Cytec Cycom 5215 T40-800 Unitape Gr 145 33% RC Qualification Material Property Data Report

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Testing Facility:
National Institute for Aviation Research
Wichita State University
1845 N. Fairmount
Wichita, KS 67260-0093

Test Panel Fabrication Facility:
Cytec Engineered Materials Inc
1440 N. Kraemer Blvd
Anaheim, CA 92806.

Prepared by: _____
Michelle Man

Reviewed by: _____ _____
Yeow Ng **John Tomblin**

Approved By: _____
Ed Hooper
Submitted To: Wichita FAA ACO Office

REVISIONS:

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N/C	Michelle Man	7/27/2012	Document Initial Release

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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 MIL-HDBK-17-1F—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 FAA oversight through FAA Special Project Number SP4612WI-Q, and also meet the requirements of NCAMP Standard Operating Procedure NSP 100. The test panels, test specimens, and test setups have been conformed by the FAA and the testing has been witnessed by the FAA. However, the data may not fulfill all the needs of any specific company's programs; specific properties, environments, laminate architecture, and loading situations that individual companies 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 b-basis values is given in a separate report Cytec 5215 T40-800 Unitape Qualification Statistical Analysis Report NCP-RP-2010-037 N/C or later revision. The qualification material was procured to NCAMP Material Specification NMS 323/1 Rev A dated July 17, 2007. The qualification test panels were cured in accordance with NCAMP Process Specification 81323 “C” cure cycle Rev A released July 16, 2007. The NCAMP Test Plan NTP 3668Q1 Rev A 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 MIL-HDBK-17-1F. 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 MIL-HDBK-17-1F are adequate for the given program.

Aircraft companies should not use the data published in this report without specifying NCAMP Material Specification NMS 323/1. NMS 323/1 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 323/1.* NMS 323/1 is a free, publicly available, non-proprietary 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
με	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
SBS	short beam strength
ν_{12}^{c}	major Poisson's Ratio, compression
ν_{21}^{c}	minor Poisson's Ratio, compression
$F_{12}^{s5\% \text{ strain}}$	in-plane shear strength at 5% strain
F_{12}^{smax}	in-plane shear peak strength before 5% strain
$F_{12}^{s0.2\%}$	in-plane shear strength at 0.2% offset
G_{12}^{s}	in-plane shear modulus

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
B – Basis	95% lower confidence limit on the tenth population percentile
CV	Coefficient of variation
CTD	cold temperature dry
CPT	cured ply thickness
ETD	elevated temperature dry
ETW	elevated temperature wet
Gr/Ep	graphite/epoxy
norm	normalized
RTD	room temperature dry
SACMA	Suppliers of Advanced Composite Materials Association
SRM	SACMA Recommended Method
Tply	thickness divided by the number of plies provides the thickness average per specimen
wet	specimen with an “equilibrium” moisture content
T, RH	temperature, relative humidity

1.3 NIAR– Cytec 5215 Specimen Naming Format

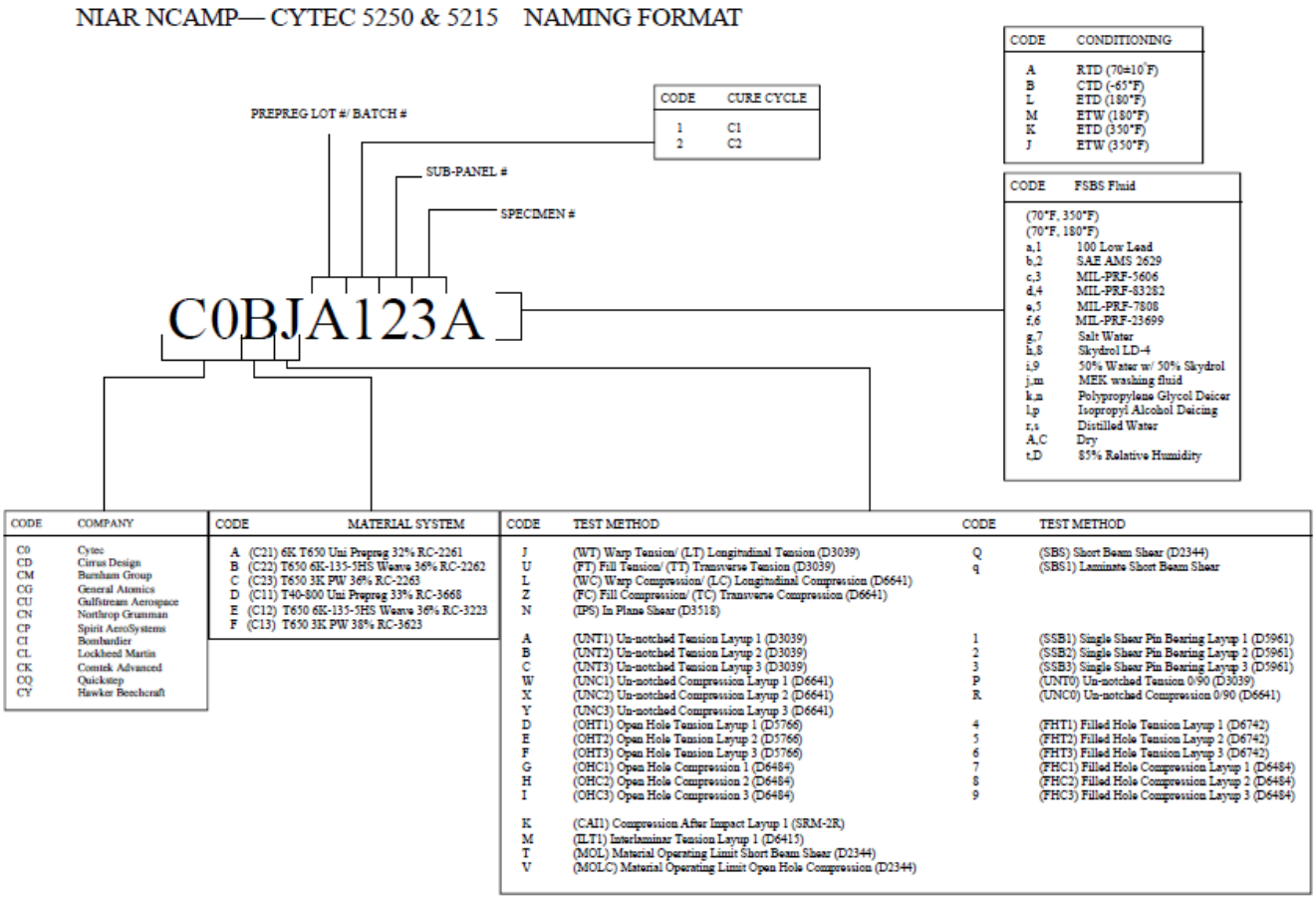


Figure 1-1: Naming Format

1.4 References

ASTM Standards

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

- ASTM D2344/D2344M-00(2006) – Standard Test Method for Short-Beam Strength of Polymer Matrix Composite Materials and Their Laminates
- ASTM D3039/D3039M-00(2006) – Standard Test Method for Tensile Properties of Polymer Matrix Composite Materials
- ASTM D3518/D3518M-94(2001) – 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 D5766/D5766M-02a – Standard Test Method for Open Hole Tensile Strength of Polymer Matrix Composite Laminates
- ASTM D5961/D5961M-05e1 – Standard Test Method for Bearing Response of Polymer Matrix Composite Laminates
- ASTM D6415-06ae1 – Standard Test Method for Measuring the Curved Beam Strength of a Fiber-Reinforced Polymer-Matrix Composite
- ASTM D6484/D6484M-04 – Standard Test Method for Open-Hole Compressive Strength of Polymer Matrix Composite Laminates
- ASTM D6641/D6641M-01e1 – Standard Test Method for Determining the Compressive Properties of Polymer Matrix Composite Laminates Using a Combined Loading Compression (CLC) Test Fixture
- ASTM D6742/D6742M-02 – Standard Practice for Filled-Hole Tension and Compression Testing of Polymer Matrix Composite Laminates
- ASTM D7136/D7136M-05e1 – Standard Test Method for Measuring the Damage Resistance of a Fiber-Reinforced Polymer Matrix Composite to a Drop-Weight Impact Event
- ASTM D7137/D7137M-05e1 – 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 1-2 unless otherwise specified.

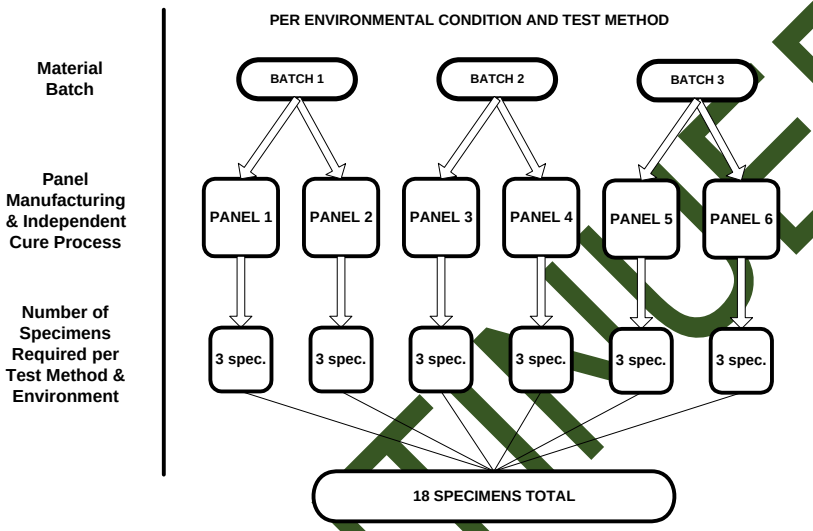


Figure 1-2: Specimen Selection Methodology

All panels were fabricated in accordance with NCAMP process specification 81323 “C” 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 1-3.

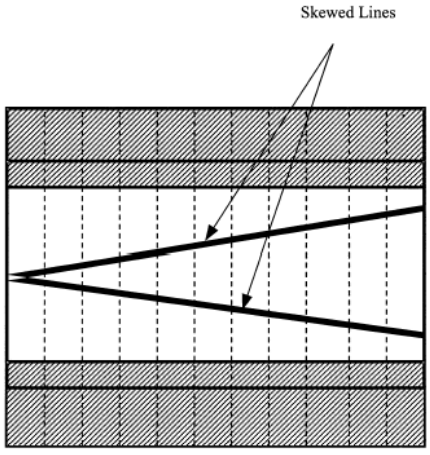


Figure 1-3: Specimen Traceability Line

For the single shear bearing tests, the ASTM D5961 was used with one of the pairs of specimens replaced by a steel fixture. The configuration is shown in Figure 1-4 below.

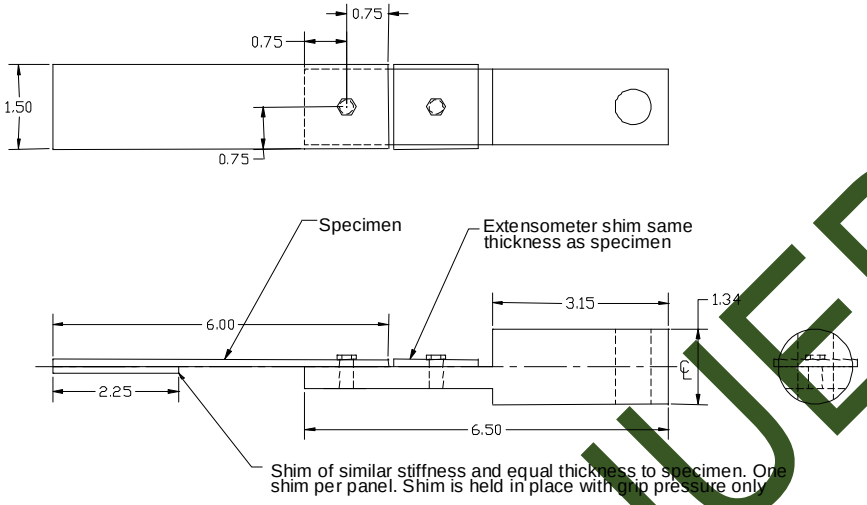


Figure 1-4: Modified ASTM D5961 (Single Shear Bearing) Specimen and Loading Arrangement

1.5.2 Specimen & Testing Details

1.5.2.1 Tabbing

Tabs were used on LT specimens.

1.5.2.2 Specimen Dimensions & Test Configuration

For filled-hole and bearing tests, the hole diameter was 0.25 in -0.000 +0.003 in. 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. Fasteners were installed after moisture conditioning.

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

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

1) NASM 21297-04003 bolts with MS 21084 nuts and MS 21206 washers for FHT and FHC
2) NASM 21297-04013 bolts with MS 21084 nuts and MS 21206 washers for SSB

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 and Direction	Property	Number of Batches x No. of Panels x No. of Specimens			
			Test Temperature/Moisture Condition			
			CTD	RTD	ETD	ETW
$[0]_8$	ASTM D3039 0° Tension	Strength, Modulus and Poisson's Ratio	3x2x3	3x2x3		3x2x3
$[0]_{20}$	ASTM D6641 0° Compression (Note 1)	Modulus	3x2x3	3x2x3	3x2x3	3x2x3
$[90]_{16}$	ASTM D3039 90° Tension	Strength and Modulus	3x2x3	3x2x3		3x2x3
$[90]_{20}$	ASTM D6641 90° Compression (Note 1)	Strength and Modulus	3x2x3	3x2x3		3x2x3
$[0/90]_{3S}$	ASTM D3039 0° Tension (see Note 2)	Strength and Modulus	3x2x3	3x2x3		3x2x3
$[90/0/90]_7$	ASTM D6641 0° Compression (see Note 1 & 2)	Strength and Modulus	3x2x3	3x2x3	3x2x3	3x2x3
$[45/-45]_{4S}$	ASTM D3518 In-Plane Shear	Strength and Modulus	3x2x3	3x2x3		3x2x3
$[0]_{45}$	ASTM D2344 Short Beam	Strength	3x2x3	3x2x3	3x2x3	3x2x3

Table 1-1: Lamina Level Test Matrix

Note 1: Back-to-back strain gages are needed on the first two specimens of each environment. If no buckling is observed, the remaining modulus specimens will require a strain gage on one side of the specimens only. An appropriate extensometer may be used in place of the strain gage.

Note 2: Derive the 0° lamina compressive strength $F^{cu}_{0^\circ\ plies}$ as follows

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

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

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 1-2 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 (5)	Property	Number of Batches x Number of Panels x Number of Test Specimens		
			Test Temperature/Moisture Condition		
			CTD	RTD	ETW
(25/50/25 - QI) UNT1	ASTM D3039 Un-notched Tension [45/0/-45/90]2S	Strength & modulus	3x2x3	3x2x3	3x2x3
(10/80/10) UNT2	ASTM D3039 Un-notched Tension [45/-45/0/45/-45/90/45/-45/45/-45]S	Strength & modulus	3x2x3	3x2x3	3x2x3
(50/40/10) UNT3	ASTM D3039 Un-notched Tension [0/45/0/90/0/-45/0/45/0/-45]S	Strength & modulus	3x2x3	3x2x3	3x2x3
(25/50/25 - QI) UNC1	ASTM D6641 Un-notched Compression (4) [45/0/-45/90]3S	Strength & modulus		3x2x3	3x2x3
(10/80/10) UNC2	ASTM D6641 Un-notched Compression (4) [45/-45/0/45/-45/90/45/-45/45/-45]S	Strength & modulus		3x2x3	3x2x3
(50/40/10) UNC3	ASTM D6641 Un-notched Compression (4) [45/0/90/0/-45/0/45/0/-45/0]S	Strength & modulus		3x2x3	3x2x3
(25/50/25 - QI) SBS1	ASTM D2344 Short Beam (specimens may be taken from panels designed for (25/50/25 - QI) CAI1)	Strength		3x2x3	3x2x3
(25/50/25 - QI) OHT1	ASTM D5766 Open Hole Tension (1) [45/0/-45/90]2S	Strength	3x2x3	3x2x3	3x2x3
(10/80/10) OHT2	ASTM D5766 Open Hole Tension (1) [45/-45/0/45/-45/90/45/-45/45/-45]S	Strength	3x2x3	3x2x3	3x2x3
(50/40/10) OHT3	ASTM D5766 Open Hole Tension (1) [0/45/0/90/0/-45/0/45/0/-45]S	Strength	3x2x3	3x2x3	3x2x3
(25/50/25 - QI) FHT1	ASTM D6742 Filled Hole Tension (2) [45/0/-45/90]2S	Strength	3x2x3	3x2x3	3x2x3
(10/80/10) FHT2	ASTM D6742 Filled Hole Tension (2) [45/-45/0/45/-45/90/45/-45/45/-45]S	Strength	3x2x3	3x2x3	3x2x3
(50/40/10) FHT3	ASTM D6742 Filled Hole Tension (2) [0/45/0/90/0/-45/0/45/0/-45]S	Strength	3x2x3	3x2x3	3x2x3
(25/50/25 - QI) OHC1	ASTM D6484 Open Hole Compression (1)(4) [45/0/-45/90]4S	Strength		3x2x3	3x2x3
(10/80/10) OHC2	ASTM D6484 Open Hole Compression (1)(4) [45/-45/0/45/-45/90/45/-45/45/-45]2S	Strength		3x2x3	3x2x3
(50/40/10) OHC3	ASTM D6484 Open Hole Compression (1)(4) [0/45/0/90/0/-45/0/45/0/-45]2S	Strength		3x2x3	3x2x3
(25/50/25 - QI) FHC1	ASTM D6484 Filled Hole Compression (2) [45/0/-45/90]4S	Strength		3x2x3	3x2x3
(10/80/10) FHC2	ASTM D6484 Filled Hole Compression (2) [45/-45/0/45/-45/90/45/-45/45/-45]2S	Strength		3x2x3	3x2x3
(50/40/10) FHC3	ASTM D6484 Filled Hole Compression (2) [0/45/0/90/0/-45/0/45/0/-45]2S	Strength		3x2x3	3x2x3
(25/50/25 - QI) SSB1	ASTM D5961 Single Shear Bearing (3) (6) [45/0/-45/90]2S	Strength & Deformation		3x2x3	3x2x3
(10/80/10) SSB2	ASTM D5961 Single Shear Bearing (3) (6) [45/-45/0/45/-45/90/45/-45/45/-45]S	Strength & Deformation		3x2x3	3x2x3
(50/40/10) SSB3	ASTM D5961 Single Shear Bearing (3) (6) [0/45/0/90/0/-45/0/45/0/-45]S	Strength & Deformation		3x2x3	3x2x3
(100/0/0) ILT	ASTM D6415 Interlaminar Tension [0]30	Strength	1x1x6	1x1x6	1x1x6
(25/50/25 - QI) CAI1	ASTM D7136 & D7137 Compression After Impact (1500 in.lb/in) (4) [45/0/-45/90]4S	Strength		1x1x6	

Table 1-2: Laminate Level Test Matrix

Note 1: Open-hole configuration: 0.25” hole diameter, 1.5 inch width.

Note 2: Filled-hole test configuration: 0.25” diameter, see section 1.5.2.2 for fastener callout, 1.5” width.
Note 3: Single shear bearing test configuration: 0.25: hole diameter, 1.5” width, see section 1.5.2.2 for fastener callout, e/D=3
Note 4: Back-to-back strain gages needed on the first two specimens of each environment. If no buckling is observed, the remaining modulus specimens will require strain gage on one side of the specimens only. Appropriate extensometer may be used in place of the strain gage.
Note 5: Loading direction is generally along the 0-degree direction
Note 6: Use modified ASTM D5961 per Figure 1-4

(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”).

1.5.4 Cured Laminate Physical Testing

The properties in **Table 1-3: Physical Testing Matrix**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 the National Institute for Aviation Research (NIAR) Composites Laboratory under the supervision of NCAMP.

Property	**Condition/Method** (Note 1)	**Min Replicates per panel**
Cured Ply Thickness	ASTM D3171-06	All data from mechanical test specimens
Laminate Density	ASTM D792-00	3
Fiber Volume, % by Volume	ASTM D3171-06(Note 2)	3
Resin Content, % by Weight	ASTM D3171-06(Note 2)	3
Ultrasonic Through Transmission, C-Scan	MIL-HDBK-787A (Note 3)	1
Glass Transition Temperature, Tg by DMA	Dry and Wet – SACMA SRM 18R-94	1 Dry, 1 Wet (Note 4)

Table 1-3: Physical Testing Matrix

Note 1: Where the applicable standard allows variations in specimen form or test method, the specific parameters to be used will be specified in the test work instructions and reported in the final test report.
Note 2: Method II, except for laminates of materials where actual fiber weight is not accurately known prior to impregnation, as in the case for unidirectional materials. For these materials, in order to verify Method II is accurate, a minimum of 12 samples per batch shall be tested by Method I, Procedure B.
Note 3: Five MHz is preferred for solid laminates. Panels with anomaly should be segregated. Microscopy images may be taken from questionable areas. NCAMP must be involved in the review of all C-scans.
Note 4: Minimum total of 24 dry and 24 wet for each material system.

1.5.5 Environmental Conditioning

The following tests were performed by the NIAR Composites Laboratory under the supervision of NCAMP.

CTD = -65±5°F, dry
RTD = 70±10°F, room temperature dry
ETD = 180±5°F, dry
ETW = 180±5°F, wet (equilibrium moisture content)

Elevated temperature level of 350±5°F may be reduced if wet glass transition temperature is not 400°F or higher. The elevated temperature level may be adjusted to approximately 50°F below the measured wet glass transition temperature.

Within each test method and test environment, the failure mode was evaluated immediately after each test by an FAA DER. All tested specimens were digitally photographed after each test in order to pictorially document failure modes. Representative photos are included in the CD accompanying this report.

For dry testing, specimens were dried at 160°F±5°F for 120 to 130 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 dried at 160°F±5°F for 120 to 130 hours before being 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 60 days. 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. The heat-up time of the specimen did not exceed 5 minutes, unless otherwise specified in individual test summary sheets. The test was 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 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. 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 $[0°]_{45}$ lamina level specimens dried at 160°F±5°F for 120 to 130 hours before being subjected to the conditions indicated, five 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 BMI 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
SAE AMS 2629 Jet Reference Fluid	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
Sea 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) Mil-A-824 3	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 6.1	70°F	FS32RT
	Dry per section 6.1	180°F	FS32ET
85% Relative Humidity	Per section 6.1	70°F	FS33RT
	Per section 6.1	180°F	FS33ET

Table 1-4: Fluid Sensitivity Matrix

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.

Method I Fiber Volume (%vol) is 55.685 and Method 2 Fiber Volume (%vol) is 56.310.
By comparing Fiber Volume values obtained from Method I and Method II, the values are deemed close enough therefore the FAW is close to the nominal of ~145 gsm.
Based on the FAW data from Cytec (Avg ~144.67 gsm) and our Method I Phys test data (Avg. void content ~ 0.489%) it is appropriate to use the CPT Method for normalization.

The average cured ply thickness of 0.0057 inch 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 Conformity

The 3-batch qualification panels have been fabricated according to the requirements of the test plan and conformed by the FAA. The test specimens and test setups have also been conformed by the FAA.

Testing was witnessed by the FAA. Witnessing was delegated to a DER. Mechanical testing was carried out at the National Institute for Aviation Research, Wichita State University. The test setup and procedures were reviewed by NCAMP IAB and NCAMP staff during a facility audit. FAA conformity inspection records and approvals are included in the CD accompanying this report.

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. This template in Microsoft Excel file format is included on the CD provided with this report.

2. Test Results

2.1 Lamina Level Test Summary

Prepreg Material: Cytec Cycom® 5215 T40-800 Unitape
Material Specification: NMS 323/1

Cytec Cycom® 5215 T40-800 Unitape Lamina Properties Summary

Fiber Cytec T40-800 **Resin:** Cycom® 5215

Tg(dry) 340.21°F **Tg(wet):** 263.75°F **Tg METHOD:** DMA (SRM 18R-94)

PROCESSING: NPS 81323 Baseline "C" Cure Cycle

Date of fiber manufacture 11/14/2005 to 6/28/2006
Date of resin manufacture 12/2006 to 1/2007
Date of prepreg manufacture 12/2006 to 1/2007
Date of composite manufacture Feb-09
Date of testing 4/8/2010 to 11/9/2010
Date of data submittal Feb-11

LAMINA MECHANICAL PROPERTY SUMMARY
Data reported as: Normalized & Measured
(Normalized by CPT= 0.0057 inch)

	CTD Mean		RTD Mean		ETD Mean		ETW Mean	
	Normalized	Measured	Normalized	Measured	Normalized	Measured	Normalized	Measured
F_1^{tu} (ksi)								
LT	369.51	372.63	371.26	375.08	---	---	355.46	357.31
from UNT0*	326.21	328.62	355.98	358.66	---	---	296.13	298.21
E_1^t (Msi)								
of LT	21.35	21.53	21.58	21.82	---	---	20.99	21.11
E (Msi)								
of UNT0	11.16	11.24	11.15	11.23	---	---	11.18	11.26
ν_{12}	---	0.33	---	0.16	---	---	---	0.34
F_2^{tu} (ksi)	---	6.31	---	6.09	---	---	---	3.47
E_2^t (Msi)								
of TT	---	1.28	---	1.13	---	---	---	0.94
F_1^{cu} (ksi)								
from UNC0*	214.73	217.10	203.73	206.41	180.43	183.35	141.54	142.77
E_1^c (Msi)								
of LC	19.85	19.14	18.67	18.95	19.04	19.34	18.72	18.92
E (Msi)								
of UNC0	7.02	7.08	7.24	7.32	6.85	6.91	7.38	7.46
ν_{12}^c	---	0.306		0.366	---	0.375	---	0.362
F_2^{cu} (ksi)								
of TC	---	40.10	---	29.67	---	---	---	17.89
E_2^c (Msi)								
of TC	---	1.36	---	1.25	---	---	---	1.06
ν_{21}^c								
of TC	---	0.030	---	0.025	---	---	---	0.019
ν								
of UNC0	---	0.037	---	0.033	---	0.027	---	0.031
$F_{12}^{s\ max}$ (ksi)	---	12.68	---	---	---	---	---	---
$F_{12}^{s5\%strain}$ (ksi)	---	---	---	---	---	---	---	6.17
$F_{12}^{s0.2\%}$ (ksi)	---	8.51	---	5.99	---	---	---	3.78
G_{12}^s (Msi)	---	0.673	---	0.542	---	---	---	0.403
SBS (ksi)	---	14.07	---	11.29	---	9.41	---	7.42

*** Derived from cross-ply using back-out factor**

Table 2-1: Lamina Summary Data

2.2 Laminate Level Test Summary

Prepreg Material: Cytec Cycom® 5215 T40-800 Unitape
Material Specification: NMS 323/1

Cytec Cycom® 5215 T40-800 Unitape Laminate Properties Summary

Fiber: Cytec T40-800 **Resin:** Cycom® 5215

Tg(dry) 340.21°F **Tg(wet)** 263.75°F **Tg METHOD:** DMA (SRM 18R-94)

PROCESSING: NPS 81323 Baseline "C" Cure Cycle

Date of fiber manufacture	11/14/2005 to 6/28/2006	**Date of testing**	4/8/2010 to 11/9/2010
Date of resin manufacture	12/2006 to 1/2007	**Date of data submittal**	Feb-11
Date of prepreg manufacture	12/2006 to 1/2007		
Date of composite manufacture	Feb-09		

LAMINATE MECHANICAL PROPERTY SUMMARY
Data reported as: Normalized & Measured
(Normalized by CPT= .0057 inch)

	Layup:	25/50/25		10/80/10		50/40/10	
	Test Condition	Normalized	Measured	Normalized	Measured	Normalized	Measured
OHT Strength (ksi)	CTD	64.03	64.48	44.35	44.68	102.20	103.25
	RTD	65.42	65.80	42.69	42.91	120.85	121.55
	ETW	67.35	67.58	39.69	40.16	133.41	133.86
OHC Strength (ksi)	RTD	42.40	42.60	36.92	36.94	55.09	55.50
	ETW	33.20	33.42	28.14	28.13	42.92	43.18
UNT Strength (ksi)	CTD	103.87	104.08	67.32	67.42	184.76	183.82
	RTD	104.25	104.30	63.55	63.80	185.27	184.32
	ETW	111.98	111.83	56.55	56.83	171.21	170.34
Modulus (msi)	CTD	7.95	7.97	4.95	4.95	12.33	12.27
	RTD	7.69	7.69	4.72	4.74	12.37	12.30
	ETW	7.60	7.59	4.33	4.35	11.91	11.84
UNC Strength (ksi)	RTD	78.74	79.36	58.95	59.92	110.30	111.42
	ETW	61.07	61.70	41.11	41.65	82.30	83.29
Modulus (msi)	RTD	7.18	7.23	4.55	4.63	11.35	11.48
	ETW	6.73	6.78	3.84	3.89	10.75	10.84
νUNC	RTD	---	0.342	---	0.605	---	0.44
	ETW	---	0.342	---	0.595	---	0.42
FHT Strength (ksi)	CTD	69.57	69.78	53.10	53.30	97.57	97.45
	RTD	68.51	68.67	48.91	48.79	98.66	98.60
	ETW	67.80	67.64	44.13	44.38	98.87	98.70
FHC Strength (ksi)	RTD	63.03	63.28	47.66	47.71	72.65	73.07
	ETW	47.20	47.43	35.97	35.93	54.58	54.74
SBS1 Strength (ksi)	RTD	---	8.80	---	---	---	---
	ETW	---	6.82	---	---	---	---
SSB Ultimate Bearing Strength (ksi)	RTD	127.17	128.55	136.53	138.45	127.77	129.87
	ETW	102.64	103.67	108.14	109.29	105.58	107.49
2% offset Strength Strength (ksi)	RTD	104.48	105.60	103.55	105.00	105.47	107.20
	ETW	89.80	90.69	89.18	90.13	88.90	90.51
CAI Strength (ksi)	RTD	16.72	17.01	---	---	---	---

* ILT panel was not tested due to improper layup

Table 2-2: Laminate Summary Data

2.3 Individual Test Summaries

2.3.1 Longitudinal Tension Properties (LT)

Material: Cytec Cycom 5215 T40-800 Unitape

Tension, 1-axis
Gr/ Ep
Cytec Cycom 5215 T40-800 Unitape
[0]8

Resin content: 34.09 % wt **Comp. density:** 1.54 [g/cc]
Fiber volume: 56.68 % vol
Ply count: 8

Test method: ASTM D3039-08 **Modulus calculation:** 1000 to 3000 microstrain

Normalized by: 0.0057 in. CPT

		CTD		RTD		ETW	
Test Temperature [°F]		-65		70		180	
Moisture Conditioning		dry		dry		equilibrium	
Equilibrium at T, RH						160 F,85%	
Source code		C0DJX X1XB		C0DJX X1XA		C0DJX X1XM	
		Normalized	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**
F_1^{tu} (ksi)	**Mean**	369.51	372.63	371.26	375.08	355.46	357.31
	Minimum	303.38	299.12	340.52	351.83	330.26	331.71
	Maximum	400.82	404.03	395.00	400.91	392.60	388.06
	C.V.(%)	5.64	5.49	4.17	3.14	4.11	4.15
	No. Specimens	24		27		23	
	No. Prepreg Lots	3		3		3	
E_1^t (Msi)	**Mean**	21.35	21.53	21.58	21.82	20.99	21.11
	Minimum	20.05	19.81	20.94	20.76	20.20	20.39
	Maximum	22.93	22.56	22.37	22.72	22.13	22.06
	C.V.(%)	3.59	3.30	1.85	2.45	2.13	2.38
	No. Specimens	24		27		21	
	No. Prepreg Lots	3		3		3	
ν_{12}	**Mean**	0.33		0.16		0.34	
	Minimum	0.22		0.15		0.28	
	Maximum	0.46		0.19		0.40	
	C.V.(%)	17.51		5.92		10.02	
	No. Specimens	22		16		21	
	No. Prepreg Lots	3		3		3	

2.3.2 Transverse Tension Properties (TT)

Material:	Cytec Cycom 5215 T40-800 Unitape		**Tension, 2-axis** **Gr/ Ep** **Cytec Cycom 5215 T40-800 Unitape** **[90]16**
Resin content:	34.41 % w t	**Comp. density:** 1.54 [g/cc]	
Fiber volume:	56.53 % vol		
Ply count:	16		
Test method:	ASTM D3039-00	**Modulus calculation:** 1000 to 3000 microstrain	
Normalized by:	NA		

		CTD		RTD		ETW	
Test Temperature [°F]		-65		70		180	
Moisture Conditioning		dry		dry		equilibrium	
Equilibrium at T, RH						160 F,85%	
Source code		C0DUX X1XB		C0DUX X1XA		C0DUX X1XM	
		Normalized	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**
	Mean		6.31		6.09		3.47
	Minimum		5.05		3.66		3.09
	Maximum		6.98		7.13		3.75
F_2^{tu} (ksi)	**C.V.(%)**		8.04		12.58		4.82
	No. Specimens	21		22		24	
	No. Prepreg Lots	3		3		3	
	Mean		1.28		1.13		0.94
	Minimum		1.24		1.10		0.89
	Maximum		1.32		1.15		0.97
E_2^t (Msi)	**C.V.(%)**		1.75		1.28		2.00
	No. Specimens	21		22		24	
	No. Prepreg Lots	3		3		3	

2.3.3 Longitudinal Compression Properties (LC)

Material: Cytec Cycom 5215 T40-800 Unitape

Compression, 1-axis
Gr/ Ep
Cytec Cycom 5215 T40-800 Unitape
[0]20

Resin content: 33.84 % wt
Fiber volume: 56.93 % vol
Ply count: 20

Comp. density: 1.54 [g/cc]

Test method: ASTM D6641-01e1

Modulus calculation: 1000 to 3000 microstrain

Normalized by: 0.0057 in. CPT

		CTD		RTD		ETD		ETW	
Test Temperature [°F]		-65		70		180		180	
Moisture Conditioning		dry		dry		dry		equilibrium	
Equilibrium at T, RH								160 F,85%	
Source code		C0DLX X1XB		C0DLX X1XA		C0DLX X1XL		C0DLX X1XM	
		Normalized	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**
E_1^c (Msi)	**Mean**	18.85	19.14	18.67	18.95	19.04	19.34	18.72	18.92
	Minimum	16.83	17.16	17.78	18.41	18.34	18.76	18.00	18.28
	Maximum	20.30	20.59	19.33	19.62	19.62	19.88	19.23	19.28
	C.V.(%)	3.80	3.71	2.04	1.78	1.69	1.65	1.87	1.46
	No. Specimens	18		21		21		21	
	No. Prepreg Lots	3		3		3		3	
ν_{12}	**Mean**	0.306		0.366		0.375		0.362	
	No. Specimens	17		21		20		21	
	No. Prepreg Lots	3		3		3		3	

2.3.4 Transverse Compression Properties (TC)

Material: Cytec Cycom 5215 T40-800 Unitape

Resin content: 34.21 % wt **Comp. density:** 1.53 [g/cc]
Fiber volume: 56.49 % vol
Ply count: 20

Test method: ASTM D6641-01e1 **Modulus calculation:** 1000 to 3000 microstrain

Normalized by: NA

Compression, 2-axis
Gr/ Ep
Cytec Cycom 5215 T40-800 Unitape
[90]20

		CTD		RTD		ETW			
Test Temperature [°F]		-65		70		180			
Moisture Conditioning		dry		dry		equilibrium			
Equilibrium at T, RH						160 F,85%			
Source code		C0DZX X1XB		C0DZX X1XA		C0DZX X1XM			
		Normalized	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**		
F_{2c}^{u} (ksi)	**Mean**		40.10		29.67		17.89		
	Minimum		34.90		27.59		16.97		
	Maximum		44.40		31.67		19.17		
	C.V.(%)		6.77		3.28		3.32		
	No. Specimens	21		21		21			
	No. Prepreg Lots	3		3		3			
E_{2c} (Msi)	**Mean**		1.36		1.25		1.06		
	Minimum		1.19		1.19		1.01		
	Maximum		1.67		1.31		1.12		
	C.V.(%)		8.10		2.14		2.48		
	No. Specimens	21		21		21			
	No. Prepreg Lots	3		3		3			
ν_{21}	**Mean**	0.030		0.025		0.019			
	No. Specimens	21		21		21			
	No. Prepreg Lots	3		3		3			

2.3.5 In-Plane Shear Properties (IPS)

Material:	Cytec Cycom 5215 T40-800 Unitape					**In-Plane Shear**	
Resin content:	34.58 % w t	**Comp. density:**	1.53 [g/cc]			**Gr/ Ep**	
Fiber volume:	56.12 % vol					**Cytec Cycom 5215 T40-800 Unitape**	
Ply count:	16					**[45/-45]4S**	
Test method:	ASTM D3518-94	**Modulus calculation:**	2000 to 6000 microstrain				
Normalized by:	N/A						

		CTD		RTD		ETW	
Test Temperature [°F]		-65		70		180	
Moisture Conditioning		dry		dry		equilibrium	
Equilibrium at T, RH						160 F,85%	
Source code		C0DNX X1XB		C0DNX X1XA		C0DNX X1XM	
		Normalized	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**
$F_{12}^{s\ max}$ (ksi)	**Mean**		12.68				
	Minimum		12.11				
	Maximum		13.36				
	C.V.(%)		3.18				
	No. Specimens	21					
	No. Prepreg Lots	3					
$F_{12}^{s5\%\ strain}$ (ksi)	**Mean**				10.32		6.17
	Minimum				10.10		5.88
	Maximum				10.99		6.44
	C.V.(%)				2.31		2.32
	No. Specimens			13		21	
	No. Prepreg Lots			3		3	
$F_{12}^{s0.2\%}$ (ksi)	**Mean**		8.51		5.99		3.78
	Minimum		8.24		5.87		3.65
	Maximum		9.00		6.11		3.91
	C.V.(%)		2.66		1.22		2.02
	No. Specimens	21		21		21	
	No. Prepreg Lots	3		3		3	
G_{12}^{s} (Msi)	**Mean**		0.673		0.542		0.403
	Minimum		0.65		0.53		0.39
	Maximum		0.71		0.56		0.42
	C.V.(%)		2.86		1.73		1.86
	No. Specimens	21		21		21	
	No. Prepreg Lots	3		3		3	

2.3.6 "50/0/50" Unnotched Tension 0 Properties (UNT0)

Material:	Cytec Cycom 5215 T40-800 Unitape					**Unnotched Tension 0** **Gr/ Ep** **Cytec Cycom 5215 T40-800 Unitape** **[0/90]3S**		
Resin content:	33.44 % w t		**Comp. density:** 1.54 [g/cc]					
Fiber volume:	57.22 % vol							
Ply count:	12							
Test method:	ASTM D3039-00		**Modulus calculation:** 1000 to 3000 microstrain					
Normalized by:	0.0057	in. CPT						
			CTD		**RTD**		**ETW**	
Test Temperature [°F]			-65		70		180	
Moisture Conditioning			dry		dry		equilibrium	
Equilibrium at T, RH							160 F,85%	
Source code			C0DPX X1XB		C0DPX X1XA		C0DPX X1XM	
			Normalized	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**
UNT0 Strength (ksi)	**Mean**		172.78	173.97	187.28	188.59	154.60	155.65
	Minimum		153.33	155.64	173.83	175.54	138.92	138.82
	Maximum		184.49	187.77	197.82	197.92	165.61	167.95
	C.V.(%)		4.88	4.68	3.44	3.14	4.80	4.80
	No. Specimens		22		21		21	
	No. Prepreg Lots		3		3		3	
UNT0 Modulus (Msi)	**Mean**		11.16	11.24	11.15	11.23	11.18	11.26
	Minimum		10.83	10.74	10.92	10.99	10.99	10.85
	Maximum		11.40	11.49	11.39	11.57	11.62	11.64
	C.V.(%)		1.52	1.92	1.12	1.42	1.29	1.69
	No. Specimens		22		21		22	
	No. Prepreg Lots		3		3		3	

2.3.7 "25/50/25" Unnotched Tension 1 Properties (UNT1)

Material:	Cytec Cycom 5215 T40-800 Unitape					**Unnotched Tension 1** **Gr/ Ep** **Cytec Cycom 5215 T40-800 Unitape** **[45/0/-45/90]2S**		
Resin content:	34.25 % wt		**Comp. density:** 1.53 [g/cc]					
Fiber volume:	56.39 % vol							
Ply count:	16							
Test method:	ASTM D3039-00		**Modulus calculation:** 1000 to 3000 microstrain					
Normalized by:	0.0057	in. CPT						
			CTD		**RTD**		**ETW**	
Test Temperature [°F]			-65		70		180	
Moisture Conditioning			dry		dry		equilibrium	
Equilibrium at T, RH							160°F,85%	
Source code			C0DAX X1XB		C0DAX X1XA		C0DAX X1XM	
			Normalized	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**
UNT1 Strength (ksi)	**Mean**		103.87	104.08	104.25	104.30	111.98	111.83
	Minimum		97.67	96.96	97.40	96.36	105.95	104.88
	Maximum		112.23	112.03	108.56	110.48	117.86	119.77
	C.V.(%)		3.45	3.61	2.80	3.04	2.87	3.57
	No. Specimens		21		21		21	
	No. Prepreg Lots		3		3		3	
UNT1 Modulus (Msi)	**Mean**		7.95	7.97	7.69	7.69	7.60	7.59
	Minimum		7.75	7.67	7.17	7.16	7.25	7.31
	Maximum		8.13	8.22	8.00	8.06	7.93	7.90
	C.V.(%)		1.39	1.84	2.53	2.42	2.33	2.48
	No. Specimens		21		21		21	
	No. Prepreg Lots		3		3		3	

2.3.8 "10/80/10" Unnotched Tension 2 Properties (UNT2)

Material: Cytec Cycom 5215 T40-800 Unitape

Resin content: 34.26 % wt **Comp. density:** 1.53 [g/cc]
Fiber volume: 56.42 % vol
Ply count: 20

Test method: ASTM D3039-00 **Modulus calculation:** 1000 to 3000 microstrain

Normalized by: 0.0057 in. CPT

Unnotched Tension 2
Gr/ Ep
Cytec Cycom 5215 T40-800 Unitape
[45/-45/0/45/-45/90/45/-45/45/-45]S

		CTD		RTD		ETW	
Test Temperature [°F]		-65		70		180	
Moisture Conditioning		dry		dry		equilibrium	
Equilibrium at T, RH						160 F,85%	
Source code		C0DBX X1XB		C0DBX X1XA		C0DBX X1XM	
		Normalized	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**
UNT2 Strength (ksi)	**Mean**	67.32	67.42	63.55	63.80	56.55	56.83
	Minimum	65.19	64.24	60.32	60.10	52.98	52.19
	Maximum	70.78	71.80	67.34	67.06	59.54	59.63
	C.V.(%)	1.93	2.48	2.92	3.12	3.00	3.22
	No. Specimens	21		21		21	
	No. Prepreg Lots	3		3		3	
UNT2 Modulus (Msi)	**Mean**	4.95	4.95	4.72	4.74	4.33	4.35
	Minimum	4.72	4.74	4.39	4.50	4.02	4.08
	Maximum	5.18	5.17	5.18	5.23	4.52	4.48
	C.V.(%)	2.48	2.14	4.14	3.77	2.55	1.94
	No. Specimens	21		21		21	
	No. Prepreg Lots	3		3		3	

2.3.9 "50/40/10" Unnotched Tension 3 Properties (UNT3)

Material:	Cytec Cycom 5215 T40-800 Unitape			**Unnotched Tension 3** **Gr/ Ep** **Cytec Cycom 5215 T40-800 Unitape** **[0/45/0/90/0/-45/0/45/0/-45]S**
Resin content:	34.87 % wt	**Comp. density:** 1.53 [g/cc]		
Fiber volume:	55.76 % vol			
Ply count:	20			
Test method:	ASTM D3039-00	**Modulus calculation:** 1000 to 3000 microstrain		
Normalized by:	0.0057	in. CPT		

		CTD		RTD		ETW	
Test Temperature [°F]		-65		70		180	
Moisture Conditioning		dry		dry		equilibrium	
Equilibrium at T, RH						160 F,85%	
Source code		C0DCX X1XB		C0DCX X1XA		C0DCX X1XM	
		Normalized	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**
UNT3 Strength (ksi)	**Mean**	184.76	183.82	185.27	184.32	171.21	170.34
	Minimum	178.25	176.41	176.38	174.57	159.23	160.85
	Maximum	192.13	192.27	195.30	195.13	181.10	176.38
	C.V.(%)	2.21	2.19	2.63	2.80	3.00	2.33
	No. Specimens	21		22		21	
	No. Prepreg Lots	3		3		3	
UNT3 Modulus (Msi)	**Mean**	12.33	12.27	12.87	12.30	11.91	11.84
	Minimum	11.94	12.04	11.94	11.82	11.51	11.26
	Maximum	12.73	12.61	13.03	13.05	12.23	12.28
	C.V.(%)	1.51	1.33	2.45	2.60	1.75	2.02
	No. Specimens	21		21		20	
	No. Prepreg Lots	3		3		3	

2.3.10 "33/0/67" Unnotched Compression 0 Properties (UNC0)

Material: Cytec Cycom 5215 T40-800 Unitape

Unnotched Compression 0
Gr/ Ep
Cytec Cycom 5215 T40-800 Unitape
[90/0/90]7

Resin content: 33.29 % wt
Fiber volume: 57.40 % vol
Ply count: 21
Comp. density 1.54 [g/cc]

Test method: ASTM D6641-01e1
Modulus calculation: 1000 to 3000 microstrain

Normalized by: 0.0057 in. CPT

		CTD		RTD		ETD		ETW	
Test Temperature [°F]		-65		70		180		180	
Moisture Conditioning		dry		dry		dry		equilibrium	
Equilibrium at T, RH								160 F,85%	
Source code		C0DRX X1XB		C0DRX X1XA		C0DRX X1XL		C0DRX X1XM	
		Normalized	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**
UNC0 Strength (ksi)	**Mean**	81.83	82.58	76.88	77.76	64.90	65.46	52.49	52.89
	Minimum	62.12	62.48	69.57	71.45	58.12	58.09	47.89	47.66
	Maximum	100.61	103.06	84.41	87.11	73.42	73.73	59.91	60.89
	C.V.(%)	10.48	10.81	5.58	5.52	7.16	7.26	6.91	7.39
	No. Specimens	21		21		20		21	
	No. Prepreg Lots	3		3		3		3	
UNC0 Modulus (Msi)	**Mean**	7.02	7.08	7.24	7.32	6.85	6.91	7.38	7.46
	Minimum	5.77	5.86	6.83	7.01	6.44	6.44	6.97	7.10
	Maximum	7.54	7.71	7.51	7.64	7.25	7.27	9.32	9.36
	C.V.(%)	5.48	5.49	2.34	2.32	3.58	3.43	6.71	6.42
	No. Specimens	21		21		21		20	
	No. Prepreg Lots	3		3		3		3	
ν_{UNC0}	**Mean**	0.037		0.033		0.027		0.031	
	No. Specimens	18		21		20		21	
	No. Prepreg Lots	3		3		3		3	

2.3.11 "25/50/25" Unnotched Compression 1 Properties (UNC1)

Material: Cytec Cycom 5215 T40-800 Untiape

Unnotched Compression 1
Gr/ Ep
Cytec Cycom 5215 T40-800 Unitape
[45/0/-45/90]3S

Resin content: 33.96 % wt **Comp. density:** 1.54 [g/cc]
Fiber volume: 56.76 % vol
Ply count: 24

Test method: ASTM D6641-01e1 **Modulus calculation:** 1000 to 3000 microstrain

Normalized by: 0.0057 in. CPT

		RTD		ETW			
Test Temperature [°F]		70		180			
Moisture Conditioning		dry		equilibrium			
Equilibrium at T, RH				160 F,85%			
Source code		C0DWX X1XA		C0DWX X1XM			
		Normalized	**Measured**	**Normalized**	**Measured**		
UNC1 Strength (ksi)	**Mean**	78.74	79.36	61.07	61.70		
	Minimum	70.89	71.05	57.20	57.65		
	Maximum	83.77	85.73	66.46	66.10		
	C.V.(%)	4.12	4.45	3.49	3.31		
	No. Specimens	21		21			
	No. Prepreg Lots	3		3			
UNC1 Modulus (Msi)	**Mean**	7.18	7.23	6.73	6.78		
	Minimum	7.01	7.00	6.34	6.40		
	Maximum	7.40	7.46	7.23	7.21		
	C.V.(%)	1.32	1.48	4.38	4.12		
	No. Specimens	21		21			
	No. Prepreg Lots	3		3			

2.3.12 "10/80/10" Unnotched Compression 2 Properties (UNC2)

Material: Cytec Cycom 5215 T40-800 Untiape

Resin content: 33.53 % wt **Comp. density:** 1.54 g/cc]
Fiber volume: 57.08 % vol
Ply count: 20

Test method: ASTM D6641-01e1 **Modulus calculation:** 1000 to 3000 microstrain

Normalized by: 0.0057 in. CPT

Unnotched Compression 2
Gr/ Ep
Cytec Cycom 5215 T40-800 Unitape
[45/-45/0/45/-45/90/45/-45/45/-45]S

		RTD		ETW	
Test Temperature [°F]		70		180	
Moisture Conditioning		dry		equilibrium	
Equilibrium at T, RH				160 F,85%	
Source code		C0DXX X1XA		C0DXX X1XM	
		Normalized	**Measured**	**Normalized**	**Measured**
UNC2 Strength (ksi)	**Mean**	58.95	59.92	41.11	41.65
	Minimum	53.04	53.83	36.53	36.55
	Maximum	62.42	64.34	46.55	47.06
	C.V.(%)	4.22	4.70	5.97	5.86
	No. Specimens	21		21	
	No. Prepreg Lots	3		3	
UNC2 Modulus (Msi)	**Mean**	4.55	4.63	3.84	3.89
	Minimum	4.45	4.50	3.74	3.74
	Maximum	4.72	4.75	4.00	4.08
	C.V.(%)	1.57	1.68	2.02	2.63
	No. Specimens	21		21	
	No. Prepreg Lots	3		3	

2.3.13 "50/40/10" Unnotched Compression 3 Properties (UNC3)

Material: Cytec Cycom 5215 T40-800 Untiape

Resin content: 33.99 % wt **Comp. density:** 1.54 [g/cc]
Fiber volume: 56.70 % vol
Ply count: 20

Test method: ASTM D6641-01e1 **Modulus calculation:** 1000 to 3000 microstrain

Normalized by: 0.0057 in. CPT

Unnotched Compression 3
Gr/ Ep
Cytec Cycom 5215 T40-800 Unitape
[45/0/90/0/-45/0/45/0/-45/0]S

		RTD		ETW			
Test Temperature [°F]		70		180			
Moisture Conditioning		dry		equilibrium			
Equilibrium at T, RH				160 F,85%			
Source code		C0DYX X1XA		C0DYX X1XM			
		Normalized	**Measured**	**Normalized**	**Measured**		
UNC3 Strength (ksi)	**Mean**	110.30	111.42	82.30	83.29		
	Minimum	102.74	105.42	74.79	75.63		
	Maximum	114.17	115.60	87.24	88.58		
	C.V.(%)	2.94	2.57	3.82	3.97		
	No. Specimens	19		24			
	No. Prepreg Lots	3		3			
UNC3 Modulus (Msi)	**Mean**	11.35	11.48	10.75	10.84		
	Minimum	11.07	11.18	9.87	9.91		
	Maximum	11.75	11.79	11.55	11.76		
	C.V.(%)	1.42	1.47	4.77	5.12		
	No. Specimens	21		21			
	No. Prepreg Lots	3		3			

2.3.14 Lamina Short-Beam Strength Properties (SBS)

Material: Cytec Cycom 5215 T40-800 Unitape

Short Beam Strength
Gr/ Ep
Cytec Cycom 5215 T40-800 Unitape
[0]45

Resin content: 34.46 % wt
Comp. density: 1.54 [g/cc]
Fiber volume: 56.33 % vol
Ply count: 45

Test method: ASTM D2344-00

Normalized by: NA

		CTD		RTD		ETD		ETW	
Test Temperature [°F]		-65		70		180		180	
Moisture Conditioning		dry		dry		dry		equilibrium	
Equilibrium at T, RH								160 F,85%	
Source code		C0DQX X1XB		C0DQX X1XA		C0DQX X1XL		C0DQX X1XM	
		Normalized	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**
SBS Strength (ksi)	**Mean**		14.07		11.29		9.41		7.42
	Minimum		12.92		10.28		8.64		6.97
	Maximum		15.45		12.08		9.81		7.71
	C.V.(%)		4.51		4.42		3.23		3.42
	No. Specimens	21		21		21		21	
	No. Prepreg Lots	3		3		3		3	

2.3.15 Laminate Short-Beam Strength Properties (SBS1)

Material: Cytec Cycom 5215 T40-800 Unitape

Laminate Short Beam Strength
Gr/ Ep
Cytec Cycom 5215 T40-800 Unitape
[45/0/-45/90]4S

Resin content: see OHC1 **Comp. density:** see OHC1
Fiber volume: see OHC1
Ply count: 32

Test method: ASTM D2344-00

Normalized by: NA

		RTD		ETW			
Test Temperature [°F]		70		180			
Moisture Conditioning		dry		equilibrium			
Equilibrium at T, RH				160 F,85%			
Source code		C0DqX XGXA		C0DqX XGXM			
		Normalized	**Measured**	**Normalized**	**Measured**		
LSBS (ksi)	**Mean**		8.80		6.82		
	Minimum		7.60		6.52		
	Maximum		9.43		7.09		
	C.V.(%)		5.32		2.19		
	No. Specimens	22		21			
	No. Prepreg Lots	3		3			

2.3.16 "25/50/25" Open-Hole Tension 1 Properties (OHT1)

Material: Cytec Cycom 5215 T40-800 Unitape

Resin content: 33.77 % wt **Comp. density:** 1.54 [g/cc]
Fiber volume: 56.95 % vol
Ply count: 16

Test method: ASTM D5766-02a

Normalized by: 0.0057 in. CPT

Open Hole Tension 1
Gr/ Ep
Cytec Cycom 5215 T40-800 Unitape
[45/0/-45/90]2S

		CTD		RTD		ETW	
Test Temperature [°F]		-65		70		150	
Moisture Conditioning		dry		dry		equilibrium	
Equilibrium at T, RH						160 F,85%	
Source code		C0DDX X1XB		C0DDX X1XA		C0DDX X1XM	
		Normalized	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**
OHT1 Strength (ksi)	**Mean**	64.03	64.48	65.42	65.80	67.35	67.58
	Minimum	58.84	59.19	60.49	61.67	60.92	61.29
	Maximum	69.43	68.12	73.65	73.62	72.10	72.64
	C.V.(%)	4.48	3.85	4.45	4.16	4.01	3.99
	No. Specimens	21		21		21	
	No. Prepreg Lots	3		3		3	

2.3.17 "10/80/10" Open-Hole Tension 2 Properties (OHT2)

Material:	Cytec Cycom 5215 T40-800 Unitape					**Open Hole Tension 2**		
Resin content:	33.85 % wt		**Comp. density:** 1.54 [g/cc]			**Gr/ Ep**		
Fiber volume:	56.85 % vol					**Cytec Cycom 5215 T40-800 Unitape**		
Ply count:	20					**[45/-45/0/45/-45/90/45/-45/45/-45]S**		
Test method:	ASTM D5766-02a							
Normalized by:	0.0057	in. CPT						
		CTD		**RTD**		**ETW**		
Test Temperature [°F]		-65		70		180		
Moisture Conditioning		dry		dry		equilibrium		
Equilibrium at T, RH						160 F,85%		
Source code		C0DEX X1XB		C0DEX X1XA		C0DEX X1XM		
		Normalized	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**	
OHT2 Strength (ksi)	**Mean**	44.35	44.68	42.69	42.91	39.69	40.16	
	Minimum	42.93	42.61	41.64	41.58	38.27	38.72	
	Maximum	45.50	46.03	44.19	44.52	40.98	41.76	
	C.V.(%)	1.54	2.08	1.58	1.73	2.05	2.48	
	No. Specimens	21		21		21		
	No. Prepreg Lots	3		3		3		

2.3.18 "50/40/10" Open-Hole Tension 3 Properties (OHT3)

Material:	Cytec Cycom 5215 T40-800 Unitape					**Open Hole Tension 3** **Gr/ Ep** **Cytec Cycom 5215 T40-800 Unitape** **[0/45/0/90/0/-45/0/45/0/-45]S**	
Resin content:	34.10 % wt	**Comp. density:** 1.54 [g/cc]					
Fiber volume:	56.72 % vol						
Ply count:	20						
Test method:	ASTM D5766-02a						
Normalized by:	0.0057	in. CPT					
		CTD		**RTD**		**ETW**	
Test Temperature [°F]		-65		70		180	
Moisture Conditioning		dry		dry		equilibrium	
Equilibrium at T, RH						160 F,85%	
Source code		C0DFX X1XB		C0DFX X1XA		C0DFX X1XM	
		Normalized	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**
OHT2 Strength (ksi)	**Mean**	102.20	103.25	120.85	121.55	133.41	133.86
	Minimum	88.02	88.71	97.86	98.92	111.57	113.99
	Maximum	120.93	125.05	138.37	142.70	147.81	148.11
	C.V.(%)	9.25	9.34	10.47	10.50	8.19	7.71
	No. Specimens	25		21		22	
	No. Prepreg Lots	3		3		3	

2.3.19 "25/50/25" Filled-Hole Tension 1 Properties (FHT1)

Material:	Cytec Cycom 5215 T40-800 Unitape					**Filled Hole Tension 1**	
Resin content:	34.11 % wt	**Comp. density:**	1.53 [g/cc]			**Gr/ Ep**	
Fiber volume:	56.54 % vol					**Cytec Cycom 5215 T40-800 Unitape**	
Ply count:	16					**[45/0/-45/90]2S**	
Test method:	ASTM D6742-02						
Normalized by:	0.0057	in. CPT					

		CTD		RTD		ETW	
Test Temperature [°F]		-65		70		180	
Moisture Conditioning		dry		dry		equilibrium	
Equilibrium at T, RH						160 F,85%	
Source code		C0D4X X1XB		C0D4X X1XA		C0D4X X1XM	
		Normalized	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**
FHT1 Strength (ksi)	**Mean**	69.57	69.78	68.51	68.67	67.80	67.64
	Minimum	65.83	65.81	63.21	64.38	64.05	64.17
	Maximum	72.99	73.90	72.26	72.41	75.03	74.27
	C.V.(%)	3.32	3.51	3.62	3.43	4.92	4.39
	No. Specimens	21		21		21	
	No. Prepreg Lots	3		3		3	

2.3.20 "10/80/10" Filled-Hole Tension 2 Properties (FHT2)

Material: Cytec Cycom 5215 T40-800 Unitape

Resin content: 33.84 % wt **Comp. density:** 1.54 [g/cc]
Fiber volume: 56.83 % vol
Ply count: 20

Test method: ASTM D6742-02

Normalized by: 0.0057 in. CPT

Filled Hole Tension Layup 2
Gr/ Ep
Cytec Cycom 5215 T40-800 Unitape
[45/-45/0/45/-45/90/45/-45/45/-45]S

		CTD		RTD		ETW	
Test Temperature [°F]		-65		70		180	
Moisture Conditioning		dry		dry		equilibrium	
Equilibrium at T, RH						160 F,85%	
Source code		C0D5X X1XB		C0D5X X1XA		C0D5X X1XM	
		Normalized	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**
FHT2 Strength (ksi)	**Mean**	53.10	53.30	48.91	48.79	44.13	44.38
	Minimum	41.17	41.15	47.19	46.35	42.22	42.55
	Maximum	55.94	56.67	50.78	50.64	45.39	45.26
	C.V.(%)	5.68	5.76	1.69	2.11	2.02	1.53
	No. Specimens	22		21		21	
	No. Prepreg Lots	3		3		3	

2.3.21 "50/40/10" Filled-Hole Tension 3 Properties (FHT3)

Material: Cytec Cycom 5215 T40-800 Unitape

Resin content: 34.10 % wt **Comp. density:** 1.53 [g/cc]
Fiber volume: 56.51 % vol
Ply count: 20

Test method: ASTM D6742-02

Normalized by: 0.0057 in. CPT

Filled Hole Tension 3
Gr/ Ep
Cytec Cycom 5215 T40-800 Unitape
[0/45/0/90/0/-45/0/45/0/-45]S

		CTD		RTD		ETW	
Test Temperature [°F]		-65		70		180	
Moisture Conditioning		dry		dry		equilibrium	
Equilibrium at T, RH						160 F,85%	
Source code		C0D6X X1XB		C0D6X X1XA		C0D6X X1XM	
		Normalized	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**
FHT3 Strength (ksi)	**Mean**	97.57	97.45	98.66	98.60	98.87	98.70
	Minimum	90.34	91.09	89.12	88.87	88.68	89.89
	Maximum	104.03	105.06	103.49	103.31	105.61	105.20
	C.V.(%)	3.65	3.42	4.05	3.79	4.65	3.80
	No. Specimens	21		21		21	
	No. Prepreg Lots	3		3		3	

2.3.22 "25/50/25" Open-Hole Compression 1 Properties (OHC1)

Material:	Cytec Cycom 5215 T40-800 Unitape		**Open Hole Compression 1** **Gr/ Ep** **Cytec Cycom 5215 T40-800 Unitape** **[45/0/-45/90]4S**
Resin content:	34.19 % wt	**Comp. density:** 1.54 [g/cc]	
Fiber volume:	56.54 % vol		
Ply count:	32		
Test method:	ASTM D6484-04		
Normalized by:	0.0057	in. CPT	

		RTD		ETW			
Test Temperature [°F]		70		180			
Moisture Conditioning		dry		equilibrium			
Equilibrium at T, RH				160 F,85%			
Source code		C0DGX X1XA		C0DGX X1XM			
		Normalized	**Measured**	**Normalized**	**Measured**		
OHC1 Strength (ksi)	**Mean**	42.40	42.60	33.20	33.42		
	Minimum	39.50	40.11	32.03	32.29		
	Maximum	45.23	45.35	34.19	34.21		
	C.V.(%)	3.60	3.77	1.90	1.79		
	No. Specimens	21		21			
	No. Prepreg Lots	3		3			

2.3.23 "10/80/10" Open-Hole Compression 2 Properties (OHC2)

Material:	Cytec Cycom 5215 T40-800 Unitape		**Open Hole Compression 2** **Gr/ Ep** **Cytec Cycom 5215 T40-800 Unitape** **[45/-45/0/45/-45/90/45/-45/45/-45]2S**
Resin content:	33.96 % wt	**Comp. density:** 1.53 [g/cc]	
Fiber volume:	56.67 % vol		
Ply count:	40		
Test method:	ASTM D6484-04		
Normalized by:	0.0057	in. CPT	

		RTD		ETW			
Test Temperature [°F]		70		180			
Moisture Conditioning		dry		equilibrium			
Equilibrium at T, RH				160 F,85%			
Source code		C0DHX X1XA		C0DHX X1XM			
		Normalized	**Measured**	**Normalized**	**Measured**		
OHC2 Strength (ksi)	**Mean**	36.92	36.94	28.14	28.13		
	Minimum	35.61	35.40	26.77	26.80		
	Maximum	37.95	38.66	30.00	29.59		
	C.V.(%)	1.70	2.20	2.71	2.71		
	No. Specimens	21		21			
	No. Prepreg Lots	3		3			

2.3.24 "50/40/10" Open-Hole Compression 3 Properties (OHC3)

Material:	Cytec Cycom 5215 T40-800 Unitape		**Open Hole Compression 3** **Gr/ Ep** **Cytec Cycom 5215 T40-800 Unitape** **[0/45/0/90/0/-45/0/45/0/-45]2S**
Resin content:	33.52 % wt	**Comp. density:** 1.53 [g/cc]	
Fiber volume:	57.08 % vol		
Ply count:	40		
Test method:	ASTM D6484-04		
Normalized by:	0.0057	in. CPT	

		RTD		ETW			
Test Temperature [°F]		70		180			
Moisture Conditioning		dry		equilibrium			
Equilibrium at T, RH				160 F,85%			
Source code		C0DIX X1XA		C0DIX X1XM			
		Normalized	**Measured**	**Normalized**	**Measured**		
OHC3 Strength (ksi)	**Mean**	55.09	55.50	42.92	43.18		
	Minimum	52.07	51.26	40.49	39.88		
	Maximum	58.38	58.86	46.14	46.22		
	C.V.(%)	3.14	3.71	3.97	4.61		
	No. Specimens	21		21			
	No. Prepreg Lots	3		3			

