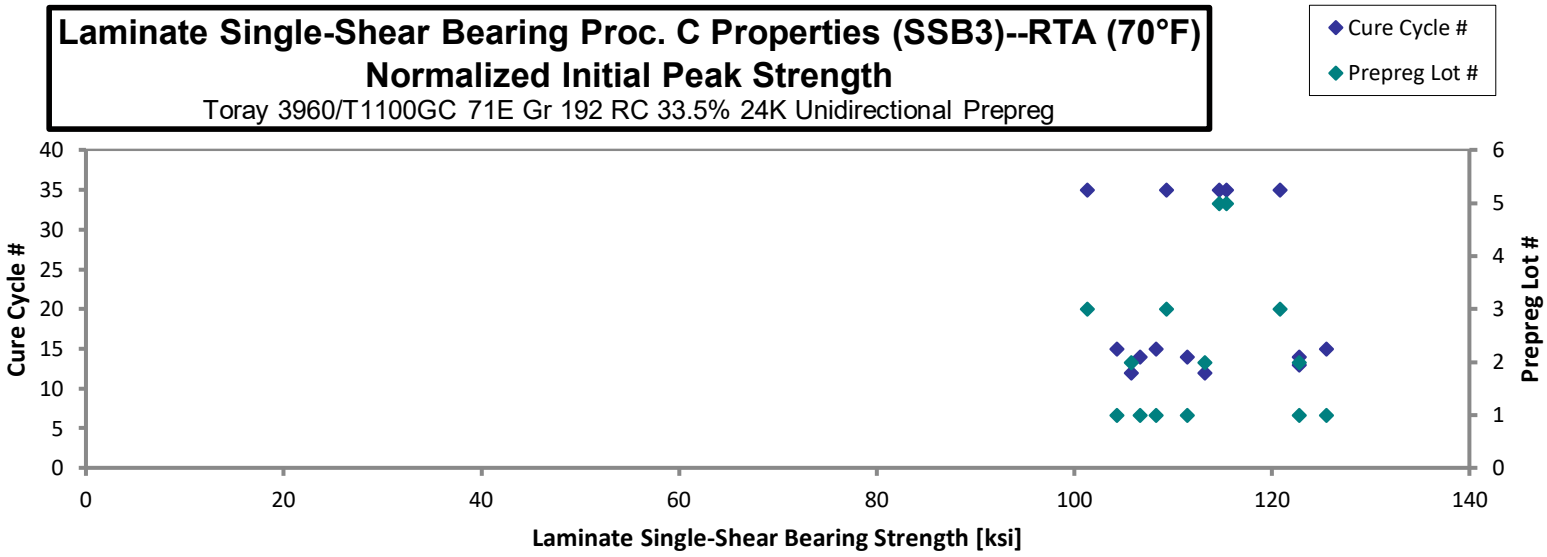
Laminate Single-Shear Bearing Proc. C Properties (SSB3)--RTA (70°F)
Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

normalizing t_{ply} [in]
0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	2% Offset Strength [ksi]	Initial Peak Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	2% Offset $Strength_{norm}$ [ksi]	Initial Peak $Strength_{norm}$ [ksi]
NTP3961Q1-TC-T01-BT-SSB3-A-C14-1-RTA-1	A	C14	1	14	127.2	107.9	0.1423	20	B1BN (Y3S)	0.007117	125.7	106.6
NTP3961Q1-TC-T01-BT-SSB3-A-C14-1-RTA-2	A	C14	1	14	125.8	109.3	0.1468	20	B1BN (Y3S)	0.007338	128.2	111.4
NTP3961Q1-TC-T01-BT-SSB3-A-C14-1-RTA-3	A	C14	1	14	123.9	120.2	0.1471	20	B1BN (Y3S)	0.007353	126.5	122.7
NTP3961Q1-TC-T01-BT-SSB3-A-C15-1-RTA-1	A	C15	1	15	126.4	103.9	0.1446	20	B1BN (Y3S)	0.007230	126.9	104.3
NTP3961Q1-TC-T01-BT-SSB3-A-C15-1-RTA-2	A	C15	1	15	121.5	106.3	0.1467	20	B1BN (Y3S)	0.007335	123.7	108.2
NTP3961Q1-TC-T01-BT-SSB3-A-C15-1-RTA-3	A	C15	1	15	123.4	121.8	0.1484	20	B1BN (Y3S)	0.007421	127.1	125.5
NTP3961Q1-TC-T01-BT-SSB3-B-C12-1-RTA-1	B	C12	2	12	119.3		0.1492	20	B1BN	0.007461	123.6	
NTP3961Q1-TC-T01-BT-SSB3-B-C12-1-RTA-2	B	C12	2	12	119.5	103.3	0.1474	20	B1BN	0.007371	122.3	105.8
NTP3961Q1-TC-T01-BT-SSB3-B-C12-1-RTA-3	B	C12	2	12	114.8	110.5	0.1475	20	B1BN	0.007373	117.5	113.2
NTP3961Q1-TC-T01-BT-SSB3-B-C13-1-RTA-1	B	C13	2	13	118.3	120.0	0.1473	20	B1BN	0.007364	121.0	122.7
NTP3961Q1-TC-T01-BT-SSB3-B-C13-1-RTA-2	B	C13	2	13	120.9		0.1476	20	B1BN	0.007382	123.9	
NTP3961Q1-TC-T01-BT-SSB3-B-C13-1-RTA-3	B	C13	2	13	122.6		0.1460	20	B1BN	0.007298	124.3	
NTP3961Q1-TC-T01-TC-SSB3-C-C35-1-RTA-2	C	C35	3	35	124.2	119.8	0.1452	20	B1N	0.007261	125.2	120.8
NTP3961Q1-TC-T01-TC-SSB3-C-C35-1-RTA-3	C	C35	3	35	122.8	99.85	0.1461	20	B1N	0.007303	124.6	101.3
NTP3961Q1-TC-T01-TC-SSB3-C-C35-1-RTA-4	C	C35	3	35	122.7	107.7	0.1462	20	B1N	0.007310	124.5	109.3
NTP3961Q1-TC-T01-TC-SSB3-C-C36-1-RTA-1	C	C36	3	36	123.4		0.1455	20	B1N	0.007277	124.7	
NTP3961Q1-TC-T01-TC-SSB3-C-C36-1-RTA-2	C	C36	3	36	129.3		0.1452	20	B1N	0.007258	130.4	
NTP3961Q1-TC-T01-TC-SSB3-C-C36-1-RTA-3	C	C36	3	36	126.3		0.1458	20	B1N	0.007291	127.9	
NTP3961Q1-TC-T01-TC-SSB3-D-C21-1-RTA-1	D	C21	4	21	127.5		0.1450	20	B1B	0.007250	128.3	
NTP3961Q1-TC-T01-TC-SSB3-D-C21-1-RTA-2	D	C21	4	21	130.2		0.1460	20	B1B	0.007300	132.0	
NTP3961Q1-TC-T01-TC-SSB3-D-C21-1-RTA-3	D	C21	4	21	128.0		0.1460	20	B1B	0.007300	129.8	
NTP3961Q1-TC-T01-TC-SSB3-D-C35-1-RTA-1	D	C35	4	35	123.9		0.1450	20	B1B	0.007250	124.7	
NTP3961Q1-TC-T01-TC-SSB3-D-C35-1-RTA-2	D	C35	4	35	120.9		0.1470	20	B1B	0.007350	123.4	
NTP3961Q1-TC-T01-TC-SSB3-D-C35-1-RTA-3	D	C35	4	35	124.0		0.1450	20	B1B	0.007250	124.9	
NTP3961Q1-TC-T01-TC-SSB3-E-C35-1-RTA-1	E	C35	5	35	119.4	114.6	0.1450	20	B1B	0.007250	120.2	115.4
NTP3961Q1-TC-T01-TC-SSB3-E-C35-1-RTA-2	E	C35	5	35	122.9		0.1450	20	B1B	0.007250	123.7	
NTP3961Q1-TC-T01-TC-SSB3-E-C35-1-RTA-3	E	C35	5	35	124.7	113.1	0.1460	20	B1B	0.007300	126.4	114.6
NTP3961Q1-TC-T01-TC-SSB3-E-C36-1-RTA-1	E	C36	5	36	123.5		0.1440	20	B1B	0.007200	123.5	
NTP3961Q1-TC-T01-TC-SSB3-E-C36-1-RTA-2	E	C36	5	36	120.7		0.1450	20	B1B	0.007250	121.6	
NTP3961Q1-TC-T01-TC-SSB3-E-C36-1-RTA-3	E	C36	5	36	115.4		0.1460	20	B1B	0.007300	117.0	

Average	**123.1**	**111.3**		**$Average_{norm}$**	**0.007300**	**124.8**	**113.0**
Standard Dev.	**3.695**	**7.099**		**Standard $Dev._{norm}$**		**3.390**	**7.645**
Coeff. of Var. [%]	**3.002**	**6.379**		**Coeff. of Var. $[\%]_{norm}$**		**2.717**	**6.766**
Min.	**114.8**	**99.85**		**Min.**	**0.007117**	**117.0**	**101.3**
Max.	**130.2**	**121.8**		**Max.**	**0.007461**	**132.0**	**125.5**
Number of Spec.	**30**	**14**		**Number of Spec.**	**30**	**30**	**14**


Laminate Single-Shear Bearing Proc. C Properties (SSB3)--RTA (70°F)
Normalized 2% Offset Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Single-Shear Bearing Strength [ksi]
0
5
10
15
20
25
30
35
40
0
1
2
3
4
5
6
0
20
40
60
80
100
120
140

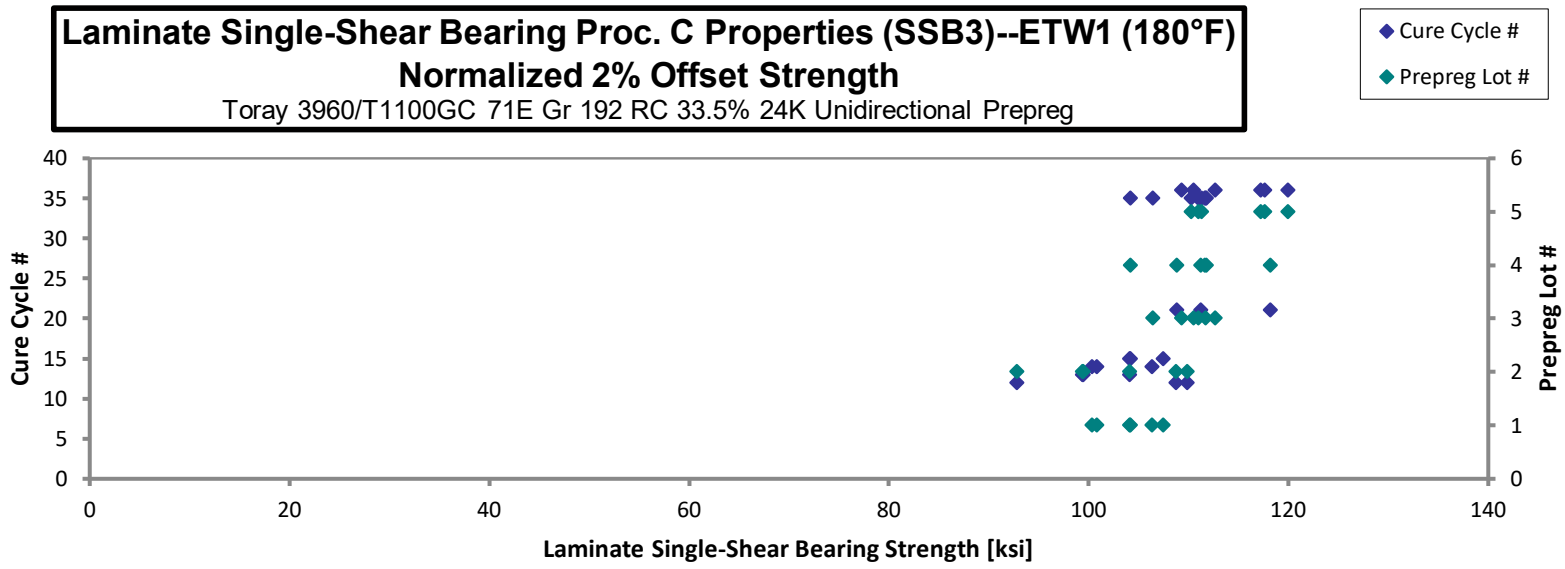

Laminate Single-Shear Bearing Proc. C Properties (SSB3)--RTA (70°F)
Normalized Initial Peak Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Single-Shear Bearing Strength [ksi]
0
5
10
15
20
25
30
35
40
0
1
2
3
4
5
6
0
20
40
60
80
100
120
140

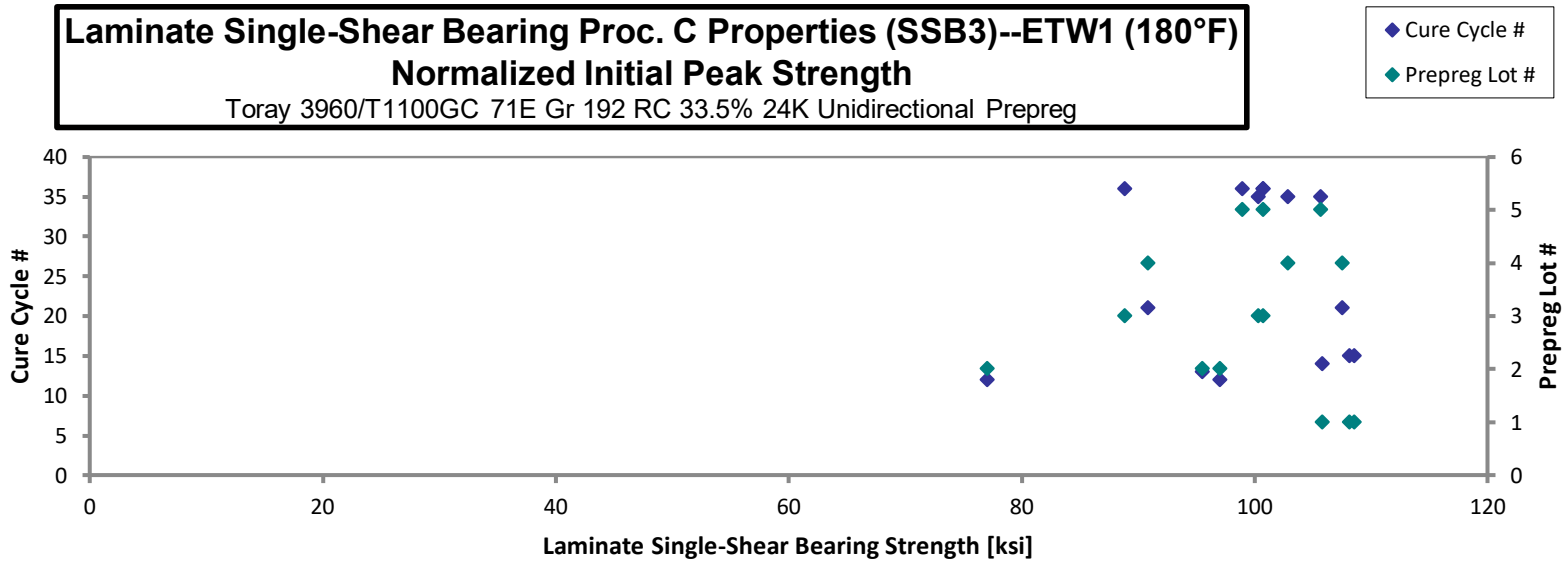
Laminate Single-Shear Bearing Proc. C Properties (SSB3)--ETW1 (180°F)
Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

normalizing t_{ply} [in]
0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	2% Offset Strength [ksi]	Initial Peak Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	2% Offset $Strength_{norm}$ [ksi]	Initial Peak $Strength_{norm}$ [ksi]
NTP3961Q1-TC-T01-BT-SSB3-A-C14-1-ETW1-1	A	C14	1	14	100.7		0.1435	20	B1BN (Y3S)	0.007177	100.3	
NTP3961Q1-TC-T01-BT-SSB3-A-C14-1-ETW1-2	A	C14	1	14	105.4	104.8	0.1453	20	B1BN (Y3S)	0.007265	106.3	105.8
NTP3961Q1-TC-T01-BT-SSB3-A-C14-1-ETW1-4	A	C14	1	14	99.44		0.1459	20	B1BN (Y3S)	0.007297	100.8	
NTP3961Q1-TC-T01-BT-SSB3-A-C15-1-ETW1-1	A	C15	1	15	105.6		0.1421	20	B1BN (Y3S)	0.007103	104.1	
NTP3961Q1-TC-T01-BT-SSB3-A-C15-1-ETW1-2	A	C15	1	15	107.2	107.8	0.1444	20	B1BN (Y3S)	0.007218	107.4	108.1
NTP3961Q1-TC-T01-BT-SSB3-A-C15-1-ETW1-3	A	C15	1	15	101.9	106.2	0.1471	20	B1BN (Y3S)	0.007354	104.1	108.5
NTP3961Q1-TC-T01-BT-SSB3-B-C12-1-ETW1-1	B	C12	2	12	90.63	94.72	0.1475	20	B1I Y3S	0.007374	92.82	97.01
NTP3961Q1-TC-T01-BT-SSB3-B-C12-1-ETW1-2	B	C12	2	12	107.6	75.40	0.1470	20	B1I Y3S	0.007350	109.9	76.97
NTP3961Q1-TC-T01-BT-SSB3-B-C12-1-ETW1-4	B	C12	2	12	107.2		0.1460	20	B1I Y3S	0.007300	108.7	
NTP3961Q1-TC-T01-BT-SSB3-B-C13-1-ETW1-1	B	C13	2	13	96.89		0.1478	20	B1I Y3S	0.007391	99.45	
NTP3961Q1-TC-T01-BT-SSB3-B-C13-1-ETW1-2	B	C13	2	13	97.04		0.1475	20	B1I Y3S	0.007373	99.36	
NTP3961Q1-TC-T01-BT-SSB3-B-C13-1-ETW1-3	B	C13	2	13	102.0	93.50	0.1470	20	B1I Y3S	0.007350	104.1	95.45
NTP3961Q1-TC-T01-TC-SSB3-C-C35-1-ETW1-1	C	C35	3	35	110.3	99.66	0.1449	20	B1I / Y3S	0.007244	111.0	100.3
NTP3961Q1-TC-T01-TC-SSB3-C-C35-1-ETW1-2	C	C35	3	35	111.5		0.1443	20	B1I / Y3S	0.007214	111.7	
NTP3961Q1-TC-T01-TC-SSB3-C-C35-1-ETW1-3	C	C35	3	35	105.4		0.1455	20	B1I / Y3S	0.007273	106.4	
NTP3961Q1-TC-T01-TC-SSB3-C-C36-1-ETW1-1	C	C36	3	36	112.2		0.1445	20	B1I / Y3S	0.007225	112.6	
NTP3961Q1-TC-T01-TC-SSB3-C-C36-1-ETW1-2	C	C36	3	36	110.1	100.4	0.1444	20	B1I / Y3S	0.007222	110.4	100.6
NTP3961Q1-TC-T01-TC-SSB3-C-C36-1-ETW1-3	C	C36	3	36	108.3	87.97	0.1453	20	B1I / Y3S	0.007267	109.3	88.78
NTP3961Q1-TC-T01-TC-SSB3-D-C21-1-ETW1-1	D	C21	4	21	108.9	105.3	0.1470	20	B1I / Y3S	0.007350	111.2	107.5
NTP3961Q1-TC-T01-TC-SSB3-D-C21-1-ETW1-2	D	C21	4	21	116.6		0.1460	20	B1I / Y3S	0.007300	118.2	
NTP3961Q1-TC-T01-TC-SSB3-D-C21-1-ETW1-3	D	C21	4	21	108.1	90.16	0.1450	20	B1I / Y3S	0.007250	108.8	90.79
NTP3961Q1-TC-T01-TC-SSB3-D-C35-1-ETW1-1	D	C35	4	35	111.0	102.1	0.1450	20	B1I / Y3S	0.007250	111.8	102.8
NTP3961Q1-TC-T01-TC-SSB3-D-C35-1-ETW1-2	D	C35	4	35	102.7		0.1460	20	B1I / Y3S	0.007300	104.1	
NTP3961Q1-TC-T01-TC-SSB3-D-C35-1-ETW1-3	D	C35	4	35	110.9		0.1450	20	B1I / Y3S	0.007250	111.6	
NTP3961Q1-TC-T01-TC-SSB3-E-C35-1-ETW1-1	E	C35	5	35	110.5		0.1450	20	B1I / Y3S	0.007250	111.3	
NTP3961Q1-TC-T01-TC-SSB3-E-C35-1-ETW1-2	E	C35	5	35	109.5		0.1450	20	B1I / Y3S	0.007250	110.3	
NTP3961Q1-TC-T01-TC-SSB3-E-C35-1-ETW1-3	E	C35	5	35	109.4	104.2	0.1460	20	B1I / Y3S	0.007300	111.0	105.6
NTP3961Q1-TC-T01-TC-SSB3-E-C36-1-ETW1-1	E	C36	5	36	117.2	98.92	0.1440	20	B1I / Y3S	0.007200	117.2	98.92
NTP3961Q1-TC-T01-TC-SSB3-E-C36-1-ETW1-2	E	C36	5	36	118.3	99.33	0.1460	20	B1I / Y3S	0.007300	120.0	100.7
NTP3961Q1-TC-T01-TC-SSB3-E-C36-1-ETW1-3	E	C36	5	36	115.2		0.1470	20	B1I / Y3S	0.007350	117.6	

Average	**107.3**	**98.03**	**Average$_{norm}$**	**0.007278**	**108.4**	**99.19**
Standard Dev.	**6.333**	**8.593**	**Standard Dev.$_{norm}$**		**6.138**	**8.576**
Coeff. of Var. [%]	**5.905**	**8.766**	**Coeff. of Var. [%]$_{norm}$**		**5.663**	**8.646**
Min.	**90.63**	**75.40**	**Min.**	**0.007103**	**92.82**	**76.97**
Max.	**118.3**	**107.8**	**Max.**	**0.007391**	**120.0**	**108.5**
Number of Spec.	**30**	**15**	**Number of Spec.**	**30**	**30**	**15**


Laminate Single-Shear Bearing Proc. C Properties (SSB3)--ETW1 (180°F)
Normalized 2% Offset Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Single-Shear Bearing Strength [ksi]
0
5
10
15
20
25
30
35
40
0
1
2
3
4
5
6
0
20
40
60
80
100
120
140

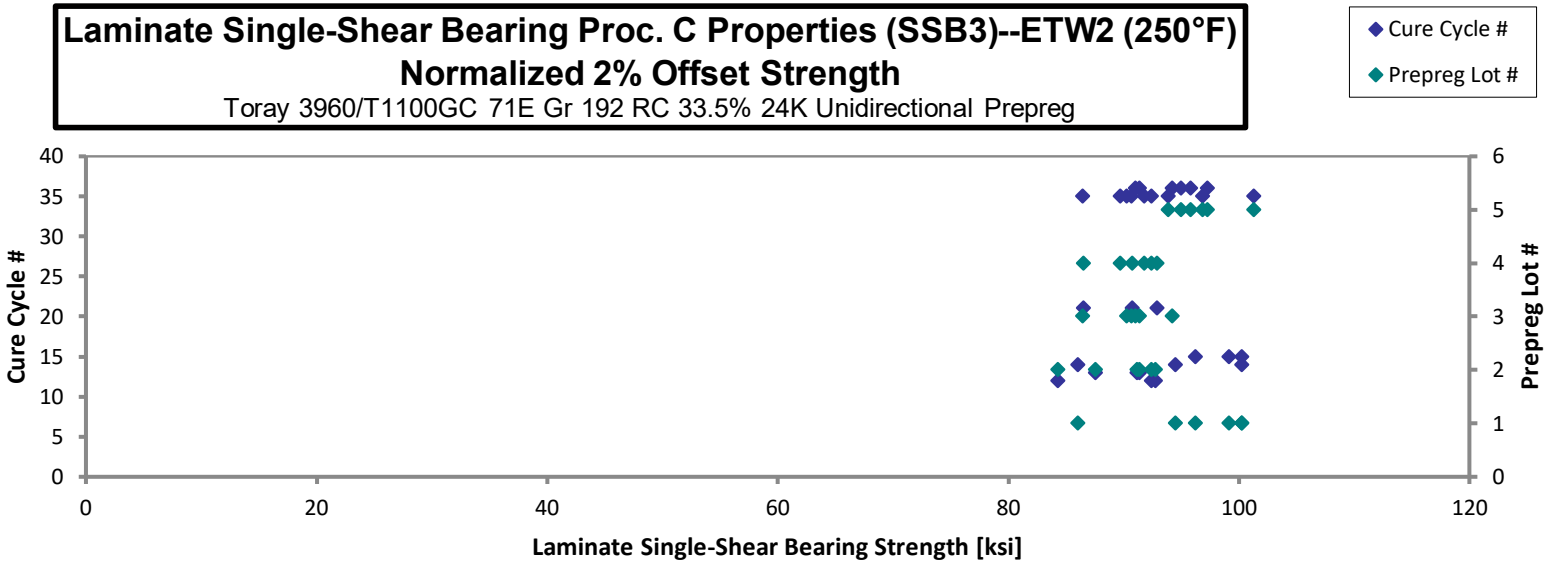

Laminate Single-Shear Bearing Proc. C Properties (SSB3)--ETW1 (180°F)
Normalized Initial Peak Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Single-Shear Bearing Strength [ksi]
0
5
10
15
20
25
30
35
40
0
1
2
3
4
5
6
0
20
40
60
80
100
120

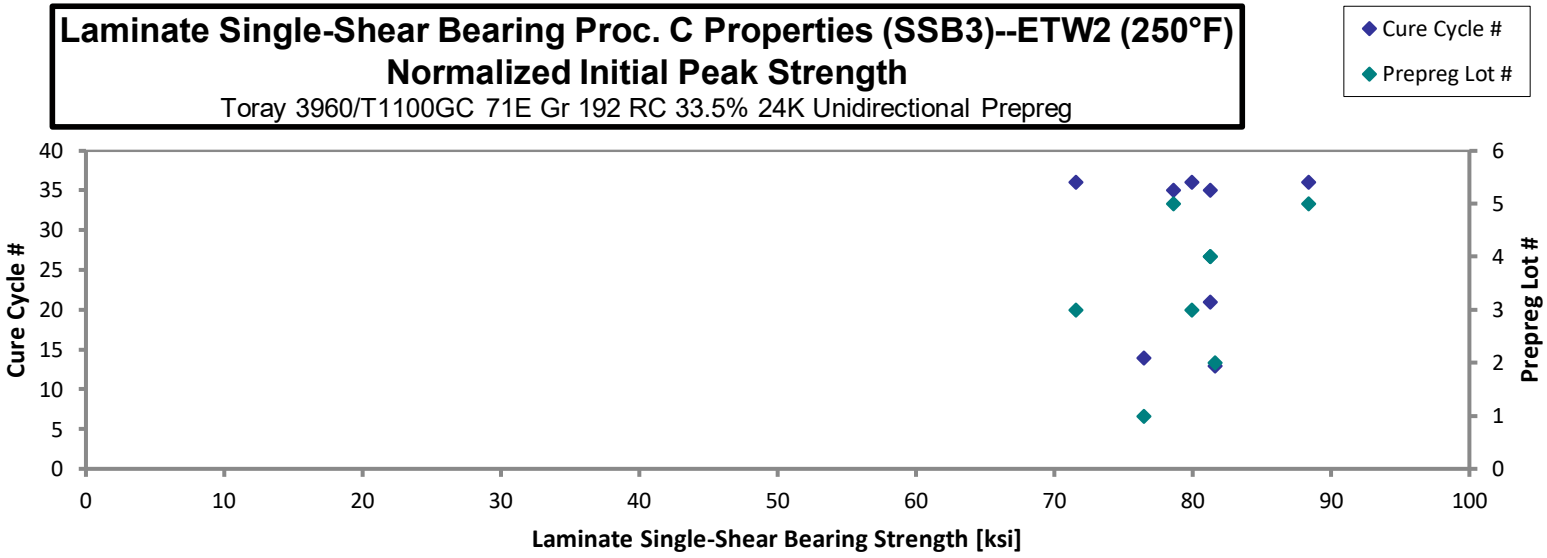
Laminate Single-Shear Bearing Proc. C Properties (SSB3)--ETW2 (250°F)
Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

normalizing t_{ply} [in]
0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	2% Offset Strength [ksi]	Initial Peak Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	2% Offset $Strength_{norm}$ [ksi]	Initial Peak $Strength_{norm}$ [ksi]
NTP3961Q1-TC-T01-BT-SSB3-A-C14-1-ETW2-2	A	C14	1	14	84.97		0.1457	20	B1B	0.007286	85.98	
NTP3961Q1-TC-T01-BT-SSB3-A-C14-1-ETW2-3	A	C14	1	14	92.12	74.58	0.1476	20	B1B	0.007380	94.42	76.44
NTP3961Q1-TC-T01-BT-SSB3-A-C14-1-ETW2-4	A	C14	1	14	98.25		0.1469	20	B1B	0.007345	100.2	
NTP3961Q1-TC-T01-BT-SSB3-A-C15-1-ETW2-1	A	C15	1	15	95.28		0.1454	20	B1B	0.007268	96.18	
NTP3961Q1-TC-T01-BT-SSB3-A-C15-1-ETW2-2	A	C15	1	15	99.52		0.1450	20	B1B	0.007248	100.2	
NTP3961Q1-TC-T01-BT-SSB3-A-C15-1-ETW2-3	A	C15	1	15	97.73		0.1460	20	B1B	0.007298	99.06	
NTP3961Q1-TC-T01-BT-SSB3-B-C12-1-ETW2-1	B	C12	2	12	82.91		0.1463	20	B1I	0.007316	84.24	
NTP3961Q1-TC-T01-BT-SSB3-B-C12-1-ETW2-2	B	C12	2	12	90.74		0.1466	20	B1I	0.007330	92.38	
NTP3961Q1-TC-T01-BT-SSB3-B-C12-1-ETW2-3	B	C12	2	12	89.05		0.1500	20	B1I	0.007498	92.73	
NTP3961Q1-TC-T01-BT-SSB3-B-C13-1-ETW2-1	B	C13	2	13	85.33	79.59	0.1477	20	B1I	0.007383	87.50	81.61
NTP3961Q1-TC-T01-BT-SSB3-B-C13-1-ETW2-2	B	C13	2	13	89.75		0.1465	20	B1I	0.007325	91.31	
NTP3961Q1-TC-T01-BT-SSB3-B-C13-1-ETW2-3	B	C13	2	13	89.17		0.1472	20	B1I	0.007358	91.12	
NTP3961Q1-TC-T01-TC-SSB3-C-C35-1-ETW2-1	C	C35	3	35	86.41		0.1440	20	B1I / Y3S	0.007200	86.41	
NTP3961Q1-TC-T01-TC-SSB3-C-C35-1-ETW2-2	C	C35	3	35	89.38		0.1460	20	B1I / Y3S	0.007300	90.62	
NTP3961Q1-TC-T01-TC-SSB3-C-C35-1-ETW2-3	C	C35	3	35	89.00		0.1460	20	B1I / Y3S	0.007300	90.24	
NTP3961Q1-TC-T01-TC-SSB3-C-C36-1-ETW2-1	C	C36	3	36	92.85	78.84	0.1460	20	B1I / Y3S	0.007300	94.14	79.94
NTP3961Q1-TC-T01-TC-SSB3-C-C36-1-ETW2-2	C	C36	3	36	90.34		0.1450	20	B1I / Y3S	0.007250	90.97	
NTP3961Q1-TC-T01-TC-SSB3-C-C36-1-ETW2-3	C	C36	3	36	90.72	71.07	0.1450	20	B1I / Y3S	0.007250	91.35	71.56
NTP3961Q1-TC-T01-TC-SSB3-D-C21-1-ETW2-1	D	C21	4	21	85.27		0.1460	20	B1I / Y3S	0.007300	86.45	
NTP3961Q1-TC-T01-TC-SSB3-D-C21-1-ETW2-2	D	C21	4	21	89.47	80.13	0.1460	20	B1I / Y3S	0.007300	90.71	81.24
NTP3961Q1-TC-T01-TC-SSB3-D-C21-1-ETW2-3	D	C21	4	21	91.56		0.1460	20	B1I / Y3S	0.007300	92.83	
NTP3961Q1-TC-T01-TC-SSB3-D-C35-1-ETW2-1	D	C35	4	35	91.11	80.18	0.1460	20	B1I / Y3S	0.007300	92.38	81.29
NTP3961Q1-TC-T01-TC-SSB3-D-C35-1-ETW2-2	D	C35	4	35	88.43		0.1460	20	B1I / Y3S	0.007300	89.66	
NTP3961Q1-TC-T01-TC-SSB3-D-C35-1-ETW2-3	D	C35	4	35	90.48		0.1460	20	B1I / Y3S	0.007300	91.74	
NTP3961Q1-TC-T01-TC-SSB3-E-C35-1-ETW2-2	E	C35	5	35	100.7	78.20	0.1448	20	B1I	0.007238	101.3	78.61
NTP3961Q1-TC-T01-TC-SSB3-E-C35-1-ETW2-3	E	C35	5	35	93.97		0.1438	20	B1I	0.007190	93.84	
NTP3961Q1-TC-T01-TC-SSB3-E-C35-1-ETW2-4	E	C35	5	35	94.78		0.1471	20	B1I	0.007354	96.81	
NTP3961Q1-TC-T01-TC-SSB3-E-C36-1-ETW2-1	E	C36	5	36	93.93		0.1456	20	B1I	0.007278	94.95	
NTP3961Q1-TC-T01-TC-SSB3-E-C36-1-ETW2-2	E	C36	5	36	95.36	87.99	0.1446	20	B1I	0.007232	95.78	88.37
NTP3961Q1-TC-T01-TC-SSB3-E-C36-1-ETW2-3	E	C36	5	36	96.41		0.1452	20	B1I	0.007260	97.21	

Average	**91.50**	**78.82**		**Average$_{norm}$**	**0.007299**	**92.76**	**79.89**
Standard Dev.	**4.449**	**4.880**		**Standard Dev.$_{norm}$**		**4.366**	**4.805**
Coeff. of Var. [%]	**4.862**	**6.191**		**Coeff. of Var. [%]$_{norm}$**		**4.707**	**6.015**
Min.	**82.91**	**71.07**		**Min.**	**0.007190**	**84.24**	**71.56**
Max.	**100.7**	**87.99**		**Max.**	**0.007498**	**101.3**	**88.37**
Number of Spec.	**30**	**8**		**Number of Spec.**	**30**	**30**	**8**


Laminate Single-Shear Bearing Proc. C Properties (SSB3)--ETW2 (250°F)
Normalized 2% Offset Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Single-Shear Bearing Strength [ksi]
0
5
10
15
20
25
30
35
40
0
1
2
3
4
5
6
0
20
40
60
80
100
120


Laminate Single-Shear Bearing Proc. C Properties (SSB3)--ETW2 (250°F)
Normalized Initial Peak Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Single-Shear Bearing Strength [ksi]
0
5
10
15
20
25
30
35
40
0
1
2
3
4
5
6
0
10
20
30
40
50
60
70
80
90
100

4.32 "25/50/25" Double-Shear Bearing 1 Properties (DSB1)

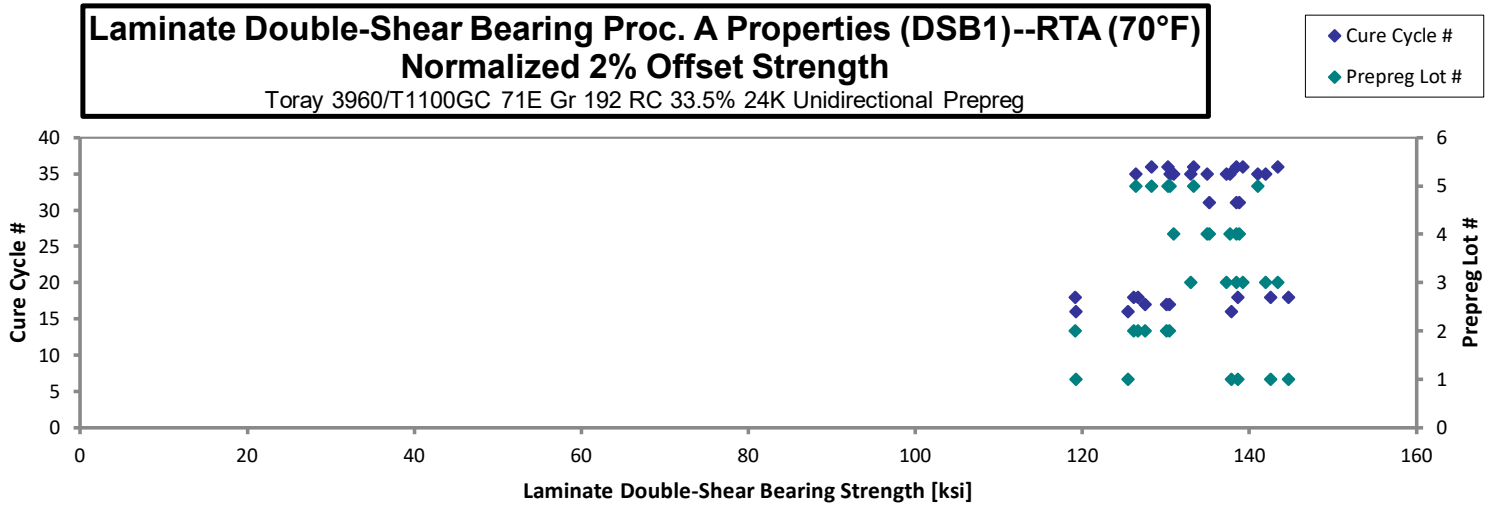
Laminate Double-Shear Bearing Proc. A Properties (DSB1)--RTA (70°F)
Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

normalizing t_{ply} [in]
0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	2% Offset Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	2% Offset $Strength_{norm}$ [ksi]
NTP3961Q1-TC-T01-BT-DSB1-A-C16-1-RTA-1	A	C16	1	16	138.9	0.1143	16	B1B	0.007144	137.8
NTP3961Q1-TC-T01-BT-DSB1-A-C16-1-RTA-2	A	C16	1	16	116.6	0.1178	16	B1B	0.007359	119.2
NTP3961Q1-TC-T01-BT-DSB1-A-C16-1-RTA-3	A	C16	1	16	122.1	0.1184	16	B1B	0.007399	125.5
NTP3961Q1-TC-T01-BT-DSB1-A-C18-1-RTA-1	A	C18	1	18	139.4	0.1178	16	B1B	0.007363	142.6
NTP3961Q1-TC-T01-BT-DSB1-A-C18-1-RTA-2	A	C18	1	18	141.3	0.1179	16	B1B	0.007369	144.6
NTP3961Q1-TC-T01-BT-DSB1-A-C18-1-RTA-3	A	C18	1	18	135.8	0.1176	16	B1B	0.007347	138.6
NTP3961Q1-TC-T01-BT-DSB1-B-C17-1-RTA-1	B	C17	2	17	127.7	0.1176	16	B1B	0.007350	130.4
NTP3961Q1-TC-T01-BT-DSB1-B-C17-1-RTA-2	B	C17	2	17	126.5	0.1184	16	B1B	0.007401	130.1
NTP3961Q1-TC-T01-BT-DSB1-B-C17-1-RTA-3	B	C17	2	17	123.9	0.1185	16	B1B	0.007407	127.5
NTP3961Q1-TC-T01-BT-DSB1-B-C18-1-RTA-1	B	C18	2	18	123.7	0.1180	16	B1B	0.007373	126.7
NTP3961Q1-TC-T01-BT-DSB1-B-C18-1-RTA-2	B	C18	2	18	116.4	0.1180	16	B1B	0.007373	119.1
NTP3961Q1-TC-T01-BT-DSB1-B-C18-1-RTA-3	B	C18	2	18	121.5	0.1196	16	B1B	0.007477	126.1
NTP3961Q1-TC-T01-TC-DSB1-C-C35-2-RTA-1	C	C35	3	35	137.0	0.1154	16	B1I	0.007210	137.2
NTP3961Q1-TC-T01-TC-DSB1-C-C35-2-RTA-2	C	C35	3	35	132.6	0.1155	16	B1I	0.007219	133.0
NTP3961Q1-TC-T01-TC-DSB1-C-C35-2-RTA-3	C	C35	3	35	141.9	0.1153	16	B1I	0.007205	142.0
NTP3961Q1-TC-T01-TC-DSB1-C-C36-2-RTA-1	C	C36	3	36	138.8	0.1156	16	B1I	0.007223	139.2
NTP3961Q1-TC-T01-TC-DSB1-C-C36-2-RTA-2	C	C36	3	36	139.4	0.1144	16	B1I	0.007151	138.4
NTP3961Q1-TC-T01-TC-DSB1-C-C36-2-RTA-3	C	C36	3	36	143.2	0.1154	16	B1I	0.007209	143.4
NTP3961Q1-TC-T01-TC-DSB1-D-C31-1-RTA-1	D	C31	4	31	132.8	0.1173	16	B1I	0.007329	135.2
NTP3961Q1-TC-T01-TC-DSB1-D-C31-1-RTA-2	D	C31	4	31	136.4	0.1172	16	B1I	0.007325	138.7
NTP3961Q1-TC-T01-TC-DSB1-D-C31-1-RTA-3	D	C31	4	31	136.8	0.1166	16	B1I	0.007289	138.4
NTP3961Q1-TC-T01-TC-DSB1-D-C35-2-RTA-1	D	C35	4	35	129.1	0.1168	16	B1I	0.007301	130.9
NTP3961Q1-TC-T01-TC-DSB1-D-C35-2-RTA-2	D	C35	4	35	132.4	0.1174	16	B1I	0.007336	134.9
NTP3961Q1-TC-T01-TC-DSB1-D-C35-2-RTA-3	D	C35	4	35	135.4	0.1171	16	B1I	0.007320	137.7
NTP3961Q1-TC-T01-TC-DSB1-E-C35-2-RTA-1	E	C35	5	35	125.7	0.1159	16	B1I	0.007241	126.4
NTP3961Q1-TC-T01-TC-DSB1-E-C35-2-RTA-2	E	C35	5	35	139.4	0.1165	16	B1I	0.007283	141.0
NTP3961Q1-TC-T01-TC-DSB1-E-C35-2-RTA-3	E	C35	5	35	128.4	0.1170	16	B1I	0.007313	130.4
NTP3961Q1-TC-T01-TC-DSB1-E-C36-2-RTA-1	E	C36	5	36	129.8	0.1156	16	B1I	0.007222	130.2
NTP3961Q1-TC-T01-TC-DSB1-E-C36-2-RTA-2	E	C36	5	36	131.4	0.1169	16	B1I	0.007305	133.3
NTP3961Q1-TC-T01-TC-DSB1-E-C36-2-RTA-3	E	C36	5	36	127.1	0.1163	16	B1I	0.007269	128.3

Average	**131.7**	
Standard Dev.	**7.479**	
Coeff. of Var. [%]	**5.678**	
Min.	**116.4**	
Max.	**143.2**	
Number of Spec.	**30**	

$Average_{norm}$	**0.007304**	**133.6**
Standard $Dev._{norm}$		**6.846**
Coeff. of Var. $[\%]_{norm}$		**5.126**
Min.	**0.007144**	**119.1**
Max.	**0.007477**	**144.6**
Number of Spec.	**30**	**30**


Laminate Double-Shear Bearing Proc. A Properties (DSB1)--RTA (70°F)
Normalized 2% Offset Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Double-Shear Bearing Strength [ksi]
0
5
10
15
20
25
30
35
40
0
1
2
3
4
5
6
0
20
40
60
80
100
120
140
160

Laminate Double-Shear Bearing Proc. A Properties (DSB1)--ETW1 (180°F)
Strength

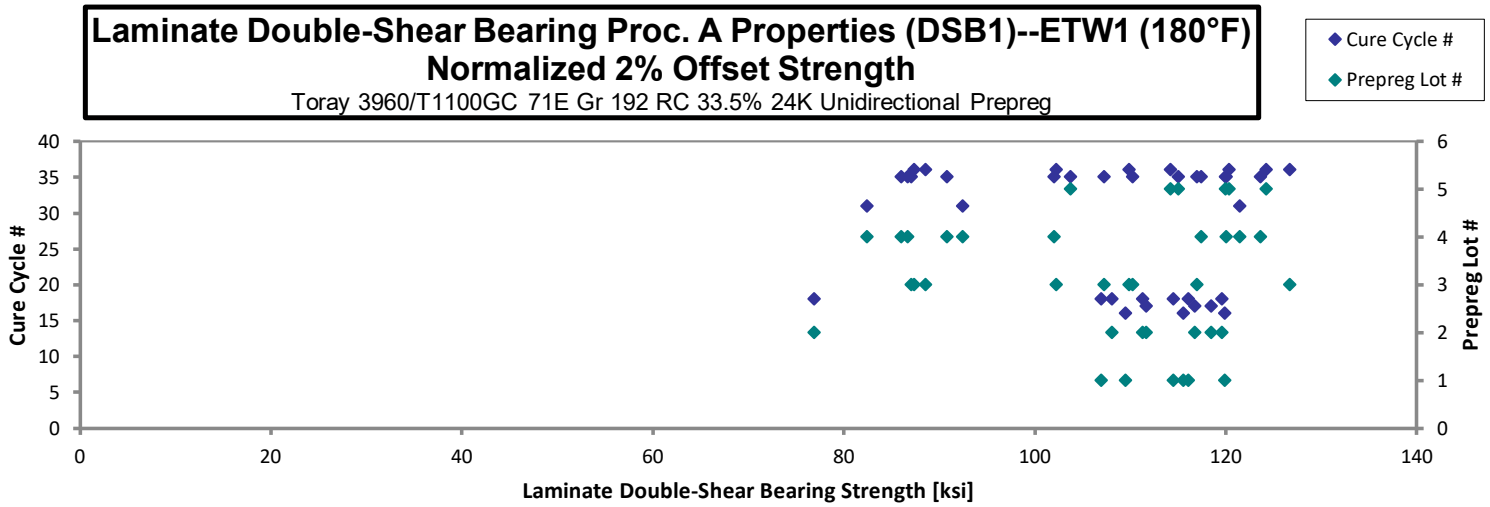
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

normalizing t_{ply} [in]
0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	2% Offset Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	2% Offset $Strength_{norm}$ [ksi]
NTP3961Q1-TC-T01-BT-DSB1-A-C16-1-ETW1-2	A	C16	1	16	112.6	0.1182	16	B1I	0.007389	115.6
NTP3961Q1-TC-T01-BT-DSB1-A-C16-1-ETW1-3	A	C16	1	16	106.5	0.1185	16	B1I	0.007404	109.5
NTP3961Q1-TC-T01-BT-DSB1-A-C16-1-ETW1-4	A	C16	1	16	117.5	0.1175	16	B1I	0.007344	119.9
NTP3961Q1-TC-T01-BT-DSB1-A-C18-1-ETW1-1	A	C18	1	18	112.6	0.1187	16	B1I	0.007421	116.1
NTP3961Q1-TC-T01-BT-DSB1-A-C18-1-ETW1-3	A	C18	1	18	110.6	0.1192	16	B1I	0.007452	114.5
NTP3961Q1-TC-T01-BT-DSB1-A-C18-1-ETW1-4	A	C18	1	18	103.9	0.1186	16	B1I	0.007411	106.9
NTP3961Q1-TC-T01-BT-DSB1-B-C17-1-ETW1-1	B	C17	2	17	110.8	0.1161	16	B1I	0.007254	111.6
NTP3961Q1-TC-T01-BT-DSB1-B-C17-1-ETW1-2	B	C17	2	17	114.2	0.1177	16	B1I	0.007356	116.7
NTP3961Q1-TC-T01-BT-DSB1-B-C17-1-ETW1-3	B	C17	2	17	115.2	0.1184	16	B1I	0.007401	118.4
NTP3961Q1-TC-T01-BT-DSB1-B-C18-1-ETW1-5	B	C18	2	18	109.0	0.1176	16	B1I	0.007350	111.3
NTP3961Q1-TC-T01-BT-DSB1-B-C18-1-ETW1-4	B	C18	2	18	75.02	0.1180	16	B1I	0.007375	76.84
NTP3961Q1-TC-T01-BT-DSB1-B-C18-1-ETW1-2	B	C18	2	18	117.5	0.1172	16	B1I	0.007325	119.5
NTP3961Q1-TC-T01-BT-DSB1-B-C18-1-ETW1-1	B	C18	2	18	106.0	0.1174	16	B1I	0.007338	108.1
NTP3961Q1-TC-T01-TC-DSB1-C-C35-2-ETW1-1	C	C35	3	35	106.2	0.1163	16	B1I	0.007268	107.2
NTP3961Q1-TC-T01-TC-DSB1-C-C35-2-ETW1-2	C	C35	3	35	116.0	0.1162	16	B1I	0.007261	117.0
NTP3961Q1-TC-T01-TC-DSB1-C-C35-2-ETW1-3	C	C35	3	35	86.27	0.1162	16	B1I	0.007263	87.02
NTP3961Q1-TC-T01-TC-DSB1-C-C35-2-ETW1-4	C	C35	3	35	108.7	0.1168	16	B1I	0.007300	110.2
NTP3961Q1-TC-T01-TC-DSB1-C-C36-2-ETW1-1	C	C36	3	36	87.32	0.1152	16	B1I	0.007202	87.34
NTP3961Q1-TC-T01-TC-DSB1-C-C36-2-ETW1-2	C	C36	3	36	109.4	0.1157	16	B1I	0.007230	109.8
NTP3961Q1-TC-T01-TC-DSB1-C-C36-2-ETW1-3	C	C36	3	36	87.71	0.1163	16	B1I	0.007268	88.53
NTP3961Q1-TC-T01-TC-DSB1-C-C36-2-ETW1-4	C	C36	3	36	126.4	0.1155	16	B1I	0.007216	126.7
NTP3961Q1-TC-T01-TC-DSB1-C-C36-2-ETW1-5	C	C36	3	36	101.2	0.1163	16	B1I	0.007269	102.2
NTP3961Q1-TC-T01-TC-DSB1-D-C31-1-ETW1-1	D	C31	4	31	119.5	0.1171	16	B1B	0.007318	121.4
NTP3961Q1-TC-T01-TC-DSB1-D-C31-1-ETW1-2	D	C31	4	31	91.52	0.1164	16	B1B	0.007273	92.44
NTP3961Q1-TC-T01-TC-DSB1-D-C31-1-ETW1-3	D	C31	4	31	80.98	0.1172	16	B1B	0.007327	82.41
NTP3961Q1-TC-T01-TC-DSB1-D-C31-1-ETW1-4	D	C31	4	35	101.3	0.1160	16	B1I	0.007250	102.0
NTP3961Q1-TC-T01-TC-DSB1-D-C31-1-ETW1-5	D	C31	4	35	115.6	0.1170	16	B1I	0.007313	117.4
NTP3961Q1-TC-T01-TC-DSB1-D-C35-2-ETW1-1	D	C35	4	35	89.46	0.1168	16	B1B	0.007302	90.73
NTP3961Q1-TC-T01-TC-DSB1-D-C35-2-ETW1-2	D	C35	4	35	85.09	0.1164	16	B1B	0.007277	86.00
NTP3961Q1-TC-T01-TC-DSB1-D-C35-2-ETW1-3	D	C35	4	35	85.56	0.1167	16	B1B	0.007294	86.68
NTP3961Q1-TC-T01-TC-DSB1-D-C35-2-ETW1-4	D	C35	4	35	119.1	0.1160	16	B1I	0.007250	120.0
NTP3961Q1-TC-T01-TC-DSB1-D-C35-2-ETW1-5	D	C35	4	35	120.7	0.1180	16	B1I	0.007375	123.6
NTP3961Q1-TC-T01-TC-DSB1-E-C35-2-ETW1-1	E	C35	5	35	102.1	0.1171	16	B1I	0.007316	103.7
NTP3961Q1-TC-T01-TC-DSB1-E-C35-2-ETW1-2	E	C35	5	35	118.3	0.1167	16	B1I	0.007296	119.9
NTP3961Q1-TC-T01-TC-DSB1-E-C35-2-ETW1-3	E	C35	5	35	112.2	0.1180	16	B1I	0.007376	115.0
NTP3961Q1-TC-T01-TC-DSB1-E-C36-2-ETW1-1	E	C36	5	36	113.7	0.1158	16	B1I	0.007234	114.2
NTP3961Q1-TC-T01-TC-DSB1-E-C36-2-ETW1-2	E	C36	5	36	122.1	0.1172	16	B1I	0.007324	124.2
NTP3961Q1-TC-T01-TC-DSB1-E-C36-2-ETW1-3	E	C36	5	36	118.0	0.1175	16	B1I	0.007343	120.3

Average	**106.2**	
Standard Dev.	**13.22**	
Coeff. of Var. [%]	**12.45**	
Min.	**75.02**	
Max.	**126.4**	
Number of Spec.	**38**	

$Average_{norm}$	**0.007315**	**107.9**
Standard $Dev._{norm}$		**13.58**
Coeff. of Var. $[\%]_{norm}$		**12.58**
Min.	**0.007202**	**76.84**
Max.	**0.007452**	**126.7**
Number of Spec.	**38**	**38**


Laminate Double-Shear Bearing Proc. A Properties (DSB1)--ETW1 (180°F)
Normalized 2% Offset Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Double-Shear Bearing Strength [ksi]
0
5
10
15
20
25
30
35
40
0
1
2
3
4
5
6
0
20
40
60
80
100
120
140

Laminate Double-Shear Bearing Proc. A Properties (DSB1)--ETW2 (250°F)
Strength

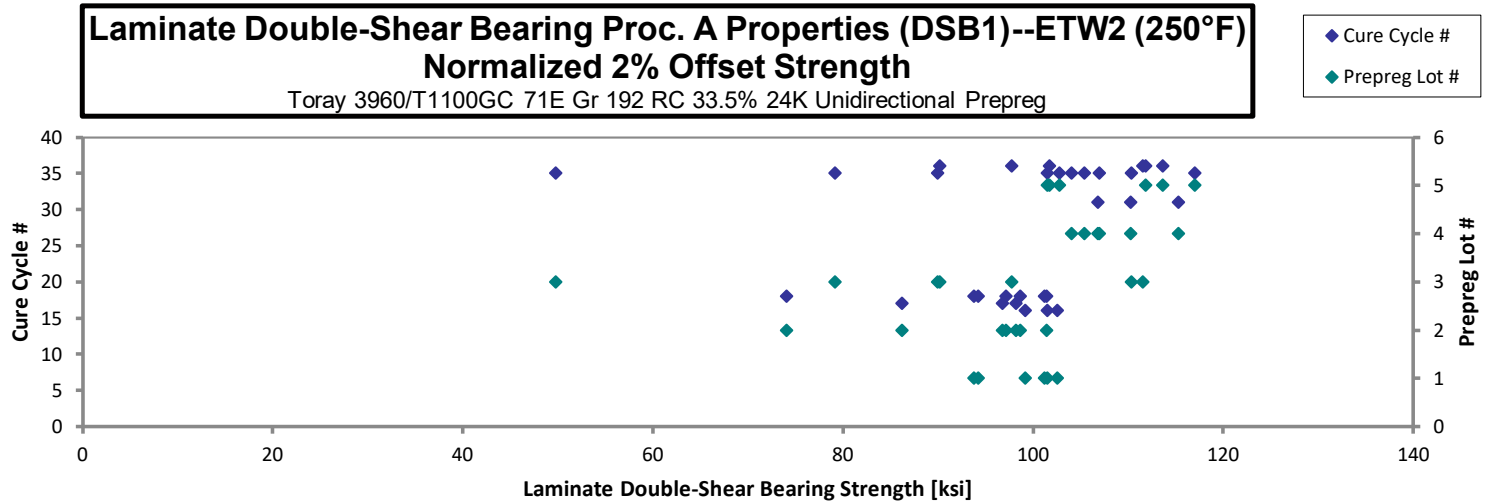
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

normalizing t_{ply} [in]
0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	2% Offset Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	2% Offset $Strength_{norm}$ [ksi]
NTP3961Q1-TC-T01-BT-DSB1-A-C16-1-ETW2-1	A	C16	1	16	100.1	0.1168	16	B1I	0.007300	101.5
NTP3961Q1-TC-T01-BT-DSB1-A-C16-1-ETW2-2	A	C16	1	16	98.16	0.1164	16	B1I	0.007275	99.18
NTP3961Q1-TC-T01-BT-DSB1-A-C16-1-ETW2-3	A	C16	1	16	101.3	0.1166	16	B1I	0.007286	102.5
NTP3961Q1-TC-T01-BT-DSB1-A-C18-1-ETW2-1	A	C18	1	18	91.88	0.1176	16	B1I	0.007350	93.79
NTP3961Q1-TC-T01-BT-DSB1-A-C18-1-ETW2-3	A	C18	1	18	99.49	0.1172	16	B1I	0.007324	101.2
NTP3961Q1-TC-T01-BT-DSB1-A-C18-1-ETW2-4	A	C18	1	18	91.87	0.1182	16	B1I	0.007389	94.29
NTP3961Q1-TC-T01-BT-DSB1-B-C17-1-ETW2-1	B	C17	2	17	84.48	0.1176	16	B1I	0.007352	86.26
NTP3961Q1-TC-T01-BT-DSB1-B-C17-1-ETW2-2	B	C17	2	17	95.44	0.1169	16	B1I	0.007303	96.81
NTP3961Q1-TC-T01-BT-DSB1-B-C17-1-ETW2-3	B	C17	2	17	96.21	0.1176	16	B1I	0.007351	98.22
NTP3961Q1-TC-T01-BT-DSB1-B-C18-1-ETW2-1	B	C18	2	18	96.51	0.1178	16	B1I	0.007361	98.67
NTP3961Q1-TC-T01-BT-DSB1-B-C18-1-ETW2-2	B	C18	2	18	73.36	0.1164	16	B1I	0.007275	74.12
NTP3961Q1-TC-T01-BT-DSB1-B-C18-1-ETW2-3	B	C18	2	18	98.59	0.1185	16	B1I	0.007408	101.4
NTP3961Q1-TC-T01-BT-DSB1-B-C18-1-ETW2-4	B	C18	2	18	94.63	0.1183	16	B1I	0.007394	97.18
NTP3961Q1-TC-T01-TC-DSB1-C-C35-2-ETW2-1	C	C35	3	35	89.92	0.1153	16	B1I	0.007205	89.98
NTP3961Q1-TC-T01-TC-DSB1-C-C35-2-ETW2-2	C	C35	3	35	78.77	0.1158	16	B1I	0.007238	79.19
NTP3961Q1-TC-T01-TC-DSB1-C-C35-2-ETW2-3	C	C35	3	35	49.20	0.1166	16	B1I	0.007284	49.78
NTP3961Q1-TC-T01-TC-DSB1-C-C35-2-ETW2-4	C	C35	3	35	109.8	0.1158	16	B1I	0.007236	110.4
NTP3961Q1-TC-T01-TC-DSB1-C-C36-2-ETW2-1	C	C36	3	36	89.70	0.1158	16	B1I	0.007239	90.19
NTP3961Q1-TC-T01-TC-DSB1-C-C36-2-ETW2-2	C	C36	3	36	110.3	0.1165	16	B1I	0.007283	111.6
NTP3961Q1-TC-T01-TC-DSB1-C-C36-2-ETW2-3	C	C36	3	36	97.02	0.1161	16	B1I	0.007255	97.76
NTP3961Q1-TC-T01-TC-DSB1-D-C31-1-ETW2-1	D	C31	4	31	113.2	0.1174	16	B1I	0.007338	115.4
NTP3961Q1-TC-T01-TC-DSB1-D-C31-1-ETW2-2	D	C31	4	31	106.0	0.1162	16	B1I	0.007263	106.9
NTP3961Q1-TC-T01-TC-DSB1-D-C31-1-ETW2-3	D	C31	4	31	109.1	0.1165	16	B1I	0.007283	110.3
NTP3961Q1-TC-T01-TC-DSB1-D-C35-2-ETW2-1	D	C35	4	35	102.5	0.1169	16	B1I	0.007308	104.0
NTP3961Q1-TC-T01-TC-DSB1-D-C35-2-ETW2-2	D	C35	4	35	105.6	0.1168	16	B1I	0.007298	107.0
NTP3961Q1-TC-T01-TC-DSB1-D-C35-2-ETW2-3	D	C35	4	35	104.2	0.1166	16	B1I	0.007284	105.5
NTP3961Q1-TC-T01-TC-DSB1-E-C35-2-ETW2-1	E	C35	5	35	100.9	0.1159	16	B1I	0.007245	101.5
NTP3961Q1-TC-T01-TC-DSB1-E-C35-2-ETW2-2	E	C35	5	35	102.0	0.1161	16	B1I	0.007255	102.8
NTP3961Q1-TC-T01-TC-DSB1-E-C35-2-ETW2-3	E	C35	5	35	115.8	0.1165	16	B1I	0.007283	117.1
NTP3961Q1-TC-T01-TC-DSB1-E-C36-2-ETW2-1	E	C36	5	36	100.5	0.1166	16	B1I	0.007286	101.7
NTP3961Q1-TC-T01-TC-DSB1-E-C36-2-ETW2-2	E	C36	5	36	112.6	0.1163	16	B1I	0.007271	113.7
NTP3961Q1-TC-T01-TC-DSB1-E-C36-2-ETW2-3	E	C36	5	36	111.3	0.1158	16	B1I	0.007239	111.9

Average	**97.83**	
Standard Dev.	**13.14**	
Coeff. of Var. [%]	**13.43**	
Min.	**49.20**	
Max.	**115.8**	
Number of Spec.	**32**	

$Average_{norm}$	**0.007296**	**99.12**
Standard $Dev._{norm}$		**13.27**
Coeff. of Var. $[\%]_{norm}$		**13.39**
Min.	**0.007205**	**49.78**
Max.	**0.007408**	**117.1**
Number of Spec.	**32**	**32**


Laminate Double-Shear Bearing Proc. A Properties (DSB1)--ETW2 (250°F)
Normalized 2% Offset Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Double-Shear Bearing Strength [ksi]
0
5
10
15
20
25
30
35
40
0
1
2
3
4
5
6
0
20
40
60
80
100
120
140

4.33 "10/80/10" Double-Shear Bearing 2 Properties (DSB2)

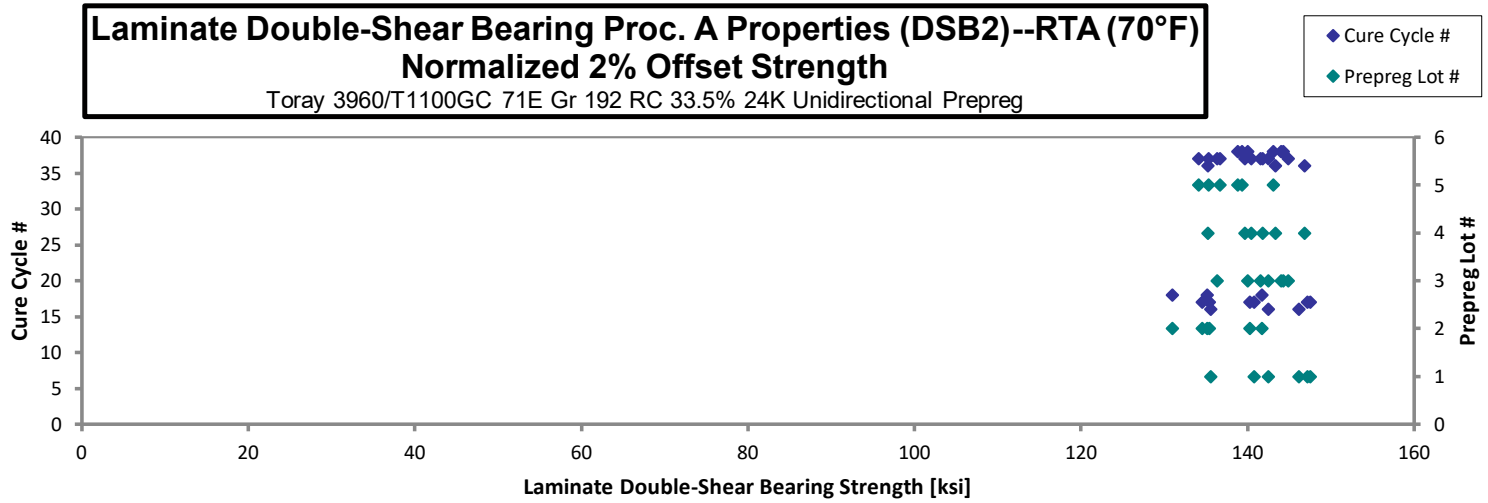
Laminate Double-Shear Bearing Proc. A Properties (DSB2)--RTA (70°F)
Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

normalizing t_{ply} [in]
0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	2% Offset Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	2% Offset $Strength_{norm}$ [ksi]
NTP3961Q1-TC-T01-BT-DSB2-A-C16-1-RTA-1	A	C16	1	16	142.4	0.1441	20	B1B	0.007205	142.5
NTP3961Q1-TC-T01-BT-DSB2-A-C16-1-RTA-2	A	C16	1	16	132.3	0.1476	20	B1B	0.007378	135.6
NTP3961Q1-TC-T01-BT-DSB2-A-C16-1-RTA-3	A	C16	1	16	142.9	0.1473	20	B1B	0.007365	146.1
NTP3961Q1-TC-T01-BT-DSB2-A-C17-1-RTA-1	A	C17	1	17	148.9	0.1423	20	B1B	0.007117	147.2
NTP3961Q1-TC-T01-BT-DSB2-A-C17-1-RTA-2	A	C17	1	17	141.0	0.1438	20	B1B	0.007188	140.8
NTP3961Q1-TC-T01-BT-DSB2-A-C17-1-RTA-3	A	C17	1	17	146.2	0.1453	20	B1B	0.007267	147.5
NTP3961Q1-TC-T01-BT-DSB2-B-C17-1-RTA-2	B	C17	2	17	138.3	0.1461	20	B1I	0.007306	140.3
NTP3961Q1-TC-T01-BT-DSB2-B-C17-1-RTA-3	B	C17	2	17	131.2	0.1486	20	B1I	0.007431	135.4
NTP3961Q1-TC-T01-BT-DSB2-B-C17-1-RTA-4	B	C17	2	17	130.9	0.1481	20	B1I	0.007403	134.5
NTP3961Q1-TC-T01-BT-DSB2-B-C18-1-RTA-1	B	C18	2	18	133.3	0.1461	20	B1B	0.007304	135.2
NTP3961Q1-TC-T01-BT-DSB2-B-C18-1-RTA-2	B	C18	2	18	128.7	0.1466	20	B1B	0.007328	131.0
NTP3961Q1-TC-T01-BT-DSB2-B-C18-1-RTA-3	B	C18	2	18	139.9	0.1459	20	B1B	0.007295	141.7
NTP3961Q1-TC-T01-TC-DSB2-C-C37-1-RTA-1	C	C37	3	37	143.3	0.1456	20	B1I	0.007281	144.9
NTP3961Q1-TC-T01-TC-DSB2-C-C37-1-RTA-3	C	C37	3	37	141.1	0.1455	20	B1I	0.007273	142.5
NTP3961Q1-TC-T01-TC-DSB2-C-C37-1-RTA-4	C	C37	3	37	139.2	0.1465	20	B1I	0.007323	141.6
NTP3961Q1-TC-T01-TC-DSB2-C-C37-1-RTA-5	C	C37	3	37	134.9	0.1456	20	B1I	0.007280	136.4
NTP3961Q1-TC-T01-TC-DSB2-C-C38-1-RTA-1	C	C38	3	38	142.7	0.1454	20	B1I	0.007268	144.1
NTP3961Q1-TC-T01-TC-DSB2-C-C38-1-RTA-2	C	C38	3	38	142.9	0.1454	20	B1I	0.007270	144.3
NTP3961Q1-TC-T01-TC-DSB2-C-C38-1-RTA-4	C	C38	3	38	139.8	0.1442	20	B1I	0.007212	140.1
NTP3961Q1-TC-T01-TC-DSB2-D-C36-1-RTA-1	D	C36	4	36	133.5	0.1459	20	B1I	0.007293	135.3
NTP3961Q1-TC-T01-TC-DSB2-D-C36-1-RTA-2	D	C36	4	36	144.5	0.1463	20	B1I	0.007315	146.8
NTP3961Q1-TC-T01-TC-DSB2-D-C36-1-RTA-3	D	C36	4	36	141.4	0.1460	20	B1I	0.007300	143.4
NTP3961Q1-TC-T01-TC-DSB2-D-C37-1-RTA-1	D	C37	4	37	141.2	0.1446	20	B1I	0.007231	141.8
NTP3961Q1-TC-T01-TC-DSB2-D-C37-1-RTA-2	D	C37	4	37	138.0	0.1457	20	B1I	0.007287	139.7
NTP3961Q1-TC-T01-TC-DSB2-D-C37-1-RTA-3	D	C37	4	37	138.8	0.1458	20	B1I	0.007288	140.5
NTP3961Q1-TC-T01-TC-DSB2-E-C37-1-RTA-1	E	C37	5	37	133.5	0.1459	20	B1I	0.007296	135.3
NTP3961Q1-TC-T01-TC-DSB2-E-C37-1-RTA-2	E	C37	5	37	134.7	0.1461	20	B1I	0.007304	136.7
NTP3961Q1-TC-T01-TC-DSB2-E-C37-1-RTA-3	E	C37	5	37	132.9	0.1454	20	B1I	0.007269	134.2
NTP3961Q1-TC-T01-TC-DSB2-E-C38-1-RTA-1	E	C38	5	38	138.0	0.1455	20	B1I	0.007274	139.4
NTP3961Q1-TC-T01-TC-DSB2-E-C38-1-RTA-2	E	C38	5	38	136.6	0.1464	20	B1I	0.007321	138.8
NTP3961Q1-TC-T01-TC-DSB2-E-C38-1-RTA-3	E	C38	5	38	141.5	0.1456	20	B1I	0.007281	143.1

Average	**138.5**	
Standard Dev.	**4.921**	
Coeff. of Var. [%]	**3.552**	
Min.	**128.7**	
Max.	**148.9**	
Number of Spec.	**31**	

$Average_{norm}$	**0.007289**	**140.2**
Standard $Dev._{norm}$		**4.373**
Coeff. of Var. $[\%]_{norm}$		**3.119**
Min.	**0.007117**	**131.0**
Max.	**0.007431**	**147.5**
Number of Spec.	**31**	**31**


Laminate Double-Shear Bearing Proc. A Properties (DSB2)--RTA (70°F)
Normalized 2% Offset Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Double-Shear Bearing Strength [ksi]
0
5
10
15
20
25
30
35
40
0
1
2
3
4
5
6
0
20
40
60
80
100
120
140
160