2.3.25 "25/50/25" Filled-Hole Compression 1 Properties (FHC1)

Material:	Cytec Cycom 5215 T40-800 Unitape			**Filled Hole Compression 1**			
Resin content:	33.67 % w t	**Comp. density:**	1.54 [g/cc]	**Gr/ Ep**			
Fiber volume:	56.98 % vol			**Cytec Cycom 5215 T40-800 Unitape**			
Ply count:	32			**[45/0/-45/90]4S**			
Test method:	ASTM D6742-02						
Normalized by:	0.0057	in. CPT					
		RTD		**ETW**			
Test Temperature [°F]		70		180			
Moisture Conditioning		dry		equilibrium			
Equilibrium at T, RH				160 F,85%			
Source code		C0D7X X1XA		C0D7X X1XM			
		Normalized	**Measured**	**Normalized**	**Measured**		
FHC1 Strength (ksi)	**Mean**	63.03	63.28	47.20	47.43		
	Minimum	60.65	60.04	43.43	43.66		
	Maximum	66.49	67.97	51.27	51.74		
	C.V.(%)	2.52	3.48	4.77	4.98		
	No. Specimens	21		21			
	No. Prepreg Lots	3		3			

2.3.26 "10/80/10" Filled-Hole Compression 2 Properties (FHC2)

Material:	Cytec Cycom 5215 T40-800 Unitape					**Filled Hole Compression 2**	
Resin content:	34.12 % wt	**Comp. density:** 1.53 [g/cc]				**Gr/ Ep**	
Fiber volume:	56.50 % vol					**Cytec Cycom 5215 T40-800 Unitape**	
Ply count:	40					**[45/-45/0/45/-45/90/45/-45/45/-45]2S**	
Test method:	ASTM D6742-02						
Normalized by:	0.0057	in. CPT					
		RTD		**ETW**			
Test Temperature [°F]		70		180			
Moisture Conditioning		dry		equilibrium			
Equilibrium at T, RH				160 F,85%			
Source code		C0D8X X1XA		C0D8X X1XM			
		Normalized	**Measured**	**Normalized**	**Measured**		
FHC2 Strength (ksi)	**Mean**	47.66	47.71	35.97	35.93		
	Minimum	45.90	45.70	33.38	32.98		
	Maximum	49.53	49.69	38.44	38.02		
	C.V.(%)	1.94	2.28	2.89	3.08		
	No. Specimens	21		21			
	No. Prepreg Lots	3		3			

2.3.27 "50/40/10" Filled-Hole Compression 3 Properties (FHC3)

Filled Hole Compression 3
Gr/ Ep
Cytec Cycom 5215 T40-800 Unitape
[0/45/0/90/0/-45/0/45/0/-45]2S

Material:	Cytec Cycom 5215 T40-800 Unitape						
Resin content:	33.66 % wt	**Comp. density:** 1.54 [g/cc]					
Fiber volume:	57.02 % vol						
Ply count:	40						
Test method:	ASTM D6742-02						
Normalized by:	0.0057	in. CPT					
		RTD		**ETW**			
Test Temperature [°F]		70		180			
Moisture Conditioning		dry		equilibrium			
Equilibrium at T, RH				160 F,85%			
Source code		C0D9X X1XA		C0D9X X1XM			
		Normalized	**Measured**	**Normalized**	**Measured**		
FHC3 Strength (ksi)	**Mean**	72.65	73.07	54.58	54.74		
	Minimum	68.59	68.18	51.37	50.64		
	Maximum	76.00	76.66	58.45	57.87		
	C.V.(%)	2.59	2.80	3.32	2.99		
	No. Specimens	21		21			
	No. Prepreg Lots	3		3			

2.3.28 "25/50/25" Single-Shear Bearing 1 Properties (SSB1)

Material:	Cytec Cycom 5215 T40-800 Unitape					**Single Shear Bearing 1** **Gr/ Ep** **Cytec Cycom 5215 T40-800 Unitape** **[45/0/-45/90]2S**	
Resin content:	34.24 % w t	**Comp. density:** 1.53 [g/cc]					
Fiber volume:	56.45 % vol						
Ply count:	16						
Test method:	ASTM D5961-05e1						
Normalized by:	0.0057	in CPT					
		RTD		**ETW**			
Test Temperature [°F]		70		180			
Moisture Conditioning		dry		equilibrium			
Equilibrium at T, RH				160 F,85%			
Source code		C0D1X X1XA		C0D1X X1XM			
		Normalized	**Measured**	**Normalized**	**Measured**		
SSB1 Ultimate Strength (ksi)	**Mean**	127.17	128.55	102.64	103.67		
	Minimum	119.86	121.44	95.74	94.77		
	Maximum	132.76	134.04	114.28	117.04		
	C.V.(%)	2.87	2.60	4.94	5.40		
	No. Specimens	21		21			
	No. Prepreg Lots	3		3			
SSB1 2% Offset Strength (ksi)	**Mean**	104.48	105.60	89.80	90.69		
	Minimum	93.39	95.56	83.81	85.23		
	Maximum	112.91	112.68	95.78	98.29		
	C.V.(%)	4.68	4.31	3.99	4.06		
	No. Specimens	21		21			
	No. Prepreg Lots	3		3			

2.3.29 "10/80/10" Single-Shear Bearing 2 Properties (SSB2)

Material:	Cytec Cycom 5215 T40-800 Unitape					**Single Shear Bearing 2** Gr/ Ep Cytec Cycom 5215 T40-800 Unitape [45/-45/0/45/-45/90/45/-45/45/-45]S	
Resin content:	34.00 % w t	**Comp. density:** 1.54 [g/cc]					
Fiber volume:	56.69 % vol						
Ply count:	20						
Test method:	ASTM D5961-05e1						
Normalized by:	0.0057	in CPT					
		RTD		**ETW**			
Test Temperature [°F]		70		180			
Moisture Conditioning		dry		equilibrium			
Equilibrium at T, RH				160 F,85%			
Source code		C0D2X X1XA		C0D2X X1XM			
		Normalized	**Measured**	**Normalized**	**Measured**		
SSB2 Ultimate Strength (ksi)	**Mean**	136.53	138.45	108.14	109.29		
	Minimum	130.86	133.06	103.48	105.01		
	Maximum	142.15	143.86	119.00	118.23		
	C.V.(%)	2.30	2.13	3.52	3.19		
	No. Specimens	21		21			
	No. Prepreg Lots	3		3			
SSB2 2% Offset Strength (ksi)	**Mean**	103.55	105.00	89.18	90.13		
	Minimum	93.06	94.64	81.64	82.42		
	Maximum	112.98	112.93	95.85	98.11		
	C.V.(%)	5.26	5.04	4.22	3.96		
	No. Specimens	21		21			
	No. Prepreg Lots	3		3			

2.3.30 "50/40/10" Single-Shear Bearing 3 Properties (SSB3)

Material:	Cytec Cycom 5215 T40-800 Unitape					**Single Shear Bearing 3** Gr/ Ep Cytec Cycom 5215 T40-800 Unitape [0/45/0/90/0/-45/0/45/0/-45]S	
Resin content:	34.00 % wt	**Comp. density:** 1.54 [g/cc]					
Fiber volume:	56.77 % vol						
Ply count:	20						
Test method:	ASTM D5961-05e1						
Normalized by:	0.0057	in CPT					
		RTD		**ETW**			
Test Temperature [°F]		70		180			
Moisture Conditioning		dry		equilibrium			
Equilibrium at T, RH				160 F,85%			
Source code		C0D3X X1XA		C0D3X X1XM			
		Normalized	**Measured**	**Normalized**	**Measured**		
SSB3 Ultimate Strength (ksi)	**Mean**	127.77	129.87	105.58	107.49		
	Minimum	120.20	123.92	96.73	98.70		
	Maximum	138.04	139.26	113.22	117.60		
	C.V.(%)	3.42	3.21	4.15	4.23		
	No. Specimens	23		21			
	No. Prepreg Lots	3		3			
SSB3 2% Offset Strength (ksi)	**Mean**	105.47	107.20	88.90	90.51		
	Minimum	94.86	96.17	84.40	85.78		
	Maximum	117.12	119.09	99.63	100.59		
	C.V.(%)	4.91	4.70	4.14	4.12		
	No. Specimens	23		21			
	No. Prepreg Lots	3		3			

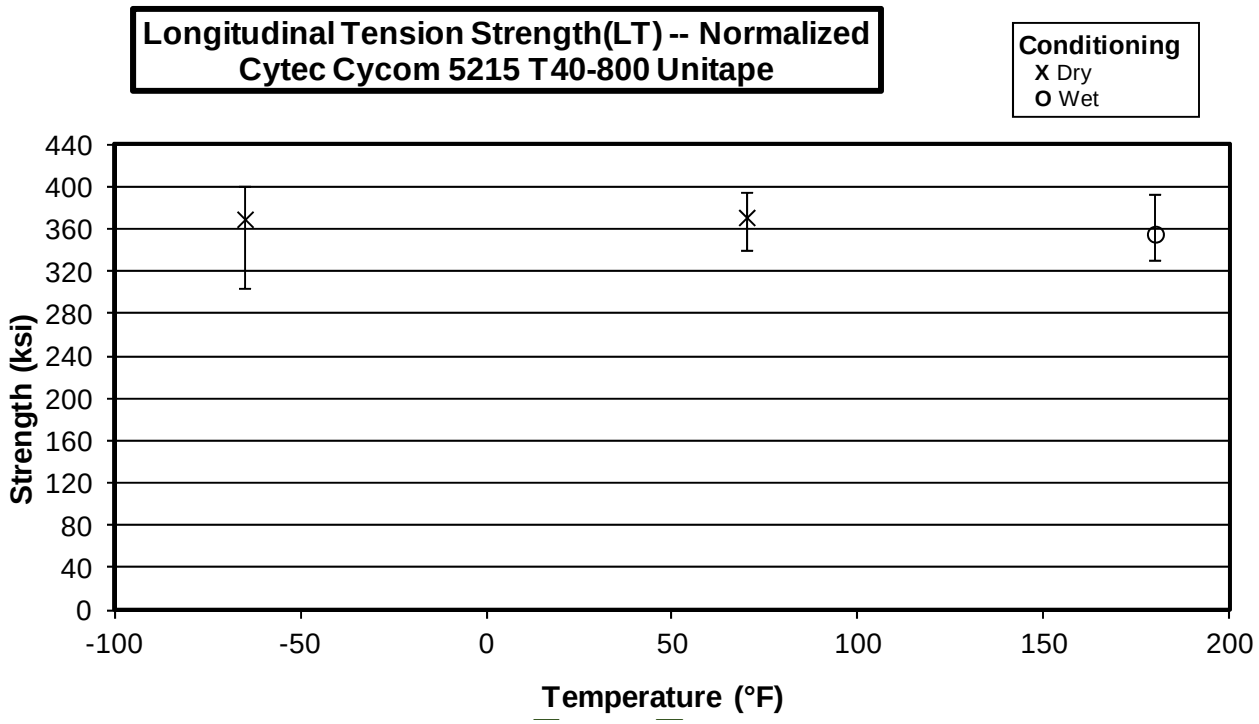
2.3.31 Compression After Impact 1 Properties (CAI1)

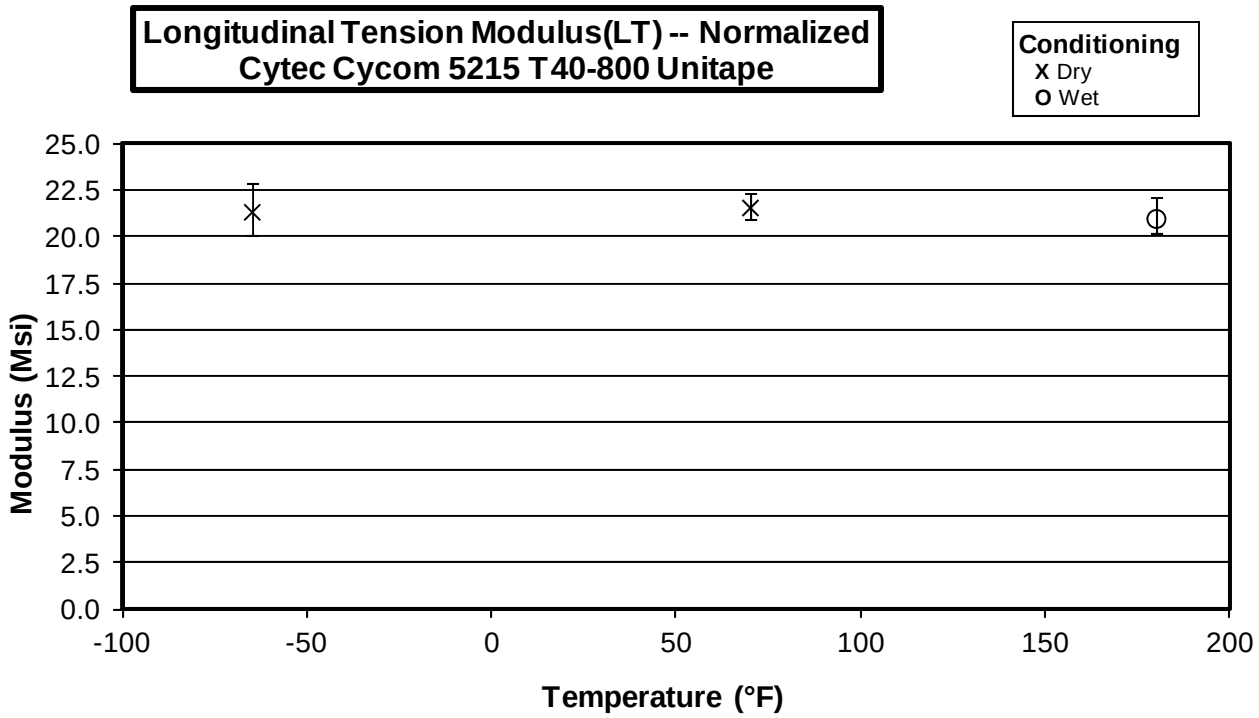
Material:	Cytec Cycom 5215 T40-800 Unitape				**Compression After Impact Layup 1**		
Resin content:	33.18 % wt	**Comp. density:**	1.54 [g/cc]		**Gr/ Ep**		
Fiber volume:	57.47 % vol				**Cytec Cycom 5215 T40-800 Unitape**		
Ply count:	32				**[45/0/-45/90]4S**		
Test method:	ASTM D7136/D7137-05e1						
Normalized by:	0.0057	in. CPT					
			RTD				
Test Temperature [°F]			70				
Moisture Conditioning			dry				
Equilibrium at T, RH							
Source code			C0DKX X1XA				
		Normalized		**Measured**			
CAI Strength (ksi)	**Mean**	16.72		17.01			
	Minimum	15.29		15.52			
	Maximum	17.81		18.14			
	C.V.(%)	6.49		6.28			
	No. Specimens		6				
	No. Prepreg Lots		1				

3. Individual Test Charts

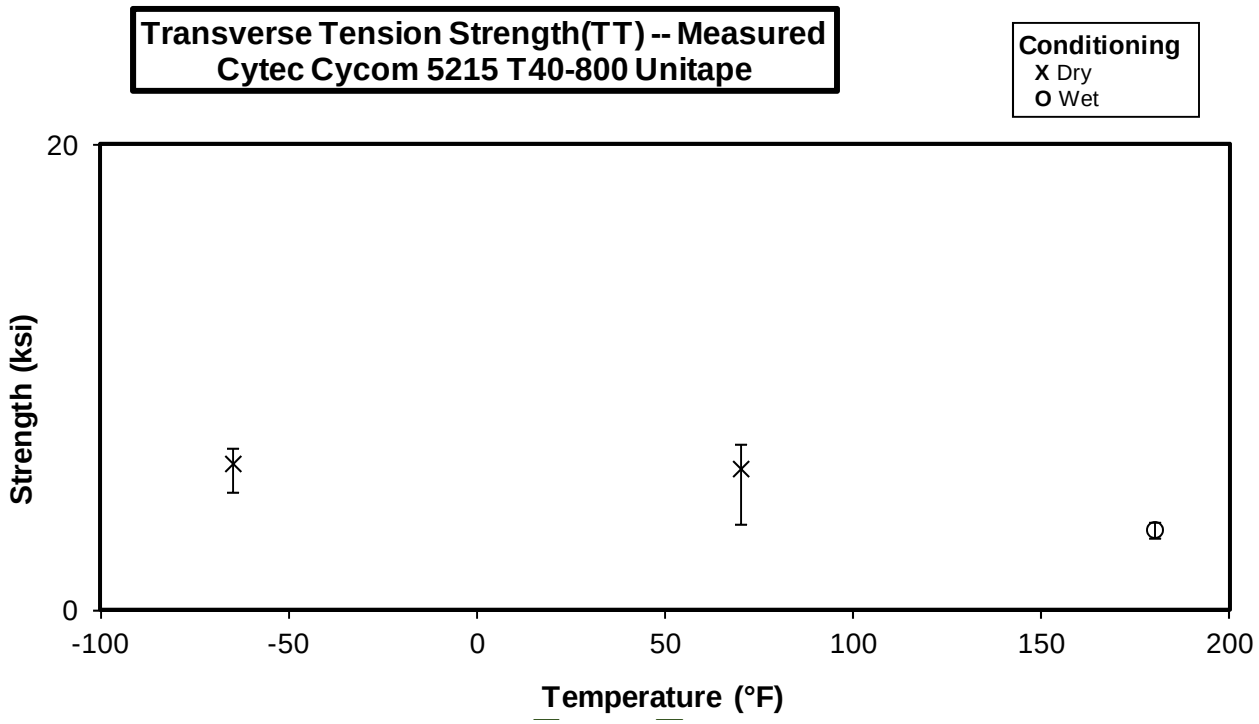
These charts combine all three batches of data and plot the minimum and maximum modulus and strength range based on the test temperature.

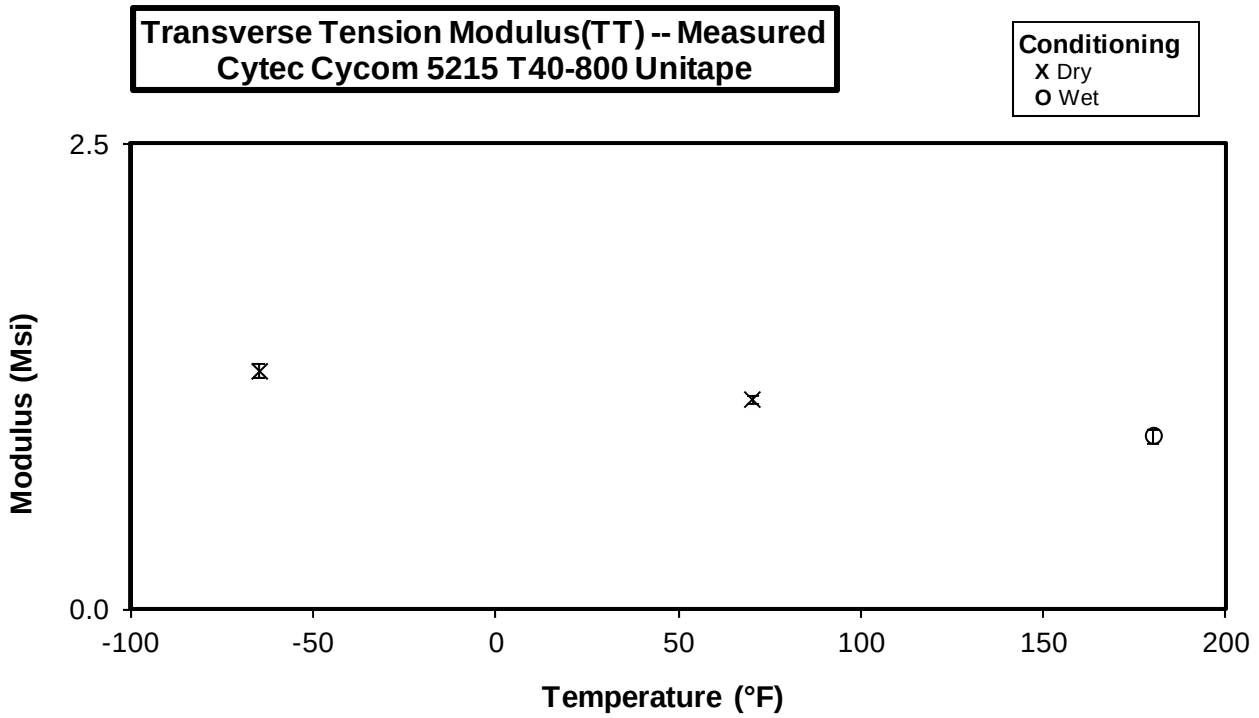
3.1 Longitudinal Tension Properties (LT)



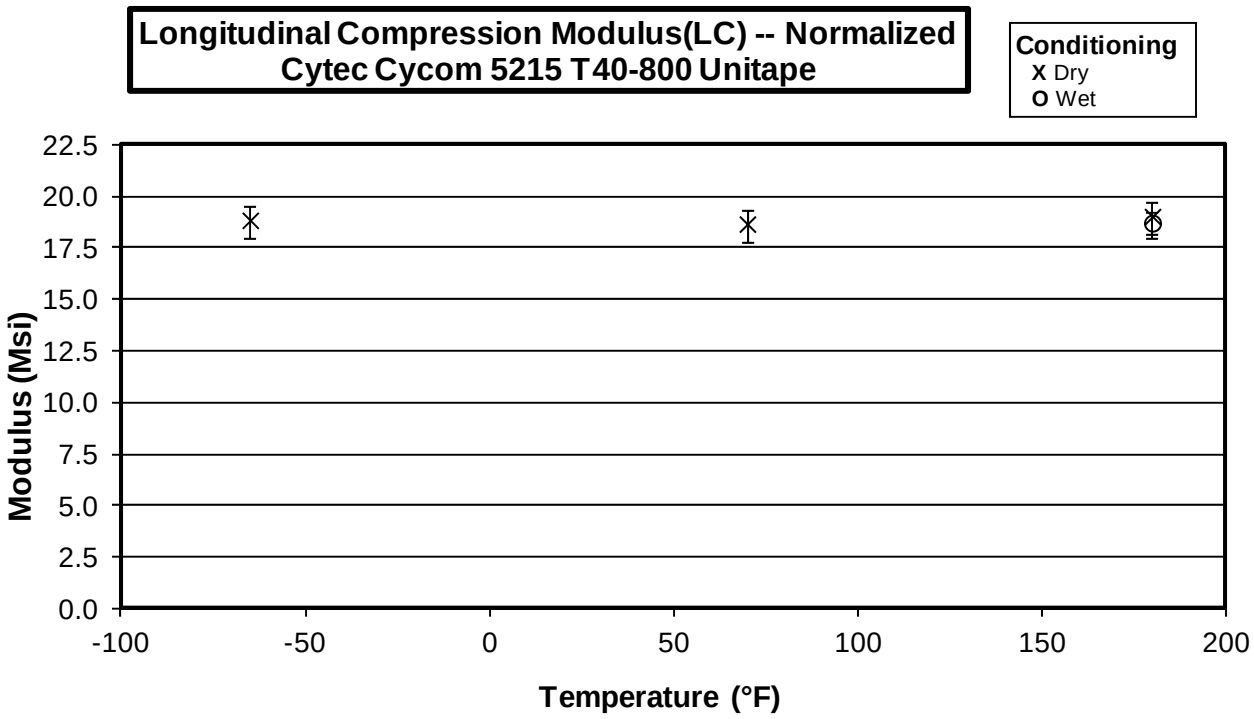


3.2 Transverse Tension Properties (TT)

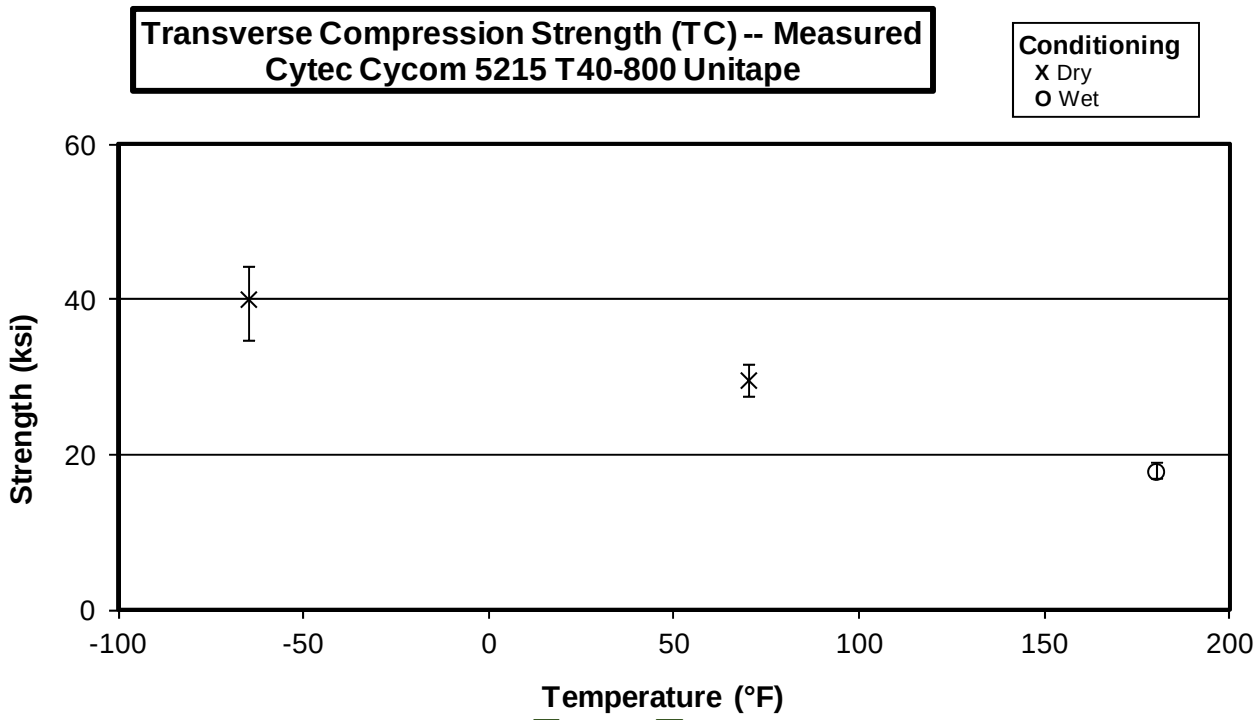


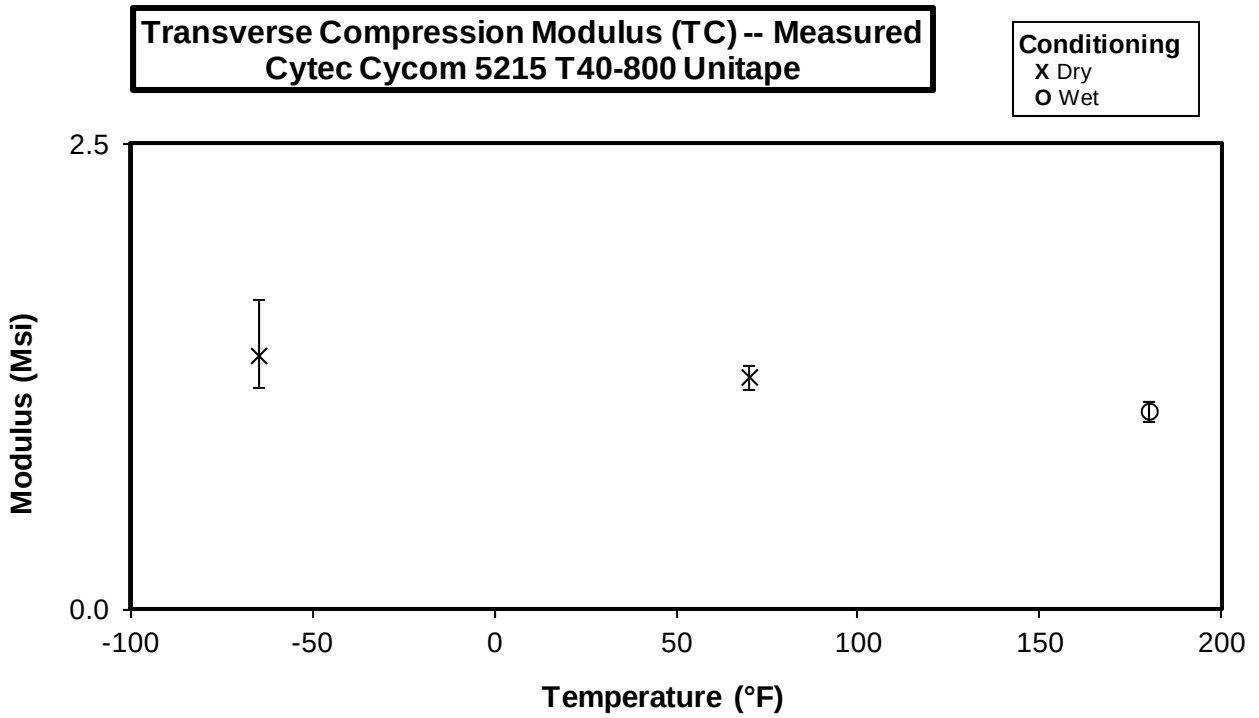


3.3 Longitudinal Compression Properties (LC)

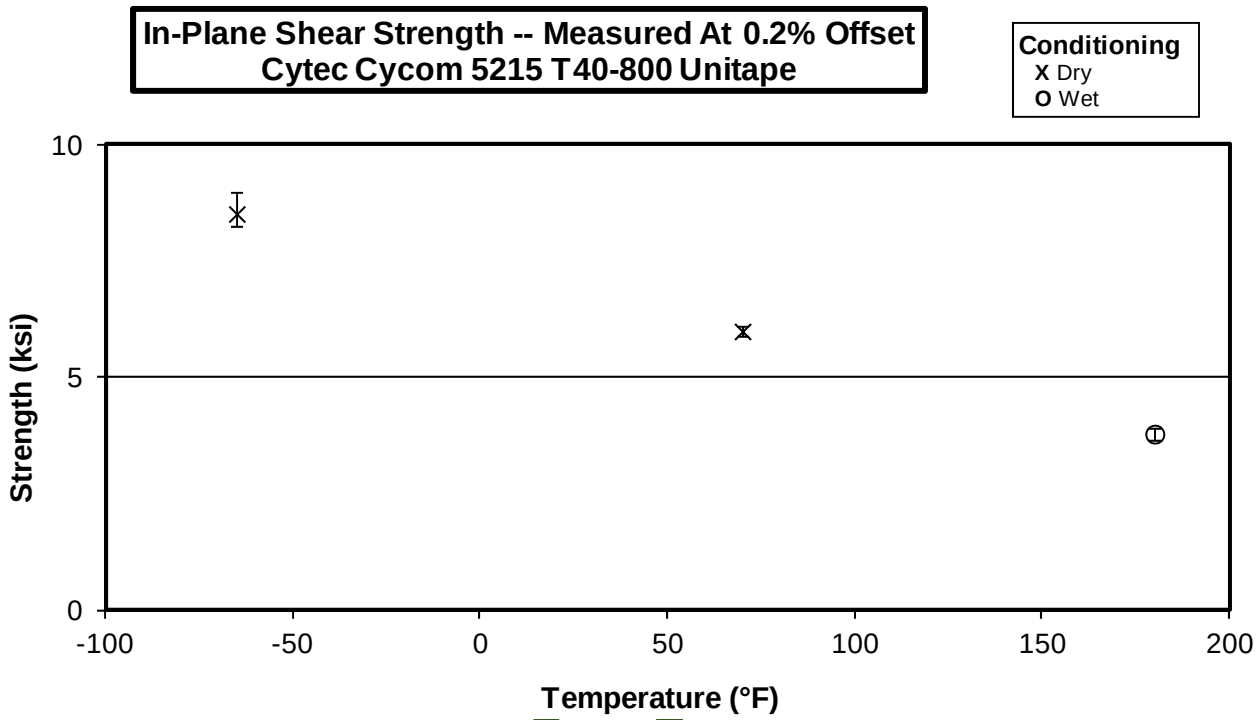


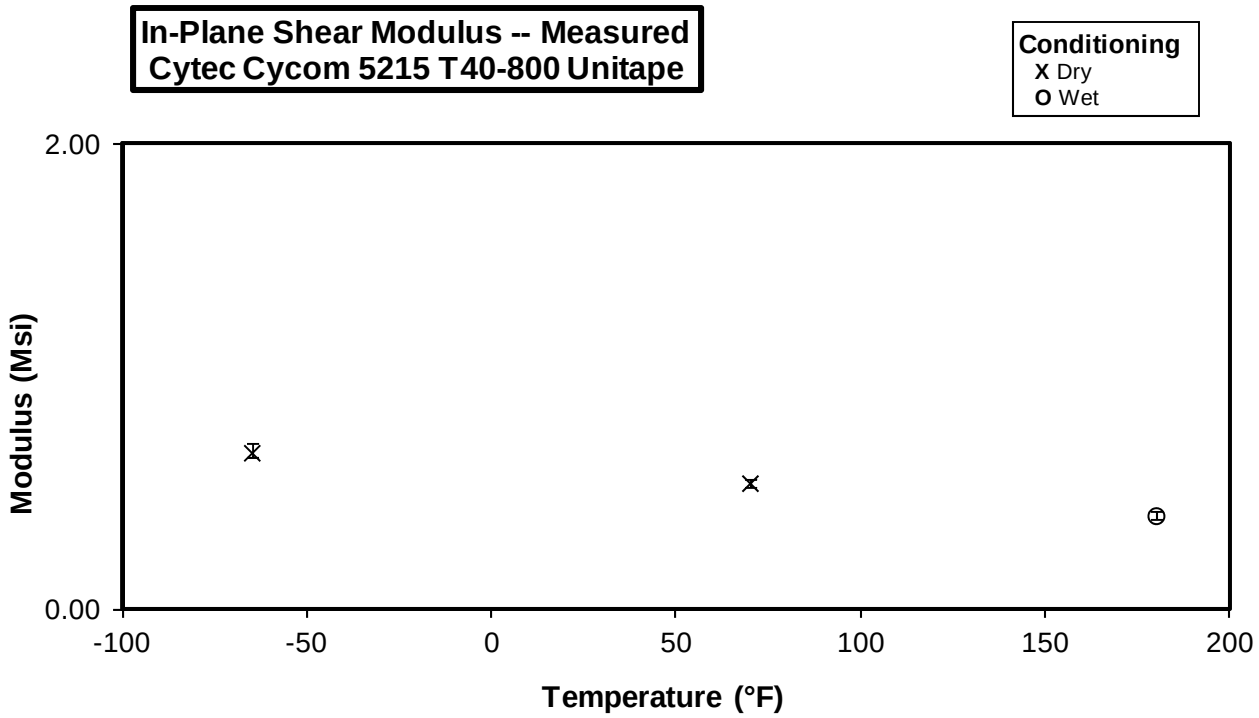
3.4 Transverse Compression Properties (TC)



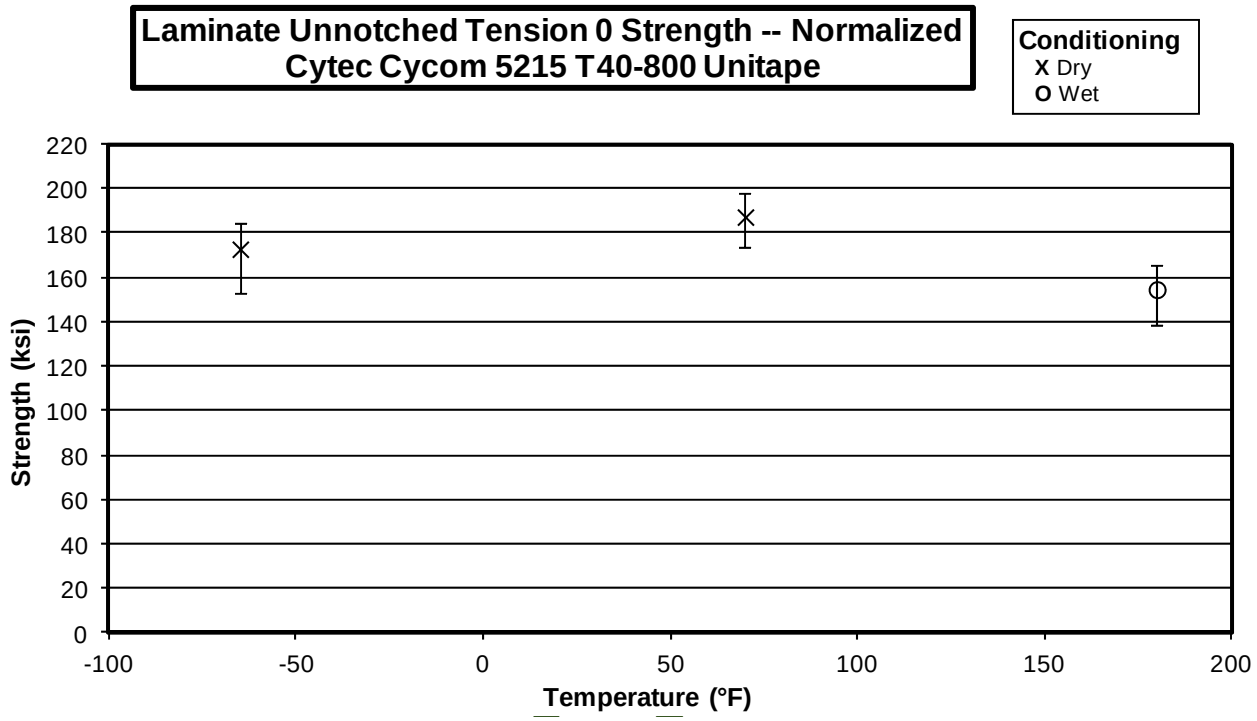


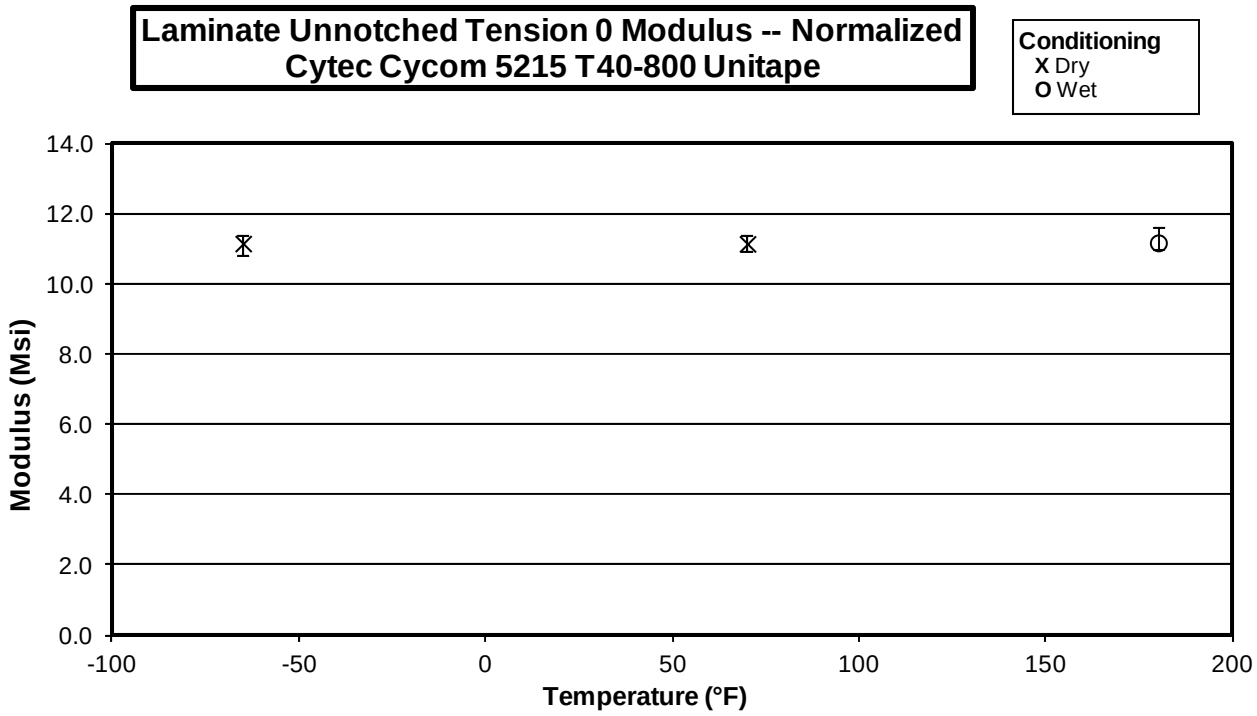
3.5 In-Plane Shear Properties (IPS)



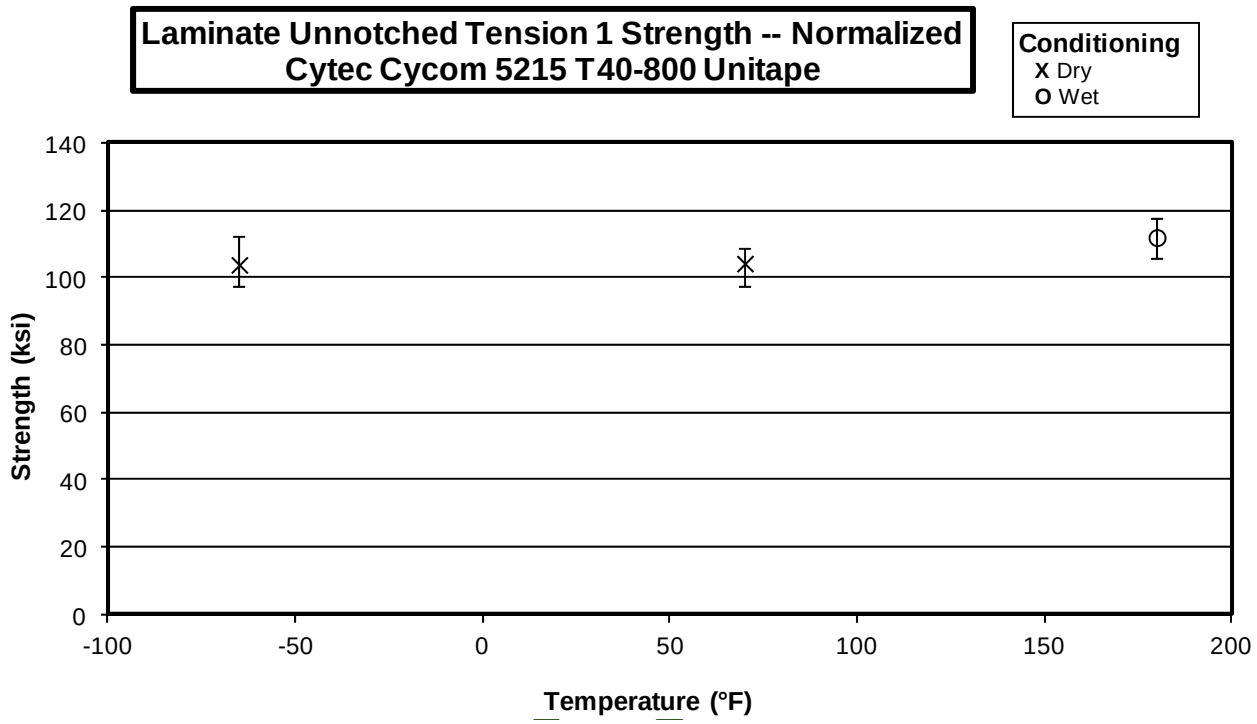


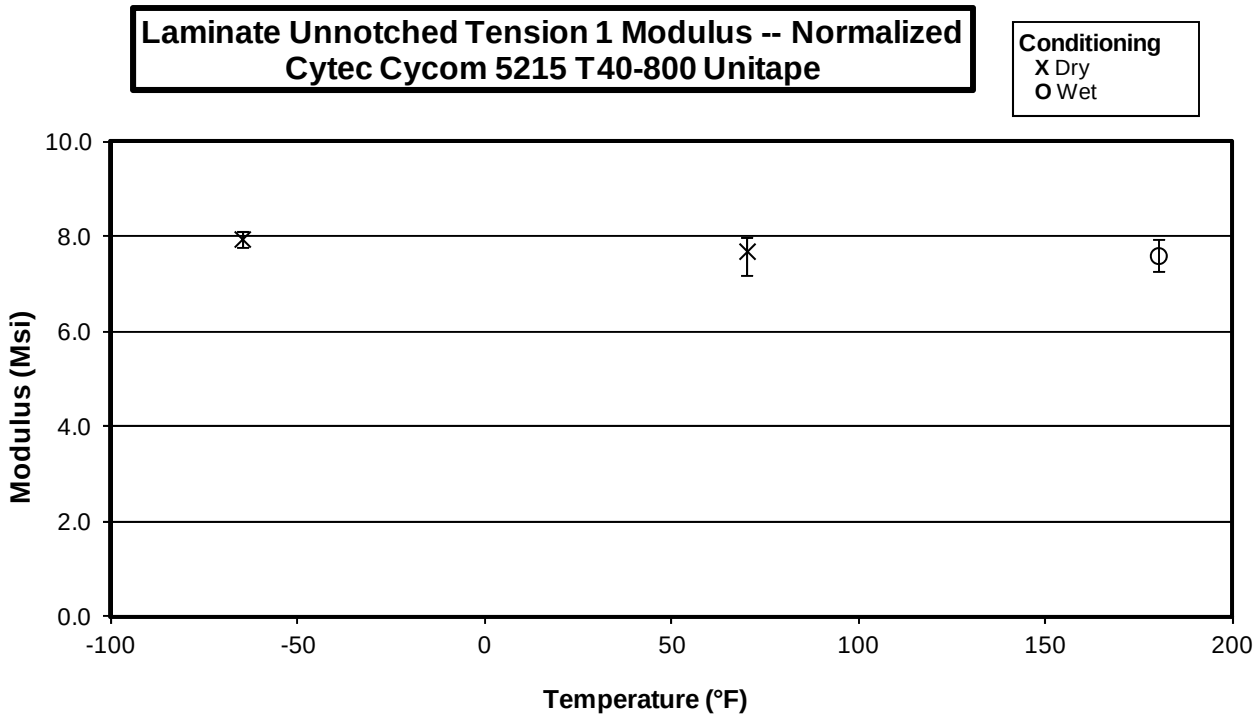
3.6 "50/0/50" Unnotched Tension 0 Properties (UNT0)



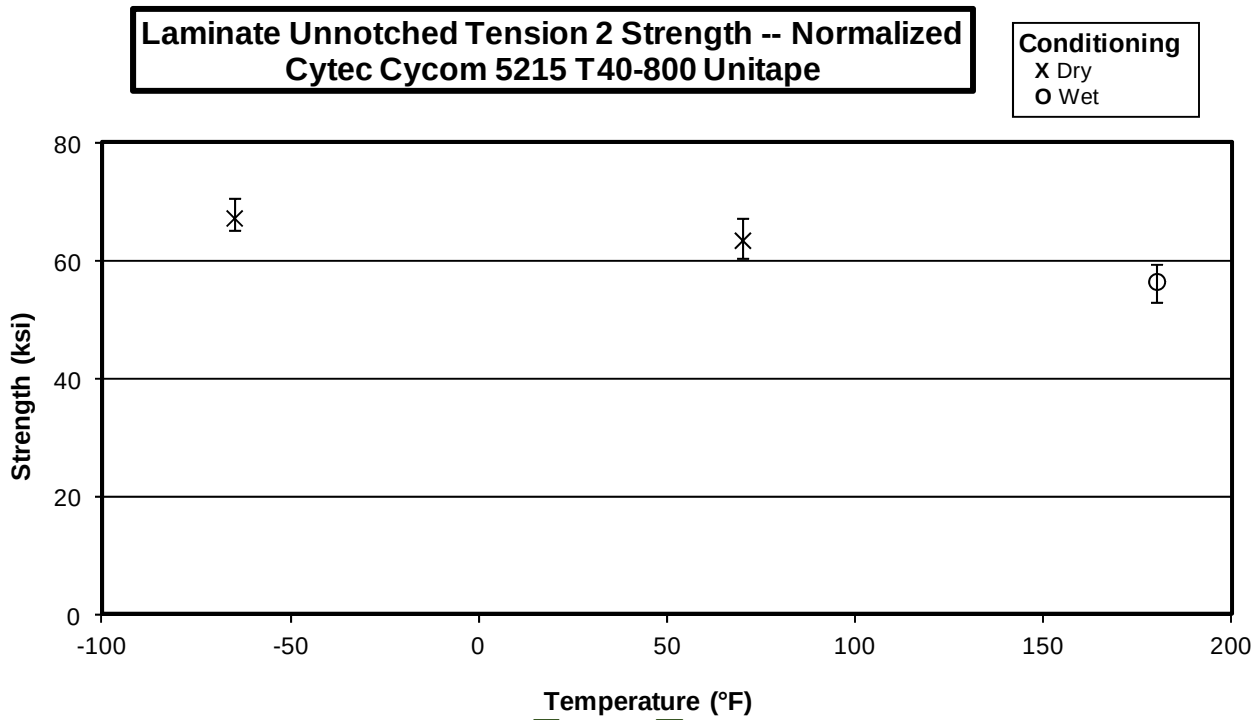


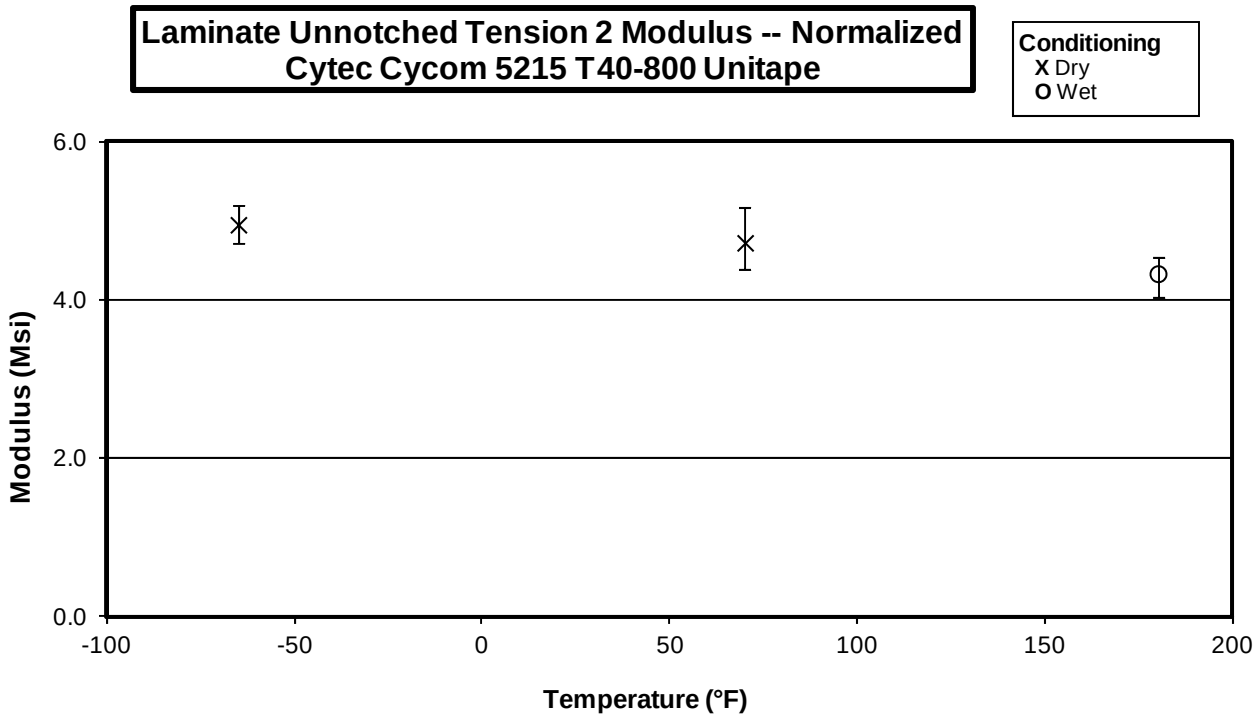
3.7 "25/50/25" Unnotched Tension 1 Properties (UNT1)



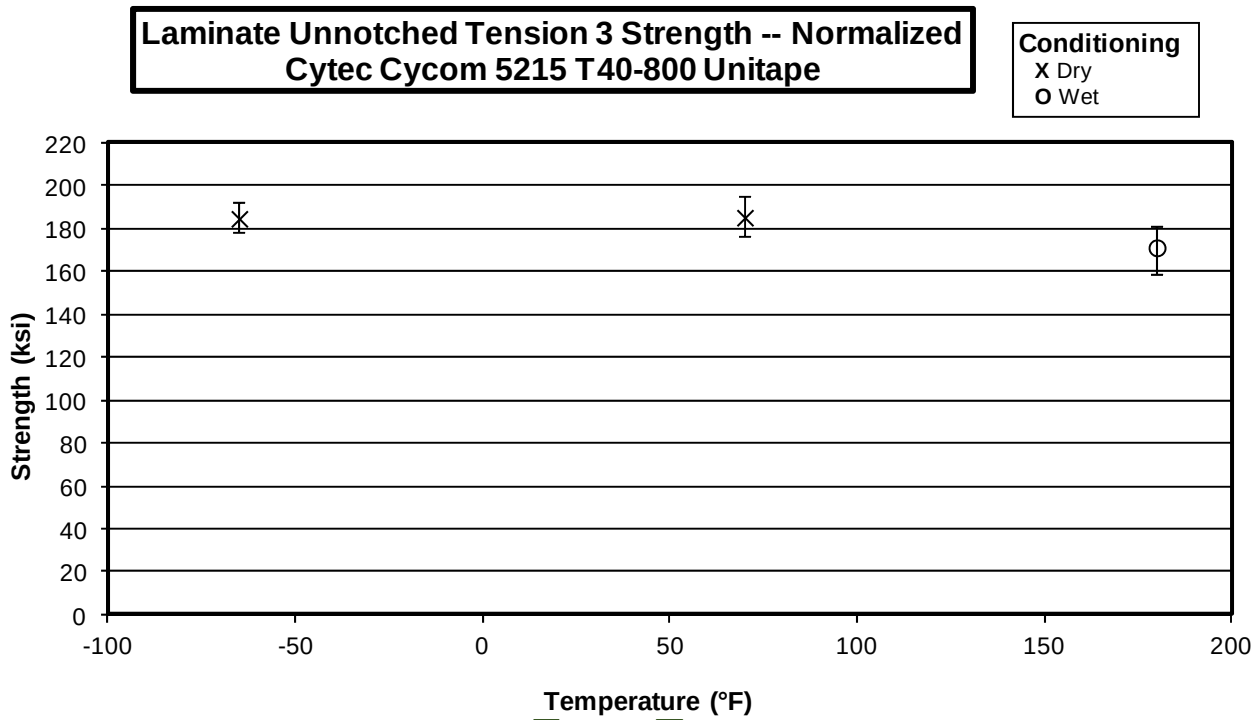


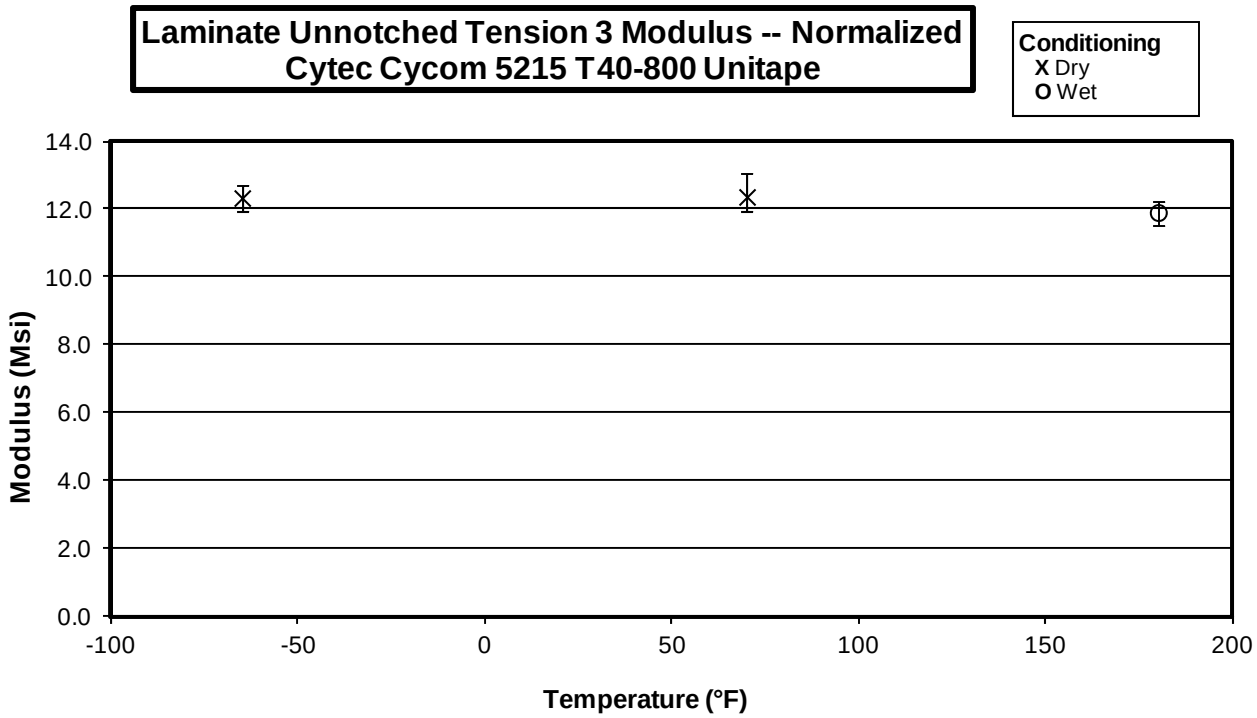
3.8 "10/80/10" Unnotched Tension 2 Properties (UNT2)



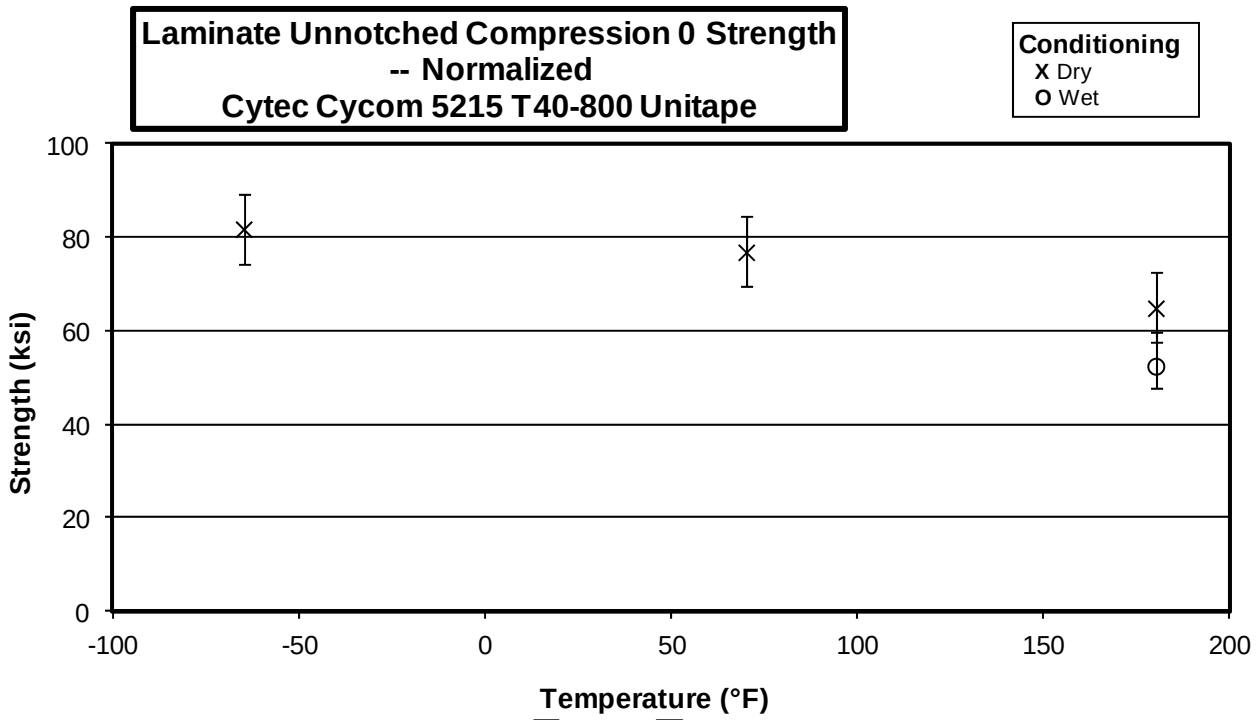


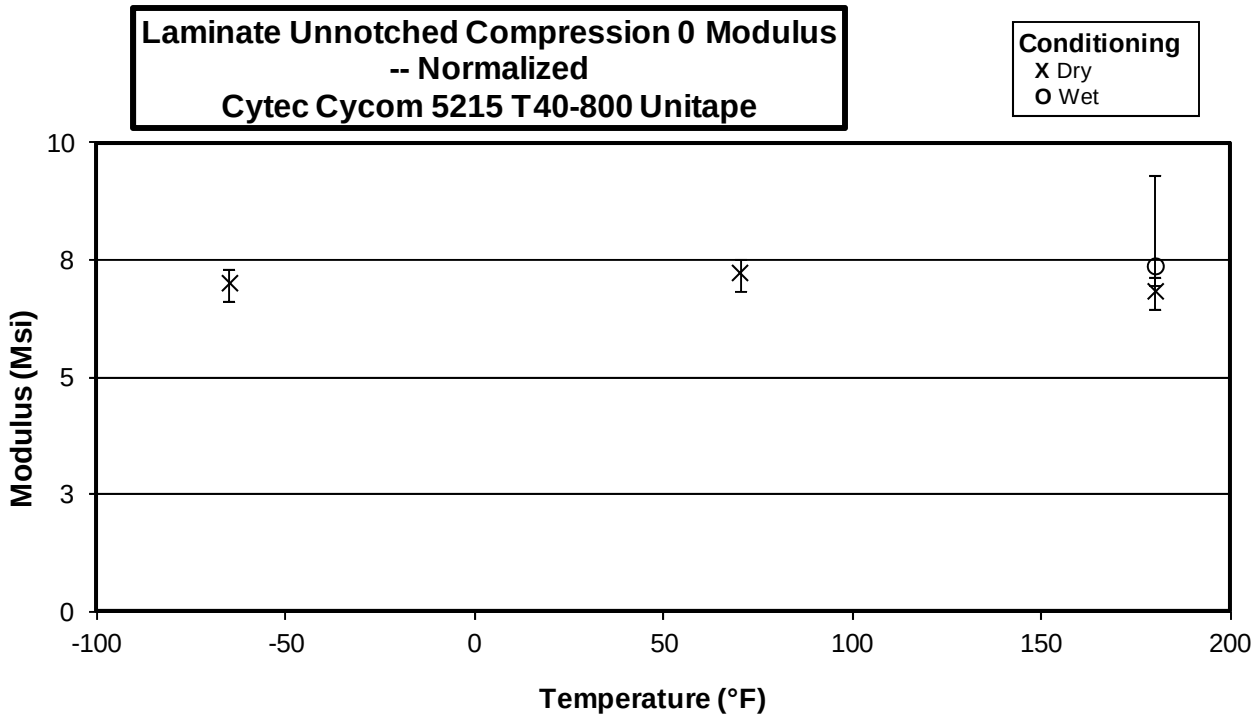
3.9 "50/40/10" Unnotched Tension 3 Properties (UNT3)