Laminate Double-Shear Bearing Proc. A Properties (DSB2)--ETW1 (180°F)
Strength

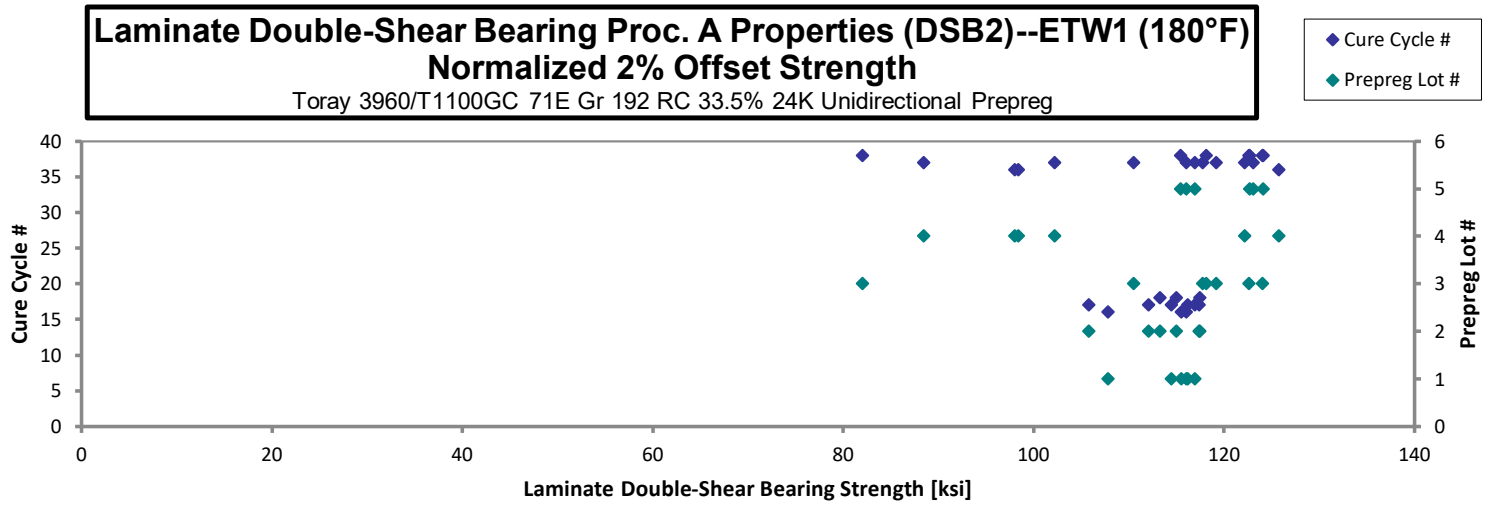
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

normalizing t_{ply} [in]
0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	2% Offset Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	2% Offset Strength$_{norm}$ [ksi]
NTP3961Q1-TC-T01-BT-DSB2-A-C16-1-ETW1-1	A	C16	1	16	106.6	0.1456	20	B1I	0.007282	107.8
NTP3961Q1-TC-T01-BT-DSB2-A-C16-1-ETW1-2	A	C16	1	16	113.0	0.1472	20	B1I	0.007359	115.5
NTP3961Q1-TC-T01-BT-DSB2-A-C16-1-ETW1-3	A	C16	1	16	114.1	0.1465	20	B1I	0.007323	116.0
NTP3961Q1-TC-T01-BT-DSB2-A-C17-1-ETW1-1	A	C17	1	17	115.0	0.1433	20	B1I	0.007165	114.4
NTP3961Q1-TC-T01-BT-DSB2-A-C17-1-ETW1-2	A	C17	1	17	117.3	0.1436	20	B1I	0.007178	116.9
NTP3961Q1-TC-T01-BT-DSB2-A-C17-1-ETW1-4	A	C17	1	17	115.2	0.1452	20	B1I	0.007261	116.1
NTP3961Q1-TC-T01-BT-DSB2-B-C17-1-ETW1-1	B	C17	2	17	103.6	0.1470	20	B1I	0.007351	105.8
NTP3961Q1-TC-T01-BT-DSB2-B-C17-1-ETW1-2	B	C17	2	17	110.0	0.1467	20	B1I	0.007335	112.1
NTP3961Q1-TC-T01-BT-DSB2-B-C17-1-ETW1-3	B	C17	2	17	114.1	0.1482	20	B1I	0.007408	117.3
NTP3961Q1-TC-T01-BT-DSB2-B-C18-1-ETW1-1	B	C18	2	18	111.1	0.1468	20	B1I	0.007338	113.2
NTP3961Q1-TC-T01-BT-DSB2-B-C18-1-ETW1-2	B	C18	2	18	112.8	0.1469	20	B1I	0.007343	115.0
NTP3961Q1-TC-T01-BT-DSB2-B-C18-1-ETW1-3	B	C18	2	18	114.7	0.1475	20	B1I	0.007373	117.5
NTP3961Q1-TC-T01-TC-DSB2-C-C37-1-ETW1-1	C	C37	3	37	117.2	0.1464	20	B1I	0.007321	119.2
NTP3961Q1-TC-T01-TC-DSB2-C-C37-1-ETW1-2	C	C37	3	37	109.5	0.1454	20	B1I	0.007269	110.5
NTP3961Q1-TC-T01-TC-DSB2-C-C37-1-ETW1-3	C	C37	3	37	117.0	0.1450	20	B1I	0.007248	117.7
NTP3961Q1-TC-T01-TC-DSB2-C-C38-1-ETW1-1	C	C38	3	38	115.8	0.1469	20	B1I	0.007347	118.1
NTP3961Q1-TC-T01-TC-DSB2-C-C38-1-ETW1-2	C	C38	3	38	123.4	0.1447	20	B1I	0.007234	124.0
NTP3961Q1-TC-T01-TC-DSB2-C-C38-1-ETW1-3	C	C38	3	38	81.09	0.1456	20	B1I	0.007281	82.00
NTP3961Q1-TC-T01-TC-DSB2-C-C38-1-ETW1-4	C	C38	3	38	120.8	0.1462	20	B1I	0.007311	122.6
NTP3961Q1-TC-T01-TC-DSB2-D-C36-1-ETW1-1	D	C36	4	36	124.0	0.1461	20	B1B	0.007303	125.8
NTP3961Q1-TC-T01-TC-DSB2-D-C36-1-ETW1-2	D	C36	4	36	96.62	0.1461	20	B1B	0.007304	98.02
NTP3961Q1-TC-T01-TC-DSB2-D-C36-1-ETW1-3	D	C36	4	36	97.11	0.1459	20	B1B	0.007293	98.36
NTP3961Q1-TC-T01-TC-DSB2-D-C37-1-ETW1-1	D	C37	4	37	101.2	0.1454	20	B1B	0.007268	102.2
NTP3961Q1-TC-T01-TC-DSB2-D-C37-1-ETW1-2	D	C37	4	37	120.5	0.1460	20	B1B	0.007300	122.1
NTP3961Q1-TC-T01-TC-DSB2-D-C37-1-ETW1-3	D	C37	4	37	87.37	0.1457	20	B1B	0.007286	88.41
NTP3961Q1-TC-T01-TC-DSB2-E-C37-1-ETW1-1	E	C37	5	37	115.0	0.1453	20	B1I	0.007264	116.0
NTP3961Q1-TC-T01-TC-DSB2-E-C37-1-ETW1-2	E	C37	5	37	115.5	0.1458	20	B1I	0.007292	116.9
NTP3961Q1-TC-T01-TC-DSB2-E-C37-1-ETW1-3	E	C37	5	37	121.4	0.1459	20	B1I	0.007297	123.0
NTP3961Q1-TC-T01-TC-DSB2-E-C38-1-ETW1-1	E	C38	5	38	123.5	0.1448	20	B1I	0.007238	124.1
NTP3961Q1-TC-T01-TC-DSB2-E-C38-1-ETW1-2	E	C38	5	38	113.3	0.1467	20	B1I	0.007336	115.4
NTP3961Q1-TC-T01-TC-DSB2-E-C38-1-ETW1-3	E	C38	5	38	121.2	0.1458	20	B1I	0.007291	122.7

Average	**111.9**	
Standard Dev.	**10.21**	
Coeff. of Var. [%]	**9.126**	
Min.	**81.09**	
Max.	**124.0**	
Number of Spec.	**31**	

Average$_{norm}$	**0.007296**	**113.4**
Standard Dev.$_{norm}$		**10.30**
Coeff. of Var. [%]$_{norm}$		**9.088**
Min.	**0.007165**	**82.00**
Max.	**0.007408**	**125.8**
Number of Spec.	**31**	**31**


Laminate Double-Shear Bearing Proc. A Properties (DSB2)--ETW1 (180°F)
Normalized 2% Offset Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Double-Shear Bearing Strength [ksi]
0
5
10
15
20
25
30
35
40
0
1
2
3
4
5
6
0
20
40
60
80
100
120
140

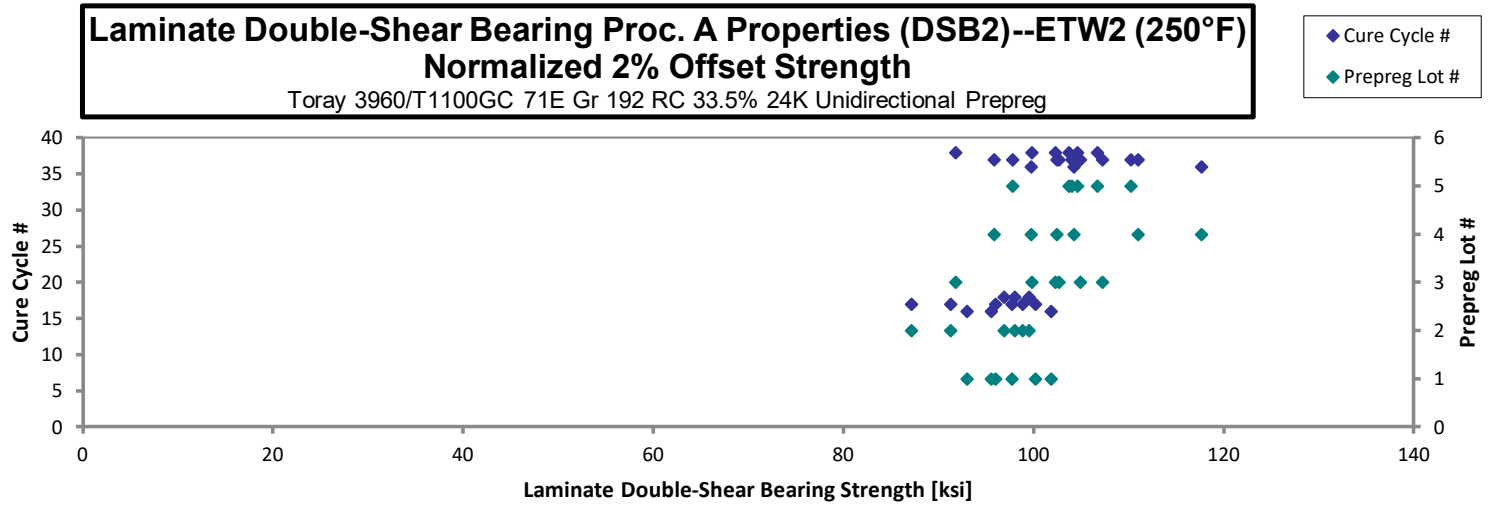
Laminate Double-Shear Bearing Proc. A Properties (DSB2)--ETW2 (250°F)
Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

normalizing t_{ply} [in]
0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	2% Offset Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	2% Offset $Strength_{norm}$ [ksi]
NTP3961Q1-TC-T01-BT-DSB2-A-C16-1-ETW2-1	A	C16	1	16	92.03	0.1455	20	B1I	0.007277	93.01
NTP3961Q1-TC-T01-BT-DSB2-A-C16-1-ETW2-2	A	C16	1	16	94.97	0.1449	20	B1I	0.007243	95.53
NTP3961Q1-TC-T01-BT-DSB2-A-C16-1-ETW2-3	A	C16	1	16	100.8	0.1455	20	B1I	0.007275	101.8
NTP3961Q1-TC-T01-BT-DSB2-A-C17-1-ETW2-1	A	C17	1	17	96.15	0.1438	20	B1I	0.007189	96.00
NTP3961Q1-TC-T01-BT-DSB2-A-C17-1-ETW2-2	A	C17	1	17	99.68	0.1448	20	B1I	0.007238	100.2
NTP3961Q1-TC-T01-BT-DSB2-A-C17-1-ETW2-3	A	C17	1	17	97.05	0.1450	20	B1I	0.007250	97.72
NTP3961Q1-TC-T01-BT-DSB2-B-C17-1-ETW2-1	B	C17	2	17	89.35	0.1470	20	B1I	0.007351	91.22
NTP3961Q1-TC-T01-BT-DSB2-B-C17-1-ETW2-2	B	C17	2	17	95.90	0.1484	20	B1I	0.007418	98.80
NTP3961Q1-TC-T01-BT-DSB2-B-C17-1-ETW2-3	B	C17	2	17	85.67	0.1465	20	B1I	0.007323	87.13
NTP3961Q1-TC-T01-BT-DSB2-B-C18-1-ETW2-1	B	C18	2	18	95.85	0.1473	20	B1I	0.007363	98.01
NTP3961Q1-TC-T01-BT-DSB2-B-C18-1-ETW2-2	B	C18	2	18	94.88	0.1471	20	B1I	0.007354	96.91
NTP3961Q1-TC-T01-BT-DSB2-B-C18-1-ETW2-3	B	C18	2	18	97.23	0.1474	20	B1I	0.007369	99.51
NTP3961Q1-TC-T01-TC-DSB2-C-C37-1-ETW2-1	C	C37	3	37	106.2	0.1454	20	B1I	0.007268	107.2
NTP3961Q1-TC-T01-TC-DSB2-C-C37-1-ETW2-2	C	C37	3	37	103.5	0.1459	20	B1I	0.007295	104.9
NTP3961Q1-TC-T01-TC-DSB2-C-C37-1-ETW2-3	C	C37	3	37	100.9	0.1465	20	B1I	0.007326	102.7
NTP3961Q1-TC-T01-TC-DSB2-C-C38-1-ETW2-1	C	C38	3	38	101.0	0.1458	20	B1I	0.007289	102.2
NTP3961Q1-TC-T01-TC-DSB2-C-C38-1-ETW2-2	C	C38	3	38	98.87	0.1453	20	B1I	0.007265	99.76
NTP3961Q1-TC-T01-TC-DSB2-C-C38-1-ETW2-3	C	C38	3	38	90.10	0.1467	20	B1I	0.007333	91.76
NTP3961Q1-TC-T01-TC-DSB2-D-C36-1-ETW2-1	D	C36	4	36	98.46	0.1458	20	B1I	0.007291	99.70
NTP3961Q1-TC-T01-TC-DSB2-D-C36-1-ETW2-2	D	C36	4	36	103.3	0.1452	20	B1I	0.007262	104.2
NTP3961Q1-TC-T01-TC-DSB2-D-C36-1-ETW2-3	D	C36	4	36	116.7	0.1452	20	B1I	0.007260	117.6
NTP3961Q1-TC-T01-TC-DSB2-D-C37-1-ETW2-1	D	C37	4	37	94.54	0.1459	20	B1I	0.007297	95.81
NTP3961Q1-TC-T01-TC-DSB2-D-C37-1-ETW2-2	D	C37	4	37	110.2	0.1451	20	B1I	0.007253	111.0
NTP3961Q1-TC-T01-TC-DSB2-D-C37-1-ETW2-3	D	C37	4	37	101.0	0.1460	20	B1I	0.007300	102.4
NTP3961Q1-TC-T01-TC-DSB2-E-C37-1-ETW2-1	E	C37	5	37	102.7	0.1459	20	B1I	0.007293	104.0
NTP3961Q1-TC-T01-TC-DSB2-E-C37-1-ETW2-2	E	C37	5	37	109.1	0.1456	20	B1I	0.007279	110.2
NTP3961Q1-TC-T01-TC-DSB2-E-C37-1-ETW2-3	E	C37	5	37	96.85	0.1454	20	B1I	0.007269	97.78
NTP3961Q1-TC-T01-TC-DSB2-E-C38-1-ETW2-1	E	C38	5	38	102.5	0.1456	20	B1I	0.007279	103.7
NTP3961Q1-TC-T01-TC-DSB2-E-C38-1-ETW2-2	E	C38	5	38	105.8	0.1451	20	B1I	0.007257	106.7
NTP3961Q1-TC-T01-TC-DSB2-E-C38-1-ETW2-3	E	C38	5	38	103.6	0.1454	20	B1I	0.007270	104.6

Average	**99.50**	
Standard Dev.	**6.493**	
Coeff. of Var. [%]	**6.526**	
Min.	**85.67**	
Max.	**116.7**	
Number of Spec.	**30**	

$Average_{norm}$	**0.007291**	**100.7**
$Standard\ Dev._{norm}$		**6.350**
Coeff. of Var. $[\%]_{norm}$		**6.303**
Min.	**0.007189**	**87.13**
Max.	**0.007418**	**117.6**
Number of Spec.	**30**	**30**


Laminate Double-Shear Bearing Proc. A Properties (DSB2)--ETW2 (250°F)
Normalized 2% Offset Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Double-Shear Bearing Strength [ksi]
0
5
10
15
20
25
30
35
40
0
1
2
3
4
5
6
0
20
40
60
80
100
120
140

4.34 "50/40/10" Double-Shear Bearing 3 Properties (DSB3)

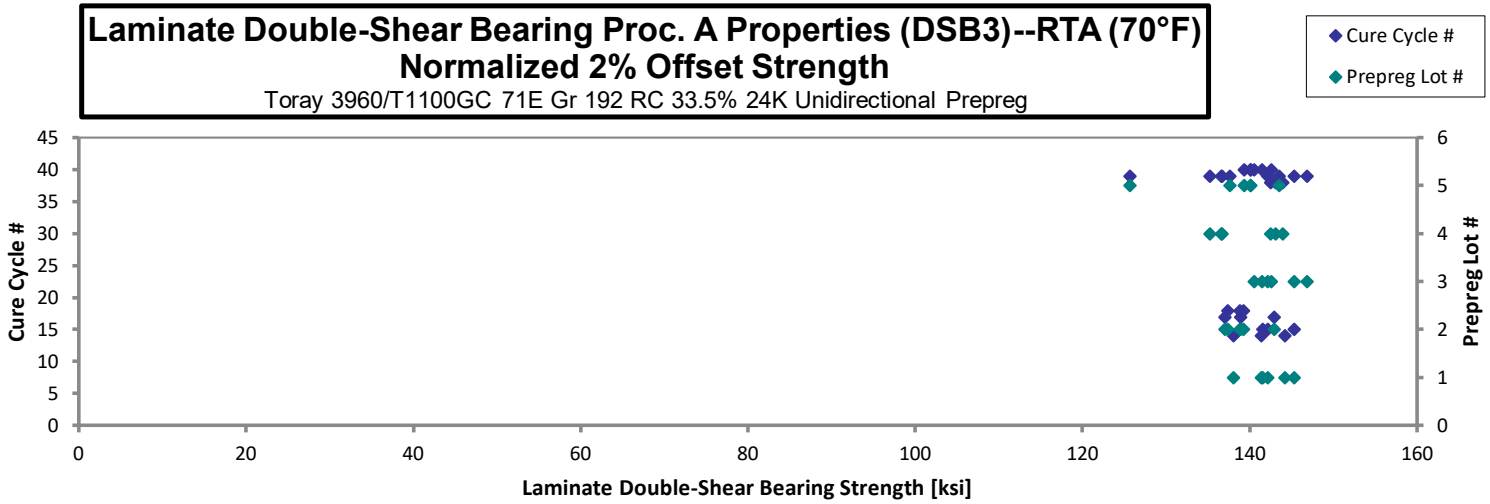
Laminate Double-Shear Bearing Proc. A Properties (DSB3)--RTA (70°F)
Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

normalizing t_{ply} [in]
0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	2% Offset Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	2% Offset $Strength_{norm}$ [ksi]
NTP3961Q1-TC-T01-BT-DSB3-A-C14-1-RTA-1	A	C14	1	14	137.2	0.1449	20	B1B	0.007244	138.1
NTP3961Q1-TC-T01-BT-DSB3-A-C14-1-RTA-2	A	C14	1	14	138.3	0.1473	20	B1B	0.007366	141.4
NTP3961Q1-TC-T01-BT-DSB3-A-C14-1-RTA-3	A	C14	1	14	138.7	0.1497	20	B1B	0.007484	144.2
NTP3961Q1-TC-T01-BT-DSB3-A-C15-1-RTA-1	A	C15	1	15	140.5	0.1452	20	B1B	0.007258	141.6
NTP3961Q1-TC-T01-BT-DSB3-A-C15-1-RTA-2	A	C15	1	15	142.1	0.1473	20	B1B	0.007363	145.3
NTP3961Q1-TC-T01-BT-DSB3-A-C15-1-RTA-3	A	C15	1	15	138.7	0.1476	20	B1B	0.007382	142.2
NTP3961Q1-TC-T01-BT-DSB3-B-C17-1-RTA-1	B	C17	2	17	140.2	0.1468	20	B1B	0.007342	142.9
NTP3961Q1-TC-T01-BT-DSB3-B-C17-1-RTA-2	B	C17	2	17	136.0	0.1470	20	B1B	0.007351	138.9
NTP3961Q1-TC-T01-BT-DSB3-B-C17-1-RTA-3	B	C17	2	17	135.2	0.1460	20	B1B	0.007298	137.1
NTP3961Q1-TC-T01-BT-DSB3-B-C18-1-RTA-1	B	C18	2	18	136.2	0.1472	20	B1B	0.007362	139.3
NTP3961Q1-TC-T01-BT-DSB3-B-C18-1-RTA-2	B	C18	2	18	136.8	0.1447	20	B1B	0.007233	137.4
NTP3961Q1-TC-T01-BT-DSB3-B-C18-1-RTA-3	B	C18	2	18	136.5	0.1465	20	B1B	0.007324	138.8
NTP3961Q1-TC-T01-TC-DSB3-C-C39-1-RTA-1	C	C39	3	39	141.5	0.1447	20	B1I	0.007235	142.2
NTP3961Q1-TC-T01-TC-DSB3-C-C39-1-RTA-2	C	C39	3	39	146.2	0.1446	20	B1I	0.007232	146.8
NTP3961Q1-TC-T01-TC-DSB3-C-C39-1-RTA-3	C	C39	3	39	144.0	0.1453	20	B1I	0.007267	145.3
NTP3961Q1-TC-T01-TC-DSB3-C-C40-1-RTA-1	C	C40	3	40	141.1	0.1456	20	B1I	0.007278	142.6
NTP3961Q1-TC-T01-TC-DSB3-C-C40-1-RTA-2	C	C40	3	40	140.2	0.1454	20	B1I	0.007269	141.5
NTP3961Q1-TC-T01-TC-DSB3-C-C40-1-RTA-3	C	C40	3	40	138.4	0.1462	20	B1I	0.007309	140.5
NTP3961Q1-TC-T01-TC-DSB3-D-C38-1-RTA-1	D	C38	4	38	141.5	0.1450	20	B1I	0.007252	142.5
NTP3961Q1-TC-T01-TC-DSB3-D-C38-1-RTA-2	D	C38	4	38	142.1	0.1450	20	B1I	0.007252	143.1
NTP3961Q1-TC-T01-TC-DSB3-D-C38-1-RTA-3	D	C38	4	38	142.2	0.1458	20	B1I	0.007288	144.0
NTP3961Q1-TC-T01-TC-DSB3-D-C39-1-RTA-1	D	C39	4	39	133.9	0.1455	20	B1I	0.007274	135.2
NTP3961Q1-TC-T01-TC-DSB3-D-C39-1-RTA-2	D	C39	4	39	133.9	0.1469	20	B1I	0.007346	136.6
NTP3961Q1-TC-T01-TC-DSB3-D-C39-1-RTA-3	D	C39	4	39	135.4	0.1454	20	B1I	0.007269	136.7
NTP3961Q1-TC-T01-TC-DSB3-E-C39-1-RTA-1	E	C39	5	39	136.3	0.1455	20	B1I	0.007273	137.6
NTP3961Q1-TC-T01-TC-DSB3-E-C39-1-RTA-2	E	C39	5	39	142.5	0.1451	20	B1I	0.007254	143.5
NTP3961Q1-TC-T01-TC-DSB3-E-C39-1-RTA-3	E	C39	5	39	124.2	0.1458	20	B1I	0.007289	125.7
NTP3961Q1-TC-T01-TC-DSB3-E-C40-1-RTA-1	E	C40	5	40	139.2	0.1450	20	B1I	0.007249	140.1
NTP3961Q1-TC-T01-TC-DSB3-E-C40-1-RTA-2	E	C40	5	40	138.0	0.1462	20	B1I	0.007308	140.1
NTP3961Q1-TC-T01-TC-DSB3-E-C40-1-RTA-3	E	C40	5	40	137.1	0.1464	20	B1I	0.007322	139.4

Average	**138.5**	
Standard Dev.	**4.045**	
Coeff. of Var. [%]	**2.922**	
Min.	**124.2**	
Max.	**146.2**	
Number of Spec.	**30**	

$Average_{norm}$	**0.007299**	**140.4**
Standard $Dev._{norm}$		**4.027**
Coeff. of Var. $[\%]_{norm}$		**2.869**
Min.	**0.007232**	**125.7**
Max.	**0.007484**	**146.8**
Number of Spec.	**30**	**30**


Laminate Double-Shear Bearing Proc. A Properties (DSB3)--RTA (70°F)
Normalized 2% Offset Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Double-Shear Bearing Strength [ksi]
0
5
10
15
20
25
30
35
40
45
0
1
2
3
4
5
6
0
20
40
60
80
100
120
140
160

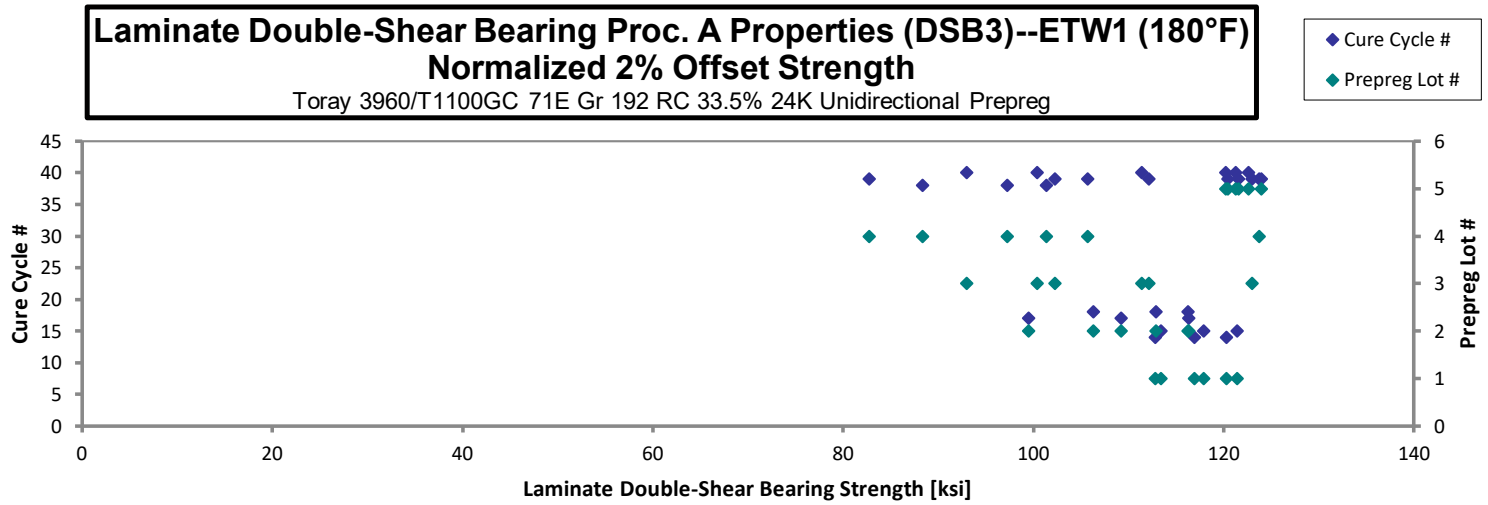
Laminate Double-Shear Bearing Proc. A Properties (DSB3)--ETW1 (180°F)
Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

normalizing t_{ply} [in]
0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	2% Offset Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	2% Offset $Strength_{norm}$ [ksi]
NTP3961Q1-TC-T01-BT-DSB3-A-C14-1-ETW1-1	A	C14	1	14	112.9	0.1439	20	B1I	0.007197	112.8
NTP3961Q1-TC-T01-BT-DSB3-A-C14-1-ETW1-2	A	C14	1	14	115.4	0.1459	20	B1I	0.007293	116.9
NTP3961Q1-TC-T01-BT-DSB3-A-C14-1-ETW1-3	A	C14	1	14	117.0	0.1482	20	B1I	0.007408	120.3
NTP3961Q1-TC-T01-BT-DSB3-A-C15-1-ETW1-1	A	C15	1	15	112.7	0.1449	20	B1I	0.007244	113.4
NTP3961Q1-TC-T01-BT-DSB3-A-C15-1-ETW1-2	A	C15	1	15	119.8	0.1460	20	B1I	0.007298	121.4
NTP3961Q1-TC-T01-BT-DSB3-A-C15-1-ETW1-3	A	C15	1	15	116.0	0.1463	20	B1I	0.007315	117.9
NTP3961Q1-TC-T01-BT-DSB3-B-C17-1-ETW1-3	B	C17	2	17	114.7	0.1461	20	B1I	0.007304	116.4
NTP3961Q1-TC-T01-BT-DSB3-B-C17-1-ETW1-4	B	C17	2	17	105.9	0.1485	20	B1I	0.007423	109.2
NTP3961Q1-TC-T01-BT-DSB3-B-C17-1-ETW1-5	B	C17	2	17	97.62	0.1468	20	B1I	0.007338	99.49
NTP3961Q1-TC-T01-BT-DSB3-B-C18-1-ETW1-1	B	C18	2	18	103.3	0.1482	20	B1I	0.007408	106.3
NTP3961Q1-TC-T01-BT-DSB3-B-C18-1-ETW1-2	B	C18	2	18	110.7	0.1469	20	B1I	0.007343	112.9
NTP3961Q1-TC-T01-BT-DSB3-B-C18-1-ETW1-3	B	C18	2	18	116.1	0.1442	20	B1I	0.007209	116.3
NTP3961Q1-TC-T01-TC-DSB3-C-C39-1-ETW1-1	C	C39	3	39	101.5	0.1451	20	B1I	0.007253	102.2
NTP3961Q1-TC-T01-TC-DSB3-C-C39-1-ETW1-2	C	C39	3	39	121.5	0.1457	20	B1I	0.007285	123.0
NTP3961Q1-TC-T01-TC-DSB3-C-C39-1-ETW1-3	C	C39	3	39	110.2	0.1465	20	B1I	0.007324	112.1
NTP3961Q1-TC-T01-TC-DSB3-C-C40-1-ETW1-1	C	C40	3	40	111.0	0.1446	20	B1I	0.007230	111.4
NTP3961Q1-TC-T01-TC-DSB3-C-C40-1-ETW1-2	C	C40	3	40	99.71	0.1450	20	B1I	0.007248	100.4
NTP3961Q1-TC-T01-TC-DSB3-C-C40-1-ETW1-3	C	C40	3	40	92.35	0.1450	20	B1I	0.007250	92.99
NTP3961Q1-TC-T01-TC-DSB3-D-C38-1-ETW1-1	D	C38	4	38	100.7	0.1449	20	B1B	0.007247	101.4
NTP3961Q1-TC-T01-TC-DSB3-D-C38-1-ETW1-2	D	C38	4	38	87.04	0.1462	20	B1B	0.007310	88.37
NTP3961Q1-TC-T01-TC-DSB3-D-C38-1-ETW1-3	D	C38	4	38	96.61	0.1449	20	B1B	0.007245	97.21
NTP3961Q1-TC-T01-TC-DSB3-D-C39-1-ETW1-1	D	C39	4	39	122.4	0.1455	20	B1B	0.007276	123.7
NTP3961Q1-TC-T01-TC-DSB3-D-C39-1-ETW1-2	D	C39	4	39	103.4	0.1472	20	B1B	0.007361	105.7
NTP3961Q1-TC-T01-TC-DSB3-D-C39-1-ETW1-4	D	C39	4	39	82.02	0.1452	20	B1B	0.007262	82.72
NTP3961Q1-TC-T01-TC-DSB3-E-C39-1-ETW1-1	E	C39	5	39	120.9	0.1448	20	B1I	0.007242	121.6
NTP3961Q1-TC-T01-TC-DSB3-E-C39-1-ETW1-2	E	C39	5	39	123.4	0.1447	20	B1I	0.007234	124.0
NTP3961Q1-TC-T01-TC-DSB3-E-C39-1-ETW1-3	E	C39	5	39	117.9	0.1471	20	B1I	0.007356	120.4
NTP3961Q1-TC-T01-TC-DSB3-E-C40-1-ETW1-1	E	C40	5	40	121.0	0.1443	20	B1I	0.007214	121.2
NTP3961Q1-TC-T01-TC-DSB3-E-C40-1-ETW1-2	E	C40	5	40	118.3	0.1464	20	B1I	0.007321	120.2
NTP3961Q1-TC-T01-TC-DSB3-E-C40-1-ETW1-3	E	C40	5	40	120.1	0.1470	20	B1I	0.007349	122.6

Average	**109.7**	
Standard Dev.	**11.06**	
Coeff. of Var. [%]	**10.08**	
Min.	**82.02**	
Max.	**123.4**	
Number of Spec.	**30**	

$Average_{norm}$	**0.007293**	**111.1**
$Standard\ Dev._{norm}$		**11.20**
$Coeff.\ of\ Var.\ [\%]_{norm}$		**10.08**
Min.	**0.007197**	**82.72**
Max.	**0.007423**	**124.0**
Number of Spec.	**30**	**30**


Laminate Double-Shear Bearing Proc. A Properties (DSB3)--ETW1 (180°F)
Normalized 2% Offset Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Double-Shear Bearing Strength [ksi]
0
5
10
15
20
25
30
35
40
45
0
1
2
3
4
5
6
0
20
40
60
80
100
120
140

Laminate Double-Shear Bearing Proc. A Properties (DSB3)--ETW2 (250°F)
Strength

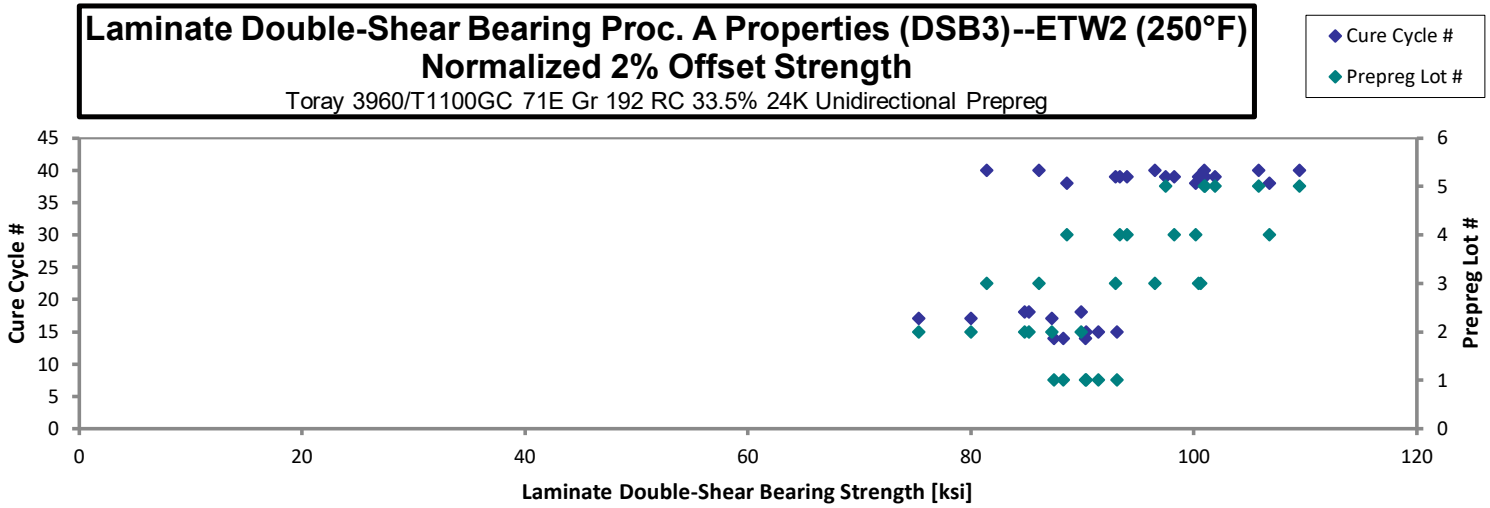
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

normalizing t_{ply} [in]
0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	2% Offset Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	2% Offset $Strength_{norm}$ [ksi]
NTP3961Q1-TC-T01-BT-DSB3-A-C14-1-ETW2-1	A	C14	1	14	89.60	0.1451	20	B1I	0.007253	90.26
NTP3961Q1-TC-T01-BT-DSB3-A-C14-1-ETW2-2	A	C14	1	14	86.53	0.1455	20	B1I	0.007277	87.45
NTP3961Q1-TC-T01-BT-DSB3-A-C14-1-ETW2-3	A	C14	1	14	87.07	0.1461	20	B1I	0.007303	88.32
NTP3961Q1-TC-T01-BT-DSB3-A-C15-1-ETW2-1	A	C15	1	15	91.50	0.1465	20	B1I	0.007327	93.11
NTP3961Q1-TC-T01-BT-DSB3-A-C15-1-ETW2-2	A	C15	1	15	88.97	0.1463	20	B1I	0.007314	90.38
NTP3961Q1-TC-T01-BT-DSB3-A-C15-1-ETW2-3	A	C15	1	15	90.25	0.1459	20	B1I	0.007295	91.44
NTP3961Q1-TC-T01-BT-DSB3-B-C17-1-ETW2-1	B	C17	2	17	86.29	0.1457	20	B1I	0.007284	87.30
NTP3961Q1-TC-T01-BT-DSB3-B-C17-1-ETW2-2	B	C17	2	17	73.95	0.1466	20	B1I	0.007332	75.30
NTP3961Q1-TC-T01-BT-DSB3-B-C17-1-ETW2-3	B	C17	2	17	78.78	0.1462	20	B1I	0.007310	79.98
NTP3961Q1-TC-T01-BT-DSB3-B-C18-1-ETW2-1	B	C18	2	18	84.01	0.1461	20	B1I	0.007304	85.22
NTP3961Q1-TC-T01-BT-DSB3-B-C18-1-ETW2-2	B	C18	2	18	82.75	0.1477	20	B1I	0.007383	84.85
NTP3961Q1-TC-T01-BT-DSB3-B-C18-1-ETW2-4	B	C18	2	18	87.97	0.1472	20	B1I	0.007361	89.93
NTP3961Q1-TC-T01-TC-DSB3-C-C39-1-ETW2-1	C	C39	3	39	99.25	0.1460	20	B1I	0.007298	100.6
NTP3961Q1-TC-T01-TC-DSB3-C-C39-1-ETW2-2	C	C39	3	39	98.62	0.1466	20	B1I	0.007332	100.4
NTP3961Q1-TC-T01-TC-DSB3-C-C39-1-ETW2-3	C	C39	3	39	91.16	0.1469	20	B1I	0.007345	93.00
NTP3961Q1-TC-T01-TC-DSB3-C-C40-1-ETW2-1	C	C40	3	40	96.58	0.1439	20	B1I	0.007195	96.51
NTP3961Q1-TC-T01-TC-DSB3-C-C40-1-ETW2-2	C	C40	3	40	84.08	0.1475	20	B1I	0.007374	86.11
NTP3961Q1-TC-T01-TC-DSB3-C-C40-1-ETW2-3	C	C40	3	40	79.45	0.1476	20	B1I	0.007378	81.41
NTP3961Q1-TC-T01-TC-DSB3-D-C38-1-ETW2-1	D	C38	4	38	87.63	0.1456	20	B1I	0.007279	88.59
NTP3961Q1-TC-T01-TC-DSB3-D-C38-1-ETW2-2	D	C38	4	38	106.5	0.1445	20	B1I	0.007224	106.8
NTP3961Q1-TC-T01-TC-DSB3-D-C38-1-ETW2-3	D	C38	4	38	99.60	0.1449	20	B1I	0.007244	100.2
NTP3961Q1-TC-T01-TC-DSB3-D-C39-1-ETW2-1	D	C39	4	39	97.30	0.1454	20	B1I	0.007269	98.23
NTP3961Q1-TC-T01-TC-DSB3-D-C39-1-ETW2-2	D	C39	4	39	92.74	0.1460	20	B1I	0.007300	94.03
NTP3961Q1-TC-T01-TC-DSB3-D-C39-1-ETW2-3	D	C39	4	39	92.98	0.1447	20	B1I	0.007233	93.40
NTP3961Q1-TC-T01-TC-DSB3-E-C39-1-ETW2-1	E	C39	5	39	101.3	0.1449	20	B1I	0.007244	101.9
NTP3961Q1-TC-T01-TC-DSB3-E-C39-1-ETW2-2	E	C39	5	39	99.93	0.1456	20	B1I	0.007279	101.0
NTP3961Q1-TC-T01-TC-DSB3-E-C39-1-ETW2-3	E	C39	5	39	96.53	0.1454	20	B1I	0.007270	97.47
NTP3961Q1-TC-T01-TC-DSB3-E-C40-1-ETW2-1	E	C40	5	40	104.5	0.1458	20	B1I	0.007291	105.8
NTP3961Q1-TC-T01-TC-DSB3-E-C40-1-ETW2-2	E	C40	5	40	100.3	0.1449	20	B1I	0.007247	101.0
NTP3961Q1-TC-T01-TC-DSB3-E-C40-1-ETW2-3	E	C40	5	40	109.2	0.1443	20	B1I	0.007216	109.5

Average	**92.18**	
Standard Dev.	**8.542**	
Coeff. of Var. [%]	**9.267**	
Min.	**73.95**	
Max.	**109.2**	
Number of Spec.	**30**	

$Average_{norm}$	**0.007292**	**93.32**
$Standard\ Dev._{norm}$		**8.259**
$Coeff.\ of\ Var.\ [\%]_{norm}$		**8.850**
Min.	**0.007195**	**75.30**
Max.	**0.007383**	**109.5**
Number of Spec.	**30**	**30**


Laminate Double-Shear Bearing Proc. A Properties (DSB3)--ETW2 (250°F)
Normalized 2% Offset Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Double-Shear Bearing Strength [ksi]
0
5
10
15
20
25
30
35
40
45
0
1
2
3
4
5
6
0
20
40
60
80
100
120

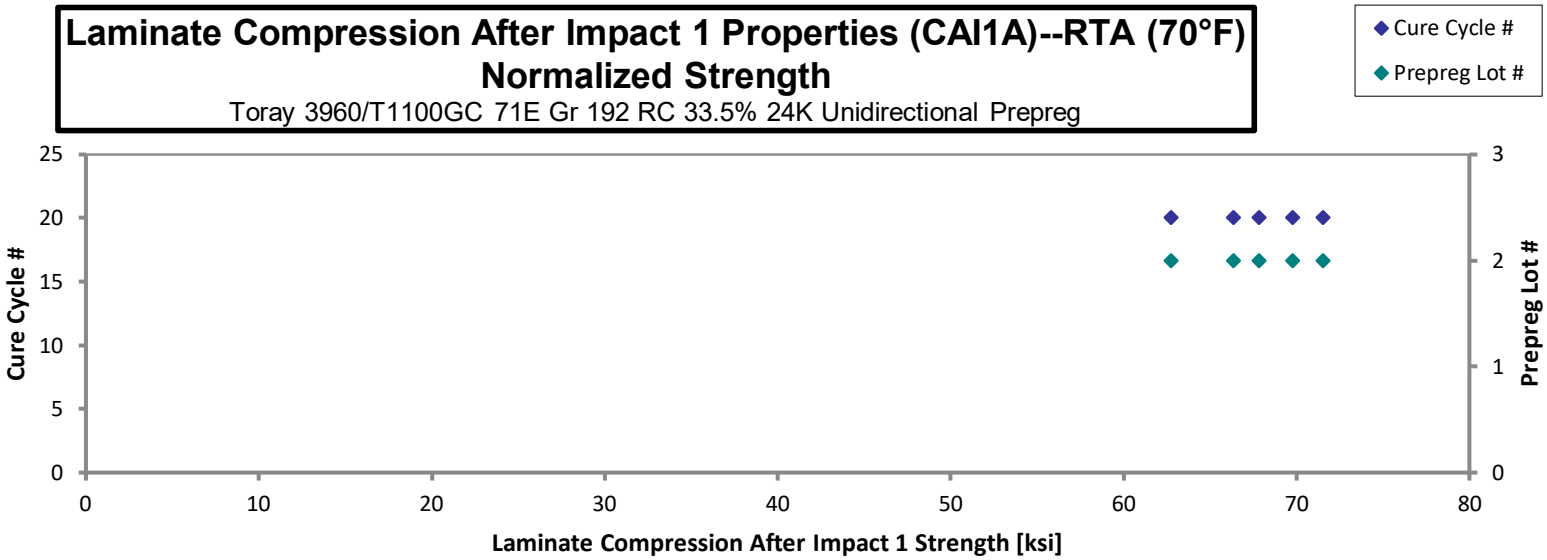
4.35 “25/50/25” Compression After Impact 1 Properties (CAI1A)

Laminate Compression After Impact 1 Properties (CAI1A)--RTA (70°F)
Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

normalizing t_{ply} [in]
0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Measured Impact Energy [in-lbf]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]
NTP3961Q1-TC-T01-BT-CAI1A-B-C20-1-RTA-2	B	C20	2	20	61.40	87.00	0.1766	24	LDM	0.007358	62.75
NTP3961Q1-TC-T01-BT-CAI1A-B-C20-1-RTA-3	B	C20	2	20	66.80	87.00	0.1755	24	LDM	0.007313	67.84
NTP3961Q1-TC-T01-BT-CAI1A-B-C20-1-RTA-4	B	C20	2	20	66.70	87.00	0.1719	24	LDM	0.007163	66.35
NTP3961Q1-TC-T01-BT-CAI1A-B-C20-1-RTA-5	B	C20	2	20	69.90	88.00	0.1768	24	LDM	0.007367	71.52
NTP3961Q1-TC-T01-BT-CAI1A-B-C20-1-RTA-6	B	C20	2	20	68.10	87.00	0.1770	24	LDM	0.007375	69.76

Average	**66.58**		**$Average_{norm}$**	**0.007315**	**67.64**
Standard Dev.	**3.171**		**Standard $Dev._{norm}$**		**3.359**
Coeff. of Var. [%]	**4.763**		**Coeff. of $Var._{norm}$ [%]**		**4.965**
Min.	**61.40**		**Min.**	**0.007163**	**62.75**
Max.	**69.90**		**Max.**	**0.007375**	**71.52**
Number of Spec.	**5**		**Number of Spec.**	**5**	**5**


Laminate Compression After Impact 1 Properties (CAI1A)--RTA (70°F)
Normalized Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
25
20
15
10
5
0
3
2
1
0
0
10
20
30
40
50
60
70
80
Laminate Compression After Impact 1 Strength [ksi]

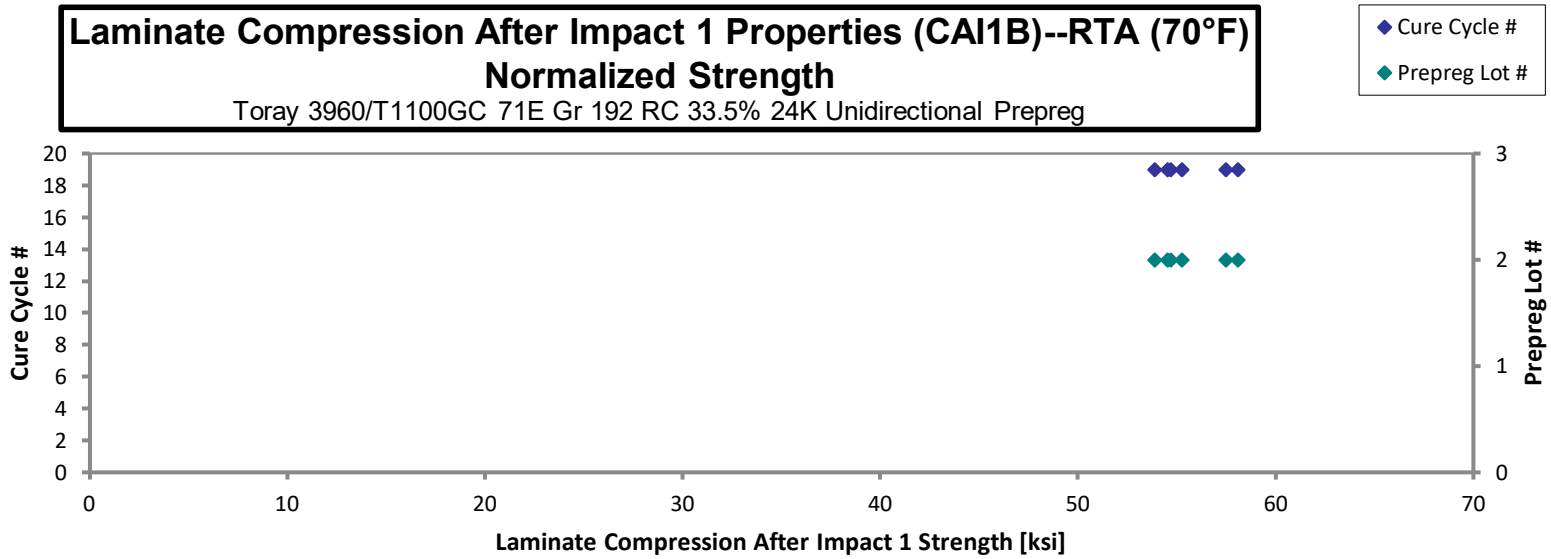
4.36 “25/50/25” Compression After Impact 1 Properties (CAI1B)

Laminate Compression After Impact 1 Properties (CAI1B)--RTA (70°F)
Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

normalizing t_{ply} [in]
0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Measured Impact Energy [in-lbf]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]
NTP3961Q1-TC-T01-BT-CAI1B-B-C19-1-RTA-1	B	C19	2	19	55.40	175.0	0.1724	24	LDM	0.007185	55.28
NTP3961Q1-TC-T01-BT-CAI1B-B-C19-1-RTA-2	B	C19	2	19	52.70	175.0	0.1767	24	LDM	0.007363	53.89
NTP3961Q1-TC-T01-BT-CAI1B-B-C19-1-RTA-3	B	C19	2	19	56.40	175.0	0.1763	24	LDM	0.007344	57.53
NTP3961Q1-TC-T01-BT-CAI1B-B-C19-1-RTA-4	B	C19	2	19	54.60	175.0	0.1726	24	LDM	0.007193	54.55
NTP3961Q1-TC-T01-BT-CAI1B-B-C19-1-RTA-5	B	C19	2	19	52.90	175.0	0.1787	24	LDM	0.007447	54.72
NTP3961Q1-TC-T01-BT-CAI1B-B-C19-1-RTA-6	B	C19	2	19	56.80	175.0	0.1769	24	LDM	0.007369	58.13

	Strength [ksi]		$Strength_{norm}$ [ksi]
Average	54.80	$Average_{norm}$	0.007317	55.68
Standard Dev.	1.731	$Standard\ Dev._{norm}$		1.733
Coeff. of Var. [%]	3.159	$Coeff.\ of\ Var.\ [\%]_{norm}$		3.112
Min.	52.70	Min.	0.007185	53.89
Max.	56.80	Max.	0.007447	58.13
Number of Spec.	6	Number of Spec.	6	6


Laminate Compression After Impact 1 Properties (CAI1B)--RTA (70°F)
Normalized Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Compression After Impact 1 Strength [ksi]
0
2
4
6
8
10
12
14
16
18
20
0
1
2
3
0
10
20
30
40
50
60
70

4.37 "25/50/25" Compression After Impact 1 Properties (CAI1C)

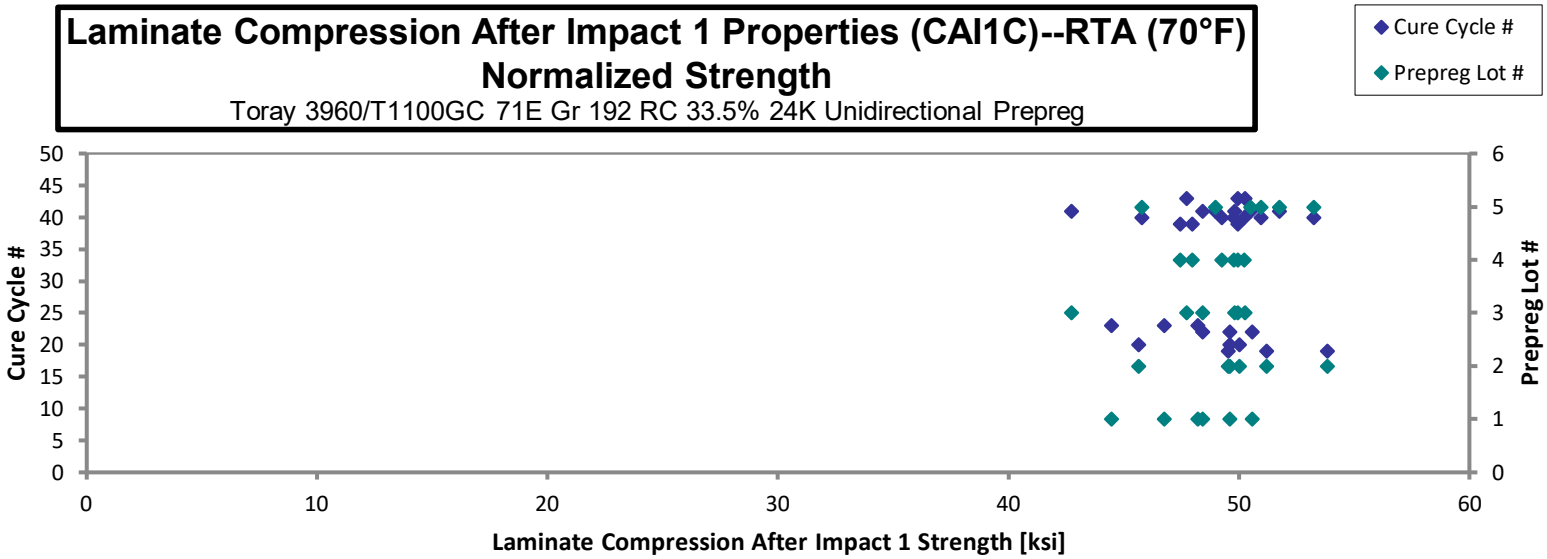
Laminate Compression After Impact 1 Properties (CAI1C)--RTA (70°F)
Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

normalizing t_{ply} [in]
0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Measured Impact Energy [in-lbf]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]
NTP3961Q1-TC-T01-BT-CAI1C-A-C22-1-RTA-1	A	C22	1	22	48.00	261.0	0.1743	24	LGM	0.007263	48.42
NTP3961Q1-TC-T01-BT-CAI1C-A-C22-1-RTA-2	A	C22	1	22	49.30	261.0	0.1773	24	LGM	0.007385	50.57
NTP3961Q1-TC-T01-BT-CAI1C-A-C22-1-RTA-4	A	C22	1	22	49.30	263.0	0.1739	24	LGM	0.007244	49.60
NTP3961Q1-TC-T01-BT-CAI1C-A-C23-1-RTA-2	A	C23	1	23	46.70	261.0	0.1730	24	LDM	0.007208	46.75
NTP3961Q1-TC-T01-BT-CAI1C-A-C23-1-RTA-3	A	C23	1	23	43.40	261.0	0.1770	24	LDM	0.007374	44.45
NTP3961Q1-TC-T01-BT-CAI1C-A-C23-1-RTA-4	A	C23	1	23	47.30	261.0	0.1761	24	LDM	0.007337	48.20
NTP3961Q1-TC-T01-BT-CAI1C-B-C19-1-RTA-1	B	C19	2	19	51.50	261.0	0.1717	24	LGM	0.007154	51.17
NTP3961Q1-TC-T01-BT-CAI1C-B-C19-1-RTA-2	B	C19	2	19	47.90	261.0	0.1786	24	LGM	0.007443	49.52
NTP3961Q1-TC-T01-BT-CAI1C-B-C19-1-RTA-3	B	C19	2	19	52.40	261.0	0.1775	24	LGM	0.007395	53.82
NTP3961Q1-TC-T01-BT-CAI1C-B-C20-1-RTA-1	B	C20	2	20	45.50	261.0	0.1733	24	LGM	0.007219	45.62
NTP3961Q1-TC-T01-BT-CAI1C-B-C20-1-RTA-2	B	C20	2	20	48.30	261.0	0.1774	24	LGM	0.007391	49.58
NTP3961Q1-TC-T01-BT-CAI1C-B-C20-1-RTA-3	B	C20	2	20	49.20	261.0	0.1756	24	LGM	0.007317	50.00
NTP3961Q1-TC-T01-TC-CAI1C-C-C41-1-RTA-1	C	C41	3	41	49.70	260.0	0.1732	24	LGM	0.007215	49.80
NTP3961Q1-TC-T01-TC-CAI1C-C-C41-1-RTA-2	C	C41	3	41	48.30	258.0	0.1732	24	LGM	0.007215	48.40
NTP3961Q1-TC-T01-TC-CAI1C-C-C41-1-RTA-3	C	C41	3	41	42.60	260.0	0.1732	24	LGM	0.007218	42.71
NTP3961Q1-TC-T01-TC-CAI1C-C-C43-1-RTA-1	C	C43	3	43	49.30	260.0	0.1751	24	LGM	0.007294	49.94
NTP3961Q1-TC-T01-TC-CAI1C-C-C43-1-RTA-2	C	C43	3	43	49.90	260.0	0.1740	24	LGM	0.007250	50.25
NTP3961Q1-TC-T01-TC-CAI1C-C-C43-1-RTA-3	C	C43	3	43	47.70	260.0	0.1729	24	LGM	0.007203	47.72
NTP3961Q1-TC-T01-TC-CAI1C-D-C39-2-RTA-1	D	C39	4	39	47.70	260.0	0.1737	24	LDM	0.007238	47.95
NTP3961Q1-TC-T01-TC-CAI1C-D-C39-2-RTA-2	D	C39	4	39	47.10	260.0	0.1740	24	LDM	0.007250	47.43
NTP3961Q1-TC-T01-TC-CAI1C-D-C39-2-RTA-3	D	C39	4	39	49.40	260.0	0.1747	24	LDM	0.007278	49.93
NTP3961Q1-TC-T01-TC-CAI1C-D-C40-1-RTA-1	D	C40	4	40	49.00	260.0	0.1736	24	LDM	0.007233	49.22
NTP3961Q1-TC-T01-TC-CAI1C-D-C40-1-RTA-2	D	C40	4	40	49.30	260.0	0.1745	24	LDM	0.007269	49.77
NTP3961Q1-TC-T01-TC-CAI1C-D-C40-1-RTA-3	D	C40	4	40	49.60	260.0	0.1749	24	LDM	0.007288	50.20
NTP3961Q1-TC-T01-TC-CAI1C-E-C40-2-RTA-1	E	C40	5	40	53.00	258.0	0.1736	24	LDM	0.007231	53.23
NTP3961Q1-TC-T01-TC-CAI1C-E-C40-2-RTA-2	E	C40	5	40	50.60	258.0	0.1740	24	LDM	0.007250	50.95
NTP3961Q1-TC-T01-TC-CAI1C-E-C40-2-RTA-3	E	C40	5	40	45.80	258.0	0.1727	24	LDM	0.007196	45.77
NTP3961Q1-TC-T01-TC-CAI1C-E-C41-1-RTA-1	E	C41	5	41	51.40	258.0	0.1740	24	LDM	0.007248	51.75
NTP3961Q1-TC-T01-TC-CAI1C-E-C41-1-RTA-2	E	C41	5	41	50.20	258.0	0.1737	24	LDM	0.007239	50.47
NTP3961Q1-TC-T01-TC-CAI1C-E-C41-1-RTA-3	E	C41	5	41	49.00	258.0	0.1727	24	LDM	0.007195	48.97

	Strength [ksi]
Average	48.61
Standard Dev.	2.308
Coeff. of Var. [%]	4.748
Min.	42.60
Max.	53.00
Number of Spec.	30

	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]
$Average_{norm}$	0.007268	49.07
$Standard\ Dev._{norm}$		2.374
$Coeff.\ of\ Var.\ [\%]_{norm}$		4.837
Min.	0.007154	42.71
Max.	0.007443	53.82
Number of Spec.	30	30


Laminate Compression After Impact 1 Properties (CAI1C)--RTA (70°F)
Normalized Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Compression After Impact 1 Strength [ksi]
0
10
20
30
40
50
60
0
5
10
15
20
25
30
35
40
45
50
0
1
2
3
4
5
6

4.38 “25/50/25” Compression After Impact 1 Properties (CAI1D)

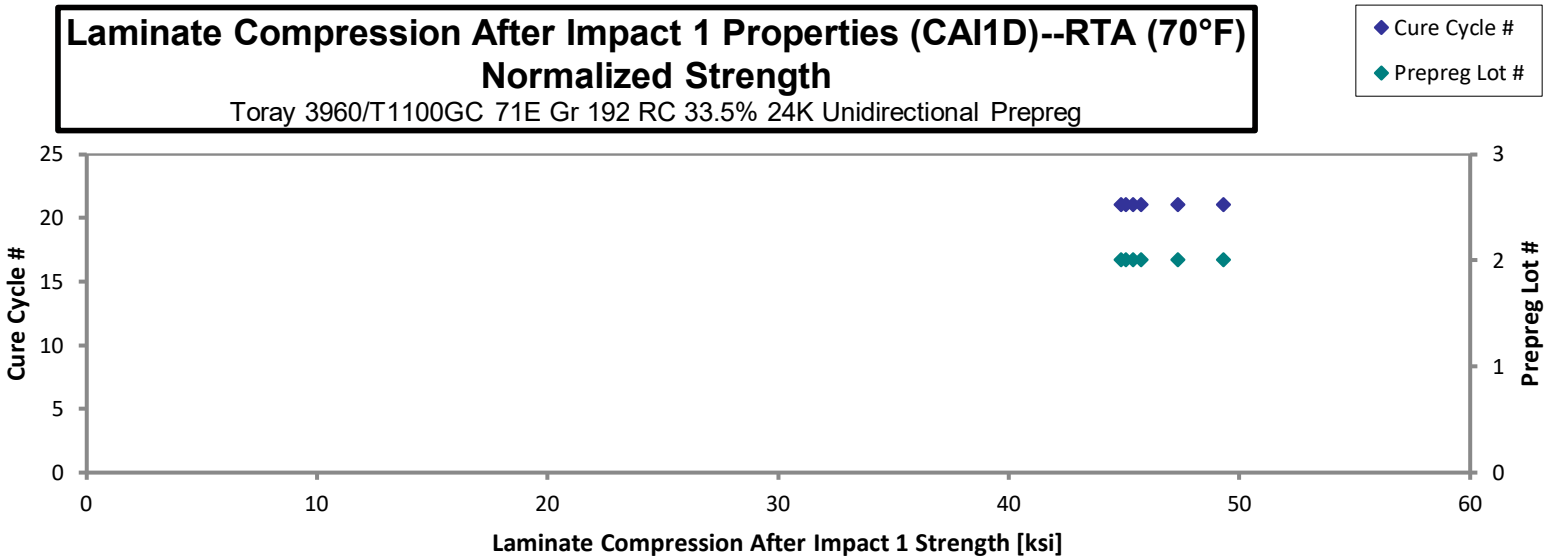
Laminate Compression After Impact 1 Properties (CAI1D)--RTA (70°F)
Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

normalizing t_{ply} [in]
0.007200

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Measured Impact Energy [in-lbf]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]
NTP3961Q1-TC-T01-BT-CAI1D-B-C21-1-RTA-1	B	C21	2	21	45.30	352.0	0.1720	24	LDM	0.007165	45.08
NTP3961Q1-TC-T01-BT-CAI1D-B-C21-1-RTA-2	B	C21	2	21	44.30	352.0	0.1771	24	LDM	0.007378	45.39
NTP3961Q1-TC-T01-BT-CAI1D-B-C21-1-RTA-3	B	C21	2	21	43.70	352.0	0.1774	24	LDM	0.007392	44.86
NTP3961Q1-TC-T01-BT-CAI1D-B-C21-1-RTA-4	B	C21	2	21	45.50	352.0	0.1737	24	LDM	0.007237	45.73
NTP3961Q1-TC-T01-BT-CAI1D-B-C21-1-RTA-5	B	C21	2	21	45.90	352.0	0.1782	24	LDM	0.007423	47.32
NTP3961Q1-TC-T01-BT-CAI1D-B-C21-1-RTA-6	B	C21	2	21	48.00	352.0	0.1774	24	LDM	0.007393	49.29

Average	45.45	
Standard Dev.	1.491	
Coeff. of Var. [%]	3.280	
Min.	43.70	
Max.	48.00	
Number of Spec.	6	

$Average_{norm}$	0.007331	46.28
$Standard\ Dev._{norm}$		1.713
$Coeff.\ of\ Var.\ [\%]_{norm}$		3.700
Min.	0.007165	44.86
Max.	0.007423	49.29
Number of Spec.	6	6

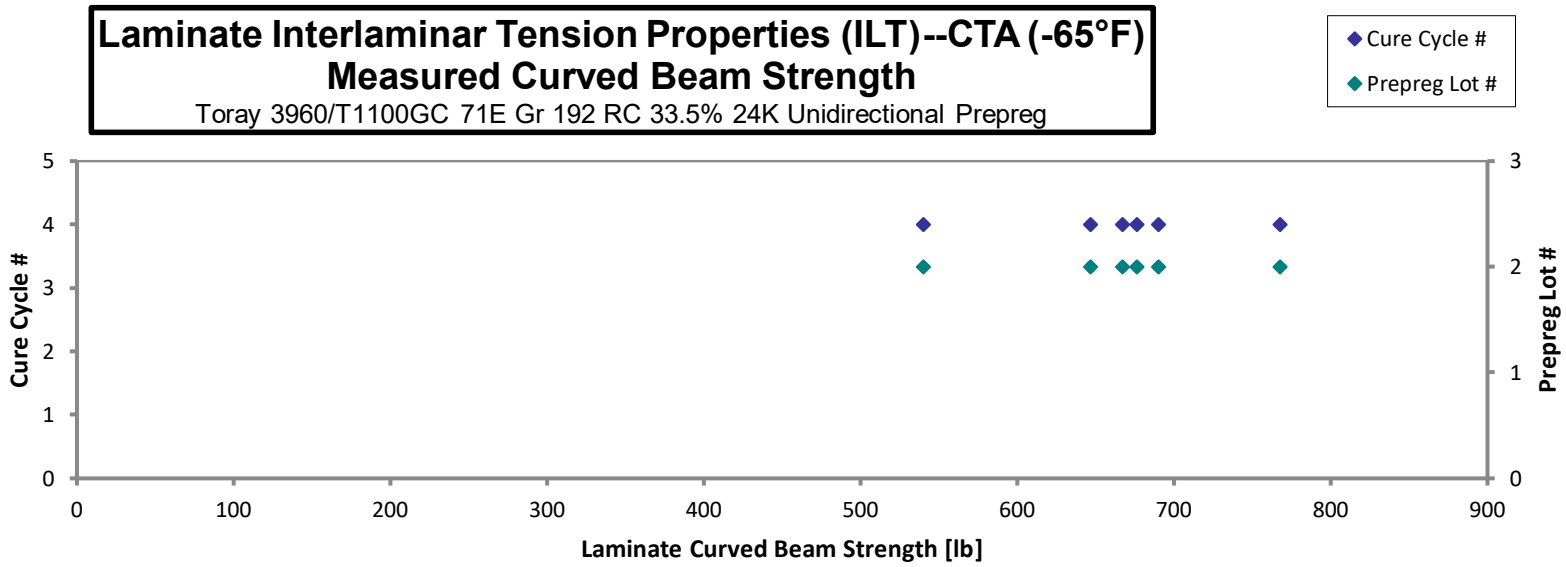

Laminate Compression After Impact 1 Properties (CAI1D)--RTA (70°F)
Normalized Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Compression After Impact 1 Strength [ksi]
0
5
10
15
20
25
0
1
2
3
0
10
20
30
40
50
60

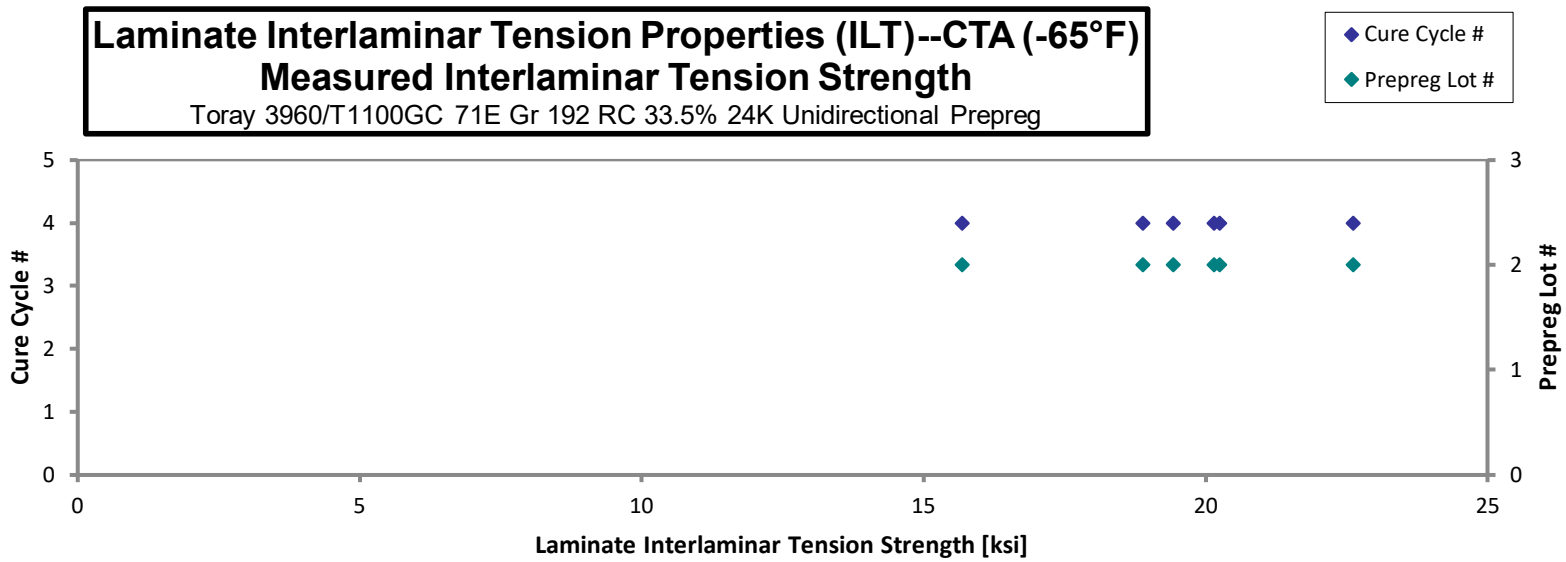
4.39 Interlaminar Tension Properties (ILT)