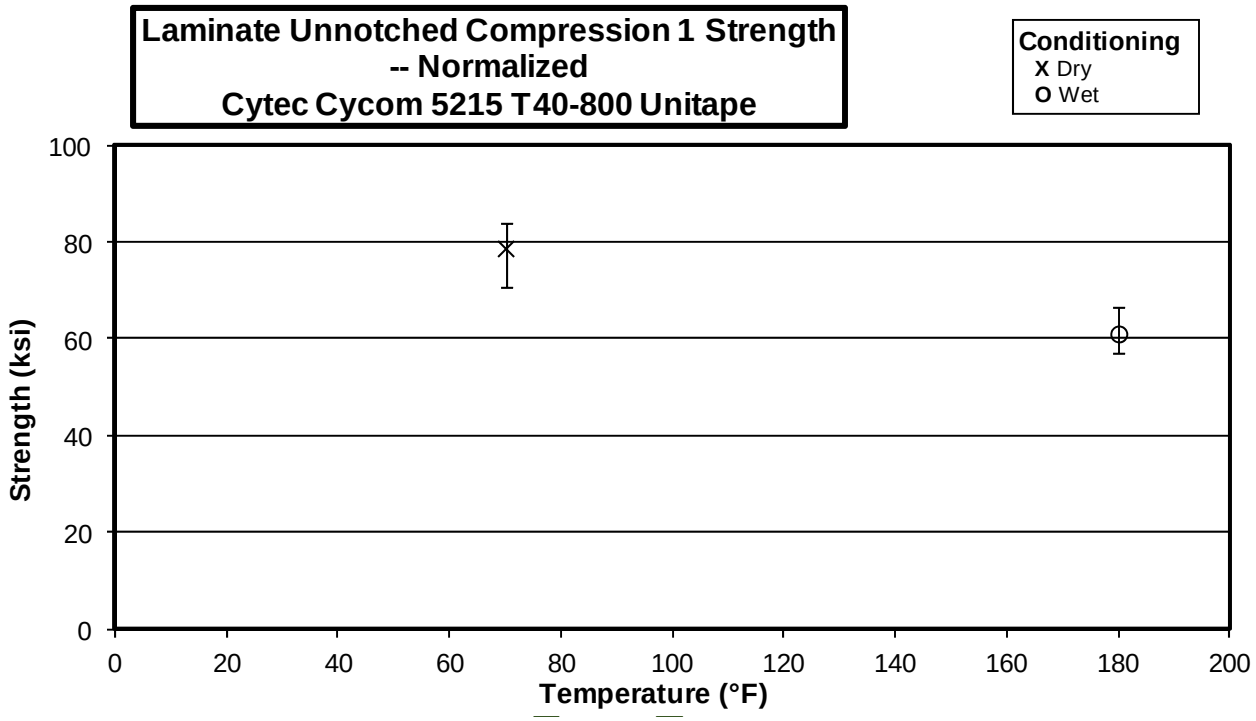


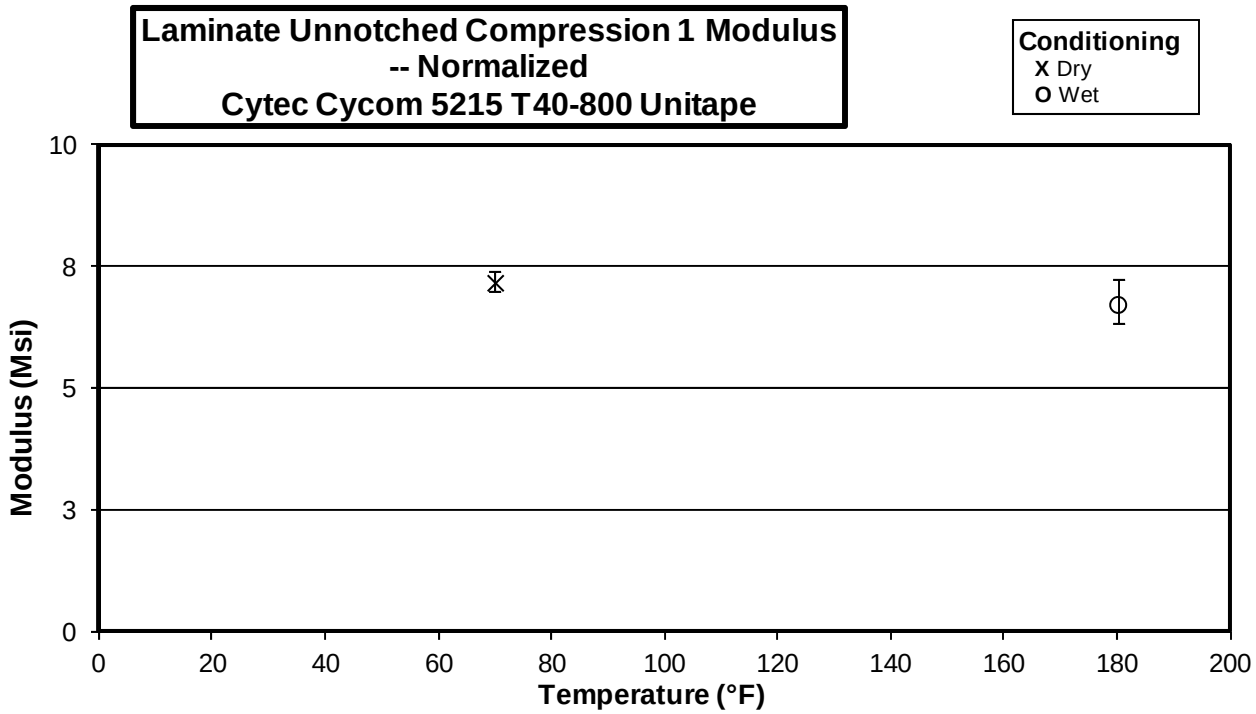
3.10 "33/0/67" Unnotched Compression 0 Properties (UNC0)



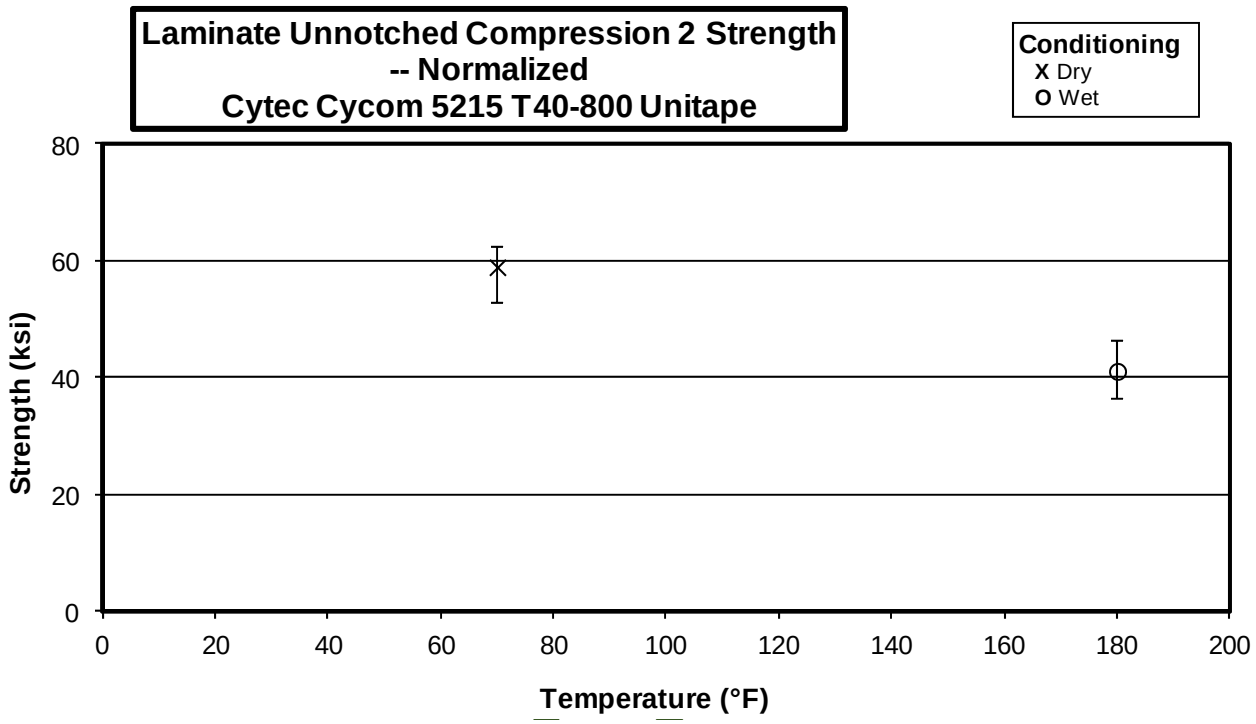


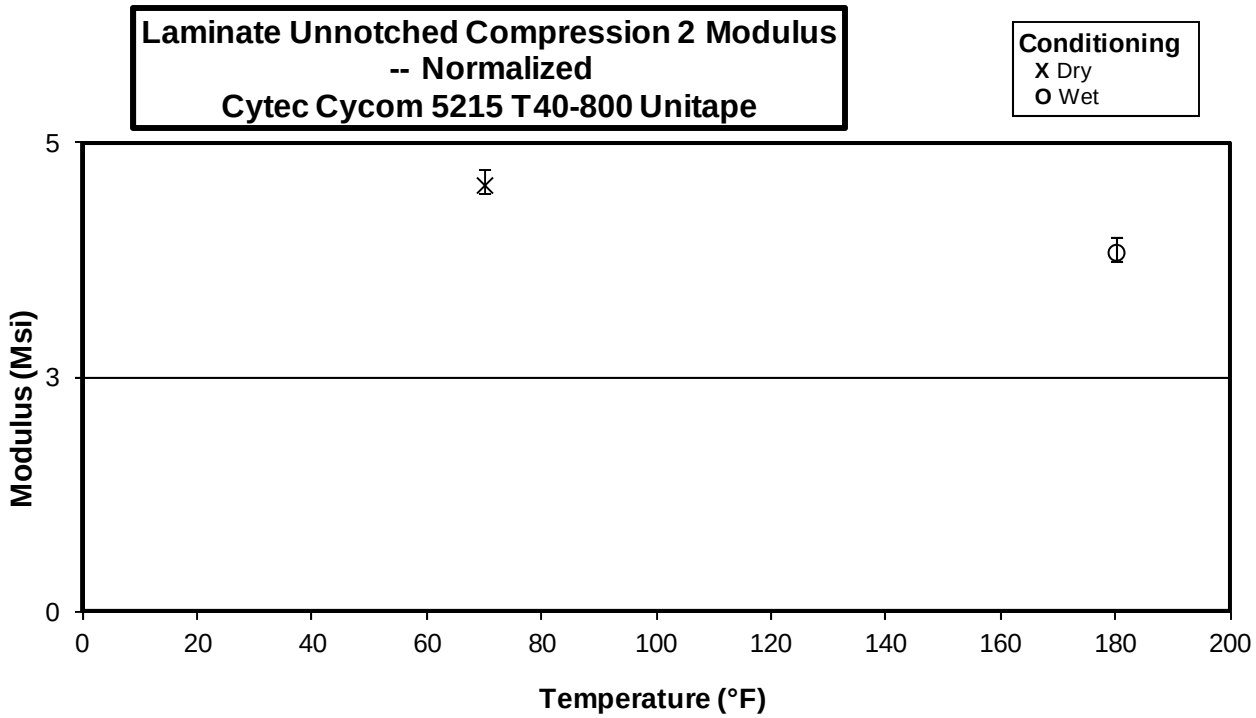
3.11 "25/50/25" Unnotched Compression 1 Properties (UNC1)



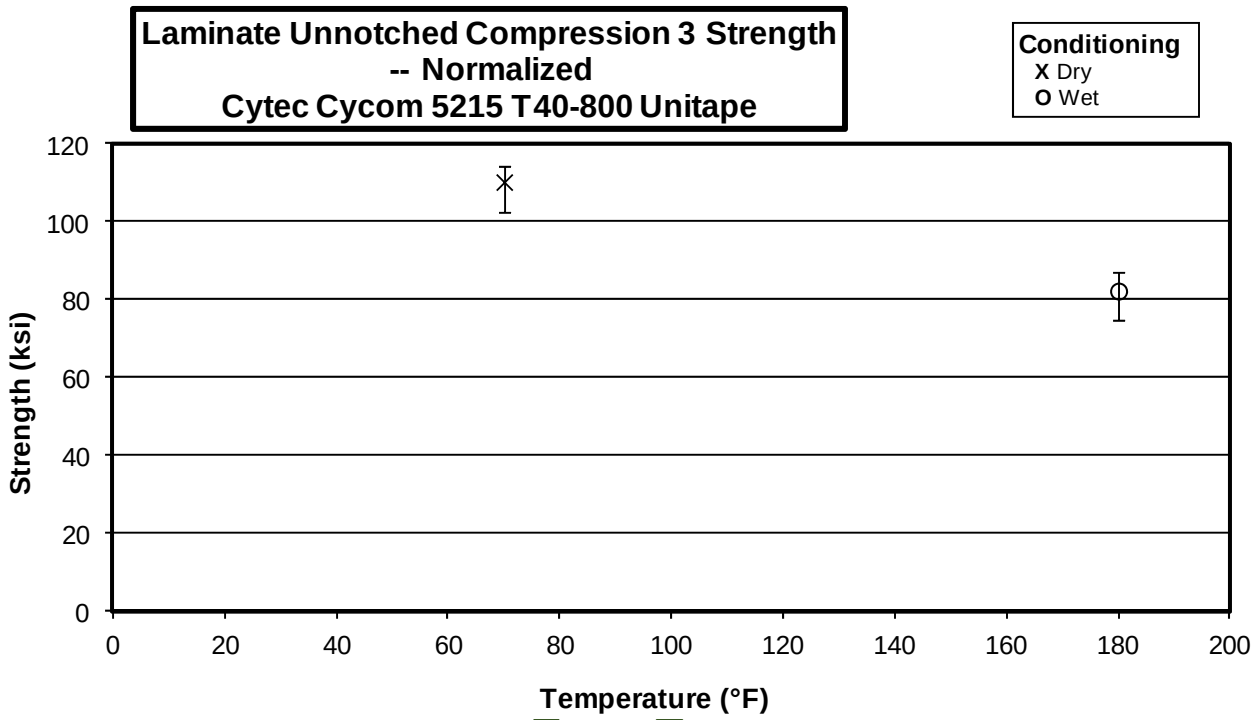


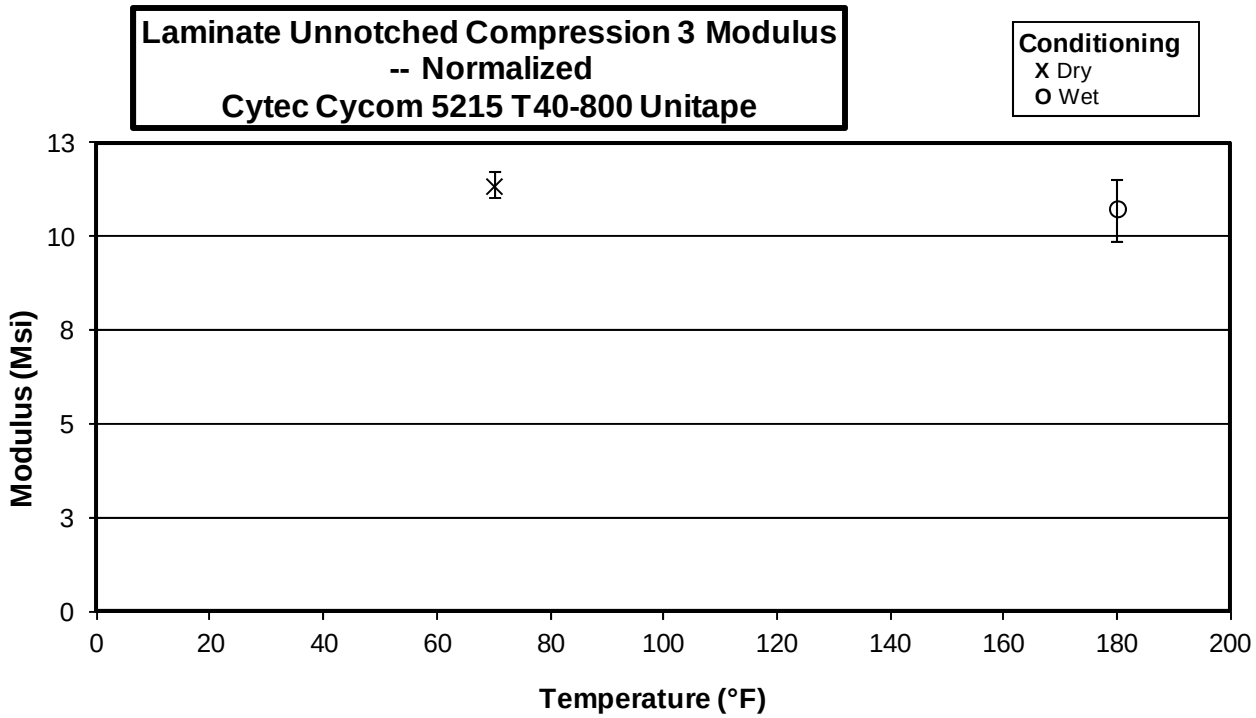
3.12 "10/80/10" Unnotched Compression 2 Properties (UNC2)



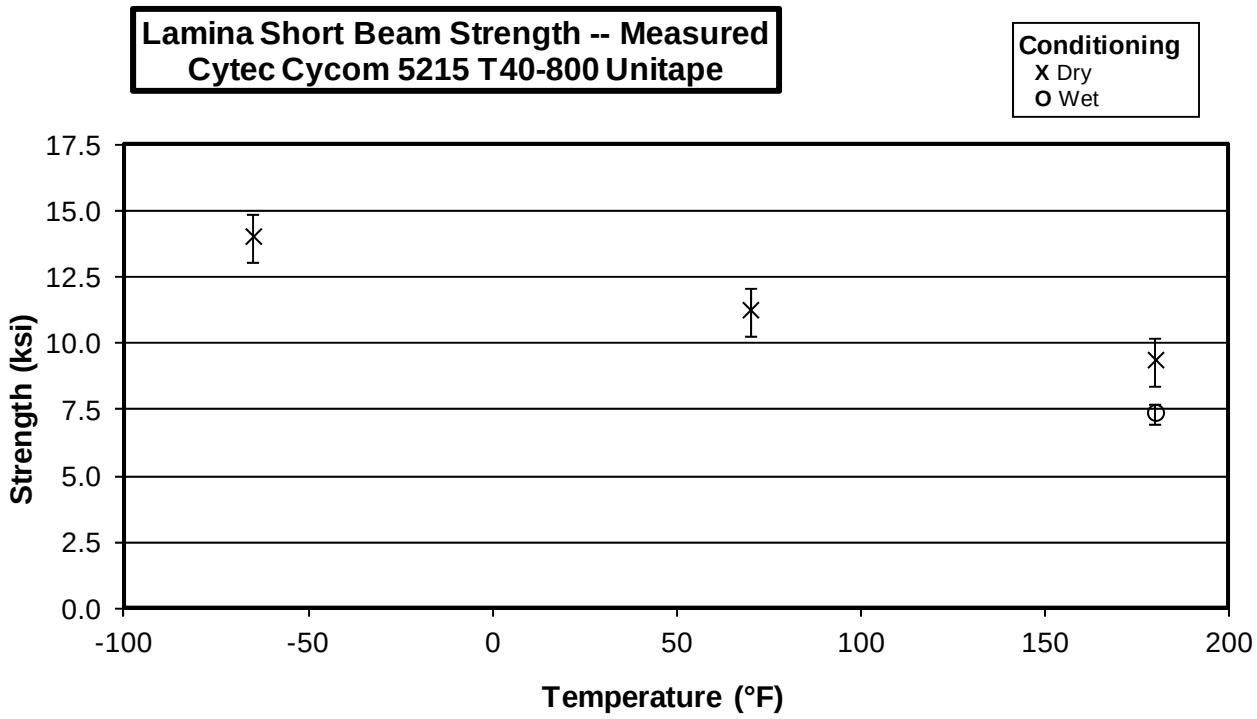


3.13 “50/40/10” Unnotched Compression 3 Properties (UNC3)

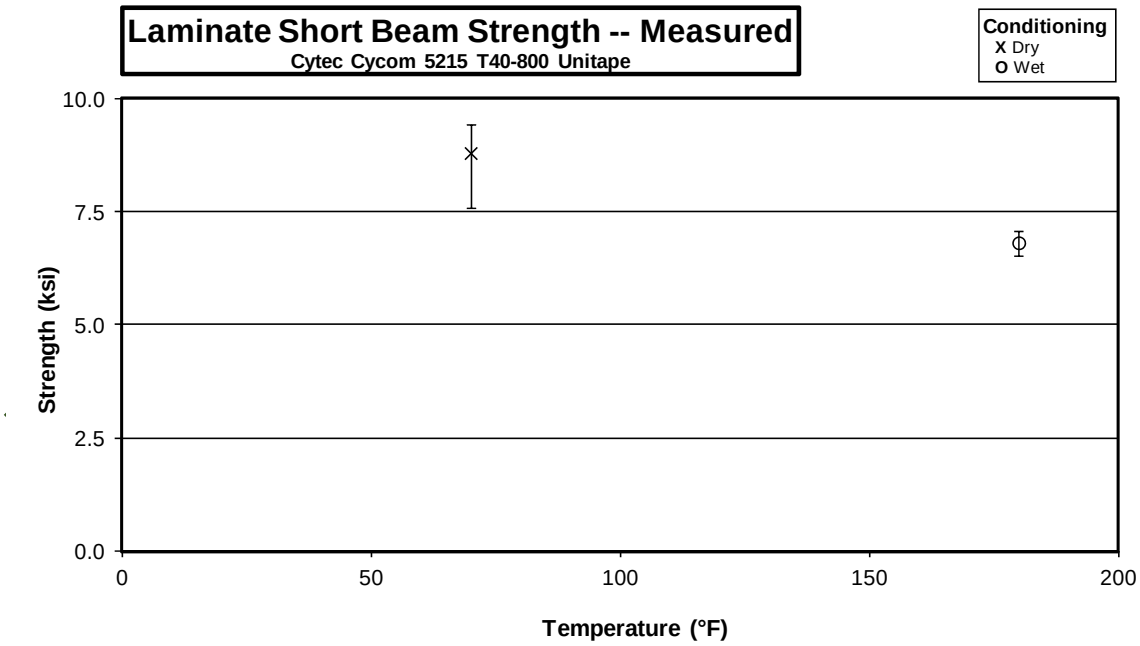




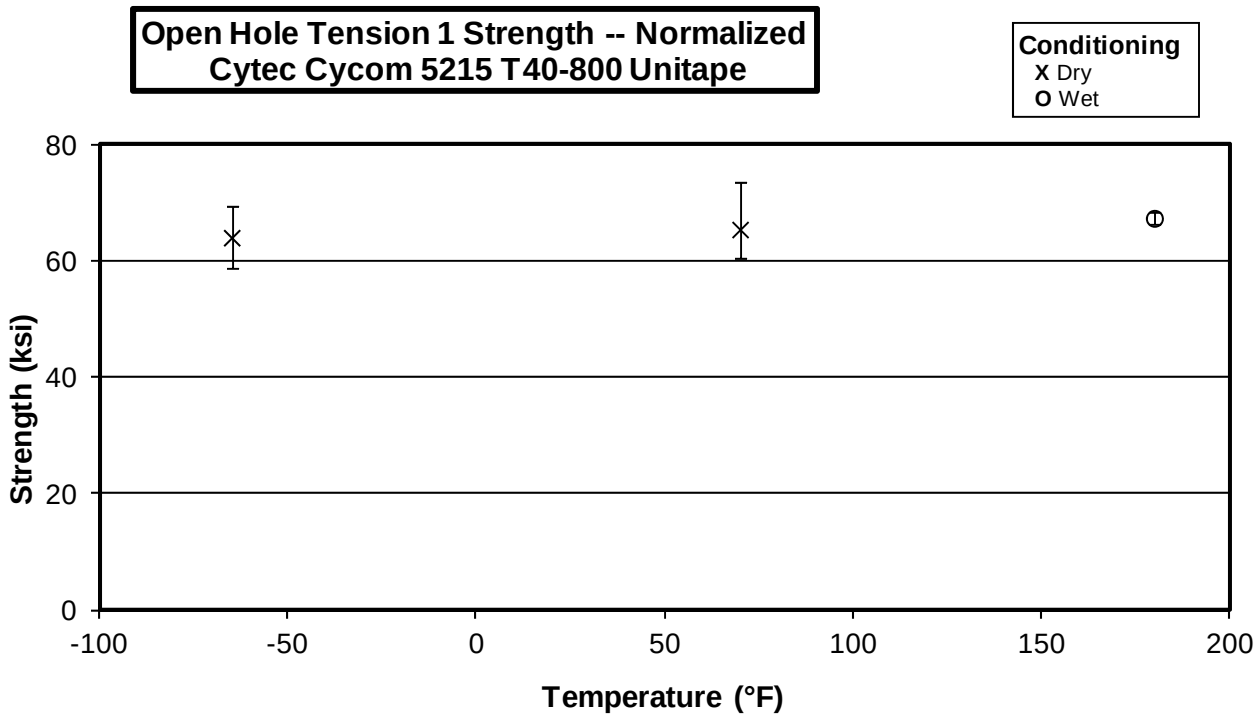
3.14 Lamina Short-Beam Shear Properties (SBS)



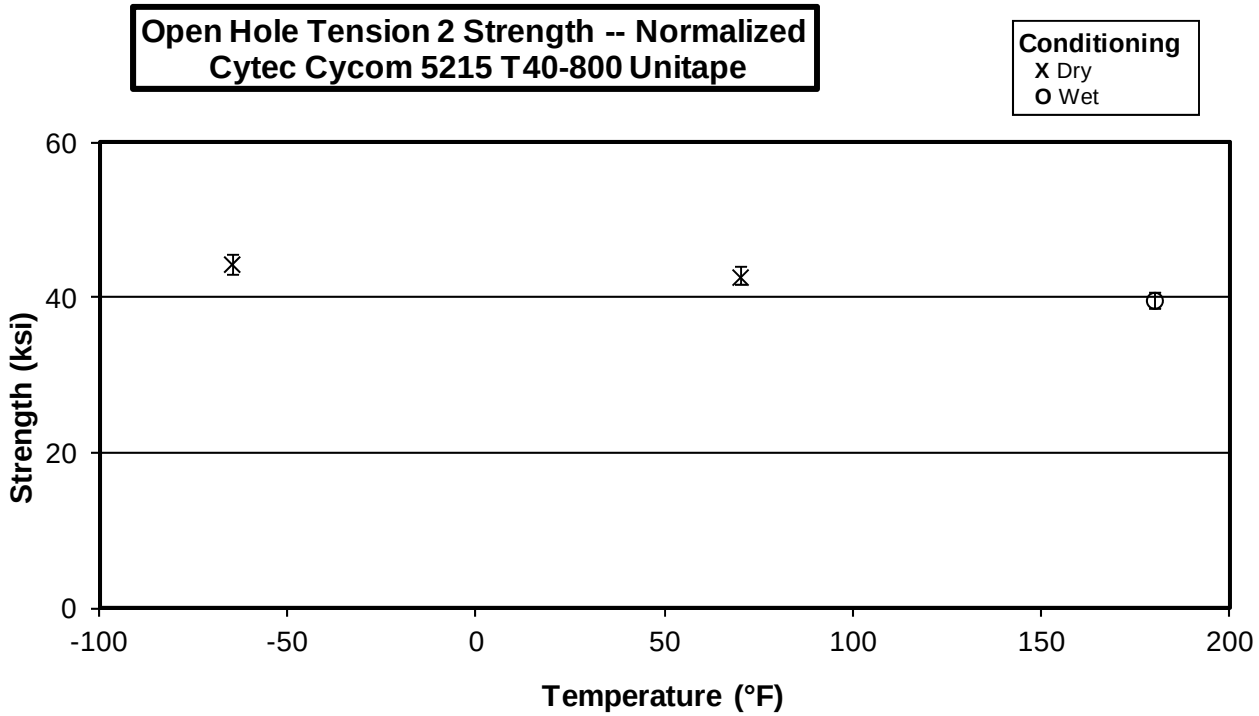
3.15 Laminate Short-Beam Strength Properties (SBS1)



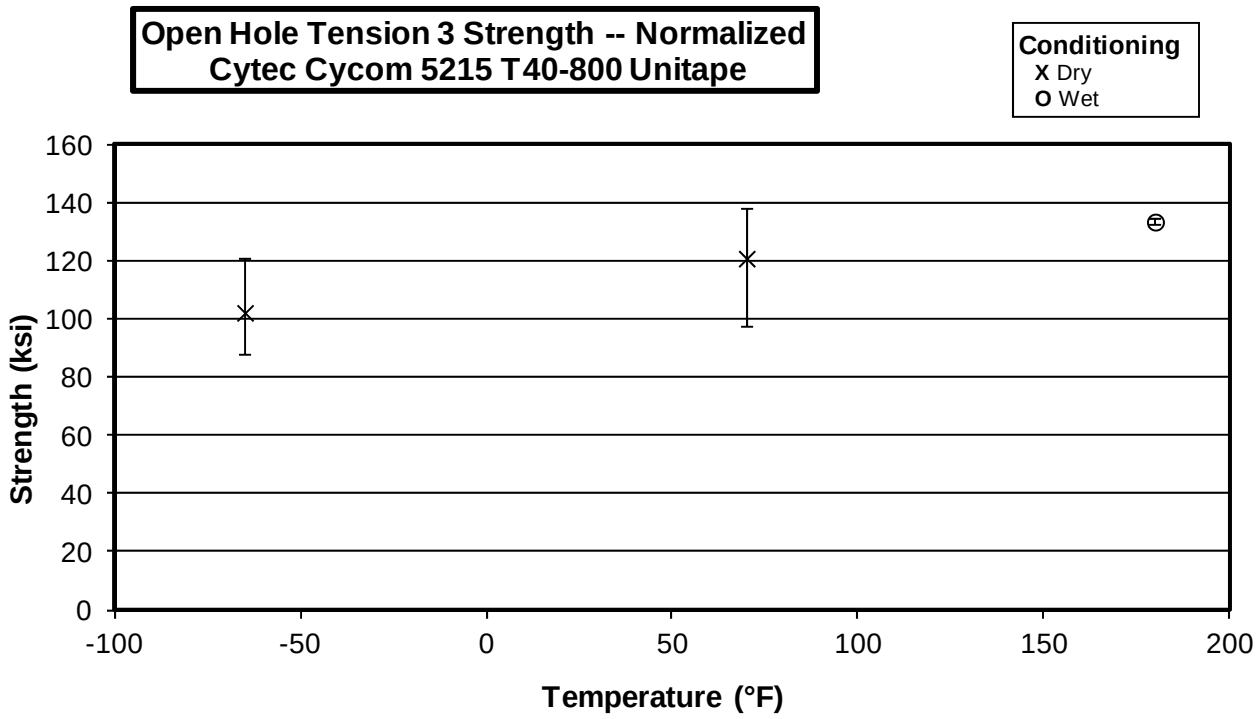
3.16 "25/50/25" Open-Hole Tension 1 Properties (OHT1)



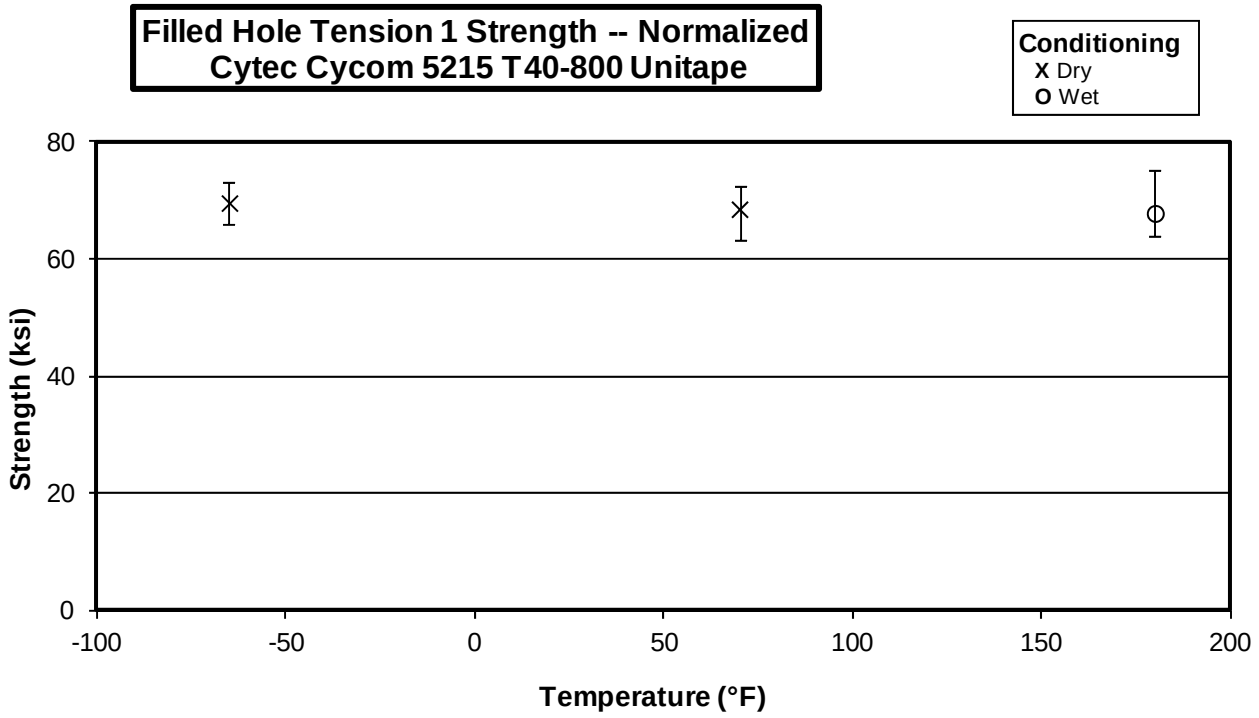
3.17 "10/80/10" Open-Hole Tension 2 Properties (OHT2)



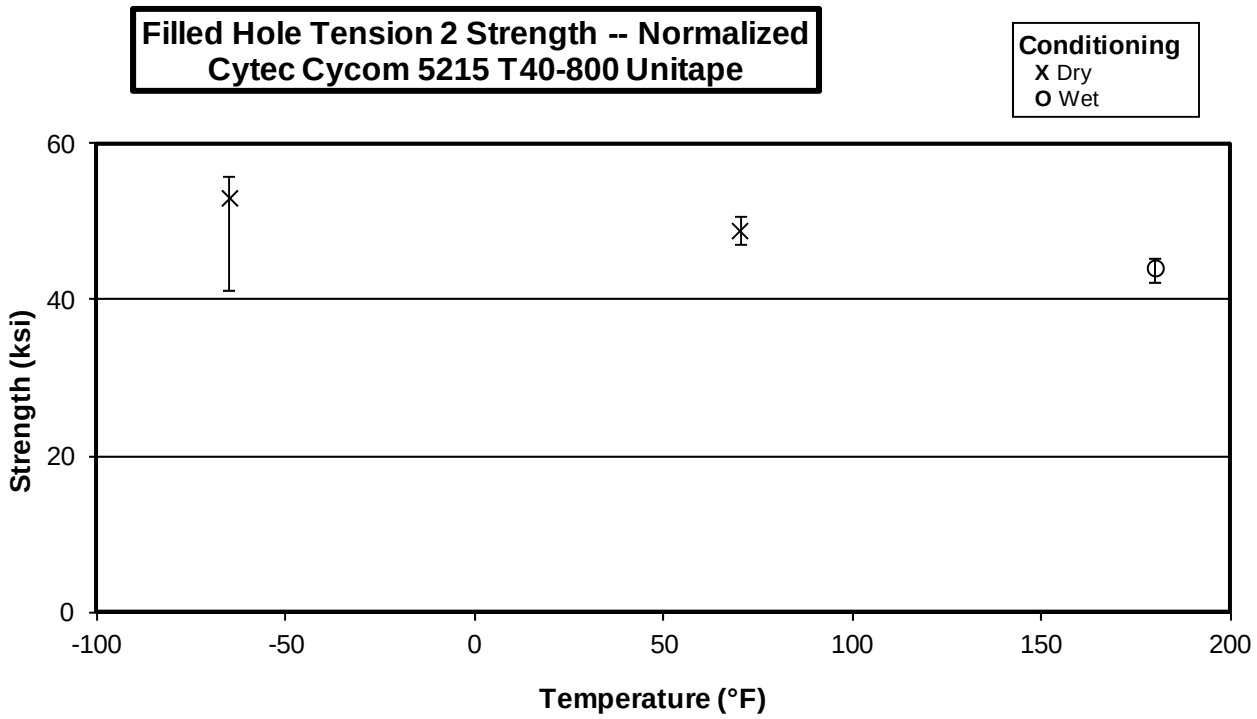
3.18 "50/40/10" Open-Hole Tension 3 Properties (OHT3)



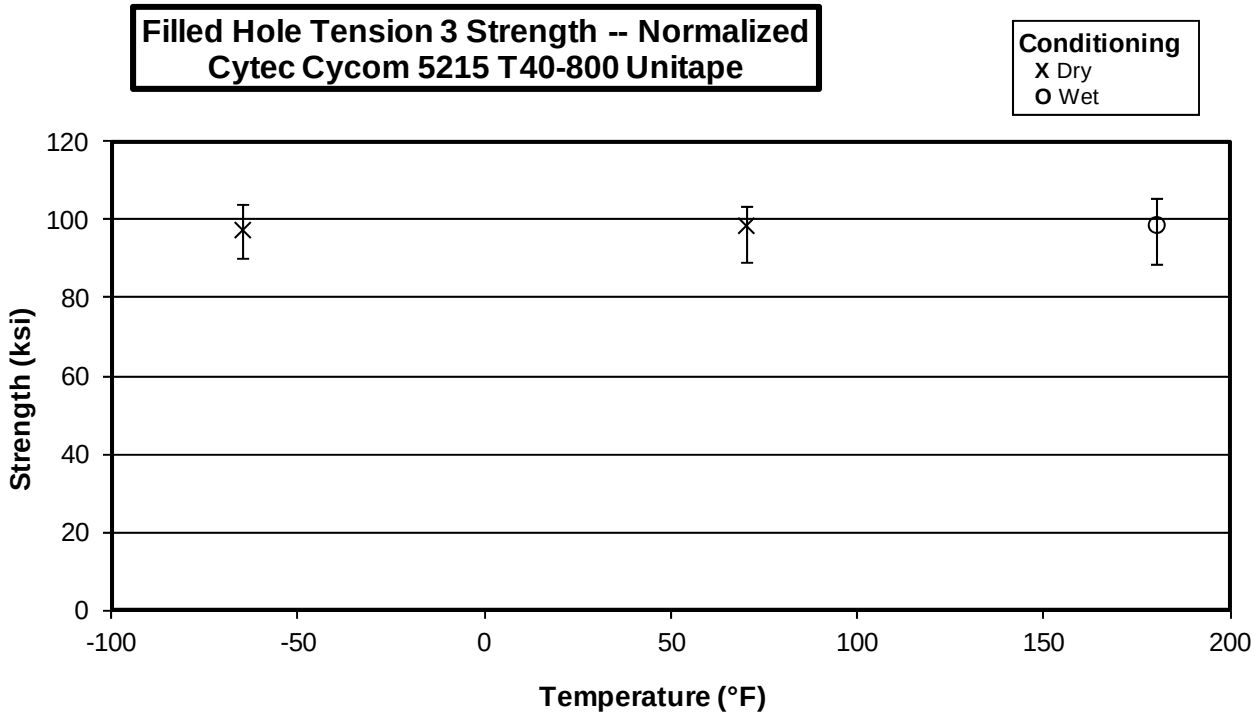
3.19 "25/50/25" Filled-Hole Tension 1 Properties (FHT1)



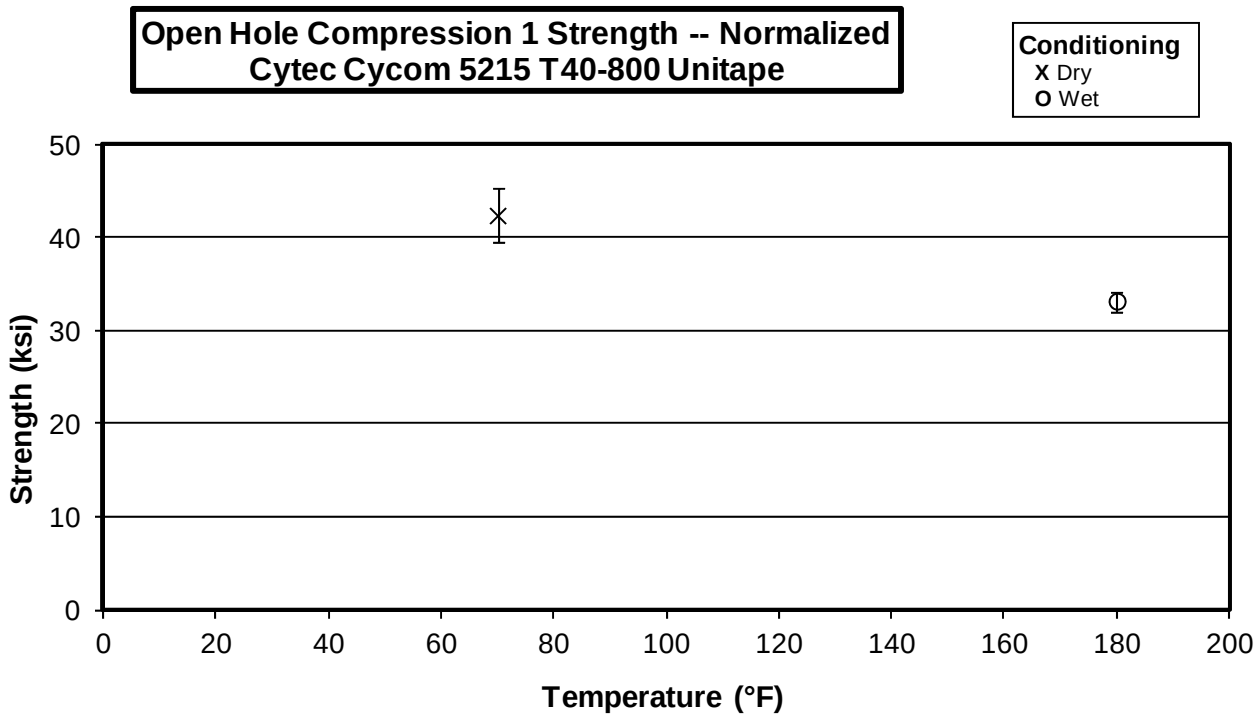
3.20 "10/80/10" Filled-Hole Tension 2 Properties (FHT2)



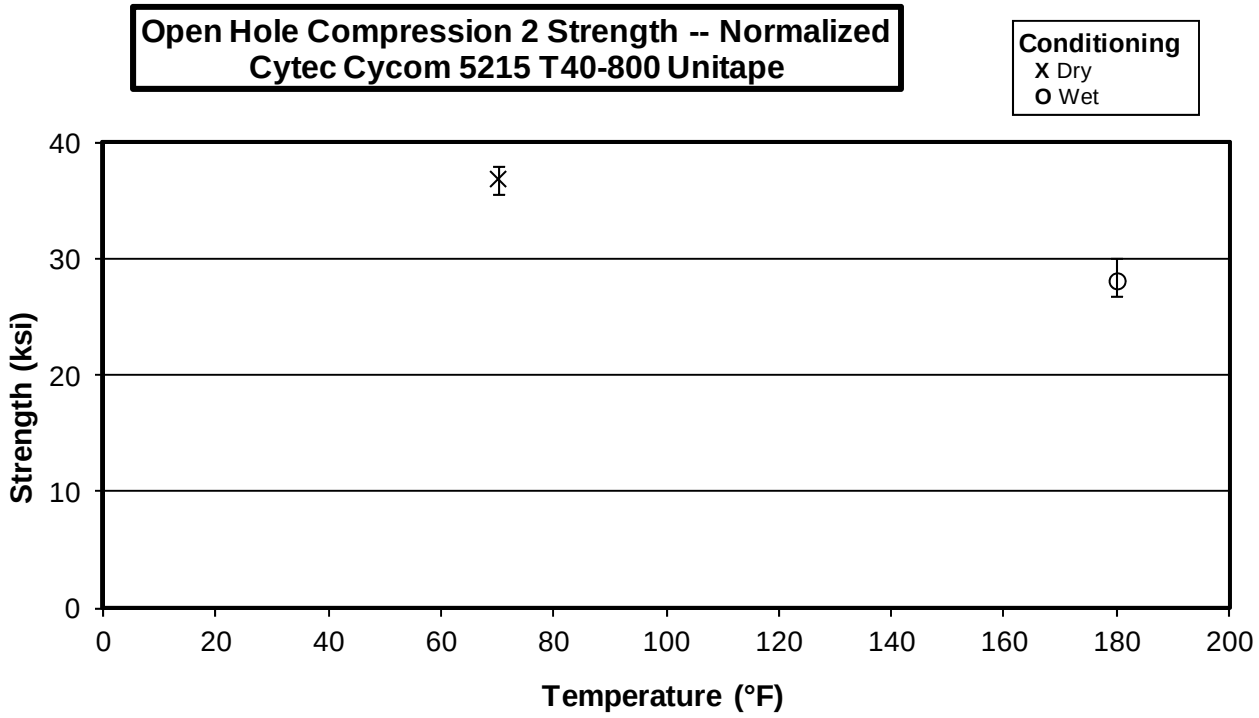
3.21 "50/40/10" Filled-Hole Tension 3 Properties (FHT3)



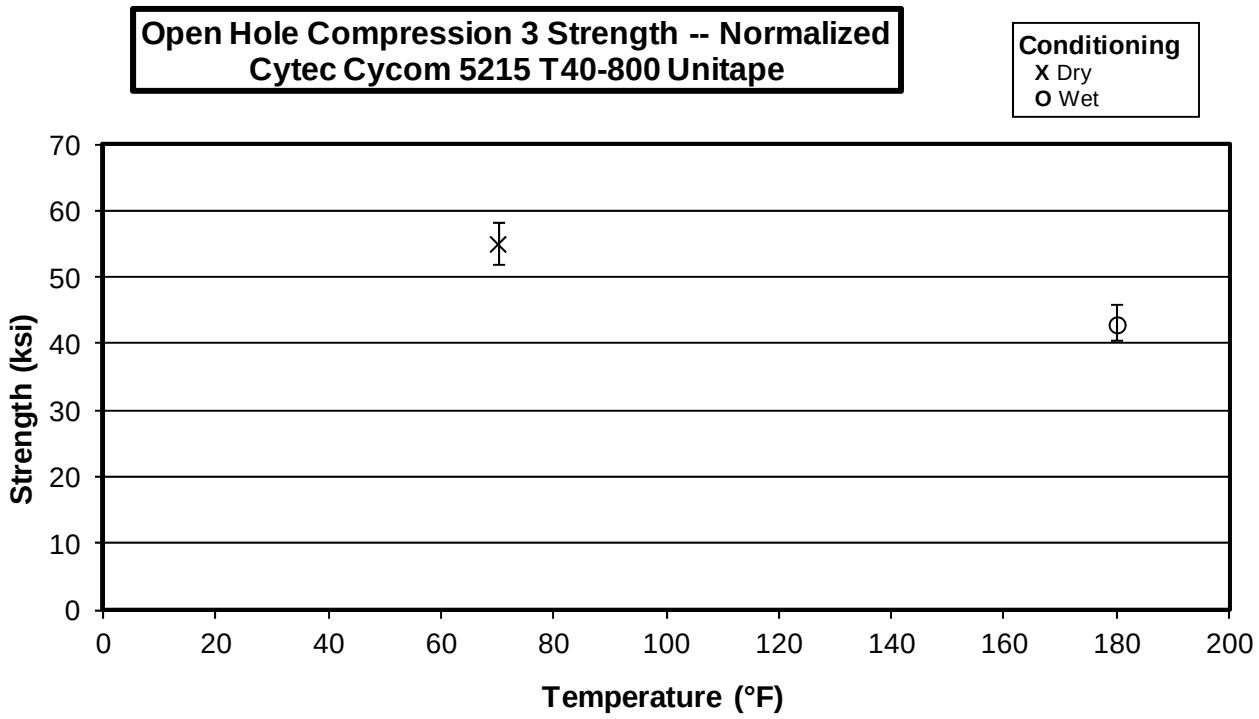
3.22 "25/50/25" Open-Hole Compression 1 Properties (OHC1)



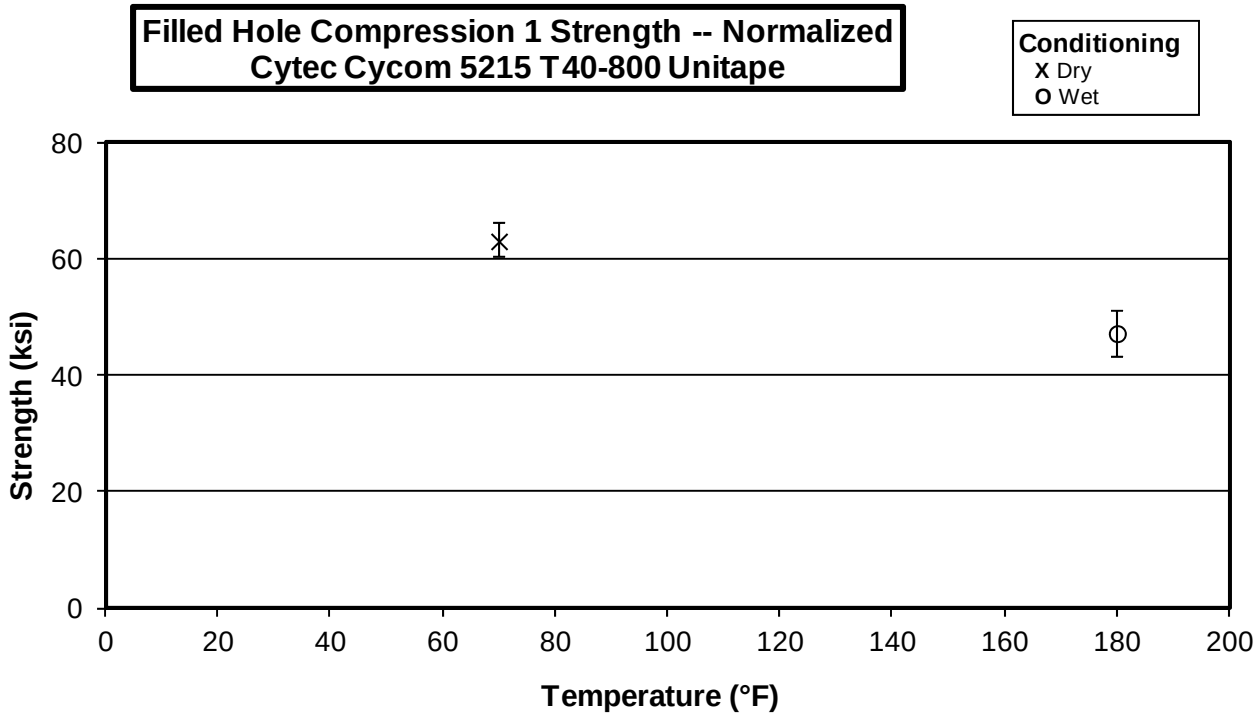
3.23 "10/80/10" Open-Hole Compression 2 Properties (OHC2)



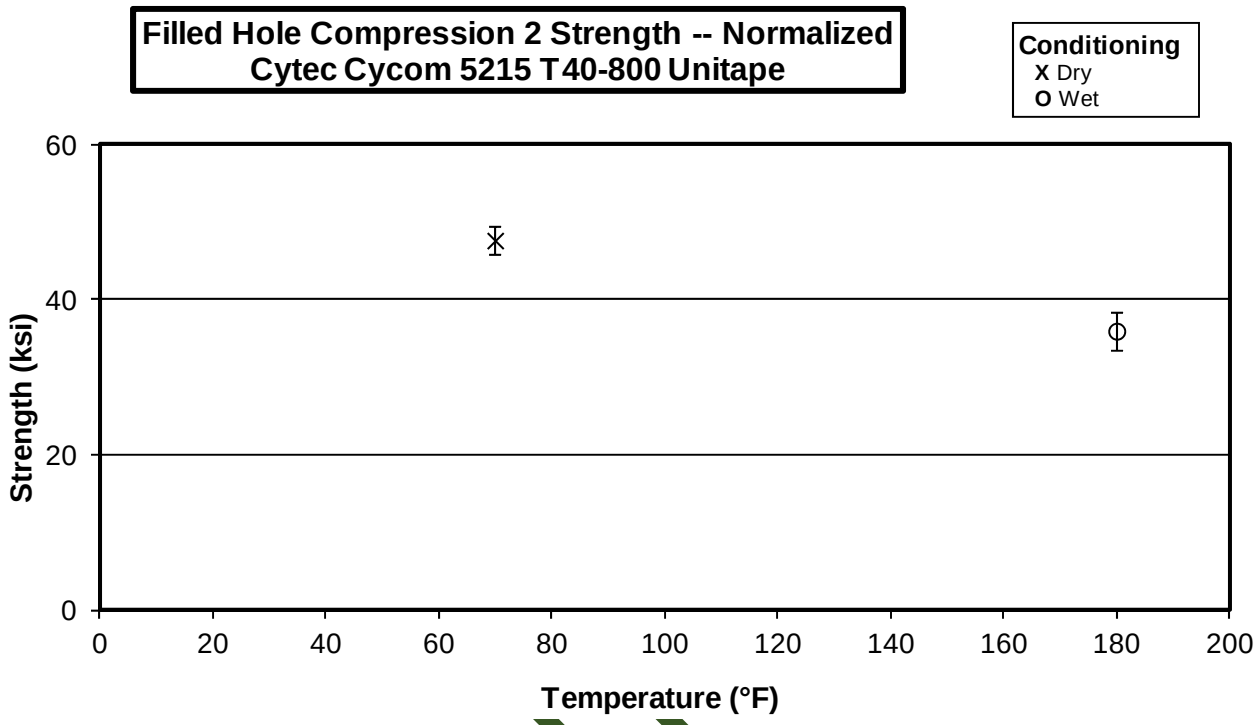
3.24 "50/40/10" Open-Hole Compression 3 Properties (OHC3)



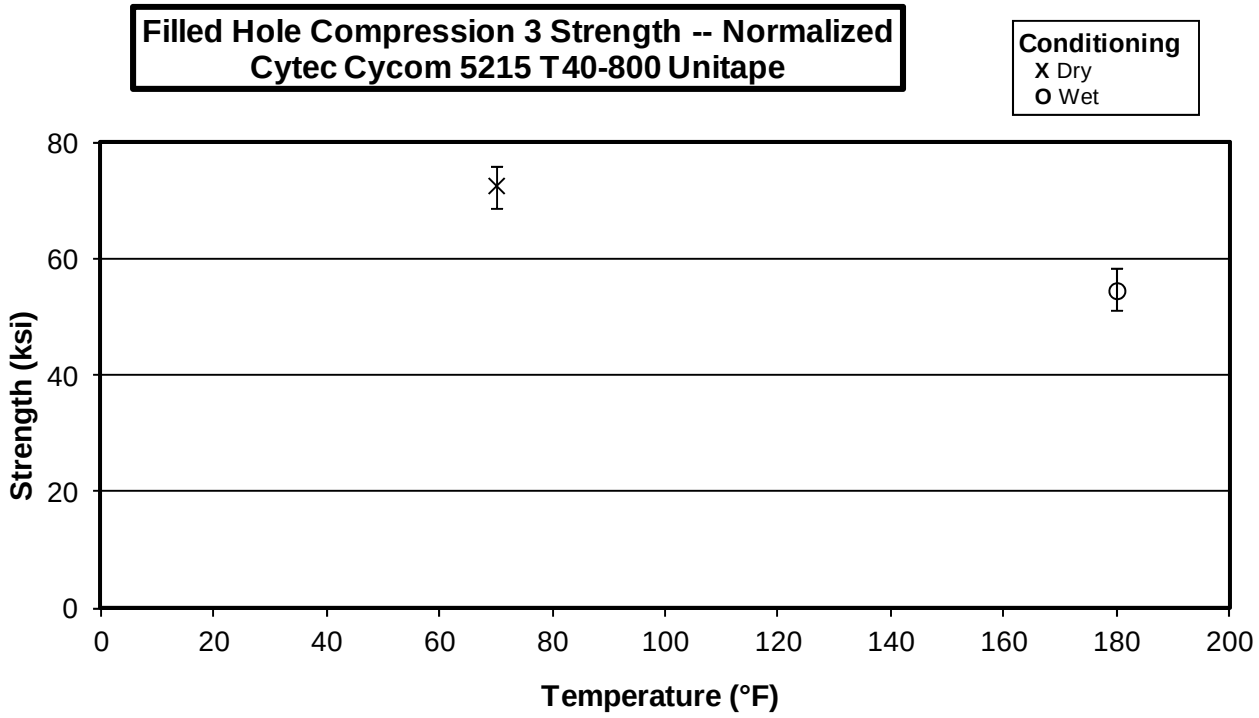
3.25 "25/50/25" Filled-Hole Compression 1 Properties (FHC1)



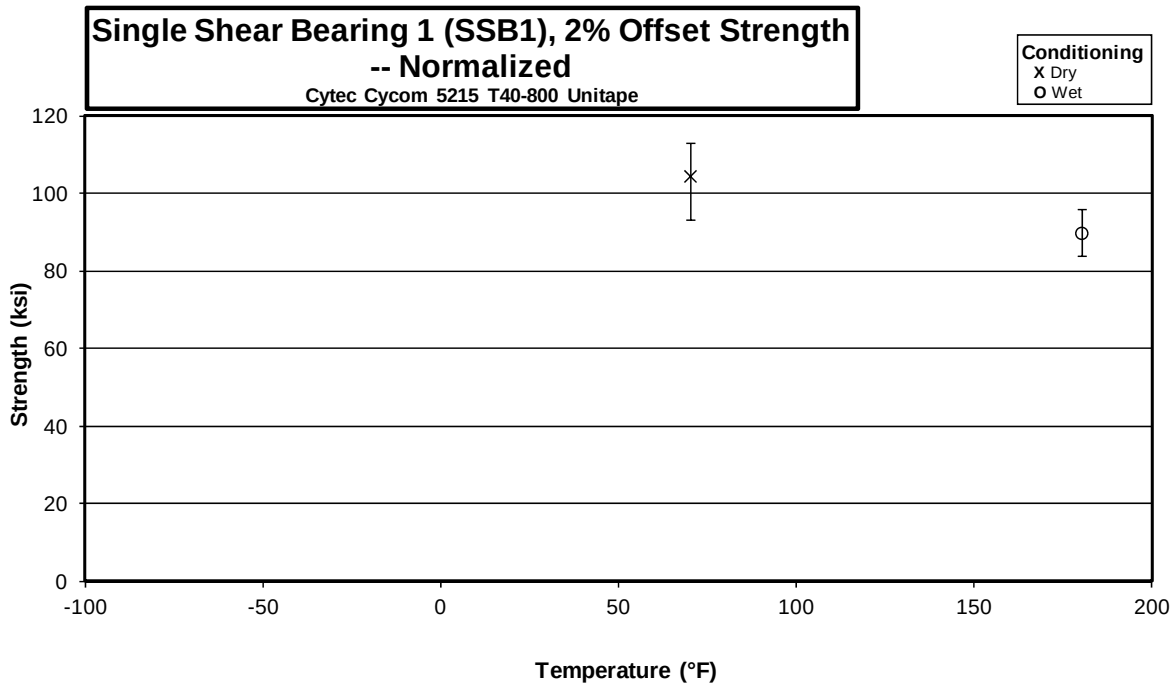
3.26 "10/80/10" Filled-Hole Compression 2 Properties (FHC2)



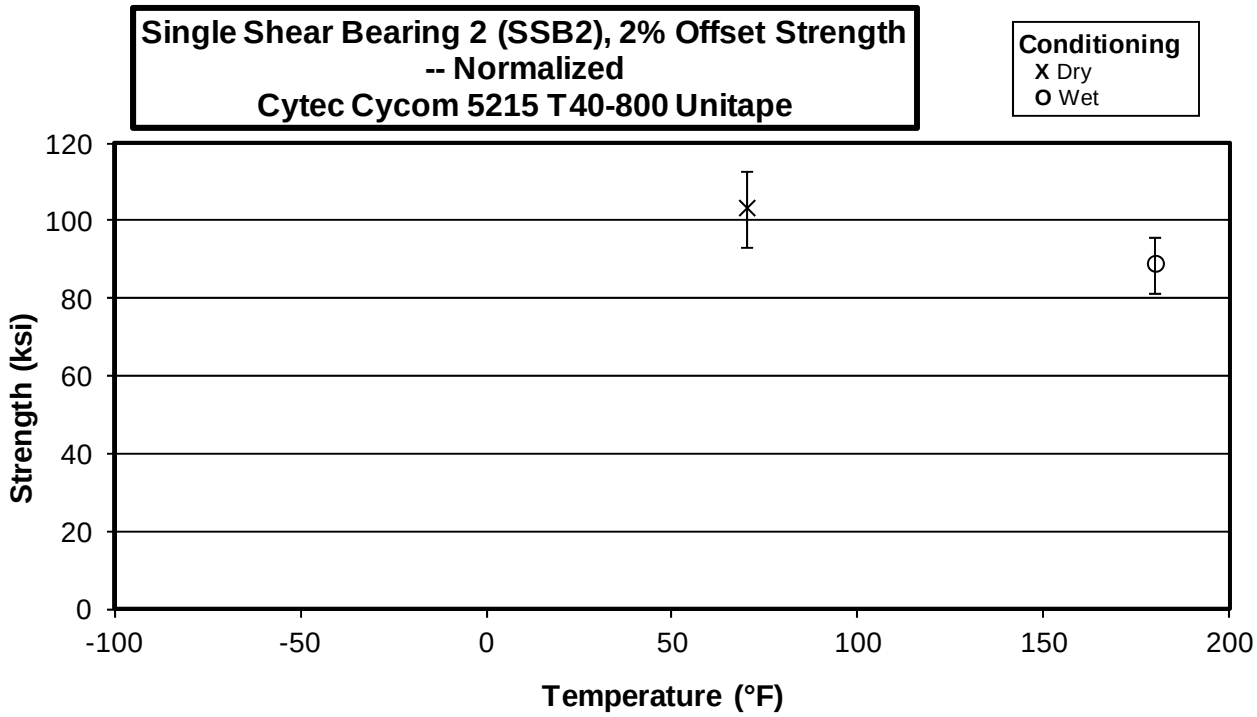
3.27 "50/40/10" Filled-Hole Compression 3 Properties (FHC3)



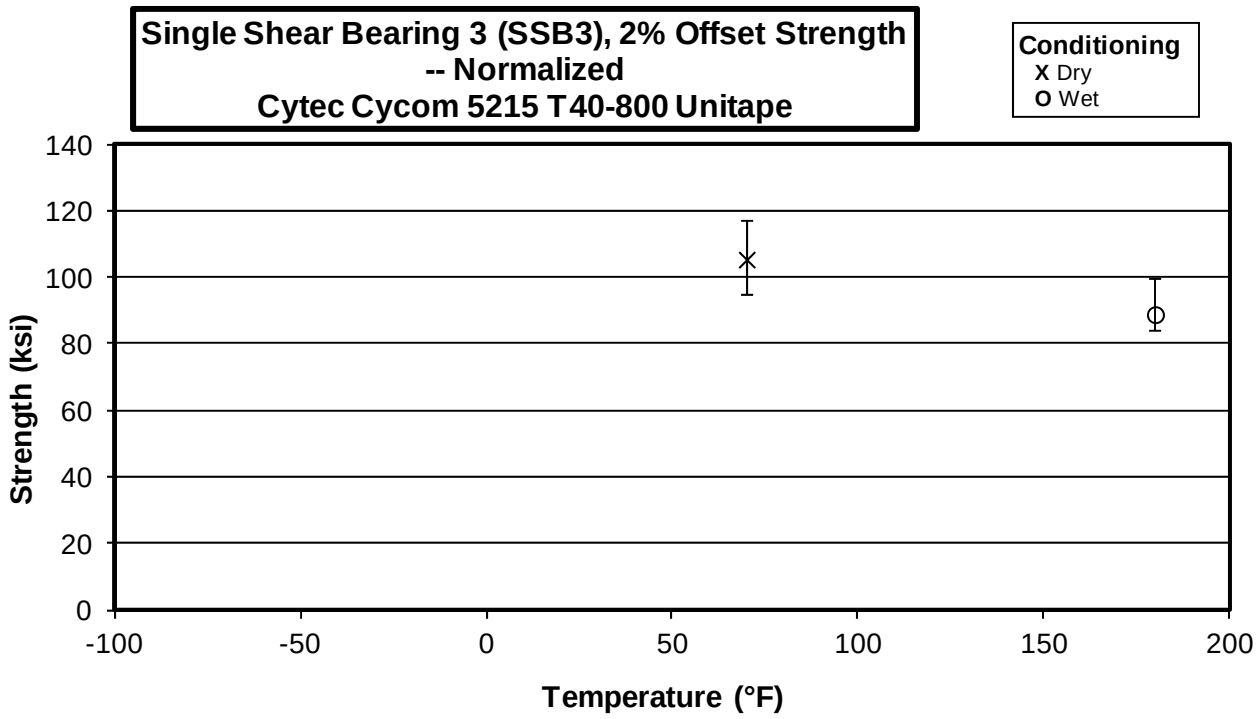
3.28 “25/50/25” Single-Shear Bearing Strength1 Properties (SSB1)