Laminate Interlaminar Tension Properties (ILT)--CTA (-65°F)
Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Curved Beam Strength [lb]	Interlaminar Tension Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Avg. t_{ply} [in]	Failure Mode
NTP3961Q1-TC-T01-TC-ILT-B-C4-1-CTA-1*	B	C4	2	4	667.6	19.43	0.1546	22	0.007028	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-B-C4-1-CTA-2*	B	C4	2	4	690.4	20.16	0.1552	22	0.007054	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-B-C4-1-CTA-3*	B	C4	2	4	540.2	15.68	0.1552	22	0.007055	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-B-C4-1-CTA-4*	B	C4	2	4	646.9	18.89	0.1554	22	0.007065	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-B-C4-1-CTA-5*	B	C4	2	4	767.9	22.62	0.1555	22	0.007066	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-B-C4-1-CTA-6*	B	C4	2	4	676.7	20.24	0.1553	22	0.007060	Interlaminar Tension
				Average	**665.0**	**19.50**			**0.007055**	
				Standard Dev.	**73.85**	**2.268**				
				Coeff. of Var. [%]	**11.11**	**11.63**				
				Min.	**540.2**	**15.68**			**0.007028**	
				Max.	**767.9**	**22.62**			**0.007066**	
				Number of Spec.	**6**	**6**			**6**	

*Displacement exceeded 0.2 inches
Note: Doublers were used

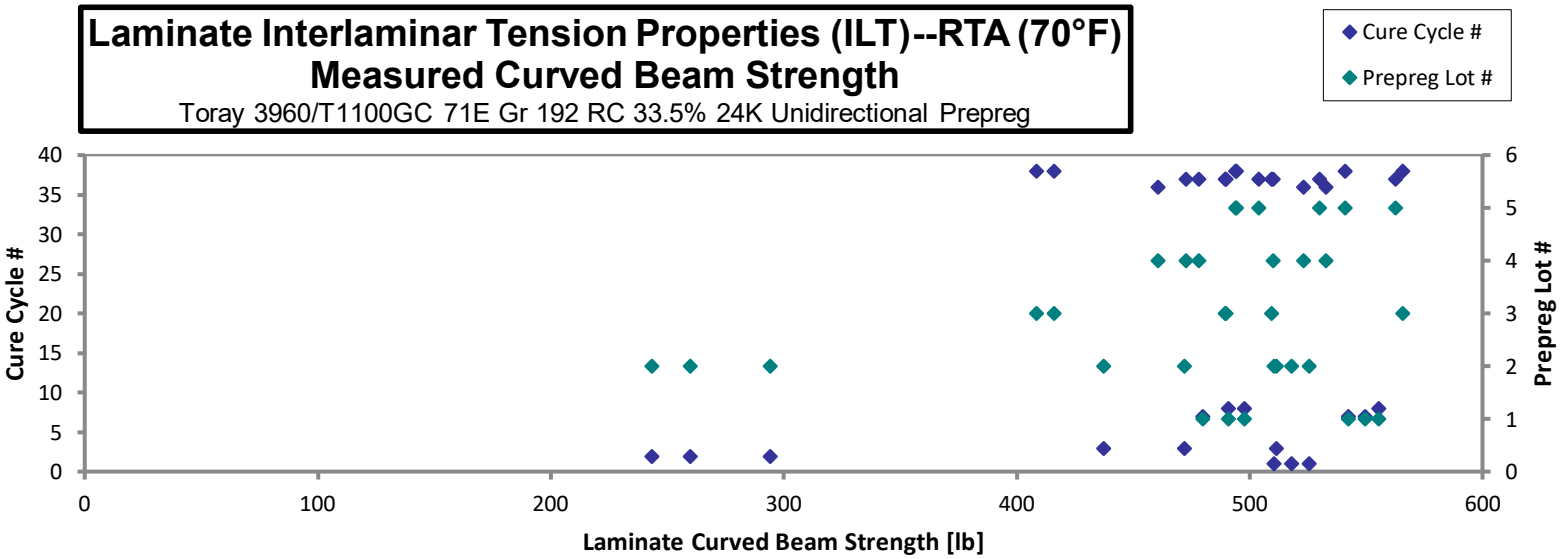

Laminate Interlaminar Tension Properties (ILT)--CTA (-65°F)
Measured Curved Beam Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Curved Beam Strength [lb]
0
100
200
300
400
500
600
700
800
900
0
1
2
3
4
5

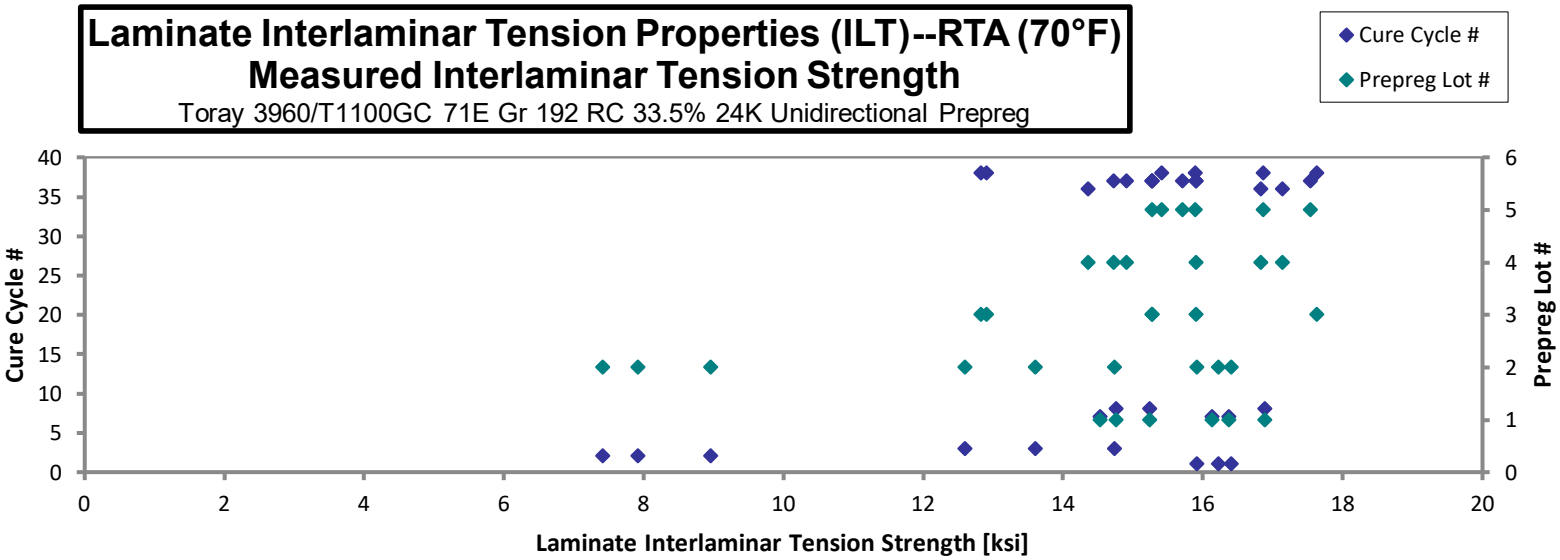

Laminate Interlaminar Tension Properties (ILT)--CTA (-65°F)
Measured Interlaminar Tension Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
5
0
5
10
15
20
25
Laminate Interlaminar Tension Strength [ksi]

Laminate Interlaminar Tension Properties (ILT)--RTA (70°F)
Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Curved Beam Strength [lb]	Interlaminar Tension Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Avg. t_{ply} [in]	Failure Mode
NTP3961Q1-TC-T01-TC-ILT-A-C7-1-RTA-1	A	C7	1	7	549.6	16.37	0.1581	22	0.007186	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-A-C7-1-RTA-3*	A	C7	1	7	479.6	14.54	0.1568	22	0.007127	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-A-C7-1-RTA-4*	A	C7	1	7	542.2	16.13	0.1563	22	0.007105	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-A-C8-2-RTA-1*	A	C8	1	8	555.3	16.89	0.1551	22	0.007050	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-A-C8-2-RTA-2	A	C8	1	8	497.7	15.24	0.1555	22	0.007068	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-A-C8-2-RTA-3*	A	C8	1	8	490.8	14.77	0.1557	22	0.007077	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-B-C1-1-RTA-1	B	C1	2	1	510.1	15.92	0.1527	22	0.006943	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-B-C1-1-RTA-2	B	C1	2	1	525.2	16.40	0.1526	22	0.006937	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-B-C1-1-RTA-3	B	C1	2	1	517.9	16.22	0.1522	22	0.006918	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-B-C2-2-RTA-1	B	C2	2	2	243.4	7.415	0.1553	22	0.007060	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-B-C2-2-RTA-2	B	C2	2	2	259.7	7.920	0.1550	22	0.007045	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-B-C2-2-RTA-3	B	C2	2	2	293.9	8.958	0.1545	22	0.007022	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-B-C3-2-RTA-2	B	C3	2	3	471.9	13.60	0.1600	22	0.007273	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-B-C3-1-RTA-2	B	C3	2	3	437.1	12.60	0.1600	22	0.007273	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-B-C3-2-RTA-1	B	C3	2	3	511.2	14.74	0.1600	22	0.007273	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-C-C37-2-RTA-1*	C	C37	3	37	509.3	15.91	0.1516	22	0.006892	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-C-C37-2-RTA-2	C	C37	3	37	489.8	15.27	0.1515	22	0.006887	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-C-C37-2-RTA-3	C	C37	3	37	489.3	15.28	0.1515	22	0.006884	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-C-C38-3-RTA-1	C	C38	3	38	565.6	17.63	0.1523	22	0.006924	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-C-C38-3-RTA-2	C	C38	3	38	408.2	12.83	0.1525	22	0.006932	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-C-C38-3-RTA-4	C	C38	3	38	415.7	12.91	0.1528	22	0.006946	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-D-C36-2-RTA-2	D	C36	4	36	532.4	17.15	0.1500	22	0.006818	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-D-C36-2-RTA-3	D	C36	4	36	460.6	14.37	0.1500	22	0.006818	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-D-C36-2-RTA-4	D	C36	4	36	522.9	16.84	0.1500	22	0.006818	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-D-C37-3-RTA-1	D	C37	4	37	472.4	14.73	0.1500	22	0.006818	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-D-C37-3-RTA-2	D	C37	4	37	509.9	15.90	0.1500	22	0.006818	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-D-C37-3-RTA-3	D	C37	4	37	478.1	14.91	0.1500	22	0.006818	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-E-C37-2-RTA-1	E	C37	5	37	529.9	15.28	0.1600	22	0.007273	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-E-C37-2-RTA-2	E	C37	5	37	503.9	15.72	0.1500	22	0.006818	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-E-C37-2-RTA-3	E	C37	5	37	562.3	17.54	0.1500	22	0.006818	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-E-C38-3-RTA-1	E	C38	5	38	494.2	15.41	0.1500	22	0.006818	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-E-C38-3-RTA-2	E	C38	5	38	540.9	16.87	0.1500	22	0.006818	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-E-C38-3-RTA-3	E	C38	5	38	493.7	15.90	0.1500	22	0.006818	Interlaminar Tension
				Average	**480.7**	**14.79**			**0.006973**	
				Standard Dev.	**78.80**	**2.498**				
				Coeff. of Var. [%]	**16.39**	**16.88**				
				Min.	**243.4**	**7.415**			**0.006818**	
				Max.	**565.6**	**17.63**			**0.007273**	
				Number of Spec.	**33**	**33**			**33**	

*Displacement exceeded 0.2 inches
Note: Doublers were used


Laminate Interlaminar Tension Properties (ILT)--RTA (70°F)
Measured Curved Beam Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Curved Beam Strength [lb]
0
5
10
15
20
25
30
35
40
0
1
2
3
4
5
6
0
100
200
300
400
500
600

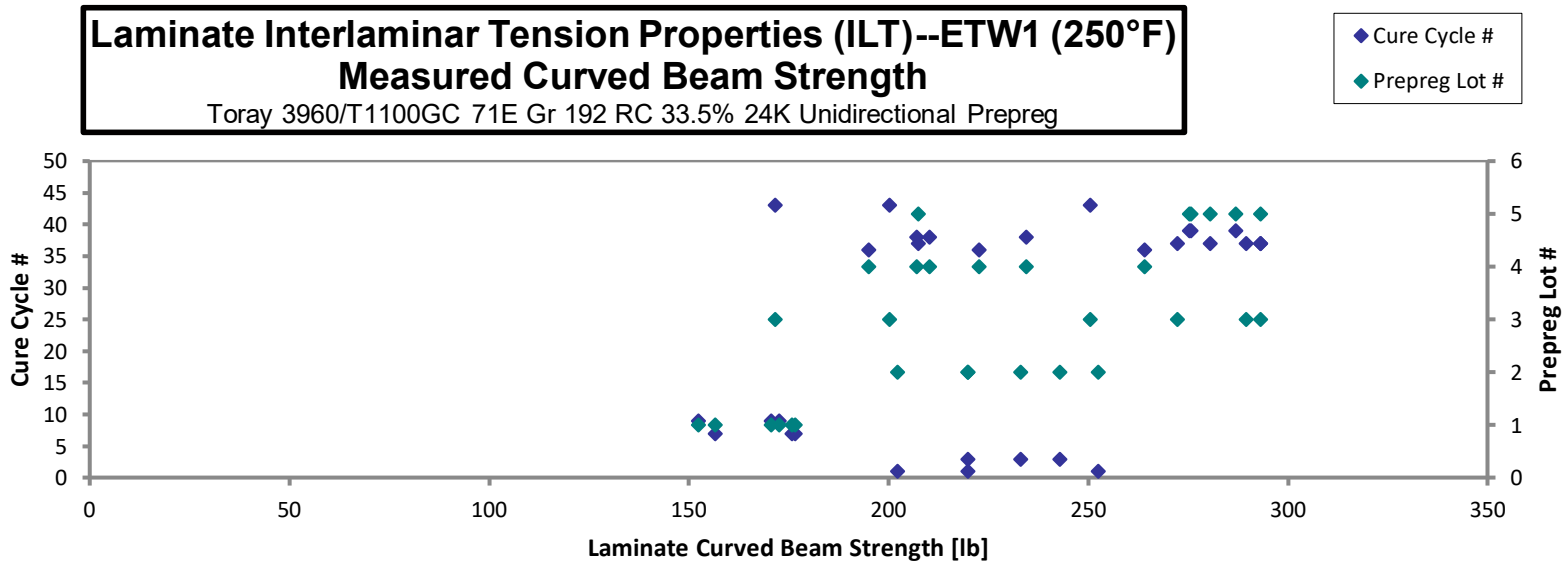

Laminate Interlaminar Tension Properties (ILT)--RTA (70°F)
Measured Interlaminar Tension Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Interlaminar Tension Strength [ksi]
0
5
10
15
20
25
30
35
40
0
1
2
3
4
5
6
0
2
4
6
8
10
12
14
16
18
20

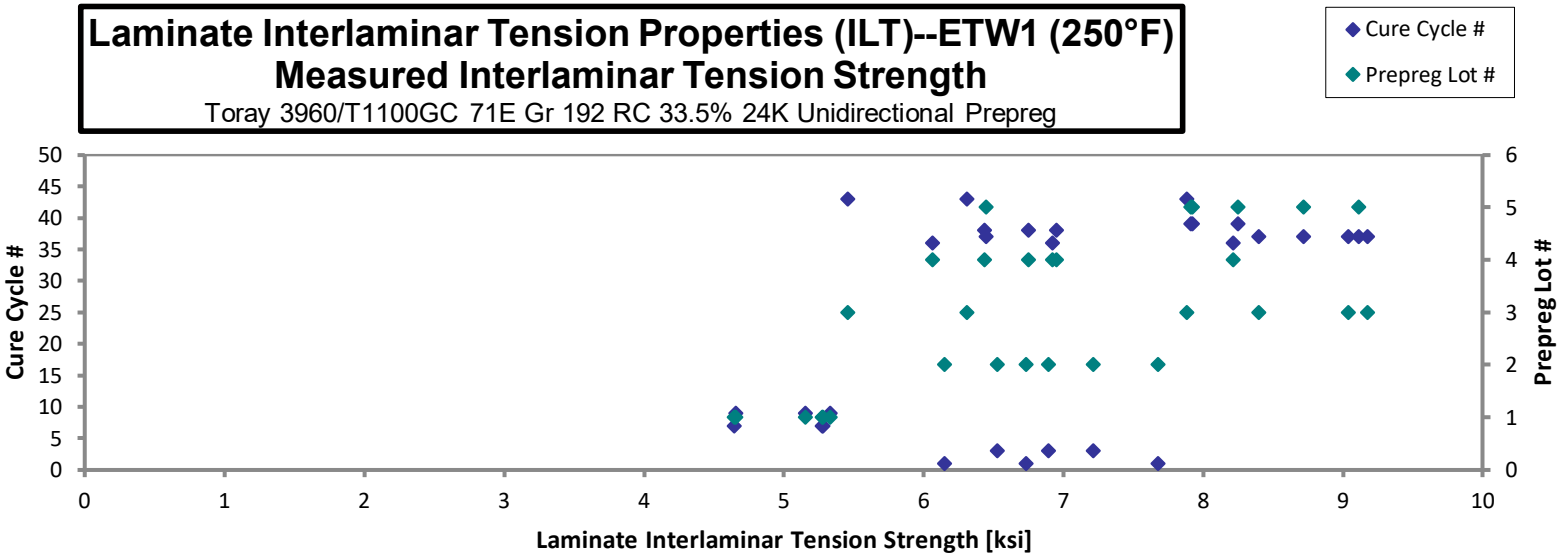
Laminate Interlaminar Tension Properties (ILT)--ETW1 (180°F)
Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Curved Beam Strength [lb]	Interlaminar Tension Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Avg. t_{ply} [in]	Failure Mode
NTP3961Q1-TC-T01-TC-ILT-A-C7-2-ETW1-1	A	C7	1	7	156.5	4.643	0.1566	22	0.007120	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-A-C7-2-ETW1-3	A	C7	1	7	176.5	5.275	0.1563	22	0.007104	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-A-C7-2-ETW1-4	A	C7	1	7	175.7	5.277	0.1555	22	0.007066	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-A-C9-1-ETW1-1	A	C9	1	9	172.4	5.332	0.1534	22	0.006972	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-A-C9-1-ETW1-2	A	C9	1	9	170.6	5.151	0.1537	22	0.006988	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-A-C9-1-ETW1-3	A	C9	1	9	152.2	4.658	0.1536	22	0.006984	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-B-C1-2-ETW1-1	B	C1	2	1	202.2	6.146	0.1557	22	0.007075	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-B-C1-2-ETW1-2	B	C1	2	1	252.4	7.675	0.1556	22	0.007071	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-B-C1-2-ETW1-3	B	C1	2	1	219.8	6.734	0.1558	22	0.007082	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-B-C3-1-ETW1-1	B	C3	2	3	219.7	6.526	0.1555	22	0.007066	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-B-C3-1-ETW1-2	B	C3	2	3	233.0	6.893	0.1558	22	0.007081	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-B-C3-1-ETW1-3	B	C3	2	3	242.7	7.213	0.1558	22	0.007082	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-C-C37-3-ETW1-5	C	C37	3	37	272.2	8.396	0.1531	22	0.006961	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-C-C37-3-ETW1-2	C	C37	3	37	289.5	9.034	0.1523	22	0.006924	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-C-C37-3-ETW1-3	C	C37	3	37	293.1	9.175	0.1526	22	0.006935	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-C-C43-2-ETW1-1	C	C43	3	43	171.6	5.454	0.1504	22	0.006835	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-C-C43-2-ETW1-2	C	C43	3	43	200.2	6.309	0.1507	22	0.006851	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-C-C43-2-ETW1-3	C	C43	3	43	250.4	7.883	0.1514	22	0.006883	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-D-C36-3-ETW1-1	D	C36	4	36	194.9	6.060	0.1500	22	0.006818	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-D-C36-3-ETW1-2	D	C36	4	36	264.1	8.211	0.1500	22	0.006818	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-D-C36-3-ETW1-3	D	C36	4	36	222.5	6.919	0.1500	22	0.006818	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-D-C38-2-ETW1-1	D	C38	4	38	207.0	6.436	0.1500	22	0.006818	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-D-C38-2-ETW1-2	D	C38	4	38	234.5	6.952	0.1600	22	0.007273	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-D-C38-2-ETW1-3	D	C38	4	38	210.2	6.748	0.1500	22	0.006818	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-E-C37-3-ETW1-1	E	C37	5	37	207.3	6.445	0.1500	22	0.006818	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-E-C37-3-ETW1-2	E	C37	5	37	280.4	8.718	0.1500	22	0.006818	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-E-C37-3-ETW1-3	E	C37	5	37	293.0	9.110	0.1500	22	0.006818	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-E-C39-3-ETW1-1	E	C39	5	39	275.3	7.910	0.1600	22	0.007273	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-E-C39-3-ETW1-2	E	C39	5	39	286.9	8.245	0.1600	22	0.007273	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-E-C39-3-ETW1-3	E	C39	5	39	275.7	7.921	0.1600	22	0.007273	Interlaminar Tension

Note: Doublers were used

Average	**226.8**	**6.915**	**0.006991**
Standard Dev.	**44.43**	**1.347**	
Coeff. of Var. [%]	**19.60**	**19.49**	
Min.	**152.2**	**4.643**	**0.006818**
Max.	**293.1**	**9.175**	**0.007273**
Number of Spec.	**30**	**30**	**30**


Laminate Interlaminar Tension Properties (ILT)--ETW1 (250°F)
Measured Curved Beam Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Curved Beam Strength [lb]
0
5
10
15
20
25
30
35
40
45
50
0
1
2
3
4
5
6
0
50
100
150
200
250
300
350

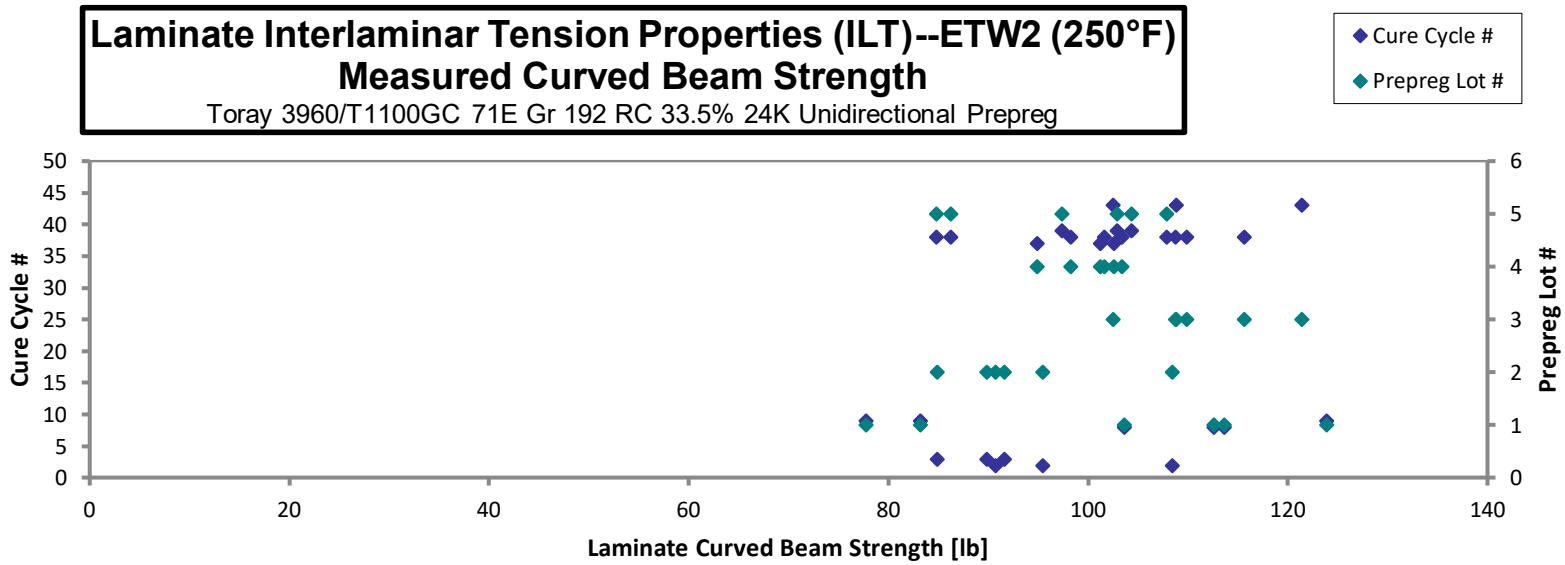

Laminate Interlaminar Tension Properties (ILT)--ETW1 (250°F)
Measured Interlaminar Tension Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Interlaminar Tension Strength [ksi]
0
5
10
15
20
25
30
35
40
45
50
0
1
2
3
4
5
6
0
1
2
3
4
5
6
7
8
9
10

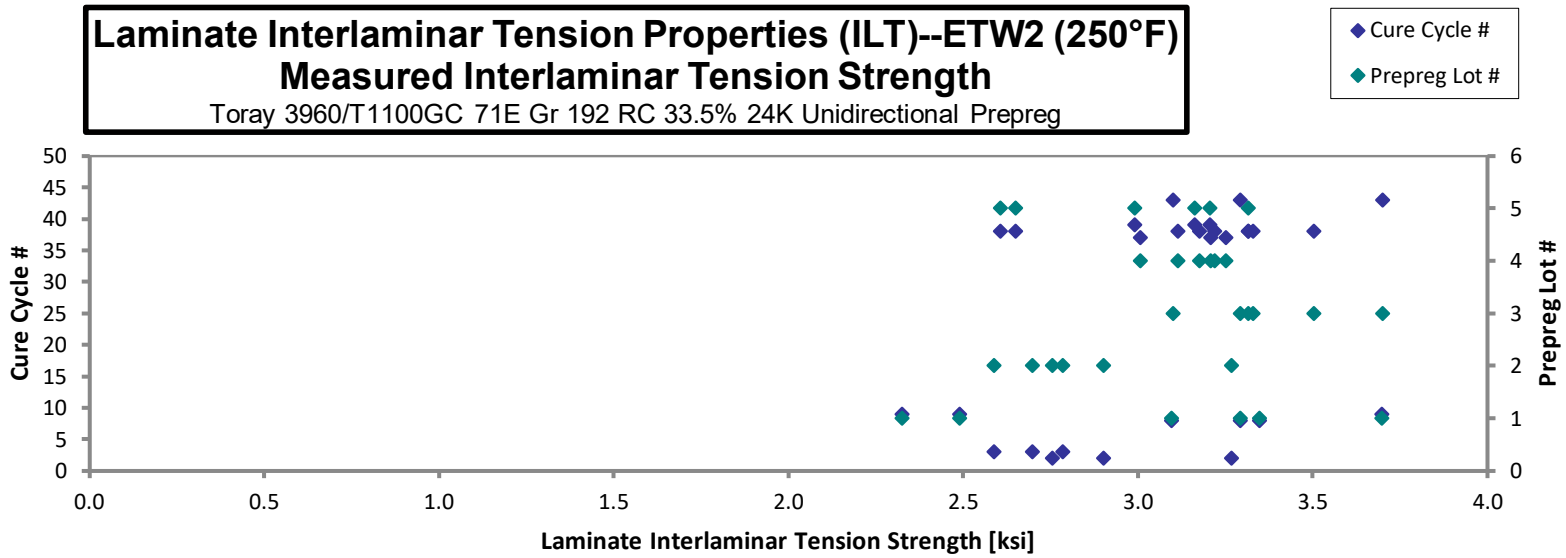
Laminate Interlaminar Tension Properties (ILT)--ETW2 (250°F)
Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Curved Beam Strength [lb]	Interlaminar Tension Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Avg. t_{ply} [in]	Failure Mode
NTP3961Q1-TC-T01-TC-ILT-A-C8-1-ETW2-1	A	C8	1	8	113.6	3.348	0.1557	22	0.007076	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-A-C8-1-ETW2-2	A	C8	1	8	103.6	3.097	0.1557	22	0.007076	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-A-C8-1-ETW2-3	A	C8	1	8	112.6	3.294	0.1554	22	0.007061	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-A-C9-2-ETW2-1	A	C9	1	9	77.81	2.326	0.1566	22	0.007119	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-A-C9-2-ETW2-3	A	C9	1	9	83.25	2.489	0.1552	22	0.007053	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-A-C9-2-ETW2-4	A	C9	1	9	123.9	3.698	0.1545	22	0.007023	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-B-C2-1-ETW2-1	B	C2	2	2	90.75	2.755	0.1552	22	0.007052	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-B-C2-1-ETW2-2	B	C2	2	2	108.5	3.268	0.1543	22	0.007014	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-B-C2-1-ETW2-3	B	C2	2	2	95.49	2.903	0.1539	22	0.006993	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-B-C3-2-ETW2-1	B	C3	2	3	84.89	2.588	0.1521	22	0.006913	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-B-C3-2-ETW2-2	B	C3	2	3	91.60	2.785	0.1529	22	0.006950	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-B-C3-2-ETW2-3	B	C3	2	3	89.88	2.697	0.1536	22	0.006982	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-C-C38-2-ETW2-1	C	C38	3	38	115.6	3.503	0.1548	22	0.007035	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-C-C38-2-ETW2-2	C	C38	3	38	109.9	3.329	0.1543	22	0.007015	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-C-C38-2-ETW2-3	C	C38	3	38	108.7	3.316	0.1536	22	0.006980	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-C-C43-3-ETW2-1	C	C43	3	43	108.8	3.293	0.1560	22	0.007092	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-C-C43-3-ETW2-2	C	C43	3	43	102.5	3.100	0.1556	22	0.007072	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-C-C43-3-ETW2-3	C	C43	3	43	121.4	3.701	0.1550	22	0.007045	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-D-C37-2-ETW2-1	D	C37	4	37	101.2	3.209	0.1500	22	0.006818	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-D-C37-2-ETW2-2	D	C37	4	37	94.87	3.007	0.1500	22	0.006818	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-D-C37-2-ETW2-3	D	C37	4	37	102.6	3.251	0.1500	22	0.006818	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-D-C38-3-ETW2-1	D	C38	4	38	103.4	3.177	0.1500	22	0.006818	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-D-C38-3-ETW2-2	D	C38	4	38	101.6	3.221	0.1500	22	0.006818	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-D-C38-3-ETW2-3	D	C38	4	38	98.28	3.115	0.1500	22	0.006818	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-E-C38-2-ETW2-1	E	C38	5	38	84.82	2.606	0.1500	22	0.006818	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-E-C38-2-ETW2-2	E	C38	5	38	86.25	2.650	0.1500	22	0.006818	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-E-C38-2-ETW2-3	E	C38	5	38	107.9	3.316	0.1500	22	0.006818	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-E-C39-3-ETW2-2	E	C39	5	39	104.4	3.206	0.1500	22	0.006818	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-E-C39-3-ETW2-3	E	C39	5	39	102.9	3.163	0.1500	22	0.006818	Interlaminar Tension
NTP3961Q1-TC-T01-TC-ILT-E-C39-3-ETW2-4	E	C39	5	39	97.35	2.991	0.1500	22	0.006818	Interlaminar Tension

Note: Doublers were used

Average	**100.9**	**3.080**	**0.006946**
Standard Dev.	**11.42**	**0.3409**	
Coeff. of Var. [%]	**11.31**	**11.07**	
Min.	**77.81**	**2.326**	**0.006818**
Max.	**123.9**	**3.701**	**0.007119**
Number of Spec.	**30**	**30**	**30**

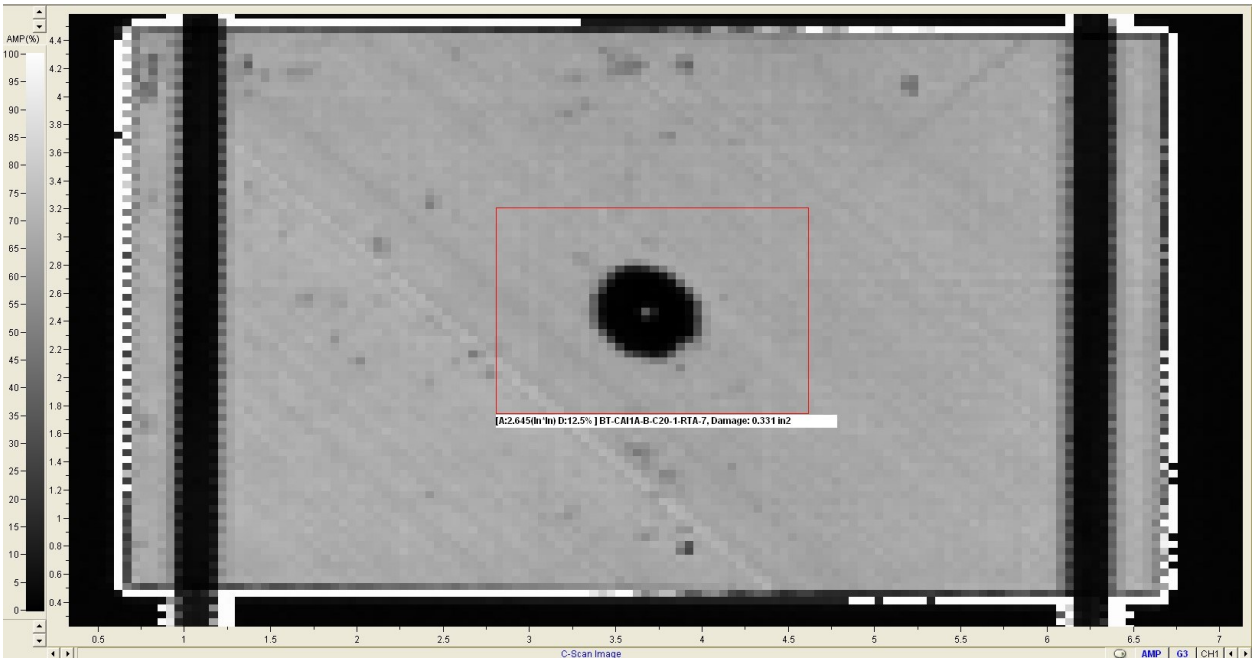

Laminate Interlaminar Tension Properties (ILT)--ETW2 (250°F)
Measured Curved Beam Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Curved Beam Strength [lb]
0
5
10
15
20
25
30
35
40
45
50
0
1
2
3
4
5
6
0
20
40
60
80
100
120
140


Laminate Interlaminar Tension Properties (ILT)--ETW2 (250°F)
Measured Interlaminar Tension Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Interlaminar Tension Strength [ksi]
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3.5
4.0
0
5
10
15
20
25
30
35
40
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1
2
3
4
5
6

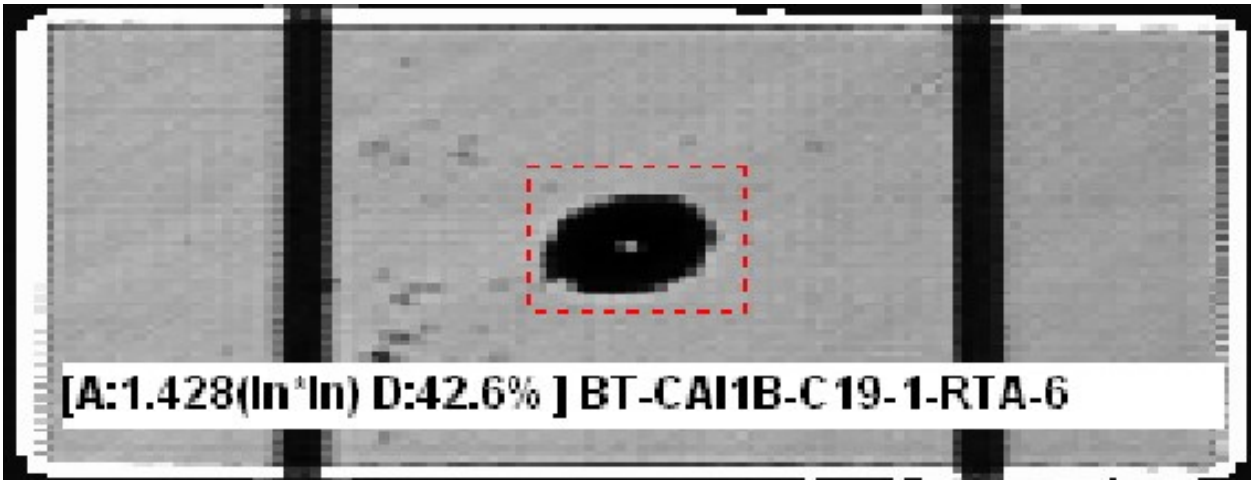
5. Additional Compression After Impact Data

Impactor Diameter: 0.625”

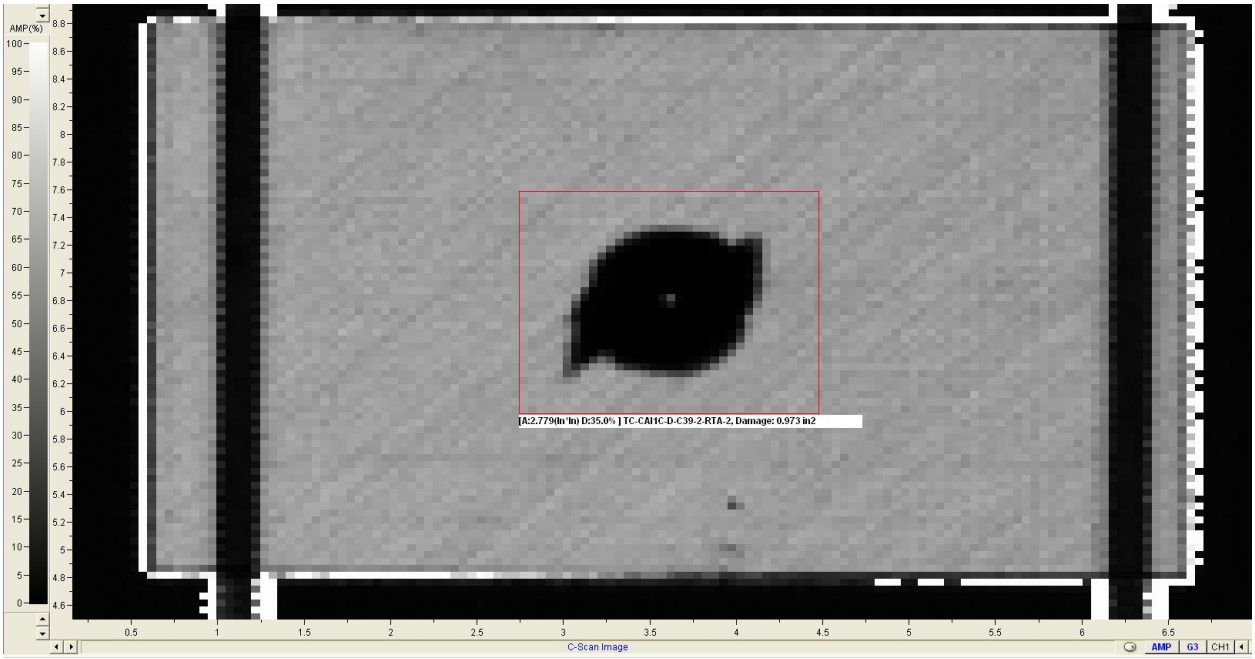
Representative of Damage Area (CAI1A):



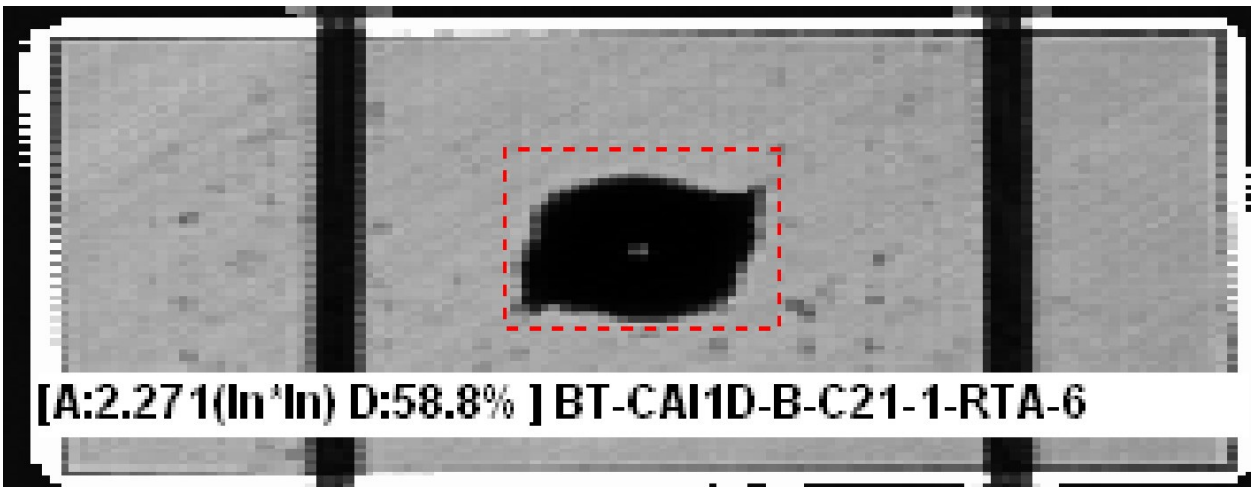
Representative of Damage Area (CAI1B):



Representative of Damage Area (CAI1C):



Representative of Damage Area (CAI1D):



Damage Area and Dent Depth Summary (CAI1A):

Specimen ID	Damage Area (inch^2)	Dent Depth (inch)
BT-CAI1A-B-C20-1-RTA-7	0.3306	0.004400
BT-CAI1A-B-C20-1-RTA-1	0.2754	0.004170
BT-CAI1A-B-C20-1-RTA-2	0.2827	0.004530
BT-CAI1A-B-C20-1-RTA-3	0.2942	0.004210
BT-CAI1A-B-C20-1-RTA-4	0.3102	0.004240
BT-CAI1A-B-C20-1-RTA-5	0.3030	0.005000
BT-CAI1A-B-C20-1-RTA-6	0.3269	0.004490

Damage Area and Dent Depth Summary (CAI1B):

Specimen ID	Damage Area (inch^2)	Dent Depth (inch)
BT-CAI1B-B-C19-1-RTA-1	0.5769	0.006310
BT-CAI1B-B-C19-1-RTA-2	0.6240	0.006920
BT-CAI1B-B-C19-1-RTA-3	0.5826	0.007040
BT-CAI1B-B-C19-1-RTA-4	0.6255	0.006370
BT-CAI1B-B-C19-1-RTA-5	0.6497	0.006970
BT-CAI1B-B-C19-1-RTA-6	0.6083	0.006720

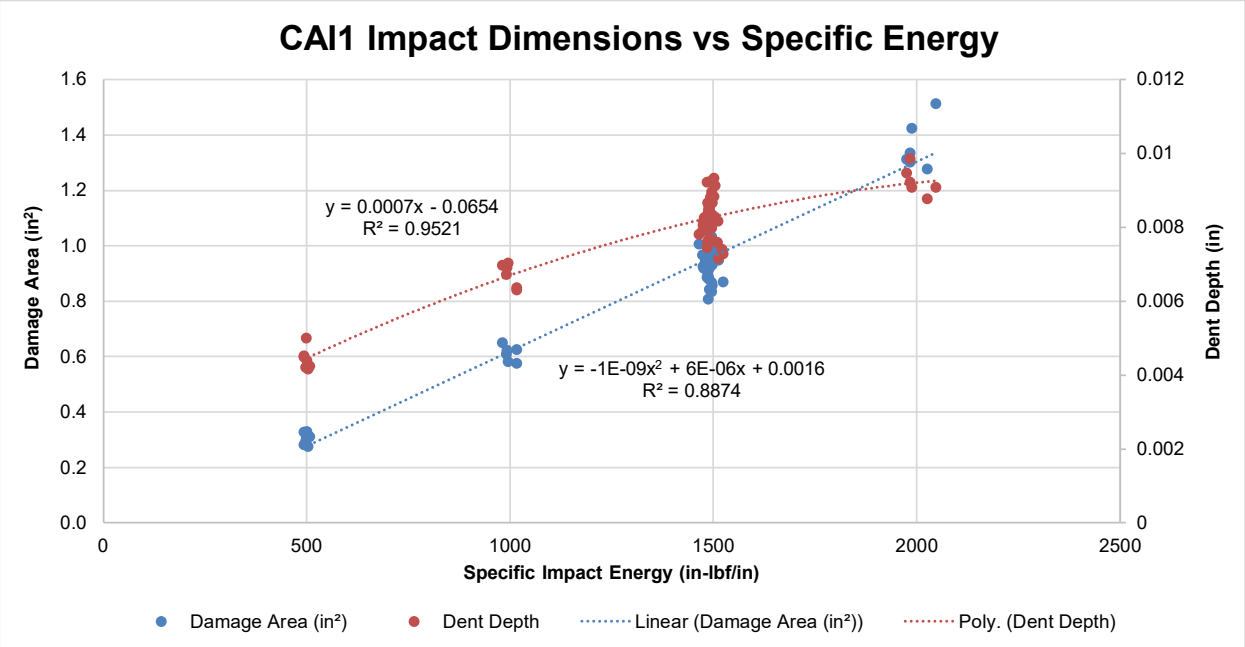
Damage Area and Dent Depth Summary (CAI1C):

Specimen ID	Damage Area (inch^2)	Dent Depth (inch)
BT-CAI1C-A-C22-1-RTA-1	0.9984	0.007640
BT-CAI1C-A-C22-1-RTA-2	0.9197	0.008160
BT-CAI1C-A-C22-1-RTA-4	0.9639	0.007460
BT-CAI1C-A-C22-1-RTA-5	0.9688	0.008280
BT-CAI1C-A-C23-1-RTA-1	0.9570	0.007710
BT-CAI1C-A-C23-1-RTA-2	0.9766	0.008170
BT-CAI1C-A-C23-1-RTA-3	1.097	0.008270
BT-CAI1C-A-C23-1-RTA-4	0.9636	0.007630
BT-CAI1C-B-C19-1-RTA-1	0.8710	0.007290
BT-CAI1C-B-C19-1-RTA-2	1.007	0.007820
BT-CAI1C-B-C19-1-RTA-3	0.9680	0.007910
BT-CAI1C-B-C19-1-RTA-4	0.9494	0.007160
BT-CAI1C-B-C20-1-RTA-1	0.9836	0.007590
BT-CAI1C-B-C20-1-RTA-2	0.9258	0.008060
BT-CAI1C-B-C20-1-RTA-3	0.9215	0.008010
BT-CAI1C-B-C20-1-RTA-4	0.9772	0.007410
TC-CAI1C-C-C41-1-RTA-1	0.9969	0.008840
TC-CAI1C-C-C41-1-RTA-2	1.037	0.008820
TC-CAI1C-C-C41-1-RTA-3	1.007	0.009340
TC-CAI1C-C-C41-1-RTA-4	0.9447	0.008280
TC-CAI1C-C-C43-1-RTA-1	0.9376	0.009230
TC-CAI1C-C-C43-1-RTA-2	1.007	0.009260
TC-CAI1C-C-C43-1-RTA-3	0.9598	0.009130
TC-CAI1C-C-C43-1-RTA-4	1.033	0.008120
TC-CAI1C-D-C39-2-RTA-1	0.9315	0.008340
TC-CAI1C-D-C39-2-RTA-2	0.9727	0.008170
TC-CAI1C-D-C39-2-RTA-3	0.8851	0.008460
TC-CAI1C-D-C39-2-RTA-4	0.9781	0.008460
TC-CAI1C-D-C40-1-RTA-1	0.8584	0.008660
TC-CAI1C-D-C40-1-RTA-2	0.9187	0.008480
TC-CAI1C-D-C40-1-RTA-3	0.9484	0.008190
TC-CAI1C-D-C40-1-RTA-4	0.8680	0.007990
TC-CAI1C-E-C41-1-RTA-1	0.9034	0.008670
TC-CAI1C-E-C41-1-RTA-2	0.8077	0.008400
TC-CAI1C-E-C41-1-RTA-3	0.8345	0.008320
TC-CAI1C-E-C41-1-RTA-4	0.9424	0.008290
TC-CAI1C-E-C40-2-RTA-1	0.8797	0.008550
TC-CAI1C-E-C40-2-RTA-2	0.8870	0.008180
TC-CAI1C-E-C40-2-RTA-3	0.9364	0.008970
TC-CAI1C-E-C40-2-RTA-4	0.8432	0.008560

Damage Area and Dent Depth Summary (CAI1D):

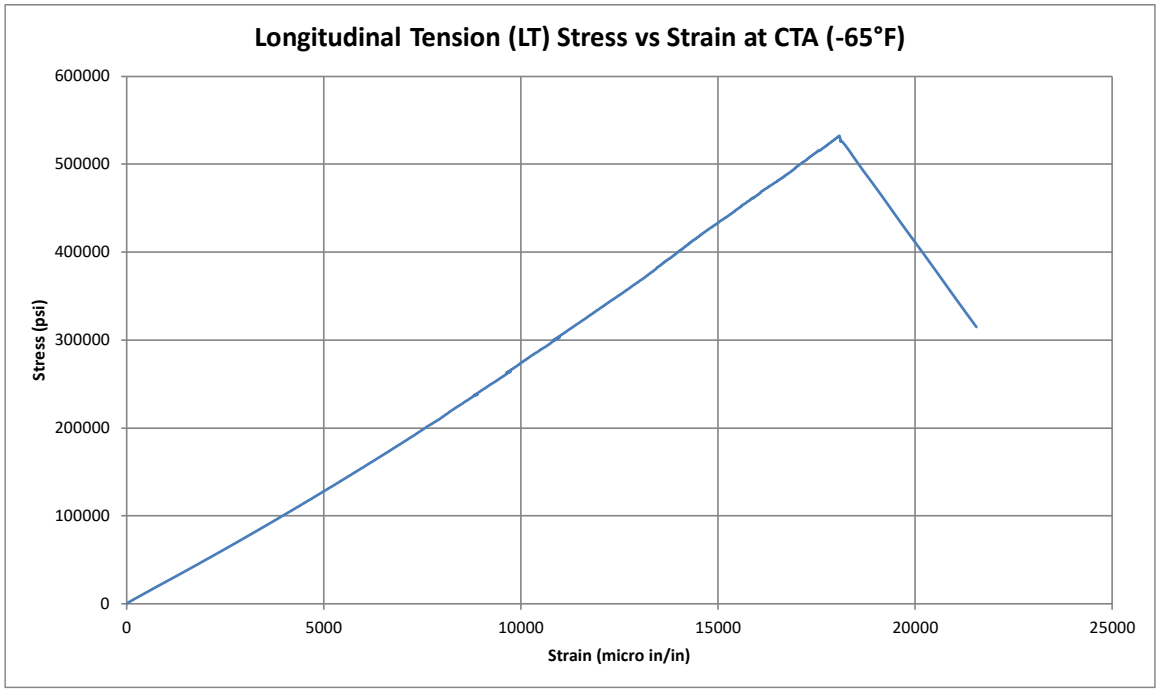
Specimen ID	Damage Area (inch^2)	Dent Depth (inch)
BT-CAI1D-B-C21-1-RTA-1	1.513	0.009080
BT-CAI1D-B-C21-1-RTA-2	1.424	0.009080
BT-CAI1D-B-C21-1-RTA-3	1.304	0.009230
BT-CAI1D-B-C21-1-RTA-4	1.279	0.008780
BT-CAI1D-B-C21-1-RTA-5	1.313	0.009470
BT-CAI1D-B-C21-1-RTA-6	1.335	0.009860

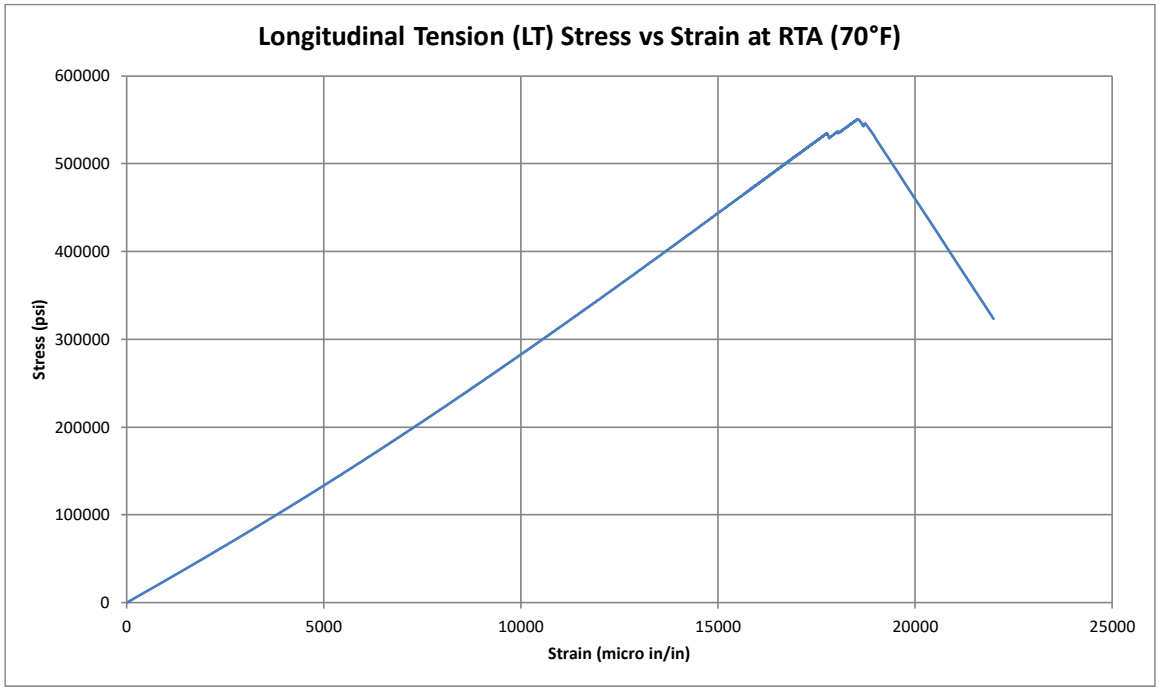
CAI1 Impact Dimensions vs Specific Energy Chart:

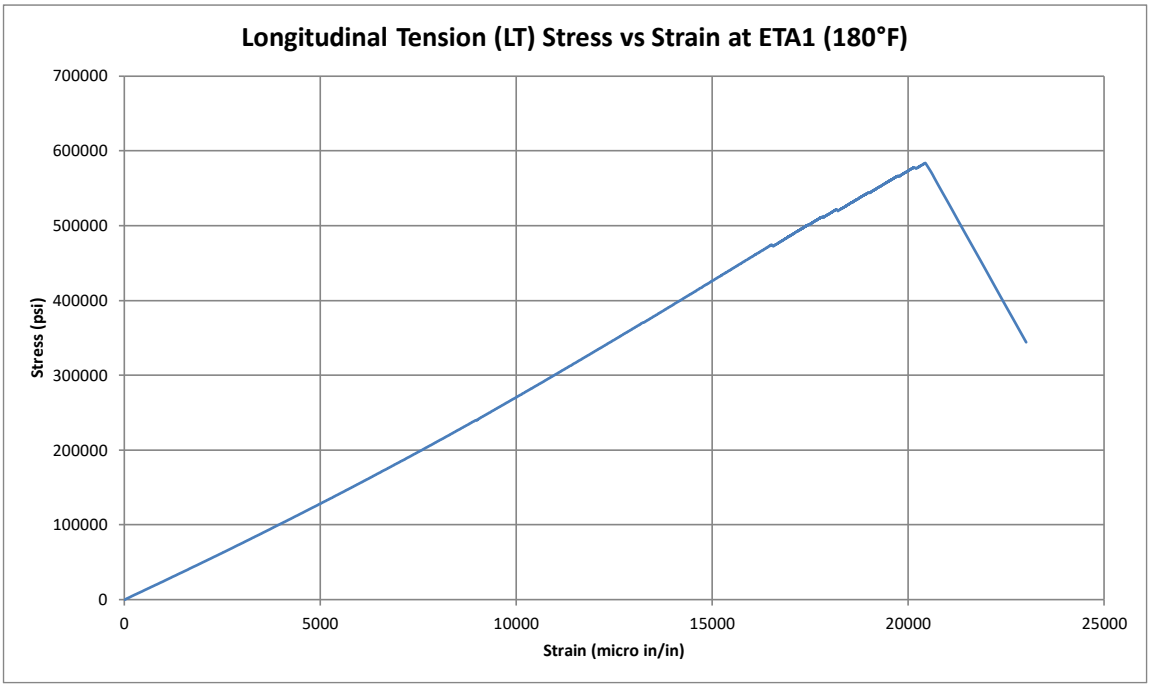


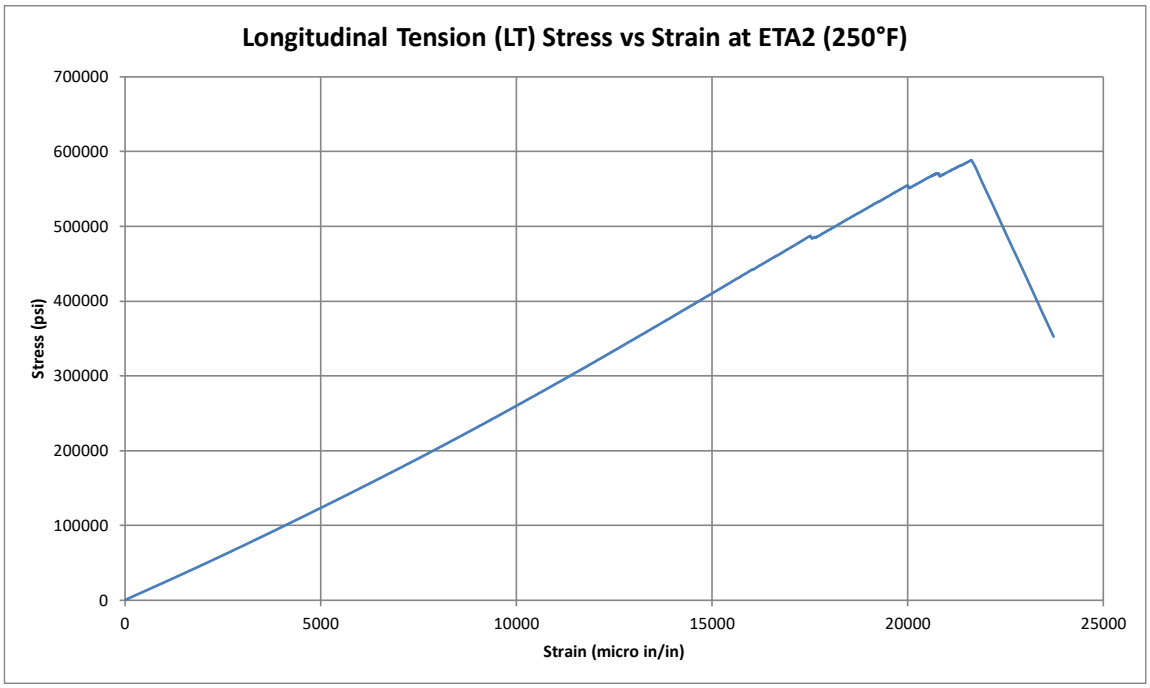
6. Full Stress vs. Strain Curve

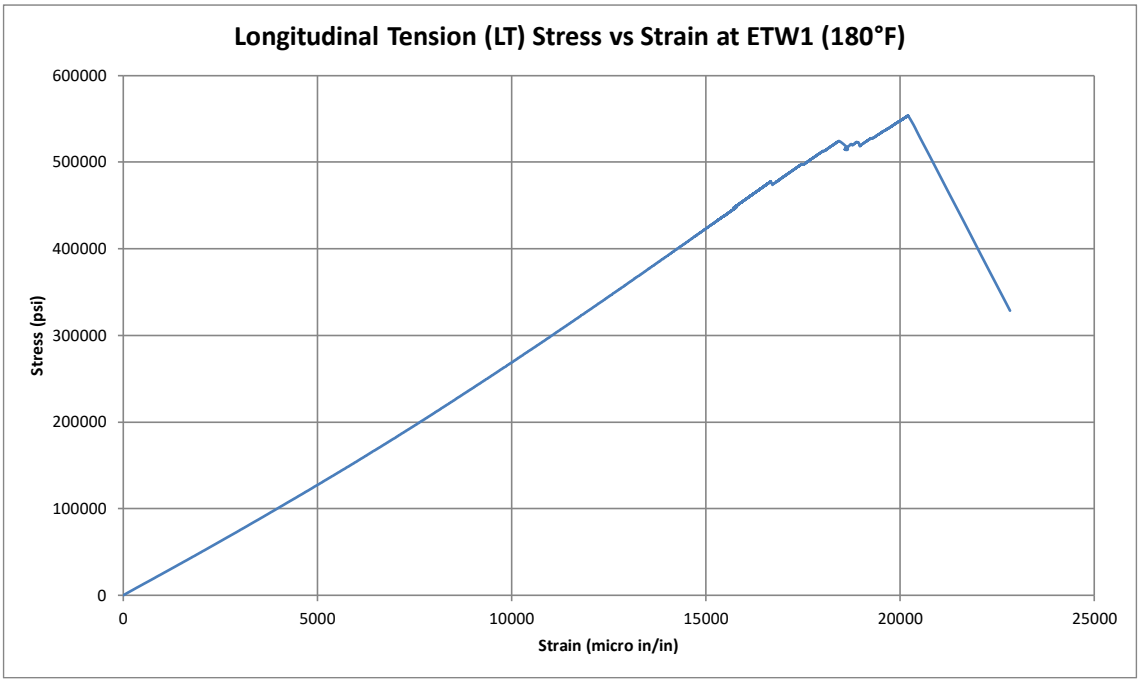
6.1 Longitudinal Tension Properties (LT)

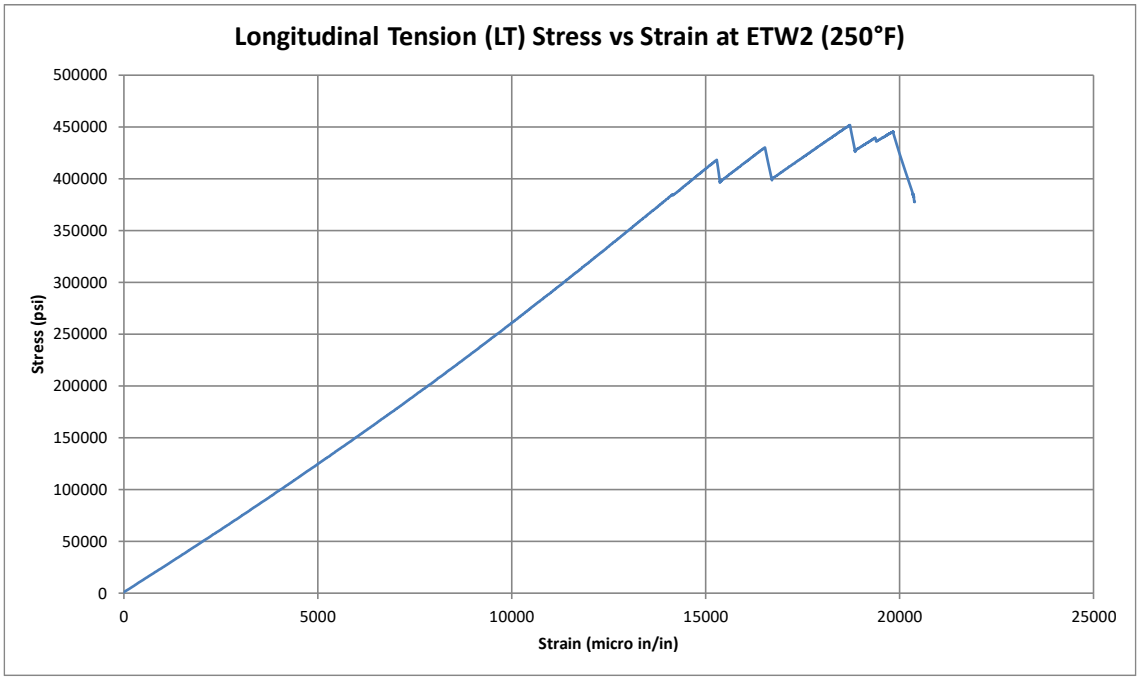




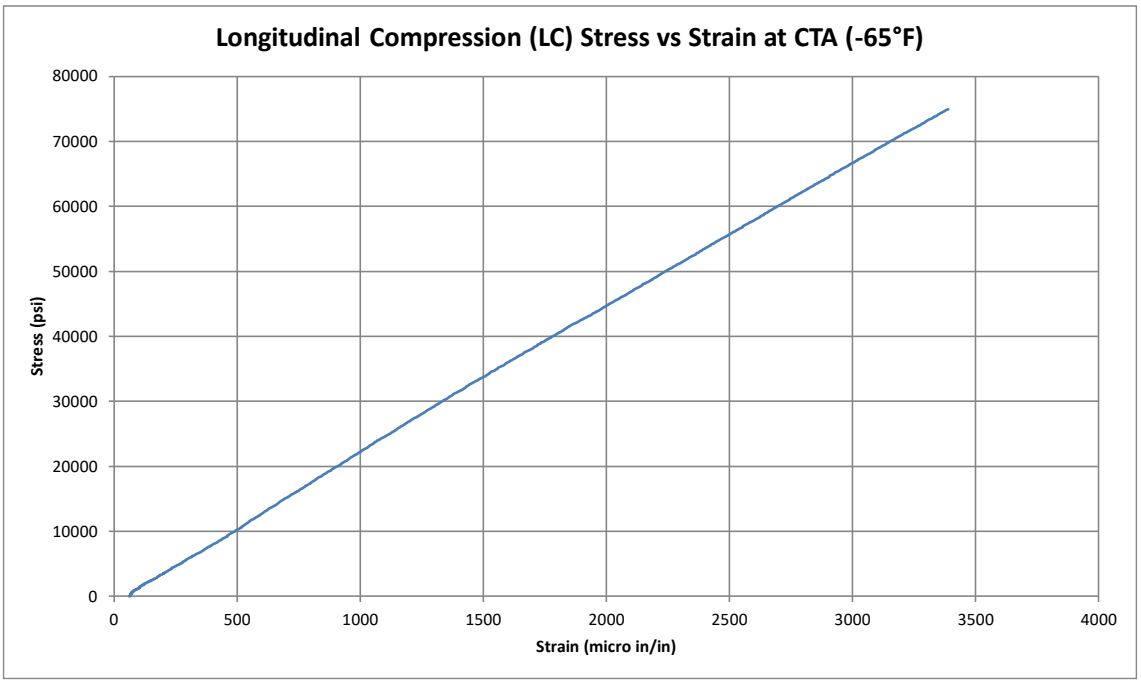

Longitudinal Tension (LT) Stress vs Strain at ETA1 (180°F)
Stress (psi)
700000
600000
500000
400000
300000
200000
100000
0
0
5000
10000
15000
20000
25000
Strain (micro in/in)

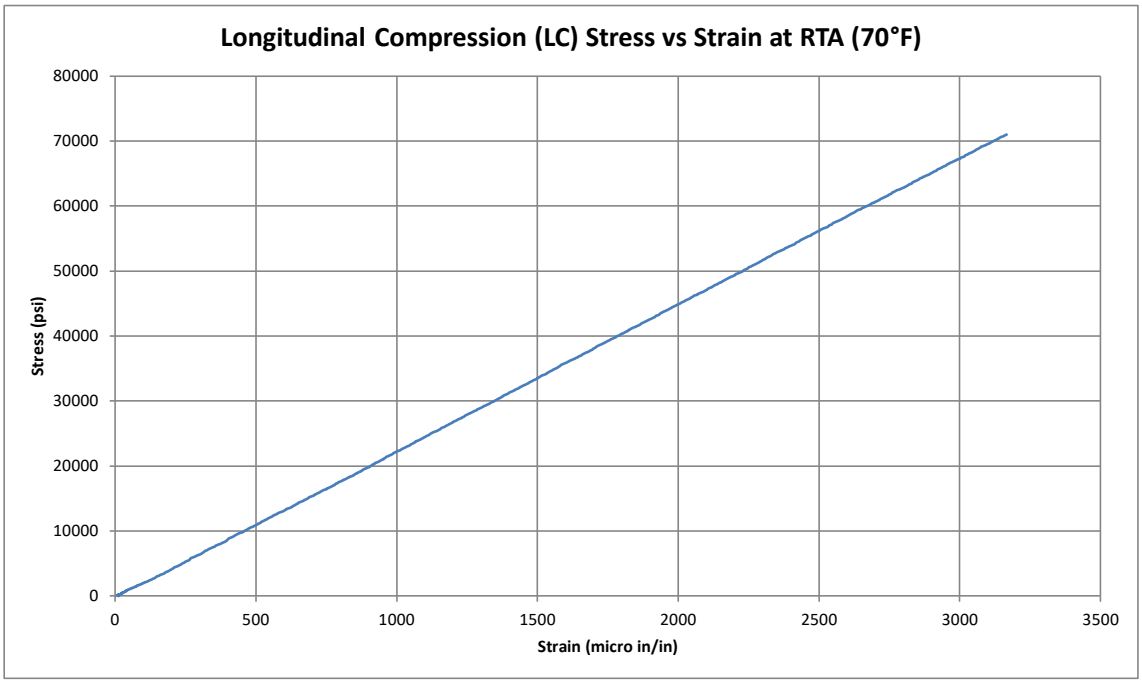

Longitudinal Tension (LT) Stress vs Strain at ETA2 (250°F)
Stress (psi)
700000
600000
500000
400000
300000
200000
100000
0
0
5000
10000
15000
20000
25000
Strain (micro in/in)

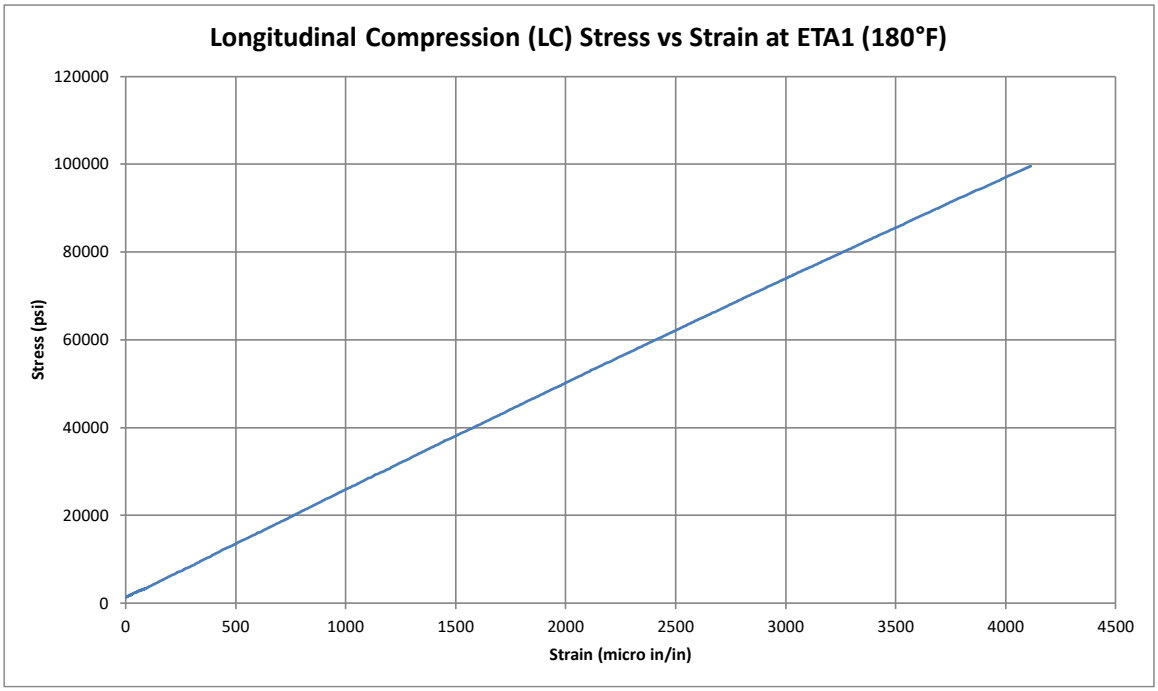

Longitudinal Tension (LT) Stress vs Strain at ETW1 (180°F)
Stress (psi)
600000
500000
400000
300000
200000
100000
0
0
5000
10000
15000
20000
25000
Strain (micro in/in)

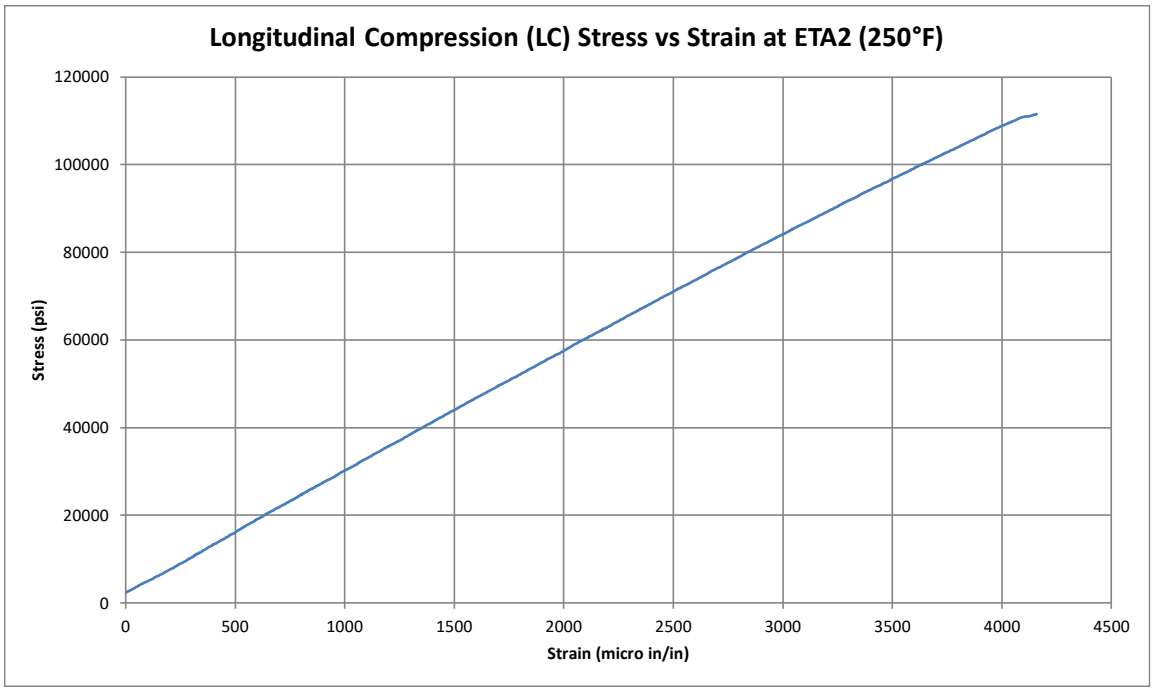

Longitudinal Tension (LT) Stress vs Strain at ETW2 (250°F)
Stress (psi)
500000
450000
400000
350000
300000
250000
200000
150000
100000
50000
0
0
5000
10000
15000
20000
25000
Strain (micro in/in)

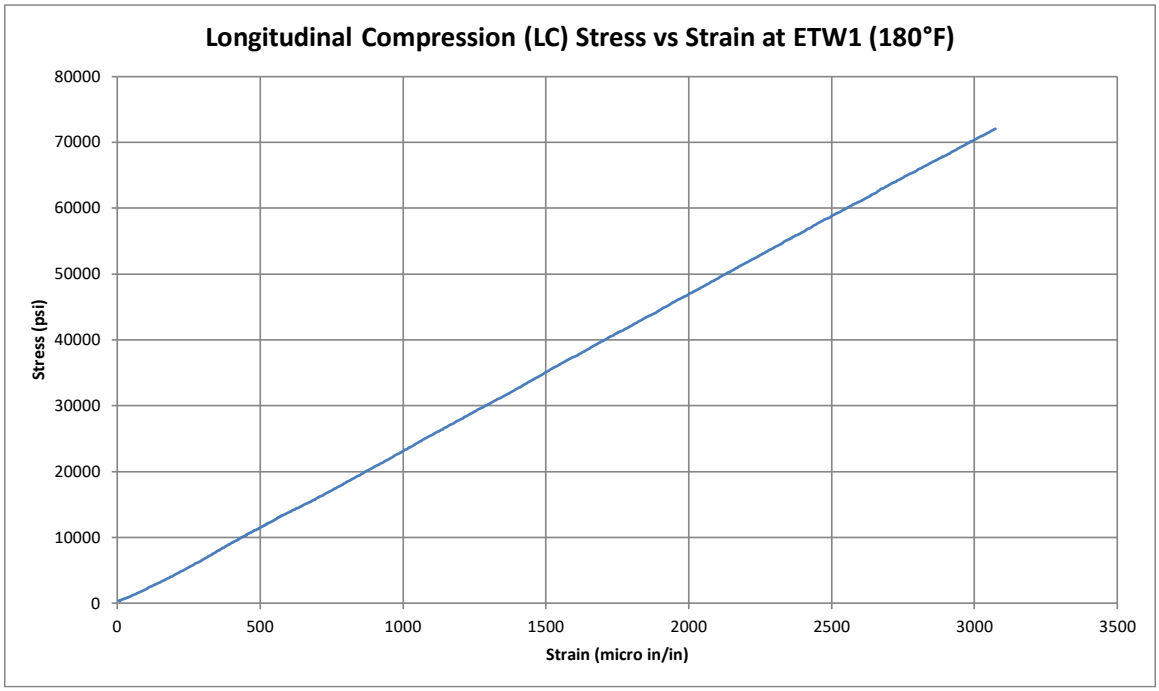
6.2 Longitudinal Compression Properties (LC)

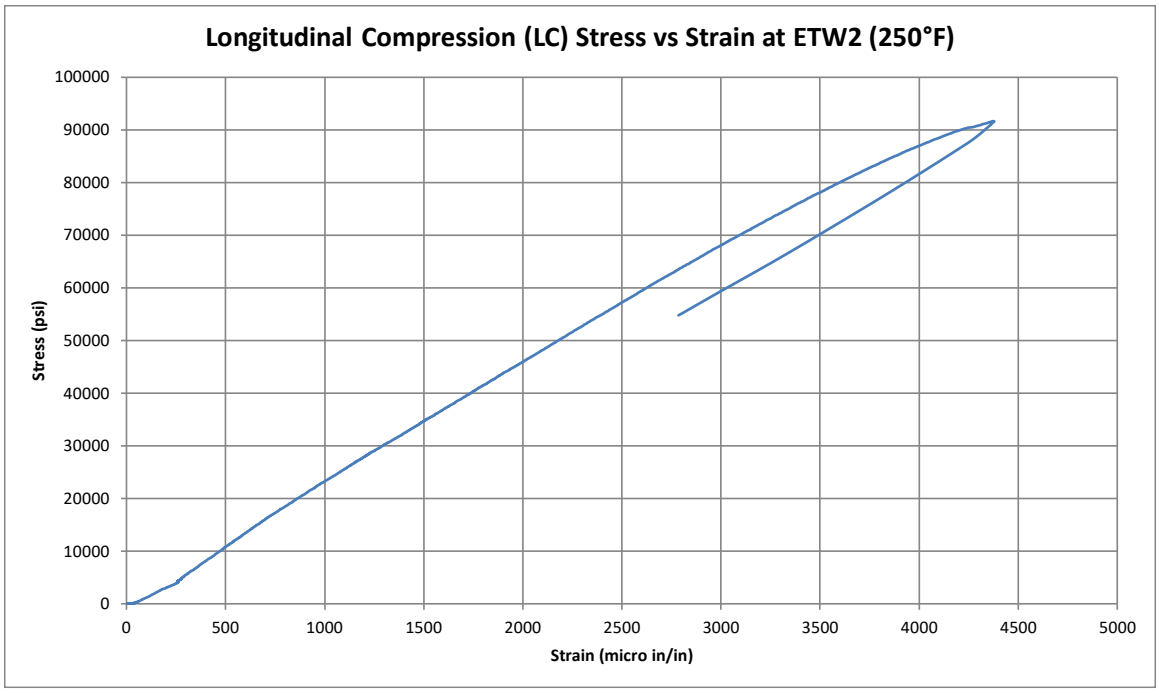




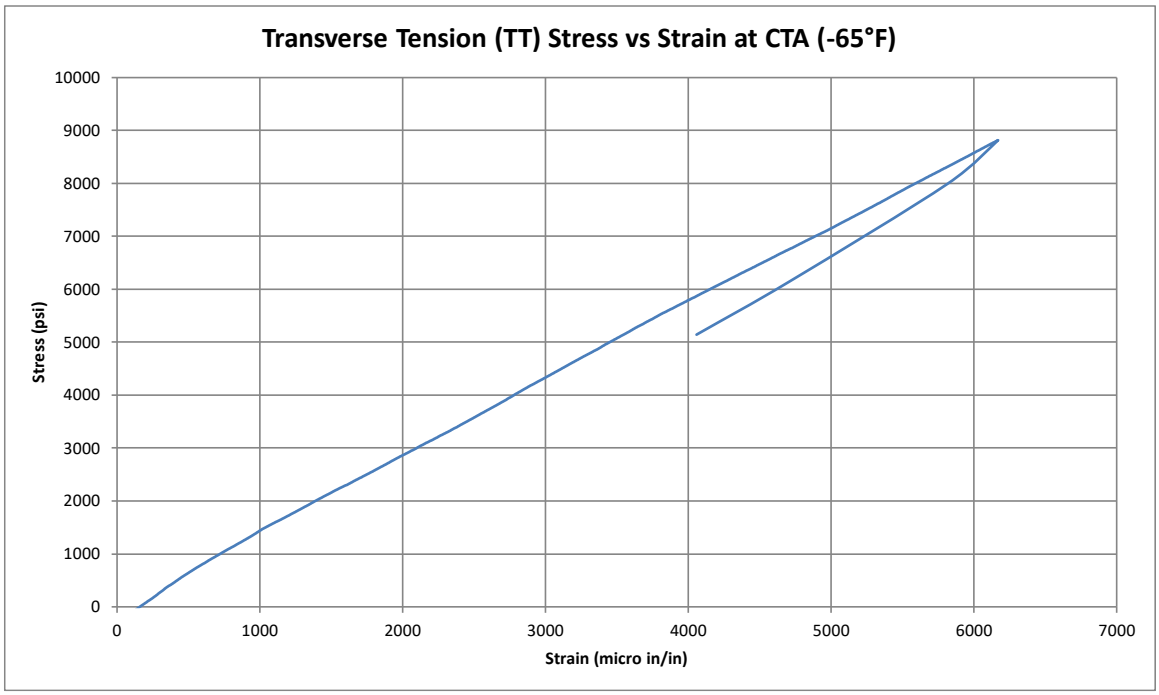

Longitudinal Compression (LC) Stress vs Strain at ETA1 (180°F)
Stress (psi)
120000
100000
80000
60000
40000
20000
0
0
500
1000
1500
2000
2500
3000
3500
4000
4500
Strain (micro in/in)

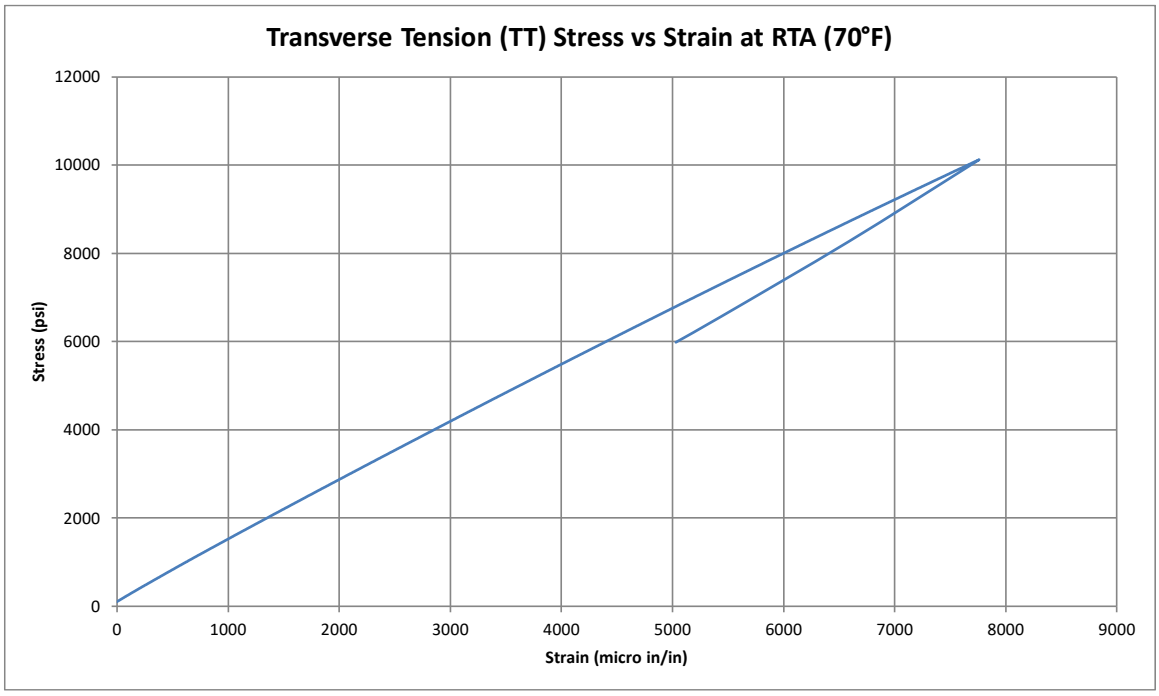

Longitudinal Compression (LC) Stress vs Strain at ETA2 (250°F)
Stress (psi)
120000
100000
80000
60000
40000
20000
0
0
500
1000
1500
2000
2500
3000
3500
4000
4500
Strain (micro in/in)

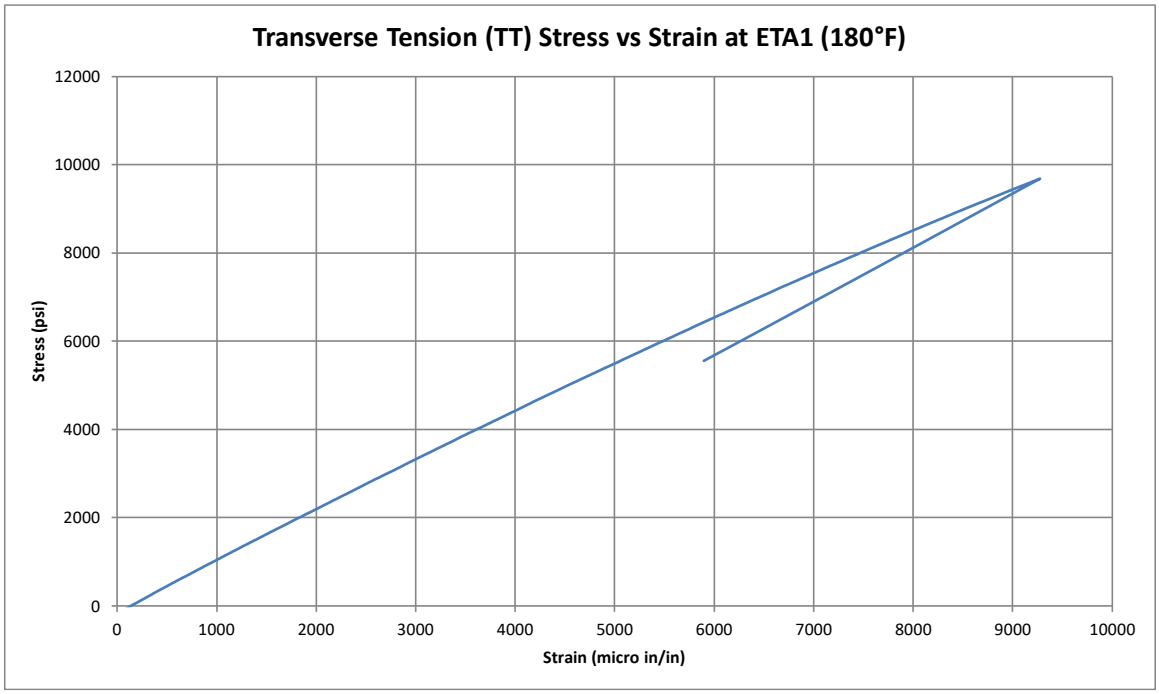

Longitudinal Compression (LC) Stress vs Strain at ETW1 (180°F)
Stress (psi)
80000
70000
60000
50000
40000
30000
20000
10000
0
0
500
1000
1500
2000
2500
3000
3500
Strain (micro in/in)

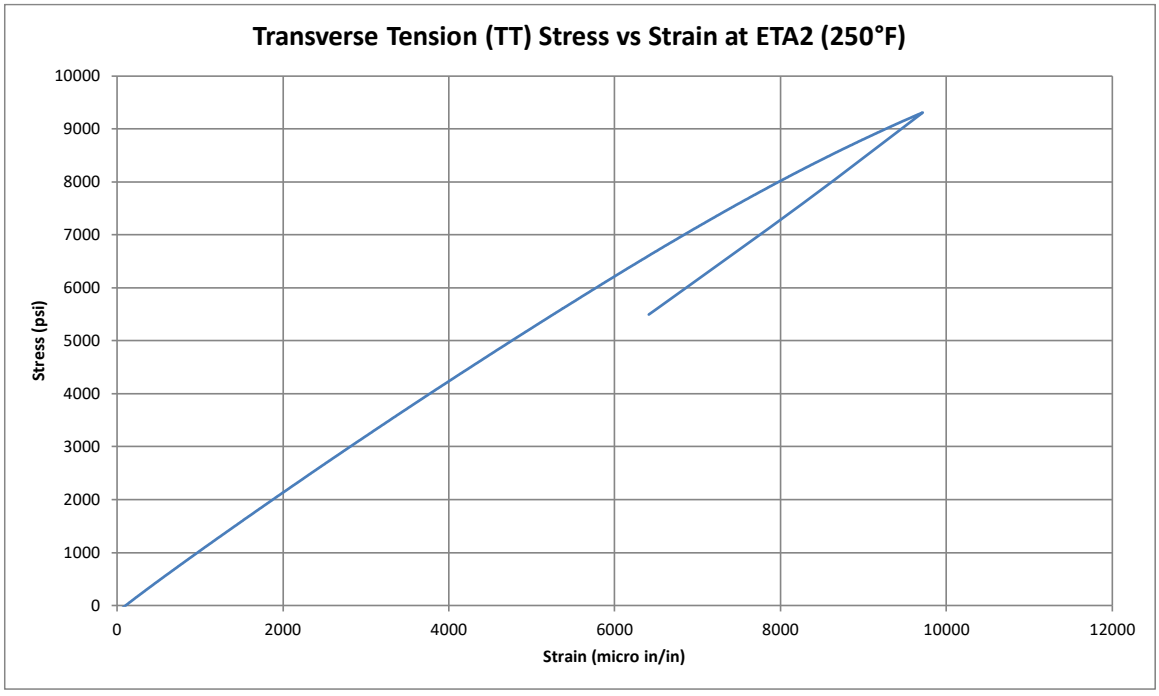

Longitudinal Compression (LC) Stress vs Strain at ETW2 (250°F)
Stress (psi)
100000
90000
80000
70000
60000
50000
40000
30000
20000
10000
0
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
Strain (micro in/in)

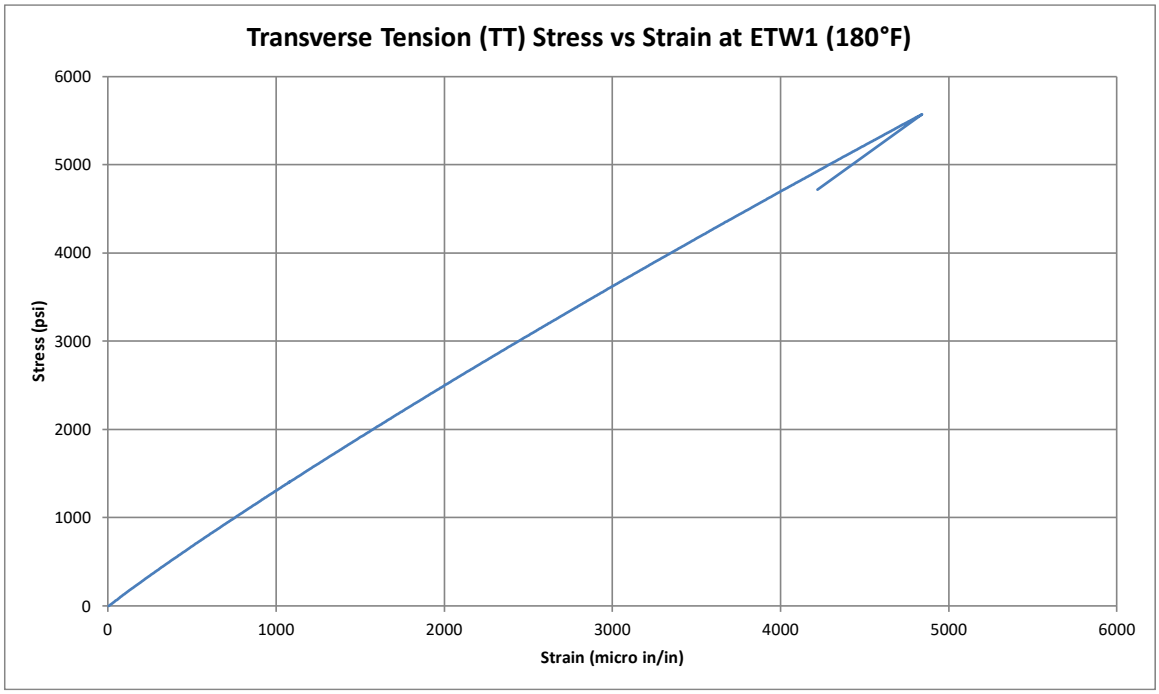
6.3 Transverse Tension Properties (TT)

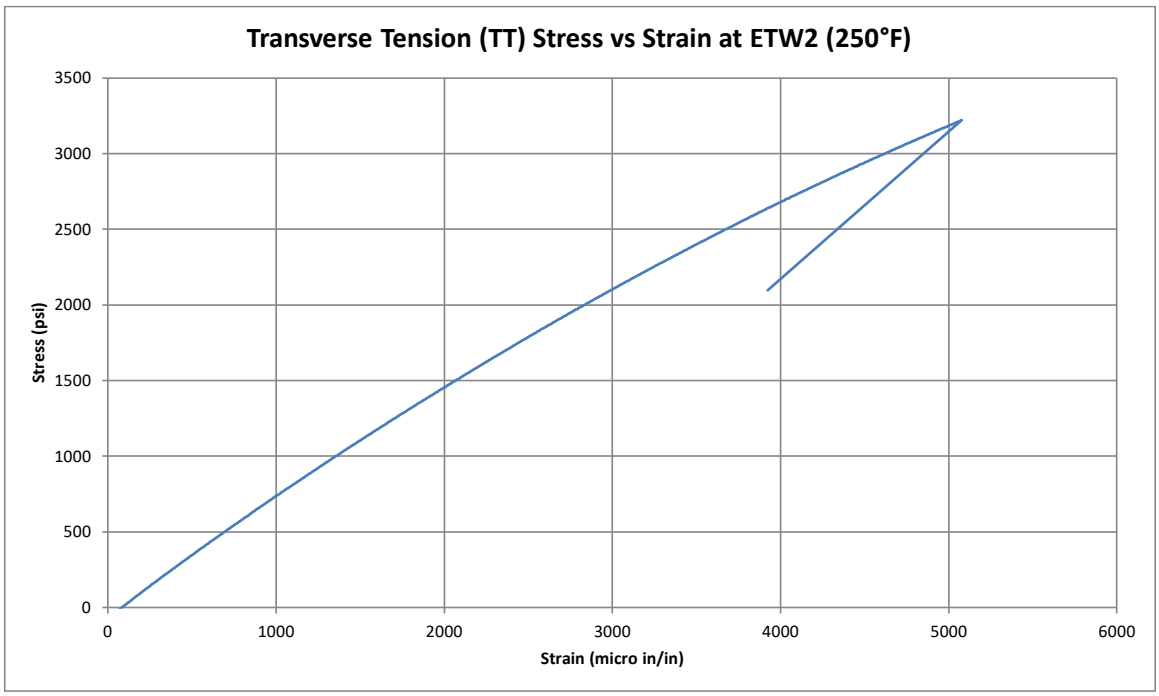




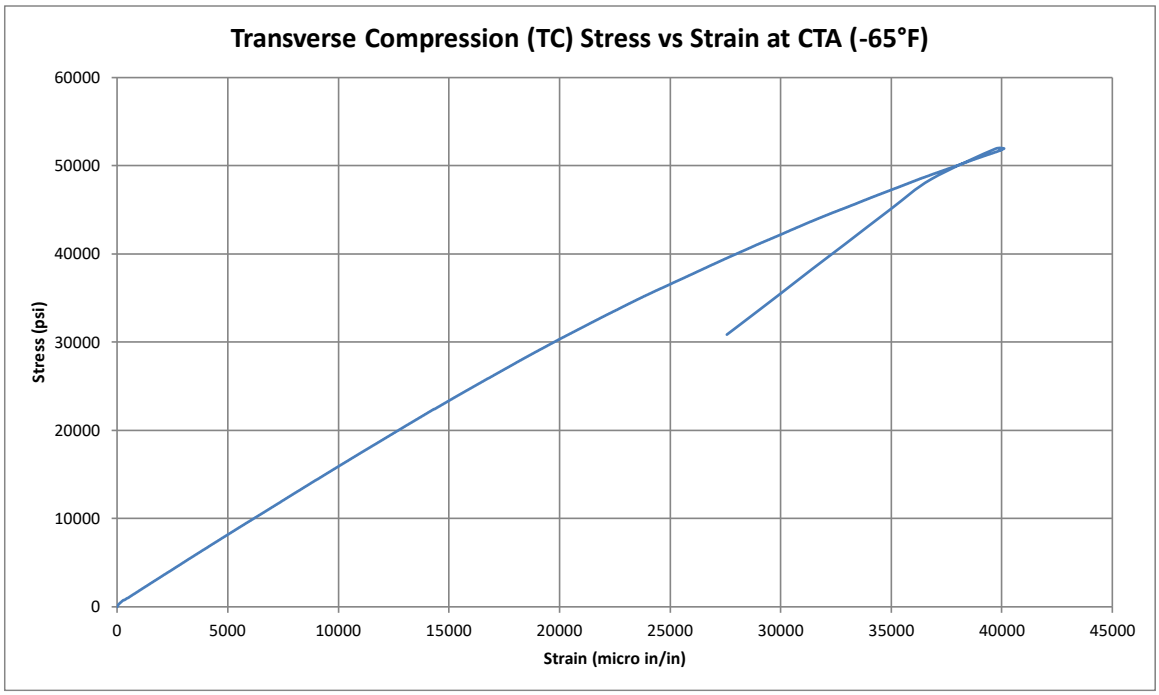

Transverse Tension (TT) Stress vs Strain at ETA1 (180°F)
Stress (psi)
0
2000
4000
6000
8000
10000
12000
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000
Strain (micro in/in)

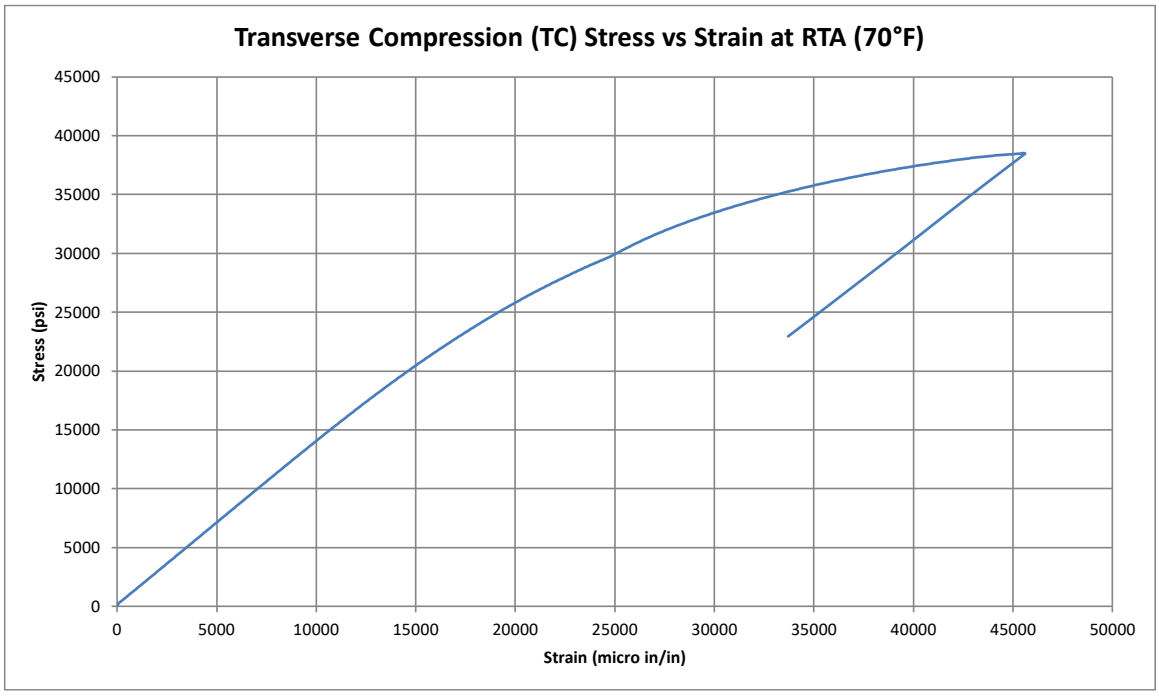

Transverse Tension (TT) Stress vs Strain at ETA2 (250°F)
Stress (psi)
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000
0
2000
4000
6000
8000
10000
12000
Strain (micro in/in)

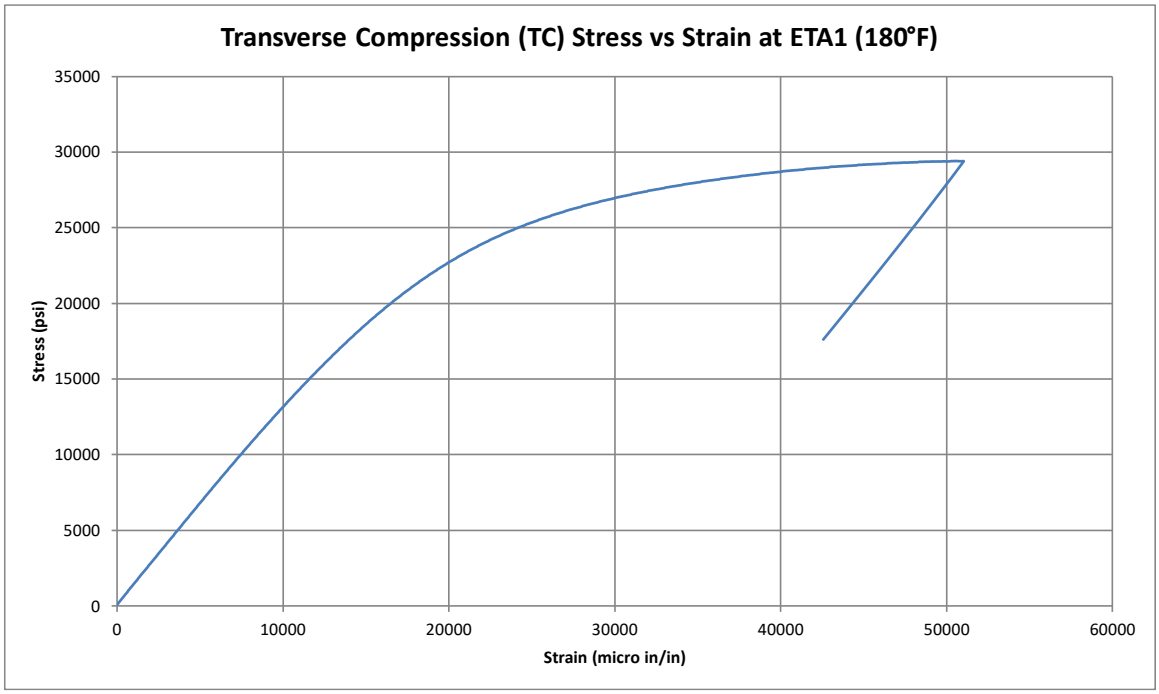

Transverse Tension (TT) Stress vs Strain at ETW1 (180°F)
Stress (psi)
0
1000
2000
3000
4000
5000
6000
Strain (micro in/in)
0
1000
2000
3000
4000
5000
6000

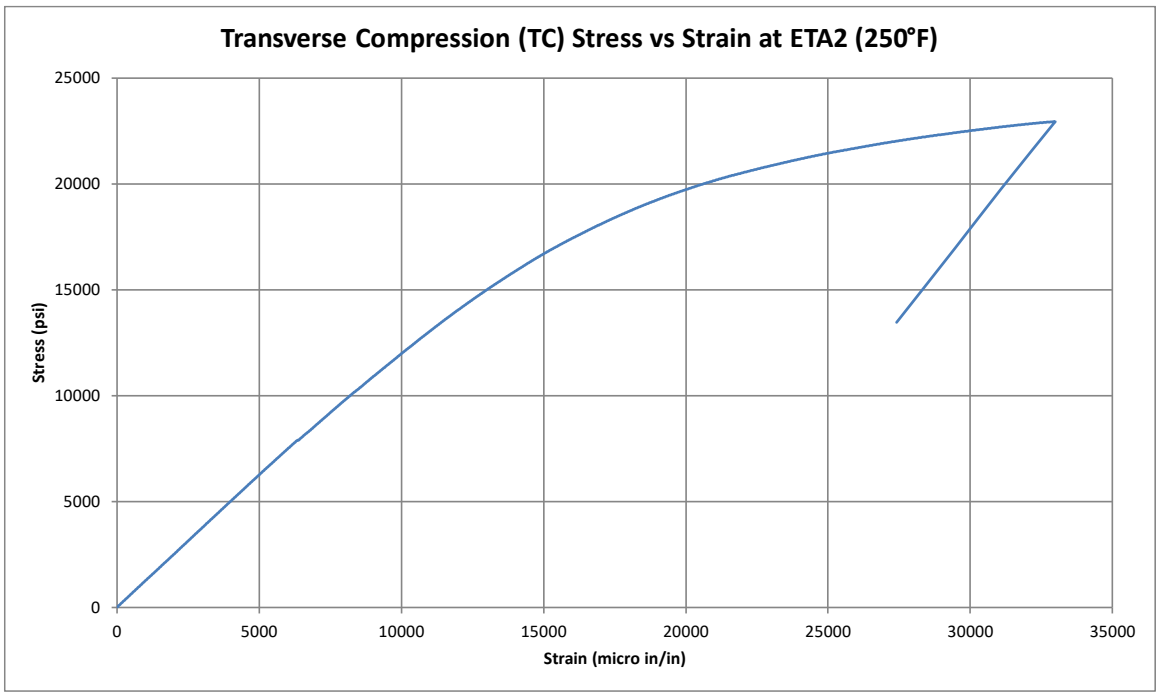

Transverse Tension (TT) Stress vs Strain at ETW2 (250°F)
Stress (psi)
0
500
1000
1500
2000
2500
3000
3500
Strain (micro in/in)
0
1000
2000
3000
4000
5000
6000

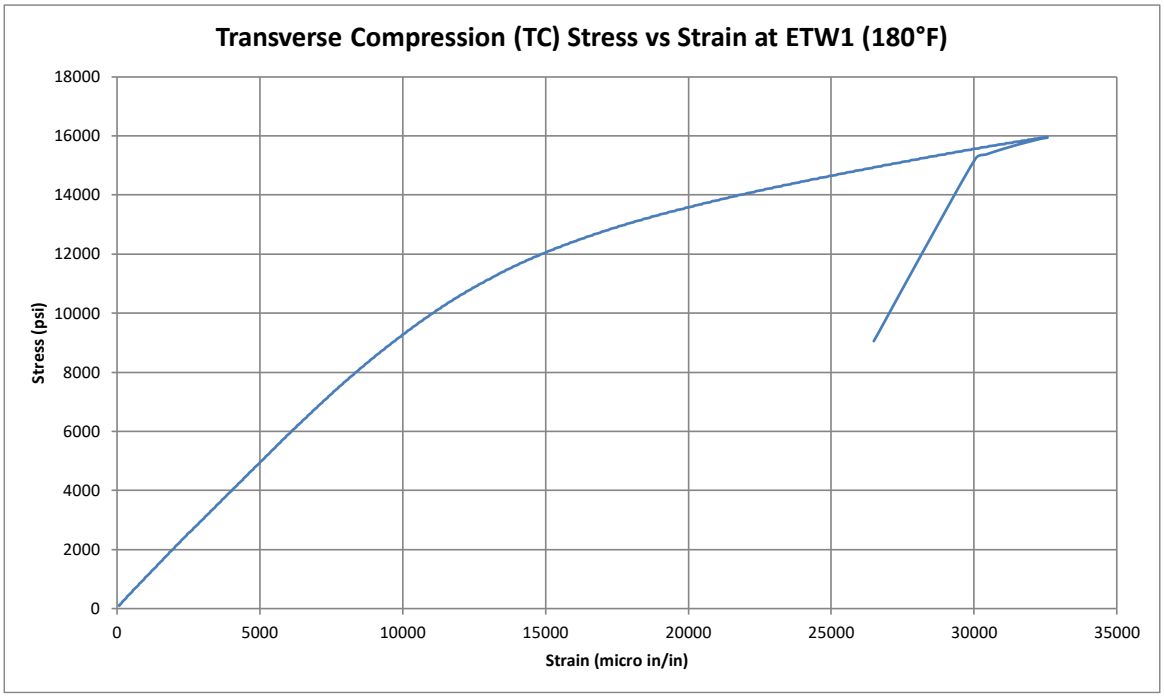
6.4 Transverse Compression Properties (TC)

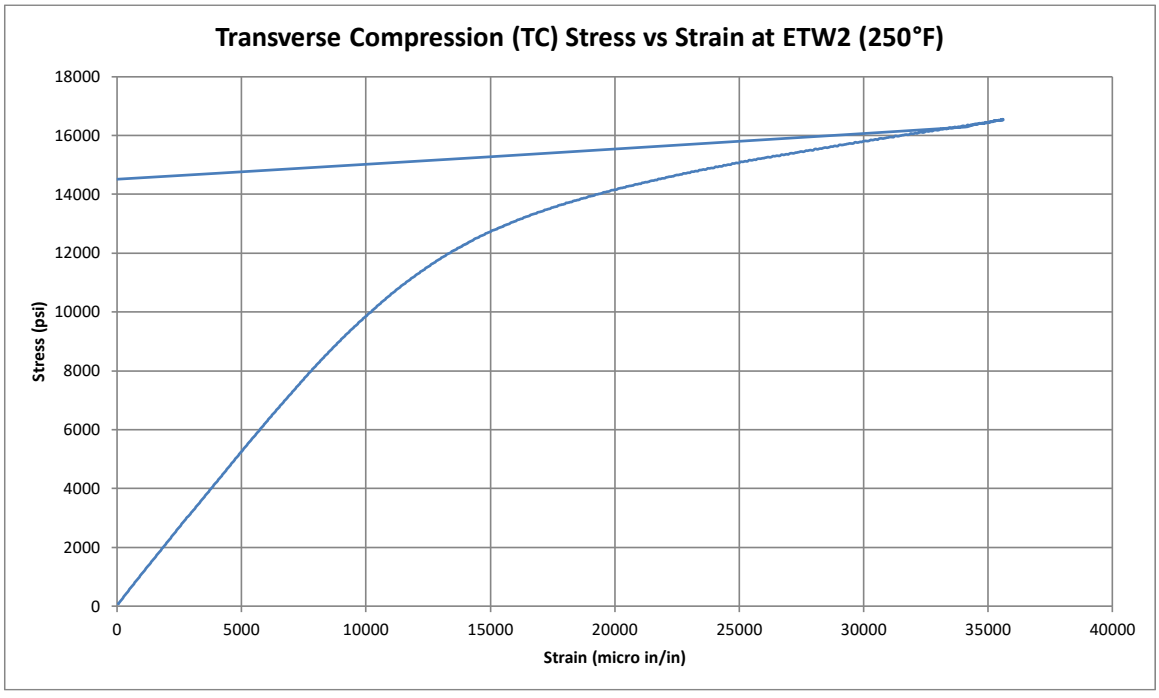




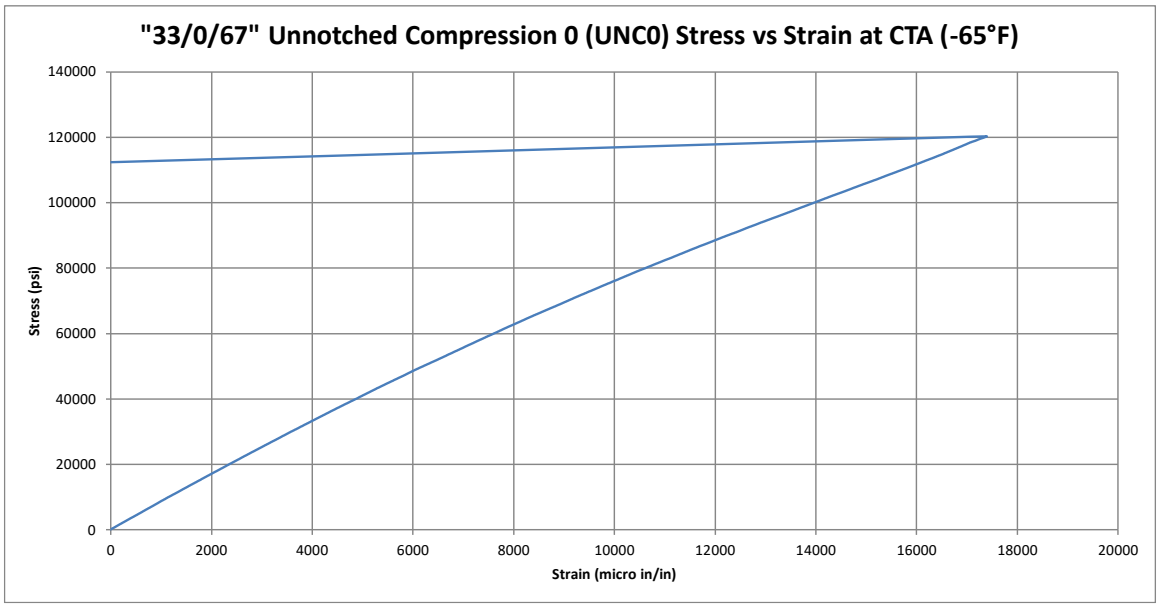

Transverse Compression (TC) Stress vs Strain at ETA1 (180°F)
Stress (psi)
35000
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
50000
60000
Strain (micro in/in)

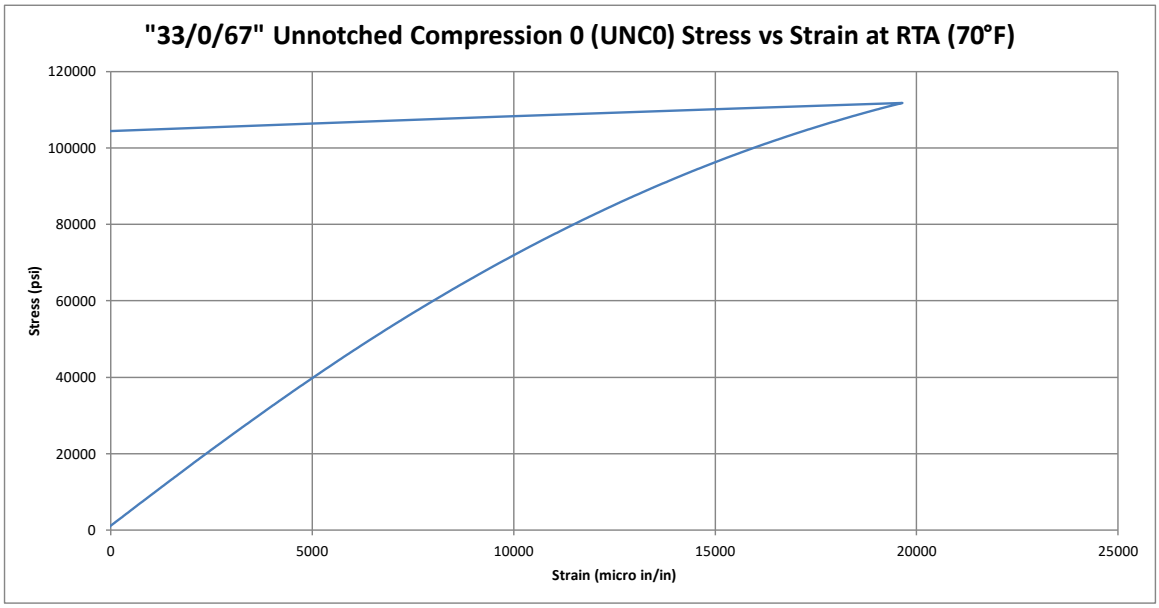

Transverse Compression (TC) Stress vs Strain at ETA2 (250°F)
Stress (psi)
25000
20000
15000
10000
5000
0
0
5000
10000
15000
20000
25000
30000
35000
Strain (micro in/in)

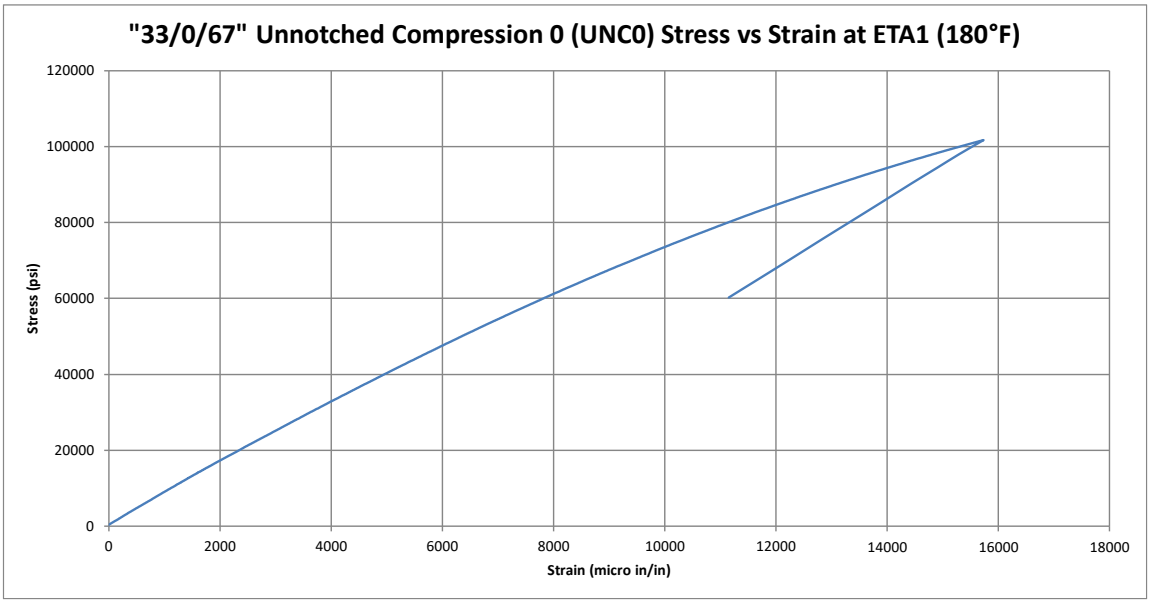

Transverse Compression (TC) Stress vs Strain at ETW1 (180°F)
Stress (psi)
18000
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000
Strain (micro in/in)

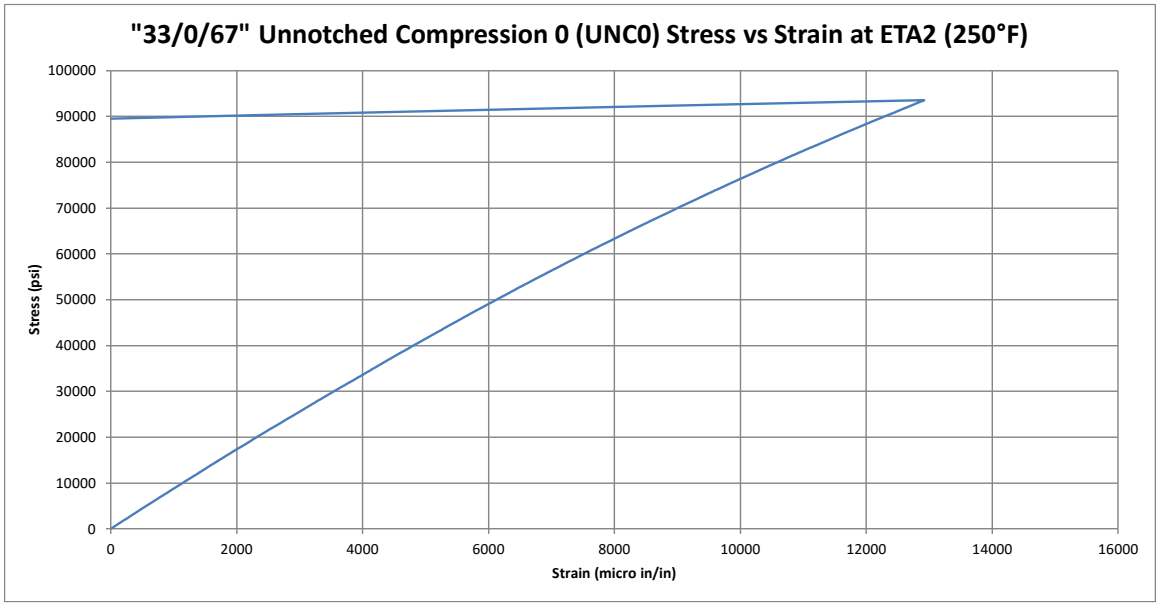

Transverse Compression (TC) Stress vs Strain at ETW2 (250°F)
Stress (psi)
18000
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000
40000
Strain (micro in/in)

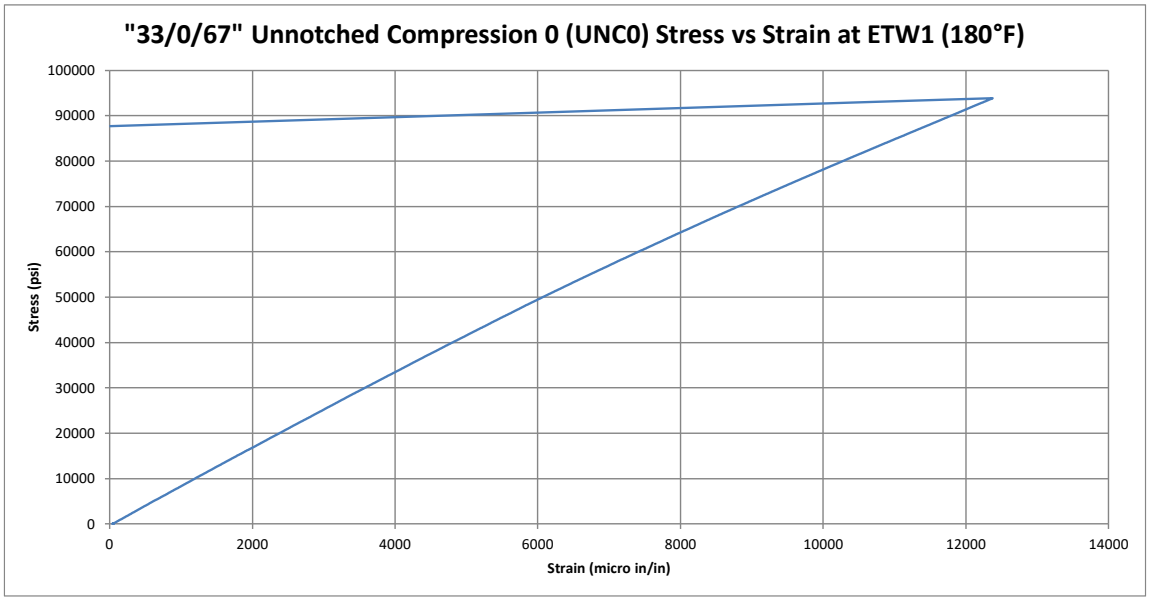
6.5 “33/0/67” Unnotched Compression 0 Properties (UNC0)

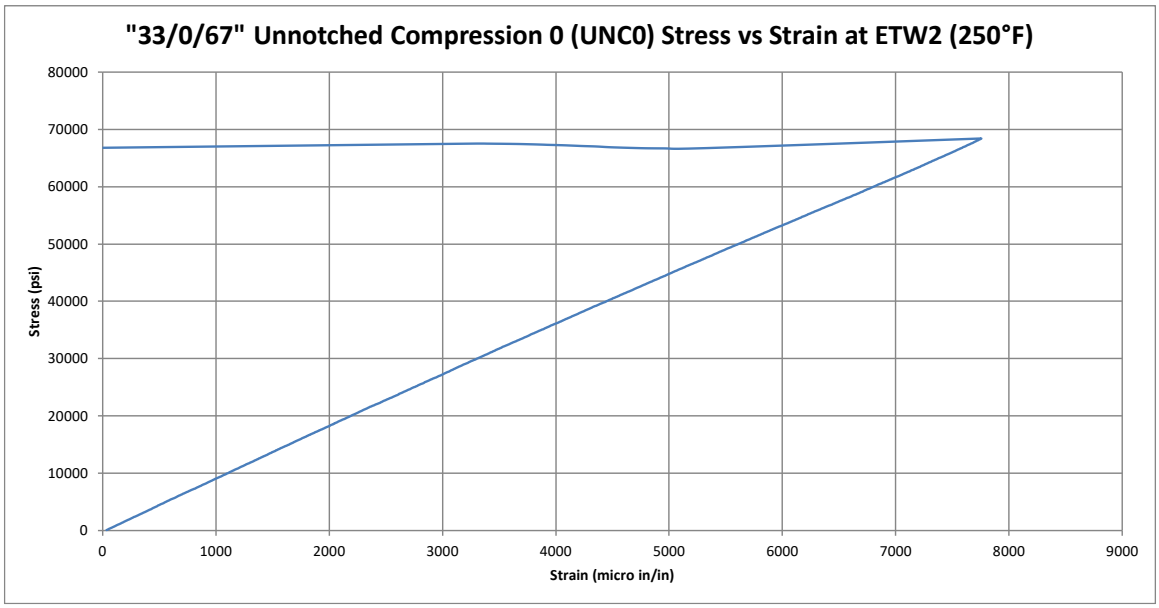




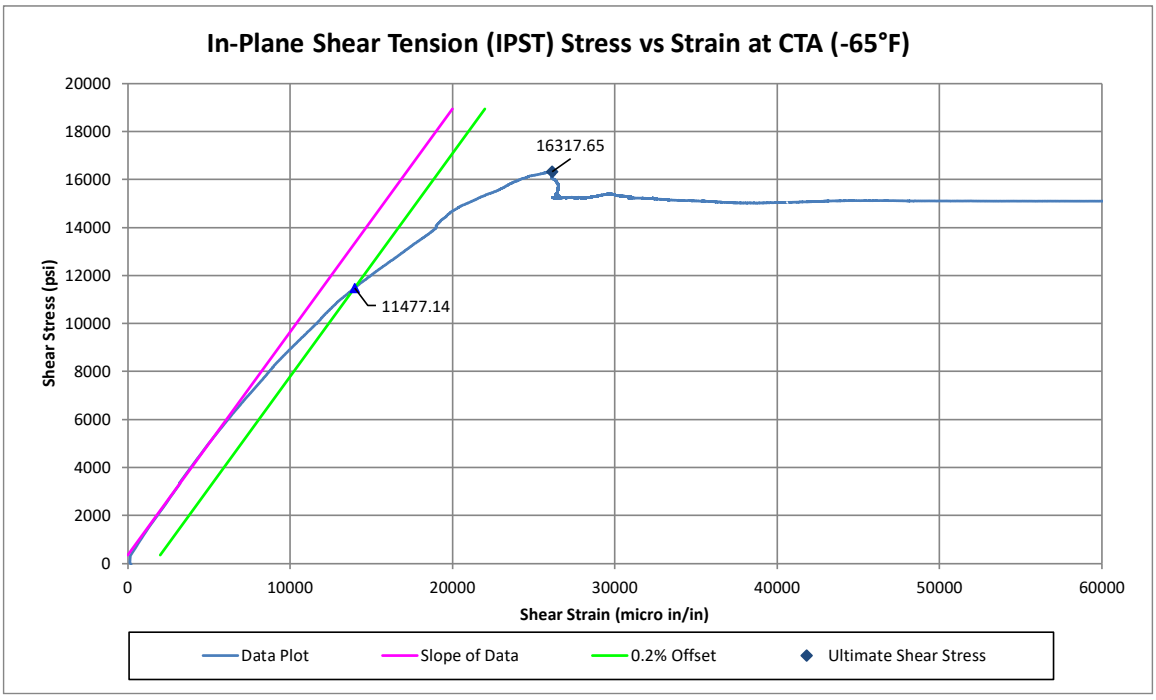

"33/0/67" Unnotched Compression 0 (UNC0) Stress vs Strain at ETA1 (180°F)
Stress (psi)
120000
100000
80000
60000
40000
20000
0
0
2000
4000
6000
8000
10000
12000
14000
16000
18000
Strain (micro in/in)

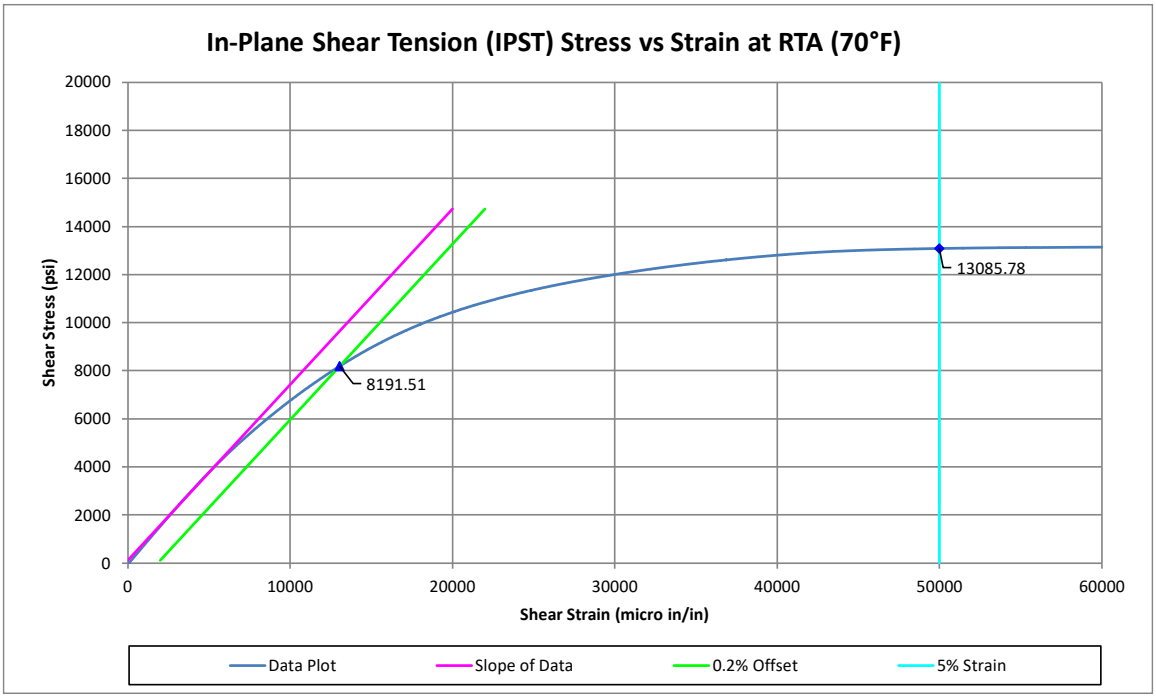

"33/0/67" Unnotched Compression 0 (UNC0) Stress vs Strain at ETA2 (250°F)
Stress (psi)
100000
90000
80000
70000
60000
50000
40000
30000
20000
10000
0
0
2000
4000
6000
8000
10000
12000
14000
16000
Strain (micro in/in)

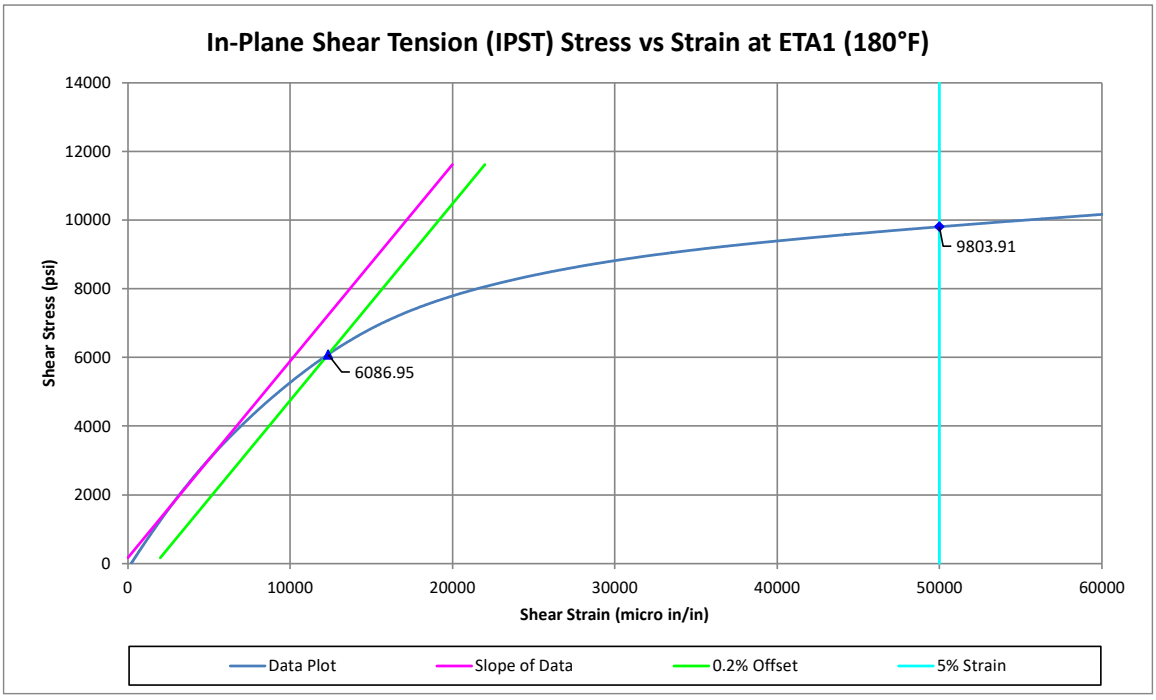

"33/0/67" Unnotched Compression 0 (UNC0) Stress vs Strain at ETW1 (180°F)
Stress (psi)
100000
90000
80000
70000
60000
50000
40000
30000
20000
10000
0
0
2000
4000
6000
8000
10000
12000
14000
Strain (micro in/in)

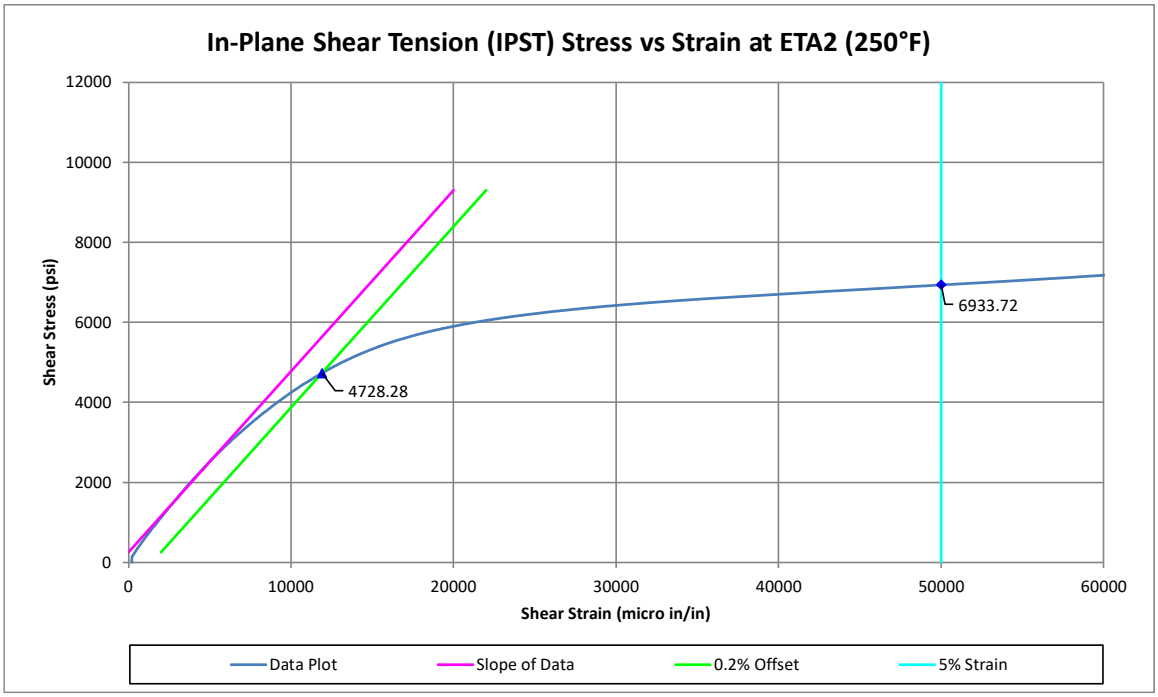

"33/0/67" Unnotched Compression 0 (UNC0) Stress vs Strain at ETW2 (250°F)
Stress (psi)
80000
70000
60000
50000
40000
30000
20000
10000
0
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
Strain (micro in/in)

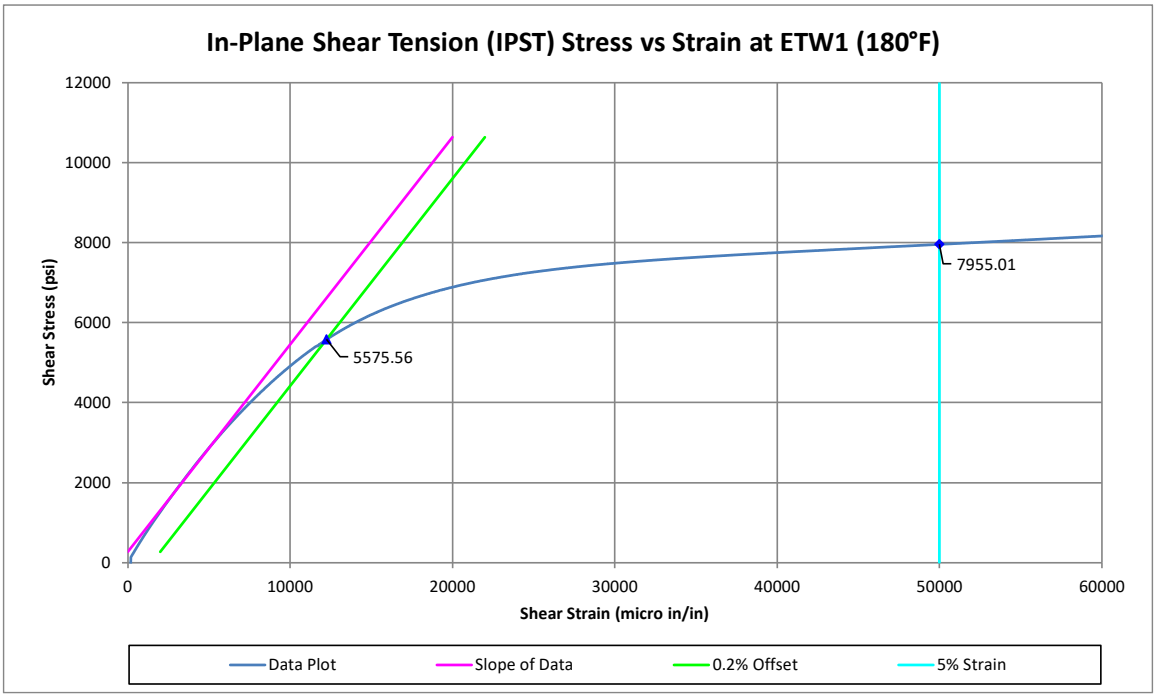
6.6 In-Plane Shear Tension Properties (IPST)