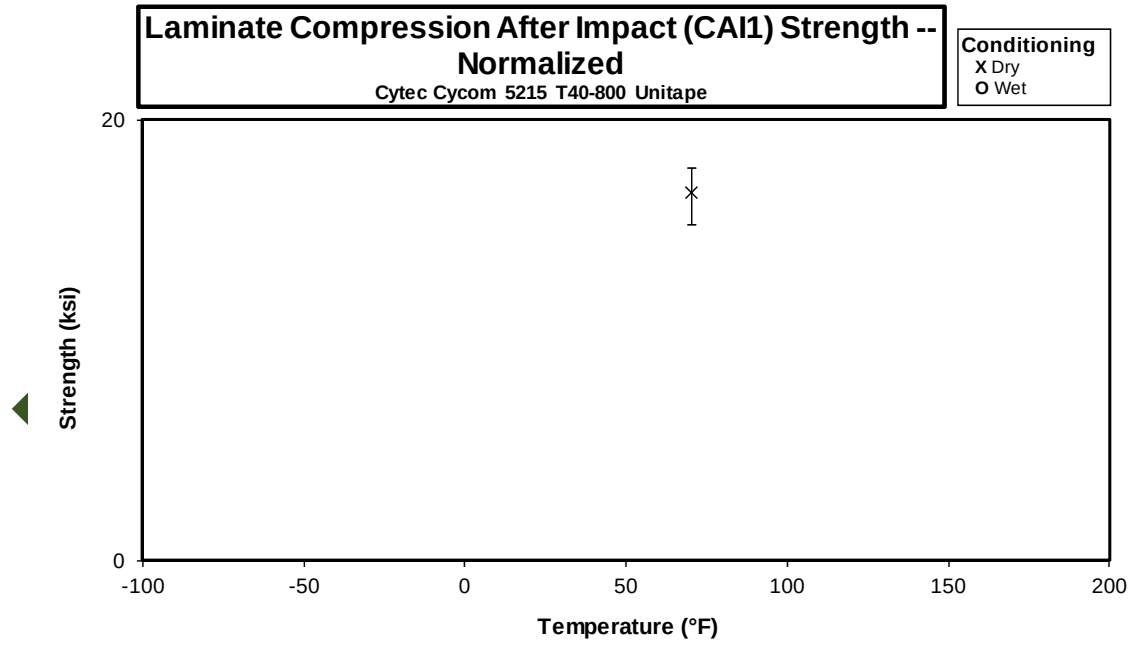
3.29 “10/80/10” Single-Shear Bearing Strength 2 Properties (SSB2)



3.30 "50/40/10" Single-Shear Bearing 3 Properties (SSB3)



3.31 Compression After Impact 1 Properties (CAI1)



4. Raw Data

4.1 Longitudinal Tension Properties (LT)

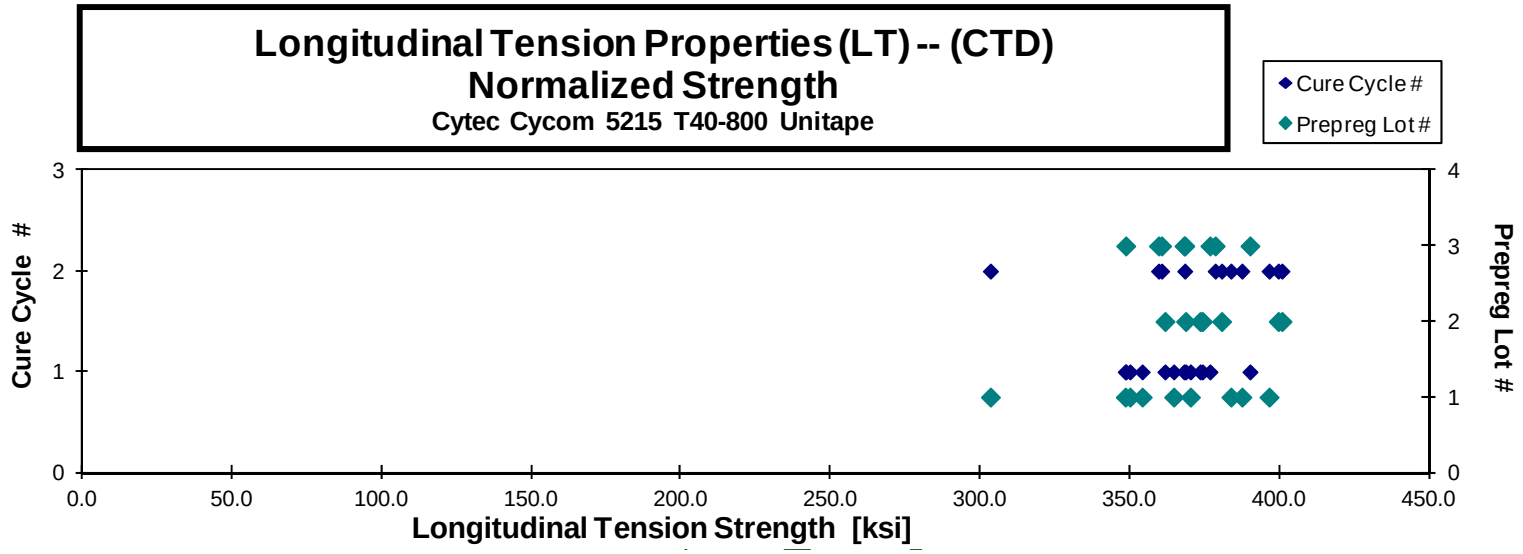
Longitudinal Tension Properties (LT) -- (CTD)
Strength & Modulus
Cytec Cycom 5215 T40-800 Unitape

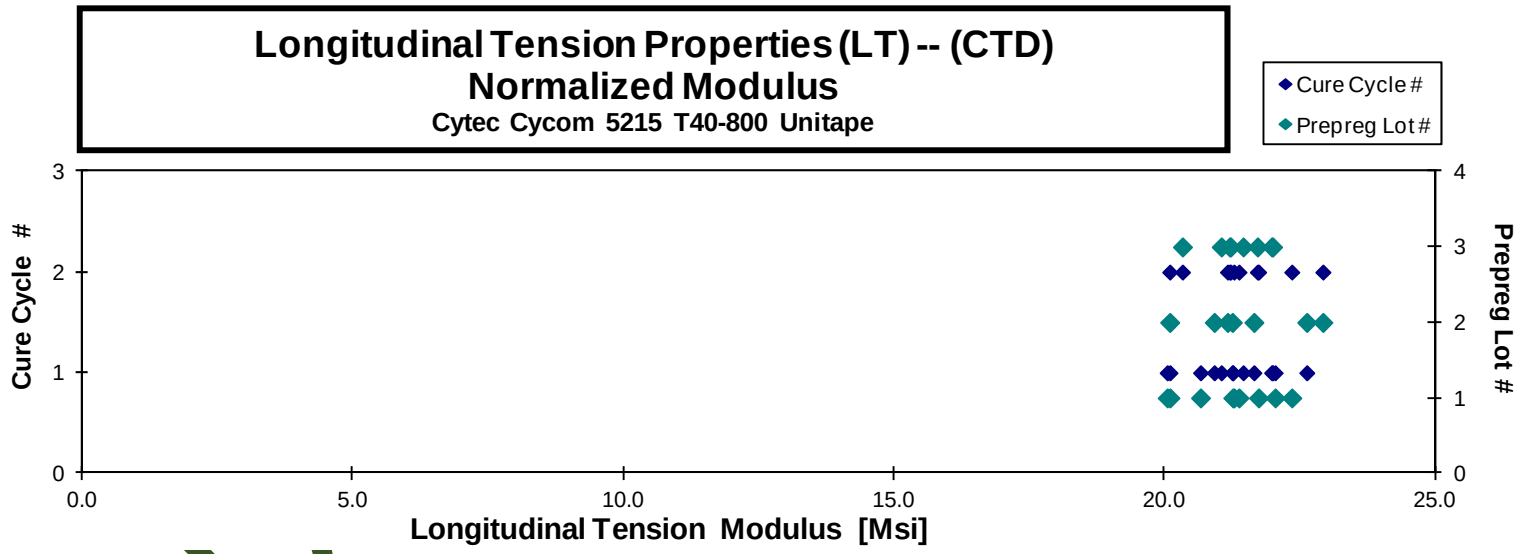
normalizing t_{ply} [in]: 0.0057

Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Modulus [Msi]	Poisson's Ratio	Avg. Specimen Thickn. [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
C0DJA116B	A	C1	1	1	372.667	22.189	0.396	0.045	8	SGM/XGM	0.0057	370.216	22.043
C0DJA117B	A	C1	1	1	374.767	21.239	0.305	0.044	8	XGM	0.0055	364.630	20.664
C0DJA118B	A	C1	1	1	359.782	20.752	0.247	0.044	8	XGM	0.0055	348.473	20.100
C0DJA119B	A	C1	1	1	368.900	21.130	0.355	0.043	8	XGM	0.0054	350.023	20.049
C0DJA11AB	A	C1	1	1	360.961	21.673	0.331	0.045	8	XGM	0.0056	354.100	21.261
C0DJA215B	A	C2	1	2	384.472	21.571	0.315	0.046	8	XGM	0.0057	387.423	21.737
C0DJA216B	A	C2	1	2	299.116	20.983	0.341	0.046	8	XGM	0.0058	303.380	21.282
C0DJA217B	A	C2	1	2	385.998	22.483	0.448	0.045	8	XGM	0.0057	383.741	22.351
C0DJA218B	A	C2	1	2	404.031	21.781	0.368	0.045	8	XGM	0.0056	396.500	21.375
C0DJB116B	B	C1	2	1	363.451	21.017	0.316	0.045	8	XGM	0.0057	361.724	20.917
C0DJB117B	B	C1	2	1	368.069	21.619	0.313	0.046	8	XGM	0.0057	368.607	21.651
C0DJB118B	B	C1	2	1	372.069	22.497	0.390	0.046	8	XGM	0.0057	374.245	22.628
C0DJB119B	B	C1	2	1	371.421	21.137	0.260	0.046	8	XGM	0.0057	373.457	21.253
C0DJB215B	B	C2	2	2	393.960	19.812	*	0.046	8	XGM	0.0058	399.576	20.095
C0DJB216B	B	C2	2	2	376.804	20.948	*	0.046	8	XGM	0.0058	380.660	21.163
C0DJB217B	B	C2	2	2	394.332	22.555	0.457	0.046	8	SGM	0.0058	400.818	22.926
C0DJC116B	C	C1	3	1	360.459	21.763	0.308	0.044	8	XGM	0.0055	348.602	21.047
C0DJC117B	C	C1	3	1	399.915	22.530	0.333	0.044	8	XGM	0.0056	390.122	21.979
C0DJC118B	C	C1	3	1	385.620	21.958	0.309	0.045	8	XGM	0.0056	376.741	21.452
C0DJC119B	C	C1	3	1	376.490	22.498	0.316	0.045	8	XGM	0.0056	368.096	21.997
C0DJC215B	C	C2	3	2	358.775	21.111	0.314	0.046	8	XGM	0.0057	360.611	21.219
C0DJC216B	C	C2	3	2	372.412	20.556	0.216	0.045	8	XGM	0.0056	368.328	20.331
C0DJC217B	C	C2	3	2	358.248	21.638	0.388	0.046	8	XGM	0.0057	359.558	21.717
C0DJC218B	C	C2	3	2	380.301	21.304	0.304	0.045	8	XGM	0.0057	378.494	21.203

*Poissons Ratio not reported due to non linear data.

Average	**372.626**	**21.531**	**0.333**	**$Average_{norm}$**	**0.0057**	**369.505**	**21.352**
Standard Dev.	**20.444**	**0.711**	**0.058**	**$Standard\ Dev._{norm}$**		**20.845**	**0.767**
Coeff. of Var. [%]	**5.486**	**3.304**	**17.511**	**$Coeff.\ of\ Var.\ [\%]_{norm}$**		**5.641**	**3.590**
Min.	**299.116**	**19.812**	**0.216**	**Min.**	**0.0054**	**303.380**	**20.049**
Max.	**404.031**	**22.555**	**0.457**	**Max.**	**0.0058**	**400.818**	**22.926**
Number of Spec.	**24**	**24**	**22**	**Number of Spec.**		**24**	**24**


Longitudinal Tension Properties (LT) -- (CTD)
Normalized Strength
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
50.0
100.0
150.0
200.0
250.0
300.0
350.0
400.0
450.0
Longitudinal Tension Strength [ksi]


Longitudinal Tension Properties (LT) -- (CTD)
Normalized Modulus
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
5.0
10.0
15.0
20.0
25.0
Longitudinal Tension Modulus [Msi]

Longitudinal Tension Properties (LT) -- (RTD)
Strength & Modulus
Cytec Cycom 5215 T40-800 Unitape

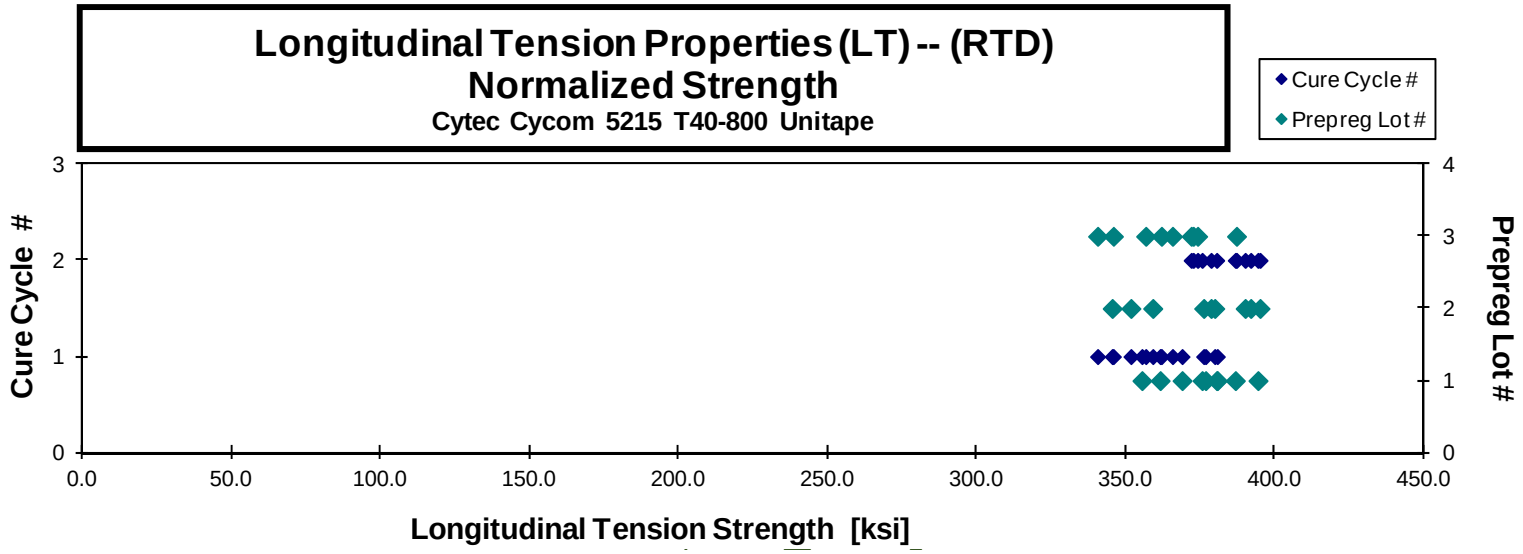
normalizing t_{ply} [in]: 0.0057

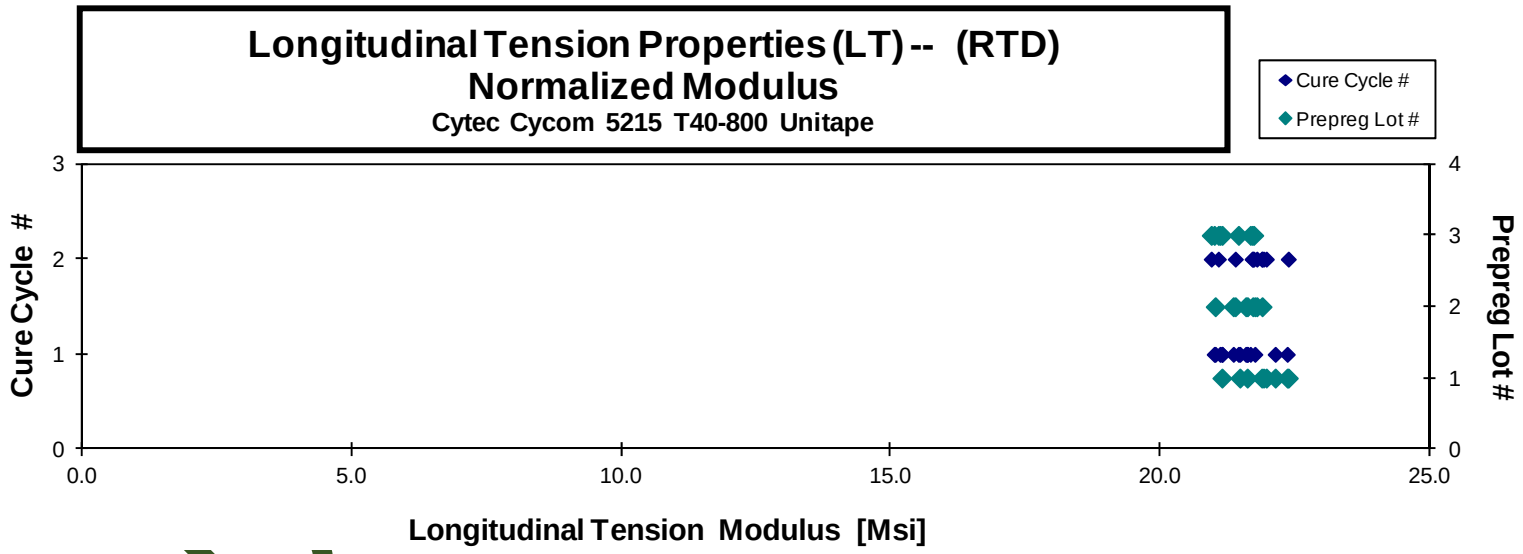
Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Modulus [Msi]	Poisson's Ratio	Avg. Specimen Thickn. [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
C0DJA111A	A	C1	1	1	381.128	22.640	0.152	0.043	8	XGM	0.0054	361.487	21.473
C0DJA112A	A	C1	1	1	371.280	22.085	0.157	0.044	8	XGM	0.0055	355.402	21.141
C0DJA113A	A	C1	1	1	392.129	22.260	0.163	0.044	8	XGM	0.0055	380.664	21.609
C0DJA114A	A	C1	1	1	369.922	22.194	0.156	0.045	8	XGM	0.0057	368.841	22.129
C0DJA115A	A	C1	1	1	375.487	22.278	0.171	0.046	8	XGM	0.0057	376.722	22.351
C0DJA211A	A	C2	1	2	385.574	21.849	*	0.046	8	XGM	0.0057	386.701	21.913
C0DJA212A	A	C2	1	2	400.906	22.244	*	0.045	8	XGM	0.0056	394.312	21.878
C0DJA213A	A	C2	1	2	381.571	22.028	*	0.045	8	XGM	0.0057	380.455	21.963
C0DJA214A	A	C2	1	2	379.328	22.595	*	0.045	8	XGM	0.0056	375.584	22.372
C0DJB111A	B	C1	2	1	353.699	21.864	0.164	0.045	8	XGM	0.0056	345.425	21.353
C0DJB112A	B	C1	2	1	355.862	21.838	0.163	0.045	8	XGM	0.0056	351.700	21.583
C0DJB113A	B	C1	2	1	374.323	21.648	0.154	0.046	8	XGM	0.0057	376.102	21.751
C0DJB114A	B	C1	2	1	382.897	21.789	0.154	0.045	8	XGM	0.0057	379.818	21.614
C0DJB115A	B	C1	2	1	359.671	21.055	0.188	0.046	8	XGM	0.0057	359.014	21.017
C0DJB211A	B	C2	2	2	372.840	21.554	*	0.046	8	XGM	0.0058	378.564	21.885
C0DJB212A	B	C2	2	2	382.552	21.029	*	0.047	8	XGM	0.0059	394.996	21.713
C0DJB213A	B	C2	2	2	381.239	20.907	*	0.047	8	XGM	0.0058	390.017	21.389
C0DJB214A	B	C2	2	2	385.808	21.451	0.173	0.046	8	XGM	0.0058	391.872	21.788
C0DJC111A	C	C1	3	1	379.527	22.722	0.164	0.043	8	XGM	0.0054	361.910	21.668
C0DJC112A	C	C1	3	1	380.657	22.013	0.168	0.044	8	XGM	0.0055	365.631	21.144
C0DJC113A	C	C1	3	1	359.885	22.320	0.163	0.044	8	XGM	0.0055	345.811	21.447
C0DJC114A	C	C1	3	1	351.831	21.695	0.160	0.044	8	XGM	0.0055	340.515	20.997
C0DJC115A	C	C1	3	1	368.365	21.799	0.179	0.044	8	XGM	0.0055	356.652	21.106
C0DJC211A	C	C2	3	2	386.548	21.670	*	0.046	8	XGM	0.0057	387.113	21.702
C0DJC212A	C	C2	3	2	372.057	20.950	*	0.046	8	XGM	0.0057	371.921	20.943
C0DJC213A	C	C2	3	2	367.100	20.763	*	0.046	8	XGM	0.0058	372.601	21.074
C0DJC214A	C	C2	3	2	375.016	21.786	*	0.045	8	XGM	0.0057	374.057	21.730

*Poissons Ratio not reported because tranverse strain is not available.

	Strength [ksi]	Modulus [Msi]	Poisson's Ratio
Average	375.082	21.816	0.164
Standard Dev.	11.795	0.534	0.010
Coeff. of Var. [%]	3.145	2.447	5.924
Min.	351.831	20.763	0.152
Max.	400.906	22.722	0.188
Number of Spec.	27	27	16

	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
$Average_{norm}$	0.0056	371.255	21.583
$Standard\ Dev._{norm}$		15.468	0.399
$Coeff.\ of\ Var.\ [\%]_{norm}$		4.167	1.850
Min.	0.0054	340.515	20.943
Max.	0.0059	394.996	22.372
Number of Spec.		27	27


Longitudinal Tension Properties (LT) -- (RTD)
Normalized Strength
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0.0
50.0
100.0
150.0
200.0
250.0
300.0
350.0
400.0
450.0
Longitudinal Tension Strength [ksi]


Longitudinal Tension Properties (LT) -- (RTD)
Normalized Modulus
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0.0
5.0
10.0
15.0
20.0
25.0
Longitudinal Tension Modulus [Msi]

Longitudinal Tension Properties (LT) -- (ETW)
Strength & Modulus
Cytec Cycom 5215 T40-800 Unitape

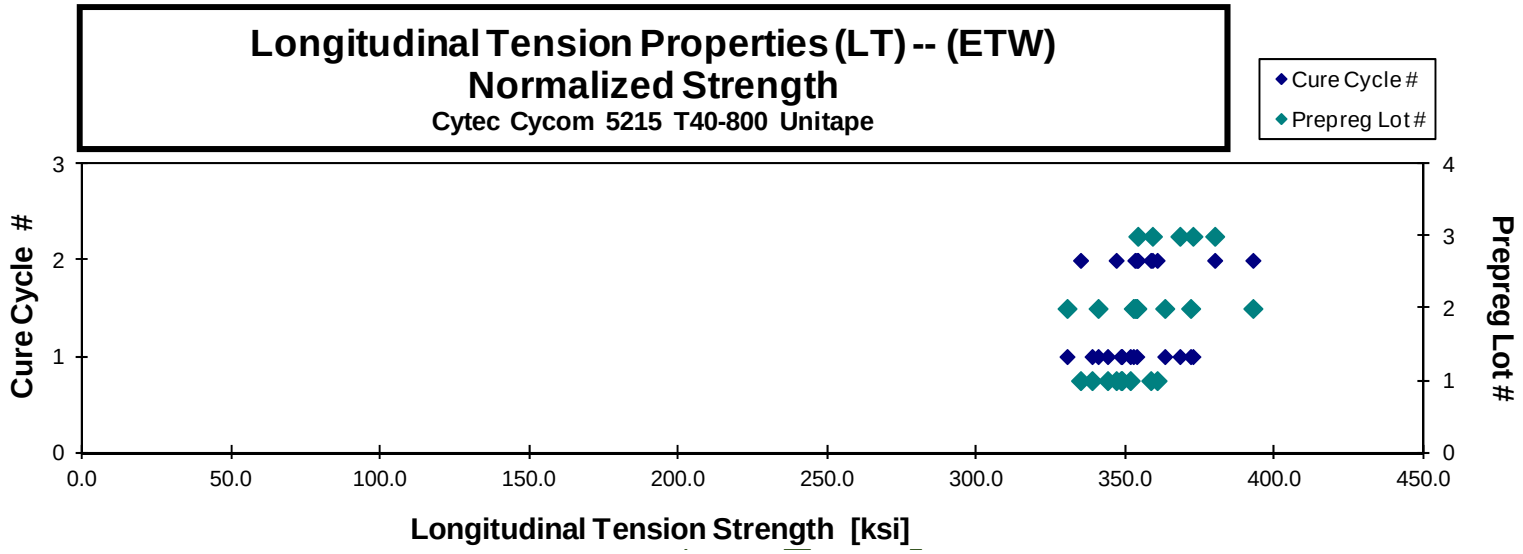
normalizing t_{ply} [in]: 0.0057

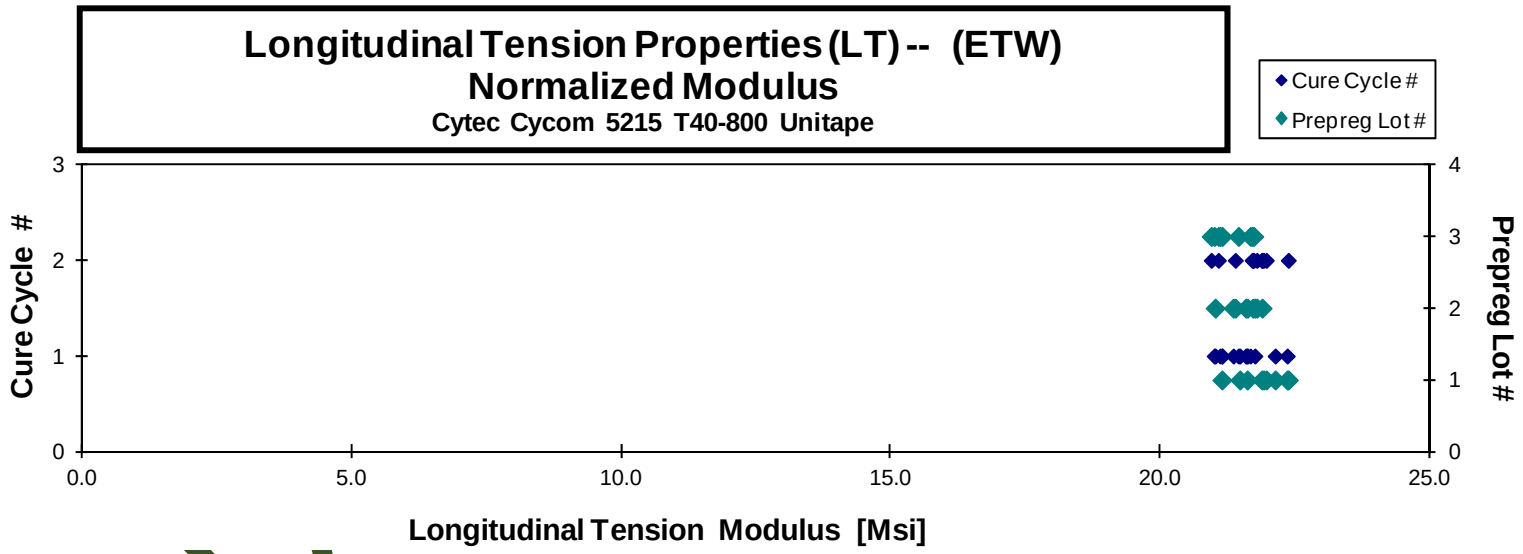
Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Modulus [Msi]	Poisson's Ratio	Avg. Specimen Thickn. [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
C0DJA11BM	A	C1	1	1	356.402	20.870	0.355	0.045	8	SGM / XGM	0.0056	351.452	20.581
C0DJA11CM	A	C1	1	1	354.048	20.906	0.307	0.045	8	SGM / XGM	0.0056	348.613	20.585
C0DJA11DM	A	C1	1	1	338.654	20.547	0.364	0.046	8	SGM / XGM	0.0057	338.654	20.547
C0DJA11EM	A	C1	1	1	342.609	20.721	0.326	0.046	8	SGM / XGM	0.0057	343.861	20.797
C0DJA219M	A	C2	1	2	338.002	20.394	0.314	0.045	8	SGM / XGM	0.0056	334.790	20.200
C0DJA21AM	A	C2	1	2	348.130	20.794	0.365	0.045	8	SGM / XGM	0.0057	346.730	20.710
C0DJA21BM	A	C2	1	2	361.116	20.740	0.368	0.045	8	SGM / XGM	0.0057	358.344	20.581
C0DJA21FM*	A	C2	1	2	359.283			0.046	8	SGM / XGM	0.0057	360.465	
C0DJB11BM	B	C1	2	1	350.779	21.300	0.295	0.045	8	SGM / XGM	0.0057	348.343	21.152
C0DJB11CM	B	C1	2	1	340.168	20.965	0.321	0.046	8	SGM / XGM	0.0057	340.665	20.996
C0DJB11DM	B	C1	2	1	331.713	21.345	0.282	0.045	8	SGM / XGM	0.0057	330.258	21.251
C0DJB11EM	B	C1	2	1	355.592	21.092	0.387	0.045	8	SGM / XGM	0.0057	352.473	20.907
C0DJB219M	B	C2	2	2	388.059	21.875	0.316	0.046	8	SGM / XGM	0.0058	392.598	22.131
C0DJB21AM	B	C2	2	2	349.273	20.580	0.383	0.046	8	SGM / XGM	0.0058	353.613	20.836
C0DJB21BM	B	C2	2	2	349.708	20.753	0.399	0.046	8	SGM / XGM	0.0058	353.031	20.950
C0DJC11BM	C	C1	3	1	372.293	22.034	0.329	0.044	8	SGM / XGM	0.0056	363.040	21.486
C0DJC11CM	C	C1	3	1	379.912	22.060	0.323	0.045	8	SGM / XGM	0.0056	371.719	21.584
C0DJC11DM	C	C1	3	1	360.757	21.396	0.315	0.045	8	SGM / XGM	0.0056	353.637	20.974
C0DJC11EM	C	C1	3	1	372.338	21.896	0.325	0.045	8	SGM / XGM	0.0056	368.120	21.648
C0DJC11FM*	C	C1	3	1	374.395			0.045	8	SGM / XGM	0.0057	372.479	
C0DJC219M	C	C2	3	2	377.851	20.915	0.351	0.046	8	SGM / XGM	0.0057	379.784	21.022
C0DJC21AM	C	C2	3	2	361.939	21.344	0.401	0.045	8	SGM / XGM	0.0057	358.896	21.164
C0DJC21BM	C	C2	3	2	355.165	20.815	0.364	0.045	8	SGM / XGM	0.0057	353.997	20.747

***coupons were not gaged**

Average	**357.312**	**21.111**	**0.342**
Standard Dev.	**14.812**	**0.503**	**0.034**
Coeff. of Var. [%]	**4.145**	**2.382**	**10.020**
Min.	**331.713**	**20.394**	**0.282**
Max.	**388.059**	**22.060**	**0.401**
Number of Spec.	**23**	**21**	**21**

$Average_{norm}$	**0.0057**	**355.459**	**20.993**
$Standard\ Dev._{norm}$		**14.616**	**0.446**
Coeff. of Var. [%]$_{norm}$		**4.112**	**2.127**
Min.	**0.0056**	**330.258**	**20.200**
Max.	**0.0058**	**392.598**	**22.131**
Number of Spec.		**23**	**21**


Longitudinal Tension Properties (LT) -- (ETW)
Normalized Strength
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
50.0
100.0
150.0
200.0
250.0
300.0
350.0
400.0
450.0
Longitudinal Tension Strength [ksi]

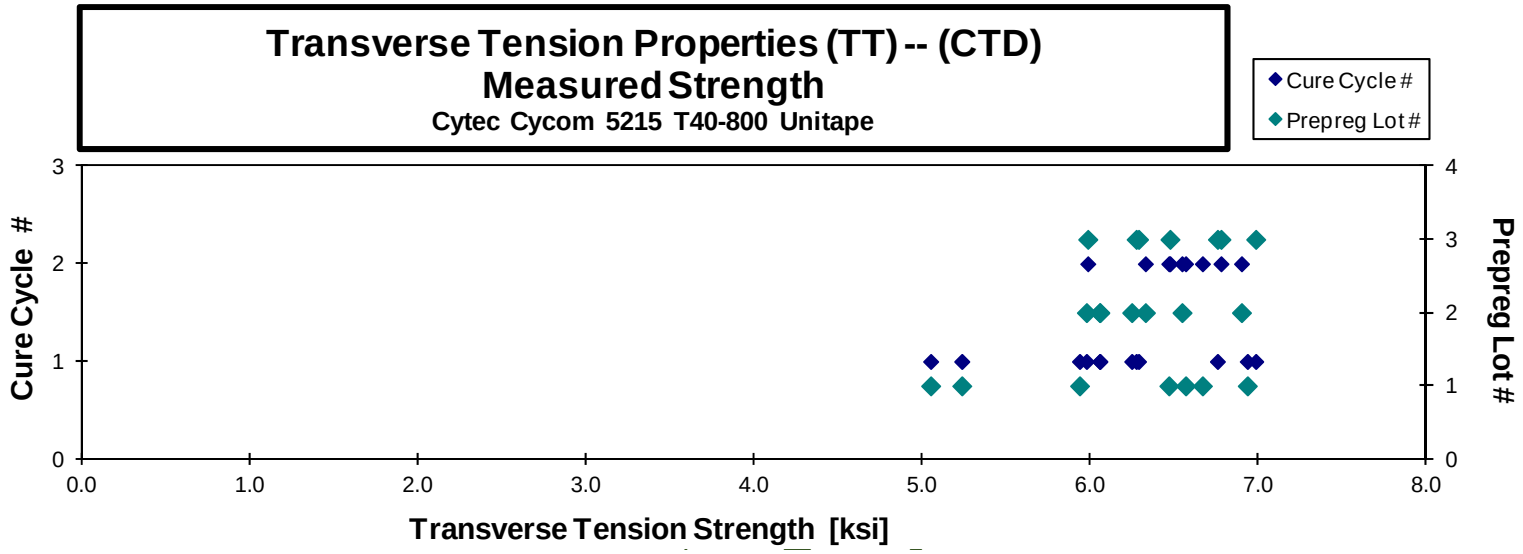

Longitudinal Tension Properties (LT) -- (ETW)
Normalized Modulus
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
5.0
10.0
15.0
20.0
25.0
Longitudinal Tension Modulus [Msi]

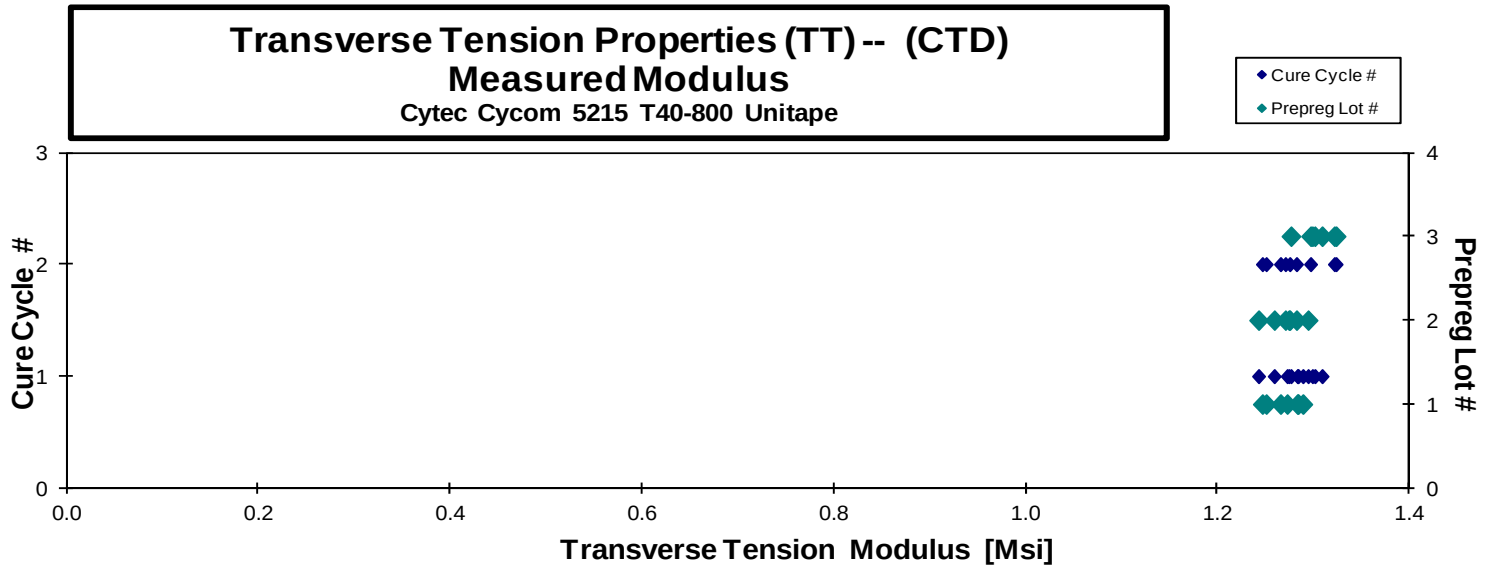
4.2 Transverse Tension Properties (TT)

Transverse Tension Properties (TT) -- (CTD)
Strength & Modulus
Cytec Cycom 5215 T40-800 Unitape

Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Modulus [Msi]	Avg. Specimen Thickn. [in]	# Plies in Laminate	Avg. t_{ply} [in]	Failure Mode
C0DUA116B	A	C1	1	1	6.932	1.283	0.089	16	0.0056	LAT
C0DUA117B	A	C1	1	1	5.934	1.283	0.090	16	0.0056	LAT
C0DUA118B	A	C1	1	1	5.049	1.288	0.089	16	0.0056	LAB
C0DUA119B	A	C1	1	1	5.234	1.272	0.091	16	0.0057	LAB
C0DUA214B	A	C2	1	2	6.665	1.265	0.090	16	0.0056	LAB
C0DUA215B	A	C2	1	2	6.565	1.246	0.090	16	0.0056	LAB
C0DUA216B	A	C2	1	2	6.466	1.250	0.091	16	0.0057	LAB
C0DUB115B	B	C1	2	1	6.245	1.242	0.090	16	0.0057	LGM
C0DUB116B	B	C1	2	1	6.055	1.294	0.091	16	0.0057	LAT
C0DUB117B	B	C1	2	1	5.975	1.259	0.091	16	0.0057	LAB
C0DUB118B	B	C1	2	1	6.054	1.274	0.091	16	0.0057	LAB
C0DUB214B	B	C2	2	2	6.544	1.275	0.092	16	0.0058	LAB
C0DUB215B	B	C2	2	2	6.326	1.270	0.092	16	0.0058	LAT
C0DUB216B	B	C2	2	2	6.898	1.282	0.092	16	0.0058	LAB
C0DUC115B	C	C1	3	1	6.271	1.276	0.090	16	0.0057	LAB
C0DUC116B	C	C1	3	1	6.285	1.298	0.089	16	0.0056	LAB
C0DUC117B	C	C1	3	1	6.755	1.308	0.090	16	0.0056	LAT
C0DUC119B	C	C1	3	1	6.983	1.301	0.089	16	0.0056	LAB
C0DUC214B	C	C2	3	2	6.776	1.323	0.089	16	0.0056	LAT
C0DUC215B	C	C2	3	2	5.983	1.321	0.089	16	0.0056	LAB
C0DUC216B	C	C2	3	2	6.472	1.296	0.091	16	0.0057	LAB

Average	**6.308**	**1.281**	**Average**	**0.006**
Standard Dev.	**0.507**	**0.022**		
Coeff. of Var. [%]	**8.039**	**1.749**		
Min.	**5.049**	**1.242**	**Min.**	**0.006**
Max.	**6.983**	**1.323**	**Max.**	**0.006**
Number of Spec.	**21**	**21**	**Number of Spec.**	**21**


Transverse Tension Properties (TT) -- (CTD)
Measured Strength
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Transverse Tension Strength [ksi]
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
0
1
2
3
4

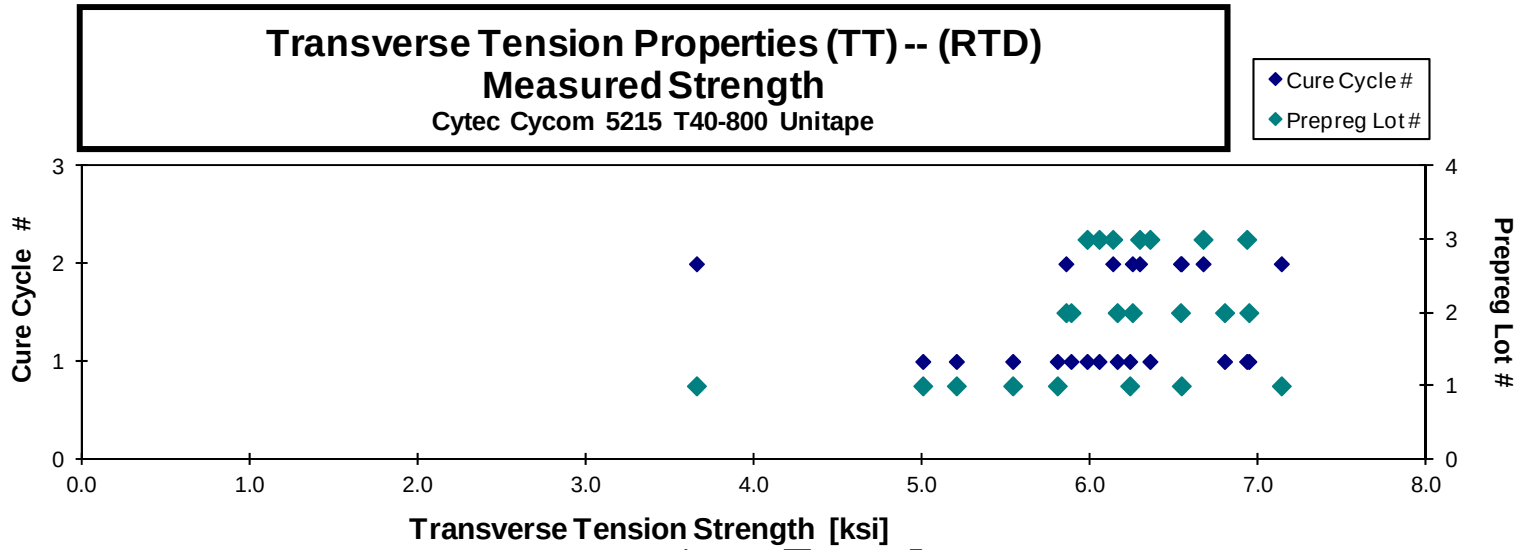

Transverse Tension Properties (TT) -- (CTD)
Measured Modulus
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Transverse Tension Modulus [Msi]
0.0
0.2
0.4
0.6
0.8
1.0
1.2
1.4
0
1
2
3
4

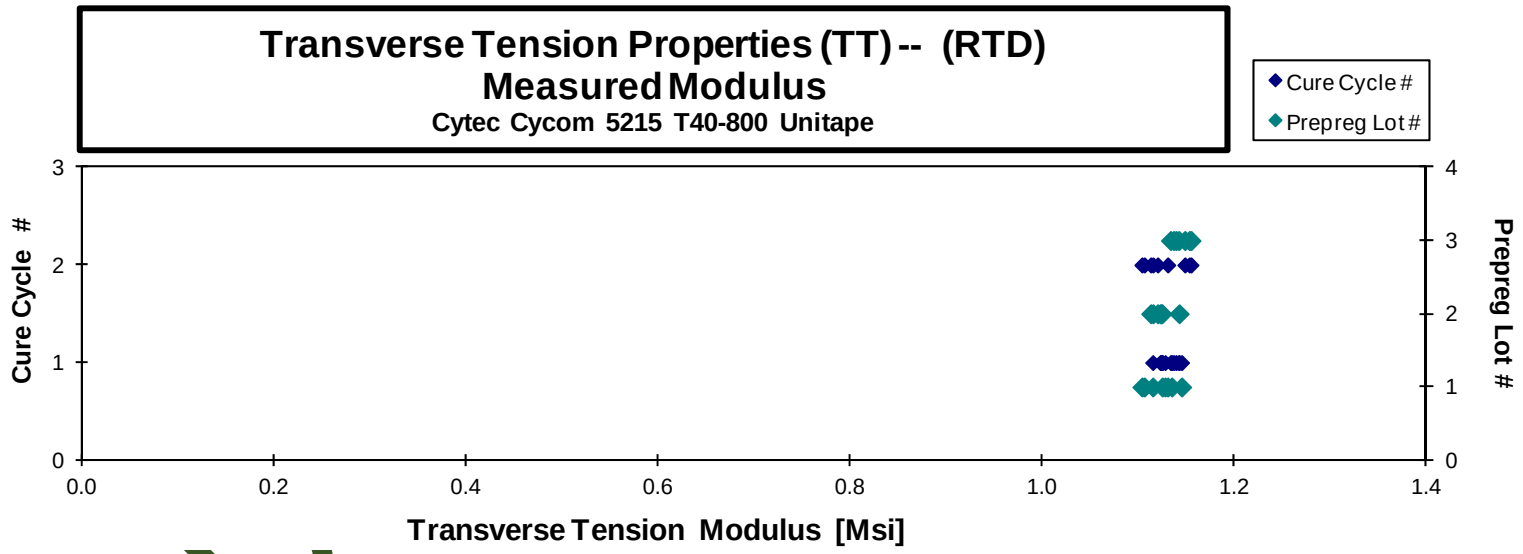
Transverse Tension Properties (TT) -- (RTD)
Strength & Modulus
Cytec Cycom 5215 T40-800 Unitape

Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Modulus [Msi]	Avg. Specimen Thickn. [in]	# Plies in Laminate	Avg. t_{ply} [in]	Failure Mode
C0DUA111A	A	C1	1	1	5.201	1.134	0.089	16	0.0056	LWT
C0DUA112A	A	C1	1	1	6.233	1.128	0.089	16	0.0056	LAT
C0DUA113A	A	C1	1	1	5.537	1.115	0.090	16	0.0056	LWB
C0DUA114A	A	C1	1	1	5.002	1.125	0.089	16	0.0056	LWT
C0DUA115A	A	C1	1	1	5.802	1.145	0.089	16	0.0056	LWB
C0DUA211A*	A	C2	1	2	3.655	1.130	0.090	16	0.0056	LWT
C0DUA212A	A	C2	1	2	7.135	1.103	0.091	16	0.0057	LAT
C0DUA213A	A	C2	1	2	6.540	1.106	0.091	16	0.0057	LAB
C0DUB111A	B	C1	2	1	6.158	1.142	0.090	16	0.0056	LAB
C0DUB112A	B	C1	2	1	5.883	1.122	0.091	16	0.0057	LGM
C0DUB113A	B	C1	2	1	6.797	1.123	0.091	16	0.0057	LAB
C0DUB114A	B	C1	2	1	6.941	1.124	0.091	16	0.0057	LAB
C0DUB211A	B	C2	2	2	6.535	1.120	0.092	16	0.0058	LAT
C0DUB212A	B	C2	2	2	5.853	1.113	0.092	16	0.0058	LAT
C0DUB213A	B	C2	2	2	6.248	1.115	0.092	16	0.0058	LAT
C0DUC111A	C	C1	3	1	5.979	1.142	0.089	16	0.0056	LWB
C0DUC112A	C	C1	3	1	6.050	1.133	0.090	16	0.0056	LAB/LAT
C0DUC113A	C	C1	3	1	6.353	1.136	0.090	16	0.0056	LAB
C0DUC114A	C	C1	3	1	6.929	1.139	0.090	16	0.0056	LAB
C0DUC211A	C	C2	3	2	6.669	1.148	0.090	16	0.0056	LAT
C0DUC212A	C	C2	3	2	6.291	1.153	0.089	16	0.0056	LWB
C0DUC213A	C	C2	3	2	6.132	1.155	0.090	16	0.0056	LAB

* Low strength was investigated and there was no distinguishing factor to warrant elimination of data point

Average	**6.087**	**1.130**	**Average**	**0.0056**
Standard Dev.	**0.766**	**0.014**		
Coeff. of Var. [%]	**12.583**	**1.283**		
Min.	**3.655**	**1.103**	**Min.**	**0.0056**
Max.	**7.135**	**1.155**	**Max.**	**0.0058**
Number of Spec.	**22**	**22**	**Number of Spec.**	**22**

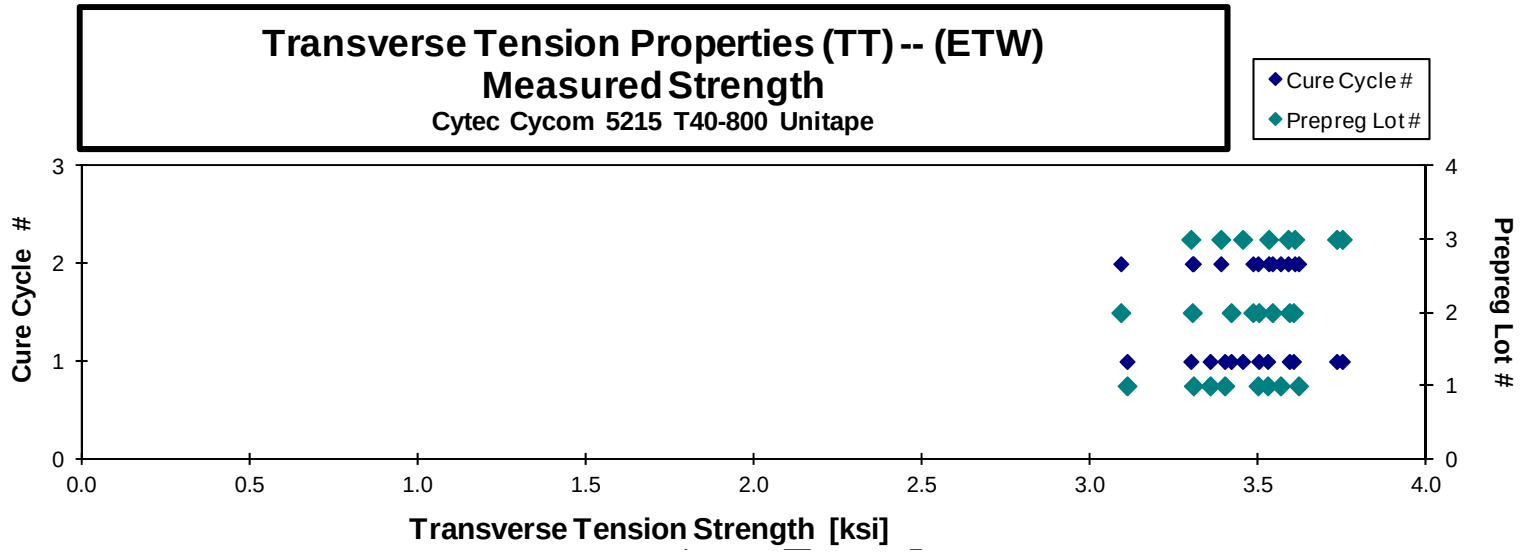

Transverse Tension Properties (TT) -- (RTD)
Measured Strength
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Transverse Tension Strength [ksi]
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
0
1
2
3
4

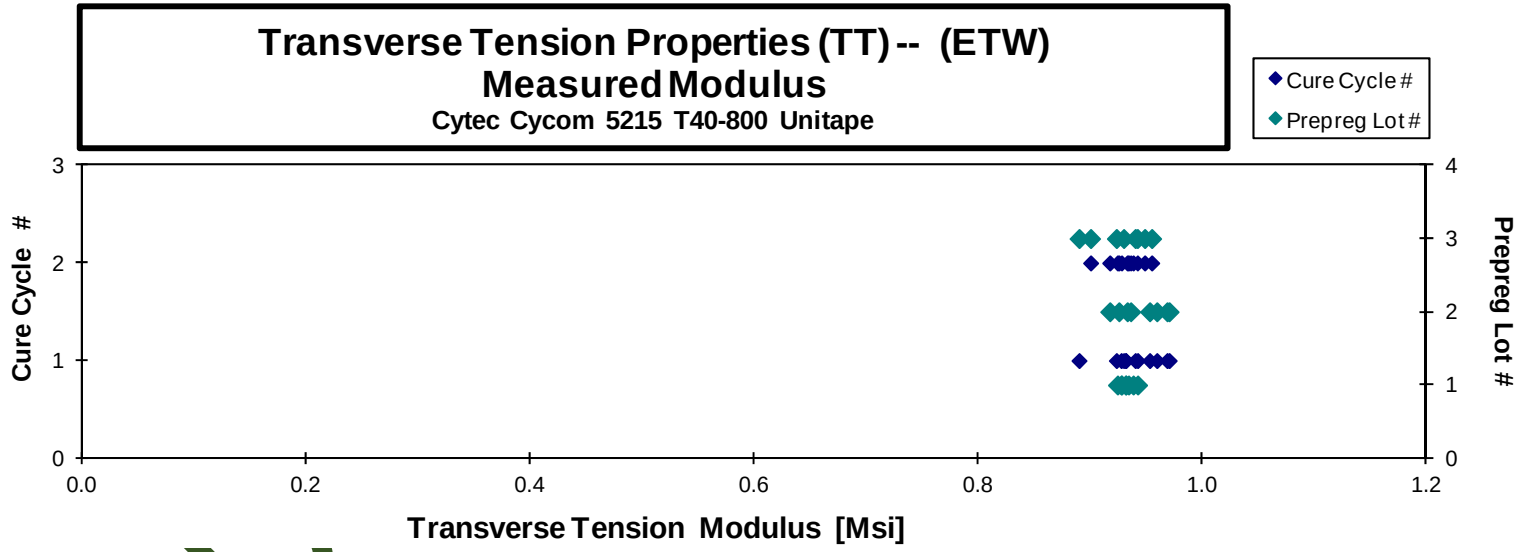

Transverse Tension Properties (TT) -- (RTD)
Measured Modulus
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Transverse Tension Modulus [Msi]
0.0
0.2
0.4
0.6
0.8
1.0
1.2
1.4
0
1
2
3
4

Transverse Tension Properties (TT) -- (ETW)
Strength & Modulus
Cytec Cycom 5215 T40-800 Unitape

Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Modulus [Msi]	Avg. Specimen Thickn. [in]	# Plies in Laminate	Avg. t_{ply} [in]	Failure Mode
C0DUA11BM	A	C1	1	1	3.527	0.942	0.091	16	0.0057	LGM
C0DUA11CM	A	C1	1	1	3.399	0.927	0.092	16	0.0057	LGM
C0DUA11DM	A	C1	1	1	3.356	0.931	0.091	16	0.0057	LWB
C0DUA11EM	A	C1	1	1	3.108	0.931	0.091	16	0.0057	LGM
C0DUA218M	A	C2	1	2	3.498	0.938	0.090	16	0.0056	LGM
C0DUA219M	A	C2	1	2	3.619	0.924	0.091	16	0.0057	LGM
C0DUA21AM	A	C2	1	2	3.306	0.934	0.091	16	0.0057	LAB
C0DUA21BM	A	C2	1	2	3.565	0.928	0.090	16	0.0056	LGM
C0DUB11AM	B	C1	2	1	3.418	0.970	0.091	16	0.0057	LGM
C0DUB11BM	B	C1	2	1	3.591	0.953	0.091	16	0.0057	LWT
C0DUB11CM	B	C1	2	1	3.603	0.959	0.091	16	0.0057	LGM
C0DUB11DM	B	C1	2	1	3.500	0.968	0.090	16	0.0056	LWB/LGM
C0DUB218M	B	C2	2	2	3.302	0.933	0.092	16	0.0058	LWB/LGM
C0DUB219M	B	C2	2	2	3.090	0.917	0.092	16	0.0057	LGM
C0DUB21AM	B	C2	2	2	3.483	0.936	0.093	16	0.0058	LGM
C0DUB21BM	B	C2	2	2	3.541	0.925	0.092	16	0.0058	LWB
C0DUC11AM	C	C1	3	1	3.749	0.929	0.090	16	0.0056	LAB
C0DUC11BM	C	C1	3	1	3.732	0.923	0.090	16	0.0056	LWT
C0DUC11CM	C	C1	3	1	3.298	0.940	0.089	16	0.0056	LGM
C0DUC11DM	C	C1	3	1	3.452	0.890	0.090	16	0.0056	LGM
C0DUC218M	C	C2	3	2	3.387	0.955	0.090	16	0.0056	LWB
C0DUC219M	C	C2	3	2	3.587	0.900	0.092	16	0.0057	LWB
C0DUC21AM	C	C2	3	2	3.607	0.948	0.090	16	0.0056	LWB
C0DUC21BM	C	C2	3	2	3.530	0.942	0.090	16	0.0056	LGM

Average	**3.469**	**0.935**	**Average**	**0.006**
Standard Dev.	**0.167**	**0.019**		
Coeff. of Var. [%]	**4.823**	**2.000**		
Min.	**3.090**	**0.890**	**Min.**	**0.006**
Max.	**3.749**	**0.970**	**Max.**	**0.006**
Number of Spec.	**24**	**24**	**Number of Spec.**	**24**


Transverse Tension Properties (TT) -- (ETW)
Measured Strength
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Transverse Tension Strength [ksi]
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3.5
4.0


Transverse Tension Properties (TT) -- (ETW)
Measured Modulus
Cytec Cycom 5215 T40-800 Unitape
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

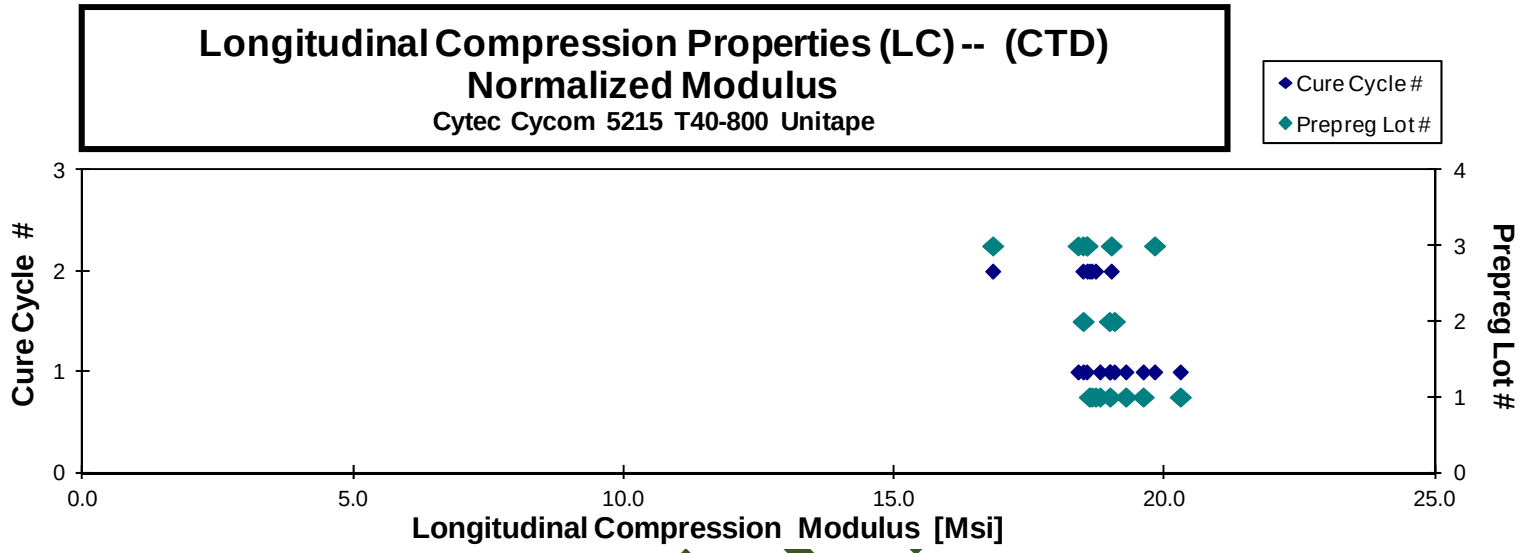
4.3 Longitudinal Compression Properties (LC)

Longitudinal Compression Properties (LC) -- (CTD)
Modulus
Cytec Cycom 5215 T40-800 Unitape

normalizing t_{ply} [in]
0.0057

Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle #	Modulus [Msi]	Poisson's Ratio	Avg. Specimen Thickn. [in]	# Plies in Laminate	Avg. t_{ply} [in]	$Modulus_{norm}$ [Msi]
C0DLA116B	A	C1	**1**	1	19.785	0.298	0.113	20	0.0057	19.614
C0DLA117B	A	C1	1	1	19.513	0.331	0.113	20	0.0056	19.293
C0DLA118B	A	C1	1	1	20.592	0.365	0.112	20	0.0056	20.300
C0DLA119B	A	C1	1	1	19.315	0.294	0.112	20	0.0056	18.999
C0DLA11AB	A	C1	1	1	19.144	0.296	0.112	20	0.0056	18.814
C0DLA215B	A	C2	1	2	18.886	0.265	0.112	20	0.0056	18.618
C0DLA216B	A	C2	1	2	18.895	0.219	0.113	20	0.0056	18.663
C0DLA217B	A	C2	1	2	19.023	0.220	0.112	20	0.0056	18.734
C0DLB215B	B	C2	2	1	19.175	0.229	0.113	20	0.0056	18.990
C0DLB216B	B	C2	2	1	18.578	0.346	0.114	20	0.0057	18.504
C0DLB217B	B	C2	2	1	19.067	0.348	0.114	20	0.0057	19.081
C0DLC116B	C	C1	3	2	19.323	0.319	0.112	20	0.0056	19.024
C0DLC117B	C	C1	3	2	18.860	0.262	0.112	20	0.0056	18.499
C0DLC118B	C	C1	3	2	17.158		0.112	20	0.0056	16.832
C0DLC119B	C	C1	3	2	18.938	0.322	0.112	20	0.0056	18.575
C0DLC215B	C	C2	3	1	20.272	0.362	0.111	20	0.0056	19.825
C0DLC216B	C	C2	3	1	19.097	0.342	0.111	20	0.0055	18.567
C0DLC217B	C	C2	3	1	18.950	0.382	0.111	20	0.0055	18.410

Average	**19.143**	**0.306**	**$Average_{norm}$**	**0.0056**	**18.852**
Standard Dev.	**0.709**	**0.052**	**$Standard\ Dev._{norm}$**		**0.717**
Coeff. of Var. [%]	**3.706**	**16.982**	**$Coeff.\ of\ Var.\ [\%]_{norm}$**		**3.801**
Min.	**17.158**	**0.219**	**Min.**	**0.0055**	**16.832**
Max.	**20.592**	**0.382**	**Max.**	**0.0057**	**20.300**
Number of Spec.	**18**	**17**	**Number of Spec.**		**18**