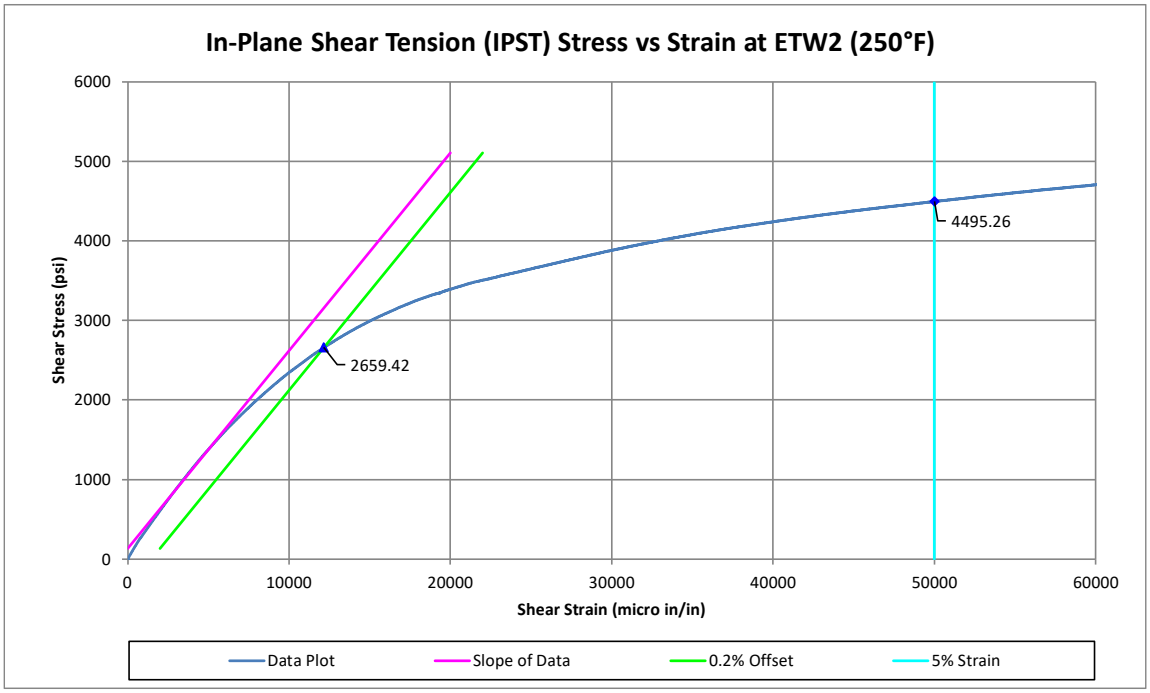




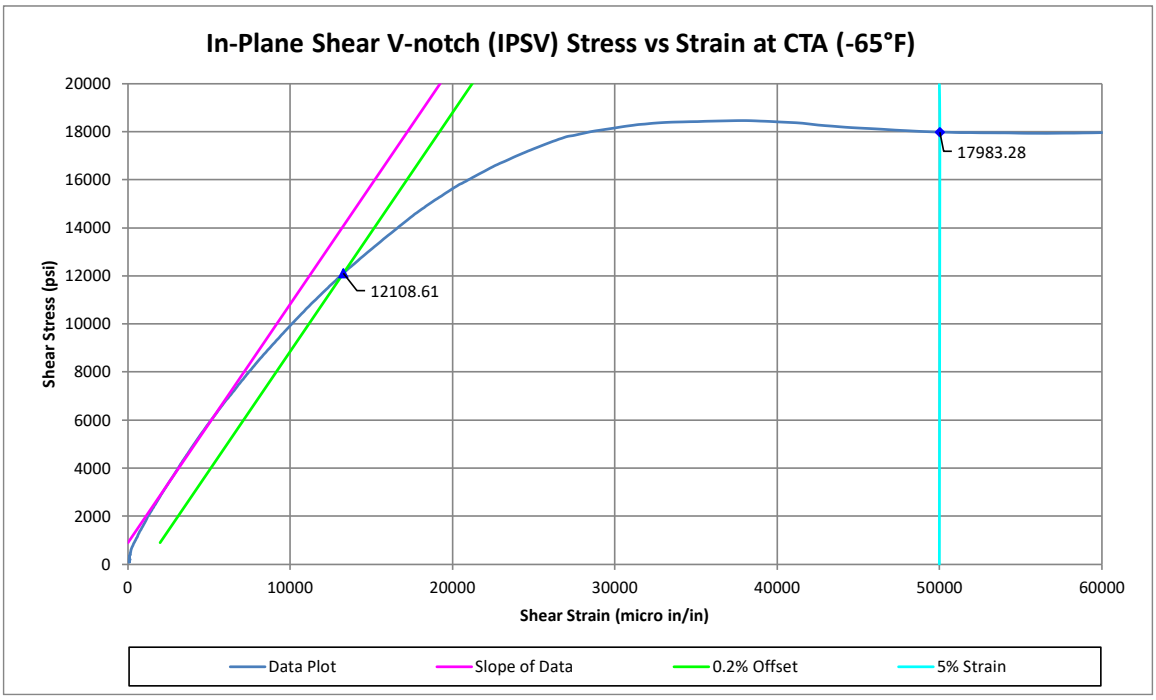

In-Plane Shear Tension (IPST) Stress vs Strain at ETA1 (180°F)
Shear Stress (psi)
14000
12000
10000
8000
6000
4000
2000
0
0
10000
20000
30000
40000
50000
60000
Shear Strain (micro in/in)
6086.95
9803.91
Data Plot
Slope of Data
0.2% Offset
5% Strain

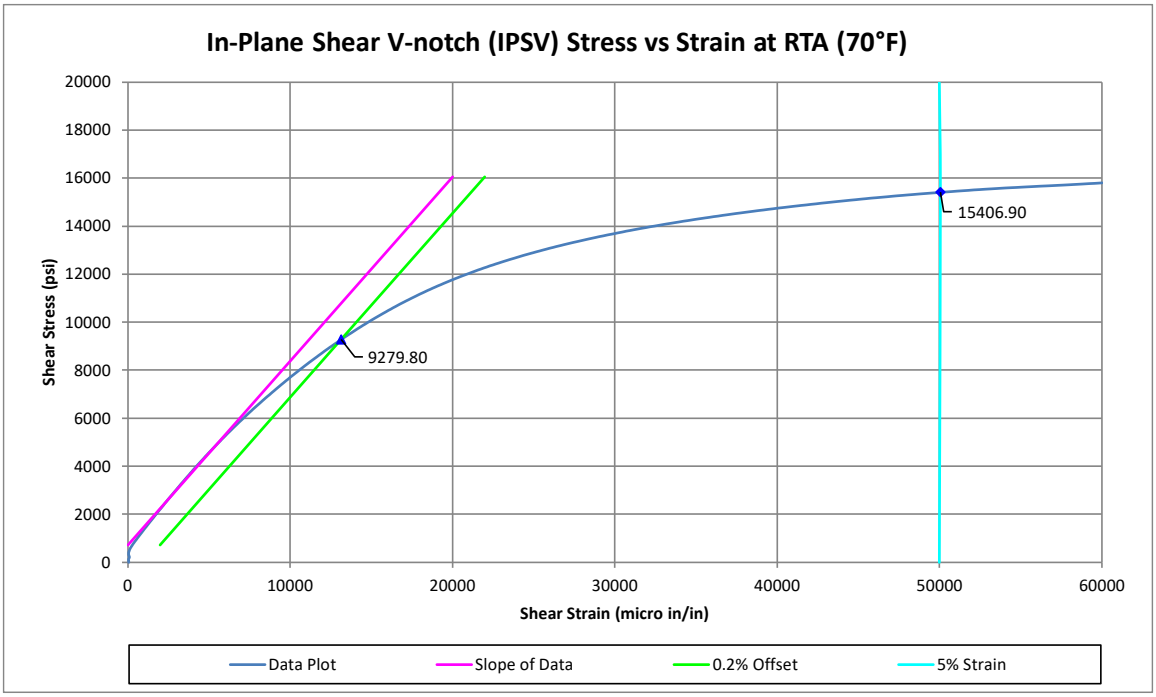

In-Plane Shear Tension (IPST) Stress vs Strain at ETA2 (250°F)
Shear Stress (psi)
12000
10000
8000
6000
4000
2000
0
0
10000
20000
30000
40000
50000
60000
Shear Strain (micro in/in)
4728.28
6933.72
Data Plot
Slope of Data
0.2% Offset
5% Strain

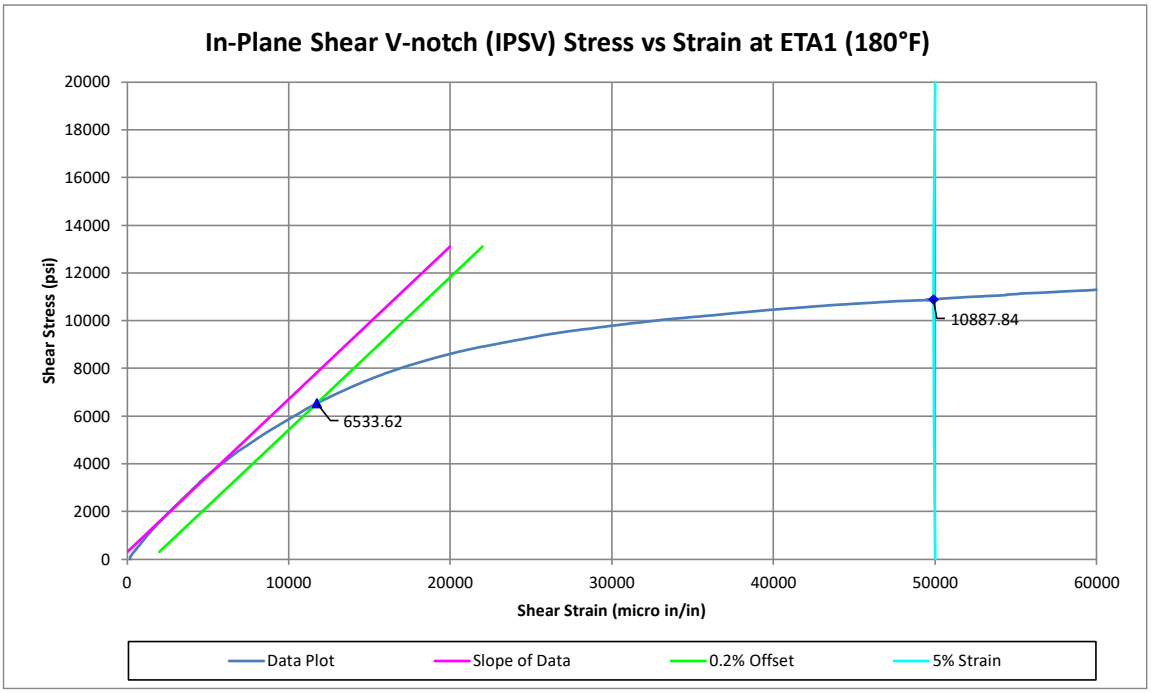

In-Plane Shear Tension (IPST) Stress vs Strain at ETW1 (180°F)
Shear Stress (psi)
12000
10000
8000
6000
4000
2000
0
0
10000
20000
30000
40000
50000
60000
Shear Strain (micro in/in)
5575.56
7955.01
Data Plot
Slope of Data
0.2% Offset
5% Strain

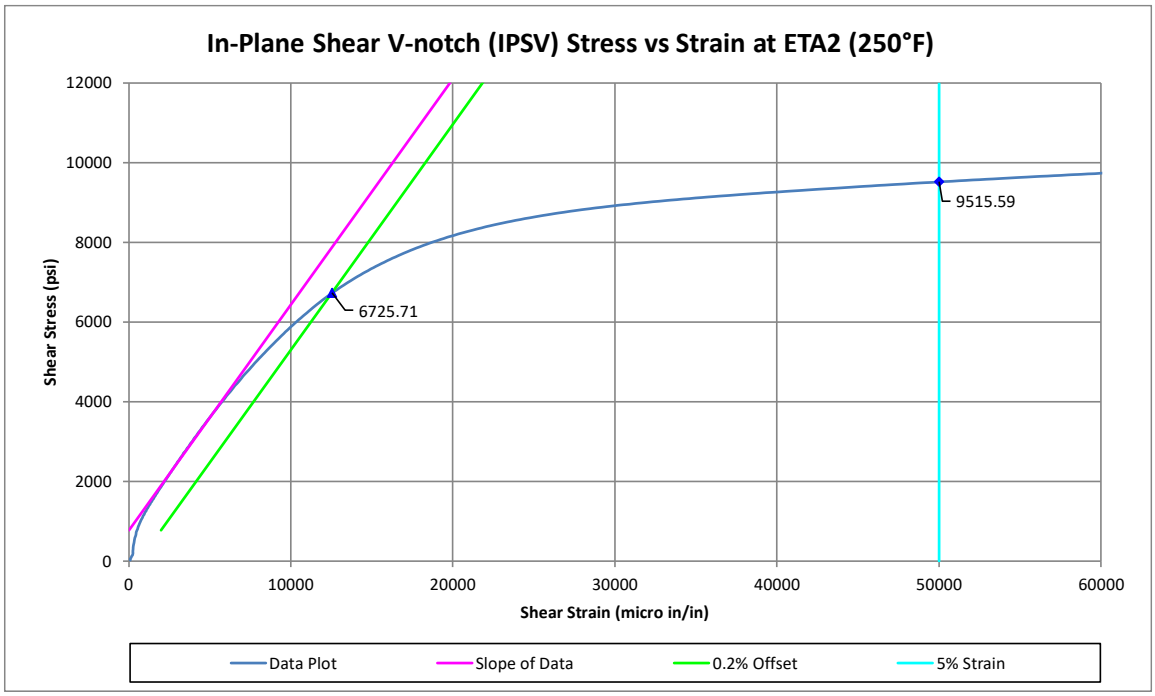

In-Plane Shear Tension (IPST) Stress vs Strain at ETW2 (250°F)
Shear Stress (psi)
6000
5000
4000
3000
2000
1000
0
0
10000
20000
30000
40000
50000
60000
Shear Strain (micro in/in)
2659.42
4495.26
Data Plot
Slope of Data
0.2% Offset
5% Strain

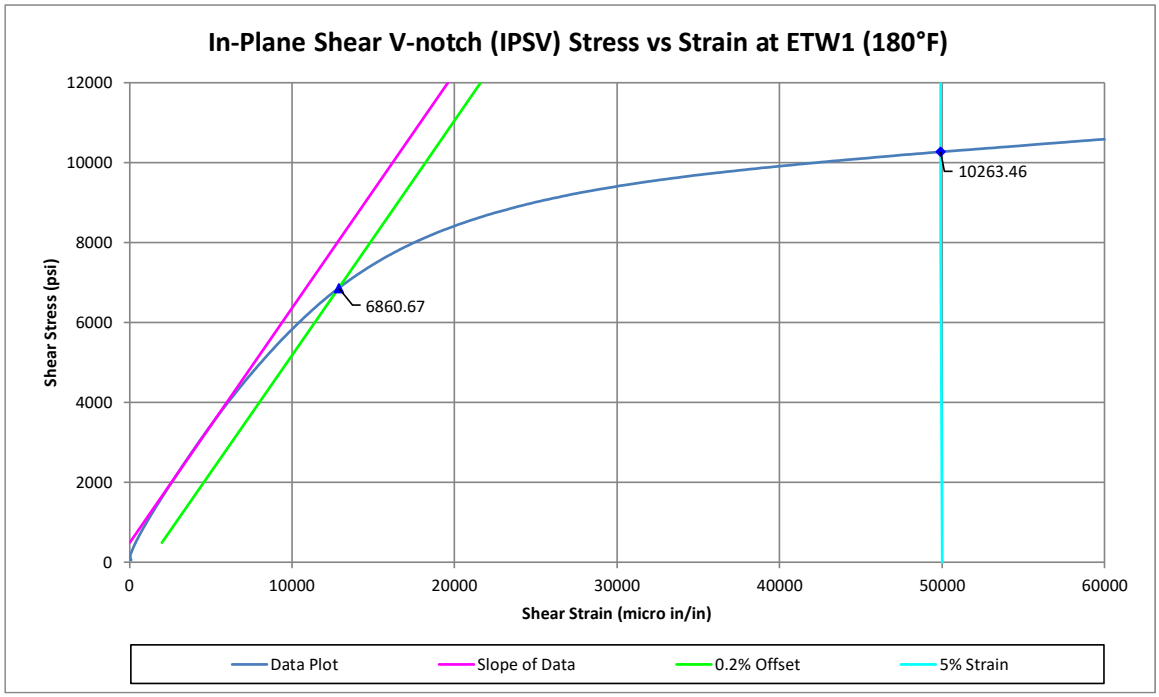
6.7 In-Plane Shear V-notch Properties (IPSV)

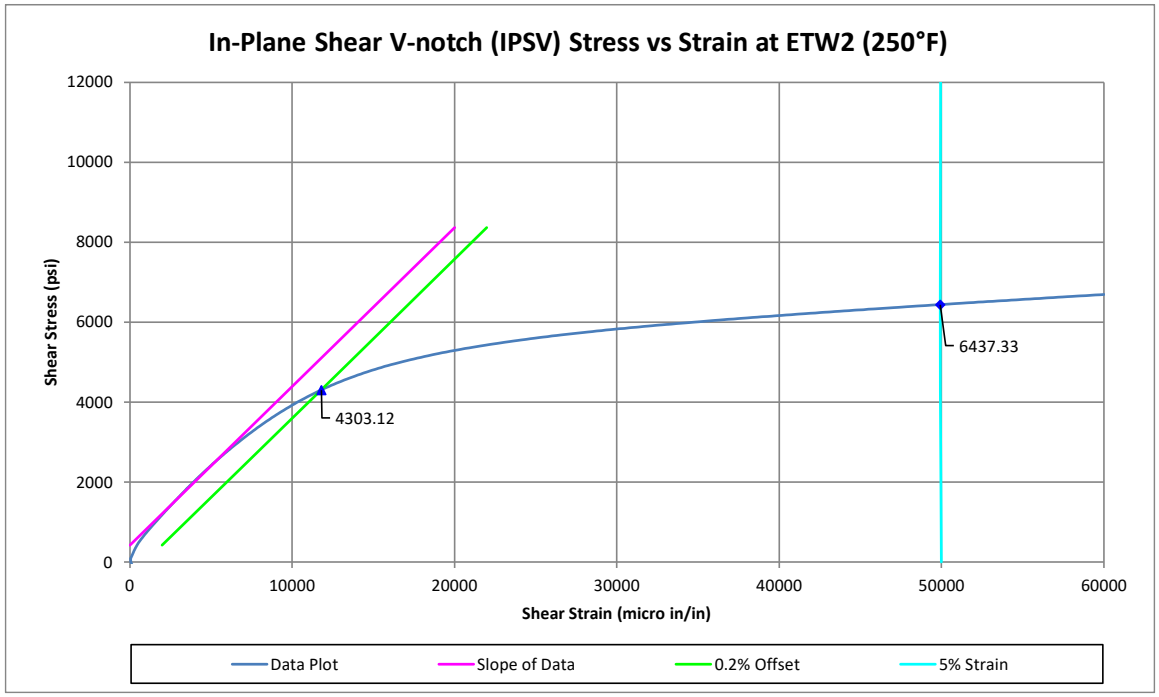




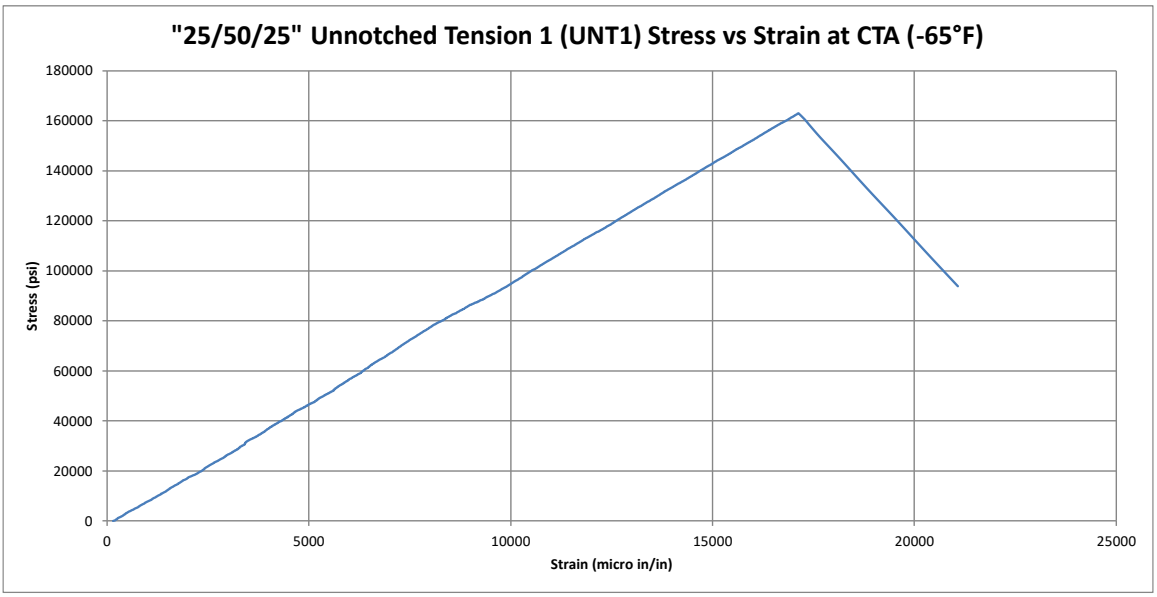

In-Plane Shear V-notch (IPSV) Stress vs Strain at ETA1 (180°F)
Shear Stress (psi)
20000
18000
16000
14000
12000
10000
8000
6000
4000
2000
0
0
10000
20000
30000
40000
50000
60000
Shear Strain (micro in/in)
6533.62
10887.84
Data Plot
Slope of Data
0.2% Offset
5% Strain

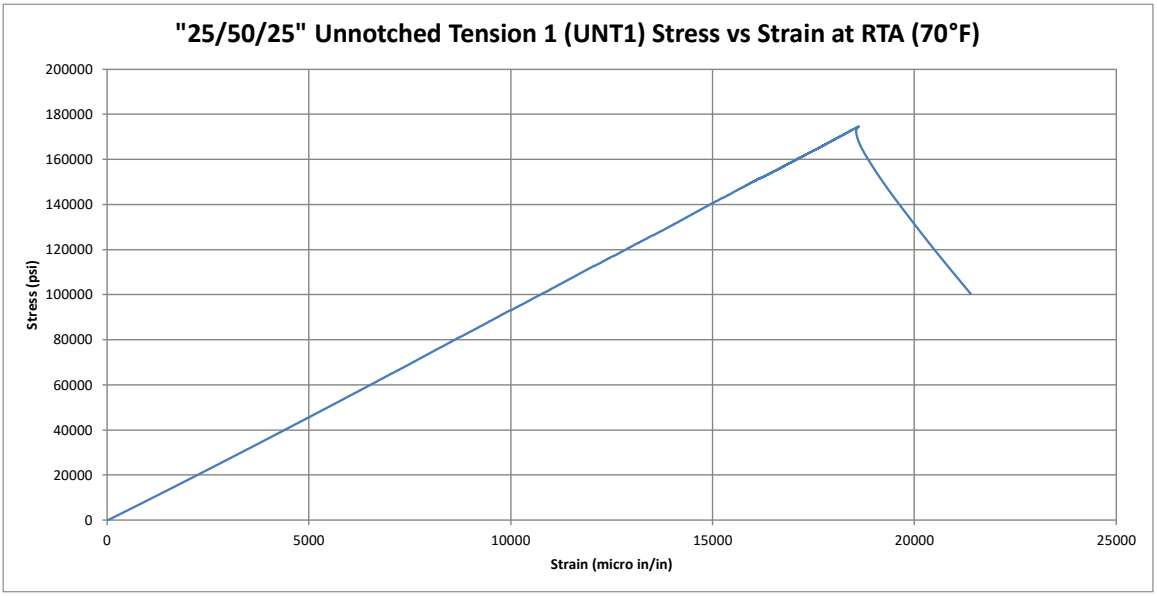

In-Plane Shear V-notch (IPSV) Stress vs Strain at ETA2 (250°F)
Shear Stress (psi)
12000
10000
8000
6000
4000
2000
0
0
10000
20000
30000
40000
50000
60000
Shear Strain (micro in/in)
6725.71
9515.59
Data Plot
Slope of Data
0.2% Offset
5% Strain

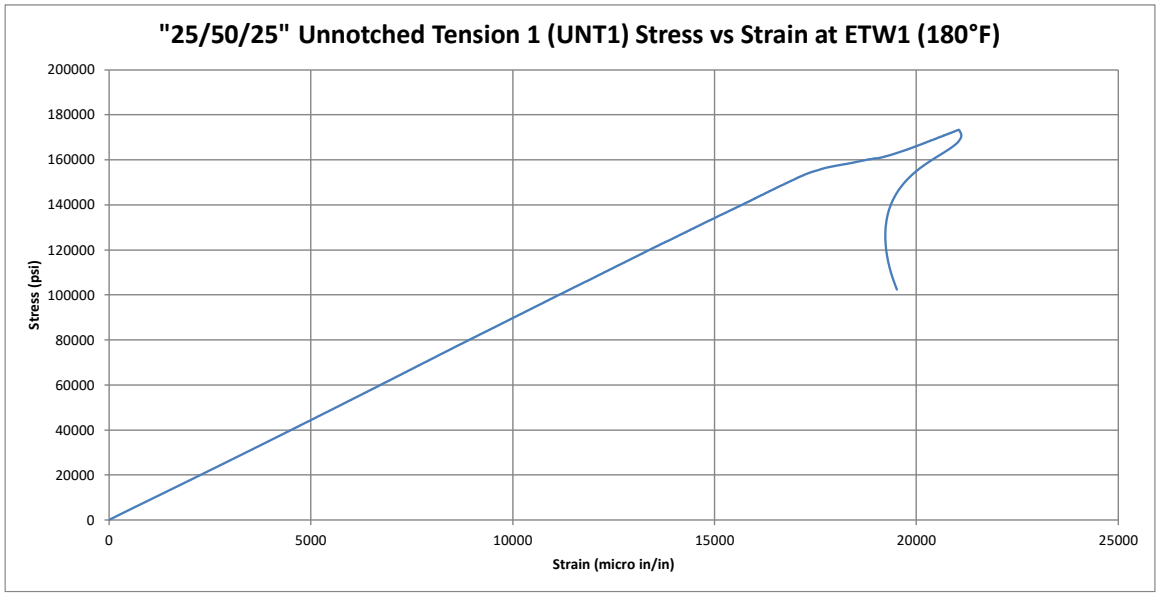

In-Plane Shear V-notch (IPSV) Stress vs Strain at ETW1 (180°F)
Shear Stress (psi)
Shear Strain (micro in/in)
6860.67
10263.46
Data Plot
Slope of Data
0.2% Offset
5% Strain

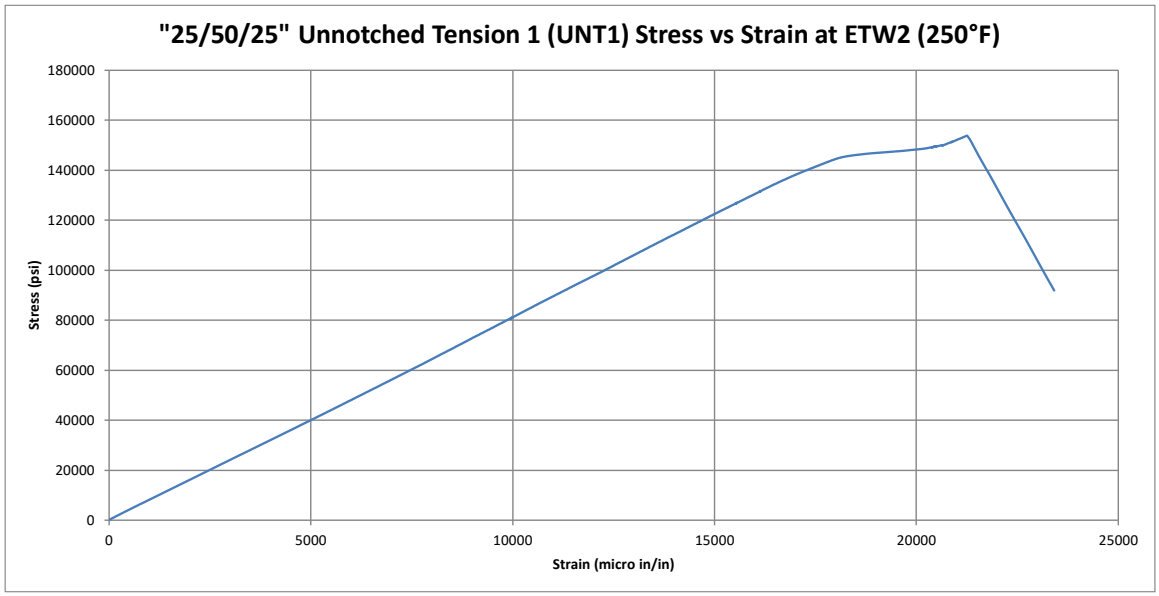

In-Plane Shear V-notch (IPSV) Stress vs Strain at ETW2 (250°F)
Shear Stress (psi)
Shear Strain (micro in/in)
4303.12
6437.33
Data Plot
Slope of Data
0.2% Offset
5% Strain

6.8 “25/50/25” Unnotched Tension 1 Properties (UNT1)

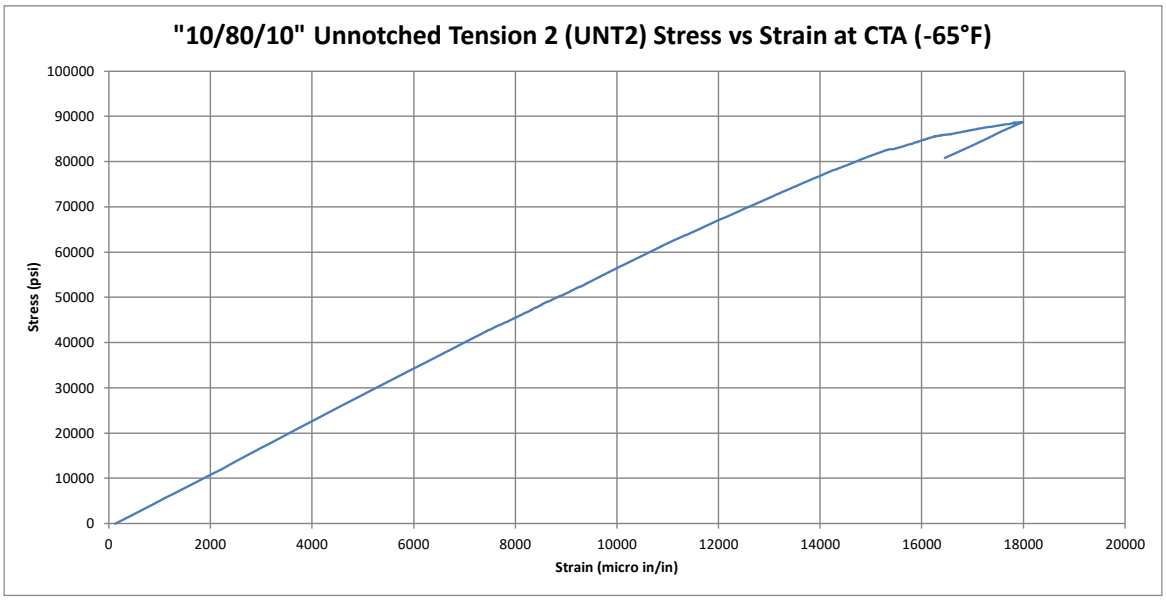


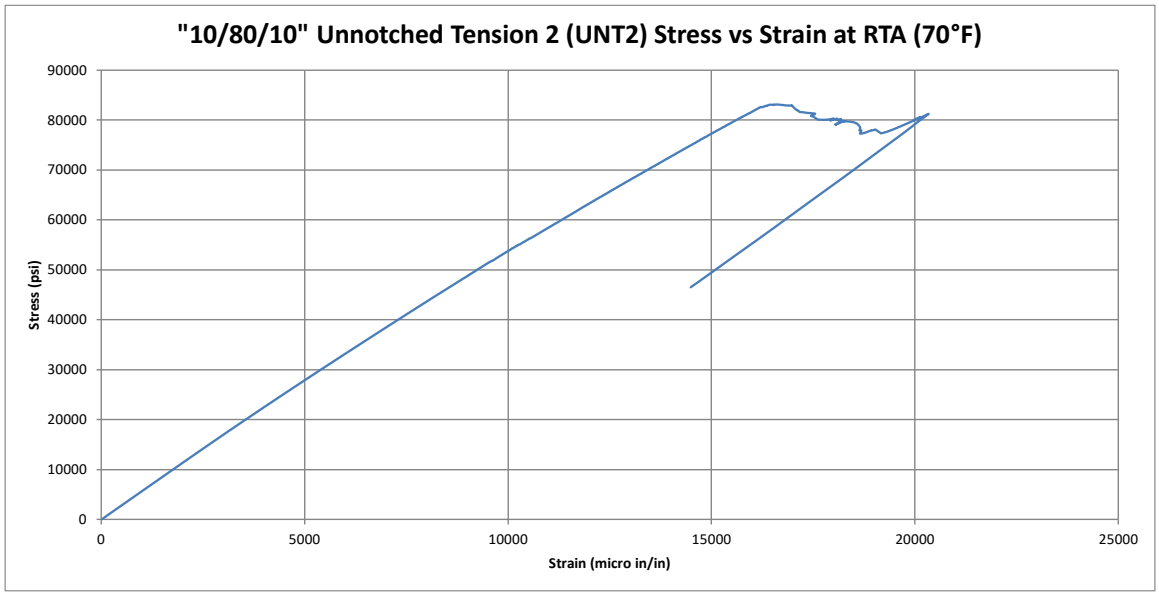


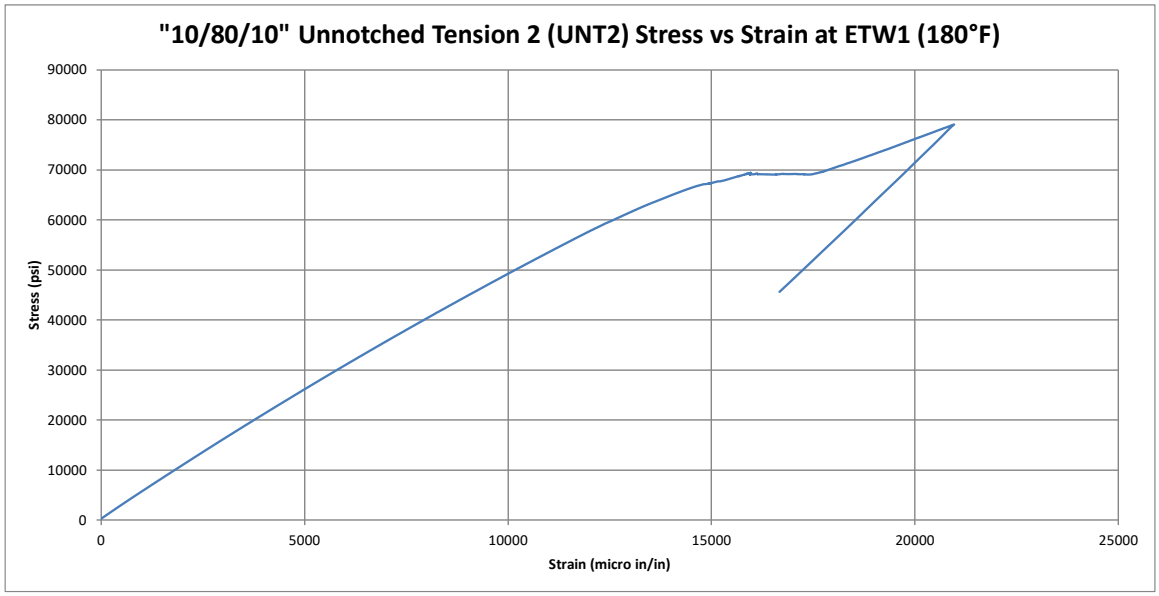

"25/50/25" Unnotched Tension 1 (UNT1) Stress vs Strain at ETW1 (180°F)
Stress (psi)
200000
180000
160000
140000
120000
100000
80000
60000
40000
20000
0
0
5000
10000
15000
20000
25000
Strain (micro in/in)

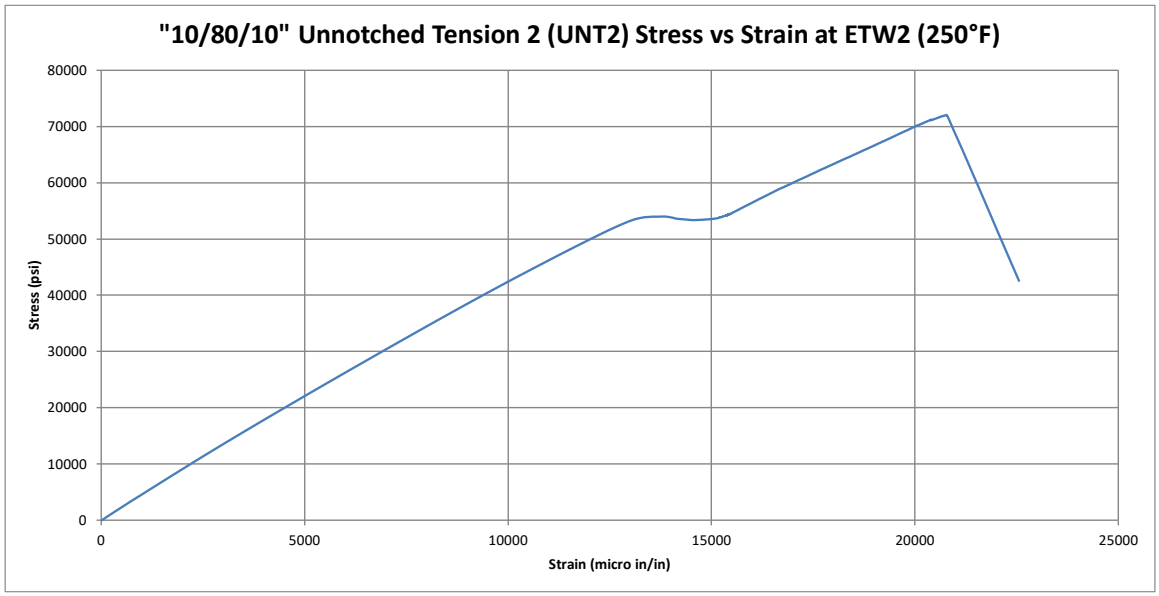

"25/50/25" Unnotched Tension 1 (UNT1) Stress vs Strain at ETW2 (250°F)
Stress (psi)
180000
160000
140000
120000
100000
80000
60000
40000
20000
0
0
5000
10000
15000
20000
25000
Strain (micro in/in)

6.9 “10/80/10” Unnotched Tension 2 Properties (UNT2)

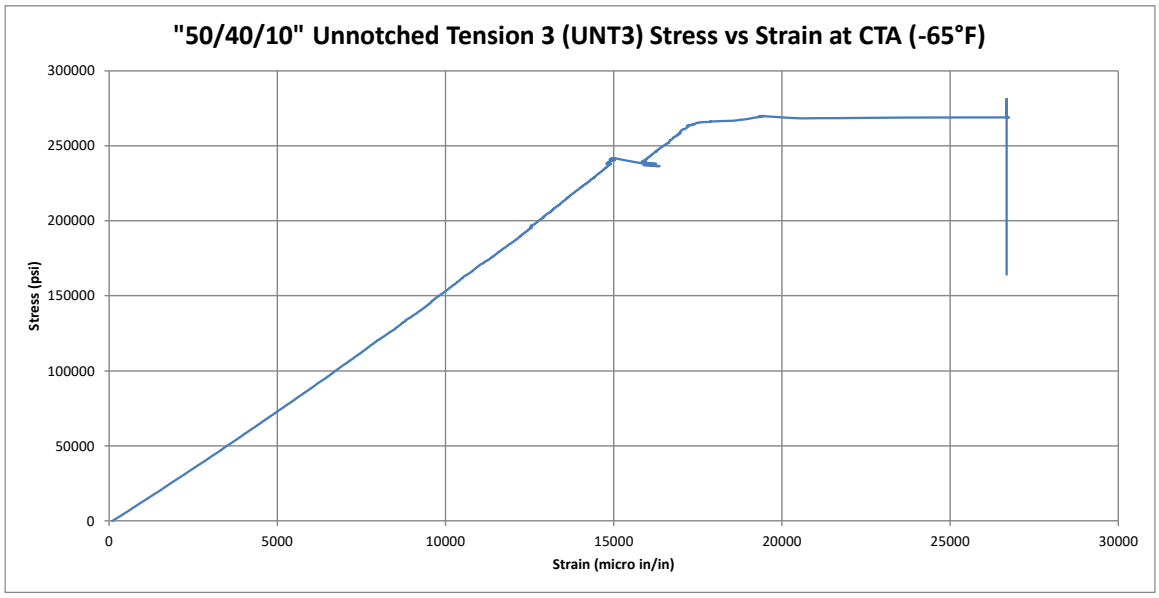


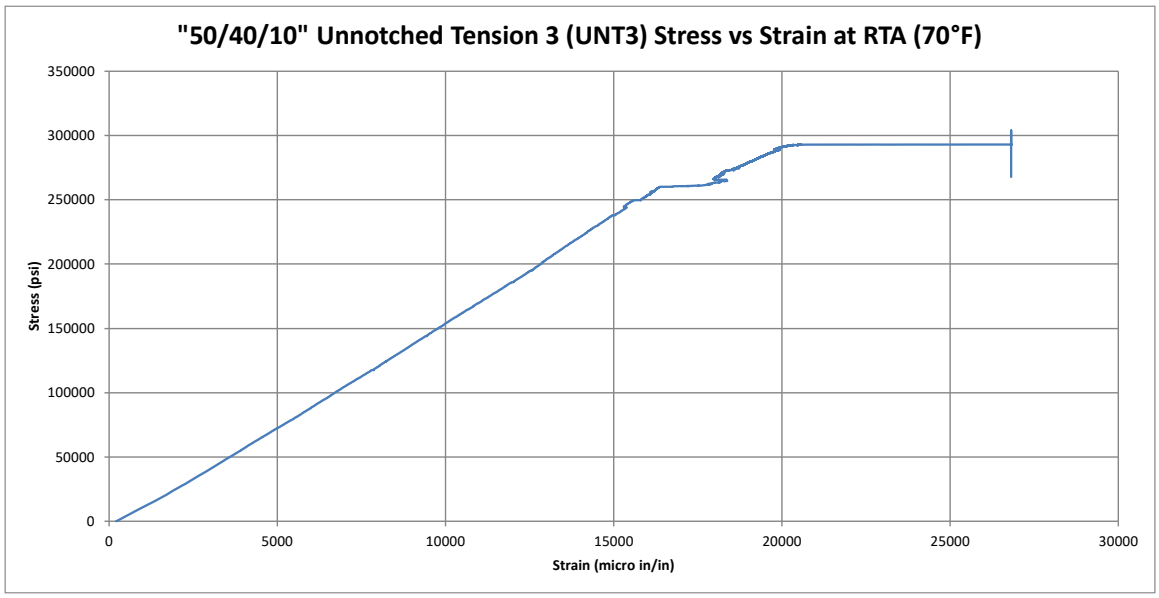


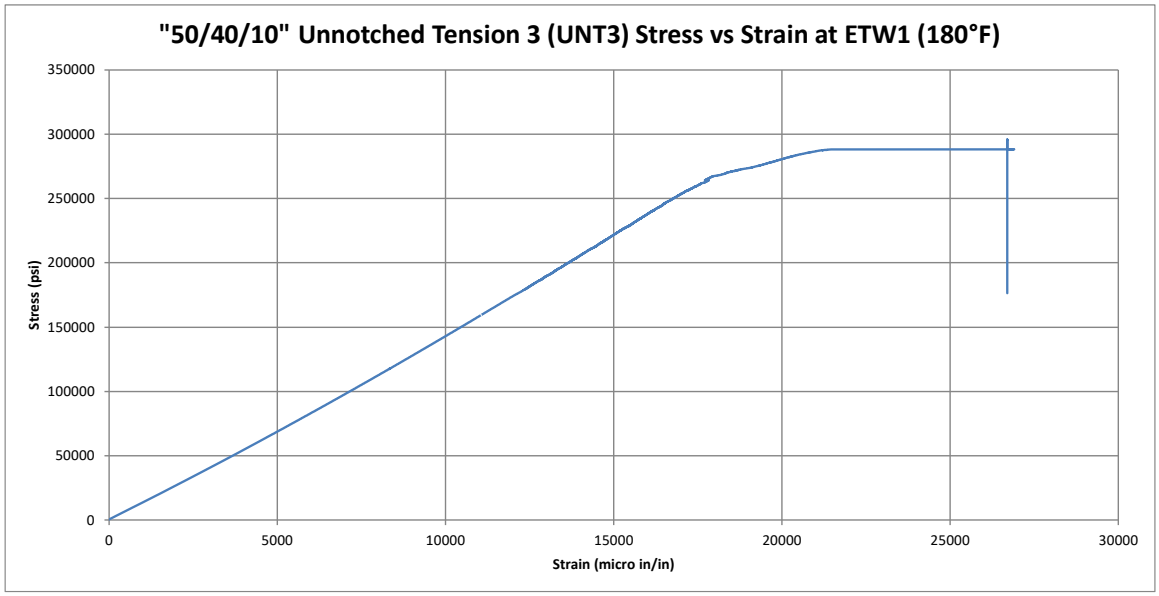

"10/80/10" Unnotched Tension 2 (UNT2) Stress vs Strain at ETW1 (180°F)
Stress (psi)
90000
80000
70000
60000
50000
40000
30000
20000
10000
0
0
5000
10000
15000
20000
25000
Strain (micro in/in)

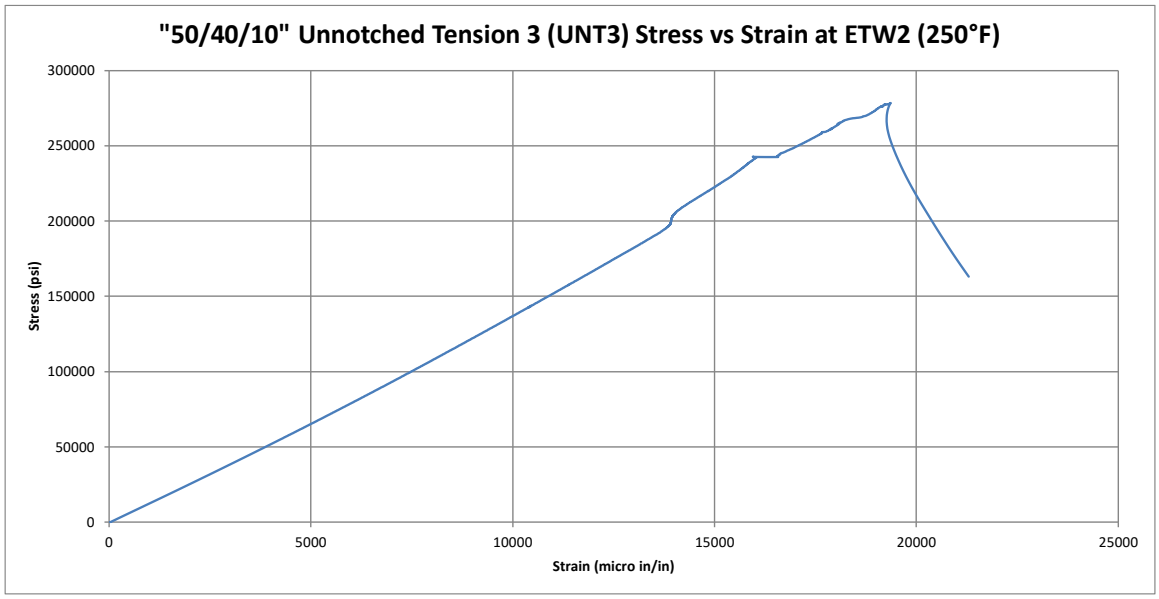

"10/80/10" Unnotched Tension 2 (UNT2) Stress vs Strain at ETW2 (250°F)
Stress (psi)
80000
70000
60000
50000
40000
30000
20000
10000
0
0
5000
10000
15000
20000
25000
Strain (micro in/in)

6.10 “50/40/10” Unnotched Tension 3 Properties (UNT3)

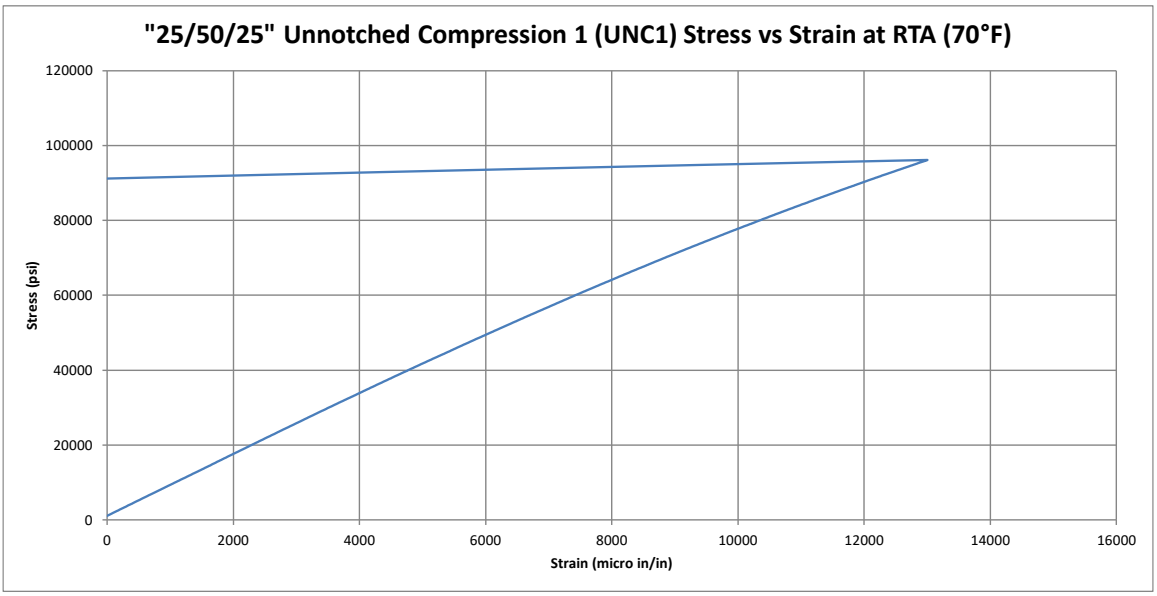


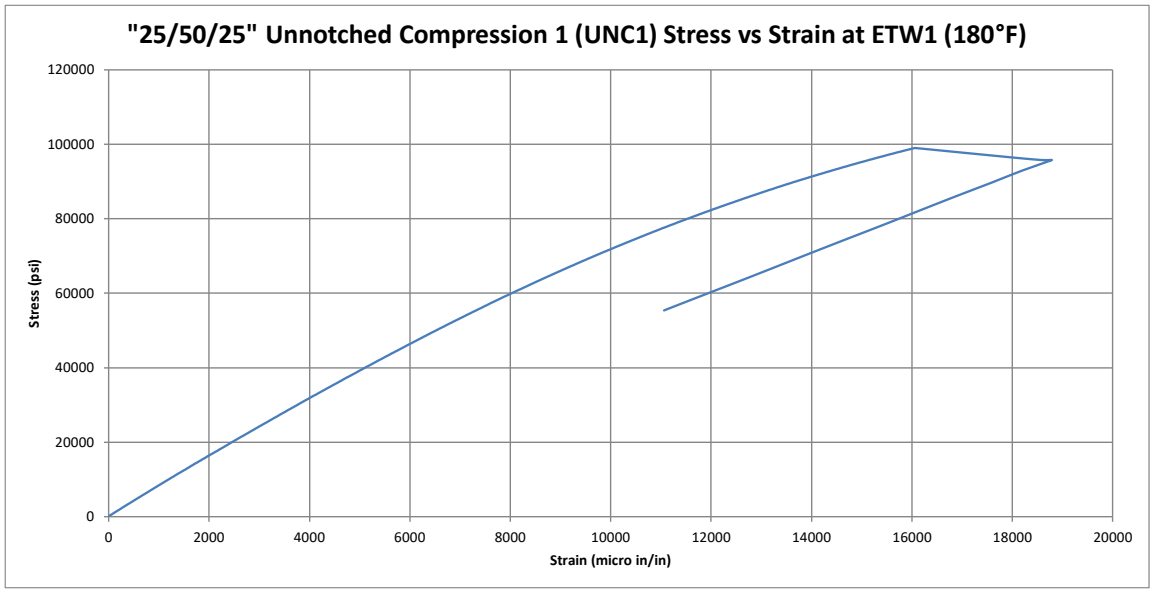


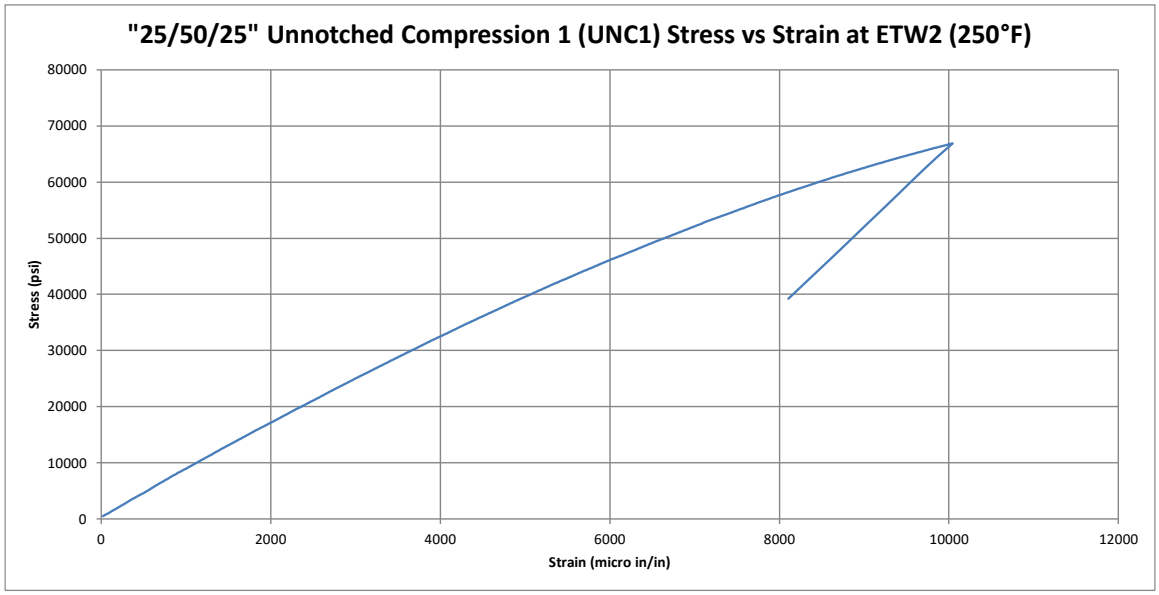

"50/40/10" Unnotched Tension 3 (UNT3) Stress vs Strain at ETW1 (180°F)
Stress (psi)
350000
300000
250000
200000
150000
100000
50000
0
0
5000
10000
15000
20000
25000
30000
Strain (micro in/in)


"50/40/10" Unnotched Tension 3 (UNT3) Stress vs Strain at ETW2 (250°F)
Stress (psi)
300000
250000
200000
150000
100000
50000
0
0
5000
10000
15000
20000
25000
Strain (micro in/in)

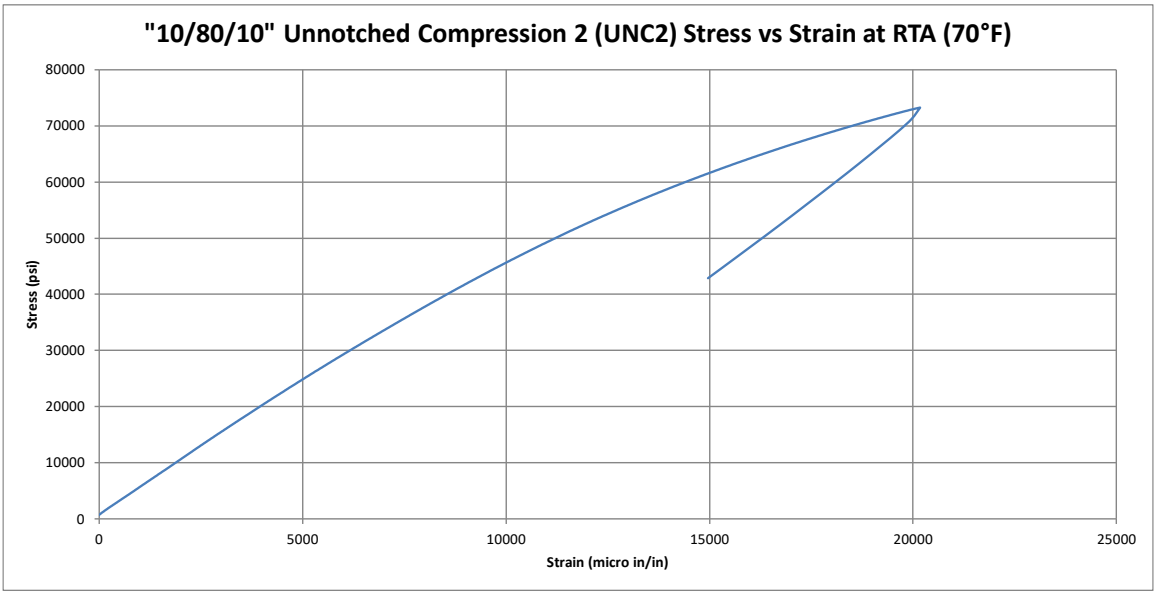
6.11 “25/50/25” Unnotched Compression 1 Properties (UNC1)

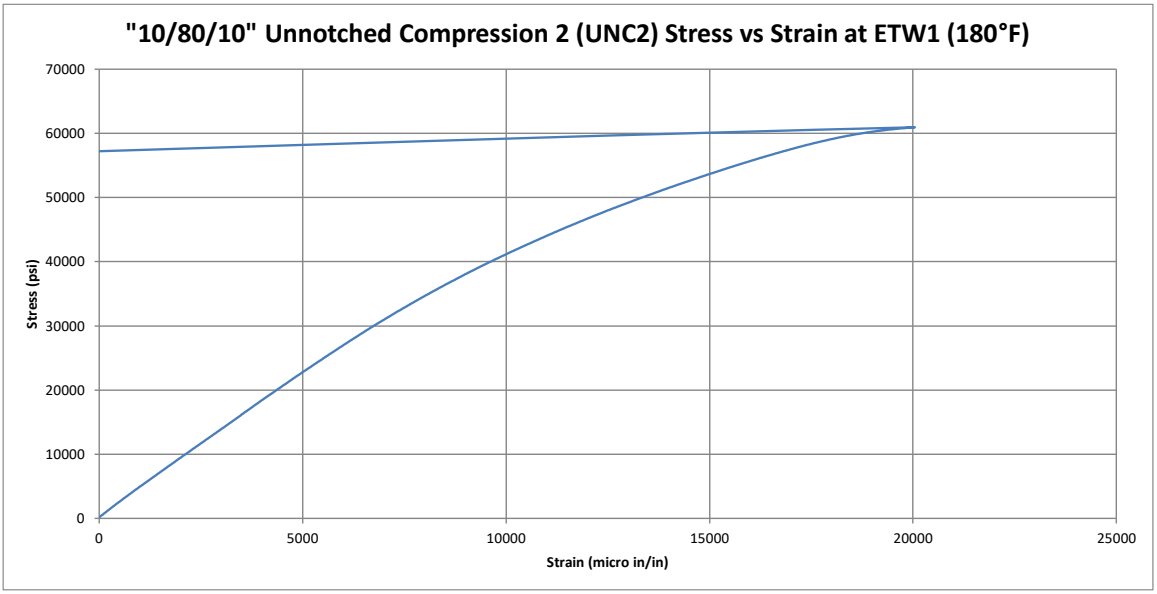


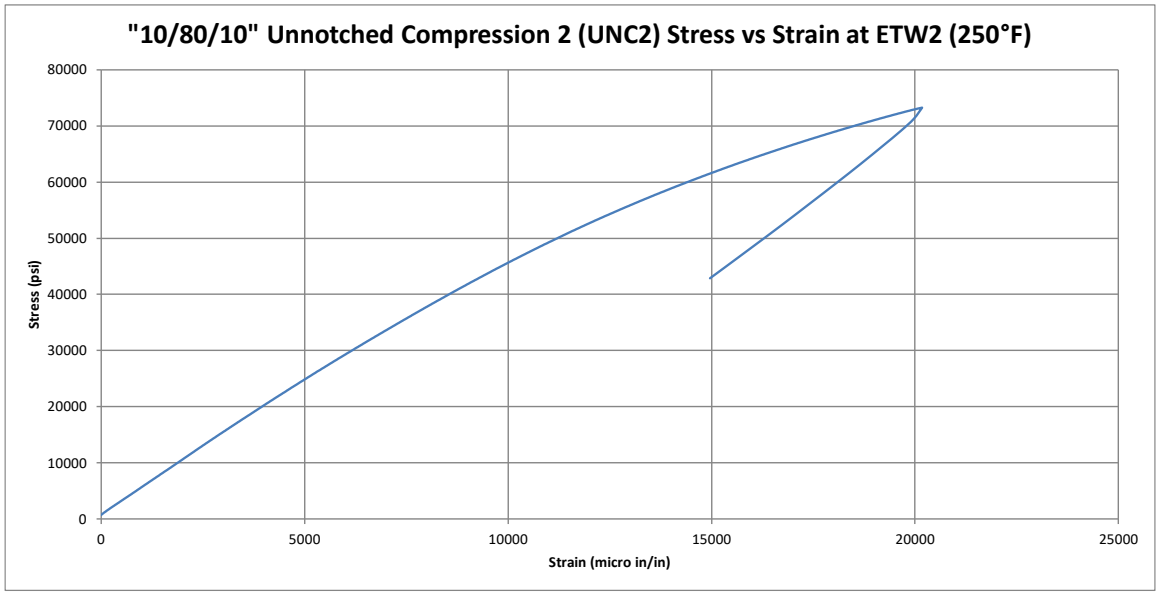



"25/50/25" Unnotched Compression 1 (UNC1) Stress vs Strain at ETW2 (250°F)
Stress (psi)
80000
70000
60000
50000
40000
30000
20000
10000
0
0
2000
4000
6000
8000
10000
12000
Strain (micro in/in)

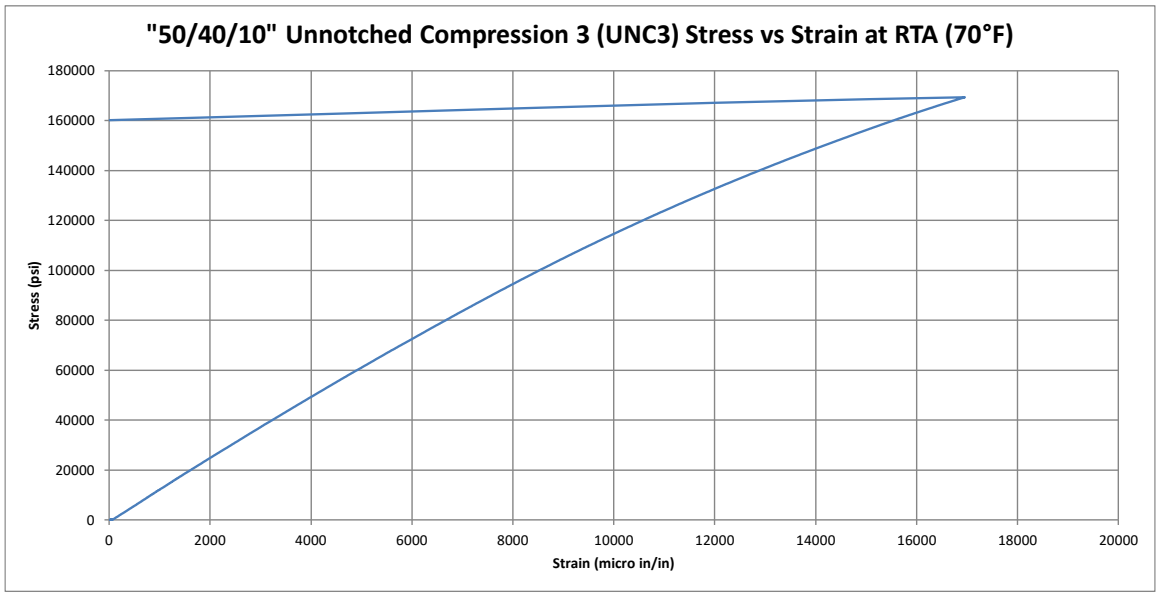
6.12 “10/80/10” Unnotched Compression 2 Properties (UNC2)

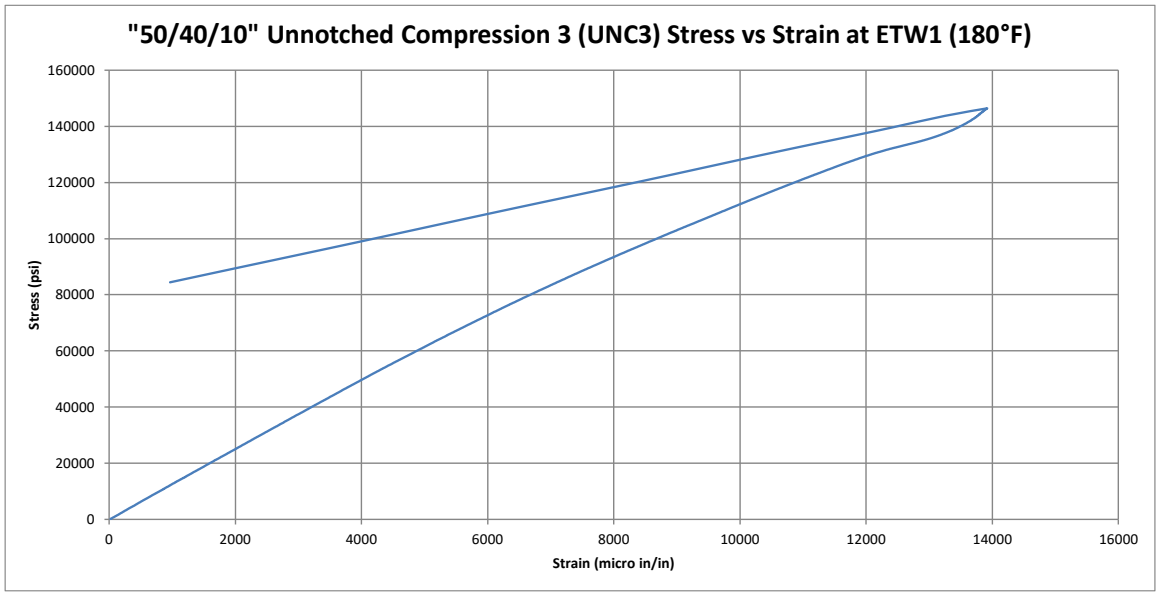


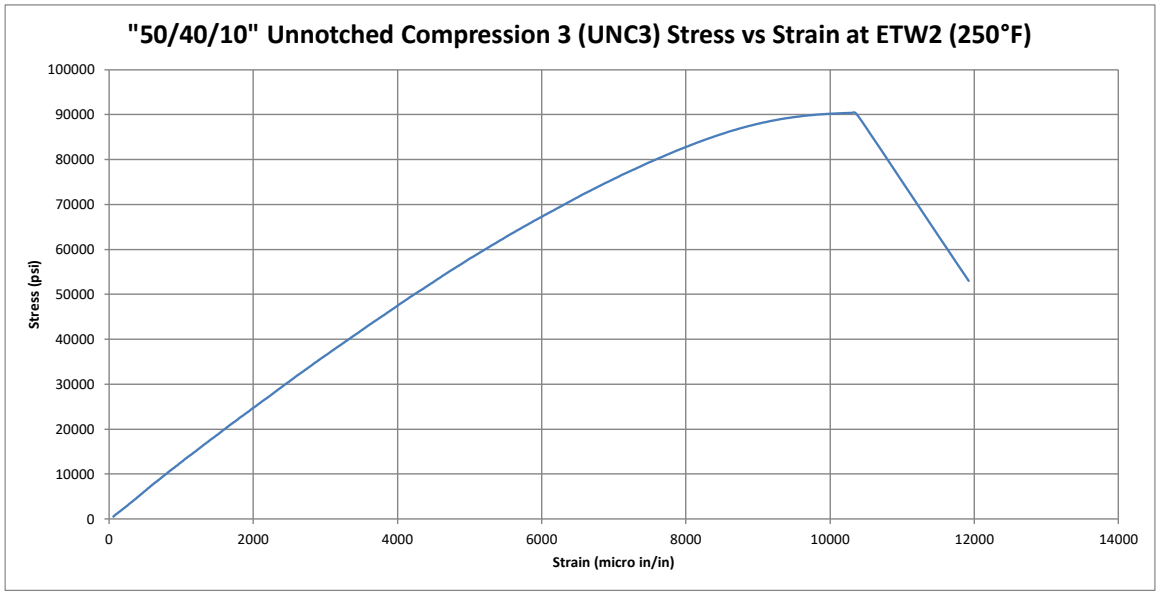



"10/80/10" Unnotched Compression 2 (UNC2) Stress vs Strain at ETW2 (250°F)
Stress (psi)
80000
70000
60000
50000
40000
30000
20000
10000
0
0
5000
10000
15000
20000
25000
Strain (micro in/in)

6.13 “50/40/10” Unnotched Compression 3 Properties (UNC3)



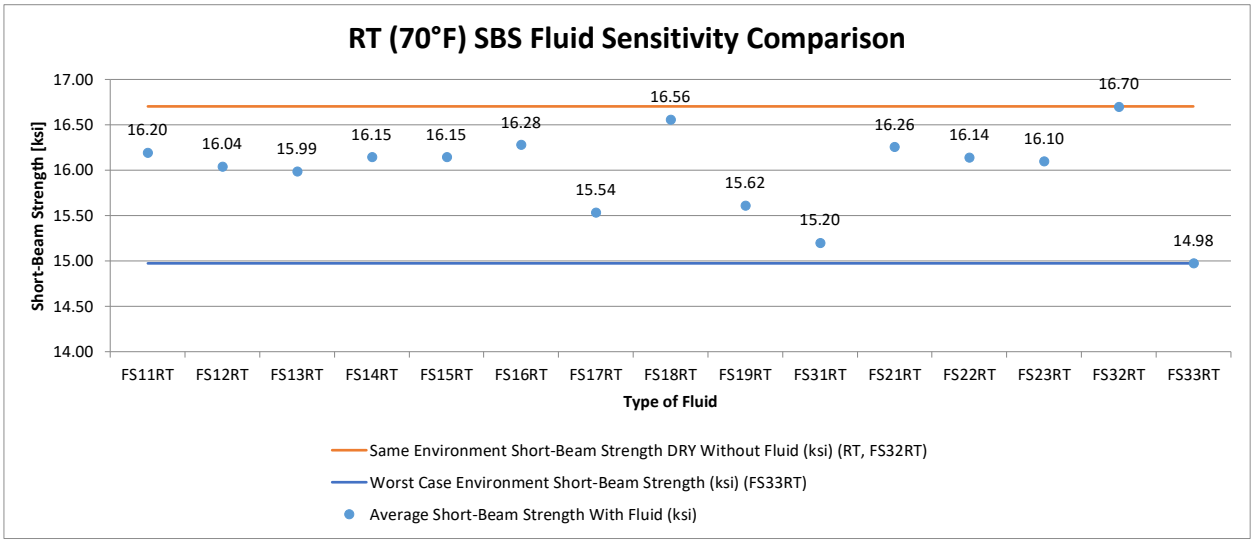


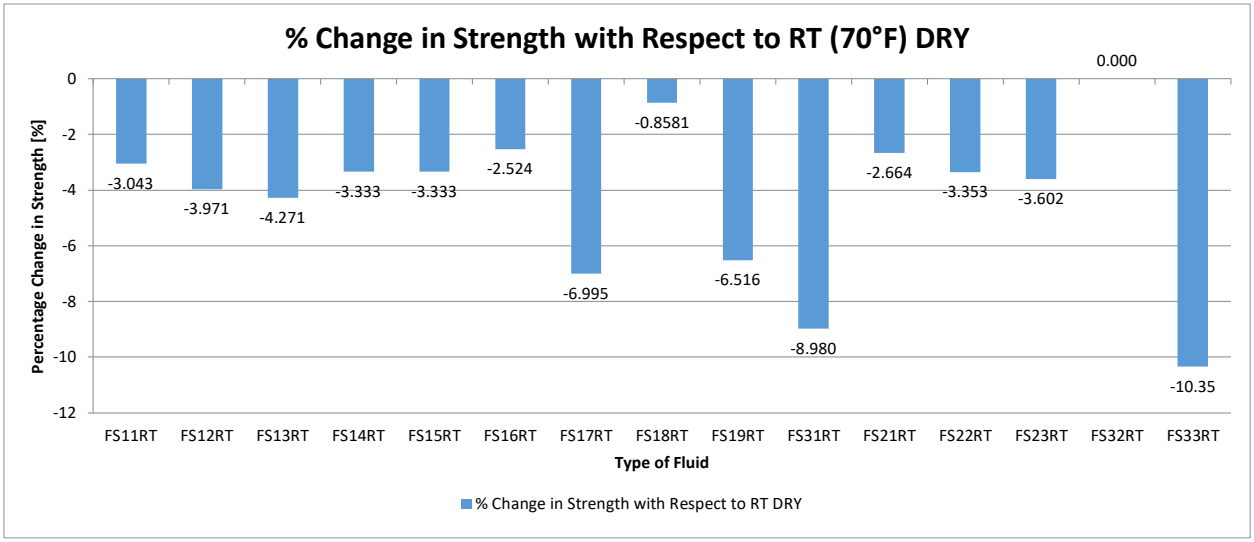

"50/40/10" Unnotched Compression 3 (UNC3) Stress vs Strain at ETW2 (250°F)
Stress (psi)
100000
90000
80000
70000
60000
50000
40000
30000
20000
10000
0
0
2000
4000
6000
8000
10000
12000
14000
Strain (micro in/in)

7. Fluid Sensitivity Comparison

7.1 Room Temperature Test Data

Code	Type of Fluid	Exposure
FS11RT	100 Low Lead Fuel	90 days min @ 70°F ± 10F
FS12RT	Jet A Fuel	
FS13RT	MIL-PRF-5606 Hydraulic Oil	
FS14RT	MIL-PRF-83282 Hydraulic Oil	
FS15RT	MIL-PRF-7808 Engine Oil	
FS16RT	MIL-PRF-23699 Engine Oil	
FS17RT	Salt Water	
FS18RT	Skydrol LD-4	
FS19RT	50% Water w/ 50% Skydrol	
FS31RT	Distilled Water	
FS21RT	MEK washing fluid	90 mins @ 70°F ± 10F
FS22RT	Polypropylene Glycol Deicer	
FS23RT	Isopropyl Alcohol Deicing	48±4 hrs @ 70°F ± 10F
FS32RT	Dry	Per section 6.1 Test Plan
FS33RT	85% Relative Humidity	


RT (70°F) SBS Fluid Sensitivity Comparison
Short-Beam Strength [ksi]
17.00
16.50
16.00
15.50
15.00
14.50
14.00
16.20
16.04
15.99
16.15
16.15
16.28
15.54
16.56
15.62
15.20
16.26
16.14
16.10
16.70
14.98
FS11RT FS12RT FS13RT FS14RT FS15RT FS16RT FS17RT FS18RT FS19RT FS31RT FS21RT FS22RT FS23RT FS32RT FS33RT
Type of Fluid
Same Environment Short-Beam Strength DRY Without Fluid (ksi) (RT, FS32RT)
Worst Case Environment Short-Beam Strength (ksi) (FS33RT)
Average Short-Beam Strength With Fluid (ksi)


% Change in Strength with Respect to RT (70°F) DRY
Percentage Change in Strength [%]
0
-2
-4
-6
-8
-10
-12
-3.043
-3.971
-4.271
-3.333
-3.333
-2.524
-6.995
-0.8581
-6.516
-8.980
-2.664
-3.353
-3.602
0.000
-10.35
FS11RT FS12RT FS13RT FS14RT FS15RT FS16RT FS17RT FS18RT FS19RT FS31RT FS21RT FS22RT FS23RT FS32RT FS33RT
Type of Fluid
% Change in Strength with Respect to RT DRY

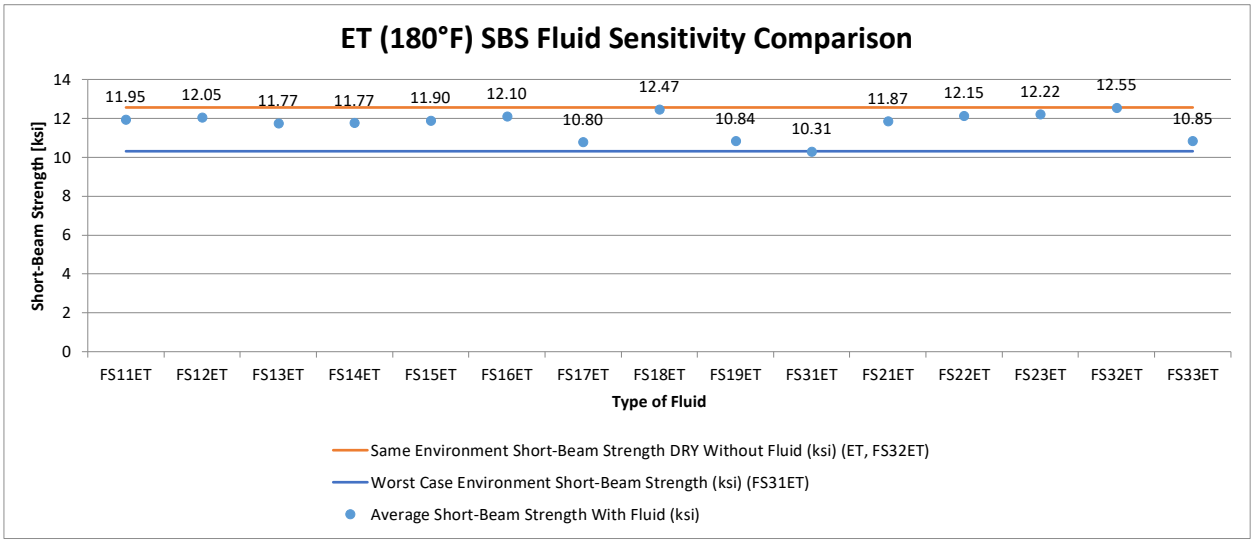
Fluid Sensitivity Screening
Short-Beam Strength Properties (FSSBS)--RT (70°F) Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

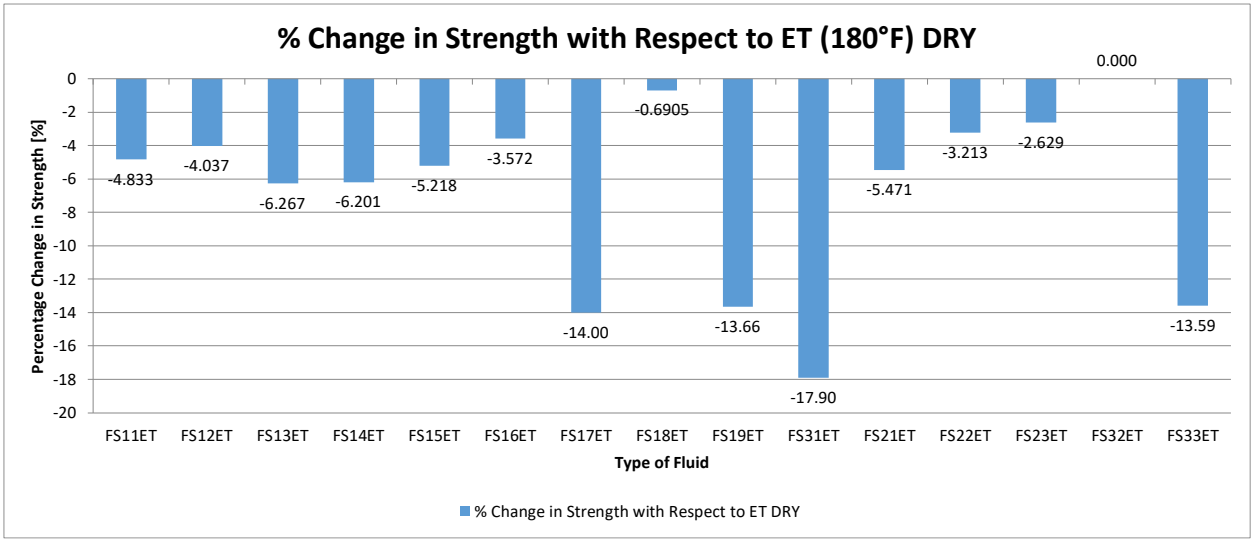
Fluid Code	Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Avg. t_{ply} [in]	Failure Mode	Average Strength [ksi]
FS11RT	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS11RT-1	B	C5	2	5	16.26	0.1024	14	0.007314	Flexure in Compression	16.20
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS11RT-2	B	C5	2	5	16.21	0.1017	14	0.007261	Flexure in Compression	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS11RT-3	B	C5	2	5	16.49	0.1005	14	0.007175	Flexure in Compression	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS11RT-4	B	C5	2	5	16.08	0.1058	14	0.007557	Flexure in Compression	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS11RT-5	B	C5	2	5	16.25	0.1025	14	0.007318	Flexure in Compression	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS11RT-6	B	C5	2	5	15.88	0.1050	14	0.007500	Flexure in Compression	
FS12RT	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS12RT-1	B	C5	2	5	16.01	0.1017	14	0.007264	Flexure in Compression	16.04
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS12RT-2	B	C5	2	5	16.28	0.1011	14	0.007221	Flexure in Compression	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS12RT-3	B	C5	2	5	16.17	0.1037	14	0.007407	Flexure in Compression	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS12RT-4	B	C5	2	5	15.90	0.1045	14	0.007464	Flexure in Compression	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS12RT-5	B	C5	2	5	15.96	0.1039	14	0.007421	Flexure in Compression	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS12RT-6	B	C5	2	5	15.92	0.1069	14	0.007632	Flexure in Compression	
FS13RT	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS13RT-1	B	C5	2	5	16.22	0.1028	14	0.007339	Flexure in Compression	15.99
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS13RT-2	B	C5	2	5	15.91	0.1038	14	0.007414	Flexure in Compression	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS13RT-3	B	C5	2	5	16.18	0.1028	14	0.007343	Flexure in Compression	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS13RT-4	B	C5	2	5	16.05	0.1024	14	0.007314	Flexure in Compression	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS13RT-5	B	C5	2	5	15.99	0.1016	14	0.007254	Flexure in Compression	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS13RT-6	B	C5	2	5	15.59	0.1057	14	0.007546	Flexure in Compression	
FS14RT	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS14RT-1	B	C5	2	5	15.96	0.1021	14	0.007293	Flexure in Compression	16.15
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS14RT-2	B	C5	2	5	16.21	0.1021	14	0.007289	Flexure in Compression	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS14RT-3	B	C5	2	5	16.33	0.1036	14	0.007400	Flexure in Compression	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS14RT-4	B	C5	2	5	16.17	0.1043	14	0.007446	Flexure in Compression	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS14RT-5	B	C5	2	5	16.00	0.1035	14	0.007393	Flexure in Compression	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS14RT-7	B	C5	2	5	16.21	0.1034	14	0.007382	Flexure in Compression	
FS15RT	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS15RT-1	B	C5	2	5	16.02	0.1032	14	0.007368	Flexure in Compression	16.15
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS15RT-2	B	C5	2	5	16.14	0.1026	14	0.007325	Flexure in Compression	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS15RT-3	B	C5	2	5	16.25	0.1049	14	0.007493	Flexure in Compression	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS15RT-4	B	C5	2	5	16.38	0.1020	14	0.007282	Flexure in Compression	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS15RT-5	B	C5	2	5	15.94	0.1025	14	0.007318	Flexure in Compression	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS15RT-6	B	C5	2	5	16.15	0.1020	14	0.007282	Flexure in Compression	
FS16RT	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS16RT-1	B	C5	2	5	16.09	0.1044	14	0.007454	Flexure in Compression	16.28
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS16RT-2	B	C5	2	5	16.50	0.1014	14	0.007243	Flexure in Compression	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS16RT-3	B	C5	2	5	16.42	0.0998	14	0.007129	Flexure in Compression	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS16RT-4	B	C5	2	5	16.10	0.1032	14	0.007371	Flexure in Compression	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS16RT-5	B	C5	2	5	16.54	0.1013	14	0.007236	Flexure in Compression	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS16RT-6	B	C5	2	5	16.04	0.1019	14	0.007275	Flexure in Compression	
FS17RT	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS17RT-1	B	C5	2	5	15.75	0.1028	14	0.007343	Flexure in Compression	15.54
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS17RT-2	B	C5	2	5	15.42	0.1009	14	0.007207	Flexure in Compression	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS17RT-3	B	C5	2	5	15.33	0.1040	14	0.007425	Flexure in Compression	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS17RT-4	B	C5	2	5	15.66	0.1034	14	0.007382	Flexure in Compression	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS17RT-5	B	C5	2	5	15.69	0.1031	14	0.007364	Flexure in Compression	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS17RT-6	B	C5	2	5	15.36	0.1031	14	0.007364	Flexure in Compression	
FS18RT	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS18RT-1	B	C5	2	5	16.37	0.1030	14	0.007357	Flexure in Compression	16.56
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS18RT-2	B	C5	2	5	16.63	0.1015	14	0.007250	Flexure in Compression	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS18RT-3	B	C5	2	5	16.74	0.1026	14	0.007329	Flexure in Compression	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS18RT-4	B	C5	2	5	16.80	0.1004	14	0.007171	Flexure in Compression	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS18RT-5	B	C5	2	5	16.48	0.1034	14	0.007386	Flexure in Compression	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS18RT-6	B	C5	2	5	16.34	0.1061	14	0.007579	Flexure in Compression	
FS19RT	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS19RT-1	B	C5	2	5	15.80	0.1009	14	0.007204	Flexure in Compression	15.62
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS19RT-2	B	C5	2	5	15.50	0.1005	14	0.007179	Flexure in Compression	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS19RT-3	B	C5	2	5	15.60	0.1018	14	0.007271	Flexure in Compression	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS19RT-4	B	C5	2	5	15.51	0.1011	14	0.007218	Flexure in Compression	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS19RT-5	B	C5	2	5	15.63	0.1015	14	0.007246	Flexure in Compression	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS19RT-6	B	C5	2	5	15.65	0.1014	14	0.007243	Flexure in Compression	
FS31RT	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS31RT-1	B	C5	2	5	15.20	0.1044	14	0.007454	Flexure in Compression	15.20
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS31RT-2	B	C5	2	5	14.99	0.1037	14	0.007407	Flexure in Compression	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS31RT-3	B	C5	2	5	15.34	0.1005	14	0.007175	Flexure in Compression	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS31RT-4	B	C5	2	5	15.49	0.1007	14	0.007189	Flexure in Compression	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS31RT-5	B	C5	2	5	15.09	0.1045	14	0.007461	Flexure in Compression	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS31RT-6	B	C5	2	5	15.11	0.1032	14	0.007368	Flexure in Compression	
FS21RT	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS21RT-1	B	C5	2	5	16.08	0.1017	14	0.007264	Inelastic Deformation	16.26
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS21RT-2	B	C5	2	5	16.34	0.1005	14	0.007179	Inelastic Deformation	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS21RT-3	B	C5	2	5	16.20	0.1032	14	0.007368	Inelastic Deformation	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS21RT-4	B	C5	2	5	16.40	0.1014	14	0.007239	Inelastic Deformation	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS21RT-5	B	C5	2	5	16.03	0.1047	14	0.007475	Inelastic Deformation	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS21RT-6	B	C5	2	5	16.50	0.1029	14	0.007346	Inelastic Deformation	
FS22RT	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS22RT-1	B	C5	2	5	16.24	0.09990	14	0.007136	Inelastic Deformation	16.14
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS22RT-2	B	C5	2	5	16.27	0.1025	14	0.007321	Inelastic Deformation	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS22RT-3	B	C5	2	5	15.95	0.1030	14	0.007357	Inelastic Deformation	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS22RT-4	B	C5	2	5	16.12	0.1034	14	0.007382	Inelastic Deformation	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS22RT-5	B	C5	2	5	16.33	0.1028	14	0.007343	Inelastic Deformation	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS22RT-6	B	C5	2	5	15.95	0.1044	14	0.007457	Inelastic Deformation	
FS23RT	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS23RT-1	B	C5	2	5	16.05	0.1070	14	0.007639	Inelastic Deformation	16.10
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS23RT-2	B	C5	2	5	16.25	0.1039	14	0.007418	Inelastic Deformation	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS23RT-3	B	C5	2	5	16.12	0.1037	14	0.007404	Inelastic Deformation	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS23RT-4	B	C5	2	5	16.11	0.1025	14	0.007318	Inelastic Deformation	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS23RT-5	B	C5	2	5	16.24	0.1021	14	0.007289	Inelastic Deformation	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS23RT-6	B	C5	2	5	15.84	0.1024	14	0.007314	Inelastic Deformation	
FS32RT	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS33ET-1*	B	C5	2	5	16.44	0.1039	14	0.007418	Inelastic Deformation	16.70
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS33ET-2*	B	C5	2	5	16.53	0.1024	14	0.007311	Inelastic Deformation	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS33ET-3*	B	C5	2	5	16.64	0.1024	14	0.007311	Inelastic Deformation	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS33ET-4*	B	C5	2	5	16.89	0.1022	14	0.007300	Inelastic Deformation	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS33ET-5*	B	C5	2	5	16.69	0.1036	14	0.007400	Inelastic Deformation	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS33ET-6*	B	C5	2	5	17.03	0.1034	14	0.007386	Inelastic Deformation	
FS33RT	NTP3961Q1-TC-T01-BT-SBSFS-B-C5-3-FS33RT-19	B	C5	2	5	15.15	0.1041	14	0.007432	Flexure in Compression	14.98
	NTP3961Q1-TC-T01-BT-SBSFS-B-C5-3-FS33RT-20	B	C5	2	5	15.23	0.1048	14	0.007482	Flexure in Compression	
	NTP3961Q1-TC-T01-BT-SBSFS-B-C5-3-FS33RT-21	B	C5	2	5	14.84	0.1077	14	0.007689	Flexure in Compression	
	NTP3961Q1-TC-T01-BT-SBSFS-B-C5-3-FS33RT-22	B	C5	2	5	14.77	0.1075	14	0.007675	Flexure in Compression	
	NTP3961Q1-TC-T01-BT-SBSFS-B-C5-3-FS33RT-23	B	C5	2	5	15.06	0.1055	14	0.007532	Flexure in Compression	
	NTP3961Q1-TC-T01-BT-SBSFS-B-C5-3-FS33RT-24	B	C5	2	5	14.80	0.1043	14	0.007446	Flexure in Compression	

*Tested ETD 180°F/wet specimens as RTD 70°F/dry for FS32RT

7.2 Elevated Temperature Test Data

Code	Type of Fluid	Exposure
FS11ET	100 Low lead Fuel	90 days min @ 70°F ± 10F
FS12ET	Jet A Fuel	
FS13ET	MIL-PRF-5606 Hydraulic Oil	
FS14ET	MIL-PRF-83282 Hydraulic Oil	
FS15ET	MIL-PRF-7808 Engine Oil	
FS16ET	MIL-PRF-23699 Engine Oil	
FS17ET	Salt Water	
FS18ET	Skydrol LD-4	
FS19ET	50% Water w/ 50% Skydrol	
FS31ET	Distilled Water	
FS21ET	MEK washing fluid	90 mins @ 70°F ± 10F
FS22ET	Polypropylene Glycol Deicer	
FS23ET	Isopropyl Alcohol Deicing	48±4 hrs @ 70°F ± 10F
FS32ET	Dry	Per section 6.1 Test Plan
FS33ET	85% Relative Humidity	


ET (180°F) SBS Fluid Sensitivity Comparison
Short-Beam Strength [ksi]
14
12
10
8
6
4
2
0
11.95
12.05
11.77
11.77
11.90
12.10
10.80
12.47
10.84
10.31
11.87
12.15
12.22
12.55
10.85
FS11ET
FS12ET
FS13ET
FS14ET
FS15ET
FS16ET
FS17ET
FS18ET
FS19ET
FS31ET
FS21ET
FS22ET
FS23ET
FS32ET
FS33ET
Type of Fluid
Same Environment Short-Beam Strength DRY Without Fluid (ksi) (ET, FS32ET)
Worst Case Environment Short-Beam Strength (ksi) (FS31ET)
Average Short-Beam Strength With Fluid (ksi)

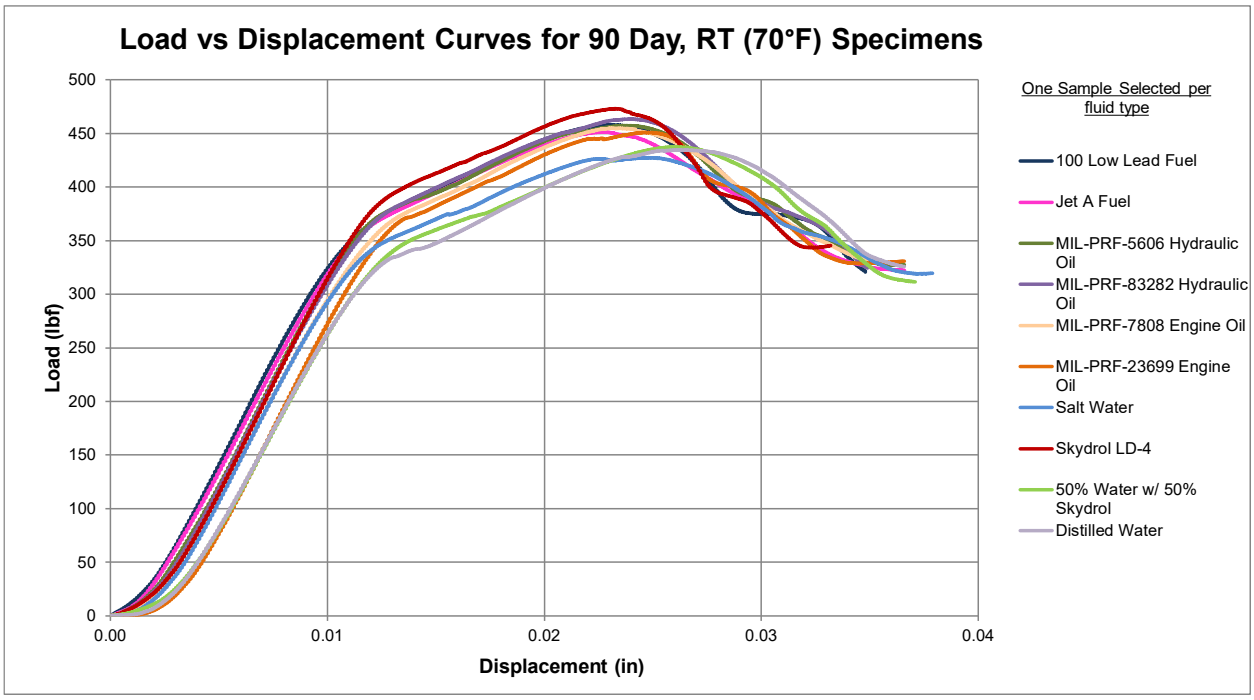

% Change in Strength with Respect to ET (180°F) DRY
Percentage Change in Strength [%]
0
-2
-4
-6
-8
-10
-12
-14
-16
-18
-20
-4.833
-4.037
-6.267
-6.201
-5.218
-3.572
-14.00
-0.6905
-13.66
-17.90
-5.471
-3.213
-2.629
0.000
-13.59
FS11ET
FS12ET
FS13ET
FS14ET
FS15ET
FS16ET
FS17ET
FS18ET
FS19ET
FS31ET
FS21ET
FS22ET
FS23ET
FS32ET
FS33ET
Type of Fluid
% Change in Strength with Respect to ET DRY

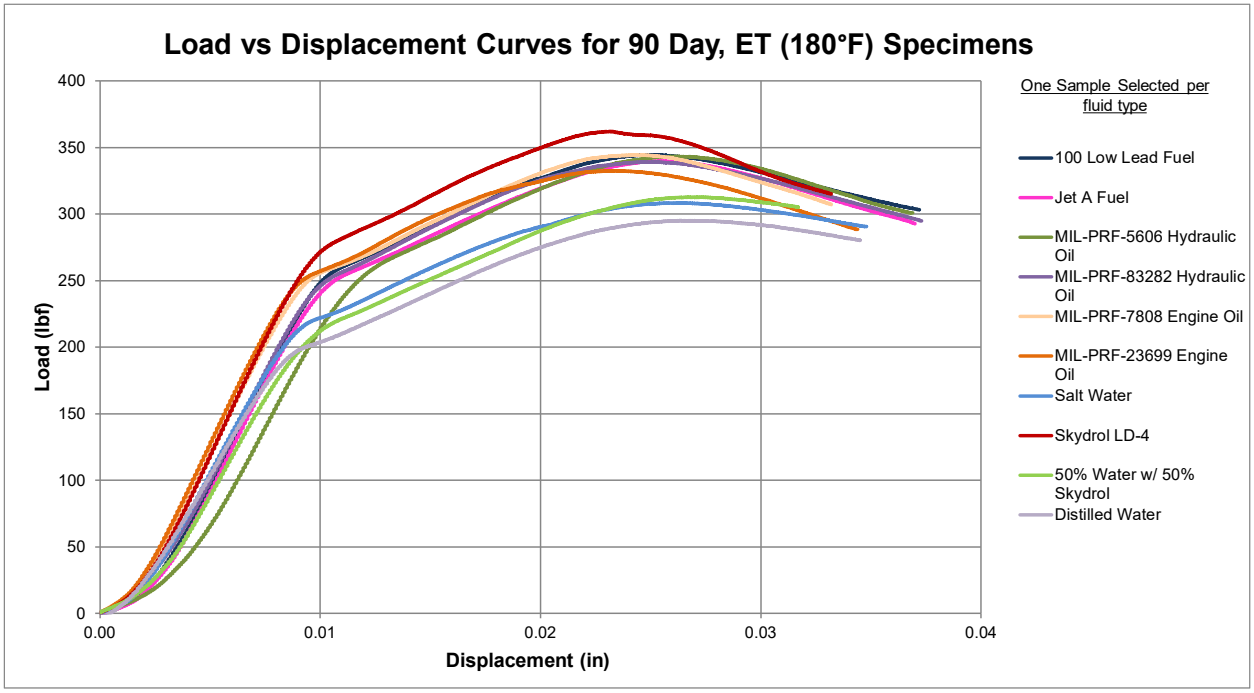
Fluid Sensitivity Screening
Short-Beam Strength Properties (FSSBS)--ET (180°F) Strength
Toray 3960/T1100GC 71E Gr 192 RC 33.5% 24K Unidirectional Prepreg

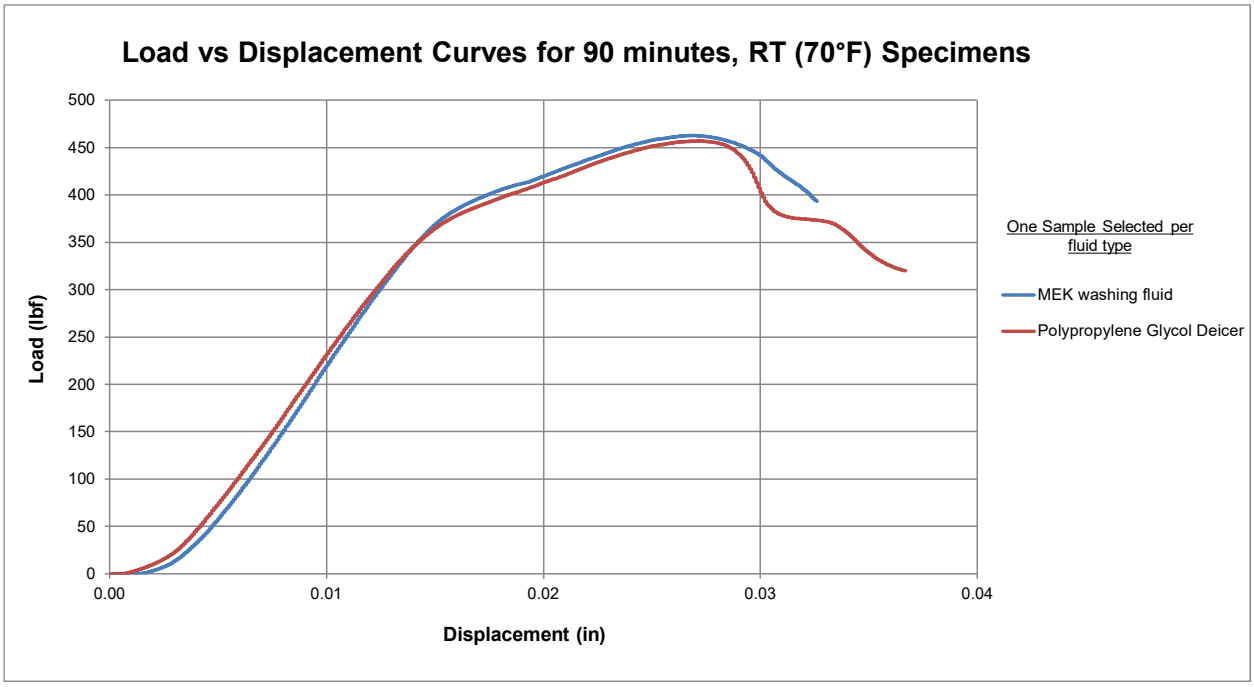
Fluid Code	Specimen Number	Toray Batch #	Toray Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Avg. t_{ply} [in]	Failure Mode	Average Strength [ksi]
FS11ET	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS11ET-1	B	C5	2	5	11.75	0.1031	14	0.007361	Flexure in Compression	11.95
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS11ET-2	B	C5	2	5	12.29	0.1003	14	0.007161	Flexure in Compression	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS11ET-3	B	C5	2	5	12.52	0.1003	14	0.007161	Flexure in Compression	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS11ET-4	B	C5	2	5	11.78	0.1025	14	0.007321	Flexure in Compression	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS11ET-5	B	C5	2	5	11.54	0.1063	14	0.007593	Flexure in Compression	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS11ET-6	B	C5	2	5	11.79	0.1037	14	0.007407	Flexure in Compression	
FS12ET	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS12ET-1	B	C5	2	5	12.07	0.1038	14	0.007411	Flexure in Compression	12.05
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS12ET-2	B	C5	2	5	12.02	0.1041	14	0.007436	Flexure in Compression	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS12ET-3	B	C5	2	5	12.00	0.1027	14	0.007332	Flexure in Compression	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS12ET-4	B	C5	2	5	11.99	0.1015	14	0.007246	Flexure in Compression	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS12ET-5	B	C5	2	5	11.87	0.1030	14	0.007357	Flexure in Compression	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS12ET-6	B	C5	2	5	12.32	0.1003	14	0.007161	Flexure in Compression	
FS13ET	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS13ET-1	B	C5	2	5	11.84	0.1051	14	0.007507	Flexure in Compression	11.77
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS13ET-2	B	C5	2	5	11.62	0.1054	14	0.007529	Flexure in Compression	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS13ET-3	B	C5	2	5	11.71	0.1033	14	0.007379	Flexure in Compression	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS13ET-4	B	C5	2	5	12.08	0.1018	14	0.007268	Flexure in Compression	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS13ET-5	B	C5	2	5	11.83	0.1010	14	0.007211	Flexure in Compression	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS13ET-6	B	C5	2	5	11.51	0.1037	14	0.007407	Flexure in Compression	
FS14ET	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS14ET-1	B	C5	2	5	11.98	0.1016	14	0.007257	Flexure in Compression	11.77
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS14ET-2	B	C5	2	5	11.53	0.1066	14	0.007614	Flexure in Compression	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS14ET-3	B	C5	2	5	11.81	0.1036	14	0.007396	Flexure in Compression	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS14ET-4	B	C5	2	5	11.74	0.1037	14	0.007407	Flexure in Compression	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS14ET-5	B	C5	2	5	11.72	0.1026	14	0.007329	Flexure in Compression	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS14ET-6	B	C5	2	5	11.86	0.1044	14	0.007457	Flexure in Compression	
FS15ET	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS15ET-1	B	C5	2	5	12.44	0.1011	14	0.007221	Flexure in Compression	11.90
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS15ET-2	B	C5	2	5	12.01	0.1043	14	0.007446	Flexure in Compression	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS15ET-3	B	C5	2	5	11.59	0.1033	14	0.007375	Flexure in Compression	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS15ET-4	B	C5	2	5	11.68	0.1037	14	0.007404	Flexure in Compression	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS15ET-5	B	C5	2	5	11.97	0.1010	14	0.007214	Flexure in Compression	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS15ET-6	B	C5	2	5	11.69	0.1067	14	0.007618	Flexure in Compression	
FS16ET	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS16ET-1	B	C5	2	5	12.09	0.09985	14	0.007132	Flexure in Compression	12.10
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS16ET-2	B	C5	2	5	11.83	0.1041	14	0.007436	Flexure in Compression	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS16ET-3	B	C5	2	5	12.33	0.1033	14	0.007375	Flexure in Compression	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS16ET-4	B	C5	2	5	12.21	0.1015	14	0.007246	Flexure in Compression	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS16ET-5	B	C5	2	5	12.21	0.1058	14	0.007557	Flexure in Compression	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS16ET-6	B	C5	2	5	11.95	0.1020	14	0.007286	Flexure in Compression	
FS17ET	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS17ET-1	B	C5	2	5	10.81	0.1025	14	0.007321	Flexure in Compression	10.80
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS17ET-2	B	C5	2	5	10.74	0.1038	14	0.007411	Flexure in Compression	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS17ET-3	B	C5	2	5	10.88	0.1047	14	0.007475	Flexure in Compression	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS17ET-4	B	C5	2	5	10.90	0.1021	14	0.007293	Flexure in Compression	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS17ET-5	B	C5	2	5	10.65	0.1016	14	0.007254	Flexure in Compression	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS17ET-6	B	C5	2	5	10.79	0.1039	14	0.007418	Flexure in Compression	
FS18ET	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS18ET-1	B	C5	2	5	12.72	0.1028	14	0.007343	Flexure in Compression	12.47
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS18ET-2	B	C5	2	5	12.32	0.1035	14	0.007393	Flexure in Compression	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS18ET-3	B	C5	2	5	12.22	0.1046	14	0.007471	Flexure in Compression	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS18ET-4	B	C5	2	5	12.28	0.1031	14	0.007361	Flexure in Compression	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS18ET-5	B	C5	2	5	12.55	0.1015	14	0.007250	Flexure in Compression	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS18ET-6	B	C5	2	5	12.70	0.1034	14	0.007382	Flexure in Compression	
FS19ET	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS19ET-1	B	C5	2	5	10.94	0.1041	14	0.007432	Flexure in Compression	10.84
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS19ET-2	B	C5	2	5	10.67	0.1038	14	0.007414	Flexure in Compression	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS19ET-3	B	C5	2	5	10.76	0.1034	14	0.007386	Flexure in Compression	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS19ET-4	B	C5	2	5	10.66	0.1051	14	0.007507	Flexure in Compression	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS19ET-5	B	C5	2	5	11.05	0.1009	14	0.007204	Flexure in Compression	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS19ET-6	B	C5	2	5	10.94	0.1036	14	0.007396	Flexure in Compression	
FS31ET	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS31ET-1	B	C5	2	5	10.37	0.1039	14	0.007421	Flexure in Compression	10.31
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS31ET-2	B	C5	2	5	10.31	0.1025	14	0.007318	Flexure in Compression	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS31ET-3	B	C5	2	5	10.33	0.1050	14	0.007500	Flexure in Compression	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS31ET-4	B	C5	2	5	10.19	0.1066	14	0.007611	Flexure in Compression	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS31ET-5	B	C5	2	5	10.40	0.1035	14	0.007393	Flexure in Compression	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS31ET-6	B	C5	2	5	10.23	0.1049	14	0.007489	Flexure in Compression	
FS21ET	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS21ET-1	B	C5	2	5	11.90	0.1036	14	0.007396	Flexure in Compression	11.87
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS21ET-2	B	C5	2	5	11.84	0.1037	14	0.007407	Flexure in Compression	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS21ET-3	B	C5	2	5	12.13	0.1038	14	0.007414	Flexure in Compression	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS21ET-4	B	C5	2	5	11.84	0.1028	14	0.007343	Flexure in Compression	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS21ET-5	B	C5	2	5	11.78	0.1055	14	0.007532	Flexure in Compression	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS21ET-6	B	C5	2	5	11.70	0.1025	14	0.007318	Flexure in Compression	
FS22ET	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS22ET-1	B	C5	2	5	12.11	0.1017	14	0.007264	Flexure in Compression	12.15
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS22ET-2	B	C5	2	5	12.38	0.1000	14	0.007143	Flexure in Compression	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS22ET-3	B	C5	2	5	12.19	0.1035	14	0.007389	Flexure in Compression	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS22ET-4	B	C5	2	5	12.12	0.1034	14	0.007382	Flexure in Compression	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS22ET-5	B	C5	2	5	11.99	0.1023	14	0.007307	Flexure in Compression	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS22ET-6	B	C5	2	5	12.10	0.1030	14	0.007354	Flexure in Compression	
FS23ET	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS23ET-1	B	C5	2	5	12.64	0.1030	14	0.007357	Inelastic Deformation	12.22
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS23ET-2	B	C5	2	5	12.08	0.1042	14	0.007439	Inelastic Deformation	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS23ET-3	B	C5	2	5	12.29	0.1012	14	0.007229	Inelastic Deformation	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS23ET-4	B	C5	2	5	11.92	0.1021	14	0.007289	Inelastic Deformation	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS23ET-5	B	C5	2	5	12.17	0.1044	14	0.007457	Inelastic Deformation	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS23ET-6	B	C5	2	5	12.23	0.1022	14	0.007296	Inelastic Deformation	
FS32ET	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS32RT-1*	B	C5	2	5	12.71	0.1029	14	0.007350	Inelastic Deformation	12.55
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS32RT-2*	B	C5	2	5	12.50	0.1024	14	0.007311	Inelastic Deformation	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS32RT-3*	B	C5	2	5	12.47	0.1046	14	0.007471	Inelastic Deformation	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS32RT-4*	B	C5	2	5	12.58	0.1027	14	0.007336	Inelastic Deformation	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS32RT-5*	B	C5	2	5	12.52	0.1013	14	0.007236	Inelastic Deformation	
	NTP3961Q1-TC-T01-BT-SBSF-B-C5-3-SBSFS32RT-6*	B	C5	2	5	12.53	0.1042	14	0.007443	Inelastic Deformation	
FS33ET**	NTP3961Q1-TC-T01-TC-SBS-B-C5-2-ETW1-1	B	C5	2	5	10.83	0.1046	14	0.007468	Flexure in Compression	10.85
	NTP3961Q1-TC-T01-TC-SBS-B-C5-2-ETW1-2	B	C5	2	5	10.81	0.1052	14	0.007511	Flexure in Compression	
	NTP3961Q1-TC-T01-TC-SBS-B-C5-2-ETW1-4	B	C5	2	5	10.96	0.1040	14	0.007425	Flexure in Compression	
	NTP3961Q1-TC-T01-TC-SBS-B-C5-2-ETW1-5	B	C5	2	5	10.87	0.1026	14	0.007325	Flexure in Compression	
	NTP3961Q1-TC-T01-TC-SBS-B-C5-2-ETW1-6	B	C5	2	5	10.88	0.1025	14	0.007318	Flexure in Compression	
	NTP3961Q1-TC-T01-TC-SBS-B-C5-2-ETW1-7	B	C5	2	5	10.56	0.1020	14	0.007282	Flexure in Compression	
	NTP3961Q1-TC-T01-TC-SBS-B-C6-1-ETW1-1	B	C6	2	6	10.89	0.1026	14	0.007329	Flexure in Compression	
	NTP3961Q1-TC-T01-TC-SBS-B-C6-1-ETW1-2	B	C6	2	6	10.90	0.1031	14	0.007364	Flexure in Compression	
	NTP3961Q1-TC-T01-TC-SBS-B-C6-1-ETW1-3	B	C6	2	6	10.77	0.1034	14	0.007382	Flexure in Compression	
	NTP3961Q1-TC-T01-TC-SBS-B-C6-1-ETW1-4	B	C6	2	6	11.07	0.1007	14	0.007193	Flexure in Compression	
	NTP3961Q1-TC-T01-TC-SBS-B-C6-1-ETW1-5	B	C6	2	6	10.81	0.1002	14	0.007157	Flexure in Compression	
	NTP3961Q1-TC-T01-TC-SBS-B-C6-1-ETW1-6	B	C6	2	6	10.80	0.1039	14	0.007421	Flexure in Compression	

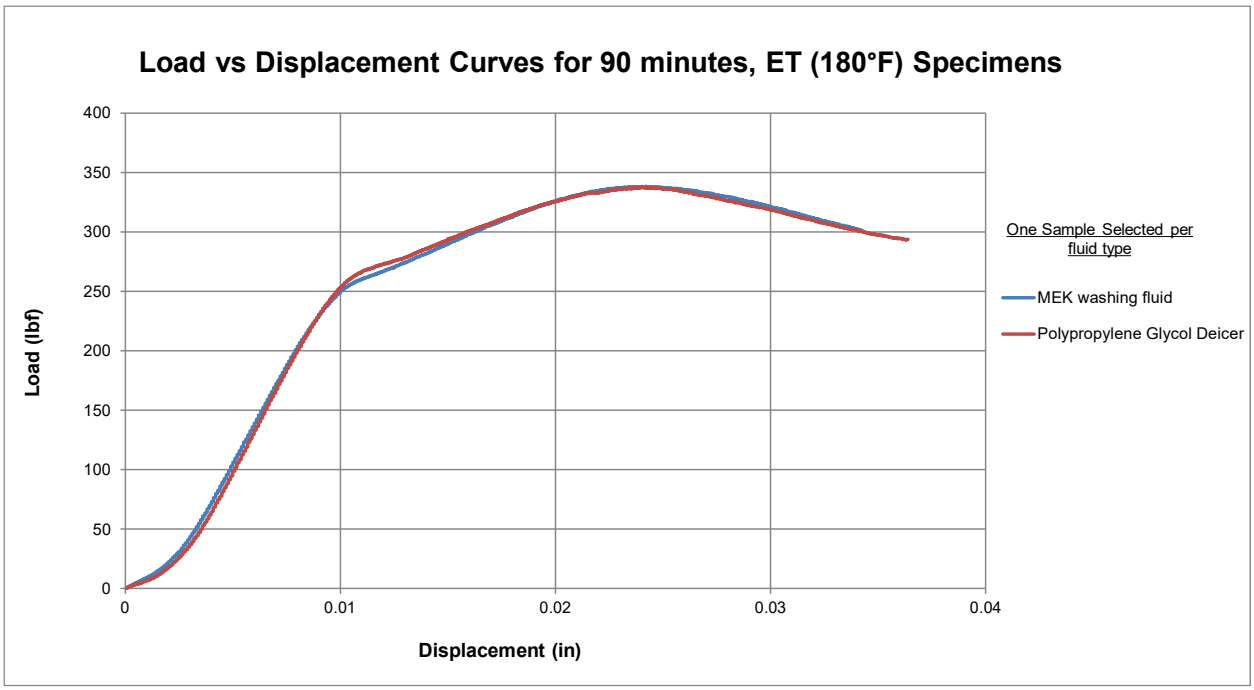
*Tested RTD 70°F/dry specimens as ETD 180°F/dry
**Data sourced from SBS ETW1 per Table 1-4

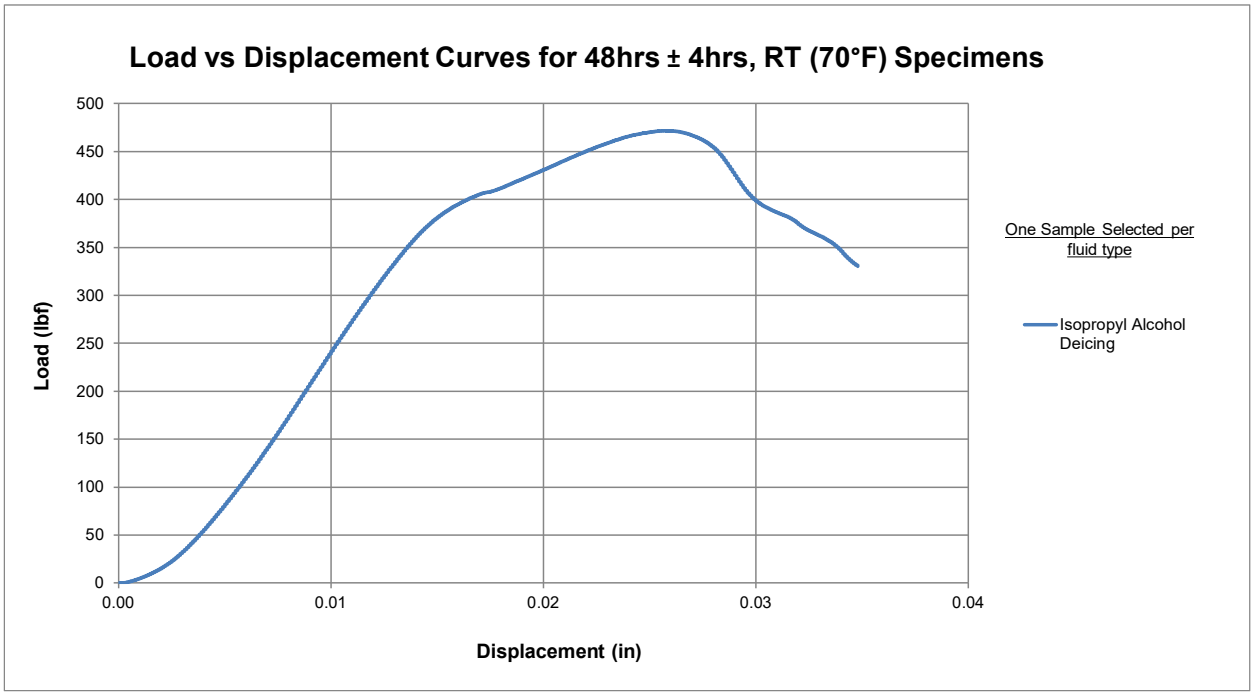
7.3 Load Displacement Curves

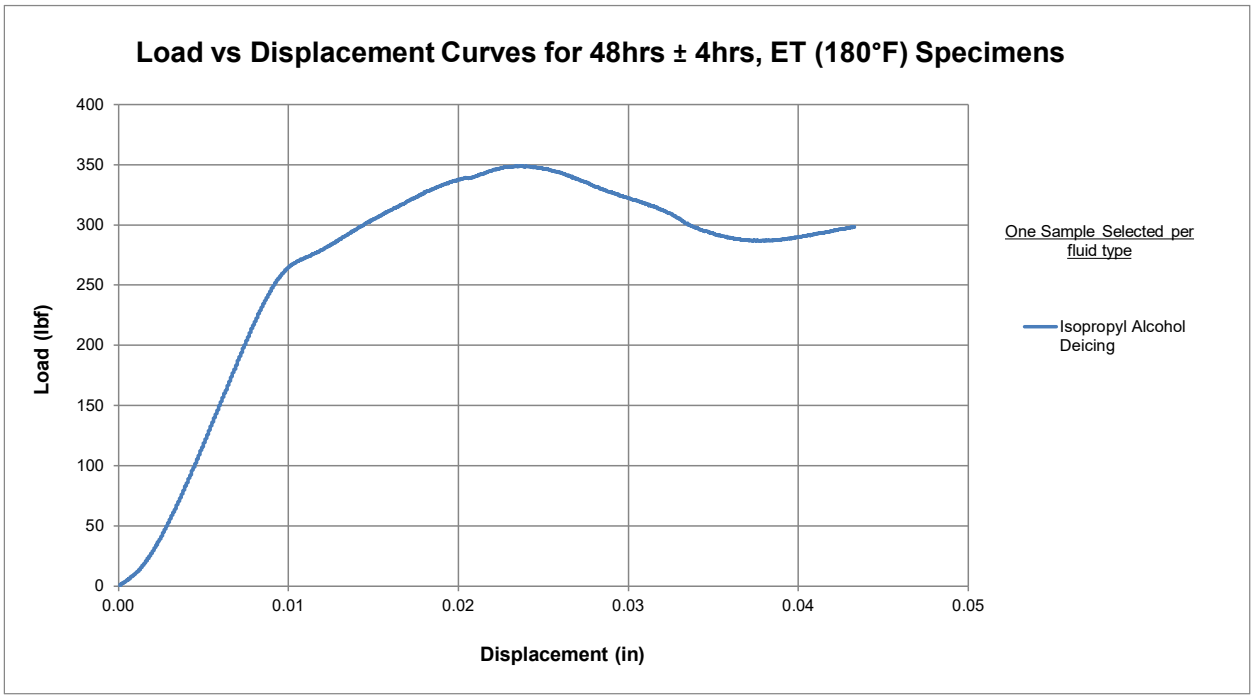


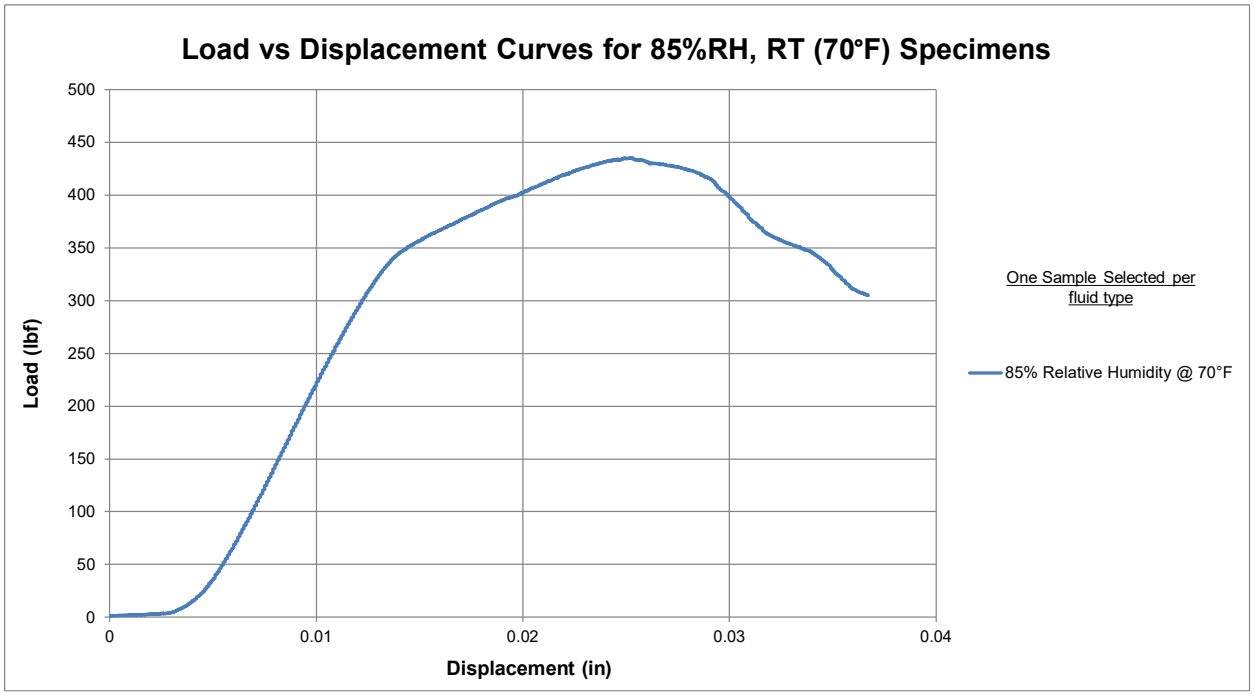


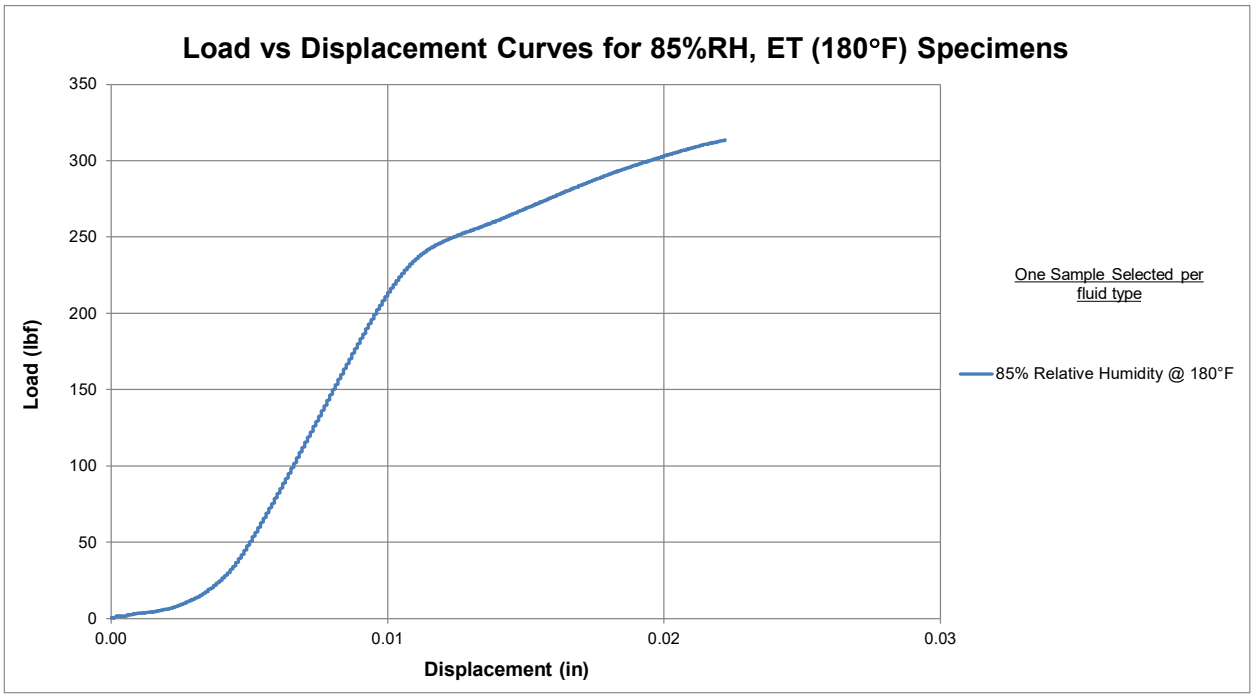

Load vs Displacement Curves for 90 minutes, RT (70°F) Specimens
Load (lbf)
500
450
400
350
300
250
200
150
100
50
0
0.00
0.01
0.02
0.03
0.04
Displacement (in)
One Sample Selected per fluid type
MEK washing fluid
Polypropylene Glycol Deicer


Load vs Displacement Curves for 90 minutes, ET (180°F) Specimens
Load (lbf)
400
350
300
250
200
150
100
50
0
0
0.01
0.02
0.03
0.04
Displacement (in)
One Sample Selected per fluid type
MEK washing fluid
Polypropylene Glycol Deicer

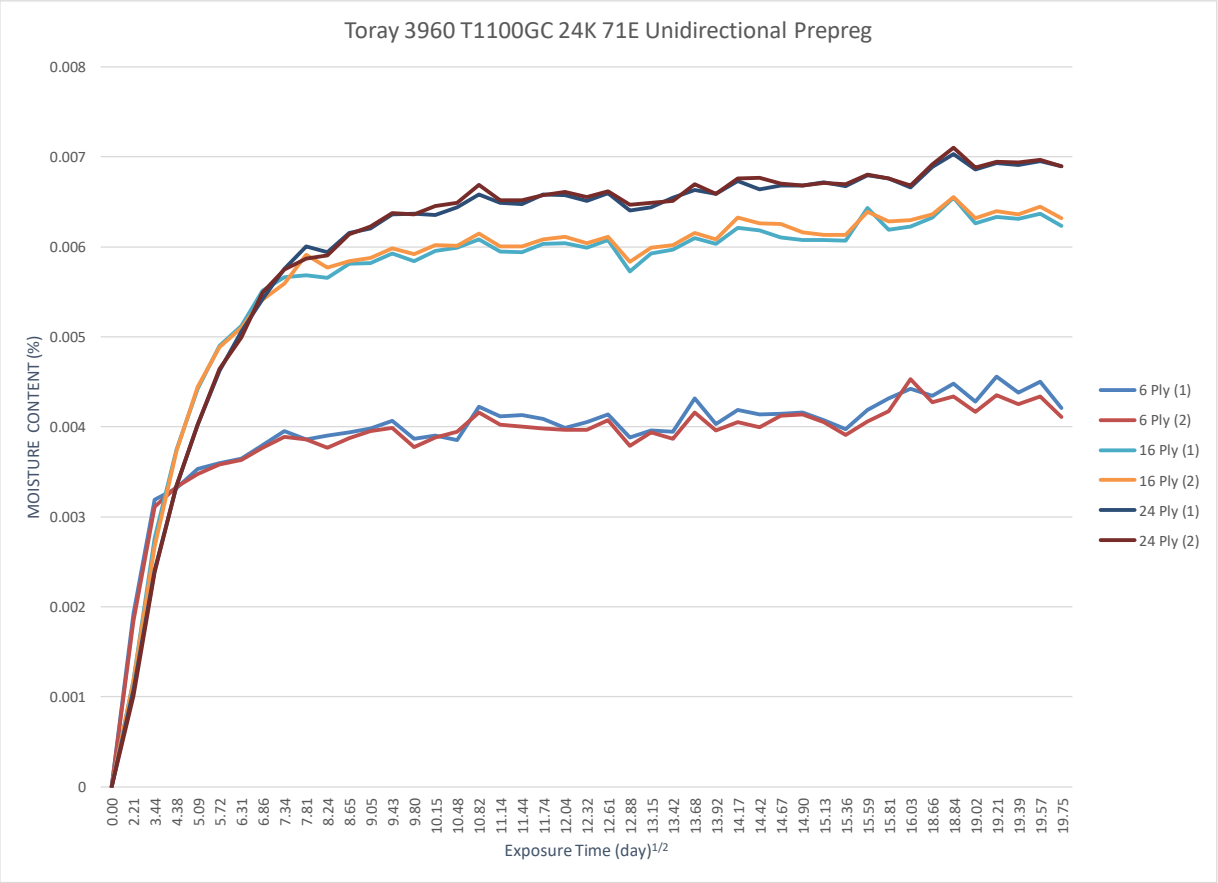

Load vs Displacement Curves for 48hrs ± 4hrs, RT (70°F) Specimens
Load (lbf)
500
450
400
350
300
250
200
150
100
50
0
0.00
0.01
0.02
0.03
0.04
Displacement (in)
One Sample Selected per fluid type
Isopropyl Alcohol Deicing


Load vs Displacement Curves for 48hrs ± 4hrs, ET (180°F) Specimens
Load (lbf)
400
350
300
250
200
150
100
50
0
0.00
0.01
0.02
0.03
0.04
0.05
Displacement (in)
One Sample Selected per fluid type
Isopropyl Alcohol Deicing


Load vs Displacement Curves for 85%RH, RT (70°F) Specimens
Load (lbf)
500
450
400
350
300
250
200
150
100
50
0
0
0.01
0.02
0.03
0.04
Displacement (in)
One Sample Selected per fluid type
85% Relative Humidity @ 70°F


Load vs Displacement Curves for 85%RH, ET (180°F) Specimens
Load (lbf)
350
300
250
200
150
100
50
0
0.00
0.01
0.02
0.03
Displacement (in)
One Sample Selected per fluid type
85% Relative Humidity @ 180°F

8. Moisture Conditioning Chart



For “wet” mechanical test specimens, the drying procedures may not have completely dried the specimens prior to moisture conditioning, so the total amount of moisture absorbed by the specimens may be higher than those recorded in the moisture gain charts.

9. DMA Results

DMA Results Summary

Toray NTP 3961Q1 3960 T1100GC UNI DMA Dry

CMA calibration Method TA-WI-0177

Sample #	Onset Storage Modulus	
	T_g [°C]	T_g [°F]
NTP3961Q1-TC-T01-TC-DMA1-A-C4-2-D-1	196.64	385.95
NTP3961Q1-TC-T01-TC-DMA1-A-C4-2-D-2	196.30	385.34
NTP3961Q1-TC-T01-TC-DMA1-A-C4-2-D-3	196.71	386.08
NTP3961Q1-TC-T01-TC-DMA1-A-C5-1-D-1	196.21	385.18
NTP3961Q1-TC-T01-TC-DMA1-A-C5-1-D-2	196.29	385.32
NTP3961Q1-TC-T01-TC-DMA1-A-C5-1-D-3	196.21	385.18
NTP3961Q1-TC-T01-TC-DMA1-B-C5-2-D-1	188.78	371.80
NTP3961Q1-TC-T01-TC-DMA1-B-C5-2-D-2	188.86	371.95
NTP3961Q1-TC-T01-TC-DMA1-B-C5-2-D-3	189.43	372.97
NTP3961Q1-TC-T01-TC-DMA1-B-C6-1-D-1	188.80	371.84
NTP3961Q1-TC-T01-TC-DMA1-B-C6-1-D-2	188.53	371.35
NTP3961Q1-TC-T01-TC-DMA1-B-C6-1-D-3	188.01	370.42
NTP3961Q1-TC-T01-TC-DMA1-C-C19-3-D-1	189.95	373.91
NTP3961Q1-TC-T01-TC-DMA1-C-C19-3-D-2	190.84	375.51
NTP3961Q1-TC-T01-TC-DMA1-C-C19-3-D-3	190.98	375.76
NTP3961Q1-TC-T01-TC-DMA1-C-C20-3-D-1	190.45	374.81
NTP3961Q1-TC-T01-TC-DMA1-C-C20-3-D-2	189.73	373.51
NTP3961Q1-TC-T01-TC-DMA1-C-C20-3-D-3	190.10	374.18
NTP3961Q1-TC-T01-TC-DMA1-D-C19-3-D-1	191.16	376.09
NTP3961Q1-TC-T01-TC-DMA1-D-C19-3-D-2	190.74	375.33
NTP3961Q1-TC-T01-TC-DMA1-D-C19-3-D-3	190.73	375.31
NTP3961Q1-TC-T01-TC-DMA1-D-C20-3-D-1	190.28	374.50
NTP3961Q1-TC-T01-TC-DMA1-D-C20-3-D-2	190.17	374.31
NTP3961Q1-TC-T01-TC-DMA1-D-C20-3-D-3	189.77	373.59
NTP3961Q1-TC-T01-TC-DMA1-E-C19-3-D-1	191.19	376.14
NTP3961Q1-TC-T01-TC-DMA1-E-C19-3-D-2	190.55	374.99
NTP3961Q1-TC-T01-TC-DMA1-E-C19-3-D-3	190.69	375.24
NTP3961Q1-TC-T01-TC-DMA1-E-C20-3-D-1	191.52	376.74
NTP3961Q1-TC-T01-TC-DMA1-E-C20-3-D-2	191.57	376.83
NTP3961Q1-TC-T01-TC-DMA1-E-C20-3-D-3	192.35	378.23
Average	191.45	376.61
Standard Deviation	2.69	4.84

DMA Results Summary

Toray NTP 3961Q1 3960 T1100GC UNI DMA Dry

NIAR calibration Method DOT/FAA/TC-15/28

Sample #	Onset Storage Modulus	
	T_g [°C]	T_g [°F]
NTP3961Q1-TC-T01-TC-DMA2-A-C4-2-D-1	184.06	363.31
NTP3961Q1-TC-T01-TC-DMA2-A-C4-2-D-2	184.79	364.62
NTP3961Q1-TC-T01-TC-DMA2-A-C4-2-D-3	183.47	362.25
NTP3961Q1-TC-T01-TC-DMA2-A-C5-1-D-1	184.64	364.35
NTP3961Q1-TC-T01-TC-DMA2-A-C5-1-D-2	183.56	362.41
NTP3961Q1-TC-T01-TC-DMA2-A-C5-1-D-3	183.89	363.00
NTP3961Q1-TC-T01-TC-DMA2-B-C5-2-D-5	177.77	351.99
NTP3961Q1-TC-T01-TC-DMA2-B-C5-2-D-6	177.19	350.94
NTP3961Q1-TC-T01-TC-DMA2-B-C5-2-D-7	177.63	351.73
NTP3961Q1-TC-T01-TC-DMA2-B-C6-1-D-5	177.90	352.22
NTP3961Q1-TC-T01-TC-DMA2-B-C6-1-D-6	177.65	351.77
NTP3961Q1-TC-T01-TC-DMA2-B-C6-1-D-7	177.32	351.18
NTP3961Q1-TC-T01-TC-DMA2-C-C19-3-D-6	178.64	353.55
NTP3961Q1-TC-T01-TC-DMA2-C-C19-3-D-7	179.00	354.20
NTP3961Q1-TC-T01-TC-DMA2-C-C19-3-D-8	178.93	354.07
NTP3961Q1-TC-T01-TC-DMA2-C-C20-3-D-6	178.24	352.83
NTP3961Q1-TC-T01-TC-DMA2-C-C20-3-D-7	179.50	355.10
NTP3961Q1-TC-T01-TC-DMA2-C-C20-3-D-8	178.83	353.89
NTP3961Q1-TC-T01-TC-DMA2-D-C19-3-D-6	178.06	352.51
NTP3961Q1-TC-T01-TC-DMA2-D-C19-3-D-7	177.83	352.09
NTP3961Q1-TC-T01-TC-DMA2-D-C19-3-D-8	177.80	352.04
NTP3961Q1-TC-T01-TC-DMA2-D-C20-3-D-6	177.90	352.22
NTP3961Q1-TC-T01-TC-DMA2-D-C20-3-D-7	177.84	352.11
NTP3961Q1-TC-T01-TC-DMA2-D-C20-3-D-8	177.55	351.59
NTP3961Q1-TC-T01-TC-DMA2-E-C19-3-D-7	177.13	350.83
NTP3961Q1-TC-T01-TC-DMA2-E-C19-3-D-8	177.48	351.46
NTP3961Q1-TC-T01-TC-DMA2-E-C19-3-D-9	177.41	351.34
NTP3961Q1-TC-T01-TC-DMA2-E-C20-3-D-6	177.89	352.20
NTP3961Q1-TC-T01-TC-DMA2-E-C20-3-D-7	178.22	352.80
NTP3961Q1-TC-T01-TC-DMA2-E-C20-3-D-8	179.31	354.76
Average	179.25	354.65
Standard Deviation	2.53	4.56

DMA Results Summary

Toray NTP 3961Q1 3960 T1100GC UNI DMA Dry

ASTM calibration Method E1867 Method C

Sample #	Onset Storage Modulus	
	T_g [°C]	T_g [°F]
NTP3961Q1-TC-T01-TC-DMA3-A-C4-2-D-1	184.62	364.32
NTP3961Q1-TC-T01-TC-DMA3-A-C4-2-D-2	185.07	365.13
NTP3961Q1-TC-T01-TC-DMA3-A-C4-2-D-3	185.47	365.85
NTP3961Q1-TC-T01-TC-DMA3-A-C5-1-D-1	184.97	364.95
NTP3961Q1-TC-T01-TC-DMA3-A-C5-1-D-2	185.82	366.48
NTP3961Q1-TC-T01-TC-DMA3-A-C5-1-D-3	185.95	366.71
NTP3961Q1-TC-T01-TC-DMA3-B-C5-2-D-9	180.15	356.27
NTP3961Q1-TC-T01-TC-DMA3-B-C5-2-D-10	179.57	355.23
NTP3961Q1-TC-T01-TC-DMA3-B-C5-2-D-11	180.36	356.65
NTP3961Q1-TC-T01-TC-DMA3-B-C6-1-D-9	179.41	354.94
NTP3961Q1-TC-T01-TC-DMA3-B-C6-1-D-10	179.48	355.06
NTP3961Q1-TC-T01-TC-DMA3-B-C6-1-D-11	180.18	356.32
NTP3961Q1-TC-T01-TC-DMA3-C-C19-3-D-11	179.88	355.78
NTP3961Q1-TC-T01-TC-DMA3-C-C19-3-D-12	180.24	356.43
NTP3961Q1-TC-T01-TC-DMA3-C-C19-3-D-13	179.14	354.45
NTP3961Q1-TC-T01-TC-DMA3-C-C20-3-D-11	179.89	355.80
NTP3961Q1-TC-T01-TC-DMA3-C-C20-3-D-12	179.34	354.81
NTP3961Q1-TC-T01-TC-DMA3-C-C20-3-D-13	179.37	354.87
NTP3961Q1-TC-T01-TC-DMA3-D-C19-3-D-11	176.64	349.95
NTP3961Q1-TC-T01-TC-DMA3-D-C19-3-D-12	176.67	350.01
NTP3961Q1-TC-T01-TC-DMA3-D-C19-3-D-13	175.94	348.69
NTP3961Q1-TC-T01-TC-DMA3-D-C20-3-D-11	176.47	349.65
NTP3961Q1-TC-T01-TC-DMA3-D-C20-3-D-12	176.42	349.56
NTP3961Q1-TC-T01-TC-DMA3-D-C20-3-D-13	176.40	349.52
NTP3961Q1-TC-T01-TC-DMA3-E-C19-3-D-11	175.65	348.17
NTP3961Q1-TC-T01-TC-DMA3-E-C19-3-D-12	177.24	351.03
NTP3961Q1-TC-T01-TC-DMA3-E-C19-3-D-13	176.32	349.38
NTP3961Q1-TC-T01-TC-DMA3-E-C20-3-D-11	177.21	350.98
NTP3961Q1-TC-T01-TC-DMA3-E-C20-3-D-12	177.82	352.08
NTP3961Q1-TC-T01-TC-DMA3-E-C20-3-D-13	178.13	352.63
Average	179.66	355.39
Standard Deviation	3.23	5.82

DMA Results Summary

Toray NTP 3961Q1 3960 T1100GC UNI DMA Wet

CMA calibration Method TA-WI-0177

Sample #	Onset Storage Modulus	
	T_g [°C]	T_g [°F]
NTP3961Q1-TC-T01-TC-DMA1-A-C4-2-W-1	167.68	333.82
NTP3961Q1-TC-T01-TC-DMA1-A-C4-2-W-2	167.57	333.63
NTP3961Q1-TC-T01-TC-DMA1-A-C4-2-W-3	167.65	333.77
NTP3961Q1-TC-T01-TC-DMA1-A-C5-1-W-1	167.55	333.59
NTP3961Q1-TC-T01-TC-DMA1-A-C5-1-W-2	168.05	334.49
NTP3961Q1-TC-T01-TC-DMA1-A-C5-1-W-3	168.54	335.37
NTP3961Q1-TC-T01-TC-DMA1-B-C5-2-W-1	166.22	331.20
NTP3961Q1-TC-T01-TC-DMA1-B-C5-2-W-2	165.30	329.54
NTP3961Q1-TC-T01-TC-DMA1-B-C5-2-W-3	165.82	330.48
NTP3961Q1-TC-T01-TC-DMA1-B-C6-1-W-1	165.20	329.36
NTP3961Q1-TC-T01-TC-DMA1-B-C6-1-W-2	165.33	329.59
NTP3961Q1-TC-T01-TC-DMA1-B-C6-1-W-3	166.39	331.50
NTP3961Q1-TC-T01-TC-DMA1-C-C19-3-W-1	164.96	328.93
NTP3961Q1-TC-T01-TC-DMA1-C-C19-3-W-2	165.97	330.75
NTP3961Q1-TC-T01-TC-DMA1-C-C19-3-W-3	164.98	328.96
NTP3961Q1-TC-T01-TC-DMA1-C-C20-3-W-1	165.22	329.40
NTP3961Q1-TC-T01-TC-DMA1-C-C20-3-W-2	165.69	330.24
NTP3961Q1-TC-T01-TC-DMA1-C-C20-3-W-3	165.91	330.64
NTP3961Q1-TC-T01-TC-DMA1-D-C19-3-W-1	167.54	333.57
NTP3961Q1-TC-T01-TC-DMA1-D-C19-3-W-2	166.64	331.95
NTP3961Q1-TC-T01-TC-DMA1-D-C19-3-W-3	167.33	333.19
NTP3961Q1-TC-T01-TC-DMA1-D-C20-3-W-1	166.72	332.10
NTP3961Q1-TC-T01-TC-DMA1-D-C20-3-W-2	167.14	332.85
NTP3961Q1-TC-T01-TC-DMA1-D-C20-3-W-3	166.53	331.75
NTP3961Q1-TC-T01-TC-DMA1-E-C19-3-W-1	167.22	333.00
NTP3961Q1-TC-T01-TC-DMA1-E-C19-3-W-2	166.54	331.77
NTP3961Q1-TC-T01-TC-DMA1-E-C19-3-W-3	168.12	334.62
NTP3961Q1-TC-T01-TC-DMA1-E-C20-3-W-1	167.80	334.04
NTP3961Q1-TC-T01-TC-DMA1-E-C20-3-W-2	168.51	335.32
NTP3961Q1-TC-T01-TC-DMA1-E-C20-3-W-3	168.56	335.41
Average	166.76	332.16
Standard Deviation	1.14	2.05

DMA Results Summary

Toray NTP 3961Q1 3960 T1100GC UNI DMA Wet

NIAR calibration Method DOT/FAA/TC-15/28

Sample #	Onset Storage Modulus	
	T_g [°C]	T_g [°F]
NTP3961Q1-TC-T01-TC-DMA2-A-C4-2-W-1	153.77	308.79
NTP3961Q1-TC-T01-TC-DMA2-A-C4-2-W-2	154.06	309.31
NTP3961Q1-TC-T01-TC-DMA2-A-C4-2-W-3	154.36	309.85
NTP3961Q1-TC-T01-TC-DMA2-A-C5-1-W-1	154.32	309.78
NTP3961Q1-TC-T01-TC-DMA2-A-C5-1-W-2	153.77	308.79
NTP3961Q1-TC-T01-TC-DMA2-A-C5-1-W-3	154.90	310.82
NTP3961Q1-TC-T01-TC-DMA2-B-C5-2-W-5	154.25	309.65
NTP3961Q1-TC-T01-TC-DMA2-B-C5-2-W-6	153.91	309.04
NTP3961Q1-TC-T01-TC-DMA2-B-C5-2-W-7	154.05	309.29
NTP3961Q1-TC-T01-TC-DMA2-B-C6-1-W-5	153.90	309.02
NTP3961Q1-TC-T01-TC-DMA2-B-C6-1-W-6	153.56	308.41
NTP3961Q1-TC-T01-TC-DMA2-B-C6-1-W-7	154.03	309.25
NTP3961Q1-TC-T01-TC-DMA2-C-C19-3-W-6	153.86	308.95
NTP3961Q1-TC-T01-TC-DMA2-C-C19-3-W-7	153.37	308.07
NTP3961Q1-TC-T01-TC-DMA2-C-C19-3-W-8	153.61	308.50
NTP3961Q1-TC-T01-TC-DMA2-C-C20-3-W-6	153.55	308.39
NTP3961Q1-TC-T01-TC-DMA2-C-C20-3-W-7	153.49	308.28
NTP3961Q1-TC-T01-TC-DMA2-C-C20-3-W-8	153.59	308.46
NTP3961Q1-TC-T01-TC-DMA2-D-C19-3-W-6	152.56	306.61
NTP3961Q1-TC-T01-TC-DMA2-D-C19-3-W-7	152.95	307.31
NTP3961Q1-TC-T01-TC-DMA2-D-C19-3-W-8	152.92	307.26
NTP3961Q1-TC-T01-TC-DMA2-D-C20-3-W-6	152.48	306.46
NTP3961Q1-TC-T01-TC-DMA2-D-C20-3-W-7	152.14	305.85
NTP3961Q1-TC-T01-TC-DMA2-D-C20-3-W-8	152.16	305.89
NTP3961Q1-TC-T01-TC-DMA2-E-C19-3-W-6	153.52	308.34
NTP3961Q1-TC-T01-TC-DMA2-E-C19-3-W-7	152.98	307.36
NTP3961Q1-TC-T01-TC-DMA2-E-C19-3-W-8	153.06	307.51
NTP3961Q1-TC-T01-TC-DMA2-E-C20-3-W-6	153.56	308.41
NTP3961Q1-TC-T01-TC-DMA2-E-C20-3-W-7	153.68	308.62
NTP3961Q1-TC-T01-TC-DMA2-E-C20-3-W-8	153.83	308.89
Average	153.54	308.37
Standard Deviation	0.65	1.17

DMA Results Summary

Toray NTP 3961Q1 3960 T1100GC UNI DMA Wet

ASTM calibration Method E1867 Method C

Sample #	Onset Storage Modulus	
	T_g [°C]	T_g [°F]
NTP3961Q1-TC-T01-TC-DMA3-A-C4-2-W-4	153.16	307.69
NTP3961Q1-TC-T01-TC-DMA3-A-C4-2-W-2	153.01	307.42
NTP3961Q1-TC-T01-TC-DMA3-A-C4-2-W-3	153.22	307.80
NTP3961Q1-TC-T01-TC-DMA3-A-C5-1-W-1	153.01	307.42
NTP3961Q1-TC-T01-TC-DMA3-A-C5-1-W-2	153.44	308.19
NTP3961Q1-TC-T01-TC-DMA3-A-C5-1-W-3	153.43	308.17
NTP3961Q1-TC-T01-TC-DMA3-B-C5-2-W-9	154.19	309.54
NTP3961Q1-TC-T01-TC-DMA3-B-C5-2-W-10	153.43	308.17
NTP3961Q1-TC-T01-TC-DMA3-B-C5-2-W-11	153.63	308.53
NTP3961Q1-TC-T01-TC-DMA3-B-C6-1-W-9	153.81	308.86
NTP3961Q1-TC-T01-TC-DMA3-B-C6-1-W-10	154.11	309.40
NTP3961Q1-TC-T01-TC-DMA3-B-C6-1-W-11	153.74	308.73
NTP3961Q1-TC-T01-TC-DMA3-C-C19-3-W-11	153.50	308.30
NTP3961Q1-TC-T01-TC-DMA3-C-C19-3-W-12	154.35	309.83
NTP3961Q1-TC-T01-TC-DMA3-C-C19-3-W-13	154.75	310.55
NTP3961Q1-TC-T01-TC-DMA3-C-C20-3-W-11	154.47	310.05
NTP3961Q1-TC-T01-TC-DMA3-C-C20-3-W-12	153.81	308.86
NTP3961Q1-TC-T01-TC-DMA3-C-C20-3-W-13	153.98	309.16
NTP3961Q1-TC-T01-TC-DMA3-D-C19-3-W-11	153.97	309.15
NTP3961Q1-TC-T01-TC-DMA3-D-C19-3-W-12	153.79	308.82
NTP3961Q1-TC-T01-TC-DMA3-D-C19-3-W-13	153.49	308.28
NTP3961Q1-TC-T01-TC-DMA3-D-C20-3-W-11	153.49	308.28
NTP3961Q1-TC-T01-TC-DMA3-D-C20-3-W-12	153.71	308.68
NTP3961Q1-TC-T01-TC-DMA3-D-C20-3-W-13	154.16	309.49
NTP3961Q1-TC-T01-TC-DMA3-E-C19-3-W-11	155.09	311.16
NTP3961Q1-TC-T01-TC-DMA3-E-C19-3-W-12	154.71	310.48
NTP3961Q1-TC-T01-TC-DMA3-E-C19-3-W-13	154.82	310.68
NTP3961Q1-TC-T01-TC-DMA3-E-C20-3-W-11	154.68	310.42
NTP3961Q1-TC-T01-TC-DMA3-E-C20-3-W-12	155.26	311.47
NTP3961Q1-TC-T01-TC-DMA3-E-C20-3-W-13	155.57	312.03
Average	153.99	309.19
Standard Deviation	0.68	1.22

9.1 DMA Dry Batch A

Available upon request to Toray.