Longitudinal Compression Properties (LC) -- (CTD)
Normalized Modulus
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
5.0
10.0
15.0
20.0
25.0
Longitudinal Compression Modulus [Msi]

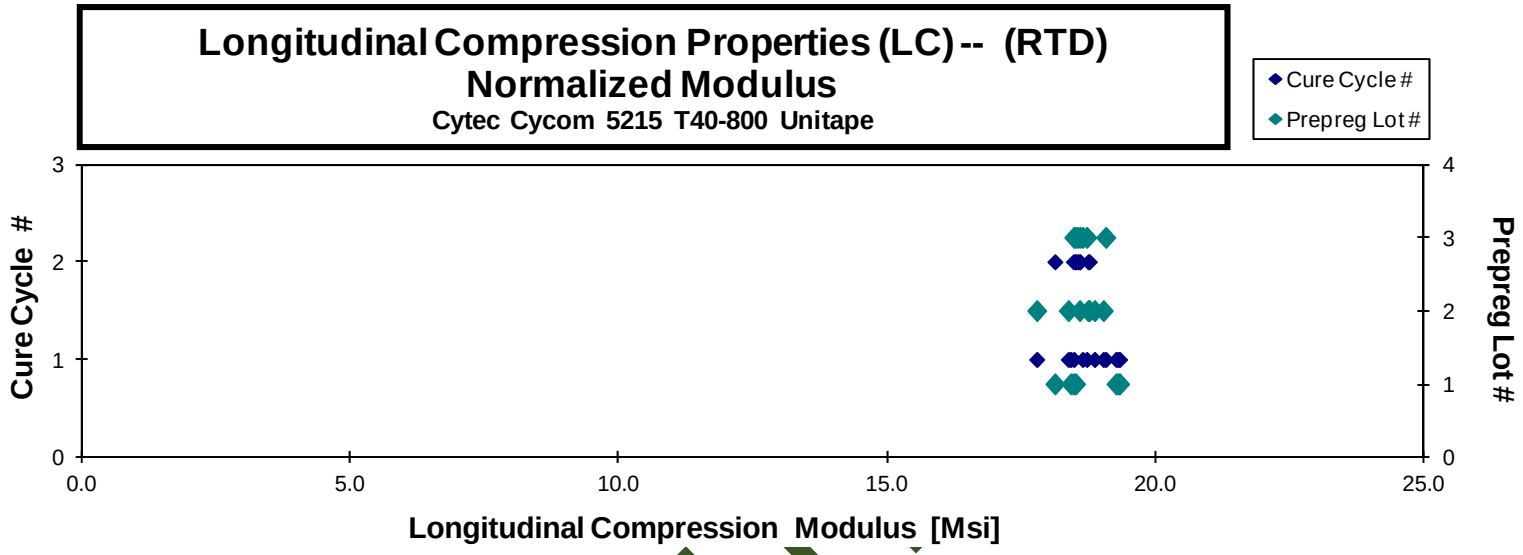
Longitudinal Compression Properties (LC) -- (RTD) Modulus

Cytec Cycom 5215 T40-800 Unitape

normalizing t_{ply} [in]: 0.0057

Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle #	Modulus [Msi]	Poisson's Ratio	Avg. Specimen Thickn. [in]	# Plies in Laminate	Avg. t_{ply} [in]	$Modulus_{norm}$ [Msi]
C0DLA111A	A	C1	1	1	18.784	0.356	0.112	20	0.0056	18.416
C0DLA112A	A	C1	1	1	19.615	0.340	0.112	20	0.0056	19.325
C0DLA113A	A	C1	1	1	19.471	0.417	0.113	20	0.0056	19.260
C0DLA114A	A	C1	1	1	19.439	0.406	0.113	20	0.0057	19.297
C0DLA211A	A	C2	1	2	18.828	0.348	0.112	20	0.0056	18.506
C0DLA212A	A	C2	1	2	18.467	0.354	0.112	20	0.0056	18.121
C0DLA213A	A	C2	1	2	18.778	0.344	0.112	20	0.0056	18.465
C0DLB111A	B	C1	2	1	18.486	0.369	0.110	20	0.0055	17.783
C0DLB113A	B	C1	2	1	19.288	0.373	0.112	20	0.0056	19.023
C0DLB114A	B	C1	2	1	18.995	0.361	0.113	20	0.0057	18.859
C0DLB115A	B	C1	2	1	18.408	0.426	0.114	20	0.0057	18.370
C0DLB211A	B	C2	2	2	19.301	0.336	0.111	20	0.0055	18.763
C0DLB212A	B	C2	2	2	19.025	0.341	0.111	20	0.0056	18.580
C0DLB213A	B	C2	2	2	19.026	0.394	0.112	20	0.0056	18.739
C0DLC111A	C	C1	3	1	18.681	0.347	0.113	20	0.0056	18.474
C0DLC112A	C	C1	3	1	18.781	0.358	0.113	20	0.0057	18.636
C0DLC113A	C	C1	3	1	19.225	0.366	0.113	20	0.0057	19.068
C0DLC114A	C	C1	3	1	18.811	0.337	0.113	20	0.0057	18.715
C0DLC211A	C	C2	3	2	18.727	0.369	0.113	20	0.0056	18.505
C0DLC212A	C	C2	3	2	18.881	0.363	0.112	20	0.0056	18.547
C0DLC213A	C	C2	3	2	18.875	0.388	0.112	20	0.0056	18.588

Average	18.947	0.366	$Average_{norm}$	0.0056	18.669
Standard Dev.	0.337	0.026	$Standard\ Dev._{norm}$		0.382
Coeff. of Var. [%]	1.780	7.128	$Coeff.\ of\ Var.\ [\%]_{norm}$		2.044
Min.	18.408	0.336	Min.	0.0055	17.783
Max.	19.615	0.426	Max.	0.0057	19.325
Number of Spec.	21	21	Number of Spec.		21


Longitudinal Compression Properties (LC) -- (RTD)
Normalized Modulus
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
5.0
10.0
15.0
20.0
25.0
Longitudinal Compression Modulus [Msi]

Longitudinal Compression Properties (LC) -- (ETD) Modulus

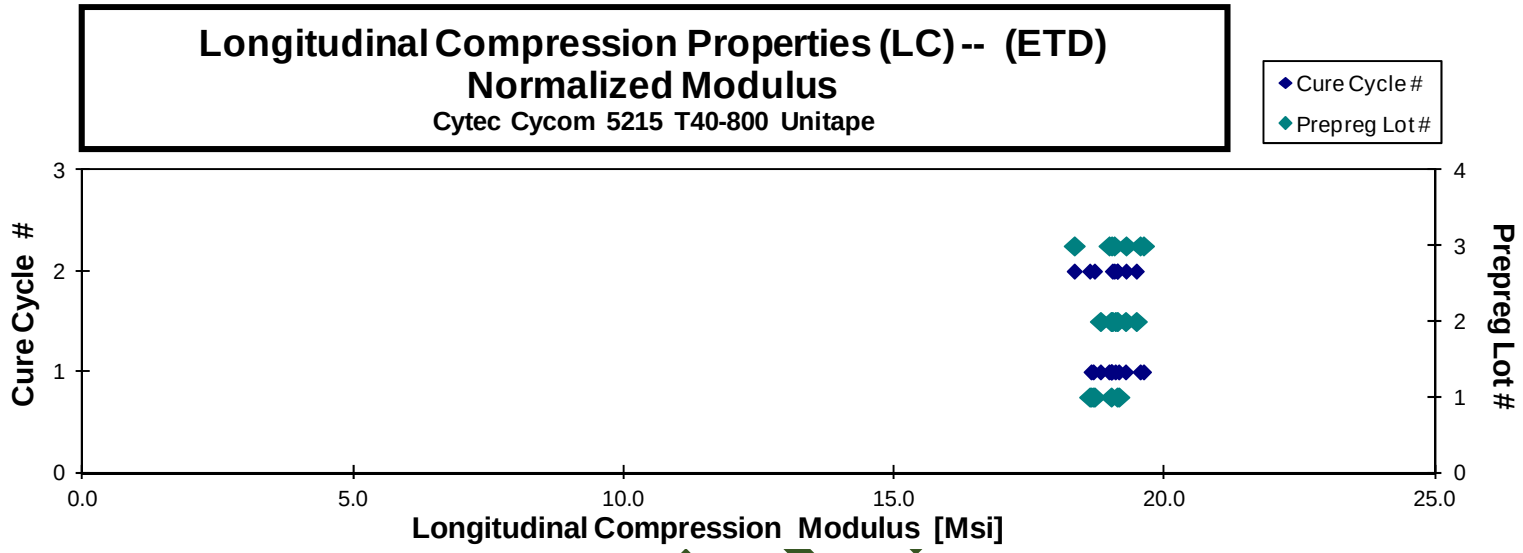
Cytec Cycom 5215 T40-800 Unitape

normalizing t_{ply} [in]: 0.0057

Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle #	Modulus [Msi]	Poisson's Ratio	Avg. Specimen Thickn. [in]	# Plies in Laminate	Avg. t_{ply} [in]	$Modulus_{norm}$ [Msi]
C0DLA11BL	A	C1	1	1	18.909	0.332	0.112	20	0.0056	18.652
C0DLA11CL	A	C1	1	1	18.899	0.349	0.113	20	0.0056	18.689
C0DLA11EL	A	C1	1	1	19.290	0.382	0.113	20	0.0057	19.163
C0DLA11FL	A	C1	1	1	19.151	0.355	0.113	20	0.0057	19.022
C0DLA219L	A	C2	1	2	19.547	0.361	0.112	20	0.0056	19.133
C0DLA21AL	A	C2	1	2	18.868	0.408	0.113	20	0.0056	18.625
C0DLA21BL	A	C2	1	2	19.002	0.372	0.112	20	0.0056	18.713
C0DLB11BL	B	C1	2	1	19.479		0.110	20	0.0055	18.824
C0DLB11CL	B	C1	2	1	19.485	0.398	0.112	20	0.0056	19.098
C0DLB11DL	B	C1	2	1	19.223	0.402	0.113	20	0.0056	19.020
C0DLB11EL	B	C1	2	1	19.427	0.386	0.113	20	0.0057	19.288
C0DLB219L	B	C2	2	2	19.645	0.412	0.111	20	0.0055	19.045
C0DLB21AL	B	C2	2	2	19.509	0.375	0.112	20	0.0056	19.136
C0DLB21BL	B	C2	2	2	19.758	0.350	0.112	20	0.0056	19.487
C0DLC11BL	C	C1	3	1	19.406	0.375	0.112	20	0.0056	18.983
C0DLC11CL	C	C1	3	1	19.876	0.412	0.113	20	0.0056	19.620
C0DLC11DL	C	C1	3	1	19.242	0.410	0.113	20	0.0056	19.031
C0DLC11EL	C	C1	3	1	19.676	0.376	0.113	20	0.0057	19.558
C0DLC219L	C	C2	3	2	19.362	0.381	0.112	20	0.0056	19.079
C0DLC21AL	C	C2	3	2	19.688	0.344	0.112	20	0.0056	19.297
C0DLC21BL	C	C2	3	2	18.762	0.320	0.111	20	0.0056	18.340

THE POISSON'S RATIO OF CODLB11BL WAS REMOVED DUE TO NON LINEAR DATA.

Average	19.343	0.375	$Average_{norm}$	0.0056	19.038
Standard Dev.	0.318	0.027	$Standard\ Dev._{norm}$		0.321
Coeff. of Var. [%]	1.646	7.300	$Coeff.\ of\ Var.\ [\%]_{norm}$		1.687
Min.	18.762	0.320	Min.	0.0055	18.340
Max.	19.876	0.412	Max.	0.0057	19.620
Number of Spec.	21	20	Number of Spec.		21


Longitudinal Compression Properties (LC) -- (ETD)
Normalized Modulus
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
5.0
10.0
15.0
20.0
25.0
Longitudinal Compression Modulus [Msi]

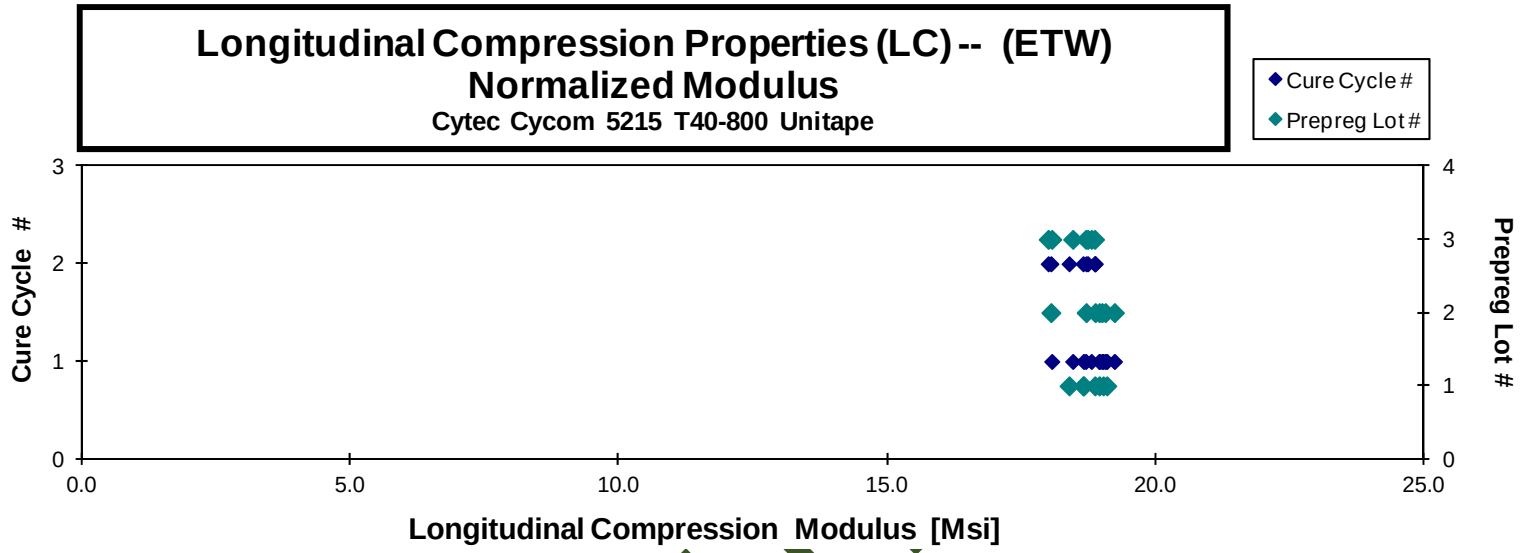
Longitudinal Compression Properties (LC) -- (ETW) Modulus

Cytec Cycom 5215 T40-800 Unitape

normalizing t_{ply} [in]: 0.0057

Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle #	Modulus [Msi]	Poisson's Ratio	Avg. Specimen Thickn. [in]	# Plies in Laminate	Avg. t_{ply} [in]	$Modulus_{norm}$ [Msi]
C0DLA11GM	A	C1	1	1	19.185	0.359	0.113	20	0.0057	19.020
C0DLA11HM	A	C1	1	1	19.279	0.353	0.113	20	0.0056	19.088
C0DLA11IM	A	C1	1	1	19.188	0.360	0.113	20	0.0056	18.947
C0DLA11JM	A	C1	1	1	18.903	0.339	0.113	20	0.0056	18.655
C0DLA21DM	A	C2	1	2	18.713	0.354	0.112	20	0.0056	18.384
C0DLA21EM	A	C2	1	2	18.885	0.344	0.113	20	0.0056	18.645
C0DLA21FM	A	C2	1	2	19.136	0.392	0.112	20	0.0056	18.865
C0DLB11GM	B	C1	2	1	18.894	0.341	0.114	20	0.0057	18.947
C0DLB11HM	B	C1	2	1	18.913	0.362	0.115	20	0.0057	19.060
C0DLB11IM	B	C1	2	1	19.002	0.340	0.115	20	0.0058	19.229
C0DLB11JM	B	C1	2	1	18.791	0.351	0.115	20	0.0058	18.997
C0DLB21DM	B	C2	2	2	18.284	0.419	0.113	20	0.0056	18.046
C0DLB21EM	B	C2	2	2	19.062	0.388	0.113	20	0.0056	18.872
C0DLB21FM	B	C2	2	2	18.763	0.364	0.114	20	0.0057	18.703
C0DLC11GM	C	C1	3	1	18.952	0.328	0.112	20	0.0056	18.694
C0DLC11HM	C	C1	3	1	19.103	0.413	0.112	20	0.0056	18.799
C0DLC11IM	C	C1	3	1	18.375	0.329	0.112	20	0.0056	18.063
C0DLC11JM	C	C1	3	1	18.794	0.389	0.112	20	0.0056	18.453
C0DLC21DM	C	C2	3	2	19.273	0.364	0.112	20	0.0056	18.859
C0DLC21EM	C	C2	3	2	19.273	0.351	0.111	20	0.0055	18.732
C0DLC21FM	C	C2	3	2	18.603	0.360	0.110	20	0.0055	17.996

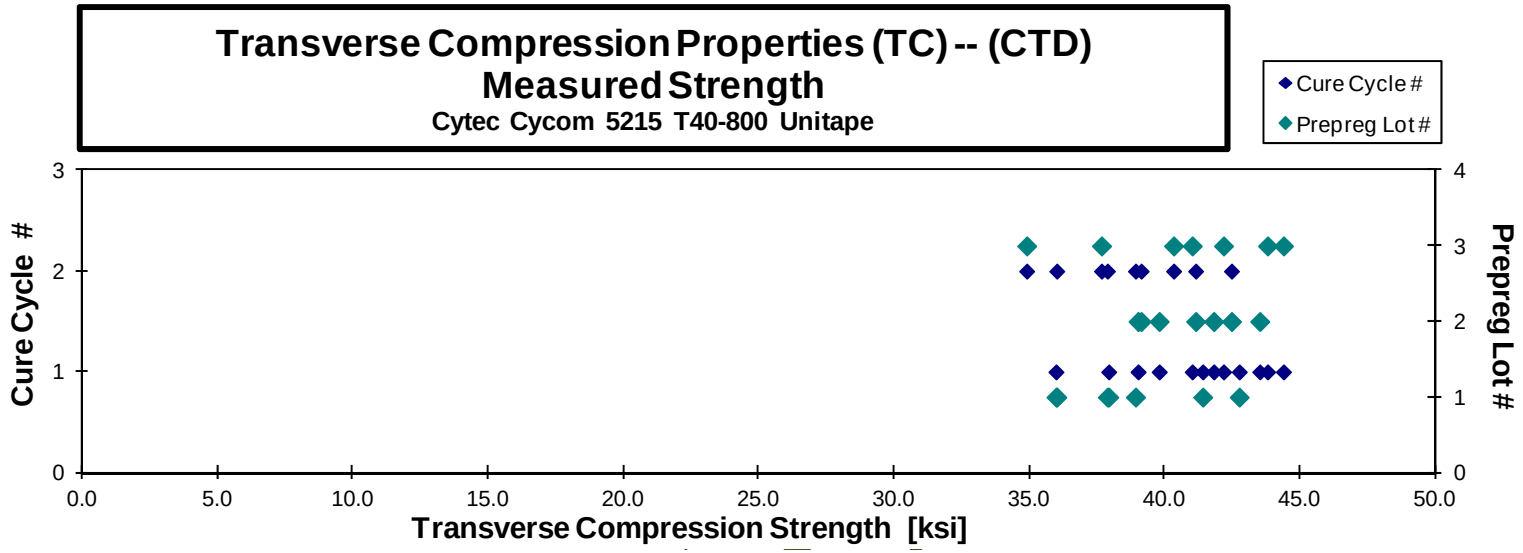
Average	**18.922**	**0.362**	**$Average_{norm}$**	**0.0056**	**18.717**
Standard Dev.	**0.277**	**0.025**	**$Standard\ Dev._{norm}$**		**0.350**
Coeff. of Var. [%]	**1.463**	**6.937**	**$Coeff.\ of\ Var.\ [\%]_{norm}$**		**1.871**
Min.	**18.284**	**0.328**	**Min.**	**0.0055**	**17.996**
Max.	**19.279**	**0.419**	**Max.**	**0.0058**	**19.229**
Number of Spec.	**21**	**21**	**Number of Spec.**		**21**

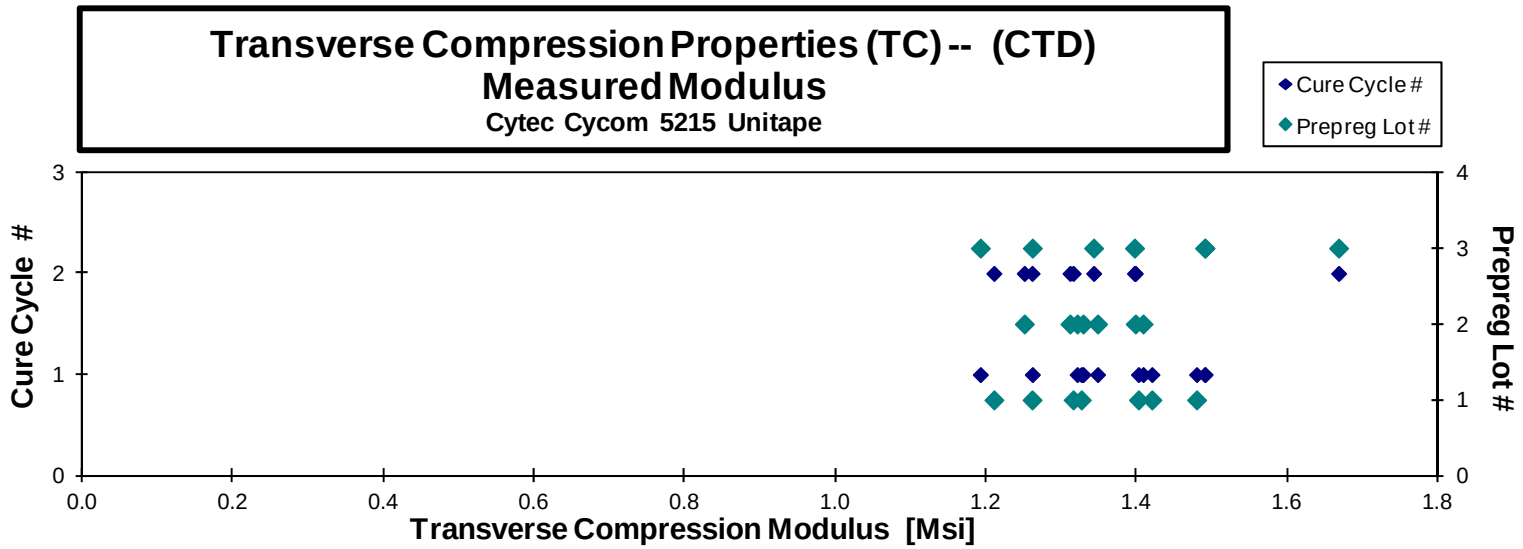

Longitudinal Compression Properties (LC) -- (ETW)
Normalized Modulus
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
5.0
10.0
15.0
20.0
25.0
Longitudinal Compression Modulus [Msi]

4.4 Transverse Compression Properties (TC)

Transverse Compression Properties (TC) -- (CTD)
Strength & Modulus
Cytec Cycom 5215 T40-800 Unitape

Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Modulus [Msi]	Poisson's Ratio	Avg. Specimen Thickn. [in]	# Plies in Laminate	Avg. t_{ply} [in]	Failure Mode
C0DZA116B	A	C1	1	1	37.935	1.403	0.030	0.112	20	0.0056	BGM
C0DZA117B	A	C1	1	1	41.409	1.480	0.032	0.113	20	0.0056	BGM
C0DZA118B	A	C1	1	1	42.760	1.327	0.033	0.112	20	0.0056	BGM
C0DZA119B	A	C1	1	1	35.985	1.420	0.035	0.112	20	0.0056	BGM
C0DZA215B	A	C2	1	2	37.886	1.261	0.015	0.114	20	0.0057	BGM
C0DZA216B	A	C2	1	2	38.924	1.316	0.031	0.114	20	0.0057	BGM
C0DZA217B	A	C2	1	2	36.015	1.211	0.030	0.113	20	0.0057	BGM
C0DZB116B	B	C1	2	1	43.519	1.348	0.032	0.114	20	0.0057	BGM
C0DZB117B	B	C1	2	1	39.020	1.321	0.034	0.114	20	0.0057	BGM
C0DZB118B	B	C1	2	1	41.816	1.329	0.033	0.114	20	0.0057	BGM
C0DZB119B	B	C1	2	1	39.801	1.409	0.034	0.114	20	0.0057	BGM
C0DZB215B	B	C2	2	2	41.148	1.251	0.015	0.114	20	0.0057	HGM
C0DZB216B	B	C2	2	2	39.134	1.398	0.026	0.113	20	0.0057	BGM/HAT
C0DZB217B	B	C2	2	2	42.473	1.312	0.025	0.113	20	0.0056	BGM
C0DZC116B	C	C1	3	1	41.022	1.193	0.029	0.113	20	0.0056	HGM
C0DZC117B	C	C1	3	1	43.808	1.491	0.032	0.112	20	0.0056	HGM
C0DZC118B	C	C1	3	1	44.395	1.491	0.026	0.112	20	0.0056	HGM
C0DZC119B	C	C1	3	1	42.178	1.262	0.026	0.112	20	0.0056	HGM
C0DZC215B	C	C2	3	2	40.334	1.668	0.035	0.113	20	0.0057	BGM
C0DZC216B	C	C2	3	2	34.903	1.343	0.032	0.113	20	0.0057	BGM
C0DZC217B	C	C2	3	2	37.668	1.397	0.038	0.114	20	0.0057	HAT
				Average	**40.102**	**1.363**	**0.030**		**Average**	**0.006**	
				Standard Dev.	**2.714**	**0.110**	**0.006**				
				Coeff. of Var. [%]	**6.767**	**8.104**	**19.871**				
				Min.	**34.903**	**1.193**	**0.015**		**Min.**	**0.006**	
				Max.	**44.395**	**1.668**	**0.038**		**Max.**	**0.006**	
				Number of Spec.	**21**	**21**	**21**		**Number of Spec.**	**21**	

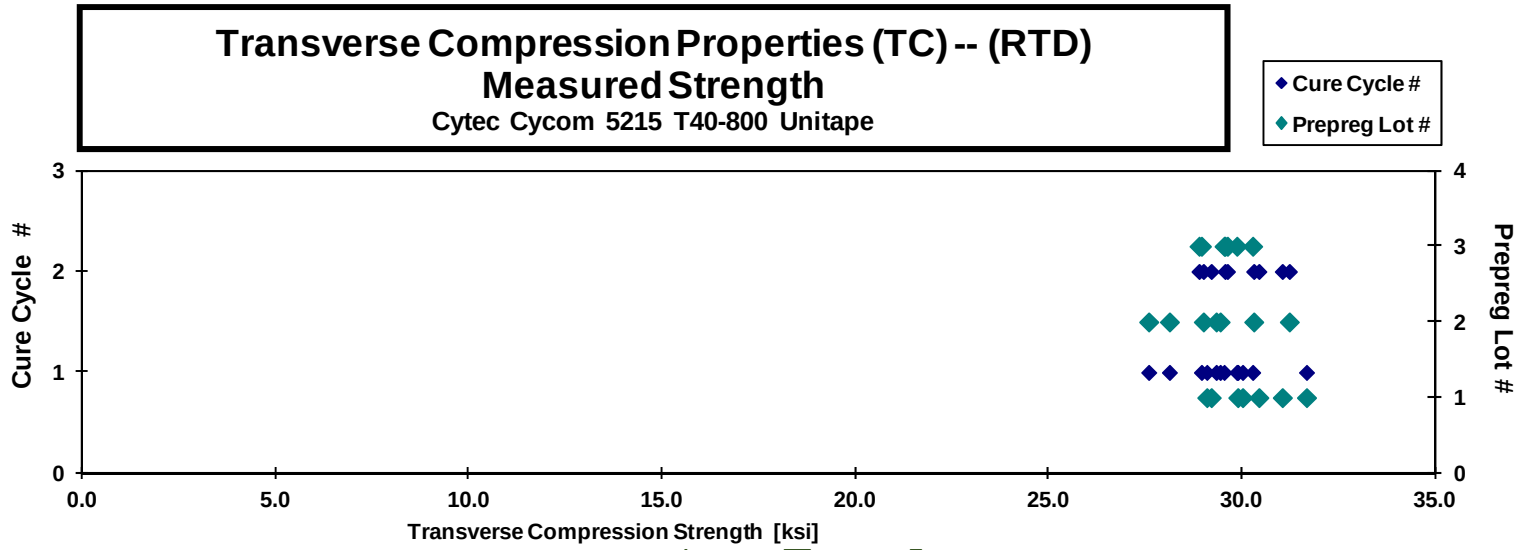

Transverse Compression Properties (TC) -- (CTD)
Measured Strength
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0
45.0
50.0
Transverse Compression Strength [ksi]

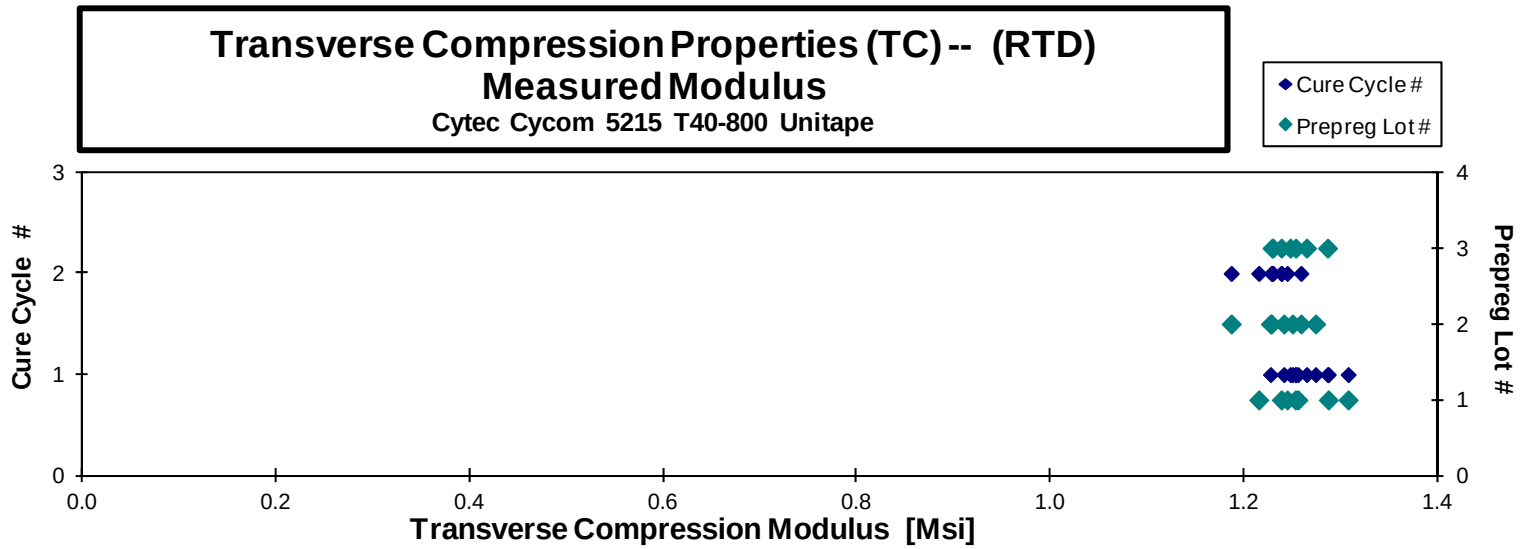

Transverse Compression Properties (TC) -- (CTD)
Measured Modulus
Cytec Cycom 5215 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
0.2
0.4
0.6
0.8
1.0
1.2
1.4
1.6
1.8
Transverse Compression Modulus [Msi]

Transverse Compression Properties (TC) -- (RTD)
Strength & Modulus
Cytec Cycom 5215 T40-800 Unitape

Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Modulus [Msi]	Poisson's Ratio	Avg. Specimen Thickn. [in]	# Plies in Laminate	Avg. t_{ply} [in]	Failure Mode
C0DZA111A	A	C1	1	1	31.672	1.256	0.024	0.111	20	0.0056	BAT
C0DZA112A	A	C1	1	1	30.017	1.308	0.024	0.112	20	0.0056	BAB
C0DZA113A	A	C1	1	1	29.093	1.287	0.030	0.113	20	0.0056	BGM
C0DZA114A	A	C1	1	1	29.895	1.253	0.025	0.112	20	0.0056	BGM
C0DZA211A	A	C2	1	2	31.047	1.245	0.029	0.113	20	0.0057	HGM
C0DZA212A	A	C2	1	2	30.439	1.238	0.028	0.113	20	0.0057	HAB/HGM
C0DZA213A	A	C2	1	2	29.206	1.215	0.028	0.114	20	0.0057	HGM
C0DZB111A	B	C1	2	1	27.589	1.241	0.020	0.112	20	0.0056	HGM
C0DZB112A	B	C1	2	1	28.125	1.250	0.025	0.113	20	0.0056	HGM
C0DZB113A	B	C1	2	1	29.438	1.274	0.027	0.114	20	0.0057	BGM
C0DZB114A	B	C1	2	1	29.335	1.227	0.025	0.114	20	0.0057	HGM
C0DZB211A	B	C2	2	2	29.002	1.259	0.023	0.112	20	0.0056	BGM
C0DZB212A	B	C2	2	2	30.307	1.187	0.024	0.114	20	0.0057	BGM
C0DZB213A	B	C2	2	2	31.228	1.228	0.024	0.114	20	0.0057	HGM
C0DZC111A	C	C1	3	1	28.954	1.265	0.025	0.111	20	0.0055	BGM
C0DZC112A	C	C1	3	1	29.540	1.253	0.024	0.111	20	0.0056	BAB
C0DZC113A	C	C1	3	1	30.280	1.286	0.027	0.111	20	0.0056	BGM
C0DZC114A	C	C1	3	1	29.869	1.248	0.025	0.111	20	0.0056	HGM
C0DZC211A	C	C2	3	2	28.891	1.230	0.026	0.113	20	0.0057	HGM
C0DZC212A	C	C2	3	2	29.564	1.238	0.025	0.113	20	0.0056	BGM
C0DZC213A	C	C2	3	2	29.625	1.229	0.024	0.114	20	0.0057	BGM

Average	**29.672**	**1.248**	**0.025**	**Average**	**0.006**
Standard Dev.	**0.973**	**0.027**	**0.002**		
Coeff. of Var. [%]	**3.280**	**2.141**	**8.713**		
Min.	**27.589**	**1.187**	**0.020**	**Min.**	**0.006**
Max.	**31.672**	**1.308**	**0.030**	**Max.**	**0.006**
Number of Spec.	**21**	**21**	**21**	**Number of Spec.**	**21**


Transverse Compression Properties (TC) -- (RTD)
Measured Strength
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
Transverse Compression Strength [ksi]

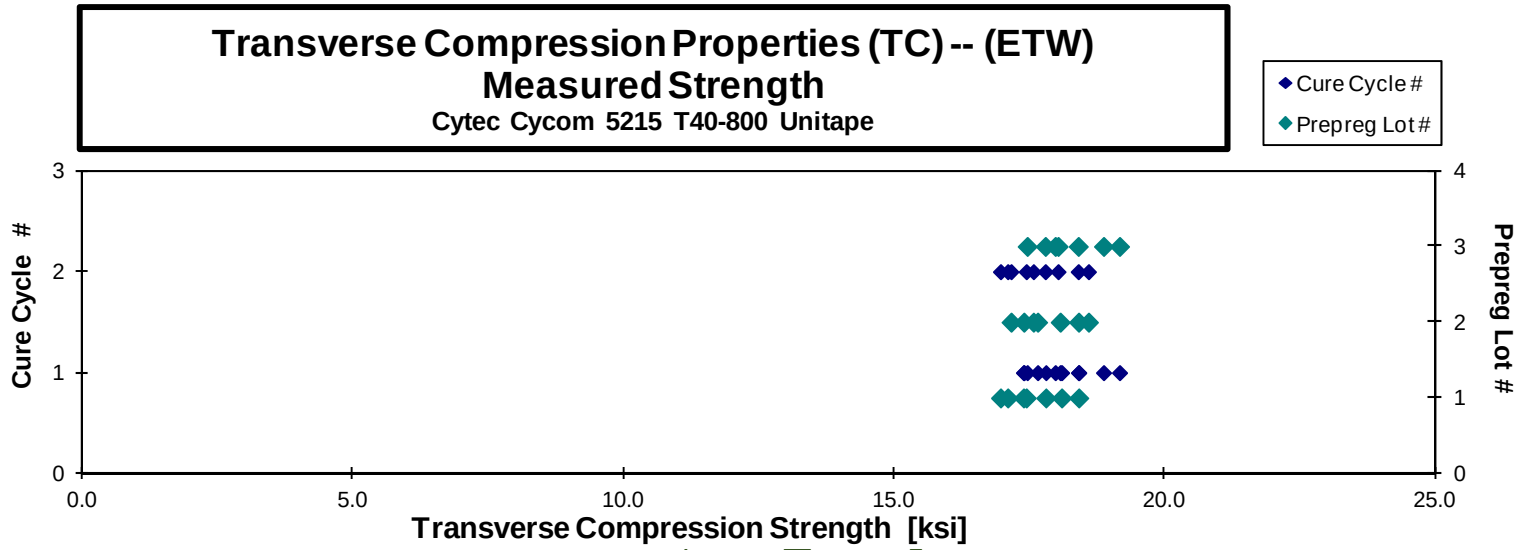

Transverse Compression Properties (TC) -- (RTD)
Measured Modulus
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
0.2
0.4
0.6
0.8
1.0
1.2
1.4
Transverse Compression Modulus [Msi]

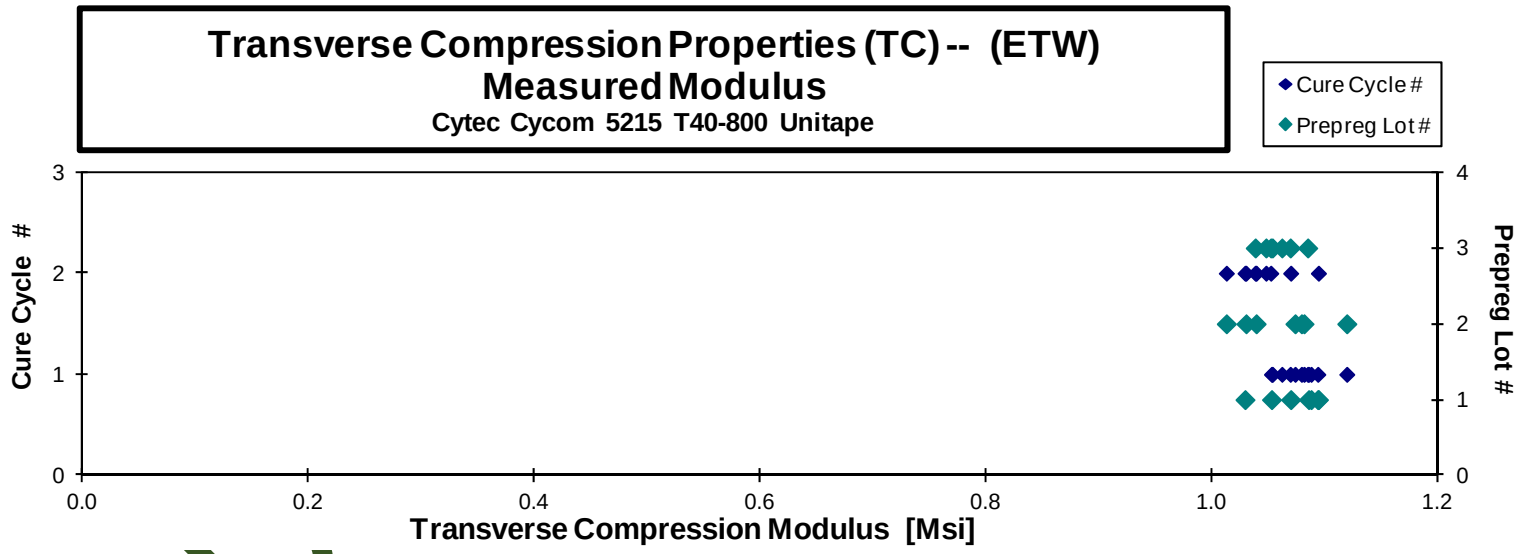
Transverse Compression Properties (TC) -- (ETW)
Strength & Modulus
Cytec Cycom 5215 T40-800 Unitape

Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Modulus [Msi]	Poisson's Ratio	Avg. Specimen Thickn. [in]	# Plies in Laminate	Avg. t_{ply} [in]	Failure Mode
C0DZA11BM	A	C1	1	1		1.086	0.018	0.112	20	0.0056	HGM
C0DZA11CM	A	C1	1	1		1.053	0.018	0.112	20	0.0056	BGM
C0DZA11DM	A	C1	1	1		1.088	0.020	0.113	20	0.0056	BGM
C0DZA11FM	A	C1	1	1	18.096			0.113	20	0.0056	BGM
C0DZA11GM	A	C1	1	1		1.094	0.018	0.113	20	0.0056	HGM
C0DZA11HM	A	C1	1	1	17.392			0.113	20	0.0056	HGM
C0DZA11IM	A	C1	1	1	18.414			0.113	20	0.0057	BGM
C0DZA11JM	A	C1	1	1	17.805			0.113	20	0.0056	BGM
C0DZA219M	A	C2	1	2		1.070	0.016	0.113	20	0.0057	BGM
C0DZA21AM	A	C2	1	2		1.094	0.020	0.113	20	0.0056	BGM
C0DZA21BM	A	C2	1	2		1.029	0.018	0.113	20	0.0056	BGM
C0DZA21CM	A	C2	1	2	17.101			0.113	20	0.0057	BGM
C0DZA21DM	A	C2	1	2	17.443			0.113	20	0.0057	BGM
C0DZA21EM	A	C2	1	2	16.968			0.113	20	0.0057	BGM
C0DZB11BM	B	C1	2	1		1.120	0.020	0.111	20	0.0056	BGM
C0DZB11CM	B	C1	2	1		1.079	0.020	0.113	20	0.0056	HGM
C0DZB11DM	B	C1	2	1		1.074	0.019	0.114	20	0.0057	HGM
C0DZB11EM	B	C1	2	1		1.082	0.018	0.114	20	0.0057	BGM
C0DZB11FM	B	C1	2	1	18.410			0.114	20	0.0057	HGM
C0DZB11GM	B	C1	2	1	17.653			0.114	20	0.0057	BGM
C0DZB11HM	B	C1	2	1	18.071			0.114	20	0.0057	BGM
C0DZB11IM	B	C1	2	1	17.399			0.113	20	0.0057	BGM
C0DZB219M	B	C2	2	2		1.030	0.017	0.114	20	0.0057	HGM
C0DZB21AM	B	C2	2	2		1.039	0.019	0.114	20	0.0057	BGM
C0DZB21BM	B	C2	2	2		1.013	0.017	0.114	20	0.0057	HGM / HAT
C0DZB21CM	B	C2	2	2	17.575			0.114	20	0.0057	HGM
C0DZB21DM	B	C2	2	2	18.593			0.113	20	0.0057	BGM
C0DZB21EM	B	C2	2	2	17.162			0.114	20	0.0057	HGM
C0DZC11BM	C	C1	3	1		1.085	0.019	0.110	20	0.0055	HGM
C0DZC11CM	C	C1	3	1		1.062	0.018	0.111	20	0.0056	HGM
C0DZC11DM	C	C1	3	1		1.054	0.020	0.111	20	0.0056	BGM
C0DZC11EM	C	C1	3	1		1.069	0.020	0.111	20	0.0055	BGM
C0DZC11FM	C	C1	3	1	17.980			0.111	20	0.0055	BGM
C0DZC11HM	C	C1	3	1	17.460			0.111	20	0.0055	HGM
C0DZC11GM	C	C1	3	1	18.872			0.110	20	0.0055	HGM
C0DZC11IM	C	C1	3	1	19.167			0.111	20	0.0055	BAB
C0DZC219M	C	C2	3	2		1.052	0.019	0.113	20	0.0057	HGM
C0DZC21AM	C	C2	3	2		1.048	0.020	0.114	20	0.0057	BGM
C0DZC21BM	C	C2	3	2		1.039	0.019	0.113	20	0.0057	HGM
C0DZC21CM	C	C2	3	2	17.795			0.114	20	0.0057	BGM
C0DZC21DM	C	C2	3	2	18.404			0.113	20	0.0057	BGM
C0DZC21EM	C	C2	3	2	18.031			0.113	20	0.0056	BGM

STRENGTH REMOVED FROM MODULUS ONLY COUPONS DUE TO PROTECTIVE COATING ON GAGE

Average	**17.895**	**1.065**	**0.019**	**Average**	**0.006**
Standard Dev.	**0.594**	**0.026**	**0.001**		
Coeff. of Var. [%]	**3.318**	**2.477**	**6.997**		
Min.	**16.968**	**1.013**	**0.016**	**Min.**	**0.006**
Max.	**19.167**	**1.120**	**0.020**	**Max.**	**0.006**
Number of Spec.	**21**	**21**	**21**	**Number of Spec.**	**42**


Transverse Compression Properties (TC) -- (ETW)
Measured Strength
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Transverse Compression Strength [ksi]
0.0
5.0
10.0
15.0
20.0
25.0

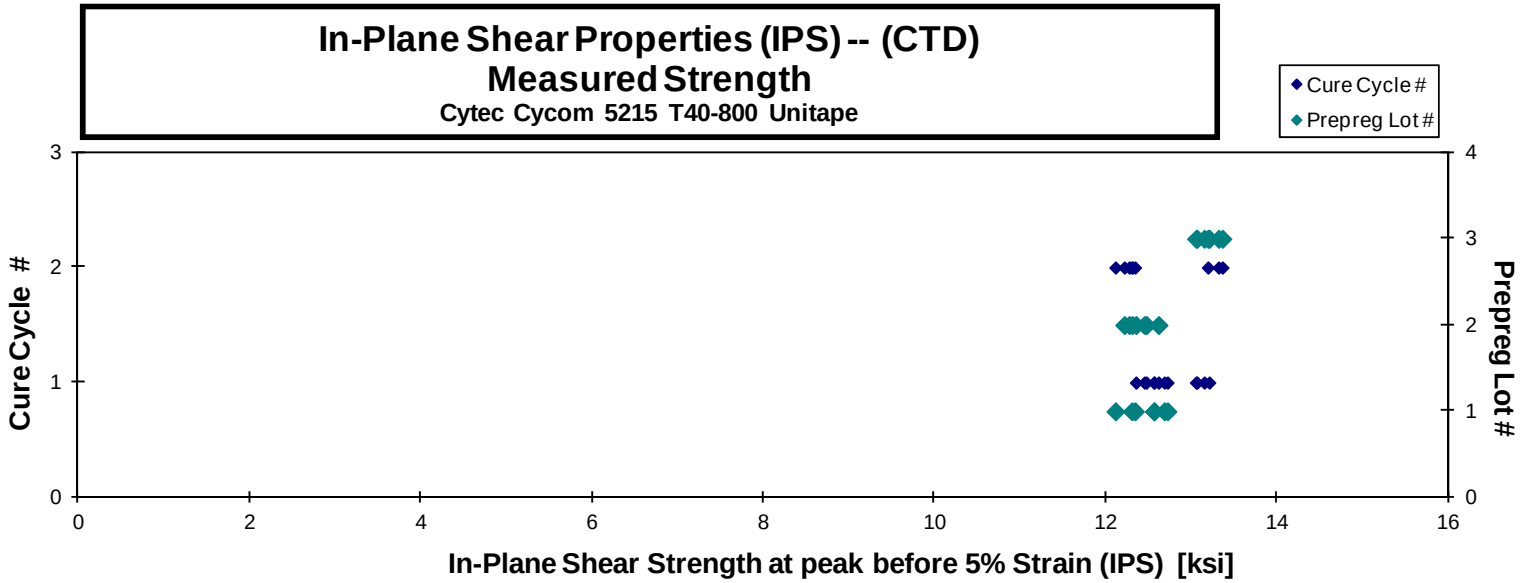

Transverse Compression Properties (TC) -- (ETW)
Measured Modulus
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Transverse Compression Modulus [Msi]
0.0
0.2
0.4
0.6
0.8
1.0
1.2

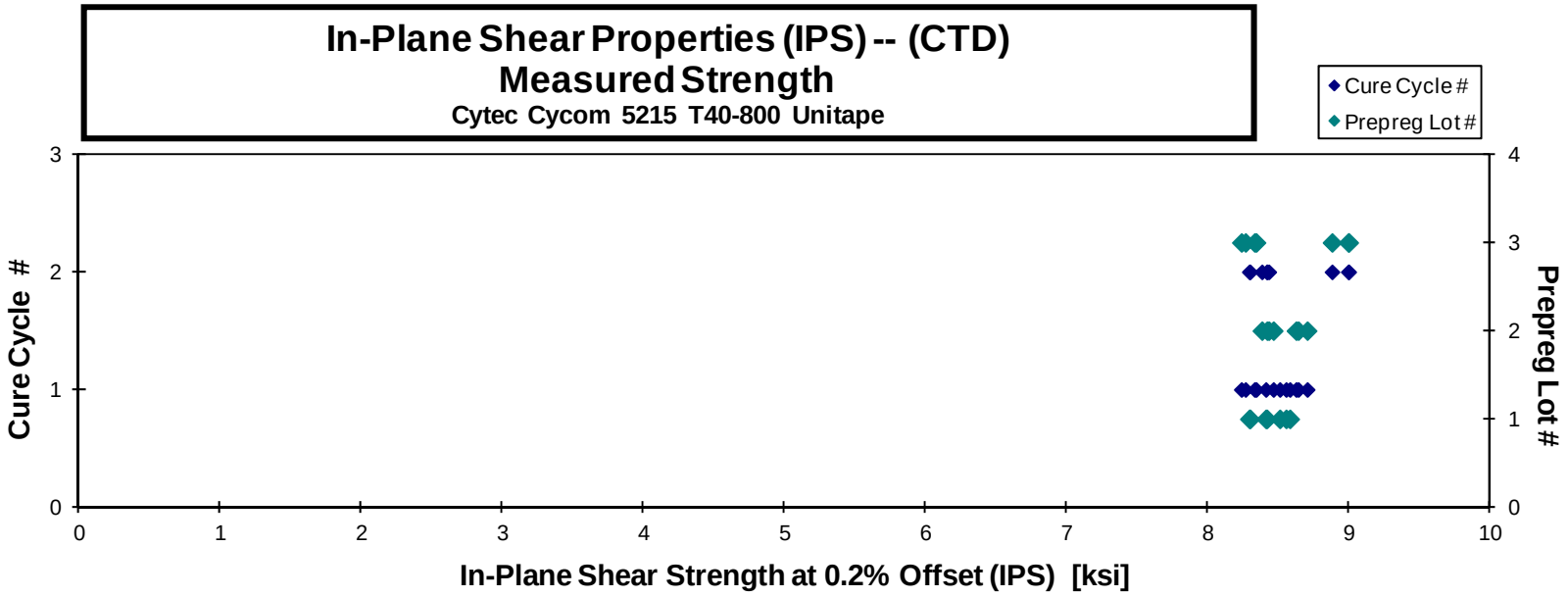
4.5 In-Plane Shear Properties (IPS)

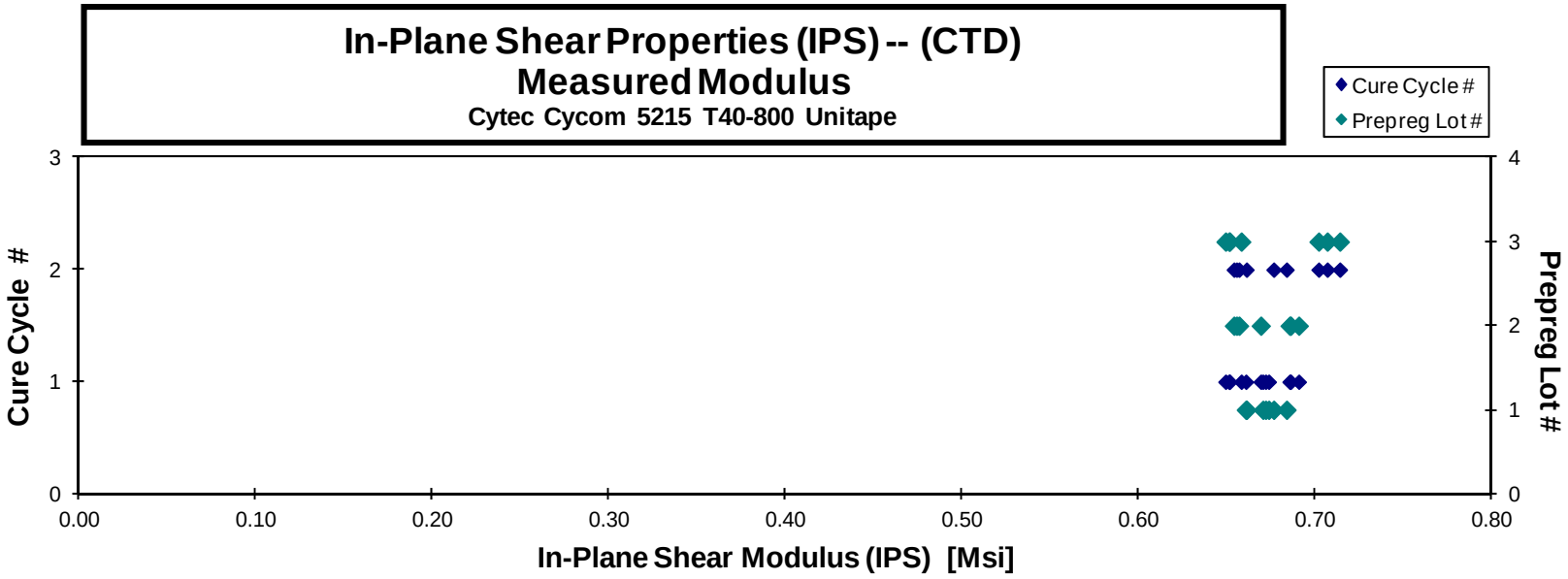
In-Plane Shear Properties (IPS) -- (CTD)
Strength & Modulus
Cytec Cycom 5215 T40-800 Unitape

Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle #	Peak Strength Before 5% Strain [ksi]	0.2% Offset Strength [ksi]	Modulus [Msi]	Avg. Specimen Thickn. [in]	# Plies in Laminate	Avg. tply [in]
C0DNA117B	A	C1	1	1	12.561	8.553	0.674	0.091	16	0.0057
C0DNA118B	A	C1	1	1	12.562	8.509	0.671	0.091	16	0.0057
C0DNA119B	A	C1	1	1	12.682	8.409	0.661	0.091	16	0.0057
C0DNA11AB	A	C1	1	1	12.719	8.580	0.672	0.091	16	0.0057
C0DNA214B	A	C2	1	2	12.339	8.417	0.677	0.087	16	0.0054
C0DNA216B	A	C2	1	2	12.302	8.297	0.684	0.087	16	0.0055
C0DNA217B	A	C2	1	2	12.111	8.293	0.661	0.090	16	0.0057
C0DNB117B	B	C1	2	1	12.614	8.463	0.670	0.091	16	0.0057
C0DNB118B	B	C1	2	1	12.448	8.624	0.686	0.091	16	0.0057
C0DNB119B	B	C1	2	1	12.471	8.640	0.686	0.092	16	0.0057
C0DNB11AB	B	C1	2	1	12.350	8.703	0.691	0.090	16	0.0057
C0DNB214B	B	C2	2	2	12.306	8.418	0.656	0.093	16	0.0058
C0DNB215B	B	C2	2	2	12.214	8.382	0.657	0.093	16	0.0058
C0DNB216B	B	C2	2	2	12.272	8.431	0.654	0.092	16	0.0058
C0DNC117B	C	C1	3	1	13.064	8.236	0.650	0.091	16	0.0057
C0DNC118B	C	C1	3	1	13.148	8.330	0.652	0.092	16	0.0057
C0DNC119B	C	C1	3	1	13.207	8.341	0.659	0.091	16	0.0057
C0DNC11AB	C	C1	3	1	13.052	8.265	0.652	0.092	16	0.0057
CODNC214B	C	C2	3	2	13.361	8.997	0.714	0.090	16	0.0056
CODNC215B	C	C2	3	2	13.191	8.879	0.707	0.090	16	0.0056
CODNC216B	C	C2	3	2	13.316	8.995	0.702	0.090	16	0.0056

Average	**12.680**	**8.512**	**0.673**	**Average**	**0.0057**
Standard Dev.	**0.404**	**0.226**	**0.019**	**Standard Dev.**	
Coeff. of Var. [%]	**3.183**	**2.656**	**2.856**	**Coeff. of Var. [%]**	
Min.	**12.111**	**8.236**	**0.650**	**Min.**	**0.0054**
Max.	**13.361**	**8.997**	**0.714**	**Max.**	**0.0058**
Number of Spec.	**21**	**21**	**21**	**Number of Spec.**	**21**


In-Plane Shear Properties (IPS) -- (CTD)
Measured Strength
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0
2
4
6
8
10
12
14
16
In-Plane Shear Strength at peak before 5% Strain (IPS) [ksi]


In-Plane Shear Properties (IPS) -- (CTD)
Measured Strength
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0
1
2
3
4
5
6
7
8
9
10
In-Plane Shear Strength at 0.2% Offset (IPS) [ksi]

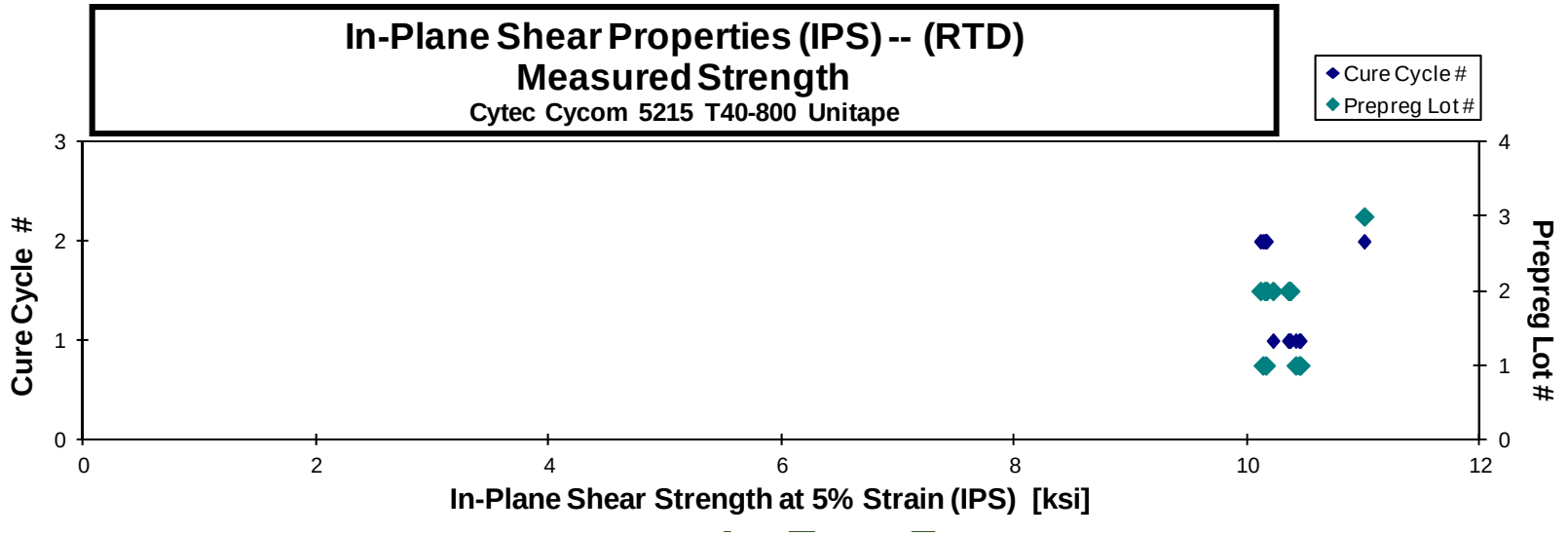

In-Plane Shear Properties (IPS) -- (CTD)
Measured Modulus
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
In-Plane Shear Modulus (IPS) [Msi]
0
1
2
3
4
0.00
0.10
0.20
0.30
0.40
0.50
0.60
0.70
0.80

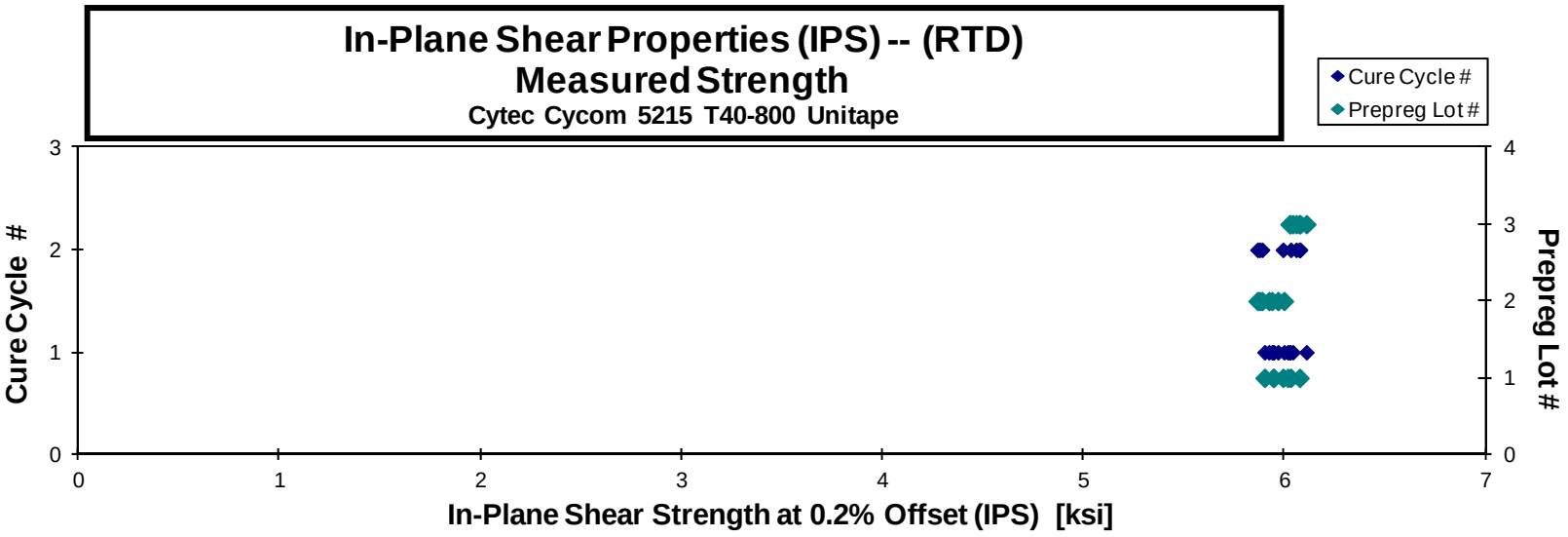
In-Plane Shear Properties (IPS) -- (RTD)
Strength & Modulus
Cytec Cycom 5215 T40-800 Unitape

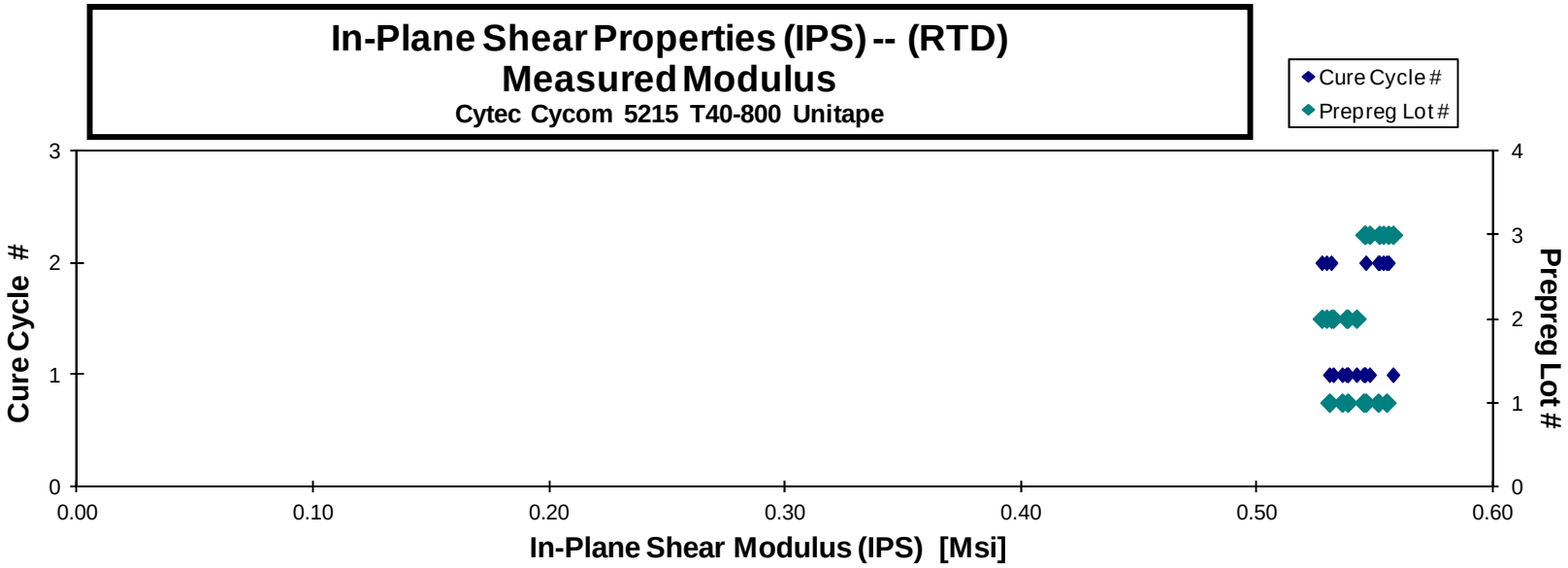
Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle #	0.2% Offset Strength [ksi]	Strength at 5% Strain [ksi]	Modulus [Msi]	Avg. Specimen Thickn. [in]	# Plies in Laminate	Avg. tply [in]
C0DNA111A	A	C1	1	1	6.016	10.446	0.545	0.090	16	0.0056
C0DNA112A	A	C1	1	1	5.945	10.406	0.538	0.090	16	0.0056
C0DNA113A	A	C1	1	1	5.943	10.436	0.536	0.090	16	0.0056
C0DNA114A**	A	C1	1	1	5.900		0.530	0.092	16	0.0057
C0DNA211A	A	C2	1	2	5.992	10.124	0.546	0.089	16	0.0055
C0DNA212A**	A	C2	1	2	6.074		0.554	0.087	16	0.0055
C0DNA213A	A	C2	1	2	6.031	10.149	0.551	0.087	16	0.0055
C0DNB111A	B	C1	2	1	5.937	10.356	0.538	0.092	16	0.0058
C0DNB112A	B	C1	2	1	5.967	10.343	0.537	0.092	16	0.0057
C0DNB113A	B	C1	2	1	5.922	10.211	0.532	0.093	16	0.0058
C0DNB114A	B	C1	2	1	5.997	10.359	0.542	0.092	16	0.0057
C0DNB211A	B	C2	2	2	5.888	10.140	0.531	0.093	16	0.0058
C0DNB212A	B	C2	2	2	5.875	10.103	0.527	0.094	16	0.0058
C0DNB213A	B	C2	2	2	5.865	10.156	0.529	0.092	16	0.0058
C0DNC111A*	C	C1	3	1	6.108		0.557	0.092	16	0.0058
C0DNC112A*	C	C1	3	1	6.040		0.547	0.092	16	0.0058
C0DNC113A*	C	C1	3	1	6.028		0.545	0.092	16	0.0057
C0DNC114A*	C	C1	3	1	6.025		0.545	0.092	16	0.0057
C0DNC211A*	C	C2	3	2	6.077		0.553	0.091	16	0.0057
C0DNC212A*	C	C2	3	2	6.073		0.555	0.090	16	0.0056
C0DNC213A	C	C2	3	2	6.058	10.995	0.551	0.090	16	0.0056

* 5% strength is not reported because it occurred during secondary speed
** 5% strength is not reported because extensometer might have slipped

Average	**5.989**	**10.325**	**0.542**	**Average**	**0.0057**
Standard Dev.	**0.073**	**0.238**	**0.009**	**Standard Dev.**	
Coeff. of Var. [%]	**1.221**	**2.307**	**1.733**	**Coeff. of Var. [%]**	
Min.	**5.865**	**10.103**	**0.527**	**Min.**	**0.0055**
Max.	**6.108**	**10.995**	**0.557**	**Max.**	**0.0058**
Number of Spec.	**21**	**13**	**21**	**Number of Spec.**	**21**


In-Plane Shear Properties (IPS) -- (RTD)
Measured Strength
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
In-Plane Shear Strength at 5% Strain (IPS) [ksi]

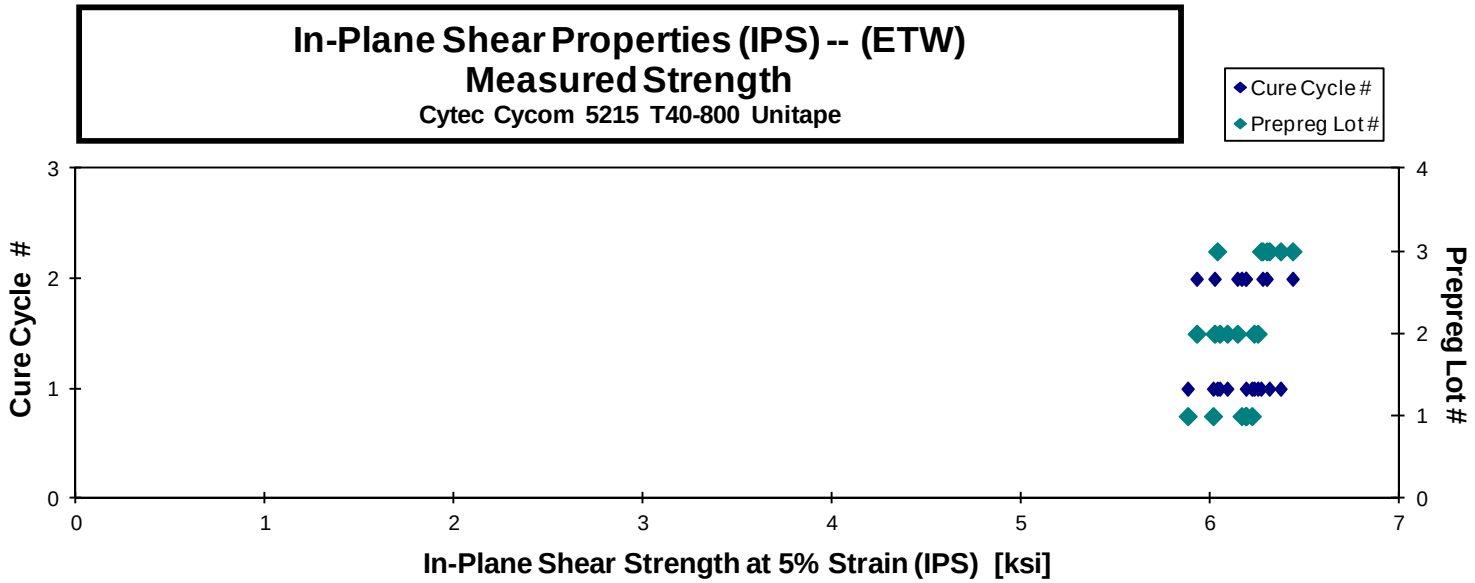

In-Plane Shear Properties (IPS) -- (RTD)
Measured Strength
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
In-Plane Shear Strength at 0.2% Offset (IPS) [ksi]

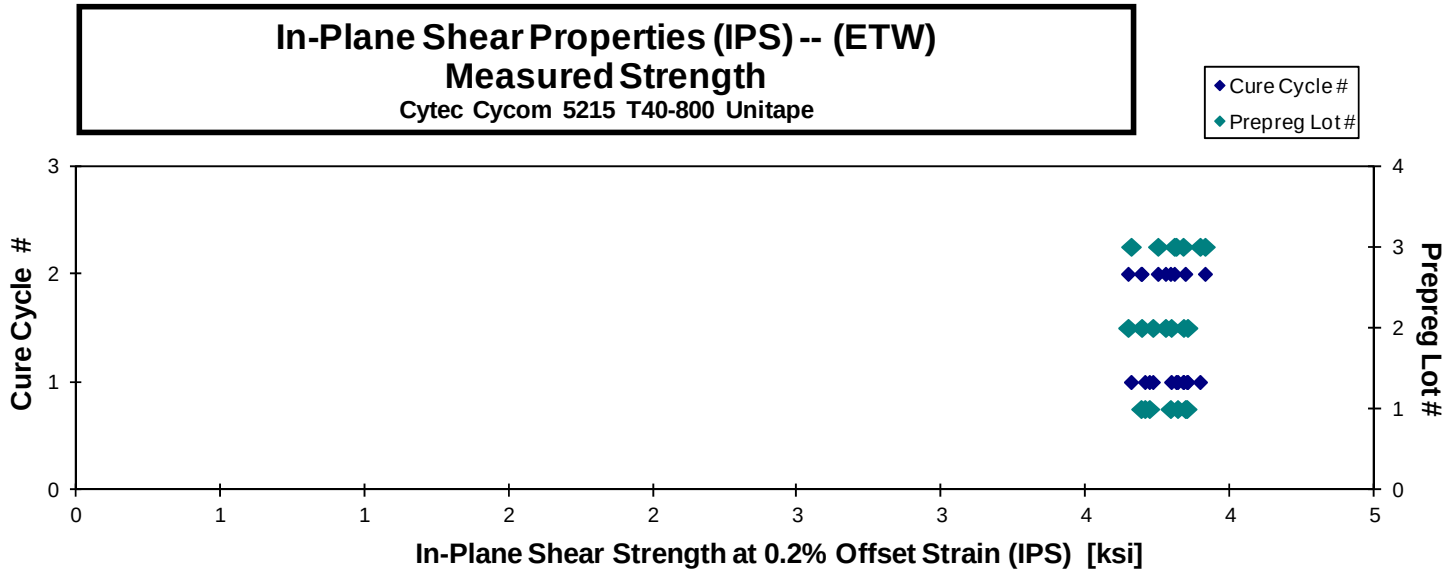

In-Plane Shear Properties (IPS) -- (RTD)
Measured Modulus
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
In-Plane Shear Modulus (IPS) [Msi]
0
1
2
3
4
0.00
0.10
0.20
0.30
0.40
0.50
0.60

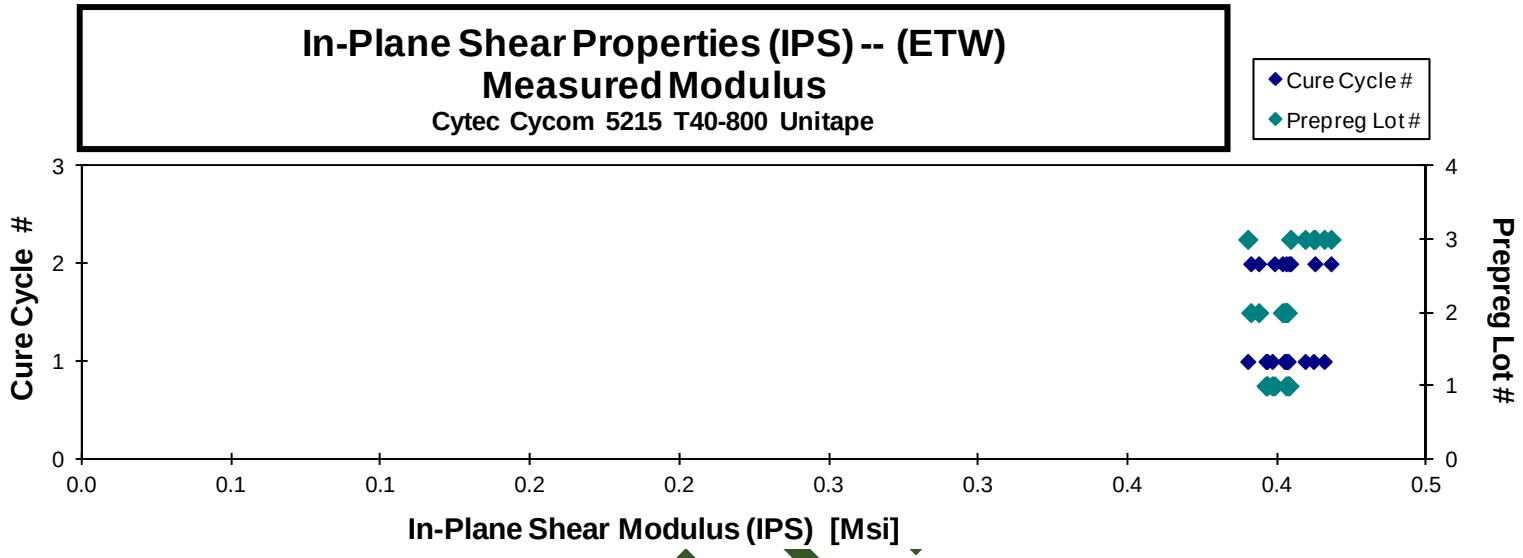
In-Plane Shear Properties (IPS) -- (ETW)
Strength & Modulus
Cytec Cycom 5215 T40-800 Unitape

Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength at 5% Strain [ksi]	0.2% Offset Strength [ksi]	Modulus [Msi]	Avg. Specimen Thickn. [in]	# Plies in Laminate	Avg. tply [in]
C0DNA11EM	A	C1	1	1	6.015	3.721	0.397	0.091	16	0.0057
C0DNA11GM	A	C1	1	1	6.220	3.851	0.404	0.092	16	0.0057
C0DNA11HM	A	C1	1	1	6.188	3.706	0.398	0.091	16	0.0057
C0DNA11IM	A	C1	1	1	5.880	3.819	0.396	0.092	16	0.0057
C0DNA215M	A	C2	1	2	6.165	3.794	0.399	0.088	16	0.0055
C0DNA219M	A	C2	1	2	6.187	3.846	0.404	0.090	16	0.0056
C0DNA21AM	A	C2	1	2	6.187	3.693	0.403	0.090	16	0.0056
C0DNB11EM	B	C1	2	1	6.251	3.840	0.403	0.092	16	0.0057
C0DNB11FM	B	C1	2	1	6.089	3.734	0.403	0.092	16	0.0058
C0DNB11GM	B	C1	2	1	6.231	3.854	0.402	0.093	16	0.0058
C0DNB11HM	B	C1	2	1	6.049	3.797	0.403	0.093	16	0.0058
C0DNB218M	B	C2	2	2	5.928	3.648	0.391	0.093	16	0.0058
C0DNB219M	B	C2	2	2	6.022	3.694	0.394	0.093	16	0.0058
C0DNB21AM	B	C2	2	2	6.143	3.777	0.402	0.093	16	0.0058
C0DNC11DM	C	C1	3	1	6.312	3.838	0.416	0.091	16	0.0057
C0DNC11EM	C	C1	3	1	6.372	3.897	0.412	0.091	16	0.0057
C0DNC11FM	C	C1	3	1	6.268	3.814	0.409	0.091	16	0.0057
C0DNC11GM	C	C1	3	1	6.037	3.658	0.390	0.092	16	0.0057
CODNC218M	C	C2	3	2	6.435	3.914	0.418	0.091	16	0.0057
CODNC219M	C	C2	3	2	6.298	3.808	0.413	0.091	16	0.0057
CODNC21AM	C	C2	3	2	6.276	3.751	0.404	0.091	16	0.0057

Average	**6.169**	**3.783**	**0.403**	**Average**	**0.0057**
Standard Dev.	**0.143**	**0.076**	**0.007**	**Standard Dev.**	
Coeff. of Var. [%]	**2.322**	**2.017**	**1.859**	**Coeff. of Var. [%]**	
Min.	**5.880**	**3.648**	**0.390**	**Min.**	**0.0055**
Max.	**6.435**	**3.914**	**0.418**	**Max.**	**0.0058**
Number of Spec.	**21**	**21**	**21**	**Number of Spec.**	**21**


In-Plane Shear Properties (IPS) -- (ETW)
Measured Strength
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
In-Plane Shear Strength at 5% Strain (IPS) [ksi]


In-Plane Shear Properties (IPS) -- (ETW)
Measured Strength
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
In-Plane Shear Strength at 0.2% Offset Strain (IPS) [ksi]


In-Plane Shear Properties (IPS) -- (ETW)
Measured Modulus
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
0.1
0.1
0.2
0.2
0.3
0.3
0.4
0.4
0.5
In-Plane Shear Modulus (IPS) [Msi]

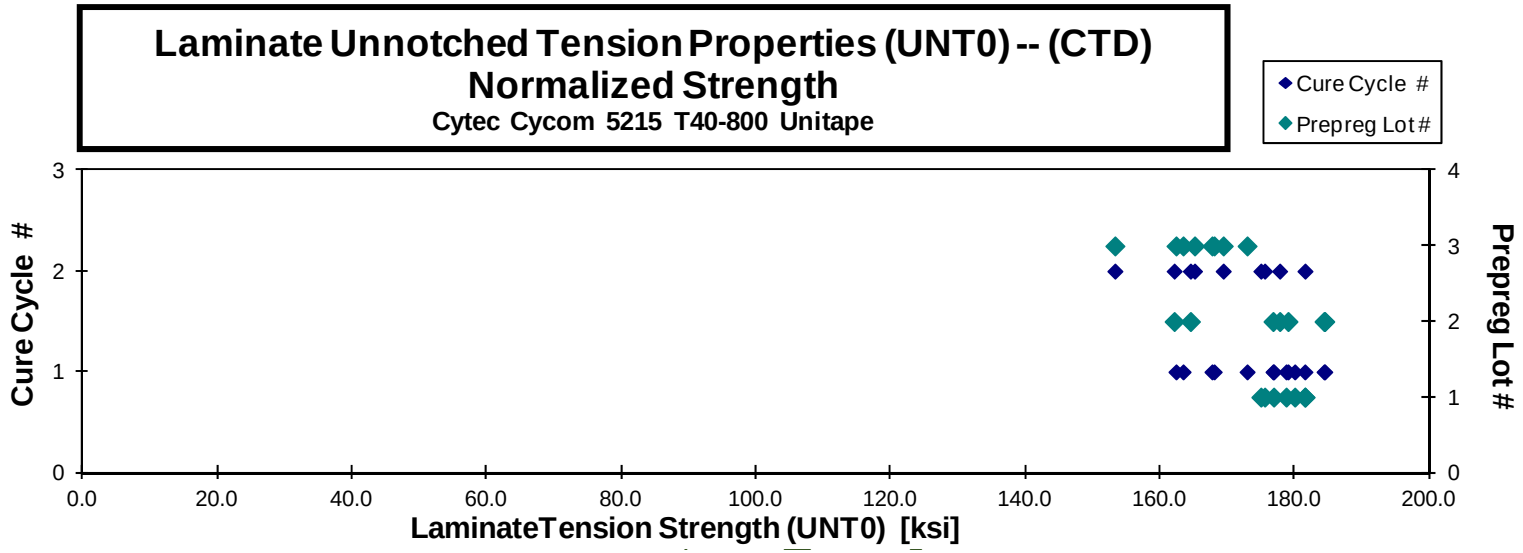
4.6 "50/0/50" Unnotched Tension 0 Properties (UNT0)

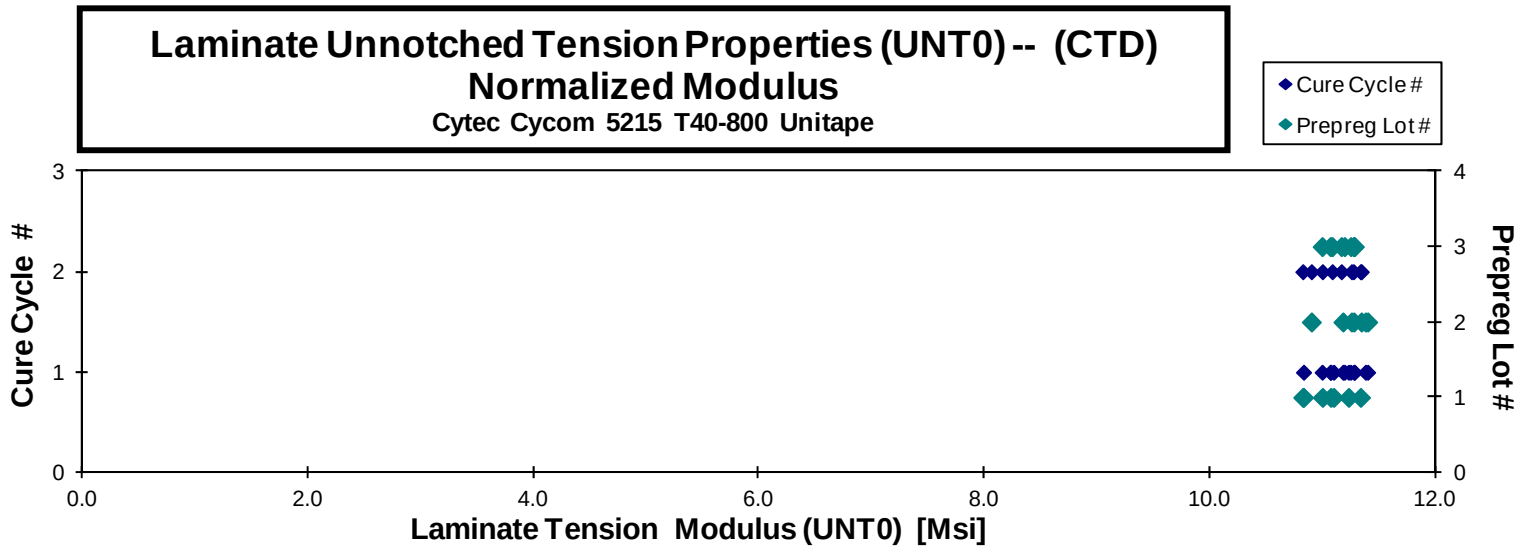
Laminate Unnotched Tension Properties (UNT0) -- (CTD)
Strength & Modulus
Cytec Cycom 5215 T40-800 Unitape

normalizing t_{ply} [in]
0.0057

Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Modulus [Msi]	Avg. Specimen Thickn. [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
C0DPA116B	A	C1	1	1	180.117	11.158	0.068	12	LWT/LWB	0.0057	178.757	11.074
C0DPA117B	A	C1	1	1	183.509	11.354	0.068	12	LWT/LWB	0.0056	181.541	11.232
C0DPA118B	A	C1	1	1	181.410	11.382	0.067	12	LWT/LWB	0.0056	176.901	11.099
C0DPA119B	A	C1	1	1	181.262	10.907	0.068	12	LWT/LWB	0.0057	180.025	10.833
C0DPA215B	A	C2	1	2	175.605	10.863	0.068	12	LWT/LGM	0.0057	175.006	10.826
C0DPA216B	A	C2	1	2	171.387	10.738	0.070	12	LGM	0.0058	175.563	11.000
C0DPA217B	A	C2	1	2	178.642	11.156	0.070	12	LWT/LWB	0.0058	181.559	11.338
C0DPB116B	B	C1	2	1	176.209	11.343	0.069	12	LWT/LWB/DGM	0.0057	176.810	11.382
C0DPB117B	B	C1	2	1	185.211	11.446	0.068	12	LGM/LAB	0.0057	184.489	11.402
C0DPB118B	B	C1	2	1	178.507	11.150	0.069	12	LWT/LAB/DGM	0.0057	179.029	11.182
C0DPB119B	B	C1	2	1	187.774	11.485	0.067	12	LAT/LWB/DGM	0.0056	184.388	11.278
C0DPB215B	B	C2	2	2	164.265	10.884	0.069	12	LWT/LWB	0.0057	164.545	10.902
C0DPB216B	B	C2	2	2	176.460	11.173	0.069	12	LWB/LWT	0.0057	177.793	11.258
C0DPB217B	B	C2	2	2	162.286	11.356	0.068	12	LWT/LAB	0.0057	162.128	11.345
C0DPC116B	C	C1	3	1	171.899	11.473	0.067	12	LGM / DGM	0.0056	167.753	11.196
C0DPC117B	C	C1	3	1	167.251	11.326	0.066	12	LWT / LAB	0.0055	162.401	10.998
C0DPC118B	C	C1	3	1	172.267	11.347	0.067	12	LGM / DGM	0.0056	168.069	11.070
C0DPC119B	C	C1	3	1	174.921	11.378	0.068	12	LWB / LAT	0.0056	172.960	11.251
C0DPC11AB	C	C1	3	1	164.017	11.323	0.068	12	LAB / LAT	0.0057	163.457	11.285
C0DPC215B	C	C2	3	2	166.533	11.180	0.068	12	LAT/LWB	0.0057	165.153	11.087
C0DPC216B	C	C2	3	2	155.639	11.446	0.067	12	LAT	0.0056	153.325	11.276
C0DPC217B	C	C2	3	2	172.270	11.356	0.067	12	LGM	0.0056	169.416	11.168

Average	**173.974**	**11.237**	**$Average_{norm}$**	**0.0057**	**172.776**	**11.158**
Standard Dev.	**8.149**	**0.216**	**Standard Dev.$_{norm}$**		**8.439**	**0.169**
Coeff. of Var. [%]	**4.684**	**1.919**	**Coeff. of Var. [%]$_{norm}$**		**4.884**	**1.519**
Min.	**155.639**	**10.738**	**Min.**	**0.0055**	**153.325**	**10.826**
Max.	**187.774**	**11.485**	**Max.**	**0.0058**	**184.489**	**11.402**
Number of Spec.	**22**	**22**	**Number of Spec.**		**22**	**22**


Laminate Unnotched Tension Properties (UNT0) -- (CTD)
Normalized Strength
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
20.0
40.0
60.0
80.0
100.0
120.0
140.0
160.0
180.0
200.0
LaminateTension Strength (UNT0) [ksi]

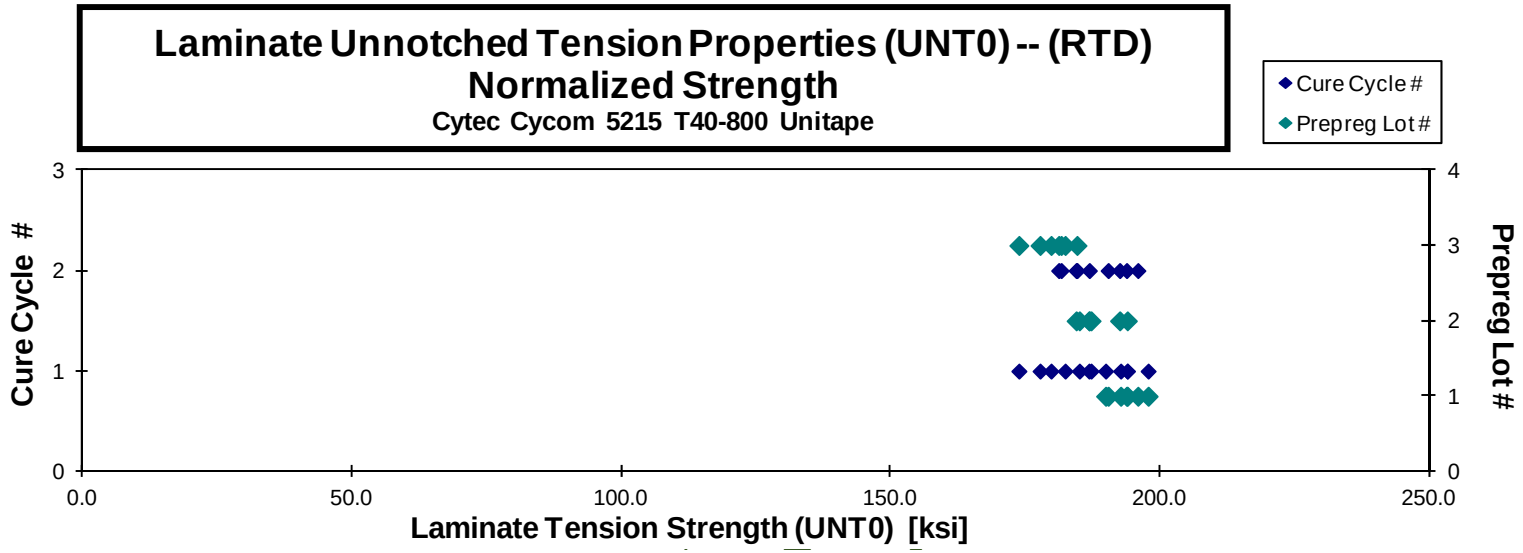

Laminate Unnotched Tension Properties (UNT0) -- (CTD)
Normalized Modulus
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
2.0
4.0
6.0
8.0
10.0
12.0
Laminate Tension Modulus (UNT0) [Msi]

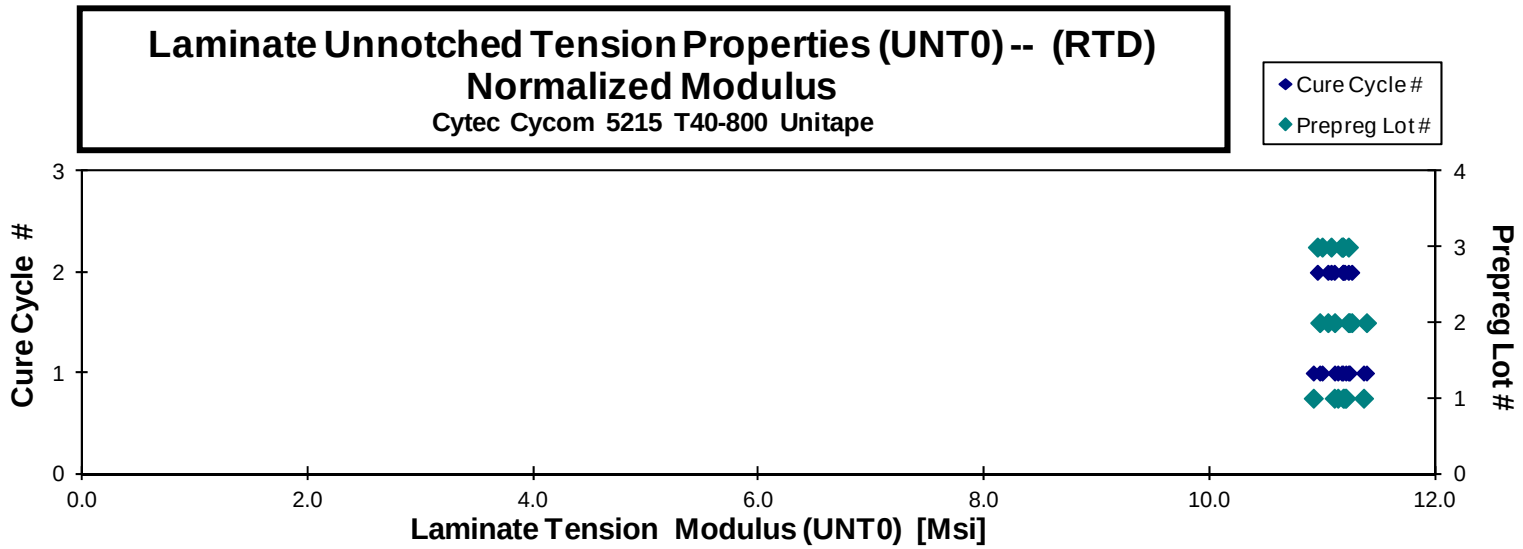
Laminate Unnotched Tension Properties (UNT0) -- (RTD)
Strength & Modulus
Cytec Cycom 5215 T40-800 Unitape

normalizing t_{ply} [in]: 0.0057

Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Modulus [Msi]	Avg. Specimen Thickn. [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
C0DPA111A	A	C1	1	1	191.186	10.992	0.068	12	LAB	0.0057	189.928	10.919
C0DPA112A	A	C1	1	1	192.739	11.137	0.069	12	LWT / LGM / LAB	0.0057	193.960	11.207
C0DPA113A	A	C1	1	1	191.238	11.050	0.069	12	LAT / LWB	0.0057	192.729	11.136
C0DPA114A	A	C1	1	1	197.920	11.371	0.068	12	LGM	0.0057	197.824	11.365
C0DPA211A	A	C2	1	2	193.815	11.183	0.068	12	LAT	0.0057	193.815	11.183
C0DPA212A	A	C2	1	2	196.397	11.223	0.068	12	LGM	0.0057	195.918	11.196
C0DPA213A	A	C2	1	2	190.134	11.089	0.069	12	LAT	0.0057	190.412	11.105
C0DPB111A	B	C1	2	1	197.031	11.572	0.067	12	LAB	0.0056	193.959	11.391
C0DPB112A	B	C1	2	1	189.839	11.422	0.067	12	LAB	0.0056	186.832	11.241
C0DPB113A	B	C1	2	1	185.556	11.138	0.068	12	LAT	0.0057	185.059	11.109
C0DPB114A	B	C1	2	1	187.465	10.990	0.068	12	LAB	0.0057	187.237	10.977
C0DPB211A	B	C2	2	2	195.781	11.450	0.067	12	LAB	0.0056	192.537	11.260
C0DPB212A	B	C2	2	2	189.350	11.377	0.068	12	LAT / LAB	0.0056	186.905	11.230
C0DPB213A	B	C2	2	2	186.419	11.165	0.068	12	LWB	0.0056	184.465	11.048
C0DPC111A	C	C1	3	1	175.541	11.291	0.068	12	LWB	0.0056	173.830	11.181
C0DPC112A	C	C1	3	1	184.248	11.344	0.068	12	LAT	0.0056	182.408	11.231
C0DPC113A	C	C1	3	1	182.733	11.353	0.067	12	LAT	0.0056	179.795	11.170
C0DPC114A	C	C1	3	1	181.342	11.219	0.067	12	LAB	0.0056	177.763	10.997
C0DPC211A	C	C2	3	2	183.341	11.282	0.068	12	LWT	0.0056	181.688	11.181
C0DPC212A	C	C2	3	2	186.113	11.044	0.068	12	LAT / LAB	0.0057	184.616	10.955
C0DPC213A	C	C2	3	2	182.197	11.136	0.068	12	LGM	0.0057	181.221	11.077

Average	188.590	11.230	$Average_{norm}$	0.0057	187.281	11.150
Standard Dev.	5.914	0.160	$Standard\ Dev._{norm}$		6.447	0.125
Coeff. of Var. [%]	3.136	1.424	$Coeff.\ of\ Var.\ [\%]_{norm}$		3.443	1.118
Min.	175.541	10.990	Min.	0.0056	173.830	10.919
Max.	197.920	11.572	Max.	0.0057	197.824	11.391
Number of Spec.	21	21	Number of Spec.		21	21


Laminate Unnotched Tension Properties (UNT0) -- (RTD)
Normalized Strength
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
50.0
100.0
150.0
200.0
250.0
Laminate Tension Strength (UNT0) [ksi]


Laminate Unnotched Tension Properties (UNT0) -- (RTD)
Normalized Modulus
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
2.0
4.0
6.0
8.0
10.0
12.0
Laminate Tension Modulus (UNT0) [Msi]

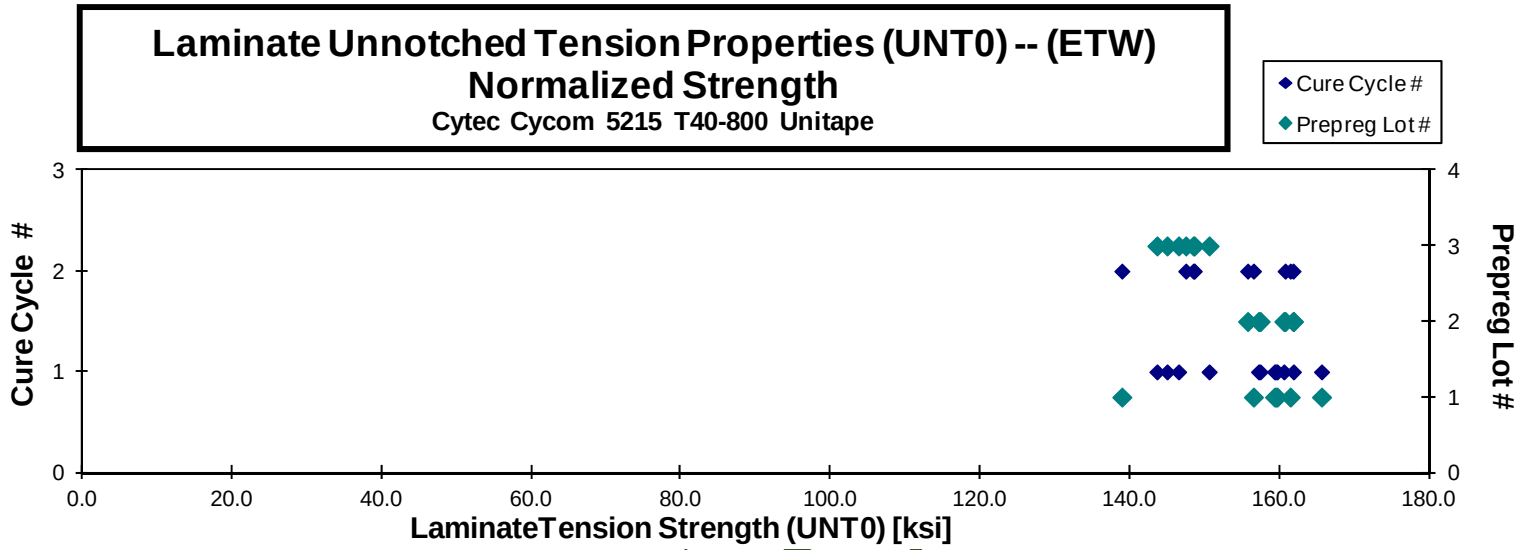
Laminate Unnotched Tension Properties (UNT0) -- (ETW)
Strength & Modulus
Cytec Cycom 5215 T40-800 Unitape

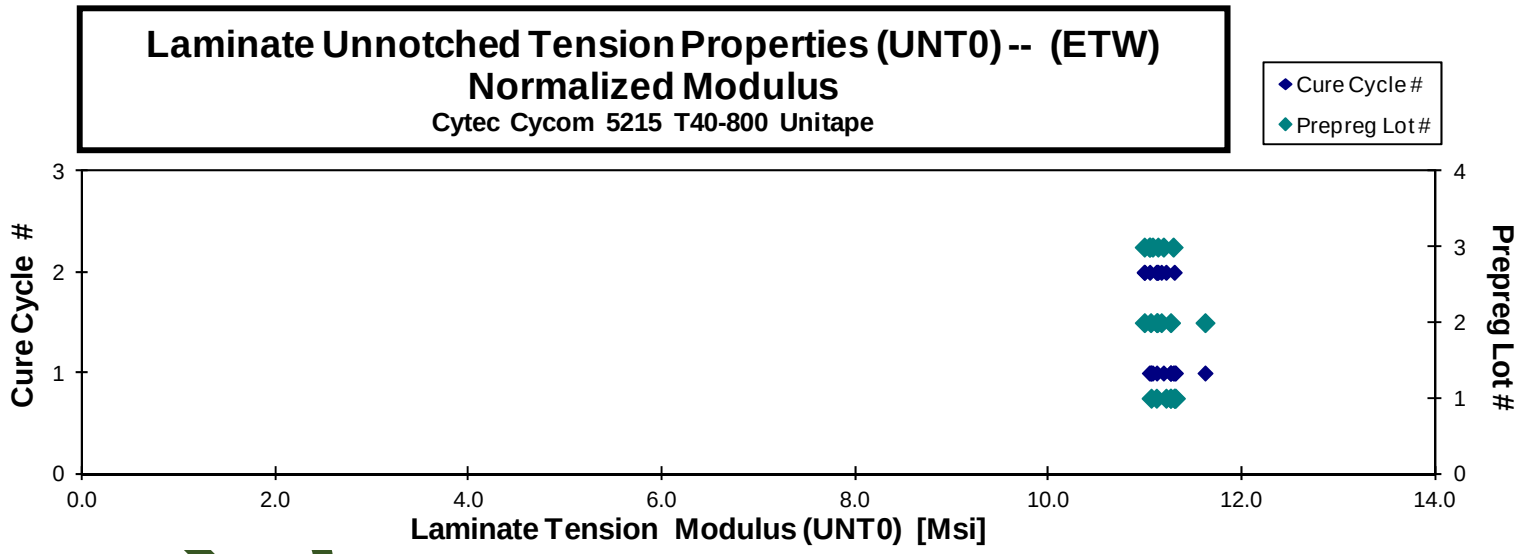
normalizing t_{ply} [in]: 0.0057

Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Modulus [Msi]	Avg. Specimen Thickn. [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
C0DPA11BM	A	C1	1	1		11.167	0.068	12	LWT/LIB	0.0056		11.060
C0DPA11CM	A	C1	1	1	167.947	11.418	0.067	12	LWT/LAB	0.0056	165.614	11.259
C0DPA11DM	A	C1	1	1	162.742	11.503	0.067	12	LWT/LAB	0.0056	159.332	11.262
C0DPA11EM	A	C1	1	1	163.786	11.615	0.067	12	LWT/LAB	0.0056	159.516	11.312
C0DPA11FM	A	C1	1	1	164.494	11.642	0.066	12	LWT/LAB	0.0055	159.684	11.301
C0DPA219M	A	C2	1	2	160.033	11.201	0.069	12	LWT/LAB	0.0058	161.436	11.300
C0DPA21AM	A	C2	1	2	156.205	11.192	0.069	12	LWT/LAB	0.0057	156.510	11.214
C0DPA21BM	A	C2	1	2	138.822	11.107	0.068	12	LGM/LWT/SGM	0.0057	138.923	11.115
C0DPB11BM	B	C1	2	1	161.569	11.185	0.068	12	SGM/LAT/LWB	0.0057	160.585	11.117
C0DPB11CM	B	C1	2	1	157.386	11.069	0.068	12	SGM/LAT/LWB	0.0057	157.194	11.056
C0DPB11DM	B	C1	2	1	156.386	11.188	0.069	12	SGM/LAT/LWB	0.0057	157.415	11.262
C0DPB11EM	B	C1	2	1	159.754	11.468	0.069	12	SGM/LAT/LWB	0.0058	161.856	11.619
C0DPB219M	B	C2	2	2	156.918	11.250	0.068	12	SGM/LAT/LWB	0.0057	155.733	11.165
C0DPB21AM	B	C2	2	2	162.008	11.136	0.068	12	SGM/LAT/LWT	0.0057	161.811	11.122
C0DPB21BM	B	C2	2	2	158.690	10.850	0.069	12	SGM/LAT/LWB	0.0058	160.740	10.990
C0DPC11BM	C	C1	3	1	151.996	11.394	0.068	12	SGM/LWB/LAT	0.0056	150.589	11.289
C0DPC11CM	C	C1	3	1	146.399	11.184	0.068	12	SGM//LWT/LAB	0.0056	144.972	11.075
C0DPC11DM	C	C1	3	1	146.935	11.074	0.068	12	LWT/LAB	0.0057	146.505	11.042
C0DPC11EM	C	C1	3	1	145.775	11.356	0.067	12	DGM/SGM/LWB/LAT	0.0056	143.609	11.188
C0DPC219M	C	C2	3	2	150.843	11.298	0.067	12	SGM/LWT/LAB	0.0056	148.601	11.130
C0DPC21AM	C	C2	3	2	150.703	11.213	0.067	12	SGM/LWB/LAT	0.0056	148.463	11.046
C0DPC21BM	C	C2	3	2	149.212	11.120	0.068	12	SGM/LWB/LAT	0.0056	147.467	10.990

	Strength [ksi]	Modulus [Msi]
Average	155.648	11.256
Standard Dev.	7.472	0.190
Coeff. of Var. [%]	4.801	1.691
Min.	138.822	10.850
Max.	167.947	11.642
Number of Spec.	21	22

	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
$Average_{norm}$	0.0057	154.598	11.178
$Standard\ Dev._{norm}$		7.428	0.144
$Coeff.\ of\ Var.\ [\%]_{norm}$		4.805	1.289
Min.	0.0055	138.923	10.990
Max.	0.0058	165.614	11.619
Number of Spec.		21	22


Laminate Unnotched Tension Properties (UNT0) -- (ETW)
Normalized Strength
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
20.0
40.0
60.0
80.0
100.0
120.0
140.0
160.0
180.0
LaminateTension Strength (UNT0) [ksi]


Laminate Unnotched Tension Properties (UNT0) -- (ETW)
Normalized Modulus
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
2.0
4.0
6.0
8.0
10.0
12.0
14.0
Laminate Tension Modulus (UNT0) [Msi]

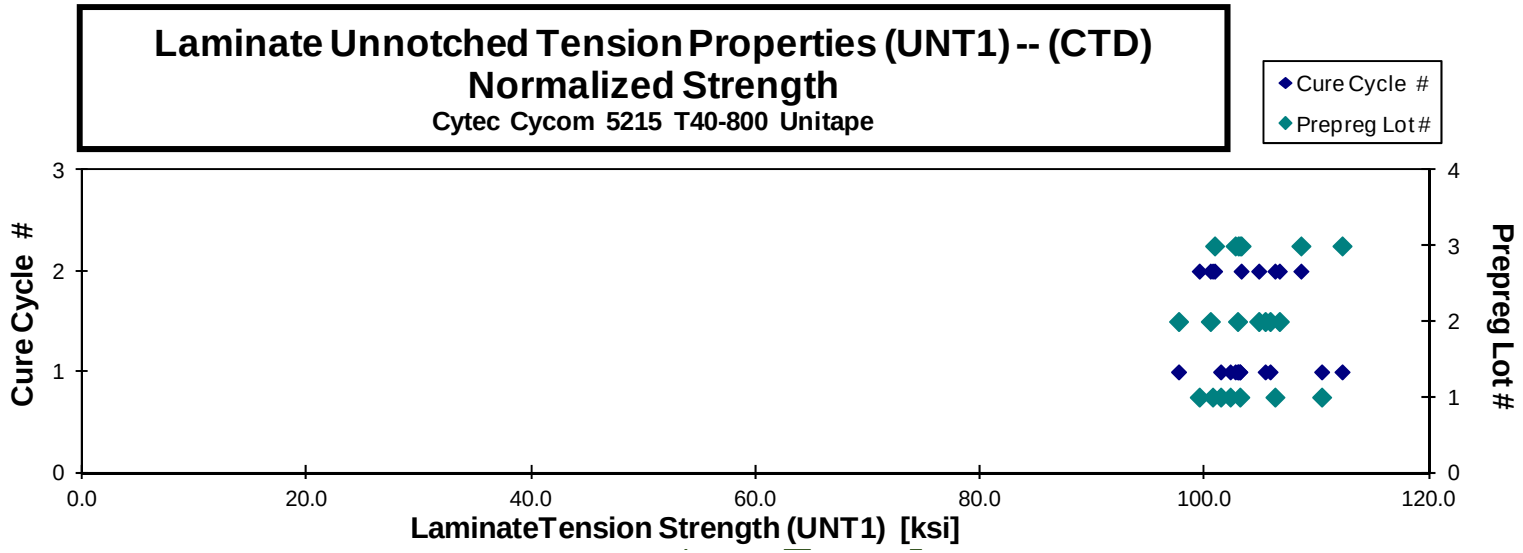
4.7 "25/50/25" Unnotched Tension 1 Properties (UNT1)

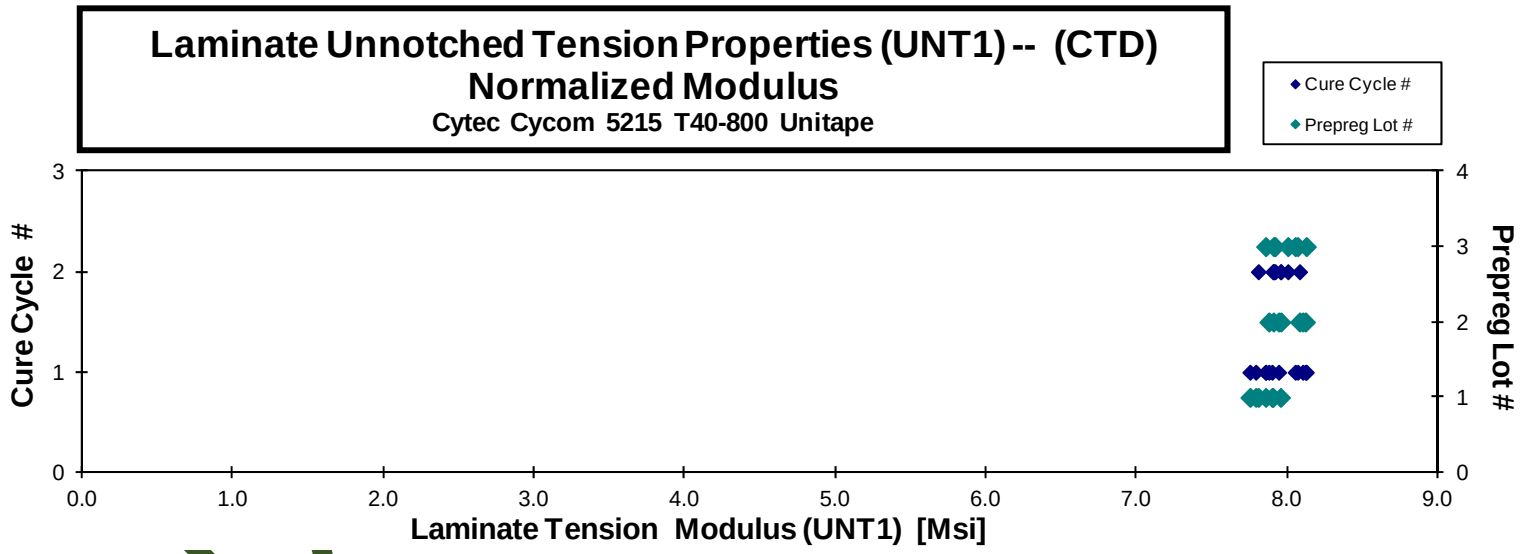
Laminate Unnotched Tension Properties (UNT1) -- (CTD)
Strength & Modulus
Cytec Cycom 5215 T40-800 Unitape

normalizing t_{ply} [in]: 0.0057

Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Modulus [Msi]	Avg. Specimen Thickn. [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
C0DAA116B	A	C1	1	1	100.136	7.758	0.092	16	LGM	0.0058	101.417	7.857
C0DAA117B	A	C1	1	1	101.470	7.731	0.092	16	LGM	0.0057	102.267	7.791
C0DAA118B	A	C1	1	1	102.046	7.672	0.092	16	LGM/LWB	0.0058	103.128	7.753
C0DAA119B	A	C1	1	1	109.045	7.801	0.092	16	LGM/LWB	0.0058	110.420	7.900
C0DAA215B	A	C2	1	2	101.404	8.055	0.090	16	LGM	0.0056	99.514	7.905
C0DAA216B	A	C2	1	2	102.669	8.112	0.089	16	LWB/LWT	0.0056	100.699	7.956
C0DAA217B	A	C2	1	2	110.769	8.141	0.087	16	LGM/LWB	0.0055	106.255	7.809
C0DAB116B	B	C1	2	1	104.340	8.023	0.092	16	LWT	0.0058	105.388	8.104
C0DAB117B	B	C1	2	1	104.448	8.016	0.092	16	LWT/LWB	0.0058	105.822	8.122
C0DAB118B	B	C1	2	1	96.957	7.886	0.092	16	LGM	0.0057	97.666	7.944
C0DAB119B	B	C1	2	1	103.891	7.953	0.090	16	LGM	0.0056	102.923	7.879
C0DAB215B	B	C2	2	2	104.432	8.053	0.092	16	LGM	0.0057	104.813	8.083
C0DAB216B	B	C2	2	2	106.201	7.876	0.092	16	LGM/LWT	0.0057	106.647	7.909
C0DAB217B	B	C2	2	2	99.429	7.874	0.092	16	LGM	0.0058	100.501	7.959
C0DAC116B	C	C1	3	1	103.527	8.161	0.091	16	LWB	0.0057	103.111	8.128
C0DAC117B	C	C1	3	1	112.030	8.039	0.091	16	LGM	0.0057	112.235	8.054
C0DAC118B	C	C1	3	1	102.188	8.029	0.092	16	LGM	0.0057	102.711	8.070
C0DAC119B	C	C1	3	1	103.261	7.879	0.091	16	LGM	0.0057	102.978	7.857
C0DAC215B	C	C2	3	2	104.193	7.993	0.090	16	LWT/LWB	0.0056	103.241	7.920
C0DAC216B	C	C2	3	2	109.773	7.998	0.090	16	LGM	0.0056	108.570	7.910
C0DAC217B	C	C2	3	2	103.550	8.217	0.089	16	LGM	0.0056	100.882	8.005

Average	**104.084**	**7.965**	**$Average_{norm}$**	**0.0057**	**103.866**	**7.948**
Standard Dev.	**3.760**	**0.146**	**$Standard\ Dev._{norm}$**		**3.580**	**0.111**
Coeff. of Var. [%]	**3.613**	**1.836**	**$Coeff.\ of\ Var.\ [\%]_{norm}$**		**3.447**	**1.394**
Min.	**96.957**	**7.672**	**Min.**	**0.0055**	**97.666**	**7.753**
Max.	**112.030**	**8.217**	**Max.**	**0.0058**	**112.235**	**8.128**
Number of Spec.	**21**	**21**	**Number of Spec.**		**21**	**21**


Laminate Unnotched Tension Properties (UNT1) -- (CTD)
Normalized Strength
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
20.0
40.0
60.0
80.0
100.0
120.0
LaminateTension Strength (UNT1) [ksi]


Laminate Unnotched Tension Properties (UNT1) -- (CTD)
Normalized Modulus
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
Laminate Tension Modulus (UNT1) [Msi]

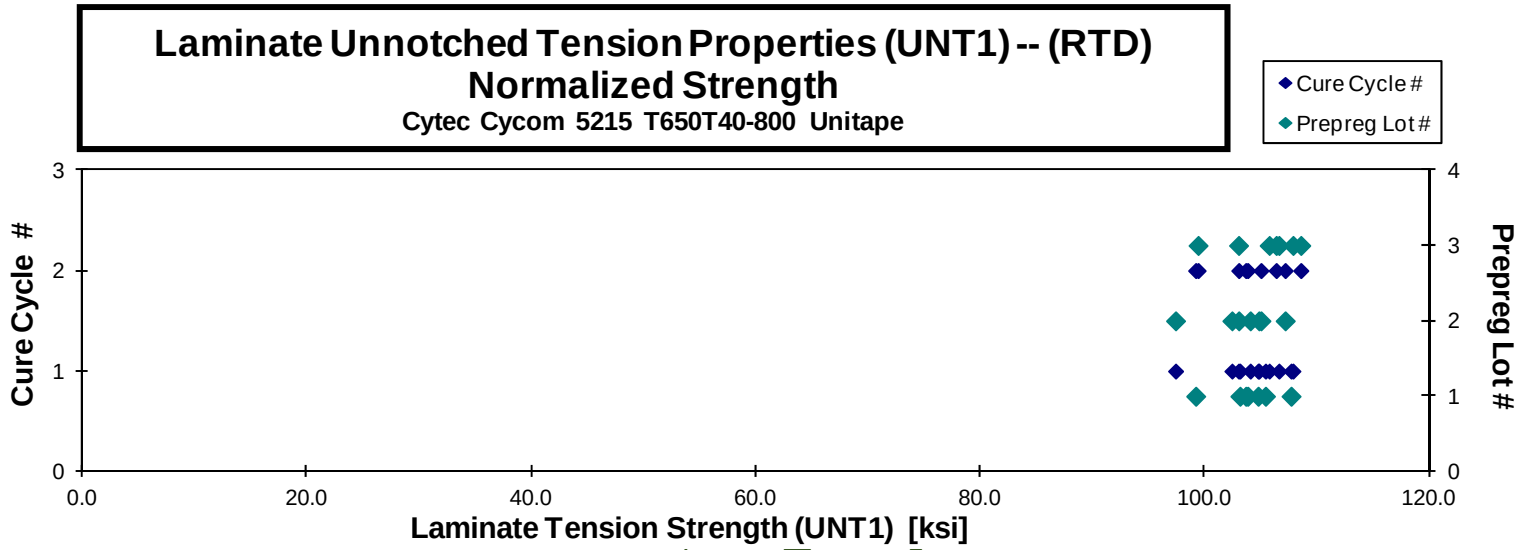
Laminate Unnotched Tension Properties (UNT1) -- (RTD)
Strength & Modulus
Cytec Cycom 5215 T40-800 Unitape

normalizing t_{ply} [in]: 0.0057

Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Modulus [Msi]	Avg. Specimen Thickn. [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
C0DAA111A	A	C1	1	1	107.241	7.754	0.092	16	DGM	0.0057	107.691	7.786
C0DAA112A	A	C1	1	1	103.399	7.597	0.092	16	DGM	0.0058	104.759	7.697
C0DAA113A	A	C1	1	1	104.306	7.681	0.092	16	DGM	0.0058	105.411	7.762
C0DAA114A	A	C1	1	1	102.334	7.653	0.092	16	DGM	0.0057	103.138	7.713
C0DAA211A	A	C2	1	2	100.612	7.500	0.090	16	DGM	0.0056	99.197	7.395
C0DAA212A	A	C2	1	2	104.694	7.791	0.090	16	DGM	0.0057	103.833	7.727
C0DAA213A	A	C2	1	2	105.215	7.811	0.090	16	DGM	0.0056	103.658	7.695
C0DAB111A	B	C1	2	1	102.201	7.159	0.091	16	DWB / DWT	0.0057	102.425	7.174
C0DAB112A	B	C1	2	1	96.362	7.531	0.092	16	DGM	0.0058	97.401	7.613
C0DAB113A	B	C1	2	1	103.596	7.682	0.092	16	DGM / DWT	0.0058	104.827	7.774
C0DAB114A	B	C1	2	1	102.663	7.682	0.092	16	DGM	0.0058	104.051	7.785
C0DAB211A	B	C2	2	2	106.451	7.850	0.092	16	DGM	0.0057	107.171	7.903
C0DAB212A	B	C2	2	2	103.815	7.908	0.092	16	DGM/AWT	0.0058	105.010	7.999
C0DAB213A	B	C2	2	2	102.343	7.833	0.092	16	DGM	0.0057	103.035	7.886
C0DAC111A	C	C1	3	1	106.604	7.659	0.090	16	DGM	0.0057	105.747	7.597
C0DAC112A	C	C1	3	1	104.059	7.562	0.090	16	DGM	0.0056	103.013	7.486
C0DAC113A	C	C1	3	1	109.117	7.519	0.090	16	DGM	0.0056	107.861	7.432
C0DAC114A	C	C1	3	1	107.494	7.791	0.090	16	DGM	0.0057	106.610	7.726
C0DAC211A	C	C2	3	2	110.478	7.840	0.090	16	DGM	0.0056	108.560	7.704
C0DAC212A	C	C2	3	2	100.826	8.060	0.090	16	DGM	0.0056	99.407	7.946
C0DAC213A	C	C2	3	2	106.582	7.722	0.091	16	DGM	0.0057	106.368	7.707

Average	**104.304**	**7.694**
Standard Dev.	**3.173**	**0.186**
Coeff. of Var. [%]	**3.043**	**2.419**
Min.	**96.362**	**7.159**
Max.	**110.478**	**8.060**
Number of Spec.	**21**	**21**

$Average_{norm}$	**0.0057**	**104.246**	**7.691**
Standard $Dev._{norm}$		**2.923**	**0.194**
Coeff. of Var. $[\%]_{norm}$		**2.804**	**2.526**
Min.	**0.0056**	**97.401**	**7.174**
Max.	**0.0058**	**108.560**	**7.999**
Number of Spec.		**21**	**21**


Laminate Unnotched Tension Properties (UNT1) -- (RTD)
Normalized Strength
Cytec Cycom 5215 T650T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
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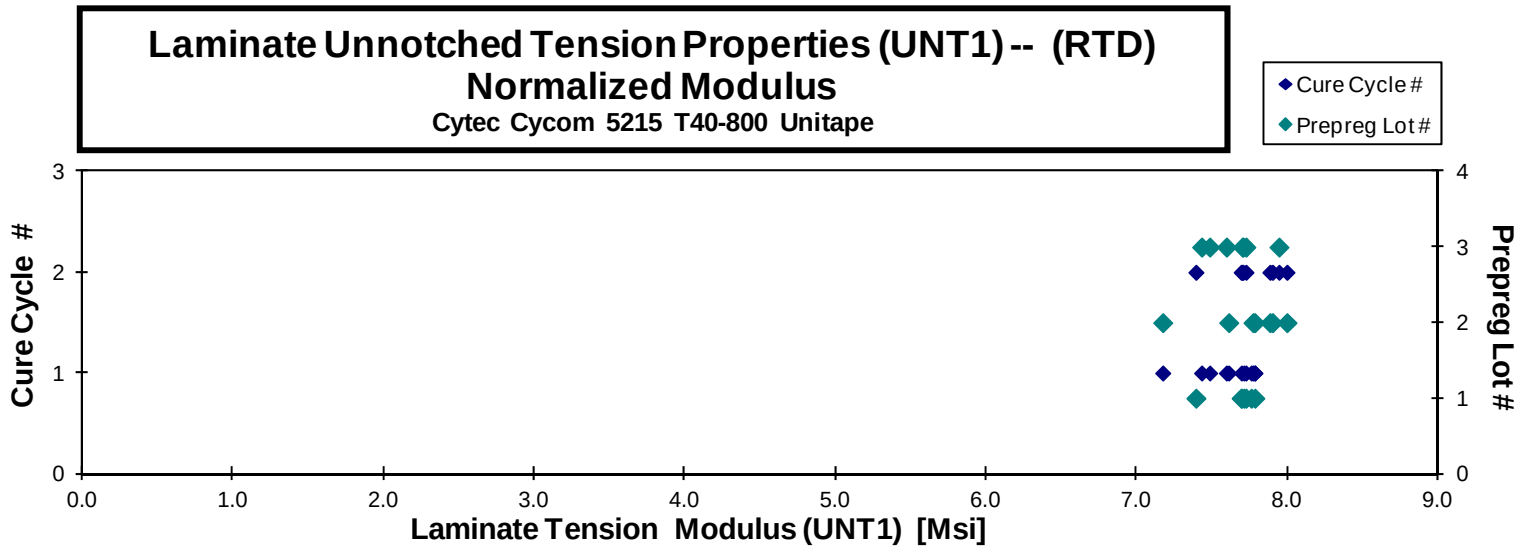
0.0
20.0
40.0
60.0
80.0
100.0
120.0
Laminate Tension Strength (UNT1) [ksi]


Laminate Unnotched Tension Properties (UNT1) -- (RTD)
Normalized Modulus
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
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9.0
Laminate Tension Modulus (UNT1) [Msi]