9.2 DMA Wet Batch A

Available upon request to Toray.

10. Coefficient of Thermal Expansion

TMA Results Summary - Y Direction (α_{22}) Toray NTP 3961Q1 3960 T1100GC UNI			
Specimen ID	**Coefficient of Thermal Expansion [µm/(m°C)] (-55°C-20°C)**	**Coefficient of Thermal Expansion [µm/(m°C)] (20°C-70°C)**	**Coefficient of Thermal Expansion [µm/(m°C)] (70°C-120°C)**
α22-1	28.55	31.29	33.76
α22-2	28.63	31.14	34.05
α22-1	26.87	31.00	33.00
α22-2	26.97	31.28	33.75
α22-1	30.01	29.28	31.42
α22-2	29.77	31.44	33.62
α22-1	28.38	32.75	34.20
α22-2	31.42	32.79	33.75
α22-1	29.05	32.91	34.89
α22-2	27.11	31.84	34.41
Average	28.68	31.57	33.69
Standard Deviation	1.467	1.089	0.9424

TMA Results Summary - Z Direction (α_{33}) Toray NTP 3961Q1 3960 T1100GC UNI			
Specimen ID	**Coefficient of Thermal Expansion [µm/(m°C)] (-55°C-20°C)**	**Coefficient of Thermal Expansion [µm/(m°C)] (20°C-70°C)**	**Coefficient of Thermal Expansion [µm/(m°C)] (70°C-120°C)**
α33-1	33.68	38.57	47.77
α33-2	33.65	41.53	49.27
α33-1	31.21	38.80	51.28
α33-2	33.16	35.20	46.64
α33-1	35.85	37.48	44.55
α33-2	37.76	34.29	38.26
α33-1	33.64	37.61	49.04
α33-2	34.66	39.66	50.69
α33-1	33.80	39.57	49.98
α33-2	32.05	39.64	48.32
Average	33.95	38.24	47.58
Standard Deviation	1.846	2.181	3.824

10.1 CTE - Y Direction (α_{22}) TMA Batch C

Available upon request to Toray.

10.2 CTE - Z Direction (α_{33}) TMA Batch C

Available upon request to Toray.

11. Deviations

1. Exceeded requirement to test within 90 days from equilibrium multiple times.

2. In-Plane Shear V-notch (IPSV) radius was 0.01 inches instead of 0.05 inches.

12. Appendix - Freezer Storage Life and Out-Time Verification

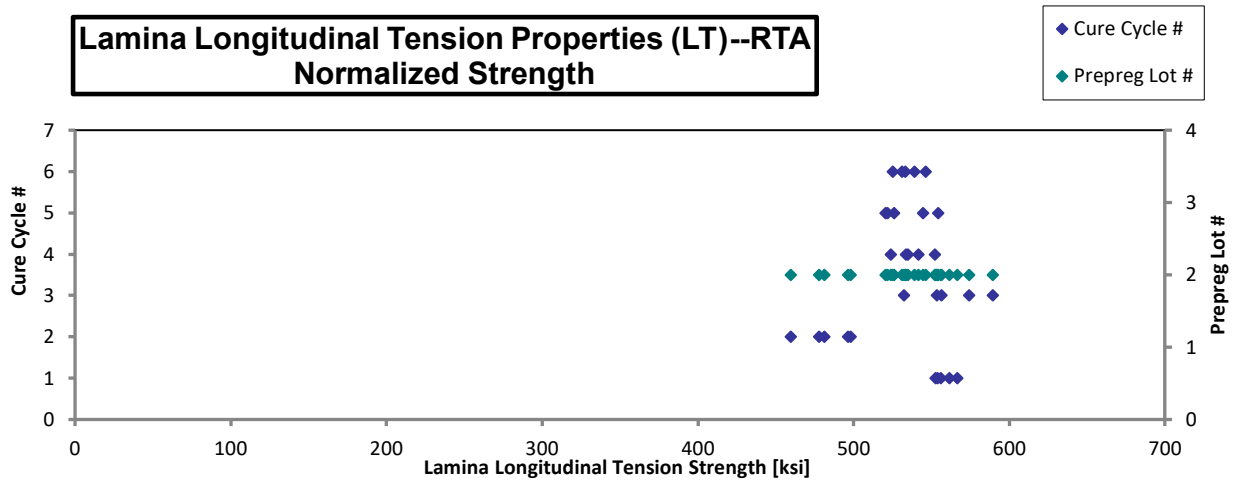
12.1 Lamina Longitudinal Tension Properties (LT)

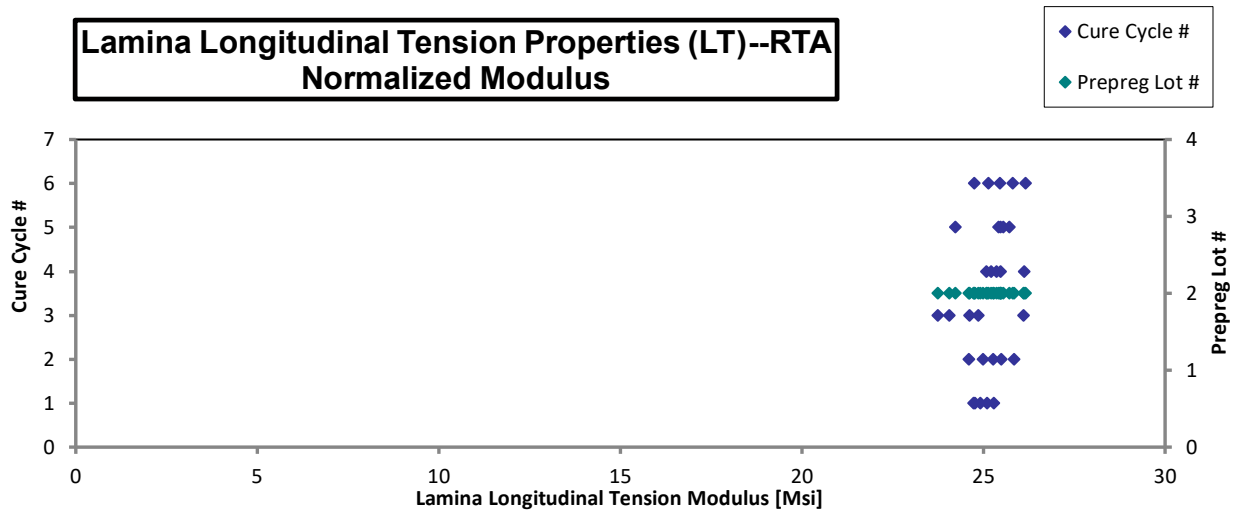
Lamina Longitudinal Tension Properties (LT)--RTA
Strength & Modulus
Less than 3 months (As Manufactured)

normalizing t_{ply} [in]: 0.0072

Specimen Number	Batch #	Cure Cycle	Prepreg Lot #	Cure Cycle #	Out-Time (days)	Strength [ksi]	Modulus [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Average Strength [ksi]	Average Modulus [Msi]	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]	Average $Strength_{norm}$ [ksi]	Average $Modulus_{norm}$ [Msi]
1-1 (0/1)	A1200795	C1	2	1	<1	561.090	25.100	0.043	6	XGV			0.0071	552.648	24.722		
1-2 (0/1)	A1200795	C1	2	1	<1	576.370	25.520	0.042	6	XGV			0.0071	566.764	25.095		
1-3 (0/1)	A1200795	C1	2	1	<1	559.110	25.130	0.043	6	XGV	561.592	25.098	0.0071	554.192	24.909	558.349	24.955
1-4 (0/1)	A1200795	C1	2	1	<1	547.520	24.640	0.044	6	XGV			0.0074	561.842	25.285		
1-5 (0/1)	A1200795	C1	2	1	<1	563.870	25.100	0.043	6	XGV			0.0071	556.300	24.763		
1-1 (0/14)	A1200795	C2	2	2	14	436.790	24.210	0.045	6	XGV			0.0076	459.742	25.482		
1-2 (0/14)	A1200795	C2	2	2	14	467.620	24.430	0.044	6	XGV			0.0074	478.120	24.979		
1-3 (0/14)	A1200795	C2	2	2	14	465.740	24.220	0.046	6	XGV	465.628	24.326	0.0077	496.682	25.829	482.769	25.229
1-4 (0/14)	A1200795	C2	2	2	14	486.640	24.020	0.044	6	XGV			0.0074	498.130	24.587		
1-5 (0/14)	A1200795	C2	2	2	14	471.350	24.750	0.044	6	XGV			0.0074	481.170	25.266		
1-1 (0/28)	A1200795	C3	2	3	28	542.780	24.670	0.046	6	XGV			0.0076	574.191	26.098		
1-2 (0/28)	A1200795	C3	2	3	28	552.690	24.570	0.043	6	XGV			0.0072	553.714	24.616		
1-3 (0/28)	A1200795	C3	2	3	28	558.370	24.940	0.043	6	XGV	550.648	24.210	0.0072	556.431	24.853	561.263	24.669
1-4 (0/28)	A1200795	C3	2	3	28	567.060	22.820	0.045	6	XGV			0.0075	589.637	23.729		
1-5 (0/28)	A1200795	C3	2	3	28	532.340	24.050	0.043	6	XGV			0.0072	532.340	24.050		
1-1 (0/42)	A1200795	C4	2	4	42	515.140	24.770	0.044	6	XGV			0.0073	524.083	25.200		
1-2 (0/42)	A1200795	C4	2	4	42	534.180	25.100	0.044	6	XGV			0.0073	541.846	25.460		
1-3 (0/42)	A1200795	C4	2	4	42	539.400	24.480	0.044	6	XGV	526.032	24.898	0.0074	552.510	25.075	537.469	25.439
1-4 (0/42)	A1200795	C4	2	4	42	523.220	25.530	0.044	6	XGV			0.0074	535.089	26.109		
1-5 (0/42)	A1200795	C4	2	4	42	518.220	24.610	0.045	6	XGV			0.0074	533.815	25.351		
1-1 (0/56)	A1200795	C5	2	5	56	532.770	24.970	0.044	6	XGV			0.0074	544.856	25.536		
1-2 (0/56)	A1200795	C5	2	5	56	547.590	25.110	0.044	6	XGV			0.0073	554.308	25.418		
1-3 (0/56)	A1200795	C5	2	5	56	514.810	25.170	0.044	6	XGV	530.946	25.142	0.0073	520.768	25.461	533.680	25.268
1-4 (0/56)	A1200795	C5	2	5	56	534.770	26.120	0.043	6	XGV			0.0071	526.352	25.709		
1-5 (0/56)	A1200795	C5	2	5	56	524.790	24.340	0.043	6	XGV			0.0072	522.117	24.216		
1-1 (0/70)	A1200795	C6	2	6	70	551.810	26.060	0.043	6	XGV			0.0071	546.445	25.807		
1-2 (0/70)	A1200795	C6	2	6	70	525.090	25.750	0.044	6	XGV			0.0073	533.234	26.149		
1-3 (0/70)	A1200795	C6	2	6	70	534.020	25.140	0.043	6	XGV	536.666	25.524	0.0071	525.367	24.733	535.115	25.454
1-4 (0/70)	A1200795	C6	2	6	70	535.300	25.250	0.044	6	XGV			0.0073	539.389	25.443		
1-5 (0/70)	A1200795	C6	2	6	70	537.110	25.420	0.043	6	XGV			0.0071	531.142	25.138		

Average	**528.585**	**24.866**	**Average$_{norm}$**	**0.0073**	**534.774**	**25.169**
Standard Dev.	**33.194**	**0.666**	**Standard Dev.$_{norm}$**		**29.049**	**0.590**
Coeff. of Var. [%]	**6.280**	**2.680**	**Coeff. of Var. [%]$_{norm}$**		**5.432**	**2.344**
Min.	**436.790**	**22.820**	**Min.**	**0.0071**	**459.742**	**23.729**
Max.	**576.370**	**26.120**	**Max.**	**0.0077**	**589.637**	**26.149**
Number of Spec.	**30**	**30**	**Number of Spec.**	**30**	**30**	**30**


Lamina Longitudinal Tension Properties (LT)--RTA
Normalized Strength
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Lamina Longitudinal Tension Strength [ksi]
0
100
200
300
400
500
600
700
0
1
2
3
4
5
6
7


Lamina Longitudinal Tension Properties (LT)--RTA
Normalized Modulus
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Lamina Longitudinal Tension Modulus [Msi]
0
5
10
15
20
25
30
0
1
2
3
4
5
6
7

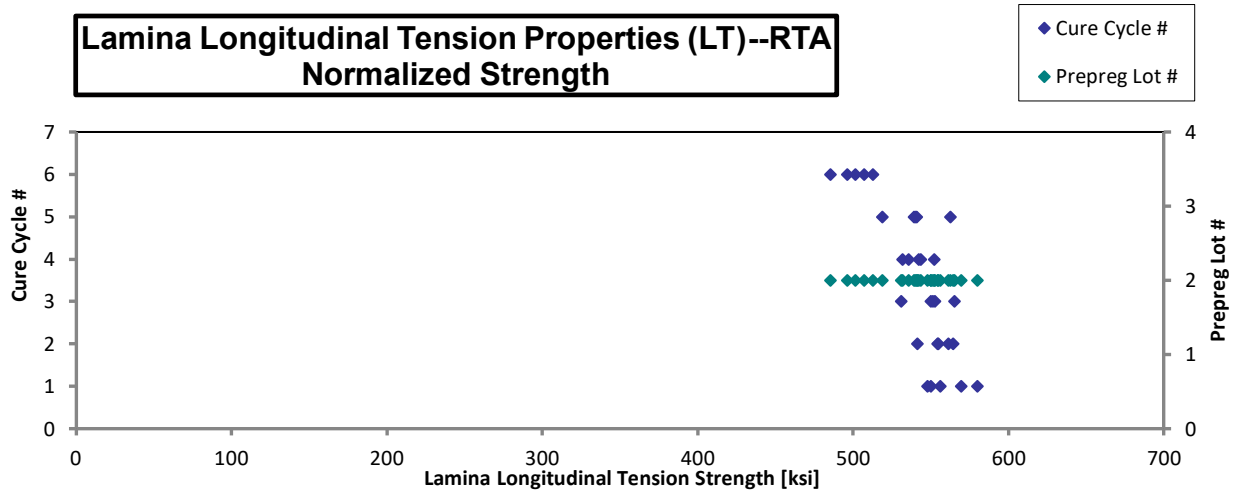
Lamina Longitudinal Tension Properties (LT)--RTA
Strength & Modulus
12 months (1 year)

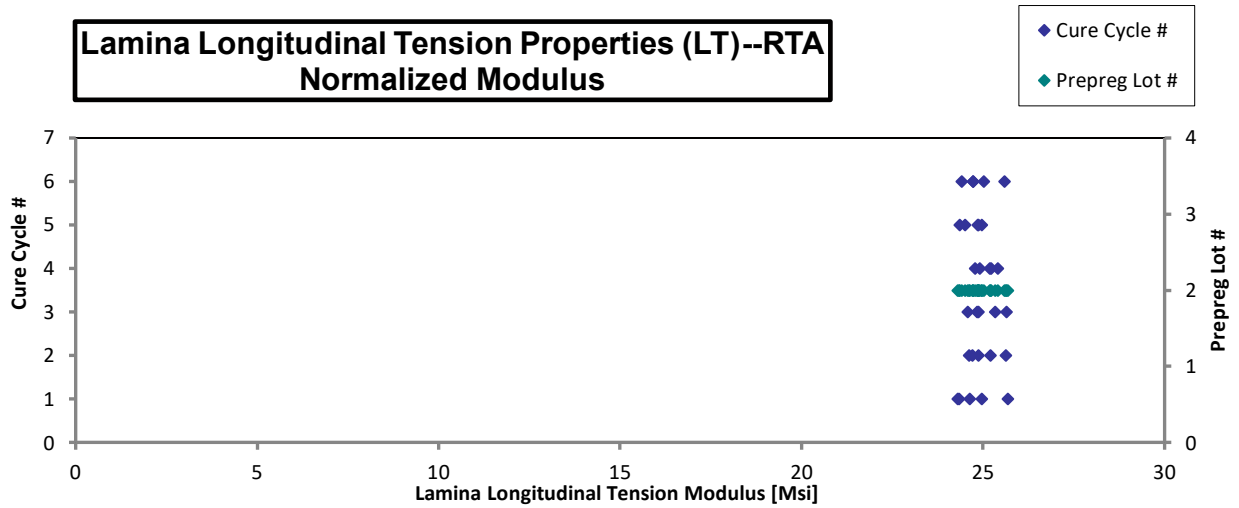
normalizing t_{ply} [in]: 0.0072

Specimen Number	Batch #	Cure Cycle	Prepreg Lot #	Cure Cycle #	Out-Time [days]	Strength [ksi]	Modulus [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Average Strength [ksi]	Average Modulus [Msi]	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]	Average $Strength_{norm}$ [ksi]	Average $Modulus_{norm}$ [Msi]
1-1 (12/1)	A1200795	C1	2	1	<1	553.810	24.210	0.043	6	XGV			0.0072	556.118	24.311		
1-2 (12/1)	A1200795	C1	2	1	<1	546.110	24.630	0.045	6	XGV			0.0075	569.876	25.702		
1-3 (12/1)	A1200795	C1	2	1	<1	544.470	24.110	0.044	6	XGV	549.170	24.280	0.0073	550.142	24.361	560.879	24.801
1-4 (12/1)	A1200795	C1	2	1	<1	533.510	23.990	0.044	6	XGV			0.0074	548.083	24.645		
1-5 (12/1)	A1200795	C1	2	1	<1	567.950	24.460	0.044	6	XGV			0.0074	580.177	24.987		
1-1 (12/14)	A1200795	C2	2	2	14	521.320	23.690	0.046	6	XGV			0.0077	555.109	25.225		
1-2 (12/14)	A1200795	C2	2	2	14	555.340	24.910	0.043	6	XGV			0.0072	554.697	24.881		
1-3 (12/14)	A1200795	C2	2	2	14	547.230	24.850	0.045	6	XGV	545.080	24.552	0.0074	564.584	25.638	555.447	25.021
1-4 (12/14)	A1200795	C2	2	2	14	548.750	24.970	0.043	6	XGV			0.0071	541.383	24.635		
1-5 (12/14)	A1200795	C2	2	2	14	552.760	24.340	0.044	6	XGV			0.0073	561.461	24.723		
1-1 (12/28)	A1200795	C3	2	3	28	523.050	24.230	0.044	6	XGV			0.0073	530.920	24.595		
1-2 (12/28)	A1200795	C3	2	3	28	551.980	25.050	0.044	6	XGV			0.0074	565.396	25.659		
1-3 (12/28)	A1200795	C3	2	3	28	543.770	24.540	0.044	6	XGV	538.466	24.536	0.0073	551.322	24.881	550.129	25.068
1-4 (12/28)	A1200795	C3	2	3	28	532.340	24.420	0.045	6	XGV			0.0075	552.672	25.353		
1-5 (12/28)	A1200795	C3	2	3	28	541.190	24.440	0.044	6	XGV			0.0073	550.335	24.853		
1-1 (12/42)	A1200795	C4	2	4	42	484.280	23.140	0.047	6	XGM			0.0079	531.923	25.417		
1-2 (12/42)	A1200795	C4	2	4	42	540.310	24.250	0.044	6	XGM			0.0074	552.442	24.795		
1-3 (12/42)	A1200795	C4	2	4	42	526.550	24.400	0.045	6	XGM	516.356	23.944	0.0074	543.614	25.191	541.272	25.110
1-4 (12/42)	A1200795	C4	2	4	42	518.840	24.120	0.045	6	XGM			0.0074	536.015	24.918		
1-5 (12/42)	A1200795	C4	2	4	42	511.800	23.810	0.046	6	XGM			0.0076	542.366	25.232		
1-1 (12/56)	A1200795	C5	2	5	56	529.290	24.430	0.044	6	XGV			0.0073	539.337	24.894		
1-2 (12/56)	A1200795	C5	2	5	56	519.980	23.900	0.045	6	XGV			0.0075	541.044	24.868		
1-3 (12/56)	A1200795	C5	2	5	56	545.660	24.220	0.045	6	XGV	523.270	23.936	0.0074	562.712	24.977	540.433	24.723
1-4 (12/56)	A1200795	C5	2	5	56	524.270	23.640	0.045	6	XGV			0.0074	540.289	24.362		
1-5 (12/56)	A1200795	C5	2	5	56	497.150	23.490	0.045	6	XGV			0.0075	518.785	24.512		
1-1 (12/70)	A1200795	C6	2	6	70	495.540	24.740	0.045	6	XGV			0.0075	512.976	25.610		
1-2 (12/70)	A1200795	C6	2	6	70	492.640	23.730	0.044	6	XGV			0.0074	507.237	24.433		
1-3 (12/70)	A1200795	C6	2	6	70	485.440	23.950	0.045	6	XGV	485.146	24.134	0.0074	501.397	24.737	500.690	24.909
1-4 (12/70)	A1200795	C6	2	6	70	484.790	24.160	0.044	6	XGV			0.0074	496.349	24.736		
1-5 (12/70)	A1200795	C6	2	6	70	467.320	24.090	0.045	6	XGV			0.0075	485.494	25.027		

Average	**526.248**	**24.230**
Standard Dev.	**25.908**	**0.451**
Coeff. of Var. [%]	**4.923**	**1.861**
Min.	**467.320**	**23.140**
Max.	**567.950**	**25.050**
Number of Spec.	**30**	**30**

$Average_{norm}$	**0.0074**	**541.475**	**24.939**
Standard $Dev._{norm}$		**22.664**	**0.400**
Coeff. of Var. $[\%]_{norm}$		**4.186**	**1.606**
Min.	**0.0071**	**485.494**	**24.311**
Max.	**0.0079**	**580.177**	**25.702**
Number of Spec.	**30**	**30**	**30**


Lamina Longitudinal Tension Properties (LT)--RTA
Normalized Strength
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
5
6
7
0
100
200
300
400
500
600
700
Lamina Longitudinal Tension Strength [ksi]


Lamina Longitudinal Tension Properties (LT)--RTA
Normalized Modulus
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
5
6
7
0
5
10
15
20
25
30
Lamina Longitudinal Tension Modulus [Msi]

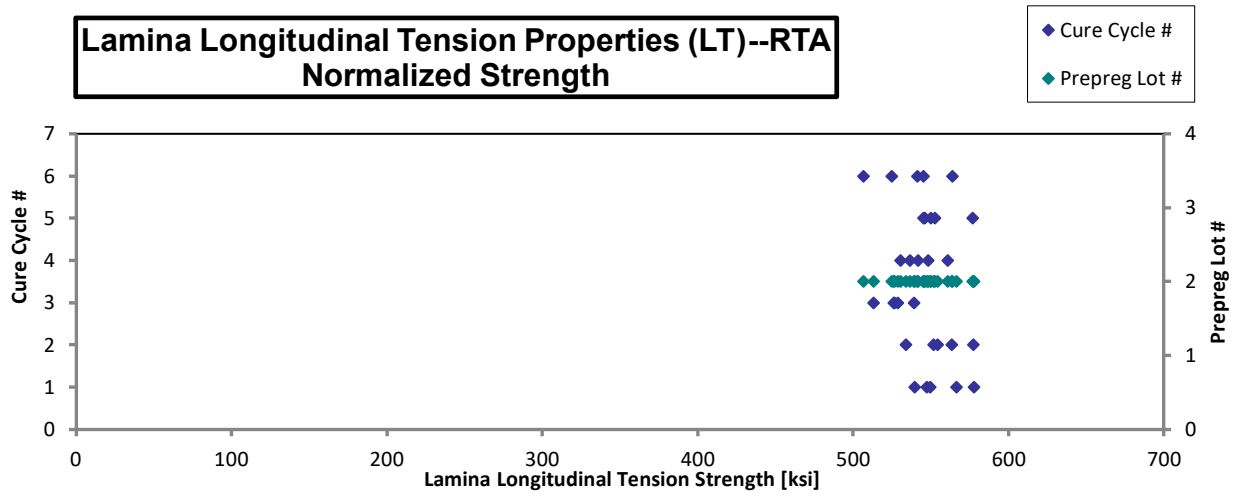
Lamina Longitudinal Tension Properties (LT)--RTA
Strength & Modulus
24 months (2 years)

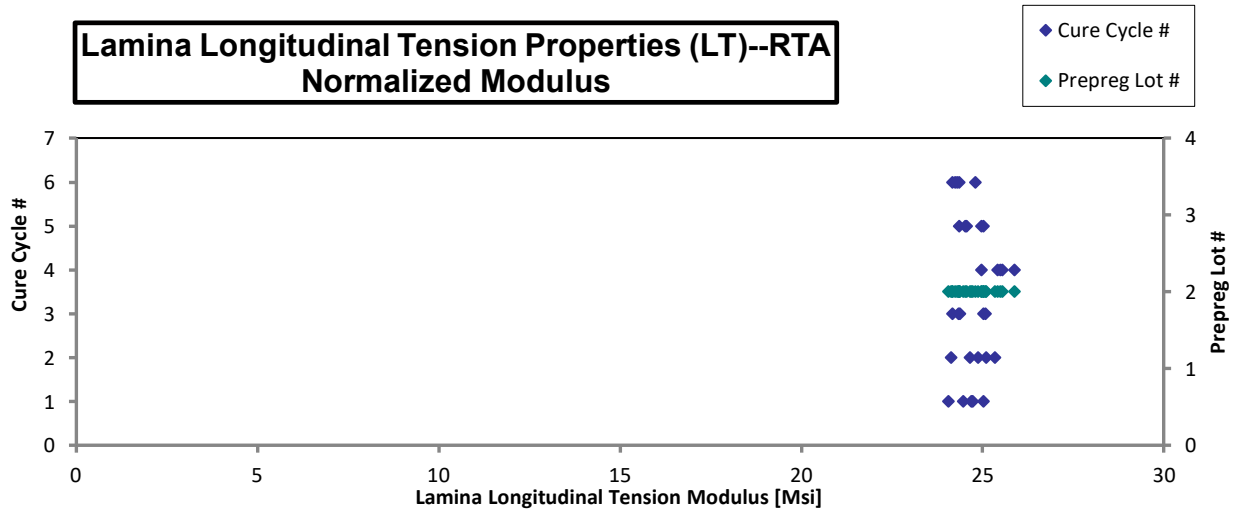
normalizing t_{ply} [in]: 0.0072

Specimen Number	Batch #	Cure Cycle	Prepreg Lot #	Cure Cycle #	Out-Time [days]	Strength [ksi]	Modulus [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Average Strength [ksi]	Average Modulus [ksi]	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]	Average $Strength_{norm}$ [ksi]	Average $Modulus_{norm}$ [Msi]
1-1 (24/1)	A1200795	C1	2	1	<1	537.850	24.170	0.044	6	XGV			0.0074	549.678	24.702		
1-2 (24/1)	A1200795	C1	2	1	<1	526.780	23.800	0.045	6	XGV			0.0075	547.510	24.737		
1-3 (24/1)	A1200795	C1	2	1	<1	525.930	23.440	0.044	6	XGV	537.728	23.778	0.0074	539.930	24.064	556.363	24.600
1-4 (24/1)	A1200795	C1	2	1	<1	548.010	23.720	0.046	6	XGV			0.0076	578.074	25.021		
1-5 (24/1)	A1200795	C1	2	1	<1	550.070	23.760	0.045	6	XGV			0.0074	566.623	24.475		
1-1 (24/14)	A1200795	C2	2	2	14	564.210	24.910	0.043	6	XGV			0.0072	563.557	24.881		
1-2 (24/14)	A1200795	C2	2	2	14	539.180	24.370	0.043	6	XGV			0.0071	533.938	24.133		
1-3 (24/14)	A1200795	C2	2	2	14	550.940	24.940	0.043	6	XGV	554.500	24.742	0.0072	554.383	25.096	556.315	24.821
1-4 (24/14)	A1200795	C2	2	2	14	551.380	24.620	0.043	6	XGV			0.0072	552.018	24.648		
1-5 (24/14)	A1200795	C2	2	2	14	566.790	24.870	0.044	6	XGV			0.0073	577.680	25.348		
1-1 (24/28)	A1200795	C3	2	3	28	523.070	24.800	0.044	6	XGV			0.0073	529.124	25.087		
1-2 (24/28)	A1200795	C3	2	3	28	527.230	24.350	0.043	6	XGV			0.0072	526.864	24.333		
1-3 (24/28)	A1200795	C3	2	3	28	541.240	24.250	0.043	6	XGV	526.948	24.598	0.0072	539.361	24.166	526.963	24.600
1-4 (24/28)	A1200795	C3	2	3	28	515.400	25.130	0.043	6	XGV			0.0072	513.253	25.025		
1-5 (24/28)	A1200795	C3	2	3	28	527.800	24.460	0.043	6	XGV			0.0072	526.212	24.386		
1-1 (24/42)	A1200795	C4	2	4	42	547.740	24.820	0.044	6	XGV			0.0074	561.053	25.423		
1-2 (24/42)	A1200795	C4	2	4	42	525.370	25.610	0.044	6	XGV			0.0073	530.843	25.877		
1-3 (24/42)	A1200795	C4	2	4	42	536.850	25.310	0.044	6	XGV	535.560	25.076	0.0073	541.821	25.544	543.783	25.460
1-4 (24/42)	A1200795	C4	2	4	42	523.370	24.860	0.044	6	XGV			0.0074	536.697	25.493		
1-5 (24/42)	A1200795	C4	2	4	42	544.470	24.780	0.044	6	XGV			0.0073	548.503	24.964		
1-1 (24/56)	A1200795	C5	2	5	56	542.990	24.830	0.043	6	XGM			0.0072	546.132	24.974		
1-2 (24/56)	A1200795	C5	2	5	56	543.280	24.260	0.043	6	XGM			0.0072	545.418	24.355		
1-3 (24/56)	A1200795	C5	2	5	56	574.420	24.920	0.043	6	XGM	552.924	24.630	0.0072	577.079	25.035	554.278	24.691
1-4 (24/56)	A1200795	C5	2	5	56	554.940	24.620	0.043	6	XGM			0.0072	552.756	24.523		
1-5 (24/56)	A1200795	C5	2	5	56	548.990	24.520	0.043	6	XGM			0.0072	550.007	24.565		
1-1 (24/70)	A1200795	C6	2	6	70	534.470	23.680	0.044	6	XGV			0.0074	545.605	24.173		
1-2 (24/70)	A1200795	C6	2	6	70	554.720	24.390	0.044	6	XGV			0.0073	563.965	24.797		
1-3 (24/70)	A1200795	C6	2	6	70	533.850	23.900	0.044	6	XGV	527.816	23.978	0.0073	541.512	24.243	536.538	24.373
1-4 (24/70)	A1200795	C6	2	6	70	500.750	24.010	0.044	6	XGV			0.0073	506.778	24.299		
1-5 (24/70)	A1200795	C6	2	6	70	515.290	23.910	0.044	6	XGV			0.0073	524.832	24.353		

Average	**539.246**	**24.467**	
Standard Dev.	**16.411**	**0.530**	
Coeff. of Var. [%]	**3.043**	**2.165**	
Min.	**500.750**	**23.440**	
Max.	**574.420**	**25.610**	
Number of Spec.	**30**	**30**	

$Average_{norm}$	**0.0073**	**545.707**	**24.757**
Standard $Dev._{norm}$		**17.764**	**0.478**
Coeff. of Var. $[\%]_{norm}$		**3.255**	**1.930**
Min.	**0.0071**	**506.778**	**24.064**
Max.	**0.0076**	**578.074**	**25.877**
Number of Spec.	**30**	**30**	**30**


Lamina Longitudinal Tension Properties (LT)--RTA
Normalized Strength
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
5
6
7
0
100
200
300
400
500
600
700
Lamina Longitudinal Tension Strength [ksi]


Lamina Longitudinal Tension Properties (LT)--RTA
Normalized Modulus
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
5
6
7
0
5
10
15
20
25
30
Lamina Longitudinal Tension Modulus [Msi]

Lamina Longitudinal Tension Properties (LT)--RTA
Strength & Modulus
36 months (3 years)

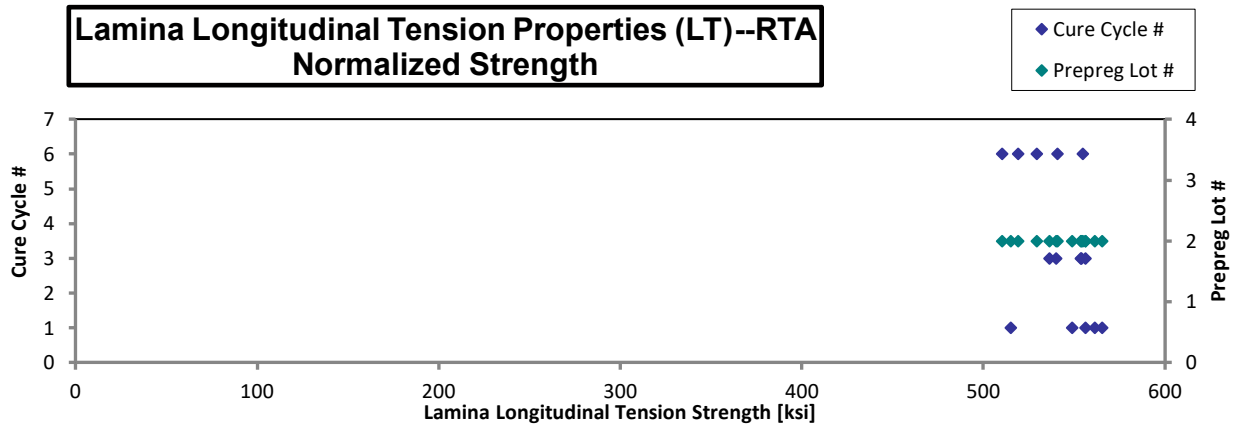
normalizing t_{ply} [in]: 0.0072

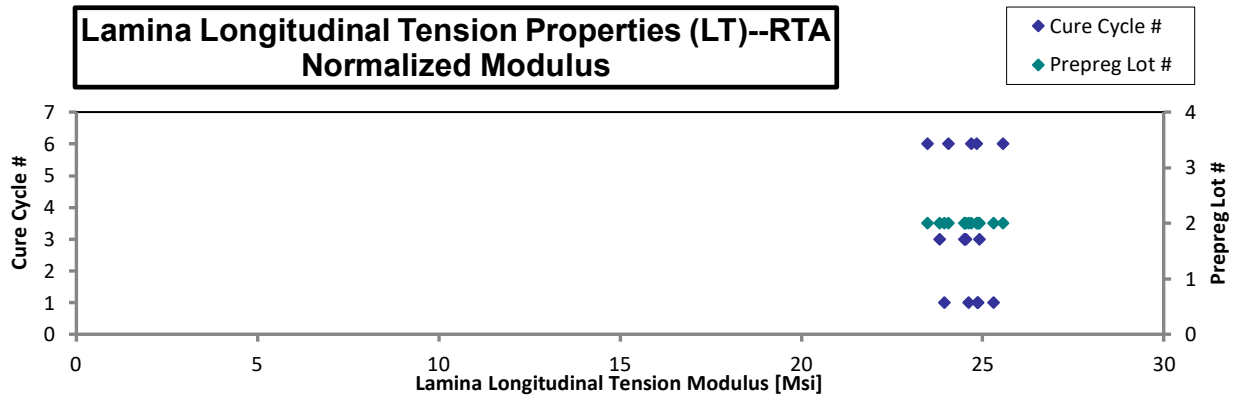
Specimen Number	Batch #	Cure Cycle	Prepreg Lot #	Cure Cycle #	Out-Time [days]	Strength [ksi]	Modulus [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Average Strength [ksi]	Average Modulus [ksi]
1-1 (36/1)	A1200795	C1	2	1	<1	520.500	23.580	0.046	6	XGV		
1-2 (36/1)	A1200795	C1	2	1	<1	545.100	24.350	0.044	6	XGV		
1-3 (36/1)	A1200795	C1	2	1	<1	529.880	23.880	0.046	6	XGV	531.214	23.892
1-4 (36/1)	A1200795	C1	2	1	<1	555.490	24.170	0.044	6	XGV		
1-5 (36/1)	A1200795	C1	2	1	<1	505.100	23.480	0.044	6	XGV		
1-1 (36/28)	A1200795	C3	2	3	28	539.280	23.900	0.044	6	XGV		
1-2 (36/28)	A1200795	C3	2	3	28	525.490	23.240	0.046	6	XGV		
1-3 (36/28)	A1200795	C3	2	3	28	533.880	23.910	0.045	6	XGV	527.536	23.536
1-4 (36/28)	A1200795	C3	2	3	28	524.790	23.810	0.044	6	XGV		
1-5 (36/28)	A1200795	C3	2	3	28	514.240	22.820	0.045	6	XGV		
1-1 (36/70)	A1200795	C6	2	6	70	503.180	22.760	0.045	6	XGV		
1-2 (36/70)	A1200795	C6	2	6	70	508.220	23.960	0.043	6	XGV		
1-3 (36/70)	A1200795	C6	2	6	70	518.220	24.170	0.044	6	XGV	521.454	24.090
1-4 (36/70)	A1200795	C6	2	6	70	533.160	24.480	0.044	6	XGV		
1-5 (36/70)	A1200795	C6	2	6	70	544.490	25.080	0.044	6	XGV		

Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]	Average $Strength_{norm}$ [ksi]	Average $Modulus_{norm}$ [Msi]
0.0076	549.055	24.874		
0.0074	556.456	24.857		
0.0076	561.526	25.306	549.617	24.722
0.0073	565.777	24.618		
0.0073	515.272	23.953		
0.0074	553.886	24.547		
0.0076	554.076	24.504		
0.0075	556.372	24.917	548.234	24.458
0.0074	540.218	24.510		
0.0075	536.619	23.813		
0.0074	519.254	23.487		
0.0072	510.573	24.071		
0.0074	529.616	24.702	531.115	24.534
0.0073	541.182	24.848		
0.0073	554.951	25.562		

Average	526.735	23.839	
Standard Dev.	15.532	0.610	
Coeff. of Var. [%]	2.949	2.560	
Min.	503.180	22.760	
Max.	555.490	25.080	
Number of Spec.	15	15	

$Average_{norm}$	0.0074	542.989	24.571
Standard $Dev._{norm}$		17.439	0.554
Coeff. of Var. $[\%]_{norm}$		3.212	2.256
Min.	0.0072	510.573	23.487
Max.	0.0076	565.777	25.562
Number of Spec.	15	15	15



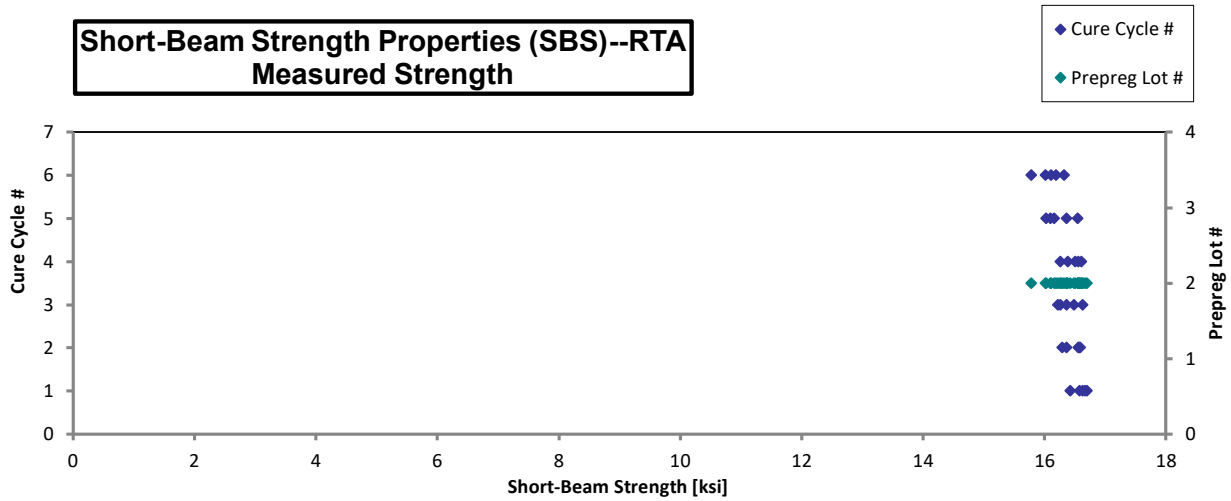


12.2 Lamina Short-Beam Strength Properties (SBS)

Short-Beam Strength Properties (SBS)--RTA
Strength
Less than 3 months (As Manufactured)

Specimen Number	Batch #	Cure Cycle	Prepreg Lot #	Cure Cycle #	Out-Time (days)	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Avg. t_{ply} [in]	Failure Mode	Average Strength [ksi]
1-1 (0/1)	A1200795	C1	2	1	<1	16.420	0.104	14	0.0075	Flexure in Compression	
1-2 (0/1)	A1200795	C1	2	1	<1	16.700	0.104	14	0.0075	Flexure in Compression	
1-3 (0/1)	A1200795	C1	2	1	<1	16.580	0.105	14	0.0075	Flexure in Compression	16.6000
1-4 (0/1)	A1200795	C1	2	1	<1	16.670	0.105	14	0.0075	Flexure in Compression	
1-5 (0/1)	A1200795	C1	2	1	<1	16.630	0.105	14	0.0075	Flexure in Compression	
1-1 (0/14)	A1200795	C2	2	2	14	16.590	0.102	14	0.0073	Flexure in Compression	
1-2 (0/14)	A1200795	C2	2	2	14	16.290	0.102	14	0.0073	Flexure in Compression	
1-3 (0/14)	A1200795	C2	2	2	14	16.580	0.102	14	0.0073	Flexure in Compression	16.4760
1-4 (0/14)	A1200795	C2	2	2	14	16.560	0.101	14	0.0072	Flexure in Compression	
1-5 (0/14)	A1200795	C2	2	2	14	16.360	0.104	14	0.0074	Flexure in Compression	
1-1 (0/28)	A1200795	C3	2	3	28	16.630	0.102	14	0.0073	Flexure in Compression	
1-2 (0/28)	A1200795	C3	2	3	28	16.260	0.101	14	0.0072	Flexure in Compression	
1-3 (0/28)	A1200795	C3	2	3	28	16.220	0.102	14	0.0073	Flexure in Compression	16.3920
1-4 (0/28)	A1200795	C3	2	3	28	16.490	0.101	14	0.0072	Flexure in Compression	
1-5 (0/28)	A1200795	C3	2	3	28	16.360	0.101	14	0.0072	Flexure in Compression	
1-1 (0/42)	A1200795	C4	2	4	42	16.510	0.104	14	0.0074	Inelastic Deformation	
1-2 (0/42)	A1200795	C4	2	4	42	16.260	0.104	14	0.0074	Inelastic Deformation	
1-3 (0/42)	A1200795	C4	2	4	42	16.380	0.105	14	0.0075	Inelastic Deformation	16.4640
1-4 (0/42)	A1200795	C4	2	4	42	16.610	0.103	14	0.0074	Inelastic Deformation	
1-5 (0/42)	A1200795	C4	2	4	42	16.560	0.104	14	0.0074	Inelastic Deformation	
1-1 (0/56)	A1200795	C5	2	5	56	16.100	0.102	14	0.0073	Interlaminar Shear	
1-2 (0/56)	A1200795	C5	2	5	56	16.360	0.104	14	0.0074	Interlaminar Shear	
1-3 (0/56)	A1200795	C5	2	5	56	16.030	0.103	14	0.0074	Interlaminar Shear	16.2400
1-4 (0/56)	A1200795	C5	2	5	56	16.160	0.103	14	0.0074	Interlaminar Shear	
1-5 (0/56)	A1200795	C5	2	5	56	16.550	0.103	14	0.0073	Interlaminar Shear	
1-1 (0/70)	A1200795	C6	2	6	70	16.110	0.102	14	0.0073	Flexure in Compression	
1-2 (0/70)	A1200795	C6	2	6	70	15.780	0.102	14	0.0073	Flexure in Compression	
1-3 (0/70)	A1200795	C6	2	6	70	16.190	0.101	14	0.0072	Flexure in Compression	16.0840
1-4 (0/70)	A1200795	C6	2	6	70	16.020	0.102	14	0.0073	Flexure in Compression	
1-5 (0/70)	A1200795	C6	2	6	70	16.320	0.104	14	0.0074	Flexure in Compression	

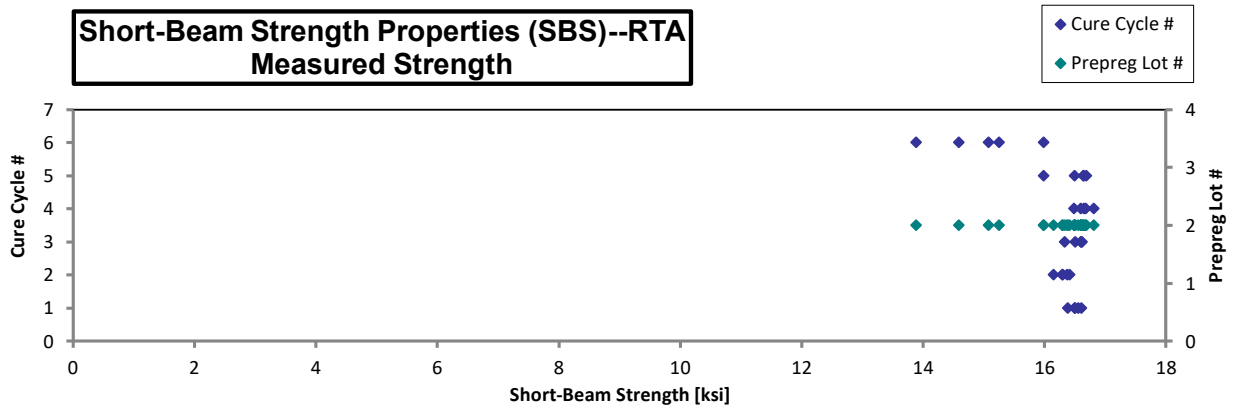
Average	**16.376**	**Average**	**0.0073**
Standard Dev.	**0.230**	**Standard Dev.**	
Coeff. of Var. [%]	**1.401**	**Coeff. of Var. [%]**	
Min.	**15.780**	**Min.**	**0.0072**
Max.	**16.700**	**Max.**	**0.0075**
Number of Spec.	**30**	**Number of Spec.**	**30**



Short-Beam Strength Properties (SBS)--RTA
Strength
12 months (1 year)

Specimen Number	Batch #	Cure Cycle	Prepreg Lot #	Cure Cycle #	Out-Time [days]	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Avg. t_{ply} [in]	Failure Mode	Average Strength [ksi]
1-1 (12/1)	A1200795	C1	2	1	<1	16.560	0.104	14	0.0074	Flexure in Compression	
1-2 (12/1)	A1200795	C1	2	1	<1	16.380	0.104	14	0.0074	Flexure in Compression	
1-3 (12/1)	A1200795	C1	2	1	<1	16.500	0.104	14	0.0075	Flexure in Compression	16.5120
1-4 (12/1)	A1200795	C1	2	1	<1	16.610	0.105	14	0.0075	Flexure in Compression	
1-5 (12/1)	A1200795	C1	2	1	<1	16.510	0.105	14	0.0075	Flexure in Compression	
1-1 (12/14)	A1200795	C2	2	2	14	16.150	0.103	14	0.0074	Flexure in Compression	
1-2 (12/14)	A1200795	C2	2	2	14	16.290	0.104	14	0.0074	Flexure in Compression	
1-3 (12/14)	A1200795	C2	2	2	14	16.300	0.105	14	0.0075	Flexure in Compression	16.3040
1-4 (12/14)	A1200795	C2	2	2	14	16.370	0.104	14	0.0075	Flexure in Compression	
1-5 (12/14)	A1200795	C2	2	2	14	16.410	0.105	14	0.0075	Flexure in Compression	
1-1 (12/28)	A1200795	C3	2	3	28	16.620	0.101	14	0.0072	Flexure in Compression	
1-2 (12/28)	A1200795	C3	2	3	28	16.510	0.102	14	0.0073	Flexure in Compression	
1-3 (12/28)	A1200795	C3	2	3	28	16.610	0.102	14	0.0073	Flexure in Compression	16.5340
1-4 (12/28)	A1200795	C3	2	3	28	16.600	0.102	14	0.0073	Flexure in Compression	
1-5 (12/28)	A1200795	C3	2	3	28	16.330	0.102	14	0.0073	Flexure in Compression	
1-1 (12/42)	A1200795	C4	2	4	42	16.810	0.101	14	0.0072	Flexure in Compression	
1-2 (12/42)	A1200795	C4	2	4	42	16.650	0.101	14	0.0072	Flexure in Compression	
1-3 (12/42)	A1200795	C4	2	4	42	16.600	0.102	14	0.0073	Flexure in Compression	16.6460
1-4 (12/42)	A1200795	C4	2	4	42	16.680	0.102	14	0.0073	Flexure in Compression	
1-5 (12/42)	A1200795	C4	2	4	42	16.490	0.102	14	0.0073	Flexure in Compression	
1-1 (12/56)	A1200795	C5	2	5	56	16.500	0.102	14	0.0073	Flexure in Compression	
1-2 (12/56)	A1200795	C5	2	5	56	16.690	0.102	14	0.0073	Flexure in Compression	
1-3 (12/56)	A1200795	C5	2	5	56	16.650	0.103	14	0.0073	Flexure in Compression	16.4940
1-4 (12/56)	A1200795	C5	2	5	56	16.640	0.102	14	0.0073	Flexure in Compression	
1-5 (12/56)	A1200795	C5	2	5	56	15.990	0.102	14	0.0073	Flexure in Compression	
1-1 (12/70)	A1200795	C6	2	6	70	15.250	0.101	14	0.0072	Flexure in Compression	
1-2 (12/70)	A1200795	C6	2	6	70	13.890	0.101	14	0.0072	Flexure in Compression	
1-3 (12/70)	A1200795	C6	2	6	70	15.990	0.102	14	0.0073	Flexure in Compression	14.9600
1-4 (12/70)	A1200795	C6	2	6	70	15.080	0.102	14	0.0073	Flexure in Compression	
1-5 (12/70)	A1200795	C6	2	6	70	14.590	0.102	14	0.0073	Flexure in Compression	

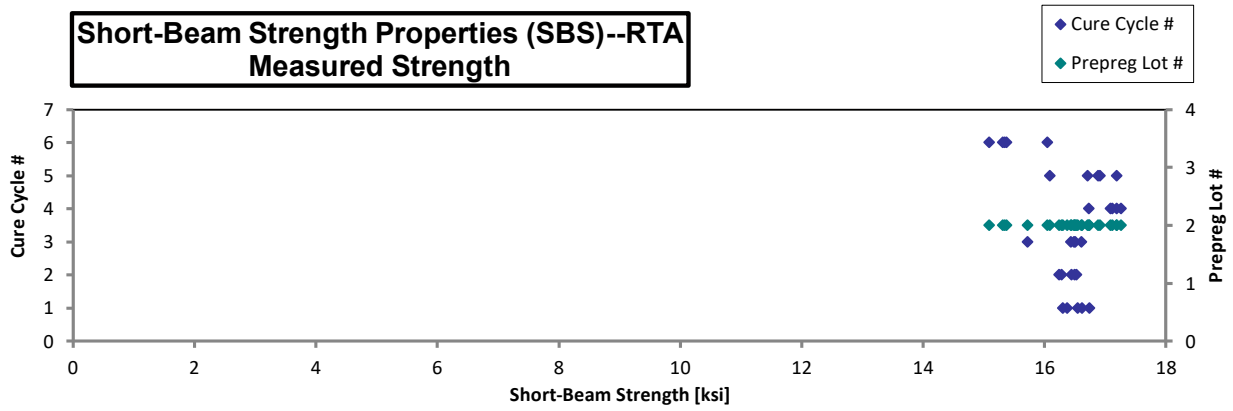
Average	**16.242**	**Average**	**0.0073**
Standard Dev.	**0.673**	**Standard Dev.**	
Coeff. of Var. [%]	**4.142**	**Coeff. of Var. [%]**	
Min.	**13.890**	**Min.**	**0.0072**
Max.	**16.810**	**Max.**	**0.0075**
Number of Spec.	**30**	**Number of Spec.**	**30**



Short-Beam Strength Properties (SBS)--RTA
Strength
24 months (2 years)

Specimen Number	Batch #	Cure Cycle	Prepreg Lot #	Cure Cycle #	Out-Time [days]	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Avg. t_{ply} [in]	Failure Mode	Average Strength [ksi]
1-1 (24/1)	A1200795	C1	2	1	<1	16.370	0.100	14	0.0072	Inelastic Deformation	
1-2 (24/1)	A1200795	C1	2	1	<1	16.300	0.101	14	0.0072	Inelastic Deformation	
1-3 (24/1)	A1200795	C1	2	1	<1	16.740	0.101	14	0.0072	Inelastic Deformation	16.5160
1-4 (24/1)	A1200795	C1	2	1	<1	16.550	0.101	14	0.0072	Inelastic Deformation	
1-5 (24/1)	A1200795	C1	2	1	<1	16.620	0.101	14	0.0072	Inelastic Deformation	
1-1 (24/14)	A1200795	C2	2	2	14	16.530	0.102	14	0.0073	Inelastic Deformation	
1-2 (24/14)	A1200795	C2	2	2	14	16.500	0.102	14	0.0073	Inelastic Deformation	
1-3 (24/14)	A1200795	C2	2	2	14	16.450	0.101	14	0.0072	Inelastic Deformation	16.4000
1-4 (24/14)	A1200795	C2	2	2	14	16.240	0.102	14	0.0073	Inelastic Deformation	
1-5 (24/14)	A1200795	C2	2	2	14	16.280	0.102	14	0.0073	Inelastic Deformation	
1-1 (24/28)	A1200795	C3	2	3	28	16.490	0.102	14	0.0073	Flexure in Compression	
1-2 (24/28)	A1200795	C3	2	3	28	16.610	0.102	14	0.0073	Flexure in Compression	
1-3 (24/28)	A1200795	C3	2	3	28	16.440	0.102	14	0.0073	Flexure in Compression	16.3540
1-4 (24/28)	A1200795	C3	2	3	28	16.510	0.102	14	0.0073	Flexure in Compression	
1-5 (24/28)	A1200795	C3	2	3	28	15.720	0.103	14	0.0074	Flexure in Compression	
1-1 (24/42)	A1200795	C4	2	4	42	17.190	0.101	14	0.0072	Flexure in Compression	
1-2 (24/42)	A1200795	C4	2	4	42	16.730	0.102	14	0.0073	Flexure in Compression	
1-3 (24/42)	A1200795	C4	2	4	42	17.090	0.101	14	0.0072	Flexure in Compression	17.0780
1-4 (24/42)	A1200795	C4	2	4	42	17.120	0.102	14	0.0073	Flexure in Compression	
1-5 (24/42)	A1200795	C4	2	4	42	17.260	0.101	14	0.0072	Flexure in Compression	
1-1 (24/56)	A1200795	C5	2	5	56	16.090	0.102	14	0.0073	Flexure in Compression	
1-2 (24/56)	A1200795	C5	2	5	56	17.190	0.102	14	0.0073	Flexure in Compression	
1-3 (24/56)	A1200795	C5	2	5	56	16.710	0.101	14	0.0072	Flexure in Compression	16.7560
1-4 (24/56)	A1200795	C5	2	5	56	16.910	0.101	14	0.0072	Flexure in Compression	
1-5 (24/56)	A1200795	C5	2	5	56	16.880	0.102	14	0.0073	Flexure in Compression	
1-1 (24/70)	A1200795	C6	2	6	70	16.050	0.101	14	0.0072	Flexure in Compression	
1-2 (24/70)	A1200795	C6	2	6	70	15.310	0.102	14	0.0073	Flexure in Compression	
1-3 (24/70)	A1200795	C6	2	6	70	15.090	0.102	14	0.0073	Flexure in Compression	15.4340
1-4 (24/70)	A1200795	C6	2	6	70	15.380	0.102	14	0.0073	Flexure in Compression	
1-5 (24/70)	A1200795	C6	2	6	70	15.340	0.103	14	0.0073	Flexure in Compression	

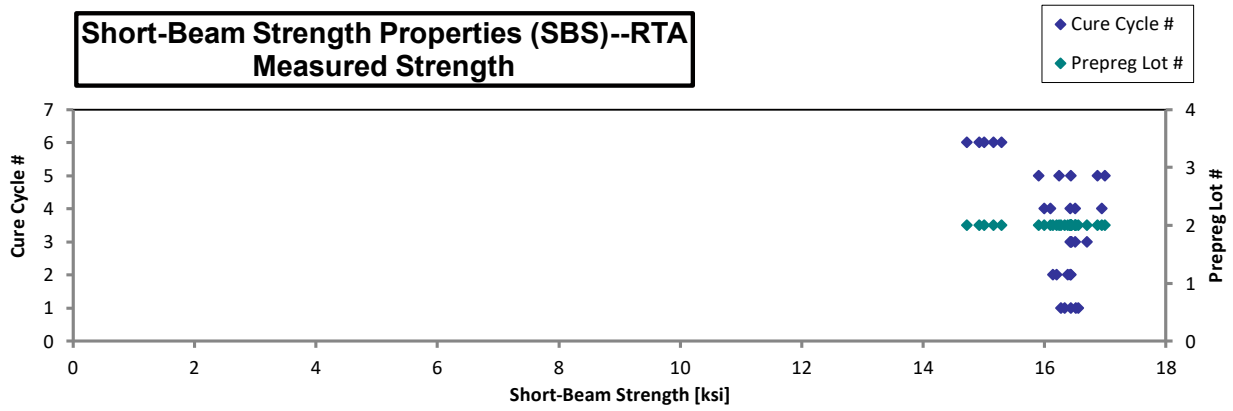
Average	**16.423**	**Average**	**0.0073**
Standard Dev.	**0.580**	**Standard Dev.**	
Coeff. of Var. [%]	**3.530**	**Coeff. of Var. [%]**	
Min.	**15.090**	**Min.**	**0.0072**
Max.	**17.260**	**Max.**	**0.0074**
Number of Spec.	**30**	**Number of Spec.**	**30**



Short-Beam Strength Properties (SBS)--RTA
Strength
36 months (3 years)

Specimen Number	Batch #	Cure Cycle	Prepreg Lot #	Cure Cycle #	Out-Time [days]	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Avg. t_{ply} [in]	Failure Mode	Average Strength [ksi]
1-1 (36/1)	A1200795	C1	2	1	<1	16.330	0.104	14	0.0074	Inelastic Deformation	
1-2 (36/1)	A1200795	C1	2	1	<1	16.560	0.104	14	0.0074	Inelastic Deformation	
1-3 (36/1)	A1200795	C1	2	1	<1	16.440	0.105	14	0.0075	Inelastic Deformation	16.4240
1-4 (36/1)	A1200795	C1	2	1	<1	16.520	0.104	14	0.0074	Inelastic Deformation	
1-5 (36/1)	A1200795	C1	2	1	<1	16.270	0.105	14	0.0075	Inelastic Deformation	
1-1 (36/14)	A1200795	C2	2	2	14	16.420	0.104	14	0.0074	Inelastic Deformation	
1-2 (36/14)	A1200795	C2	2	2	14	16.380	0.105	14	0.0075	Inelastic Deformation	
1-3 (36/14)	A1200795	C2	2	2	14	16.140	0.102	14	0.0073	Inelastic Deformation	16.3160
1-4 (36/14)	A1200795	C2	2	2	14	16.200	0.105	14	0.0075	Inelastic Deformation	
1-5 (36/14)	A1200795	C2	2	2	14	16.440	0.105	14	0.0075	Inelastic Deformation	
1-1 (36/28)	A1200795	C3	2	3	28	16.700	0.103	14	0.0074	Inelastic Deformation	
1-2 (36/28)	A1200795	C3	2	3	28	16.440	0.104	14	0.0075	Inelastic Deformation	
1-3 (36/28)	A1200795	C3	2	3	28	16.450	0.105	14	0.0075	Inelastic Deformation	16.5060
1-4 (36/28)	A1200795	C3	2	3	28	16.430	0.103	14	0.0074	Inelastic Deformation	
1-5 (36/28)	A1200795	C3	2	3	28	16.510	0.105	14	0.0075	Inelastic Deformation	
1-1 (36/42)	A1200795	C4	2	4	42	16.510	0.104	14	0.0075	Inelastic Deformation	
1-2 (36/42)	A1200795	C4	2	4	42	16.950	0.104	14	0.0074	Inelastic Deformation	
1-3 (36/42)	A1200795	C4	2	4	42	16.000	0.104	14	0.0074	Inelastic Deformation	16.3960
1-4 (36/42)	A1200795	C4	2	4	42	16.100	0.104	14	0.0074	Inelastic Deformation	
1-5 (36/42)	A1200795	C4	2	4	42	16.420	0.104	14	0.0074	Inelastic Deformation	
1-1 (36/56)	A1200795	C5	2	5	56	16.870	0.102	14	0.0073	Flexure in Compression	
1-2 (36/56)	A1200795	C5	2	5	56	16.440	0.103	14	0.0073	Flexure in Compression	
1-3 (36/56)	A1200795	C5	2	5	56	15.900	0.103	14	0.0074	Flexure in Compression	16.4900
1-4 (36/56)	A1200795	C5	2	5	56	16.240	0.102	14	0.0073	Flexure in Compression	
1-5 (36/56)	A1200795	C5	2	5	56	17.000	0.103	14	0.0073	Flexure in Compression	
1-1 (36/70)	A1200795	C6	2	6	70	15.160	0.107	14	0.0077	Inelastic Deformation	
1-2 (36/70)	A1200795	C6	2	6	70	14.930	0.106	14	0.0076	Inelastic Deformation	
1-3 (36/70)	A1200795	C6	2	6	70	14.720	0.106	14	0.0076	Inelastic Deformation	15.0220
1-4 (36/70)	A1200795	C6	2	6	70	15.290	0.106	14	0.0076	Inelastic Deformation	
1-5 (36/70)	A1200795	C6	2	6	70	15.010	0.107	14	0.0076	Inelastic Deformation	

Average	**16.192**	**Average**	**0.0074**
Standard Dev.	**0.590**	**Standard Dev.**	
Coeff. of Var. [%]	**3.644**	**Coeff. of Var. [%]**	
Min.	**14.720**	**Min.**	**0.0073**
Max.	**17.000**	**Max.**	**0.0077**
Number of Spec.	**30**	**Number of Spec.**	**30**



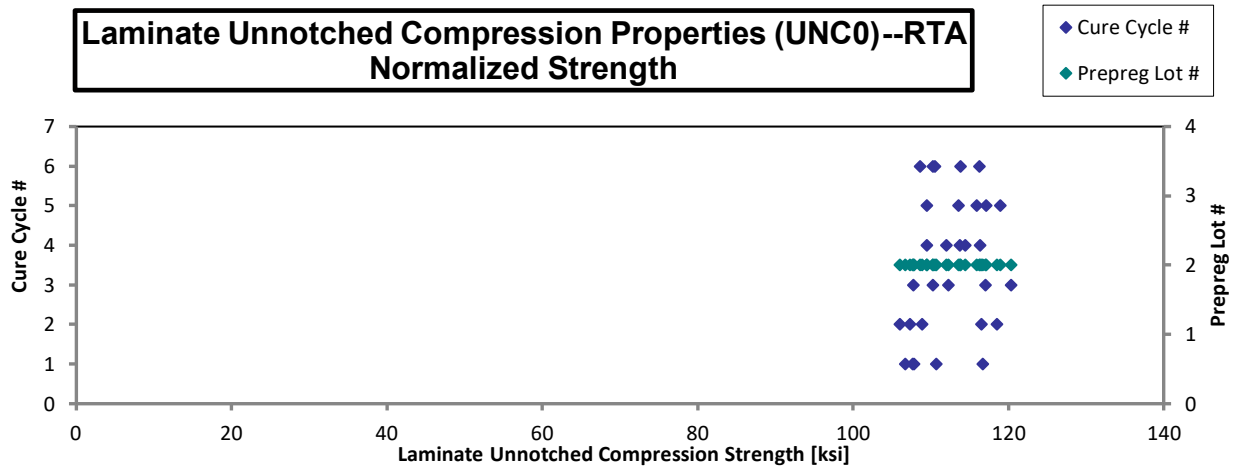
12.3 Laminate Unnotched Compression 0 Properties (UNC0)