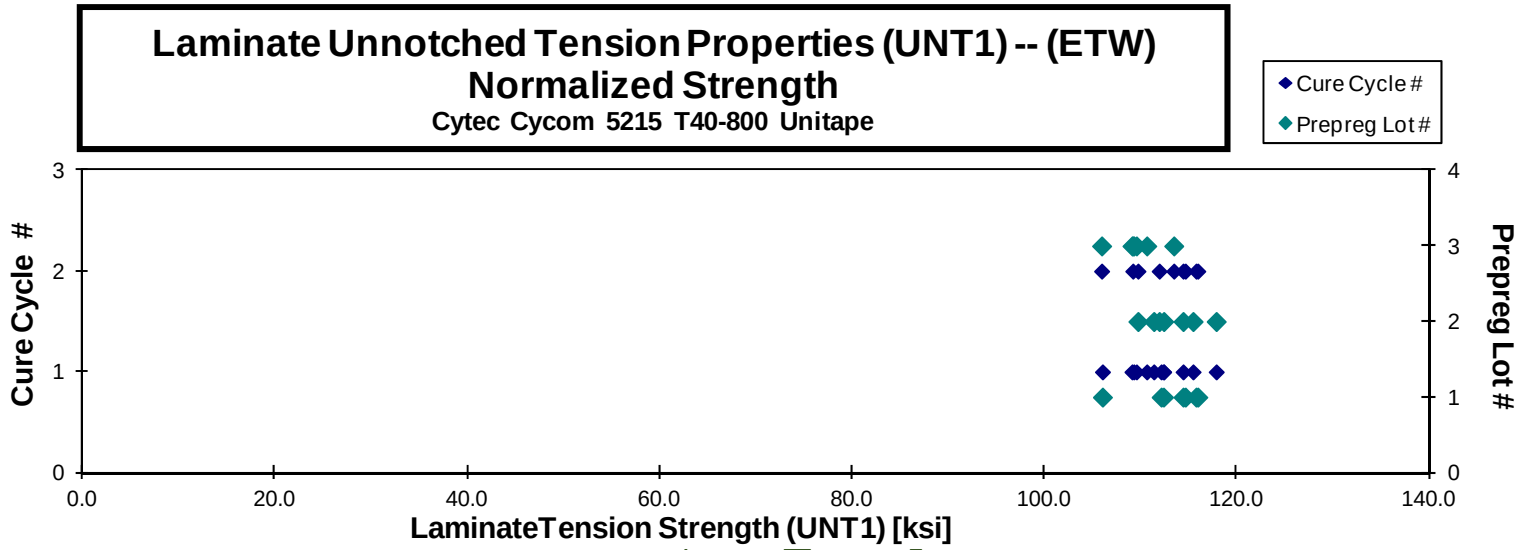
Laminate Unnotched Tension Properties (UNT1) -- (ETW)
Strength & Modulus
Cytec Cycom 5215 T40-800 Unitape

normalizing t_{ply} [in]: 0.0057

Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Modulus [Msi]	Avg. Specimen Thickn. [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
C0DAA11BM	A	C1	1	1	109.282	7.630	0.094	16	MGM	0.0058	112.138	7.830
C0DAA11CM	A	C1	1	1	110.417	7.496	0.093	16	MGM	0.0058	112.375	7.629
C0DAA11DM	A	C1	1	1	112.426	7.307	0.093	16	MGM	0.0058	114.419	7.437
C0DAA11EM	A	C1	1	1	104.884	7.456	0.092	16	MGM	0.0058	106.034	7.538
C0DAA219M	A	C2	1	2	119.772	7.900	0.088	16	MGM	0.0055	115.767	7.636
C0DAA21AM	A	C2	1	2	119.509	7.469	0.088	16	MGM	0.0055	115.949	7.247
C0DAA21BM	A	C2	1	2	117.662	7.550	0.089	16	MGM	0.0056	114.652	7.357
C0DAB11BM	B	C1	2	1	113.829	7.360	0.093	16	MGM	0.0058	115.451	7.465
C0DAB11CM	B	C1	2	1	109.384	7.534	0.093	16	MGM	0.0058	111.363	7.670
C0DAB11DM	B	C1	2	1	111.017	7.402	0.092	16	MGM	0.0058	112.397	7.493
C0DAB11EM	B	C1	2	1	116.016	7.809	0.093	16	MGM	0.0058	117.861	7.933
C0DAB219M	B	C2	2	2	110.731	7.419	0.094	16	MGM	0.0059	114.414	7.665
C0DAB21AM	B	C2	2	2	108.063	7.498	0.093	16	MGM	0.0058	109.722	7.614
C0DAB21BM	B	C2	2	2	109.356	7.503	0.093	16	DGM	0.0058	111.934	7.680
C0DAC11BM	C	C1	3	1	110.639	7.696	0.091	16	MGM	0.0057	110.639	7.696
C0DAC11CM	C	C1	3	1	109.826	7.332	0.091	16	MGM	0.0057	109.565	7.314
C0DAC11DM	C	C1	3	1	109.406	7.762	0.091	16	MGM	0.0057	109.106	7.741
C0DAC11EM	C	C1	3	1	108.961	7.867	0.091	16	DGM	0.0057	109.299	7.891
C0DAC219M	C	C2	3	2	113.505	7.846	0.088	16	DGM	0.0055	109.190	7.547
C0DAC21AM	C	C2	3	2	115.947	7.782	0.089	16	MGM	0.0056	113.447	7.614
C0DAC21BM	C	C2	3	2	107.758	7.711	0.090	16	MGM	0.0056	105.947	7.582

	Strength [ksi]	Modulus [Msi]
Average	111.828	7.587
Standard Dev.	3.992	0.188
Coeff. of Var. [%]	3.570	2.478
Min.	104.884	7.307
Max.	119.772	7.900
Number of Spec.	21	21

	t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
$Average_{norm}$	0.0057	111.984	7.599
Standard $Dev._{norm}$		3.212	0.177
Coeff. of Var. $[\%]_{norm}$		2.868	2.326
Min.	0.0055	105.947	7.247
Max.	0.0059	117.861	7.933
Number of Spec.		21	21


Laminate Unnotched Tension Properties (UNT1) -- (ETW)
Normalized Strength
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
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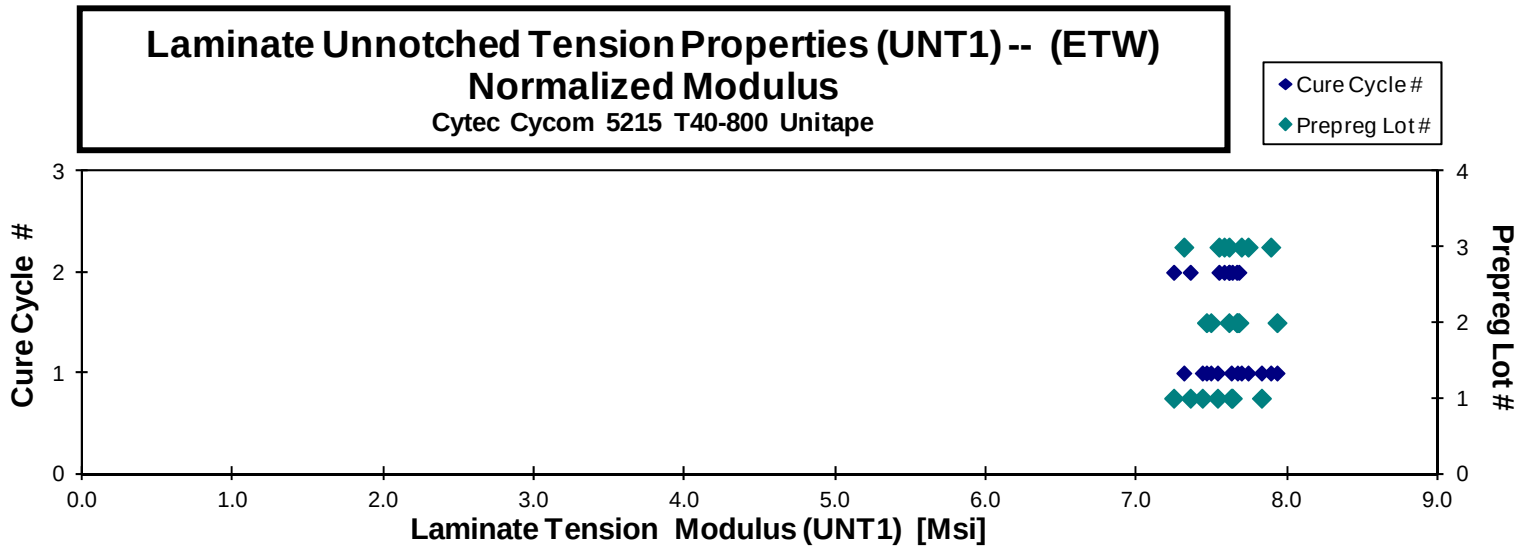
0.0
20.0
40.0
60.0
80.0
100.0
120.0
140.0
LaminateTension Strength (UNT1) [ksi]


Laminate Unnotched Tension Properties (UNT1) -- (ETW)
Normalized Modulus
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
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6.0
7.0
8.0
9.0
Laminate Tension Modulus (UNT1) [Msi]

4.8 "10/80/10" Unnotched Tension 2 Properties (UNT2)

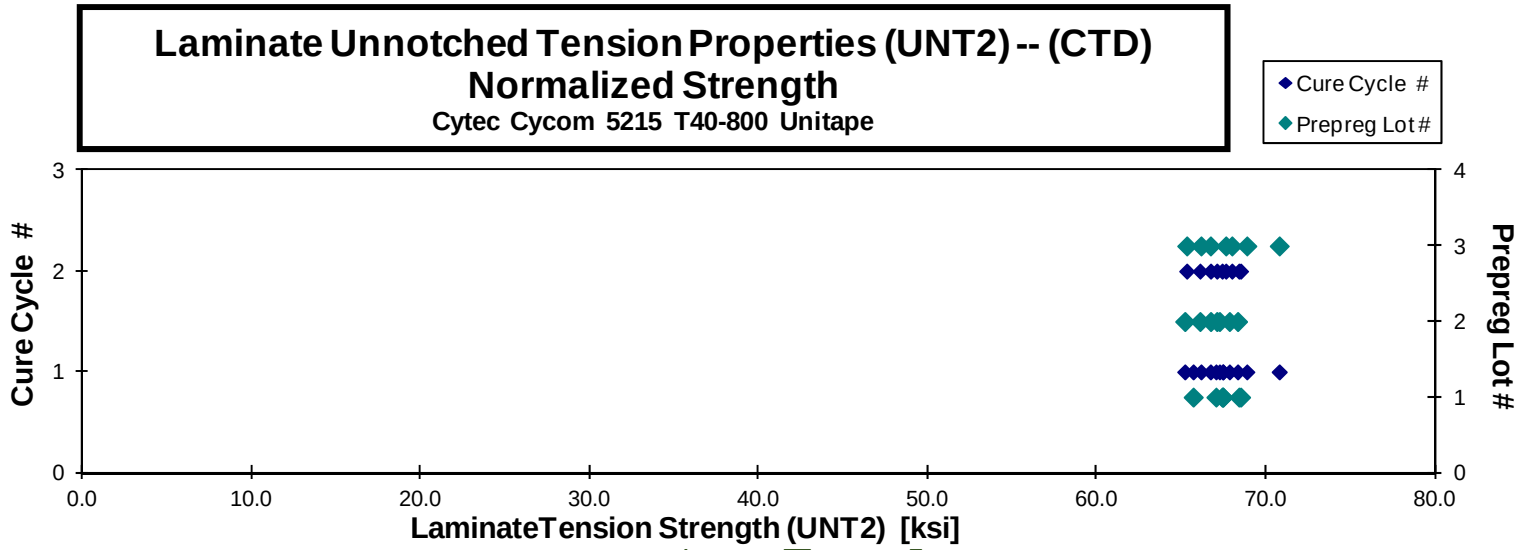
Laminate Unnotched Tension Properties (UNT2) -- (CTD)
Strength & Modulus
Cytec Cycom 5215 T40-800 Unitape

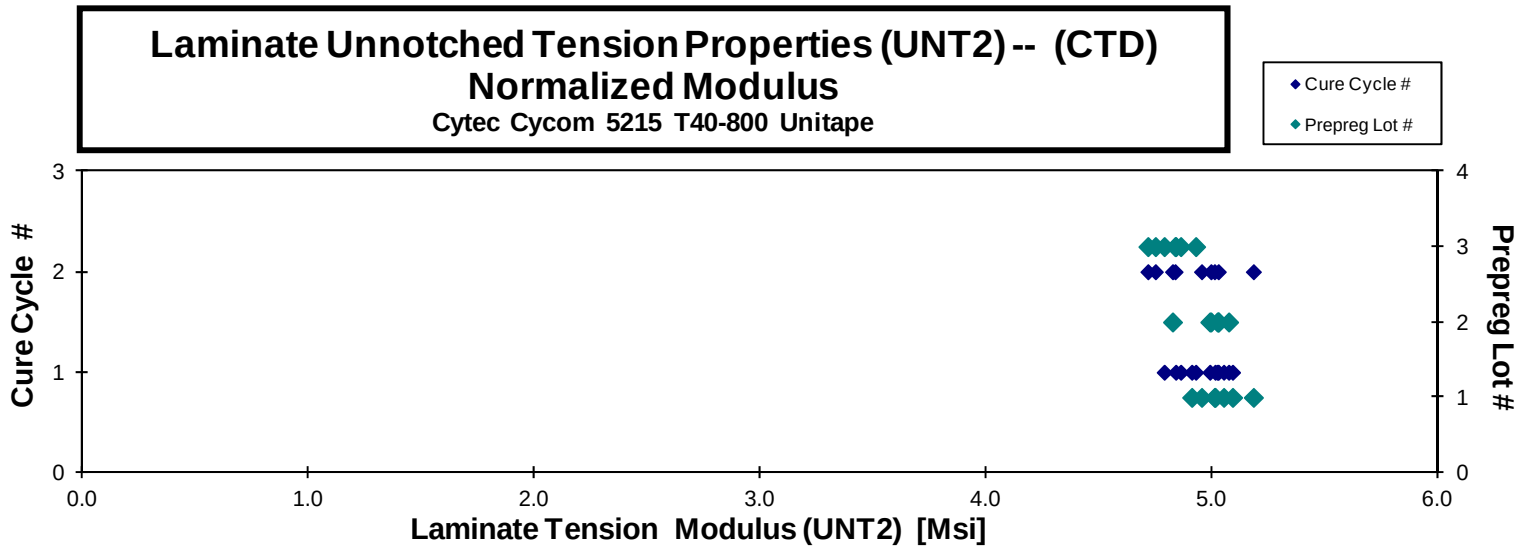
normalizing t_{ply} [in]: 0.0057

Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Modulus [Msi]	Avg. Specimen Thickn. [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
C0DBA116B	A	C1	1	1	67.372	5.040	0.113	20	DGM / AGM	0.0057	67.037	5.015
C0DBA117B	A	C1	1	1	68.199	5.149	0.113	20	DGM / AWT	0.0056	67.442	5.092
C0DBA118B	A	C1	1	1	67.943	5.090	0.113	20	DGM / AGM	0.0057	67.446	5.052
C0DBA119B	A	C1	1	1	66.995	5.008	0.112	20	DGM / AGM	0.0056	65.692	4.911
C0DBA215B	A	C2	1	2	67.878	4.974	0.115	20	DGM / AWT / AWB	0.0057	68.394	5.012
C0DBA216B	A	C2	1	2	67.163	5.166	0.114	20	DGM / AWB	0.0057	67.399	5.184
C0DBA217B	A	C2	1	2	68.578	4.960	0.114	20	DGM / AWT	0.0057	68.497	4.955
C0DBB116B	B	C1	2	1	67.063	4.900	0.116	20	DGM / AWT	0.0058	68.318	4.991
C0DBB117B	B	C1	2	1	66.077	4.986	0.116	20	DGM / AGM	0.0058	67.246	5.075
C0DBB118B	B	C1	2	1	64.244	4.951	0.116	20	DGM / AGM	0.0058	65.193	5.024
C0DBB119B	B	C1	2	1	67.359	4.994	0.115	20	DGM / AGM	0.0057	67.831	5.029
C0DBB216B	B	C2	2	2	65.517	4.911	0.117	20	DGM / AWB	0.0058	67.088	5.029
C0DBB217B	B	C2	2	2	65.346	4.940	0.115	20	DGM / AWB	0.0058	66.091	4.996
C0DBB218B	B	C2	2	2	65.597	4.745	0.116	20	AGM / AGM	0.0058	66.719	4.826
C0DBC116B	C	C1	3	1	71.799	4.999	0.112	20	DGM / AGM	0.0056	70.781	4.929
C0DBC117B	C	C1	3	1	69.824	4.930	0.112	20	DGM / AGM	0.0056	68.864	4.862
C0DBC119B	C	C1	3	1	67.280	4.923	0.112	20	DGM / AGM	0.0056	66.149	4.840
C0DBC11AB	C	C1	3	1	67.672	4.858	0.112	20	DWT / AWT	0.0056	66.712	4.789
C0DBC215B	C	C2	3	2	68.494	4.811	0.113	20	DGM / AGM	0.0056	67.623	4.750
C0DBC216B	C	C2	3	2	69.072	4.915	0.112	20	AWT / DWT	0.0056	67.981	4.837
C0DBC218B	C	C2	3	2	66.366	4.793	0.112	20	DGM / AGM	0.0056	65.308	4.717

	Strength [ksi]	Modulus [Msi]
Average	67.421	4.954
Standard Dev.	1.673	0.106
Coeff. of Var. [%]	2.481	2.136
Min.	64.244	4.745
Max.	71.799	5.166
Number of Spec.	21	21

	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
$Average_{norm}$	0.0057	67.324	4.948
$Standard\ Dev._{norm}$		1.298	0.123
$Coeff.\ of\ Var.\ [\%]_{norm}$		1.928	2.477
Min.	0.0056	65.193	4.717
Max.	0.0058	70.781	5.184
Number of Spec.		21	21


Laminate Unnotched Tension Properties (UNT2) -- (CTD)
Normalized Strength
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
80.0
LaminateTension Strength (UNT2) [ksi]


Laminate Unnotched Tension Properties (UNT2) -- (CTD)
Normalized Modulus
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
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4
0.0
1.0
2.0
3.0
4.0
5.0
6.0
Laminate Tension Modulus (UNT2) [Msi]

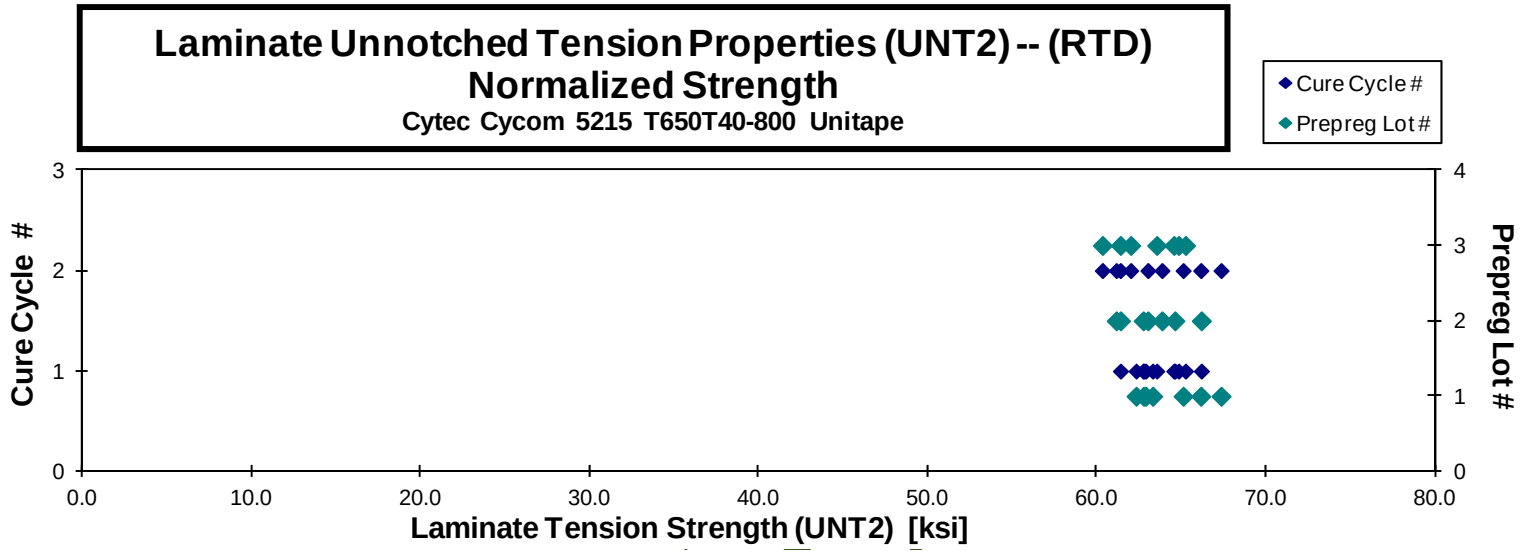
Laminate Unnotched Tension Properties (UNT2) -- (RTD)
Strength & Modulus
Cytec Cycom 5215 T40-800 Unitape

normalizing t_{ply} [in]: 0.0057

Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Modulus [Msi]	Avg. Specimen Thickn. [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
C0DBA111A	A	C1	1	1	63.490	5.229	0.113	20	DGM	0.0056	62.878	5.178
C0DBA112A	A	C1	1	1	63.376	4.803	0.113	20	DGM	0.0056	62.755	4.756
C0DBA113A	A	C1	1	1	63.192	4.650	0.112	20	DGM	0.0056	62.314	4.585
C0DBA114A	A	C1	1	1	63.627	4.981	0.113	20	DGM	0.0057	63.292	4.955
C0DBA211A	A	C2	1	2	65.979	4.961	0.114	20	DGM	0.0057	66.143	4.973
C0DBA212A	A	C2	1	2	64.653	4.693	0.115	20	DGM	0.0057	65.097	4.725
C0DBA214A	A	C2	1	2	67.056	4.840	0.114	20	DGM	0.0057	67.340	4.861
C0DBB111A	B	C1	2	1	65.705	4.932	0.115	20	DGM	0.0057	66.175	4.967
C0DBB112A	B	C1	2	1	61.885	4.756	0.116	20	DGM	0.0058	62.736	4.821
C0DBB113A	B	C1	2	1	63.644	4.644	0.116	20	DGM	0.0058	64.612	4.714
C0DBB114A	B	C1	2	1	60.447	4.604	0.116	20	DGM	0.0058	61.393	4.676
C0DBB211A	B	C2	2	2	63.319	4.644	0.115	20	DGM	0.0057	63.847	4.683
C0DBB212A	B	C2	2	2	61.979	4.611	0.116	20	DGM	0.0058	63.012	4.687
C0DBB213A	B	C2	2	2	60.104	4.648	0.116	20	DGM	0.0058	61.141	4.728
C0DBC111A	C	C1	3	1	66.243	4.589	0.112	20	DGM	0.0056	64.829	4.491
C0DBC112A	C	C1	3	1	64.834	4.552	0.112	20	DGM	0.0056	63.535	4.461
C0DBC113A	C	C1	3	1	66.631	4.585	0.112	20	DGM	0.0056	65.238	4.489
C0DBC114A	C	C1	3	1	65.956	4.900	0.112	20	DGM	0.0056	64.548	4.795
C0DBC211A	C	C2	3	2	63.585	4.498	0.111	20	DGM	0.0056	61.996	4.385
C0DBC212A	C	C2	3	2	62.854	4.681	0.111	20	DGM	0.0056	61.384	4.572
C0DBC213A	C	C2	3	2	61.334	4.711	0.112	20	DGM	0.0056	60.320	4.633

Average	63.805	4.739	
Standard Dev.	1.990	0.179	
Coeff. of Var. [%]	3.120	3.775	
Min.	60.104	4.498	
Max.	67.056	5.229	
Number of Spec.	21	21	

$Average_{norm}$	0.0057	63.552	4.721
$Standard\ Dev._{norm}$		1.853	0.196
$Coeff.\ of\ Var.\ [\%]_{norm}$		2.916	4.141
Min.	0.0056	60.320	4.385
Max.	0.0058	67.340	5.178
Number of Spec.		21	21


Laminate Unnotched Tension Properties (UNT2) -- (RTD)
Normalized Strength
Cytec Cycom 5215 T650T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
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2
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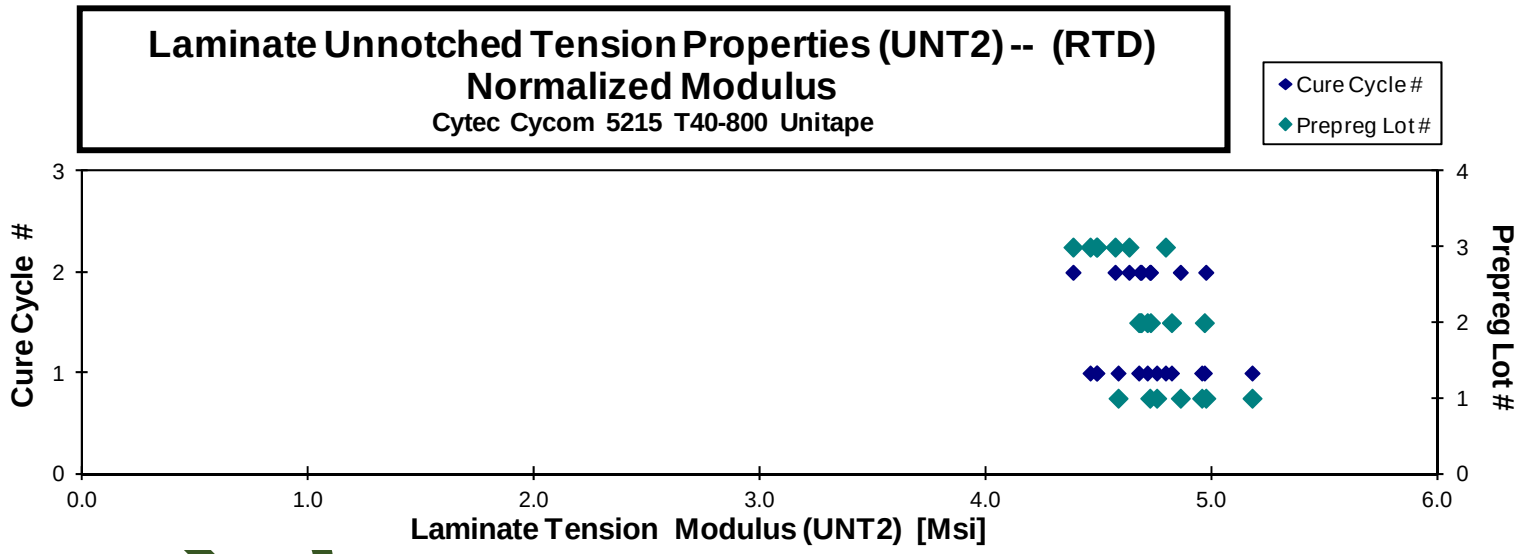
10.0
20.0
30.0
40.0
50.0
60.0
70.0
80.0
Laminate Tension Strength (UNT2) [ksi]


Laminate Unnotched Tension Properties (UNT2) -- (RTD)
Normalized Modulus
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
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0.0
1.0
2.0
3.0
4.0
5.0
6.0
Laminate Tension Modulus (UNT2) [Msi]

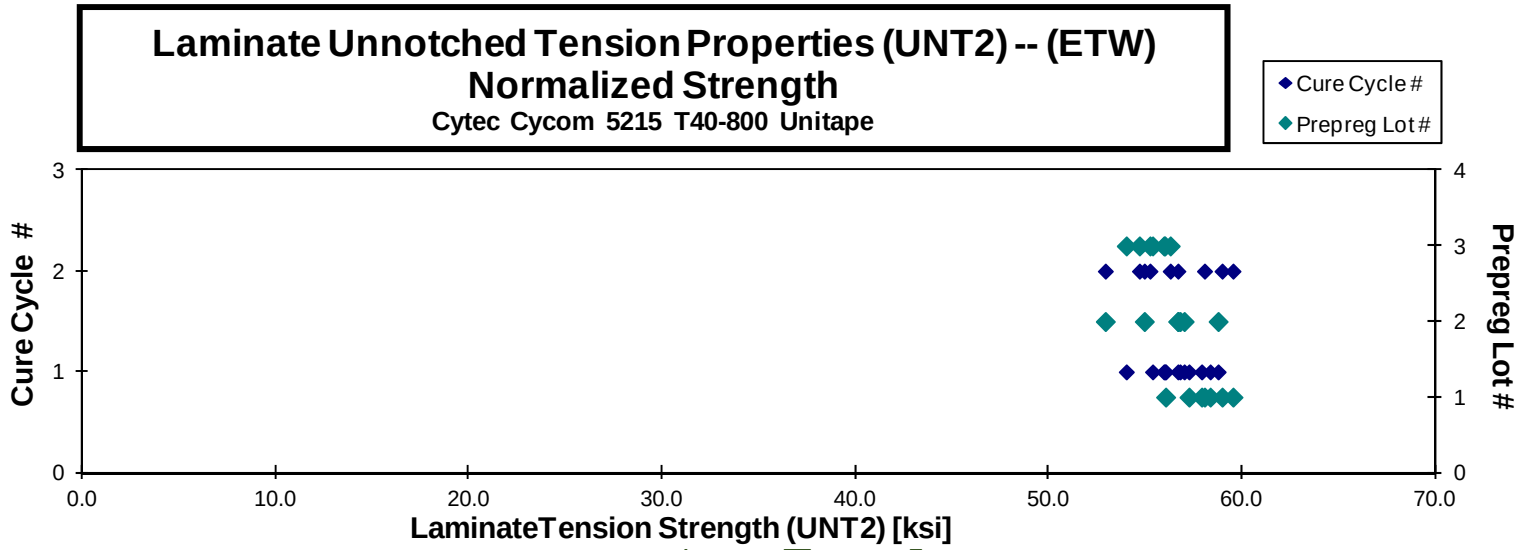
Laminate Unnotched Tension Properties (UNT2) -- (ETW)
Strength & Modulus
Cytec Cycom 5215 T40-800 Unitape

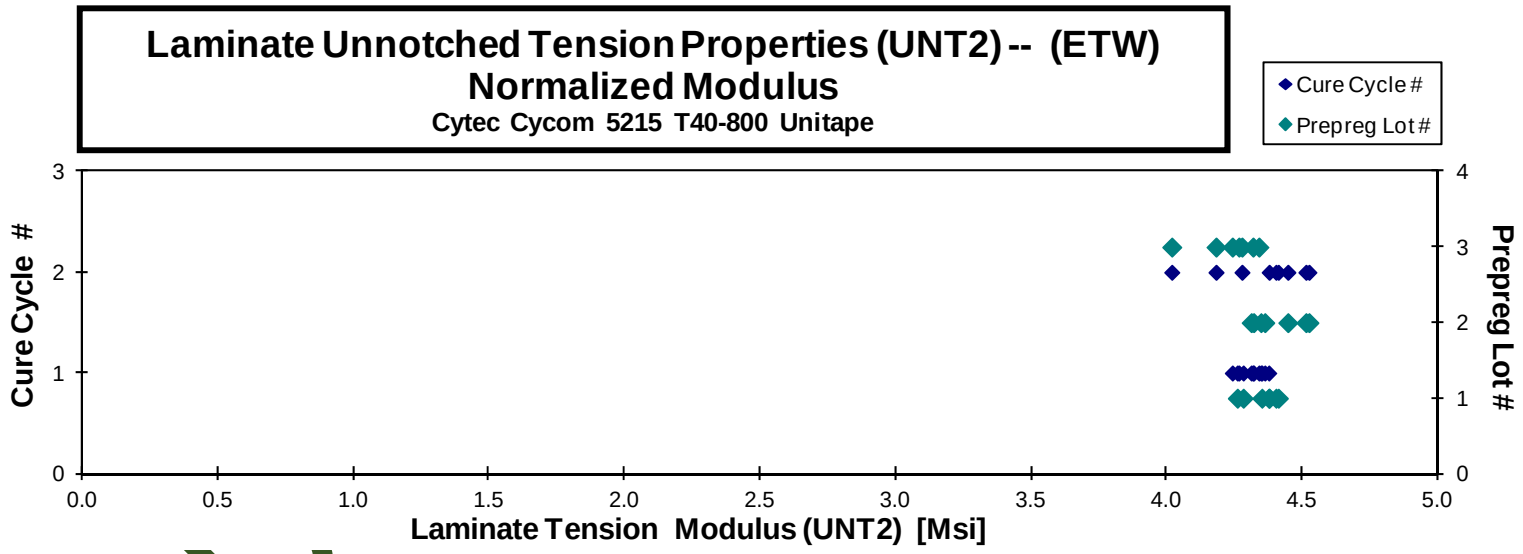
normalizing t_{ply} [in]: 0.0057

Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Modulus [Msi]	Avg. Specimen Thickn. [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
C0DBA11BM	A	C1	1	1	57.439	4.366	0.111	20	DGM	0.0056	56.054	4.261
C0DBA11CM	A	C1	1	1	59.419	4.360	0.112	20	DGM	0.0056	58.359	4.283
C0DBA11DM	A	C1	1	1	58.638	4.431	0.113	20	DGM	0.0056	57.918	4.377
C0DBA11EM	A	C1	1	1	58.252	4.426	0.112	20	DGM	0.0056	57.264	4.351
C0DBA219M	A	C2	1	2	59.629	4.410	0.114	20	DGM	0.0057	59.542	4.403
C0DBA21AM	A	C2	1	2	59.033	4.383	0.114	20	DGM	0.0057	58.973	4.378
C0DBA21BM	A	C2	1	2	58.014	4.408	0.114	20	DGM	0.0057	58.064	4.412
C0DBB11BM	B	C1	2	1	56.060	4.306	0.116	20	DGM	0.0058	56.798	4.362
C0DBB11CM	B	C1	2	1	56.443	4.304	0.115	20	DGM	0.0058	57.012	4.348
C0DBB11DM	B	C1	2	1	56.122	4.269	0.115	20	DGM	0.0058	56.688	4.312
C0DBB11EM	B	C1	2	1	58.252	4.283	0.115	20	DGM	0.0058	58.771	4.321
C0DBB219M	B	C2	2	2	52.194	4.385	0.116	20	DGM	0.0058	52.934	4.447
C0DBB21AM	B	C2	2	2	54.025	4.438	0.116	20	DGM	0.0058	54.949	4.514
C0DBB21BM	B	C2	2	2	56.082	4.477	0.115	20	DGM	0.0058	56.689	4.525
C0DBC11BM	C	C1	3	1	54.665	4.392	0.113	20	DGM	0.0056	54.018	4.340
C0DBC11CM	C	C1	3	1	56.226	4.385	0.112	20	DGM	0.0056	55.379	4.319
C0DBC11DM	C	C1	3	1	56.869	4.311	0.112	20	DGM	0.0056	55.963	4.242
C0DBC11EM	C	C1	3	1	56.711	4.319	0.113	20	DGM	0.0056	56.014	4.266
C0DBC219M	C	C2	3	2	55.593	4.085	0.112	20	DGM	0.0056	54.699	4.019
C0DBC21AM	C	C2	3	2	56.330	4.362	0.112	20	DGM	0.0056	55.243	4.278
C0DBC21BM	C	C2	3	2	57.494	4.272	0.112	20	DGM	0.0056	56.292	4.182

	Strength [ksi]	Modulus [Msi]
Average	56.833	4.351
Standard Dev.	1.829	0.085
Coeff. of Var. [%]	3.219	1.944
Min.	52.194	4.085
Max.	59.629	4.477
Number of Spec.	21	21

	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
Average	0.0057	56.554	4.331
Standard Dev.		1.696	0.111
Coeff. of Var. [%]		2.999	2.554
Min.	0.0056	52.934	4.019
Max.	0.0058	59.542	4.525
Number of Spec.		21	21


Laminate Unnotched Tension Properties (UNT2) -- (ETW)
Normalized Strength
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
LaminateTension Strength (UNT2) [ksi]

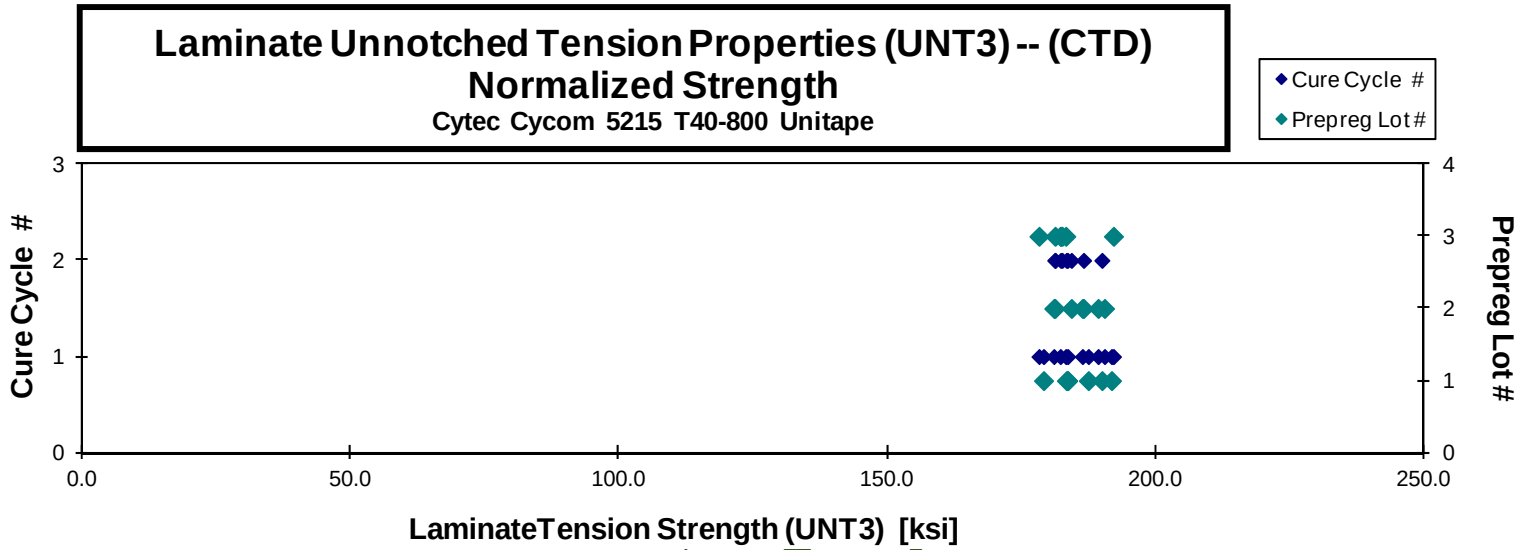

Laminate Unnotched Tension Properties (UNT2) -- (ETW)
Normalized Modulus
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3.5
4.0
4.5
5.0
Laminate Tension Modulus (UNT2) [Msi]

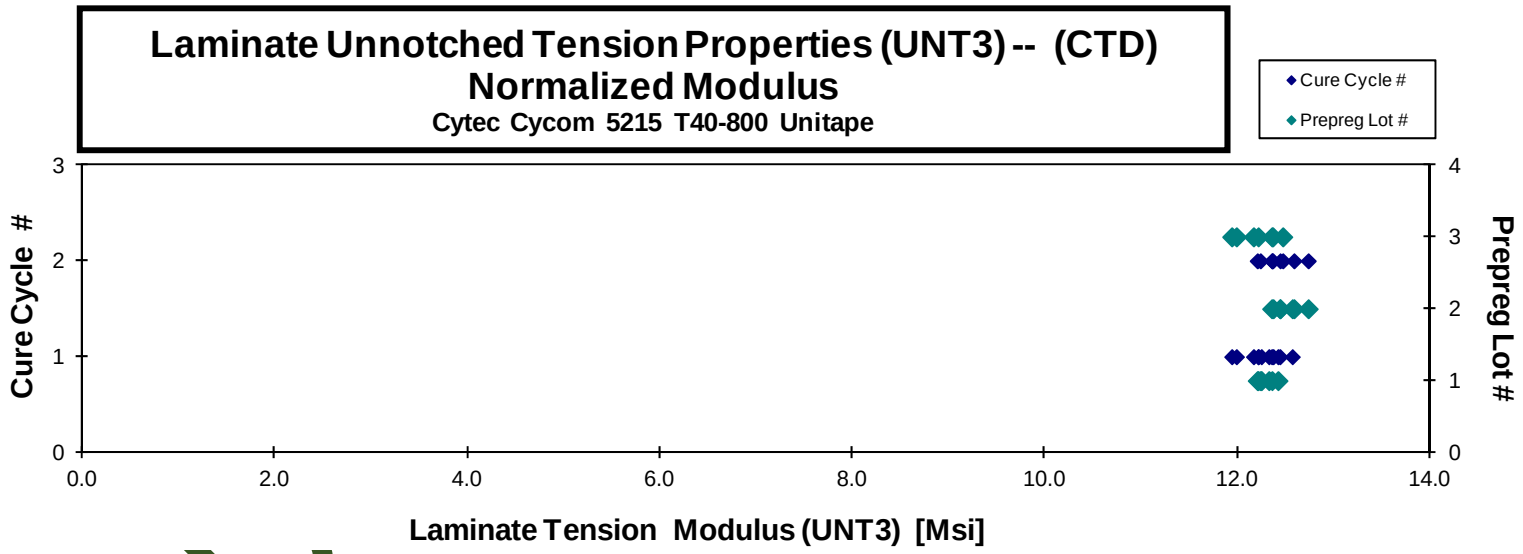
4.9 "50/40/10" Unnotched Tension 3 Properties (UNT3)

Laminate Unnotched Tension Properties (UNT3) -- (CTD)
Strength & Modulus
Cytec Cycom 5215 T40-800 Unitape

normalizing t_{ply} [in]: 0.0057

Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Modulus [Msi]	Avg. Specimen Thickn. [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
C0DCA116B	A	C1	1	1	186.859	12.287	0.114	20	DGM / LAB / LAT	0.0057	187.460	12.326
C0DCA117B	A	C1	1	1	177.957	12.136	0.115	20	DGM / LAB / LAT	0.0057	179.102	12.214
C0DCA118B	A	C1	1	1	190.039	12.137	0.115	20	DGM / AGM	0.0058	191.761	12.247
C0DCA119B	A	C1	1	1	182.639	12.356	0.115	20	DGM / LWT / AWB	0.0057	183.600	12.421
C0DCA215B	A	C2	1	2	183.143	12.344	0.114	20	DGM / AGM	0.0057	183.357	12.358
C0DCA216B	A	C2	1	2	189.534	12.209	0.114	20	DGM / AGM	0.0057	189.978	12.238
C0DCA217B	A	C2	1	2	185.411	12.329	0.113	20	DGM / AGM	0.0056	183.567	12.206
C0DCB116B	B	C1	2	1	184.687	12.188	0.118	20	DGM / AWT / AWB	0.0059	190.466	12.569
C0DCB117B	B	C1	2	1	181.023	12.086	0.117	20	DGM / LWT / LAB	0.0059	186.342	12.441
C0DCB118B	B	C1	2	1	176.410	12.041	0.117	20	AWB / DGM	0.0058	181.027	12.356
C0DCB119B	B	C1	2	1	188.369	12.312	0.115	20	DGM / AAT / AWB	0.0057	189.278	12.371
C0DCB215B	B	C2	2	2	181.862	12.422	0.116	20	DGM / AWT / AWB	0.0058	184.281	12.587
C0DCB216B	B	C2	2	2	184.033	12.562	0.116	20	DGM / AWT/ AGM	0.0058	186.562	12.735
C0DCB217B	B	C2	2	2	179.829	12.347	0.115	20	DGM / AGM / LWT	0.0057	181.223	12.443
C0DCC116B	C	C1	3	1	192.268	12.175	0.114	20	LWB / LAT	0.0057	192.128	12.167
C0DCC117B	C	C1	3	1	183.464	12.230	0.114	20	DGM / AWT / LAB	0.0057	183.249	12.215
C0DCC118B	C	C1	3	1	179.353	12.063	0.113	20	DGM / LAB	0.0057	178.251	11.989
C0DCC119B	C	C1	3	1	183.762	12.041	0.113	20	DGM / LWT / LAB	0.0057	182.231	11.941
C0DCC216B	C	C2	3	2	181.047	12.342	0.114	20	DGM / XGM	0.0057	181.259	12.357
C0DCC217B	C	C2	3	2	184.316	12.609	0.113	20	XGM	0.0056	182.295	12.471
C0DCC218B	C	C2	3	2	184.119	12.472	0.113	20	LAT / AWB	0.0057	182.558	12.366
				Average	183.815	12.271						
				Standard Dev.	4.017	0.163						
				Coeff. of Var. [%]	2.186	1.329						
				Min.	176.410	12.041						
				Max.	192.268	12.609						
				Number of Spec.	21	21						
				$Average_{norm}$						0.0057	184.761	12.334
				$Standard\ Dev._{norm}$							4.088	0.187
				$Coeff.\ of\ Var.\ [\%]_{norm}$							2.212	1.514
				Min.						0.0056	178.251	11.941
				Max.						0.0059	192.128	12.735
				Number of Spec.							21	21


Laminate Unnotched Tension Properties (UNT3) -- (CTD)
Normalized Strength
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
50.0
100.0
150.0
200.0
250.0
LaminateTension Strength (UNT3) [ksi]


Laminate Unnotched Tension Properties (UNT3) -- (CTD)
Normalized Modulus
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
2.0
4.0
6.0
8.0
10.0
12.0
14.0
Laminate Tension Modulus (UNT3) [Msi]

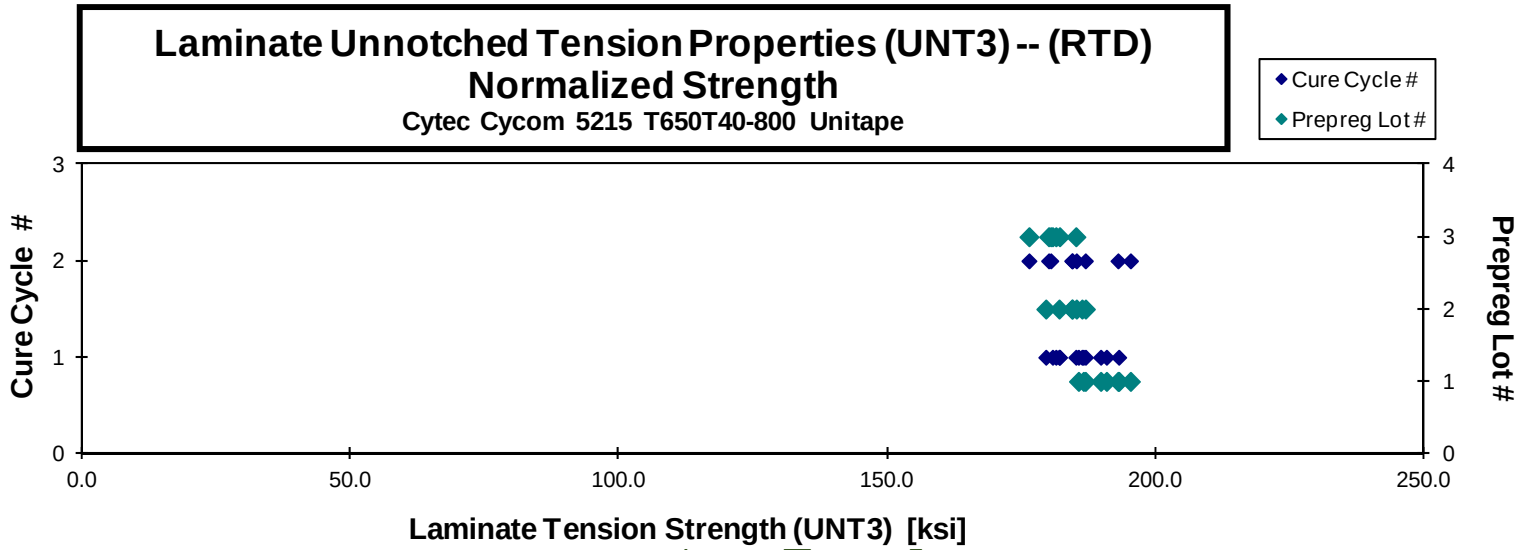
Laminate Unnotched Tension Properties (UNT3) -- (RTD)
Strength & Modulus
Cytec Cycom 5215 T40-800 Unitape

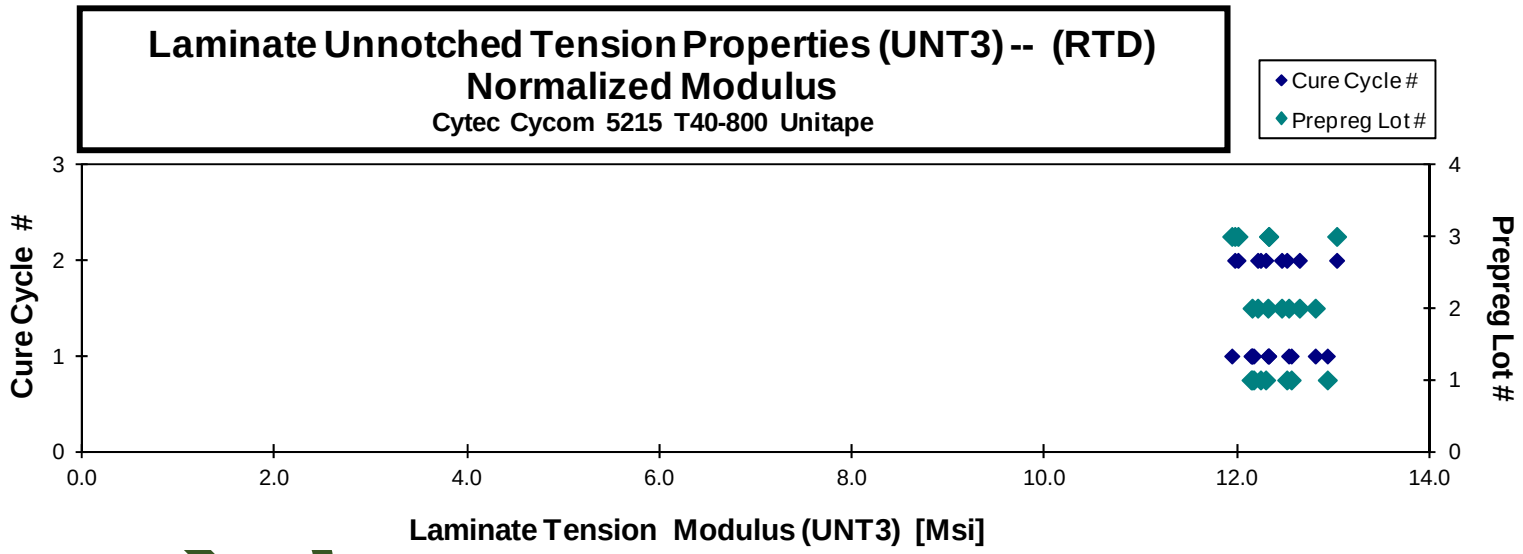
normalizing t_{ply} [in]: 0.0057

Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Modulus [Msi]	Avg. Specimen Thickn. [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
C0DCA111A	A	C1	1	1	189.962	12.166	0.114	20	DGM	0.0057	189.740	12.152
C0DCA112A	A	C1	1	1	189.809	12.866	0.115	20	DGM	0.0057	190.808	12.933
C0DCA113A	A	C1	1	1	185.867	12.514	0.114	20	DGM	0.0057	186.520	12.558
C0DCA114A	A	C1	1	1	192.009	12.099	0.115	20	DGM	0.0057	193.104	12.168
C0DCA115A	A	C1	1	1	184.338	12.058	0.115	20	DGM	0.0057	185.605	12.141
C0DCA211A	A	C2	1	2	195.127	12.501	0.114	20	DGM	0.0057	195.298	12.512
C0DCA212A	A	C2	1	2	192.100	12.184	0.115	20	DGM	0.0057	192.971	12.239
C0DCA213A	A	C2	1	2	186.075	12.239	0.115	20	DGM	0.0057	186.891	12.293
C0DCB111A	B	C1	2	1	184.635	12.653	0.115	20	DGM	0.0058	186.902	12.809
C0DCB112A	B	C1	2	1	181.168	12.189	0.117	20	DGM	0.0059	186.253	12.531
C0DCB113A	B	C1	2	1	176.973	11.977	0.117	20	DGM	0.0059	181.992	12.316
C0DCB114A	B	C1	2	1	174.573	11.816	0.117	20	DGM	0.0059	179.524	12.152
C0DCB211A	B	C2	2	2	185.364	12.706	0.113	20	DGM	0.0057	184.443	12.643
C0DCB212A	B	C2	2	2	182.531	12.334	0.115	20	DGM	0.0058	184.372	12.459
C0DCB213A	B	C2	2	2	183.089	12.071	0.115	20	DGM	0.0058	185.203	12.210
C0DCC111A	C	C1	3	1	183.343	12.500	0.112	20	DGM	0.0056	180.770	12.325
C0DCC112A	C	C1	3	1	182.716	11.983	0.114	20	DGM	0.0057	182.075	11.941
C0DCC113A	C	C1	3	1	185.420	12.343	0.114	20	DGM	0.0057	185.122	12.323
C0DCC114A	C	C1	3	1	180.519		0.115	20	DGM	0.0057	181.390	
C0DCC211A	C	C2	3	2	180.344	13.051	0.114	20	DGM	0.0057	180.054	13.030
C0DCC212A	C	C2	3	2	181.533	12.078	0.113	20	DGM	0.0057	180.445	12.005
C0DCC213A	C	C2	3	2	177.470	12.046	0.113	20	DGM	0.0057	176.380	11.972

C0DCC 114A - Modulus not reported due to inaccurate strain reading.

Average	184.317	12.304	$Average_{norm}$	0.0057	185.266	12.367
Standard Dev.	5.157	0.320	$Standard\ Dev._{norm}$		4.880	0.302
Coeff. of Var. [%]	2.798	2.605	$Coeff.\ of\ Var.\ [\%]_{norm}$		2.634	2.445
Min.	174.573	11.816	Min.	0.0056	176.380	11.941
Max.	195.127	13.051	Max.	0.0059	195.298	13.030
Number of Spec.	22	21	Number of Spec.		22	21


Laminate Unnotched Tension Properties (UNT3) -- (RTD)
Normalized Strength
Cytec Cycom 5215 T650T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
50.0
100.0
150.0
200.0
250.0
Laminate Tension Strength (UNT3) [ksi]


Laminate Unnotched Tension Properties (UNT3) -- (RTD)
Normalized Modulus
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
2.0
4.0
6.0
8.0
10.0
12.0
14.0
Laminate Tension Modulus (UNT3) [Msi]

Laminate Unnotched Tension Properties (UNT3) -- (ETW)
Strength & Modulus
Cytec Cycom 5215 T40-800 Unitape

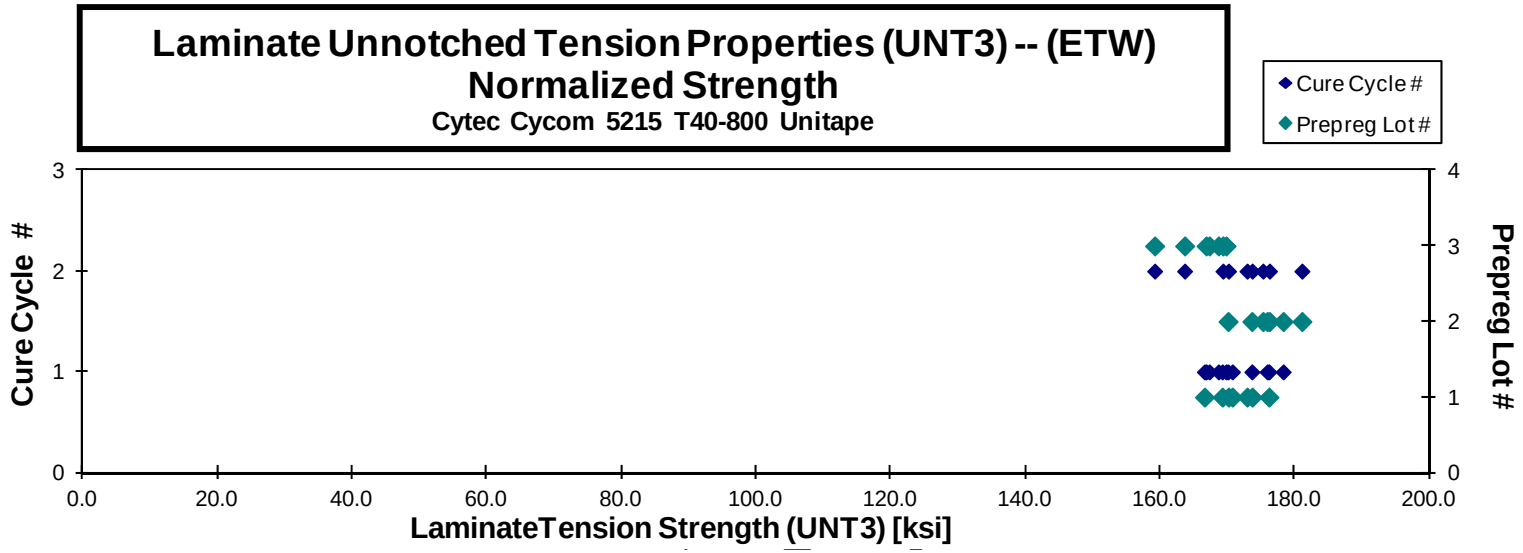
normalizing t_{ply} [in]: 0.0057

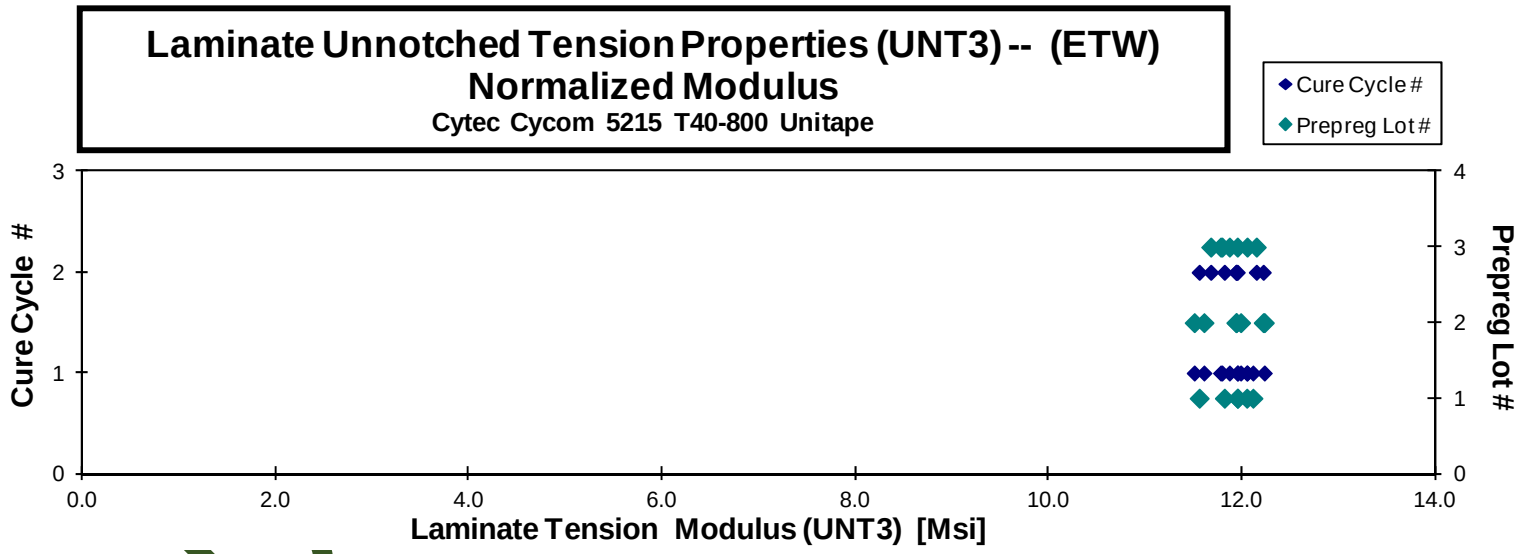
Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Modulus [Msi]	Avg. Specimen Thickn. [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
C0DCA11BM	A	C1	1	1	164.966	11.930	0.115	20	SGM / DGM	0.0058	166.630	12.050
C0DCA11CM	A	C1	1	1	174.717	11.854	0.115	20	SGM / DGM / LGM	0.0057	176.198	11.954
C0DCA11DM	A	C1	1	1	169.898	11.893	0.115	20	SGM / DGM	0.0057	170.767	11.953
C0DCA11EM	A	C1	1	1	168.842	12.084	0.114	20	SGM / DGM	0.0057	169.262	12.114
C0DCA219M	A	C2	1	2	175.644		0.113	20	SGM / DGM / AWT	0.0056	173.718	
C0DCA21AM	A	C2	1	2	175.572	11.998	0.112	20	SGM / DGM	0.0056	172.954	11.819
C0DCA21BM	A	C2	1	2	172.847	11.738	0.112	20	SGM / DGM	0.0056	170.194	11.558
C0DCB11BM	B	C1	2	1	170.850	12.033	0.116	20	SGM / DGM / LGM	0.0058	173.673	12.232
C0DCB11CM	B	C1	2	1	167.345	11.417	0.116	20	SGM / DGM	0.0058	170.134	11.607
C0DCB11DM	B	C1	2	1	172.140	11.258	0.117	20	SGM / DGM	0.0058	175.941	11.507
C0DCB11EM	B	C1	2	1	174.165	11.708	0.117	20	SGM / DGM / AWT	0.0058	178.315	11.987
C0DCB219M	B	C2	2	2	172.180	11.937	0.117	20	SGM / DGM	0.0058	176.283	12.221
C0DCB21AM	B	C2	2	2	170.736	11.628	0.117	20	SGM / DGM /AWB	0.0059	175.304	11.939
C0DCB21BM	B	C2	2	2	176.384	11.629	0.117	20	SGM / DGM / AWT	0.0059	181.103	11.941
C0DCC11BM	C	C1	3	1	167.115	11.797	0.114	20	SGM/DGM/AWT	0.0057	166.870	11.779
C0DCC11CM	C	C1	3	1	170.062	11.886	0.114	20	SGM/DGM/AWB	0.0057	169.838	11.871
C0DCC11DM	C	C1	3	1	167.366	12.055	0.114	20	SGM/DGM/AGM	0.0057	167.341	12.054
C0DCC11EM	C	C1	3	1	168.643	11.790	0.114	20	SGM/DGM/AWT/AWB	0.0057	168.693	11.793
C0DCC219M	C	C2	3	2	171.275	12.086	0.113	20	SGM/DGM/AGM/AWB	0.0056	169.372	11.952
C0DCC21AM	C	C2	3	2	165.471	12.282	0.113	20	SGM/DGM/AWB	0.0056	163.681	12.149
C0DCC21BM	C	C2	3	2	160.854	11.797	0.113	20	SGM/DGM/AWT	0.0056	159.232	11.678

C0DCA 219M - Modulus not reported due to inaccurate strain reading.