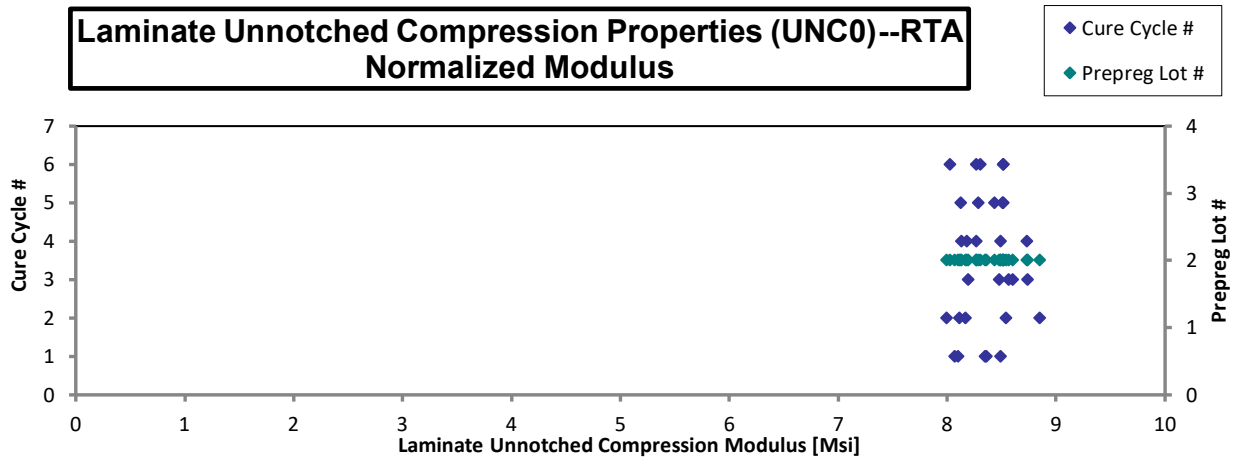
Laminate Unnotched Compression Properties (UNC0)--RTA
Strength & Modulus
Less than 3 months (As Manufactured)

normalizing t_{ply} [in]: 0.0072

Specimen Number	Batch #	Cure Cycle	Prepreg Lot #	Cure Cycle #	Out-Time (days)	Strength [ksi]	Modulus [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Average Strength [ksi]	Average Modulus [Msi]	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]	Average $Strength_{norm}$ [ksi]	Average $Modulus_{norm}$ [Msi]
1-1 (0/1)	A1200795	C1	2	1	<1	106.900	8.080	0.108	15	BGM			0.0072	106.702	8.065		
1-2 (0/1)	A1200795	C1	2	1	<1	113.900	8.280	0.111	15	HGM			0.0074	116.748	8.487		
1-3 (0/1)	A1200795	C1	2	1	<1	110.200	8.060	0.109	15	HAT	108.700	8.178	0.0072	110.710	8.097	109.942	8.271
1-4 (0/1)	A1200795	C1	2	1	<1	106.300	8.240	0.110	15	BGM			0.0073	107.826	8.358		
1-5 (0/1)	A1200795	C1	2	1	<1	106.200	8.230	0.110	15	HAT			0.0073	107.724	8.348		
1-1 (0/14)	A1200795	C2	2	2	14	113.990	8.510	0.112	15	BGM			0.0075	118.528	8.849		
1-2 (0/14)	A1200795	C2	2	2	14	103.840	7.940	0.110	15	BGM			0.0074	106.051	8.109		
1-3 (0/14)	A1200795	C2	2	2	14	108.080	7.930	0.109	15	BGM	108.992	8.146	0.0073	108.931	7.992	111.466	8.331
1-4 (0/14)	A1200795	C2	2	2	14	105.800	8.050	0.110	15	BGM			0.0073	107.318	8.166		
1-5 (0/14)	A1200795	C2	2	2	14	113.250	8.300	0.111	15	BGM			0.0074	116.501	8.538		
1-1 (0/28)	A1200795	C3	2	3	28	105.080	8.260	0.111	15	BGM			0.0074	107.804	8.474		
1-2 (0/28)	A1200795	C3	2	3	28	109.830	8.380	0.110	15	BGM			0.0074	112.271	8.566		
1-3 (0/28)	A1200795	C3	2	3	28	107.770	8.000	0.111	15	BGM	110.758	8.302	0.0074	110.315	8.189	113.575	8.513
1-4 (0/28)	A1200795	C3	2	3	28	114.390	8.400	0.111	15	BGM			0.0074	117.091	8.598		
1-5 (0/28)	A1200795	C3	2	3	28	116.720	8.470	0.111	15	BGM			0.0074	120.395	8.737		
1-1 (0/42)	A1200795	C4	2	4	42	109.670	8.090	0.110	15	BGM			0.0074	112.056	8.266		
1-2 (0/42)	A1200795	C4	2	4	42	112.050	8.010	0.110	15	BGM			0.0073	113.762	8.132		
1-3 (0/42)	A1200795	C4	2	4	42	113.940	8.140	0.109	15	BGM	111.496	8.230	0.0072	114.468	8.178	113.236	8.359
1-4 (0/42)	A1200795	C4	2	4	42	107.790	8.360	0.110	15	BGM			0.0073	109.487	8.492		
1-5 (0/42)	A1200795	C4	2	4	42	114.030	8.550	0.110	15	BGM			0.0074	116.406	8.728		
1-1 (0/56)	A1200795	C5	2	5	56	110.500	8.060	0.111	15	BGM			0.0074	113.621	8.288		
1-2 (0/56)	A1200795	C5	2	5	56	115.200	7.990	0.110	15	BGM			0.0073	117.120	8.123		
1-3 (0/56)	A1200795	C5	2	5	56	113.300	8.320	0.111	15	BGM	112.200	8.166	0.0074	115.975	8.516	115.033	8.373
1-4 (0/56)	A1200795	C5	2	5	56	115.900	8.290	0.111	15	BGM			0.0074	118.958	8.509		
1-5 (0/56)	A1200795	C5	2	5	56	106.100	8.170	0.111	15	BGM			0.0074	109.489	8.431		
1-1 (0/70)	A1200795	C6	2	6	70	107.100	8.150	0.110	15	BGM			0.0073	108.637	8.267		
1-2 (0/70)	A1200795	C6	2	6	70	109.000	7.910	0.110	15	BGM			0.0073	110.564	8.024		
1-3 (0/70)	A1200795	C6	2	6	70	114.000	8.350	0.110	15	BGM	109.760	8.164	0.0073	116.269	8.516	111.930	8.325
1-4 (0/70)	A1200795	C6	2	6	70	110.500	8.060	0.111	15	BGM			0.0074	113.876	8.306		
1-5 (0/70)	A1200795	C6	2	6	70	108.200	8.350	0.110	15	BGM			0.0073	110.304	8.512		

Average	**110.318**	**8.198**	**Average$_{norm}$**	**0.0073**	**112.530**	**8.362**
Standard Dev.	**3.655**	**0.180**	**Standard Dev.$_{norm}$**		**4.145**	**0.227**
Coeff. of Var. [%]	**3.313**	**2.195**	**Coeff. of Var. [%]$_{norm}$**		**3.684**	**2.715**
Min.	**103.840**	**7.910**	**Min.**	**0.0072**	**106.051**	**7.992**
Max.	**116.720**	**8.550**	**Max.**	**0.0075**	**120.395**	**8.849**
Number of Spec.	**30**	**30**	**Number of Spec.**	**30**	**30**	**30**


Laminate Unnotched Compression Properties (UNC0)--RTA
Normalized Strength
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
5
6
7
0
20
40
60
80
100
120
140
Laminate Unnotched Compression Strength [ksi]


Laminate Unnotched Compression Properties (UNC0)--RTA
Normalized Modulus
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
5
6
7
0
1
2
3
4
5
6
7
8
9
10
Laminate Unnotched Compression Modulus [Msi]

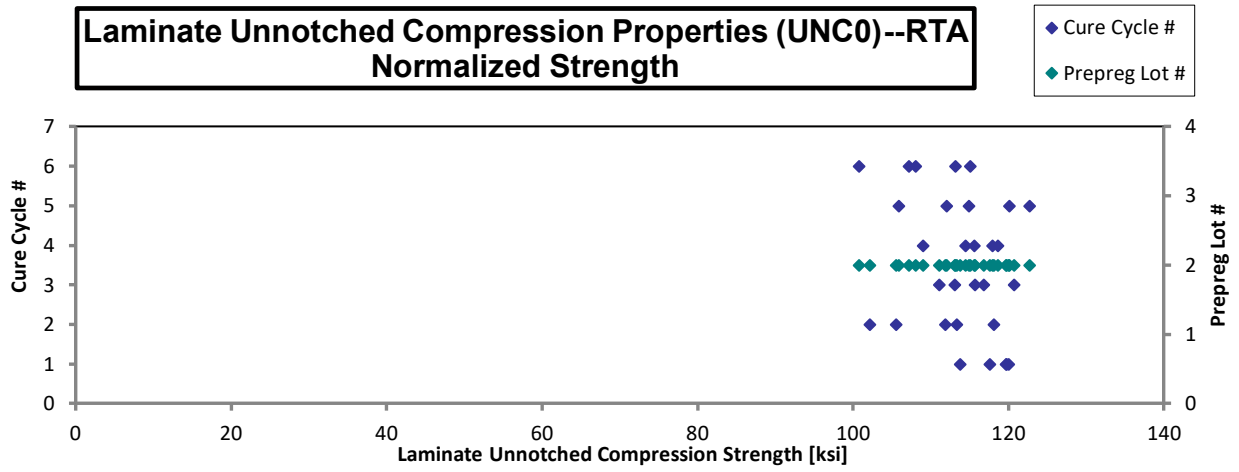
Laminate Unnotched Compression Properties (UNC0)--RTA
Strength & Modulus
12 months (1 year)

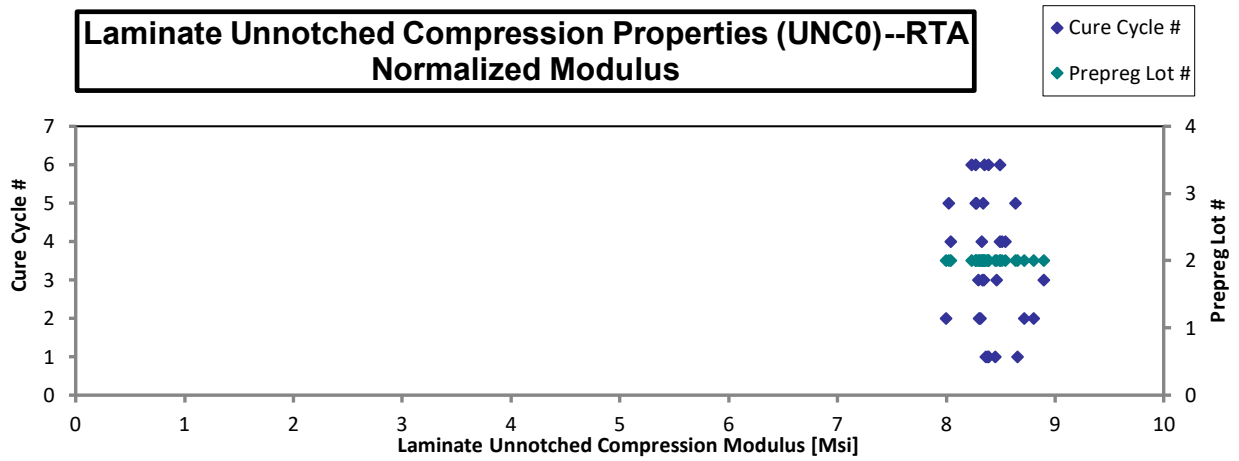
normalizing t_{ply} [in]: 0.0072

Specimen Number	Batch #	Cure Cycle	Prepreg Lot #	Cure Cycle #	Out-Time (days)	Strength [ksi]	Modulus [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Average Strength [ksi]	Average Modulus [Msi]	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]	Average $Strength_{norm}$ [ksi]	Average $Modulus_{norm}$ [Msi]
1-1 (12/1)	A1200795	C1	2	1	<1	115.300	8.050	0.112	15	BAT			0.0075	119.997	8.378		
1-2 (12/1)	A1200795	C1	2	1	<1	111.400	8.200	0.114	15	BGM			0.0076	117.589	8.656		
1-3 (12/1)	A1200795	C1	2	1	<1	115.300	8.050	0.112	15	BAT	113.020	8.078	0.0075	119.784	8.363	118.160	8.446
1-4 (12/1)	A1200795	C1	2	1	<1	108.800	8.080	0.113	15	BAT			0.0075	113.787	8.450		
1-5 (12/1)	A1200795	C1	2	1	<1	114.300	8.010	0.113	15	BAT			0.0075	119.645	8.385		
1-1 (12/14)	A1200795	C2	2	2	14	115.000	8.570	0.111	15	BGM			0.0074	118.088	8.800		
1-2 (12/14)	A1200795	C2	2	2	14	101.600	7.950	0.109	15	BGM			0.0072	102.164	7.994		
1-3 (12/14)	A1200795	C2	2	2	14	110.200	8.070	0.111	15	BGM	108.020	8.258	0.0074	113.312	8.298	110.205	8.424
1-4 (12/14)	A1200795	C2	2	2	14	109.500	8.530	0.110	15	BGM			0.0074	111.883	8.716		
1-5 (12/14)	A1200795	C2	2	2	14	103.800	8.170	0.110	15	BGM			0.0073	105.578	8.310		
1-1 (12/28)	A1200795	C3	2	3	28	114.600	8.440	0.107	15	HAT			0.0071	113.114	8.331		
1-2 (12/28)	A1200795	C3	2	3	28	110.100	8.220	0.109	15	HAT			0.0073	111.119	8.296		
1-3 (12/28)	A1200795	C3	2	3	28	113.700	8.200	0.110	15	HAB	114.280	8.378	0.0073	115.700	8.344	115.485	8.466
1-4 (12/28)	A1200795	C3	2	3	28	115.500	8.370	0.109	15	HGM			0.0073	116.783	8.463		
1-5 (12/28)	A1200795	C3	2	3	28	117.500	8.660	0.111	15	HGM			0.0074	120.709	8.897		
1-1 (12/42)	A1200795	C4	2	4	42	113.800	8.240	0.112	15	BGM			0.0075	117.962	8.541		
1-2 (12/42)	A1200795	C4	2	4	42	113.900	7.920	0.110	15	BGM			0.0073	115.587	8.037		
1-3 (12/42)	A1200795	C4	2	4	42	111.300	8.090	0.111	15	BGM	111.840	8.140	0.0074	114.495	8.322	115.143	8.381
1-4 (12/42)	A1200795	C4	2	4	42	114.400	8.210	0.112	15	BGM			0.0075	118.637	8.514		
1-5 (12/42)	A1200795	C4	2	4	42	105.800	8.240	0.111	15	BGM			0.0074	109.033	8.492		
1-1 (12/56)	A1200795	C5	2	5	56	103.900	7.870	0.110	15	BGM			0.0073	105.920	8.023		
1-2 (12/56)	A1200795	C5	2	5	56	109.500	8.090	0.111	15	BGM			0.0074	112.035	8.277		
1-3 (12/56)	A1200795	C5	2	5	56	118.400	8.330	0.112	15	BGM	112.040	8.086	0.0075	122.730	8.635	115.138	8.308
1-4 (12/56)	A1200795	C5	2	5	56	111.600	8.100	0.111	15	BGM			0.0074	114.907	8.340		
1-5 (12/56)	A1200795	C5	2	5	56	116.800	8.040	0.111	15	BGM			0.0074	120.099	8.267		
1-1 (12/70)	A1200795	C6	2	6	70	106.500	8.150	0.110	15	HAB			0.0073	108.028	8.267		
1-2 (12/70)	A1200795	C6	2	6	70	110.900	8.070	0.110	15	HAT			0.0073	113.159	8.234		
1-3 (12/70)	A1200795	C6	2	6	70	99.200	8.260	0.110	15	HAT	106.760	8.188	0.0073	100.761	8.390	108.842	8.347
1-4 (12/70)	A1200795	C6	2	6	70	105.300	8.200	0.110	15	HAB			0.0073	107.201	8.348		
1-5 (12/70)	A1200795	C6	2	6	70	111.900	8.260	0.111	15	HGM			0.0074	115.060	8.493		

Average	**110.993**	**8.188**	
Standard Dev.	**4.859**	**0.187**	
Coeff. of Var. [%]	**4.378**	**2.279**	
Min.	**99.200**	**7.870**	
Max.	**118.400**	**8.660**	
Number of Spec.	**30**	**30**	

$Average_{norm}$	**0.0074**	**113.829**	**8.395**
Standard $Dev._{norm}$		**5.625**	**0.208**
Coeff. of Var. $[\%]_{norm}$		**4.942**	**2.474**
Min.	**0.0071**	**100.761**	**7.994**
Max.	**0.0076**	**122.730**	**8.897**
Number of Spec.	**30**	**30**	**30**


Laminate Unnotched Compression Properties (UNC0)--RTA
Normalized Strength
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Unnotched Compression Strength [ksi]
0
20
40
60
80
100
120
140


Laminate Unnotched Compression Properties (UNC0)--RTA
Normalized Modulus
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Unnotched Compression Modulus [Msi]
0
1
2
3
4
5
6
7
8
9
10

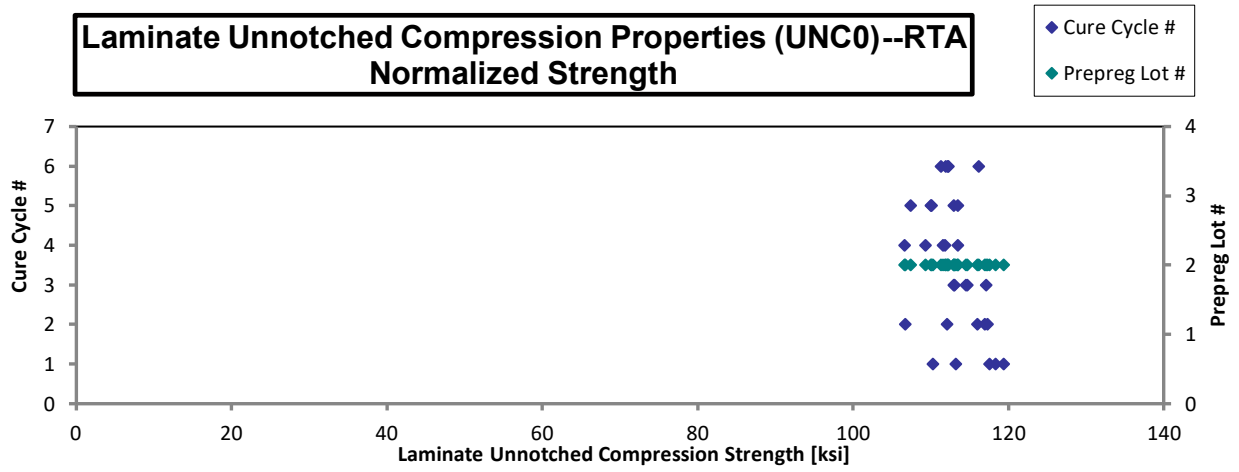
Laminate Unnotched Compression Properties (UNC0)--RTA
Strength & Modulus
24 months (2 years)

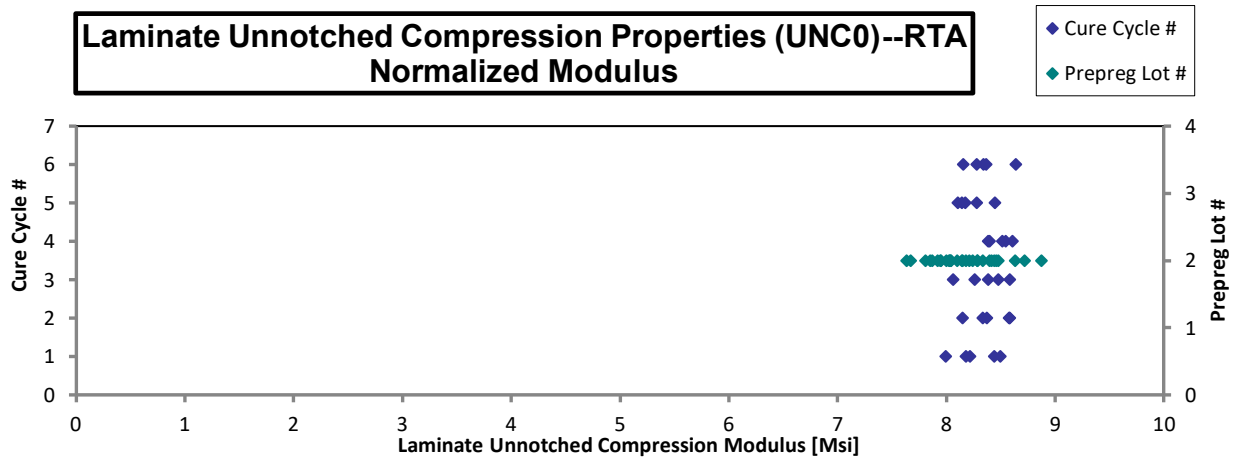
normalizing t_{ply} [in]: 0.0072

Specimen Number	Batch #	Cure Cycle	Prepreg Lot #	Cure Cycle #	Out-Time [days]	Strength [ksi]	Modulus [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Average Strength [ksi]	Average Modulus [Msi]	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]	Average $Strength_{norm}$ [ksi]	Average $Modulus_{norm}$ [Msi]
1-1 (24/1)	A1200795	C1	2	1	<1	114.900	8.030	0.111	15	BAT			0.0074	117.613	8.220		
1-2 (24/1)	A1200795	C1	2	1	<1	109.900	7.970	0.108	15	BAT			0.0072	110.256	7.996		
1-3 (24/1)	A1200795	C1	2	1	<1	114.300	8.150	0.112	15	BAT	113.300	8.092	0.0075	118.375	8.441	115.764	8.267
1-4 (24/1)	A1200795	C1	2	1	<1	111.100	8.030	0.110	15	BGM			0.0073	113.209	8.182		
1-5 (24/1)	A1200795	C1	2	1	<1	116.300	8.280	0.111	15	BAB			0.0074	119.369	8.499		
1-1 (24/14)	A1200795	C2	2	2	14	116.300	8.400	0.108	15	BGM			0.0072	115.977	8.377		
1-2 (24/14)	A1200795	C2	2	2	14	113.900	8.360	0.111	15	BGM			0.0074	116.958	8.584		
1-3 (24/14)	A1200795	C2	2	2	14	105.000	8.020	0.110	15	BGM	111.820	8.258	0.0073	106.750	8.154	113.828	8.407
1-4 (24/14)	A1200795	C2	2	2	14	109.600	8.150	0.111	15	BGM			0.0074	112.137	8.339		
1-5 (24/14)	A1200795	C2	2	2	14	114.300	8.360	0.111	15	BAB			0.0074	117.316	8.581		
1-1 (24/28)	A1200795	C3	2	3	28	113.800	8.320	0.107	15	BGM			0.0072	113.010	8.262		
1-2 (24/28)	A1200795	C3	2	3	28	114.200	8.270	0.111	15	BGM			0.0074	117.108	8.481		
1-3 (24/28)	A1200795	C3	2	3	28	112.800	7.940	0.110	15	BGM	112.820	8.234	0.0073	114.576	8.065	114.488	8.356
1-4 (24/28)	A1200795	C3	2	3	28	110.800	8.220	0.110	15	BGM			0.0073	113.057	8.387		
1-5 (24/28)	A1200795	C3	2	3	28	112.500	8.420	0.110	15	BGM			0.0073	114.688	8.584		
1-1 (24/42)	A1200795	C4	2	4	42	105.300	8.410	0.109	15	BGM			0.0073	106.665	8.519		
1-2 (24/42)	A1200795	C4	2	4	42	109.800	8.390	0.110	15	BGM			0.0073	111.833	8.545		
1-3 (24/42)	A1200795	C4	2	4	42	110.600	8.310	0.109	15	BGM	108.980	8.368	0.0073	111.573	8.383	110.578	8.491
1-4 (24/42)	A1200795	C4	2	4	42	108.200	8.310	0.109	15	BGM			0.0073	109.352	8.398		
1-5 (24/42)	A1200795	C4	2	4	42	111.000	8.420	0.110	15	BGM			0.0074	113.467	8.607		
1-1 (24/56)	A1200795	C5	2	5	56	111.200	8.230	0.107	15	BGM			0.0071	110.016	8.142		
1-2 (24/56)	A1200795	C5	2	5	56	112.300	8.060	0.109	15	BGM			0.0072	112.976	8.109		
1-3 (24/56)	A1200795	C5	2	5	56	108.500	8.050	0.110	15	BGM	109.840	8.158	0.0073	110.158	8.173	110.812	8.230
1-4 (24/56)	A1200795	C5	2	5	56	110.400	8.220	0.111	15	BGM			0.0074	113.467	8.448		
1-5 (24/56)	A1200795	C5	2	5	56	106.800	8.230	0.109	15	BGM			0.0072	107.443	8.280		
1-1 (24/70)	A1200795	C6	2	6	70	113.000	8.210	0.107	15	BGM			0.0072	112.268	8.157		
1-2 (24/70)	A1200795	C6	2	6	70	109.800	8.120	0.110	15	BAT			0.0073	111.935	8.278		
1-3 (24/70)	A1200795	C6	2	6	70	109.500	8.140	0.111	15	BGM	111.180	8.236	0.0074	112.187	8.340	112.784	8.356
1-4 (24/70)	A1200795	C6	2	6	70	108.500	8.150	0.111	15	BGM			0.0074	111.363	8.365		
1-5 (24/70)	A1200795	C6	2	6	70	115.100	8.560	0.109	15	BGM			0.0073	116.166	8.639		

Average	**111.323**	**8.224**	
Standard Dev.	**2.994**	**0.156**	
Coeff. of Var. [%]	**2.689**	**1.893**	
Min.	**105.000**	**7.940**	
Max.	**116.300**	**8.560**	
Number of Spec.	**30**	**30**	

$Average_{norm}$	**0.0073**	**113.042**	**8.351**
Standard $Dev._{norm}$		**3.340**	**0.178**
Coeff. of Var. $[\%]_{norm}$		**2.955**	**2.133**
Min.	**0.0071**	**106.665**	**7.996**
Max.	**0.0075**	**119.369**	**8.639**
Number of Spec.	**30**	**30**	**30**


Laminate Unnotched Compression Properties (UNC0)--RTA
Normalized Strength
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
5
6
7
0
20
40
60
80
100
120
140
Laminate Unnotched Compression Strength [ksi]

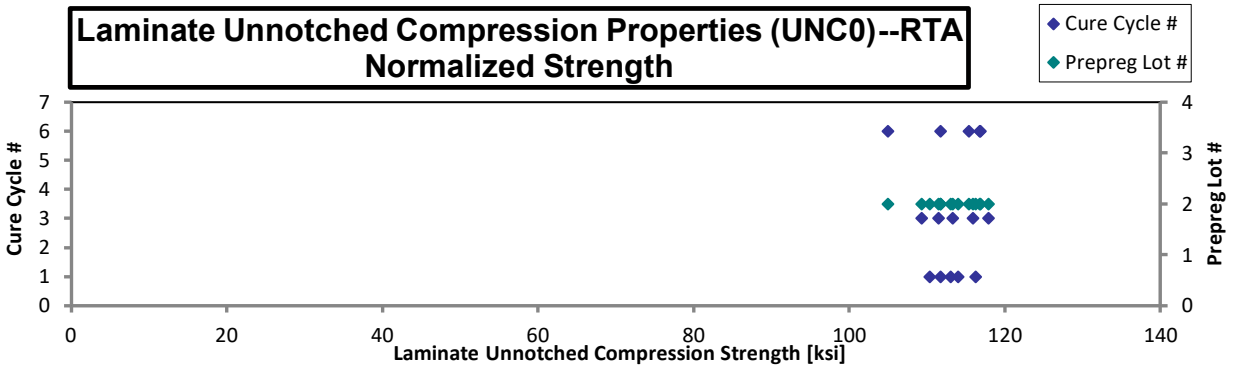

Laminate Unnotched Compression Properties (UNC0)--RTA
Normalized Modulus
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
5
6
7
0
1
2
3
4
5
6
7
8
9
10
Laminate Unnotched Compression Modulus [Msi]

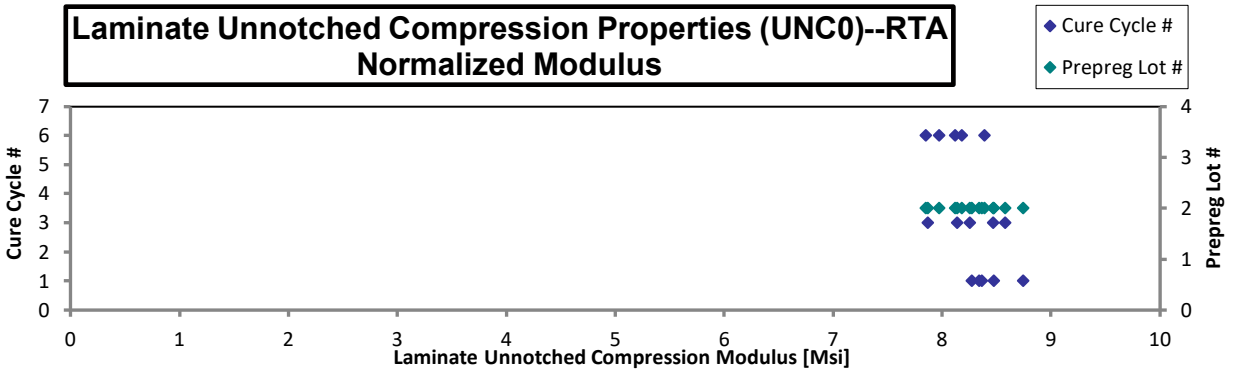
Laminate Unnotched Compression Properties (UNC0)--RTA
Strength & Modulus
36 months (3 years)

normalizing t_{ply} [in]: 0.0072

Specimen Number	Batch #	Cure Cycle	Prepreg Lot #	Cure Cycle #	Out-Time [days]	Strength [ksi]	Modulus [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Average Strength [ksi]	Average Modulus [Msi]	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]	Average $Strength_{norm}$ [ksi]	Average $Modulus_{norm}$ [Msi]
1-1 (36/1)	A1200795	C1	2	1	<1	110.700	8.190	0.110	15	BAB			0.0074	113.109	8.368		
1-2 (36/1)	A1200795	C1	2	1	<1	113.300	8.130	0.111	15	BGM			0.0074	116.290	8.345		
1-3 (36/1)	A1200795	C1	2	1	<1	106.400	7.980	0.112	15	BAB	109.540	8.176	0.0075	110.341	8.276	113.099	8.443
1-4 (36/1)	A1200795	C1	2	1	<1	107.700	8.170	0.112	15	BAT			0.0075	111.739	8.476		
1-5 (36/1)	A1200795	C1	2	1	<1	109.600	8.410	0.112	15	BAT			0.0075	114.014	8.749		
1-1 (36/28)	A1200795	C3	2	3	28	109.600	8.000	0.110	15	BAT			0.0073	111.528	8.141		
1-2 (36/28)	A1200795	C3	2	3	28	111.100	8.120	0.113	15	BAT			0.0075	115.935	8.473		
1-3 (36/28)	A1200795	C3	2	3	28	106.500	7.670	0.111	15	BGM	110.280	8.024	0.0074	109.310	7.872	113.599	8.266
1-4 (36/28)	A1200795	C3	2	3	28	113.900	8.290	0.112	15	BGM			0.0075	117.908	8.582		
1-5 (36/28)	A1200795	C3	2	3	28	110.300	8.040	0.111	15	BAB			0.0074	113.313	8.260		
1-1 (36/70)	A1200795	C6	2	6	70	110.200	7.740	0.110	15	BGM			0.0073	111.782	7.851		
1-2 (36/70)	A1200795	C6	2	6	70	112.000	7.880	0.111	15	BGM			0.0074	115.422	8.121		
1-3 (36/70)	A1200795	C6	2	6	70	113.100	7.720	0.112	15	BAB	109.740	7.858	0.0074	116.818	7.974	113.171	8.105
1-4 (36/70)	A1200795	C6	2	6	70	101.300	7.900	0.112	15	BGM			0.0075	104.958	8.185		
1-5 (36/70)	A1200795	C6	2	6	70	112.100	8.050	0.113	15	BAT			0.0075	116.875	8.393		

Average	**109.853**	**8.019**		**Average$_{norm}$**	**0.0074**	**113.289**	**8.271**
Standard Dev.	**3.297**	**0.212**		**Standard Dev.$_{norm}$**		**3.479**	**0.255**
Coeff. of Var. [%]	**3.001**	**2.638**		**Coeff. of Var. [%]$_{norm}$**		**3.071**	**3.079**
Min.	**101.300**	**7.670**		**Min.**	**0.0073**	**104.958**	**7.851**
Max.	**113.900**	**8.410**		**Max.**	**0.0075**	**117.908**	**8.749**
Number of Spec.	**15**	**15**		**Number of Spec.**	**15**	**15**	**15**


Laminate Unnotched Compression Properties (UNC0)--RTA
Normalized Strength
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Unnotched Compression Strength [ksi]


Laminate Unnotched Compression Properties (UNC0)--RTA
Normalized Modulus
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Unnotched Compression Modulus [Msi]

12.4 Laminate Open-Hole Tension 1 Properties (OHT1)

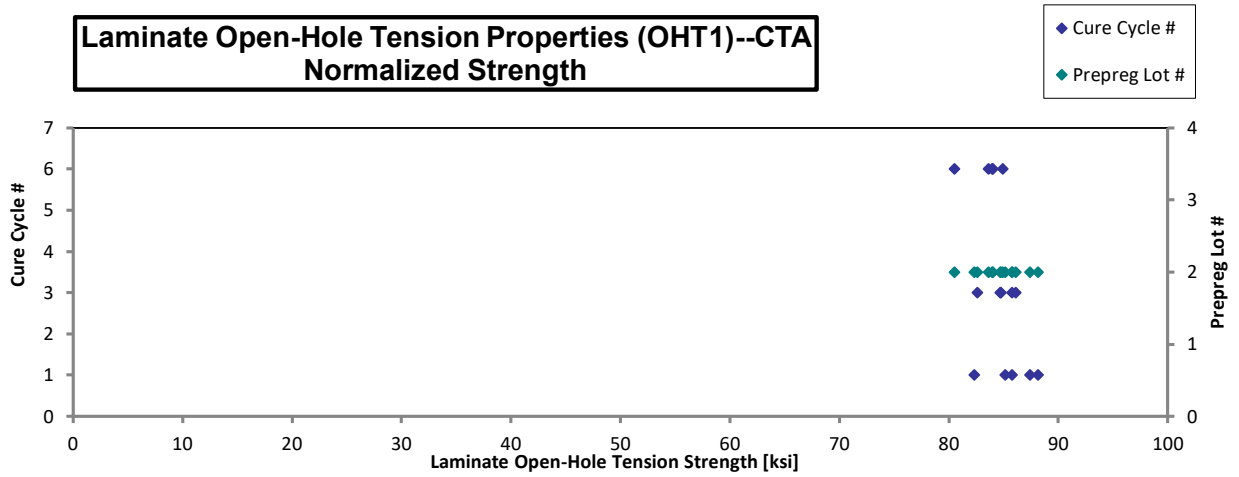
Laminate Open-Hole Tension Properties (OHT1)--CTA
Strength
Less than 3 months (As Manufactured)

normalizing t_{ply} [in]
0.0072

Specimen Number	Batch #	Cure Cycle	Prepreg Lot #	Cure Cycle #	Out-Time (days)	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Average Strength [ksi]	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	Average $Strength_{norm}$ [ksi]
1-1 (0/1)	A1200795	C1	2	1	<1	82.200	0.120	16	AGM		0.0075	85.803	
1-2 (0/1)	A1200795	C1	2	1	<1	79.200	0.120	16	AGM		0.0075	82.328	
1-3 (0/1)	A1200795	C1	2	1	<1	84.600	0.120	16	AGM	82.240	0.0075	88.162	85.772
1-4 (0/1)	A1200795	C1	2	1	<1	81.700	0.120	16	AGM		0.0075	85.154	
1-5 (0/1)	A1200795	C1	2	1	<1	83.500	0.121	16	AGM		0.0075	87.414	
1-1 (0/28)	A1200795	C3	2	3	28	82.600	0.118	16	AGM		0.0074	84.737	
1-2 (0/28)	A1200795	C3	2	3	28	83.900	0.118	16	AGM		0.0074	86.158	
1-3 (0/28)	A1200795	C3	2	3	28	81.000	0.118	16	AGM	82.960	0.0073	82.631	84.817
1-4 (0/28)	A1200795	C3	2	3	28	82.700	0.118	16	AGM		0.0074	84.768	
1-5 (0/28)	A1200795	C3	2	3	28	84.600	0.117	16	AGM		0.0073	85.790	
1-1 (0/70)	A1200795	C6	2	6	70	83.100	0.116	16	AGM		0.0073	83.980	
1-2 (0/70)	A1200795	C6	2	6	70	82.300	0.117	16	AGM		0.0073	83.657	
1-3 (0/70)	A1200795	C6	2	6	70	82.600	0.117	16	AGM	81.980	0.0073	84.056	83.432
1-4 (0/70)	A1200795	C6	2	6	70	78.600	0.118	16	AGM		0.0074	80.524	
1-5 (0/70)	A1200795	C6	2	6	70	83.300	0.117	16	AGM		0.0073	84.941	

Average	82.393	
Standard Dev.	1.728	
Coeff. of Var. [%]	2.097	
Min.	78.600	
Max.	84.600	
Number of Spec.	15	

$Average_{norm}$	0.0074	84.673
Standard $Dev._{norm}$		1.955
Coeff. of Var. $[\%]_{norm}$		2.309
Min.	0.0073	80.524
Max.	0.0075	88.162
Number of Spec.	15	15



Laminate Open-Hole Tension Properties (OHT1)--CTA
Strength
12 months (1 year)

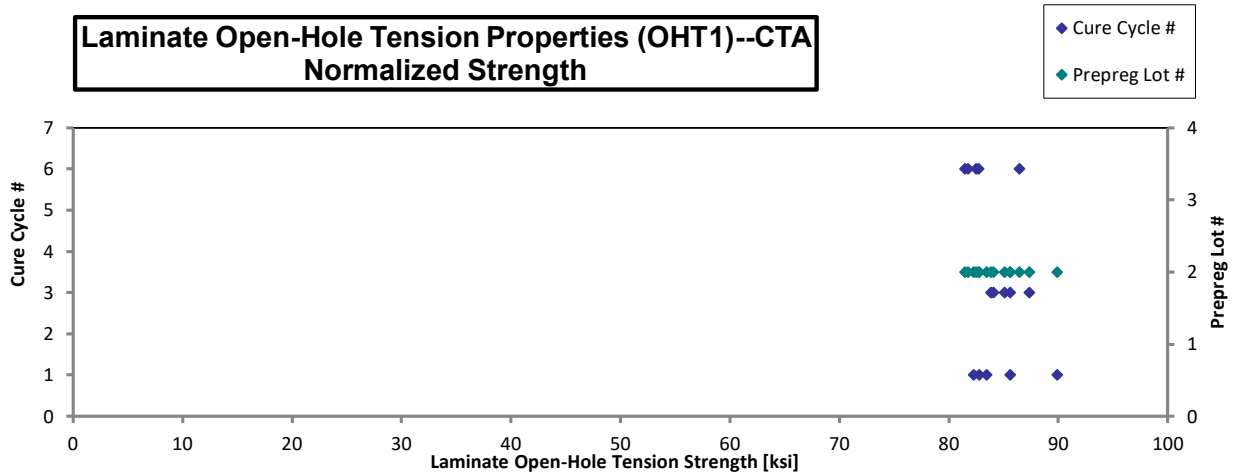
normalizing t_{ply} [in]: 0.0072

Specimen Number	Batch #	Cure Cycle	Prepreg Lot #	Cure Cycle #	Out-Time [days]	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Average Strength [ksi]	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	Average $Strength_{norm}$ [ksi]
1-1 (12/1)	A1200795	C1	2	1	<1	80.400	0.119	16	AGM		0.0074	82.794	
1-2 (12/1)	A1200795	C1	2	1	<1	83.000	0.119	16	AGM		0.0074	85.651	
1-3 (12/1)	A1200795	C1	2	1	<1	86.700	0.119	16	AGM	82.240	0.0075	89.899	84.822
1-4 (12/1)	A1200795	C1	2	1	<1	81.300	0.118	16	AGM		0.0074	83.474	
1-5 (12/1)	A1200795	C1	2	1	<1	79.800	0.119	16	AGM		0.0074	82.294	
1-1 (12/28)	A1200795	C3	2	3	28	83.100	0.119	16	AGM		0.0074	85.625	
1-2 (12/28)	A1200795	C3	2	3	28	82.200	0.118	16	AGM		0.0074	84.112	
1-3 (12/28)	A1200795	C3	2	3	28	83.300	0.118	16	AGM	83.000	0.0074	85.129	85.232
1-4 (12/28)	A1200795	C3	2	3	28	81.400	0.119	16	AGM		0.0074	83.894	
1-5 (12/28)	A1200795	C3	2	3	28	85.000	0.118	16	AGM		0.0074	87.398	
1-1 (12/70)	A1200795	C6	2	6	70	80.100	0.118	16	AGM		0.0073	81.755	
1-2 (12/70)	A1200795	C6	2	6	70	84.100	0.118	16	AGM		0.0074	86.458	
1-3 (12/70)	A1200795	C6	2	6	70	79.500	0.118	16	AGM	81.100	0.0074	81.481	82.989
1-4 (12/70)	A1200795	C6	2	6	70	80.400	0.118	16	AGM		0.0074	82.529	
1-5 (12/70)	A1200795	C6	2	6	70	81.400	0.117	16	AGM		0.0073	82.721	

	Strength [ksi]	$Strength_{norm}$ [ksi]
Average	82.113	84.348
Standard Dev.	2.075	2.346
Coeff. of Var. [%]	2.527	2.782
Min.	79.500	81.481
Max.	86.700	89.899
Number of Spec.	15	15

	t_{ply} [in]
$Average_{norm}$	0.0074
$Standard\ Dev._{norm}$	
$Coeff.\ of\ Var.\ [\%]_{norm}$	
Min.	0.0073
Max.	0.0075
Number of Spec.	15

Laminate Open-Hole Tension Properties (OHT1)--CTA
Normalized Strength



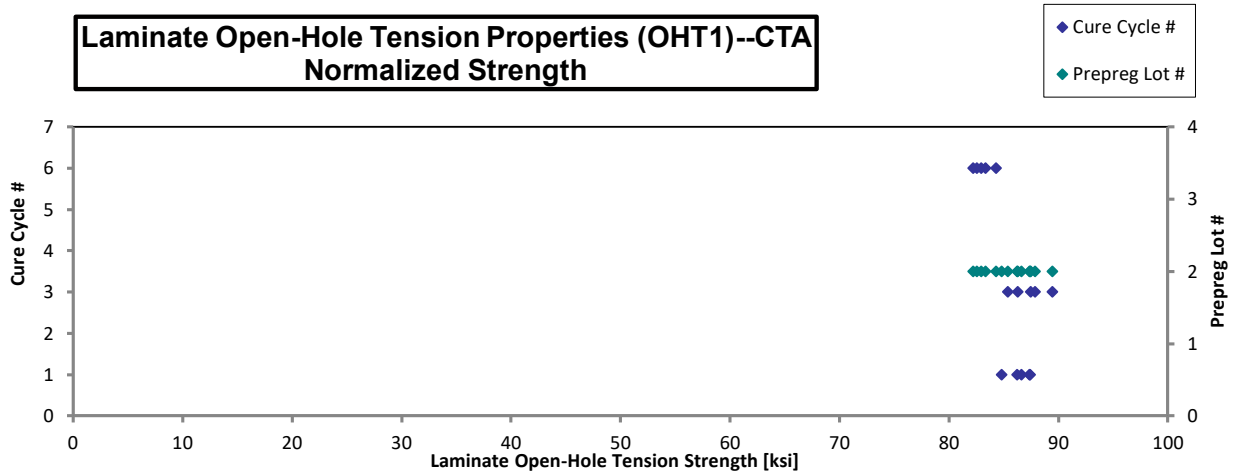
Laminate Open-Hole Tension Properties (OHT1)--CTA
Strength
24 months (2 years)

normalizing t_{ply} [in]: 0.0072

Specimen Number	Batch #	Cure Cycle	Prepreg Lot #	Cure Cycle #	Out-Time [days]	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Average Strength [ksi]	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	Average $Strength_{norm}$ [ksi]
1-1 (24/1)	A1200795	C1	2	1	<1	87.200	0.115	16	AGM		0.0072	87.389	
1-2 (24/1)	A1200795	C1	2	1	<1	86.700	0.116	16	AGM		0.0073	87.430	
1-3 (24/1)	A1200795	C1	2	1	<1	84.800	0.117	16	AGM	85.760	0.0073	86.235	86.495
1-4 (24/1)	A1200795	C1	2	1	<1	85.600	0.117	16	AGM		0.0073	86.603	
1-5 (24/1)	A1200795	C1	2	1	<1	84.500	0.116	16	AGM		0.0072	84.815	
1-1 (24/28)	A1200795	C3	2	3	28	86.600	0.115	16	AGM		0.0072	86.314	
1-2 (24/28)	A1200795	C3	2	3	28	87.800	0.115	16	AGM		0.0072	87.480	
1-3 (24/28)	A1200795	C3	2	3	28	88.200	0.115	16	AGM	87.380	0.0072	87.894	87.301
1-4 (24/28)	A1200795	C3	2	3	28	85.200	0.115	16	AGM		0.0072	85.385	
1-5 (24/28)	A1200795	C3	2	3	28	89.100	0.116	16	AGM		0.0072	89.433	
1-1 (24/70)	A1200795	C6	2	6	70	81.600	0.117	16	AGM		0.0073	82.556	
1-2 (24/70)	A1200795	C6	2	6	70	82.800	0.116	16	AGM		0.0072	83.361	
1-3 (24/70)	A1200795	C6	2	6	70	81.100	0.117	16	AGM	82.120	0.0073	82.226	83.083
1-4 (24/70)	A1200795	C6	2	6	70	81.900	0.117	16	AGM		0.0073	82.952	
1-5 (24/70)	A1200795	C6	2	6	70	83.200	0.117	16	AGM		0.0073	84.319	

Average	85.087	
Standard Dev.	2.539	
Coeff. of Var. [%]	2.983	
Min.	81.100	
Max.	89.100	
Number of Spec.	15	

$Average_{norm}$	0.0072	85.626
$Standard\ Dev._{norm}$		2.186
$Coeff.\ of\ Var.\ [\%]_{norm}$		2.553
Min.	0.0072	82.226
Max.	0.0073	89.433
Number of Spec.	15	15



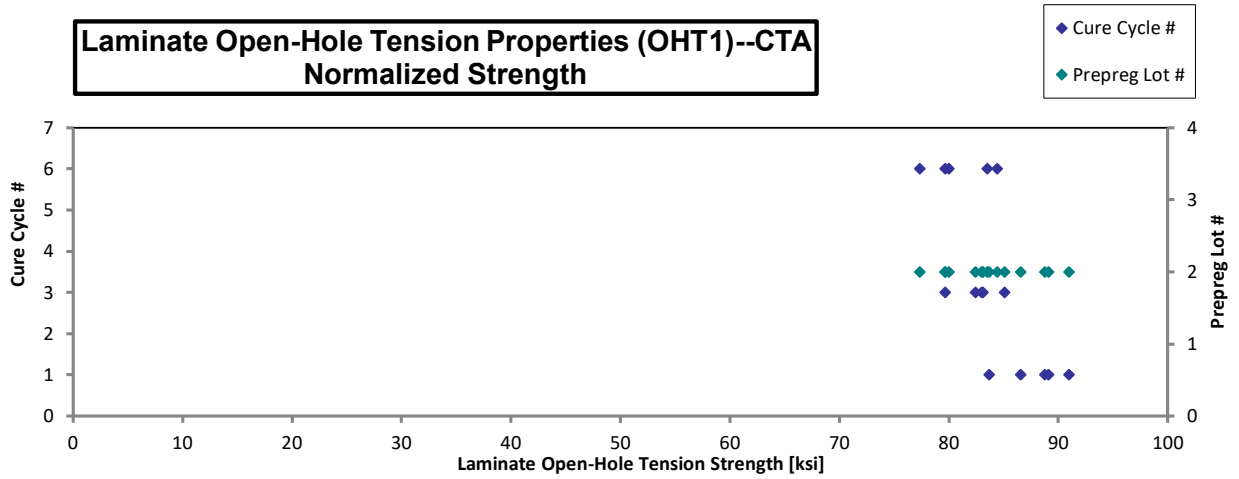
Laminate Open-Hole Tension Properties (OHT1)--CTA
Strength
36 months (3 years)

normalizing t_{ply} [in]: 0.0072

Specimen Number	Batch #	Cure Cycle	Prepreg Lot #	Cure Cycle #	Out-Time [days]	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Average Strength [ksi]	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	Average $Strength_{norm}$ [ksi]
1-1 (36/1)	A1200795	C1	2	1	<1	86.500	0.119	16	AGM		0.0074	89.128	
1-2 (36/1)	A1200795	C1	2	1	<1	81.400	0.118	16	AGM		0.0074	83.718	
1-3 (36/1)	A1200795	C1	2	1	<1	88.400	0.119	16	AGM	85.160	0.0074	91.024	87.845
1-4 (36/1)	A1200795	C1	2	1	<1	83.700	0.119	16	AGM		0.0074	86.592	
1-5 (36/1)	A1200795	C1	2	1	<1	85.800	0.119	16	AGM		0.0074	88.764	
1-1 (36/28)	A1200795	C3	2	3	28	81.200	0.118	16	AGM		0.0074	83.019	
1-2 (36/28)	A1200795	C3	2	3	28	77.200	0.119	16	AGM		0.0074	79.666	
1-3 (36/28)	A1200795	C3	2	3	28	82.700	0.119	16	AGM	80.380	0.0074	85.119	82.680
1-4 (36/28)	A1200795	C3	2	3	28	80.000	0.119	16	AGM		0.0074	82.479	
1-5 (36/28)	A1200795	C3	2	3	28	80.800	0.119	16	AGM		0.0074	83.115	
1-1 (36/70)	A1200795	C6	2	6	70	77.500	0.119	16	AGM		0.0074	80.003	
1-2 (36/70)	A1200795	C6	2	6	70	74.900	0.119	16	AGM		0.0074	77.390	
1-3 (36/70)	A1200795	C6	2	6	70	81.500	0.119	16	AGM	78.360	0.0075	84.450	81.019
1-4 (36/70)	A1200795	C6	2	6	70	80.700	0.119	16	AGM		0.0075	83.558	
1-5 (36/70)	A1200795	C6	2	6	70	77.200	0.119	16	AGM		0.0074	79.693	

	Strength [ksi]
Average	81.300
Standard Dev.	3.749
Coeff. of Var. [%]	4.612
Min.	74.900
Max.	88.400
Number of Spec.	15

	$Strength_{norm}$ [ksi]
$Average_{norm}$	83.848
$Standard\ Dev._{norm}$	3.850
$Coeff.\ of\ Var.\ [\%]_{norm}$	4.591
Min.	77.390
Max.	91.024
Number of Spec.	15

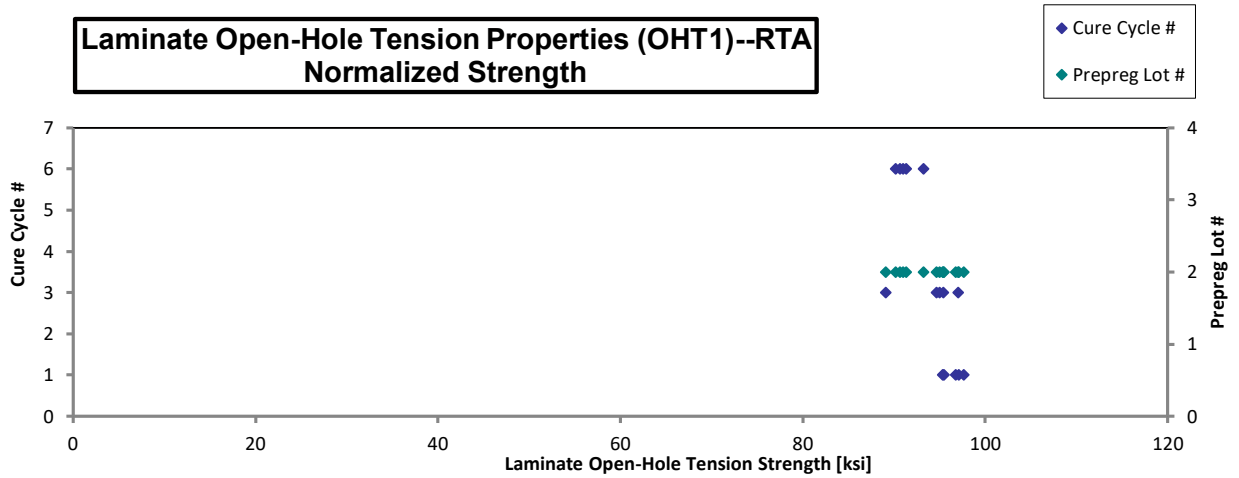


Laminate Open-Hole Tension Properties (OHT1)--RTA
Strength
36 months (3 years)

normalizing t_{ply} [in]: 0.0072

Specimen Number	Batch #	Cure Cycle	Prepreg Lot #	Cure Cycle #	Out-Time [days]	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Average Strength [ksi]	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	Average $Strength_{norm}$ [ksi]
1-1 (36/1)	A1200795	C1	2	1	<1	93.800	0.119	16	AGM		0.0074	96.756	
1-2 (36/1)	A1200795	C1	2	1	<1	94.000	0.119	16	AGM		0.0074	97.084	
1-3 (36/1)	A1200795	C1	2	1	<1	91.700	0.120	16	AGM	93.120	0.0075	95.338	96.467
1-4 (36/1)	A1200795	C1	2	1	<1	94.400	0.119	16	AGM		0.0074	97.653	
1-5 (36/1)	A1200795	C1	2	1	<1	91.700	0.120	16	AGM		0.0075	95.505	
1-1 (36/28)	A1200795	C3	2	3	28	93.100	0.118	16	MGM		0.0074	95.419	
1-2 (36/28)	A1200795	C3	2	3	28	87.200	0.118	16	MGM		0.0074	89.130	
1-3 (36/28)	A1200795	C3	2	3	28	94.000	0.119	16	MGM	91.560	0.0074	97.076	94.268
1-4 (36/28)	A1200795	C3	2	3	28	91.700	0.119	16	MGM		0.0074	94.669	
1-5 (36/28)	A1200795	C3	2	3	28	91.800	0.119	16	MGM		0.0075	95.043	
1-1 (36/70)	A1200795	C6	2	6	70	88.500	0.118	16	MGM		0.0074	90.997	
1-2 (36/70)	A1200795	C6	2	6	70	88.000	0.119	16	MGM		0.0074	90.697	
1-3 (36/70)	A1200795	C6	2	6	70	90.300	0.119	16	MGM	88.580	0.0074	93.263	91.307
1-4 (36/70)	A1200795	C6	2	6	70	88.600	0.119	16	MGM		0.0074	91.369	
1-5 (36/70)	A1200795	C6	2	6	70	87.500	0.119	16	MGM		0.0074	90.212	

	Strength [ksi]		$Strength_{norm}$ [ksi]
Average	91.087	$Average_{norm}$	94.014
Standard Dev.	2.563	$Standard\ Dev._{norm}$	2.841
Coeff. of Var. [%]	2.814	$Coeff.\ of\ Var.\ [\%]_{norm}$	3.022
Min.	87.200	Min.	89.130
Max.	94.400	Max.	97.653
Number of Spec.	15	Number of Spec.	15



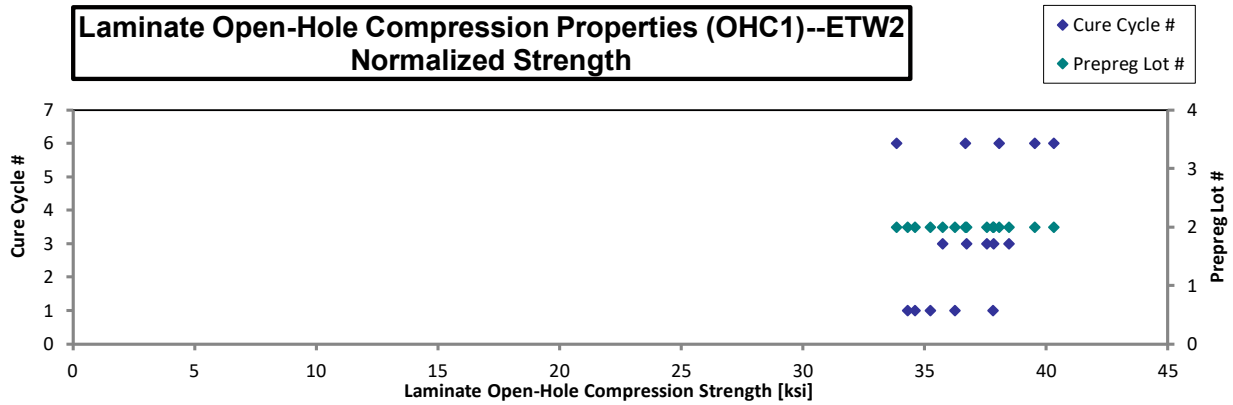
12.5 Laminate Open-Hole Compression 1 Properties (OHC1)

Laminate Open-Hole Compression Properties (OHC1)--ETW2
Strength
Less than 3 months (As Manufactured)

normalizing t_{ply} [in]
0.0072

Specimen Number	Batch #	Cure Cycle	Prepreg Lot #	Cure Cycle #	Out-Time [days]	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Average Strength [ksi]	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	Average $Strength_{norm}$ [ksi]
1-1 (0/1)	A1200795	C1	2	1	<1	34.800	0.180	24	LGM		0.0075	36.264	
1-2 (0/1)	A1200795	C1	2	1	<1	32.700	0.181	24	LGM		0.0076	34.305	
1-3 (0/1)	A1200795	C1	2	1	<1	36.300	0.180	24	LGM	34.220	0.0075	37.813	35.649
1-4 (0/1)	A1200795	C1	2	1	<1	34.000	0.179	24	LGM		0.0075	35.244	
1-5 (0/1)	A1200795	C1	2	1	<1	33.300	0.180	24	LGM		0.0075	34.620	
1-1 (0/28)	A1200795	C3	2	3	28	37.300	0.178	24	LGM		0.0074	38.472	
1-2 (0/28)	A1200795	C3	2	3	28	36.400	0.178	24	LGM		0.0074	37.580	
1-3 (0/28)	A1200795	C3	2	3	28	35.500	0.179	24	LGM	36.120	0.0074	36.722	37.276
1-4 (0/28)	A1200795	C3	2	3	28	34.700	0.178	24	LGM		0.0074	35.748	
1-5 (0/28)	A1200795	C3	2	3	28	36.700	0.178	24	LGM		0.0074	37.857	
1-1 (0/70)	A1200795	C6	2	6	70	35.700	0.178	24	LGM		0.0074	36.681	
1-2 (0/70)	A1200795	C6	2	6	70	37.100	0.177	24	LGM		0.0074	38.077	
1-3 (0/70)	A1200795	C6	2	6	70	32.900	0.178	24	LGM	36.680	0.0074	33.861	37.696
1-4 (0/70)	A1200795	C6	2	6	70	39.200	0.178	24	LGM		0.0074	40.318	
1-5 (0/70)	A1200795	C6	2	6	70	38.500	0.177	24	LGM		0.0074	39.540	

	Strength [ksi]		$Strength_{norm}$ [ksi]
Average	35.673	$Average_{norm}$	36.874
Standard Dev.	1.960	$Standard\ Dev._{norm}$	1.898
Coeff. of Var. [%]	5.495	Coeff. of Var. [%]$_{norm}$	5.147
Min.	32.700	Min.	33.861
Max.	39.200	Max.	40.318
Number of Spec.	15	Number of Spec.	15

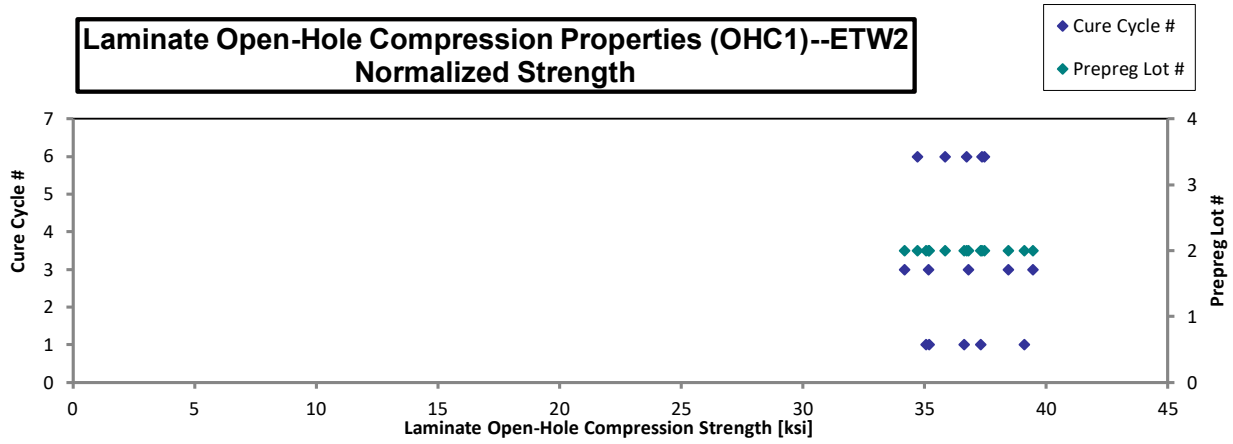


Laminate Open-Hole Compression Properties (OHC1)--ETW2
Strength
12 months (1 year)

normalizing t_{ply} [in]: 0.0072

Specimen Number	Batch #	Cure Cycle	Prepreg Lot #	Cure Cycle #	Out-Time [days]	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Average Strength [ksi]	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	Average $Strength_{norm}$ [ksi]
1-1 (12/1)	A1200795	C1	2	1	<1	36.100	0.179	24	LGM		0.0074	37.322	
1-2 (12/1)	A1200795	C1	2	1	<1	33.900	0.179	24	LGM		0.0074	35.061	
1-3 (12/1)	A1200795	C1	2	1	<1	37.900	0.178	24	LGM	35.440	0.0074	39.111	36.667
1-4 (12/1)	A1200795	C1	2	1	<1	35.200	0.180	24	LGM		0.0075	36.642	
1-5 (12/1)	A1200795	C1	2	1	<1	34.100	0.178	24	LGM		0.0074	35.199	
1-1 (12/28)	A1200795	C3	2	3	28	33.300	0.177	24	LGM		0.0074	34.181	
1-2 (12/28)	A1200795	C3	2	3	28	37.700	0.176	24	LGM		0.0073	38.446	
1-3 (12/28)	A1200795	C3	2	3	28	38.500	0.177	24	LGM	35.960	0.0074	39.463	36.812
1-4 (12/28)	A1200795	C3	2	3	28	35.900	0.177	24	LGM		0.0074	36.810	
1-5 (12/28)	A1200795	C3	2	3	28	34.400	0.177	24	LGM		0.0074	35.162	
1-1 (12/70)	A1200795	C6	2	6	70	33.700	0.178	24	LGM		0.0074	34.704	
1-2 (12/70)	A1200795	C6	2	6	70	34.800	0.178	24	LGM		0.0074	35.857	
1-3 (12/70)	A1200795	C6	2	6	70	35.700	0.178	24	LGM	35.380	0.0074	36.737	36.426
1-4 (12/70)	A1200795	C6	2	6	70	36.300	0.178	24	LGM		0.0074	37.365	
1-5 (12/70)	A1200795	C6	2	6	70	36.400	0.178	24	LGM		0.0074	37.468	

	Strength [ksi]	$Strength_{norm}$ [ksi]
Average	35.593	36.635
Standard Dev.	1.601	1.608
Coeff. of Var. [%]	4.497	4.390
Min.	33.300	34.181
Max.	38.500	39.463
Number of Spec.	15	15



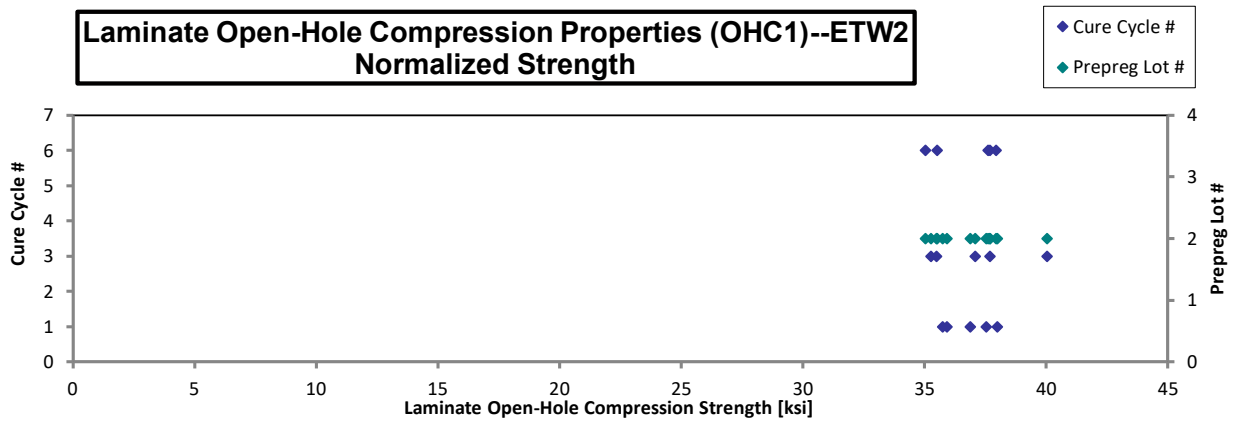
Laminate Open-Hole Compression Properties (OHC1)--ETW2
Strength
24 months (2 years)

normalizing t_{ply} [in]: 0.0072

Specimen Number	Batch #	Cure Cycle	Prepreg Lot #	Cure Cycle #	Out-Time [days]	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Average Strength [ksi]	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	Average $Strength_{norm}$ [ksi]
1-1 (24/1)	A1200795	C1	2	1	<1	36.600	0.174	24	LGM		0.0073	36.882	
1-2 (24/1)	A1200795	C1	2	1	<1	35.200	0.176	24	LGM		0.0073	35.754	
1-3 (24/1)	A1200795	C1	2	1	<1	37.700	0.174	24	LGM	36.340	0.0073	37.995	36.819
1-4 (24/1)	A1200795	C1	2	1	<1	35.300	0.176	24	LGM		0.0073	35.933	
1-5 (24/1)	A1200795	C1	2	1	<1	36.900	0.176	24	LGM		0.0073	37.530	
1-1 (24/28)	A1200795	C3	2	3	28	37.000	0.173	24	LGM		0.0072	37.079	
1-2 (24/28)	A1200795	C3	2	3	28	35.100	0.174	24	LGM		0.0072	35.273	
1-3 (24/28)	A1200795	C3	2	3	28	37.500	0.174	24	LGM	36.860	0.0072	37.695	37.116
1-4 (24/28)	A1200795	C3	2	3	28	35.100	0.175	24	LGM		0.0073	35.502	
1-5 (24/28)	A1200795	C3	2	3	28	39.600	0.175	24	LGM		0.0073	40.029	
1-1 (24/70)	A1200795	C6	2	6	70	37.400	0.175	24	LGM		0.0073	37.958	
1-2 (24/70)	A1200795	C6	2	6	70	34.600	0.175	24	LGM		0.0073	35.055	
1-3 (24/70)	A1200795	C6	2	6	70	37.100	0.176	24	LGM	36.220	0.0073	37.697	36.770
1-4 (24/70)	A1200795	C6	2	6	70	37.000	0.176	24	LGM		0.0073	37.627	
1-5 (24/70)	A1200795	C6	2	6	70	35.000	0.175	24	LGM		0.0073	35.512	

Average	36.473	
Standard Dev.	1.383	
Coeff. of Var. [%]	3.793	
Min.	34.600	
Max.	39.600	
Number of Spec.	15	

$Average_{norm}$	0.0073	36.901
$Standard\ Dev._{norm}$		1.376
$Coeff.\ of\ Var.\ [\%]_{norm}$		3.729
Min.	0.0072	35.055
Max.	0.0073	40.029
Number of Spec.	15	15



Laminate Open-Hole Compression Properties (OHC1)--ETW2
Strength
36 months (3 years)

normalizing t_{ply} [in]: 0.0072

Specimen Number	Batch #	Cure Cycle	Prepreg Lot #	Cure Cycle #	Out-Time [days]	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Average Strength [ksi]	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	Average $Strength_{norm}$ [ksi]
1-1 (36/1)	A1200795	C1	2	1	<1	34.900	0.180	24	LGM		0.0075	36.283	
1-2 (36/1)	A1200795	C1	2	1	<1	35.800	0.180	24	LGM		0.0075	37.323	
1-3 (36/1)	A1200795	C1	2	1	<1	37.100	0.180	24	LGM	36.280	0.0075	38.545	37.779
1-4 (36/1)	A1200795	C1	2	1	<1	36.200	0.181	24	LGM		0.0075	37.845	
1-5 (36/1)	A1200795	C1	2	1	<1	37.400	0.180	24	LGM		0.0075	38.898	
1-1 (36/28)	A1200795	C3	2	3	28	37.600	0.179	24	LGM		0.0074	38.847	
1-2 (36/28)	A1200795	C3	2	3	28	36.300	0.179	24	LGM		0.0075	37.697	
1-3 (36/28)	A1200795	C3	2	3	28	34.100	0.180	24	LGM	35.540	0.0075	35.535	36.861
1-4 (36/28)	A1200795	C3	2	3	28	35.400	0.179	24	LGM		0.0075	36.711	
1-5 (36/28)	A1200795	C3	2	3	28	34.300	0.179	24	LGM		0.0075	35.517	
1-1 (36/70)	A1200795	C6	2	6	70	34.900	0.179	24	LGM		0.0075	36.126	
1-2 (36/70)	A1200795	C6	2	6	70	36.700	0.180	24	LGM		0.0075	38.191	
1-3 (36/70)	A1200795	C6	2	6	70	36.400	0.180	24	LGM	36.160	0.0075	37.885	37.518
1-4 (36/70)	A1200795	C6	2	6	70	35.500	0.179	24	LGM		0.0074	36.692	
1-5 (36/70)	A1200795	C6	2	6	70	37.300	0.179	24	LGM		0.0075	38.697	

Average	35.993	
Standard Dev.	1.127	
Coeff. of Var. [%]	3.130	
Min.	34.100	
Max.	37.600	
Number of Spec.	15	

$Average_{norm}$	0.0075	37.386
$Standard\ Dev._{norm}$		1.176
$Coeff.\ of\ Var.\ [\%]_{norm}$		3.145
Min.	0.0074	35.517
Max.	0.0075	38.898
Number of Spec.	15	15