	Strength [ksi]	Modulus [Msi]
Average	170.337	11.840
Standard Dev.	3.976	0.239
Coeff. of Var. [%]	2.334	2.021
Min.	160.854	11.258
Max.	176.384	12.282
Number of Spec.	21	20

	t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
$Average_{norm}$	0.0057	171.214	11.908
$Standard\ Dev._{norm}$		5.130	0.208
$Coeff.\ of\ Var.\ [\%]_{norm}$		2.996	1.750
Min.	0.0056	159.232	11.507
Max.	0.0059	181.103	12.232
Number of Spec.		21	20


Laminate Unnotched Tension Properties (UNT3) -- (ETW)
Normalized Strength
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
20.0
40.0
60.0
80.0
100.0
120.0
140.0
160.0
180.0
200.0
LaminateTension Strength (UNT3) [ksi]


Laminate Unnotched Tension Properties (UNT3) -- (ETW)
Normalized Modulus
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
2.0
4.0
6.0
8.0
10.0
12.0
14.0
Laminate Tension Modulus (UNT3) [Msi]

4.10 "33/0/67" Unnotched Compression 0 Properties (UNC0)

Laminate Unnotched Compression Properties (UNC0) -- (CTD)
Strength & Modulus
Cytec Cycom 5215 T40-800 Unitape

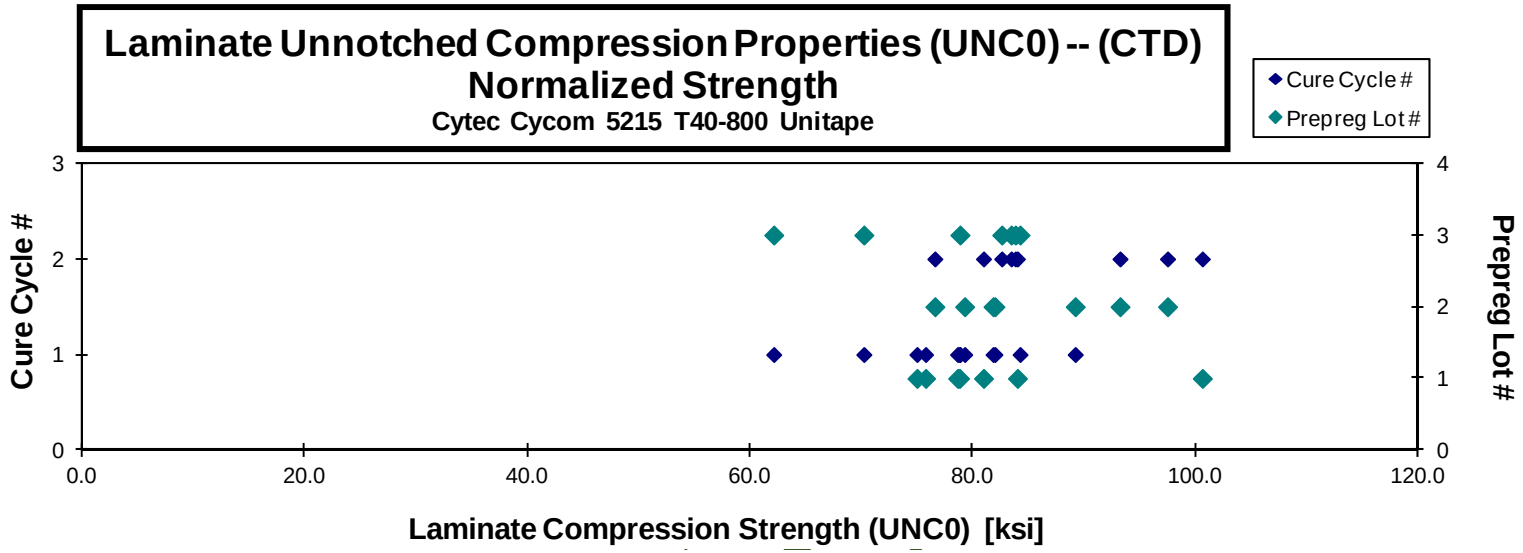
normalizing t_{ply} [in]: 0.0057

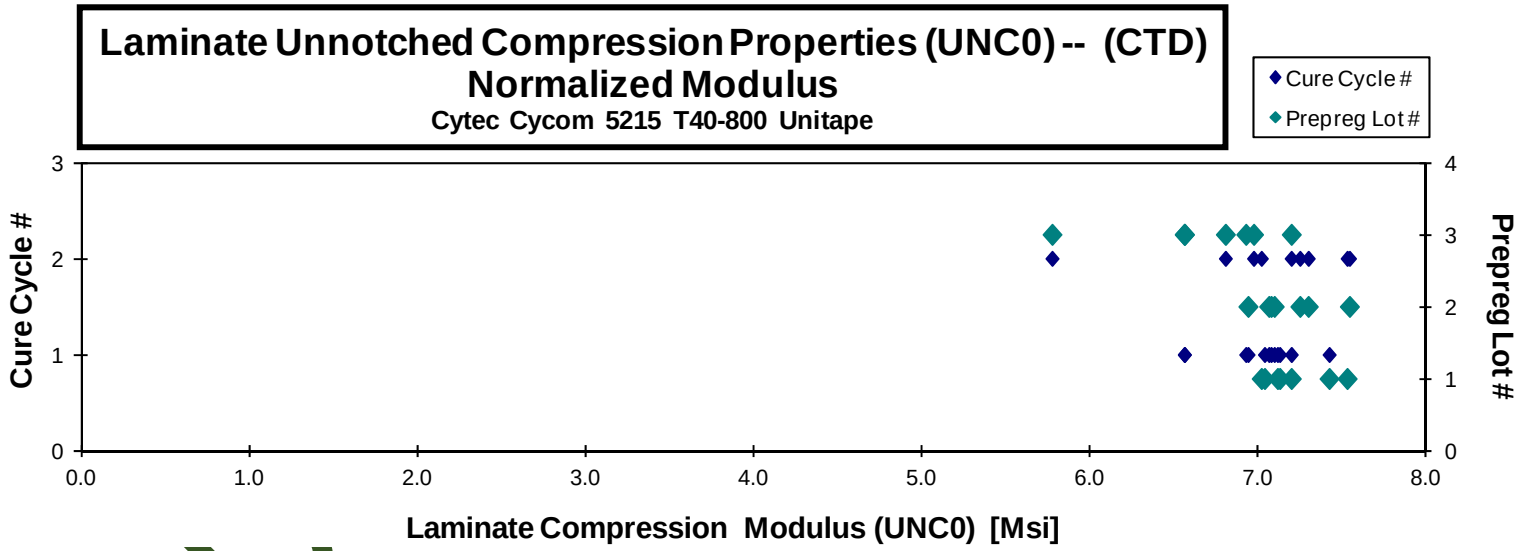
Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle Batch #	Strength [ksi]	Modulus [Msi]	Poisson's Ratio	Avg. Specimen Thickn. [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
C0DRA115B	A	C1	1	1	76.048	7.139	0.032	0.119	21	BGM/HIT	0.0057	75.752	7.112
C0DRA116B	A	C1	1	1	79.323	7.172	0.032	0.119	21	BGM/HIT	0.0057	78.804	7.125
C0DRA117B	A	C1	1	1	78.995	7.067	0.048	0.119	21	BGM	0.0057	78.632	7.035
C0DRA118B	A	C1	1	1	75.576	7.478	0.039	0.119	21	BGM	0.0057	74.976	7.419
C0DRA214B	A	C2	1	2	103.061	7.710		0.117	21	BGM	0.0056	100.607	7.526
C0DRA215B	A	C2	1	2	82.504	7.332	0.037	0.117	21	BGM/HIT	0.0056	80.953	7.194
C0DRA216B	A	C2	1	2	85.940	7.177	0.041	0.117	21	BGM/HIT	0.0056	84.001	7.015
C0DRB115B	B	C1	2	1	82.258	7.099	0.039	0.119	21	BGM	0.0057	81.812	7.060
C0DRB116B	B	C1	2	1	79.596	7.122	0.033	0.119	21	BGM	0.0057	79.263	7.093
C0DRB117B	B	C1	2	1	89.367	6.950	0.032	0.119	21	BGM	0.0057	89.193	6.937
C0DRB118B	B	C1	2	1	82.024	7.078	0.032	0.120	21	BGM/HIT	0.0057	81.979	7.074
C0DRB214B	B	C2	2	2	76.469	7.528	0.034	0.120	21	BGM	0.0057	76.587	7.540
C0DRB215B	B	C2	2	2	98.484	7.370	0.040	0.118	21	BGM	0.0056	97.483	7.295
C0DRB216B	B	C2	2	2	93.910	7.299	0.038	0.119	21	BGM	0.0057	93.217	7.245
C0DRC115B	C	C1	3	1	62.481	6.596	0.057	0.119	21	BGM	0.0057	62.116	6.558
C0DRC116B	C	C1	3	1	70.583	6.593	0.037	0.119	21	BGM	0.0057	70.209	6.558
C0DRC117B	C	C1	3	1	79.315	7.287	0.034	0.119	21	BGM	0.0057	78.840	7.194
C0DRC118B	C	C1	3	1	84.875	6.976		0.119	21	BGM	0.0057	84.236	6.923
C0DRC214B	C	C2	3	2	84.430	6.883		0.118	21	BGM/HIT	0.0056	83.442	6.802
C0DRC215B	C	C2	3	2	85.109	7.077	0.040	0.118	21	BGM	0.0056	83.817	6.970
C0DRC216B	C	C2	3	2	83.865	5.860	0.025	0.118	21	BGM	0.0056	82.592	5.771

THE POISSON'S RATIO ON C0DRA214B WAS REMOVED DUE TO NON LINEAR DATA.

Average	**82.581**	**7.083**	**0.037**
Standard Dev.	**8.931**	**0.389**	**0.007**
Coeff. of Var. [%]	**10.815**	**5.493**	**19.110**
Min.	**62.481**	**5.860**	**0.025**
Max.	**103.061**	**7.710**	**0.057**
Number of Spec.	**21**	**21**	**18**

$Average_{norm}$	**0.0057**	**81.834**	**7.021**
Standard $Dev._{norm}$		**8.573**	**0.384**
Coeff. of Var. $[\%]_{norm}$		**10.476**	**5.476**
Min.	**0.0056**	**62.116**	**5.771**
Max.	**0.0057**	**100.607**	**7.540**
Number of Spec.		**21**	**21**


Laminate Unnotched Compression Properties (UNC0) -- (CTD)
Normalized Strength
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
20.0
40.0
60.0
80.0
100.0
120.0
Laminate Compression Strength (UNC0) [ksi]


Laminate Unnotched Compression Properties (UNC0) -- (CTD)
Normalized Modulus
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
Laminate Compression Modulus (UNC0) [Msi]

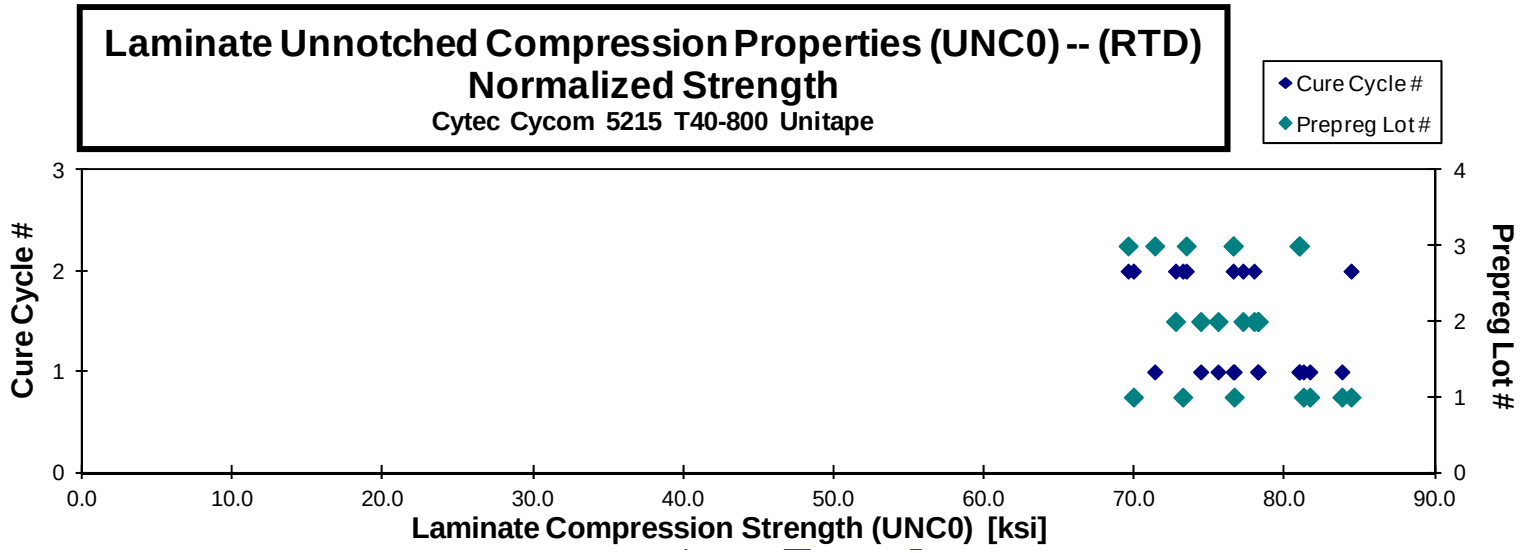
Laminate Unnotched Compression Properties (UNC0) -- (RTD)
Strength & Modulus
Cytec Cycom 5215 T40-800 Unitape

normalizing t_{ply} [in]: 0.0057

Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle Batch #	Strength [ksi]	Modulus [Msi]	Poisson's Ratio	Avg. Specimen Thickn. [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
C0DRA111A	A	C1	1	1	77.274	7.317	0.031	0.119	21	BGM	0.0057	76.629	7.255
C0DRA112A	A	C1	1	1	81.407	7.274	0.030	0.119	21	BGM	0.0057	81.237	7.259
C0DRA113A	A	C1	1	1	81.949	7.348	0.037	0.119	21	BGM	0.0057	81.663	7.322
C0DRA114A	A	C1	1	1	84.125	7.425	0.041	0.119	21	BGM	0.0057	83.797	7.396
C0DRA211A	A	C2	1	2	87.113	7.638	0.031	0.116	21	BGM	0.0055	84.408	7.401
C0DRA212A	A	C2	1	2	71.447	7.377	0.036	0.117	21	BGM	0.0056	69.925	7.220
C0DRA213A	A	C2	1	2	74.762	7.297	0.040	0.117	21	BGM	0.0056	73.211	7.146
C0DRB111A	B	C1	2	1	76.654	7.378	0.035	0.118	21	BGM	0.0056	75.555	7.273
C0DRB112A	B	C1	2	1	78.960	7.334	0.031	0.119	21	BGM	0.0056	78.190	7.263
C0DRB113A	B	C1	2	1	78.424	7.064	0.036	0.119	21	BGM	0.0057	78.227	7.047
C0DRB114A	B	C1	2	1	75.006	7.060	0.033	0.119	21	BGM	0.0057	74.400	7.003
C0DRB211A	B	C2	2	2	79.636	7.463	0.033	0.117	21	BAB	0.0056	77.951	7.305
C0DRB212A	B	C2	2	2	73.144	7.450	0.031	0.119	21	BAB	0.0057	72.727	7.408
C0DRB213A	B	C2	2	2	77.723	7.253	0.036	0.119	21	BAB	0.0057	77.214	7.206
C0DRC111A	C	C1	3	1	82.250	7.548	0.037	0.118	21	BGM	0.0056	80.978	7.432
C0DRC112A	C	C1	3	1	81.378	7.465	0.031	0.119	21	BGM / HIT	0.0057	80.936	7.424
C0DRC113A	C	C1	3	1	76.758	7.528	0.026	0.119	21	BGM	0.0057	76.565	7.509
C0DRC114A	C	C1	3	1	71.531	7.235	0.036	0.119	21	BGM	0.0057	71.342	7.216
C0DRC211A	C	C2	3	2	71.453	7.010	0.029	0.117	21	BGM	0.0056	69.573	6.825
C0DRC212A	C	C2	3	2	77.783	7.273	0.030	0.118	21	BGM	0.0056	76.559	7.159
C0DRC213A	C	C2	3	2	74.206	7.073	0.031	0.118	21	BGM	0.0056	73.441	7.000

Average	**77.761**	**7.324**	**0.033**
Standard Dev.	**4.295**	**0.170**	**0.004**
Coeff. of Var. [%]	**5.523**	**2.325**	**11.179**
Min.	**71.447**	**7.010**	**0.026**
Max.	**87.113**	**7.638**	**0.041**
Number of Spec.	**21**	**21**	**21**

$Average_{norm}$	**0.0056**	**76.882**	**7.241**
$Standard\ Dev._{norm}$		**4.287**	**0.170**
$Coeff.\ of\ Var.\ [\%]_{norm}$		**5.576**	**2.342**
Min.	**0.0055**	**69.573**	**6.825**
Max.	**0.0057**	**84.408**	**7.509**
Number of Spec.		**21**	**21**


Laminate Unnotched Compression Properties (UNC0) -- (RTD)
Normalized Strength
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
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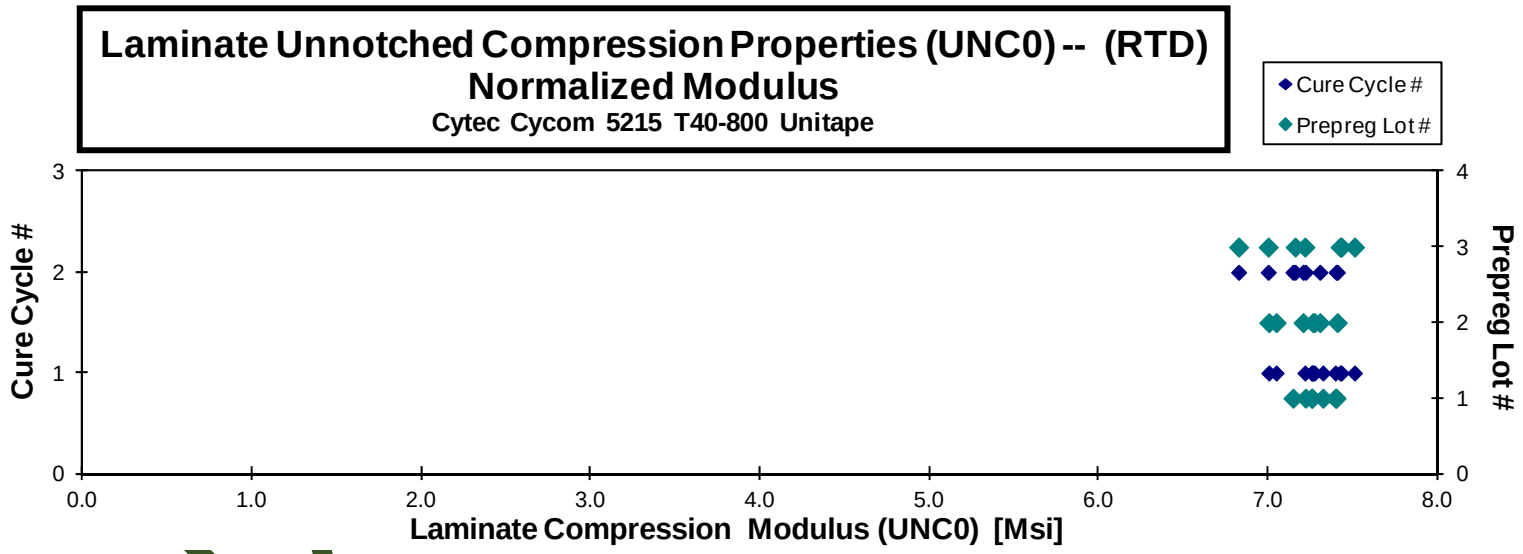
4
0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
80.0
90.0
Laminate Compression Strength (UNC0) [ksi]


Laminate Unnotched Compression Properties (UNC0) -- (RTD)
Normalized Modulus
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
Laminate Compression Modulus (UNC0) [Msi]

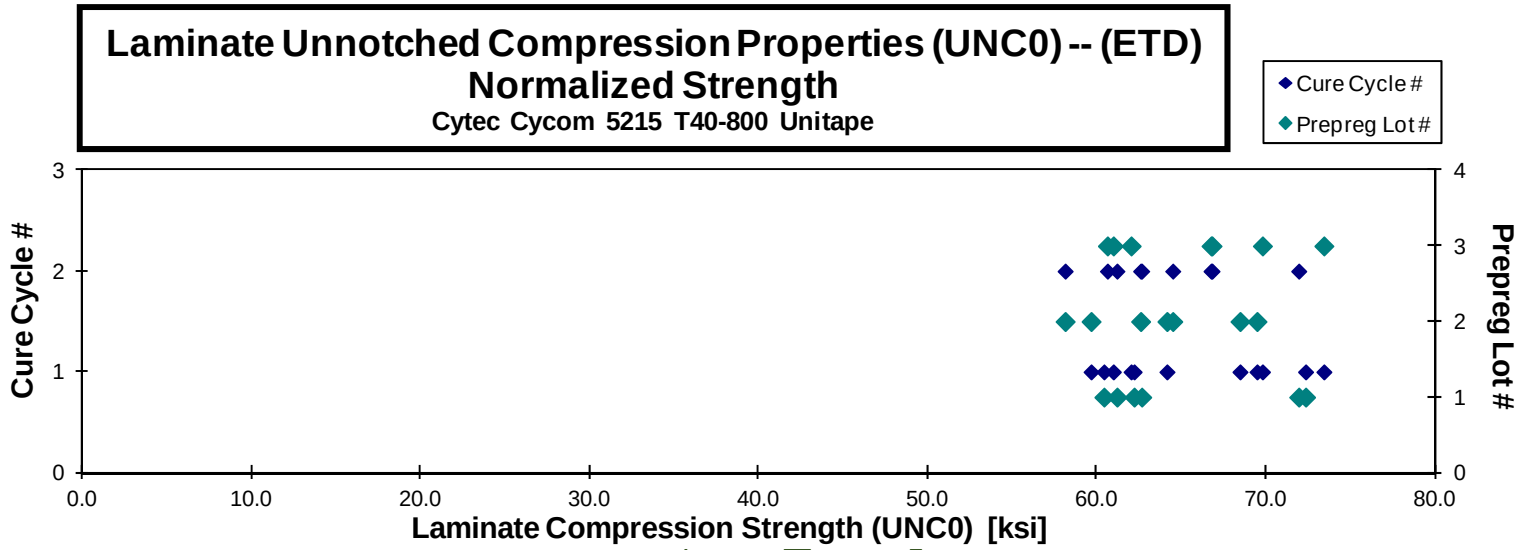
Laminate Unnotched Compression Properties (UNC0) -- (ETD)
Strength & Modulus
Cytec Cycom 5215 T40-800 Unitape

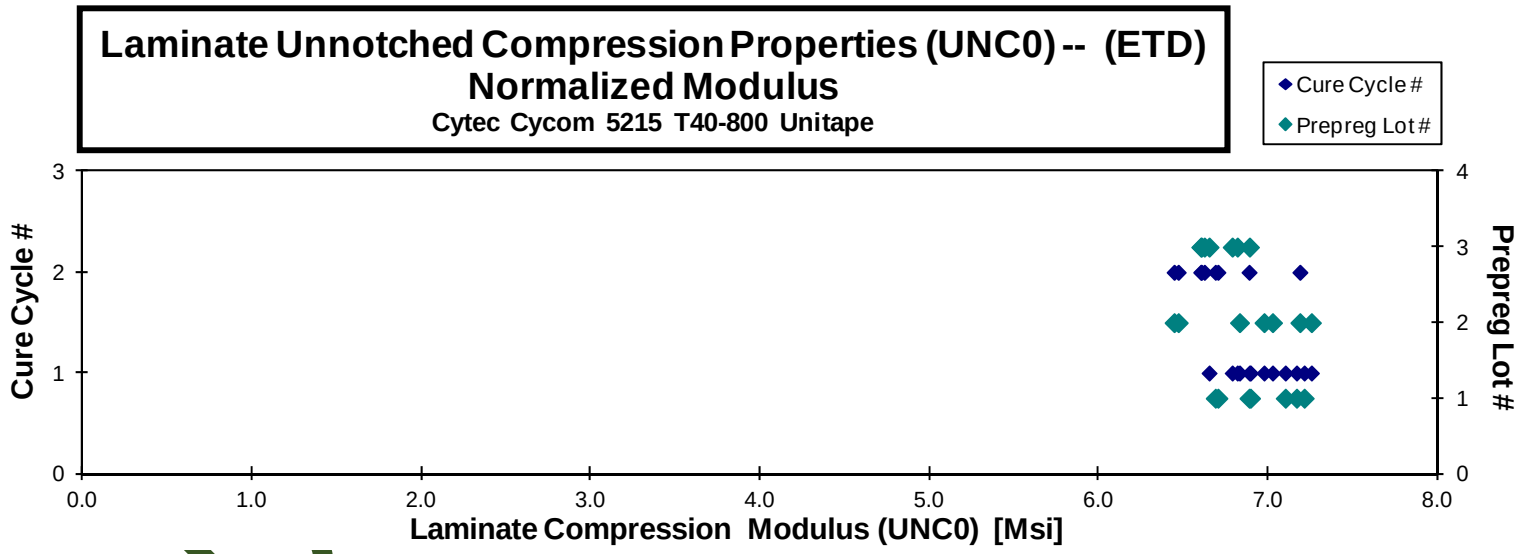
normalizing t_{ply} [in]: 0.0057

Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle Batch #	Strength [ksi]	Modulus [Msi]	Poisson's Ratio	Avg. Specimen Thickn. [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
C0DRA119L	A	C1	1	1		7.215	0.027	0.119	21	BGM / HIT	0.0057		7.167
C0DRA11AL	A	C1	1	1	60.896	6.950	0.026	0.119	21	BGM	0.0057	60.413	6.895
C0DRA11BL	A	C1	1	1	62.461	7.130	0.030	0.119	21	BGM	0.0057	62.200	7.101
C0DRA11CL	A	C1	1	1	72.937	7.272	0.024	0.119	21	BGM	0.0057	72.338	7.212
C0DRA217L	A	C2	1	2	63.883	6.835		0.117	21	BAB	0.0056	62.647	6.703
C0DRA218L	A	C2	1	2	73.415	6.825	0.025	0.117	21	BAB	0.0056	71.933	6.687
C0DRA219L	A	C2	1	2	62.486	7.034	0.024	0.117	21	BGM	0.0056	61.181	6.887
C0DRB119L	B	C1	2	1	68.536	6.983	0.026	0.120	21	BGM	0.0057	68.460	6.975
C0DRB11AL	B	C1	2	1	64.266	7.269	0.027	0.119	21	BGM	0.0057	64.141	7.255
C0DRB11BL	B	C1	2	1	69.216	7.000	0.027	0.120	21	BGM	0.0057	69.467	7.025
C0DRB11CL	B	C1	2	1	59.537	6.817	0.029	0.120	21	BGM	0.0057	59.654	6.830
C0DRB217L	B	C2	2	2	63.091	7.245	0.024	0.119	21	HAB / HAT	0.0057	62.582	7.187
C0DRB218L	B	C2	2	2	64.437	6.464	0.023	0.120	21	BAB	0.0057	64.482	6.468
C0DRB219L	B	C2	2	2	58.094	6.442	0.024	0.120	21	BAB	0.0057	58.119	6.444
C0DRC119L	C	C1	3	1	70.325	6.840	0.025	0.119	21	BGM	0.0057	69.787	6.787
C0DRC11AL	C	C1	3	1	73.731	6.918	0.033	0.119	21	BAB	0.0057	73.423	6.889
C0DRC11BL	C	C1	3	1	61.171	6.840	0.037	0.119	21	BGM	0.0057	60.967	6.817
C0DRC11CL	C	C1	3	1	62.246	6.675	0.024	0.119	21	BAB	0.0057	62.021	6.651
C0DRC217L	C	C2	3	2	68.190	6.745	0.038	0.117	21	BAB	0.0056	66.747	6.602
C0DRC218L	C	C2	3	2	61.999	6.756	0.023	0.117	21	BGM	0.0056	60.618	6.605
C0DRC219L	C	C2	3	2	68.270	6.768	0.034	0.117	21	BAB	0.0056	66.807	6.623

COMPRESSIVE STRENGTH FOR C0DRA119L WAS NOT REPORTED DUE TO UNACCEPTABLE FAILURE
POISSON'S RATIO FOR C0DRA217L WAS REMOVED DUE TO NON-LINEARITY.

	Strength [ksi]	Modulus [Msi]	Poisson's Ratio			$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
Average	65.460	6.906	0.027	$Average_{norm}$	0.0057	64.899	6.848
Standard Dev.	4.754	0.237	0.005	Standard $Dev._{norm}$		4.645	0.245
Coeff. of Var. [%]	7.263	3.427	16.772	Coeff. of $Var._{norm}$ [%]		7.157	3.576
Min.	58.094	6.442	0.023	Min.	0.0056	58.119	6.444
Max.	73.731	7.272	0.038	Max.	0.0057	73.423	7.255
Number of Spec.	20	21	20	Number of Spec.		20	21


Laminate Unnotched Compression Properties (UNC0) -- (ETD)
Normalized Strength
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
80.0
Laminate Compression Strength (UNC0) [ksi]


Laminate Unnotched Compression Properties (UNC0) -- (ETD)
Normalized Modulus
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
Laminate Compression Modulus (UNC0) [Msi]

Laminate Unnotched Compression Properties (UNC0) -- (ETW)
Strength & Modulus
Cytec Cycom 5215 T40-800 Unitape

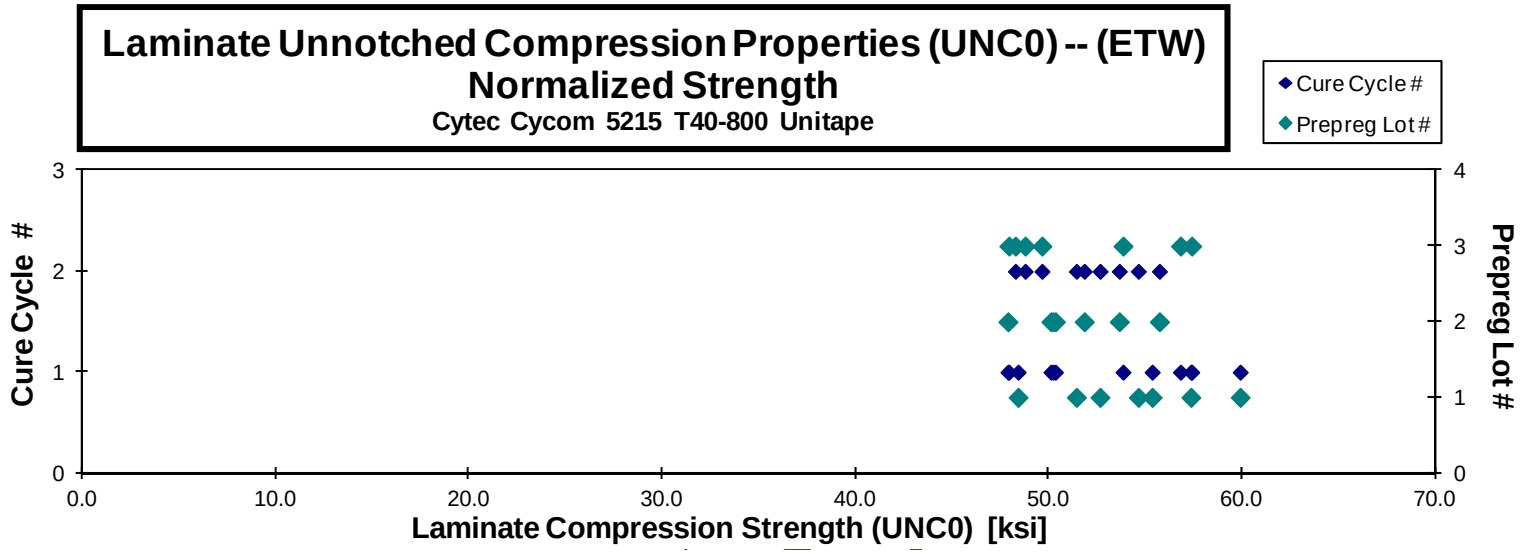
normalizing t_{ply} [in]: 0.0057

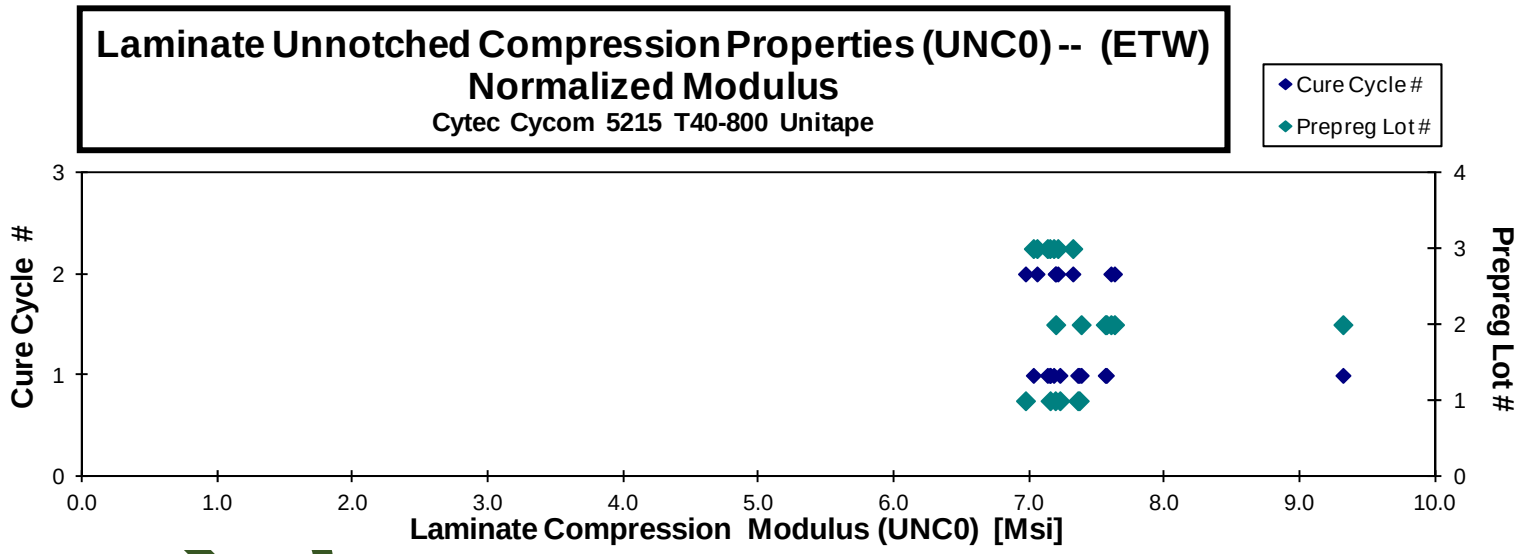
Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Modulus [Msi]	Poisson's Ratio	Avg. Specimen Thickn. [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
C0DRA11DM	A	C1	1	1		7.470	0.032	0.118	21	BAB	0.0056		7.369
C0DRA11EM	A	C1	1	1		7.440	0.026	0.118	21	HIB	0.0056		7.358
C0DRA11FM	A	C1	1	1		7.233	0.028	0.118	21	HIB	0.0056		7.154
C0DRA11GM	A	C1	1	1		7.321	0.033	0.118	21	HIB/BAB	0.0056		7.226
C0DRA11HM	A	C1	1	1	60.889			0.118	21	BAB	0.0056	59.914	
C0DRA11JM	A	C1	1	1	49.453			0.117	21	BAT	0.0056	48.420	
C0DRA11KM	A	C1	1	1	56.402			0.117	21	BAB	0.0056	55.357	
C0DRA11LM	A	C1	1	1	58.517			0.117	21	BAT	0.0056	57.360	
C0DRA21AM	A	C2	1	2		7.105	0.034	0.117	21	HIB/HAB	0.0056		6.972
C0DRA21BM	A	C2	1	2		7.313	0.027	0.118	21	BAB	0.0056		7.191
C0DRA21CM	A	C2	1	2			0.036	0.118	21	BAB	0.0056		
C0DRA21DM	A	C2	1	2	55.288			0.118	21	BAT	0.0056	54.642	
C0DRA21EM	A	C2	1	2	51.922			0.119	21	BAT	0.0056	51.438	
C0DRA21FM	A	C2	1	2	53.246			0.118	21	BAT	0.0056	52.661	
C0DRB11DM	B	C1	2	1		7.621	0.022	0.119	21	BAB	0.0057		7.561
C0DRB11EM	B	C1	2	1		7.599	0.035	0.119	21	BAB / HIB	0.0057		7.570
C0DRB11FM	B	C1	2	1		9.356	0.048	0.119	21	BAT / HIT	0.0057		9.319
C0DRB11GM	B	C1	2	1		7.405	0.032	0.119	21	BAB	0.0057		7.383
C0DRB11HM	B	C1	2	1	50.341			0.120	21	HGM	0.0057	50.348	
C0DRB11IM	B	C1	2	1	50.097			0.120	21	BAT	0.0057	50.118	
C0DRB11JM	B	C1	2	1	50.128			0.120	21	HAT	0.0057	50.232	
C0DRB11KM	B	C1	2	1	47.655			0.120	21	BAB	0.0057	47.894	
C0DRB21AM	B	C2	2	2		7.612	0.032	0.120	21	BAT / HIB	0.0057		7.603
C0DRB21BM	B	C2	2	2		7.296	0.031	0.118	21	BAT	0.0056		7.195
C0DRB21CM	B	C2	2	2		7.700	0.033	0.119	21	BAB	0.0056		7.630
C0DRB21DM	B	C2	2	2	51.931			0.120	21	BAB	0.0057	51.844	
C0DRB21GM	B	C2	2	2	53.641			0.120	21	BAB	0.0057	53.656	
C0DRB21HM	B	C2	2	2	55.540			0.120	21	BAB	0.0057	55.733	
C0DRC11DM	C	C1	3	1		7.320	0.031	0.117	21	BGM	0.0056		7.180
C0DRC11EM	C	C1	3	1		7.227	0.034	0.118	21	BGM	0.0056		7.134
C0DRC11FM	C	C1	3	1		7.111	0.031	0.118	21	BGM	0.0056		7.030
C0DRC11GM	C	C1	3	1		7.270	0.027	0.118	21	BGM	0.0056		7.151
C0DRC11HM	C	C1	3	1	58.347			0.118	21	BGM	0.0056	57.405	
C0DRC11IM	C	C1	3	1	57.560			0.118	21	BGM	0.0056	56.823	
C0DRC11JM	C	C1	3	1	54.478			0.118	21	BGM	0.0056	53.848	
C0DRC11KM	C	C1	3	1	48.829			0.118	21	BGM	0.0056	47.943	
C0DRC21AM	C	C2	3	2		7.357	0.027	0.117	21	BGM	0.0056		7.210
C0DRC21BM	C	C2	3	2		7.101	0.032	0.119	21	BGM	0.0057		7.056
C0DRC21CM	C	C2	3	2		7.323	0.027	0.120	21	BAB	0.0057		7.321
C0DRC21DM	C	C2	3	2	48.738			0.120	21	HGM	0.0057	48.786	
C0DRC21EM	C	C2	3	2	48.146			0.120	21	BAB	0.0057	48.280	
C0DRC21FM	C	C2	3	2	49.558			0.120	21	BAB	0.0057	49.655	

THE MODULUS OF C0DRA21CM WAS REMOVED DUE TO NONLINEAR DATA.

	Strength [ksi]	Modulus [Msi]	Poisson's Ratio
Average	52.891	7.459	0.031
Standard Dev.	3.911	0.479	0.005
Coeff. of Var. [%]	7.394	6.423	16.384
Min.	47.655	7.101	0.022
Max.	60.889	9.356	0.048
Number of Spec.	21	20	21

	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
$Average_{norm}$	0.0056	52.493	7.381
Standard $Dev._{norm}$		3.627	0.495
Coeff. of Var. $[\%]_{norm}$		6.909	6.713
Min.	0.0056	47.894	6.972
Max.	0.0057	59.914	9.319
Number of Spec.		21	20


Laminate Unnotched Compression Properties (UNC0) -- (ETW)
Normalized Strength
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
Laminate Compression Strength (UNC0) [ksi]


Laminate Unnotched Compression Properties (UNC0) -- (ETW)
Normalized Modulus
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
10.0
Laminate Compression Modulus (UNC0) [Msi]

4.11 "25/50/25" Unnotched Compression 1 Properties (UNC1)

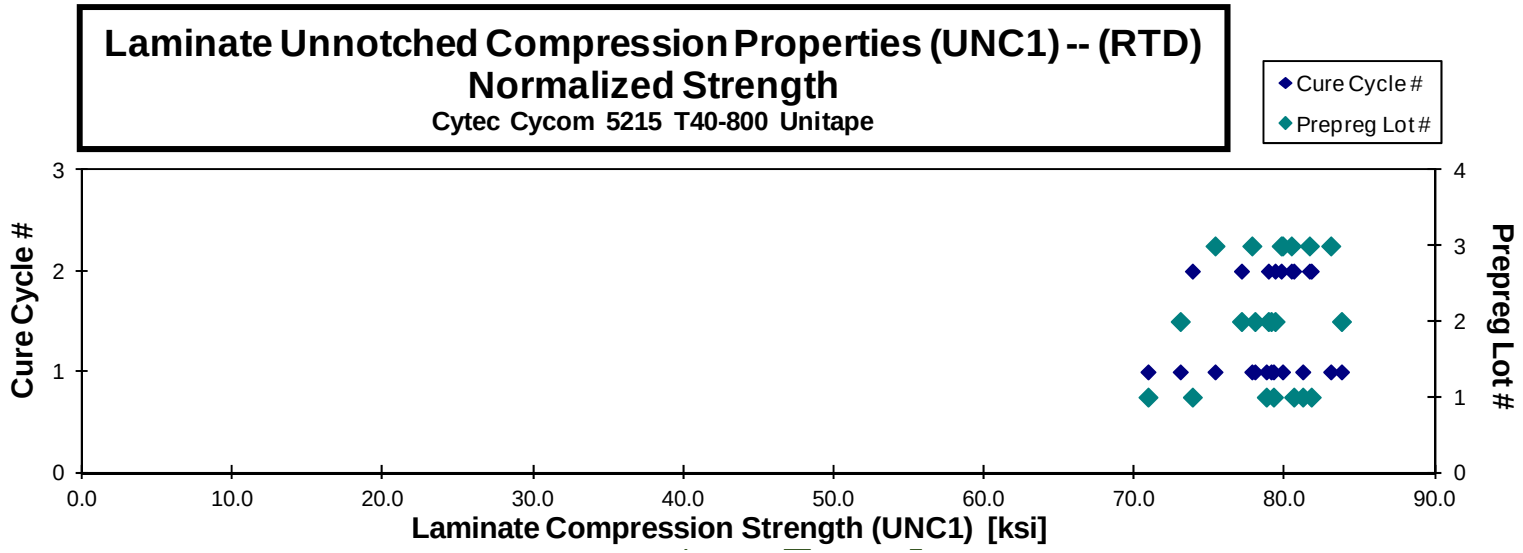
Laminate Unnotched Compression Properties (UNC1) -- (RTD)
Strength & Modulus
Cytec Cycom 5215 T40-800 Unitape

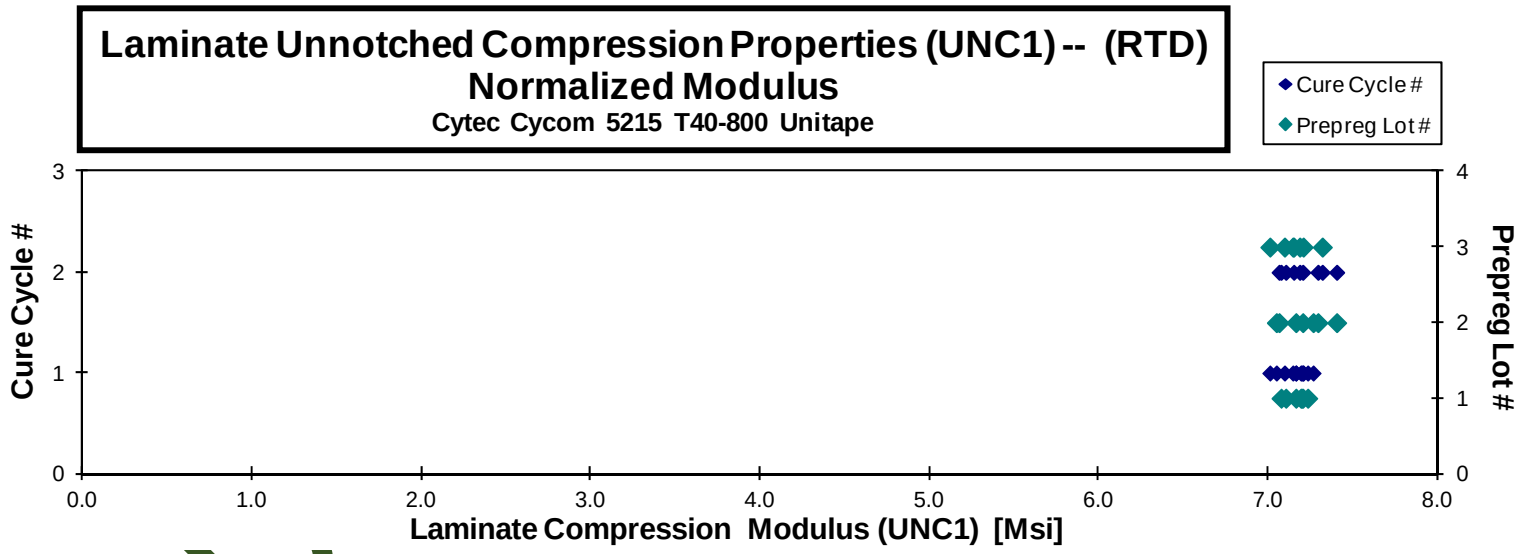
normalizing t_{ply} [in]: 0.0057

Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Modulus [Msi]	Poisson's Ratio	Avg. Specimen Thickn. [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
C0DWA111A	A	C1	1	1	71.050	7.179	0.348	0.137	24	BGM	0.0057	70.895	7.163
C0DWA112A	A	C1	1	1	79.602	7.268	0.347	0.135	24	BGM	0.0056	78.768	7.192
C0DWA113A	A	C1	1	1	79.736	7.242	0.357	0.136	24	BGM	0.0057	79.240	7.197
C0DWA114A	A	C1	1	1	82.193	7.322	0.343	0.135	24	BGM	0.0056	81.192	7.233
C0DWA211A	A	C2	1	2	81.146	7.124	0.332	0.136	24	BGM	0.0057	80.592	7.076
C0DWA212A	A	C2	1	2	81.995	7.124	0.332	0.136	24	BGM	0.0057	81.756	7.104
C0DWA213A	A	C2	1	2	73.571	7.177	0.357	0.137	24	BGM	0.0057	73.849	7.204
C0DWB111A	B	C1	2	1	81.257	7.464	0.333	0.133	24	BGM	0.0055	79.089	7.265
C0DWB112A	B	C1	2	1	85.735	7.373	0.332	0.134	24	BGM	0.0056	83.771	7.204
C0DWB113A	B	C1	2	1	*	7.190	0.344	0.134	24	HIT	0.0056		7.048
C0DWB114A	B	C1	2	1	79.610	7.310	0.349	0.134	24	BGM	0.0056	78.010	7.163
C0DWB115A	B	C1	2	1	74.671			0.134	24	BGM	0.0056	73.042	
C0DWB211A	B	C2	2	2	78.474	7.212	0.346	0.138	24	BGM	0.0058	79.353	7.293
C0DWB212A	B	C2	2	2	78.155	6.997	0.343	0.138	24	BGM	0.0058	78.908	7.064
C0DWB213A	B	C2	2	2	76.160	7.312	0.355	0.139	24	BGM	0.0058	77.116	7.404
C0DWC111A	C	C1	3	1	79.001	7.205	0.329	0.135	24	BGM	0.0056	77.807	7.096
C0DWC112A	C	C1	3	1	84.060	7.231	0.328	0.135	24	BGM	0.0056	83.056	7.145
C0DWC113A	C	C1	3	1	80.713	7.085	0.345	0.135	24	BAT	0.0056	79.848	7.009
C0DWC114A	C	C1	3	1	*	7.273	0.348	0.136	24	ENDCRUSH	0.0056		7.206
C0DWC115A	C	C1	3	1	75.846			0.136	24	BGM	0.0057	75.356	
C0DWC211A	C	C2	3	2	82.569	7.232	0.319	0.135	24	BGM	0.0056	81.634	7.150
C0DWC212A	C	C2	3	2	80.010	7.208	0.336	0.136	24	BGM	0.0057	79.757	7.186
C0DWC213A	C	C2	3	2	81.103	7.380	0.351	0.136	24	BGM	0.0057	80.431	7.319

*** STRENGTH WAS REMOVED DUE TO BAD FAILURE.**
THE SPECIMEN C0DWB115A AND C0DWC115A WAS TESTED FOR STRENGTH ONLY

Average	**79.365**	**7.234**	**$Average_{norm}$**	**0.0057**	**78.737**	**7.177**
Standard Dev.	**3.534**	**0.107**	**$Standard\ Dev._{norm}$**		**3.242**	**0.095**
Coeff. of Var. [%]	**4.453**	**1.478**	**$Coeff.\ of\ Var.\ [\%]_{norm}$**		**4.117**	**1.325**
Min.	**71.050**	**6.997**	**Min.**	**0.0055**	**70.895**	**7.009**
Max.	**85.735**	**7.464**	**Max.**	**0.0058**	**83.771**	**7.404**
Number of Spec.	**21**	**21**	**Number of Spec.**		**21**	**21**


Laminate Unnotched Compression Properties (UNC1) -- (RTD)
Normalized Strength
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
80.0
90.0
Laminate Compression Strength (UNC1) [ksi]


Laminate Unnotched Compression Properties (UNC1) -- (RTD)
Normalized Modulus
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
Laminate Compression Modulus (UNC1) [Msi]

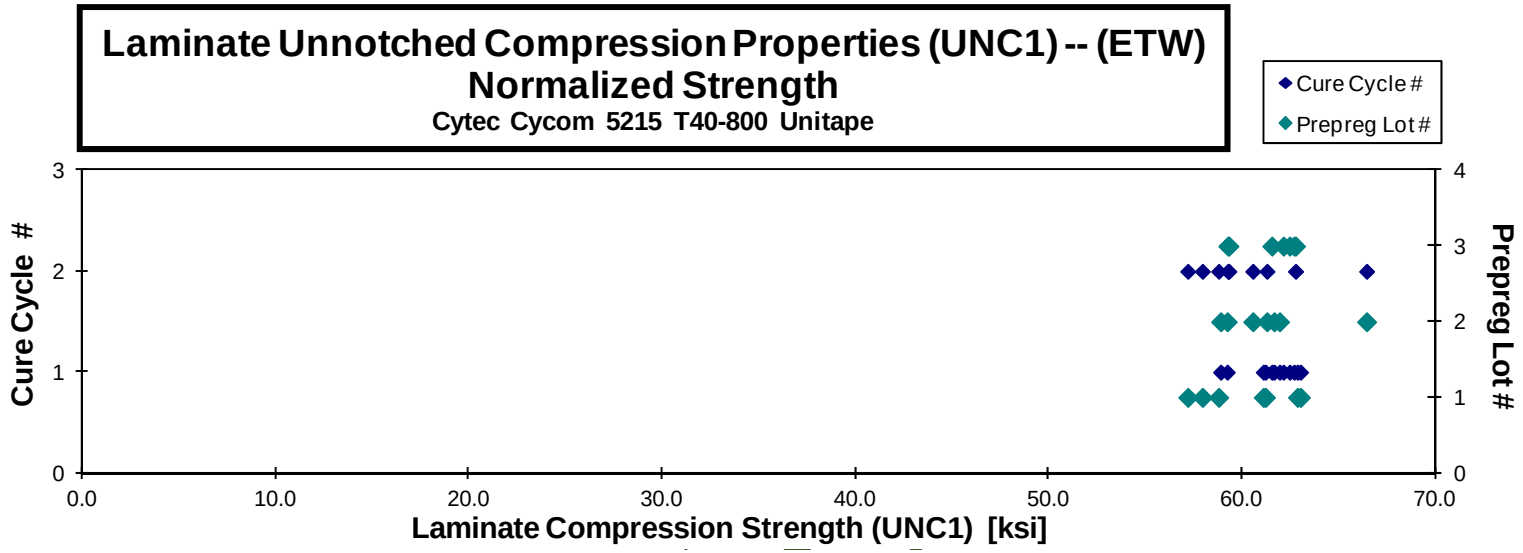
Laminate Unnotched Compression Properties (UNC1) -- (ETW)
Strength & Modulus
Cytec Cycom 5215 T40-800 Unitape

normalizing t_{ply} [in]: 0.0057

Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Modulus [Msi]	Poisson's Ratio	Avg. Specimen Thickn. [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
C0DWA116M	A	C1	1	1		7.130	0.349	0.136	24	BGM	0.0057		7.111
C0DWA117M	A	C1	1	1		7.193	0.354	0.136	24	BGM	0.0057		7.174
C0DWA118M	A	C1	1	1		7.015	0.341	0.136	24	HIB	0.0057		6.993
C0DWA119M	A	C1	1	1		7.125	0.338	0.136	24	BGM	0.0057		7.088
C0DWA11AM	A	C1	1	1	61.544			0.136	24	BGM	0.0057	61.221	
C0DWA11BM	A	C1	1	1	63.415			0.136	24	BGM	0.0057	62.874	
C0DWA11CM	A	C1	1	1	61.566			0.136	24	BGM	0.0057	61.108	
C0DWA11DM	A	C1	1	1	63.140			0.137	24	BAB	0.0057	63.033	
C0DWA215M	A	C2	1	2		6.989	0.350	0.137	24	HIB	0.0057		7.011
C0DWA216M	A	C2	1	2		7.212	0.346	0.137	24	BGM	0.0057		7.235
C0DWA217M	A	C2	1	2		7.022	0.352	0.137	24	BAT	0.0057		7.028
C0DWA218M	A	C2	1	2	58.945			0.135	24	BGM	0.0056	57.954	
C0DWA219M	A	C2	1	2	57.650			0.136	24	BGM	0.0057	57.200	
C0DWA21AM	A	C2	1	2	59.050			0.136	24	BGM	0.0057	58.798	
C0DWB116M	B	C1	2	1		6.795	0.355	0.134	24	BGM	0.0056		6.671
C0DWB117M	B	C1	2	1		6.688	0.334	0.135	24	BGM	0.0056		6.588
C0DWB118M	B	C1	2	1		6.588	0.338	0.135	24	BGM	0.0056		6.493
C0DWB119M	B	C1	2	1		6.803	0.311	0.134	24	BAB	0.0056		6.686
C0DWB11AM	B	C1	2	1	60.159			0.135	24	BGM	0.0056	59.243	
C0DWB11BM	B	C1	2	1	62.767			0.134	24	BGM	0.0056	61.666	
C0DWB11CM	B	C1	2	1	62.852			0.135	24	BGM	0.0056	61.949	
C0DWB11DM	B	C1	2	1	59.930			0.134	24	BGM	0.0056	58.901	
C0DWB215M	B	C2	2	2		6.459	0.353	0.137	24	BGM	0.0057		6.471
C0DWB216M	B	C2	2	2		6.532	0.322	0.137	24	BGM	0.0057		6.559
C0DWB217M	B	C2	2	2		6.417	0.347	0.138	24	BGM	0.0057		6.472
C0DWB218M	B	C2	2	2	60.926			0.138	24	BGM	0.0057	61.297	
C0DWB21BM	B	C2	2	2	60.284			0.137	24	BGM	0.0057	60.563	
C0DWB21DM	B	C2	2	2	66.102			0.138	24	BGM	0.0057	66.456	
C0DWC116M	C	C1	3	1		6.788	0.332	0.136	24	BGM	0.0057		6.731
C0DWC117M	C	C1	3	1		7.019	0.353	0.135	24	BGM	0.0056		6.920
C0DWC118M	C	C1	3	1		6.451	0.332	0.135	24	BGM	0.0056		6.359
C0DWC119M	C	C1	3	1		6.718	0.357	0.134	24	BGM	0.0056		6.594
C0DWC11AM	C	C1	3	1	63.767			0.135	24	BGM	0.0056	62.703	
C0DWC11BM	C	C1	3	1	63.513			0.135	24	BGM	0.0056	62.468	
C0DWC11CM	C	C1	3	1	63.068			0.135	24	BGM	0.0056	62.146	
C0DWC11DM	C	C1	3	1	62.373			0.135	24	BGM	0.0056	61.552	
C0DWC215M	C	C2	3	2		6.402	0.341	0.135	24	HIB	0.0056		6.339
C0DWC216M	C	C2	3	2		6.567	0.332	0.135	24	HAB	0.0056		6.463
C0DWC217M	C	C2	3	2		6.454	0.347	0.136	24	BGM	0.0056		6.396
C0DWC218M	C	C2	3	2	60.538			0.134	24	BGM	0.0056	59.329	
C0DWC219M	C	C2	3	2	63.757			0.135	24	BGM	0.0056	62.778	
C0DWC21AM	C	C2	3	2	60.369			0.134	24	BGM	0.0056	59.273	

	Strength [ksi]	Modulus [Msi]
Average	61.701	6.779
Standard Dev.	2.040	0.279
Coeff. of Var. [%]	3.307	4.121
Min.	57.650	6.402
Max.	66.102	7.212
Number of Spec.	21	21

	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
$Average_{norm}$	0.0057	61.072	6.732
$Standard\ Dev._{norm}$		2.129	0.295
$Coeff.\ of\ Var.\ [\%]_{norm}$		3.486	4.375
Min.	0.0056	57.200	6.339
Max.	0.0057	66.456	7.235
Number of Spec.		21	21


Laminate Unnotched Compression Properties (UNC1) -- (ETW)
Normalized Strength
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
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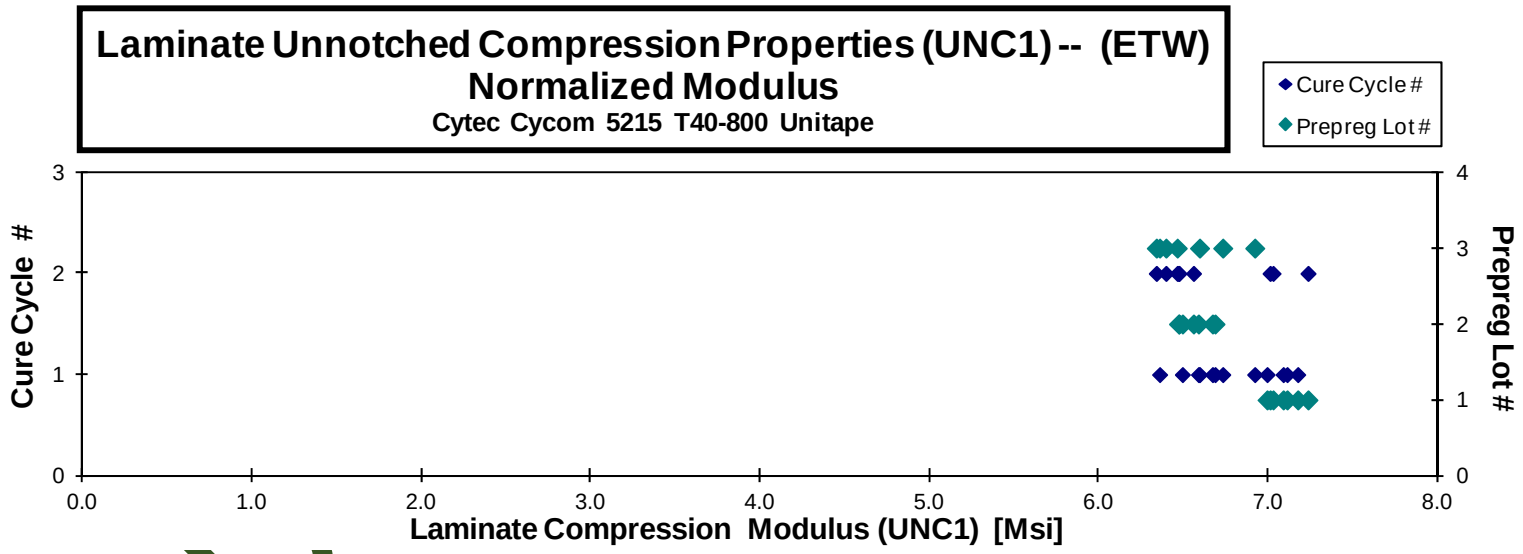
0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
Laminate Compression Strength (UNC1) [ksi]


Laminate Unnotched Compression Properties (UNC1) -- (ETW)
Normalized Modulus
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
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4.0
5.0
6.0
7.0
8.0
Laminate Compression Modulus (UNC1) [Msi]

4.12 "10/80/10" Unnotched Compression 2 Properties (UNC2)

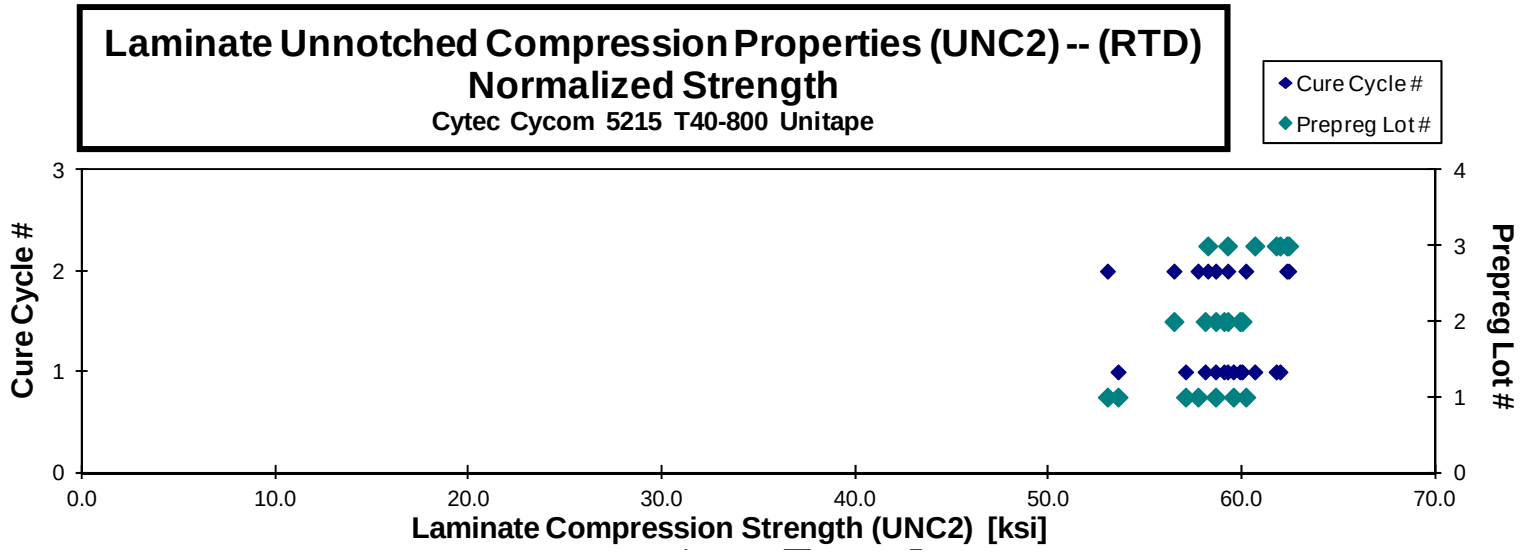
Laminate Unnotched Compression Properties (UNC2) -- (RTD)
Strength & Modulus
Cytec Cycom 5215 T40-800 Unitape

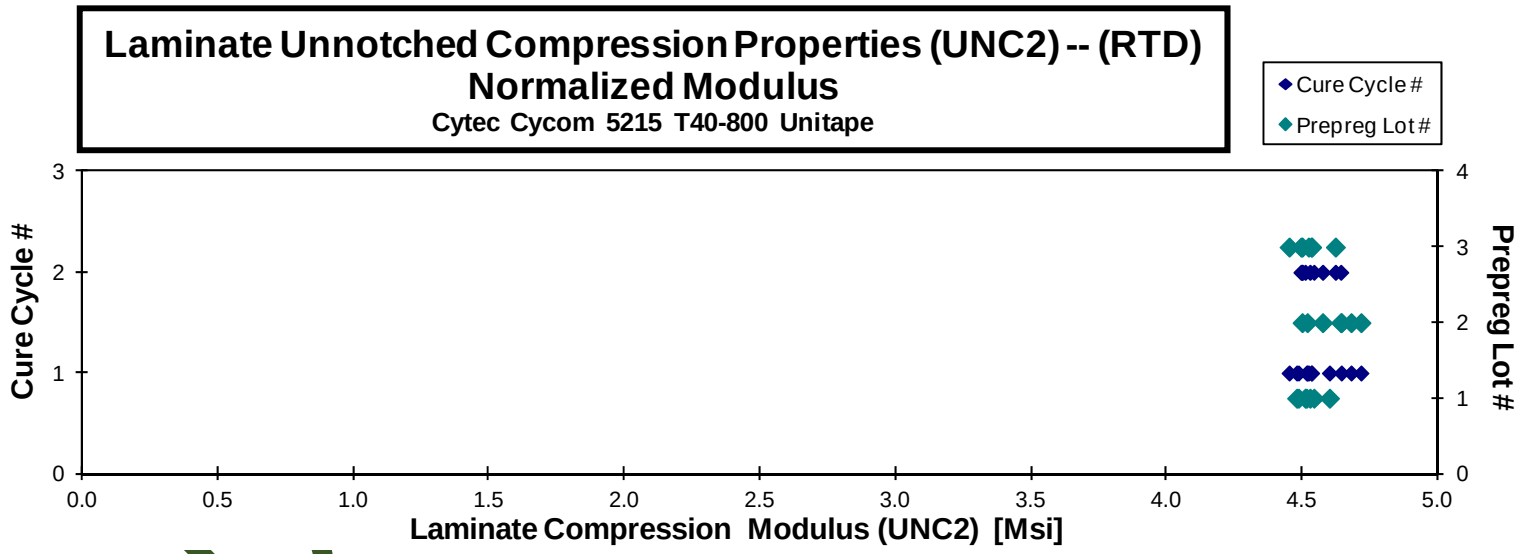
normalizing t_{ply} [in]: 0.0057

Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Modulus [Msi]	Poisson's Ratio	Avg. Specimen Thickn. [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
C0DXA111A	A	C1	1	1	53.826	4.500	0.583	0.114	20	BGM	0.0057	53.590	4.480
C0DXA112A	A	C1	1	1	59.714	4.613	0.606	0.114	20	BGM	0.0057	59.557	4.601
C0DXA114A	A	C1	1	1	57.084	4.516	0.591	0.114	20	BGM	0.0057	57.084	4.516
C0DXA115A	A	C1	1	1	59.030	4.517	0.598	0.113	20	BGM	0.0057	58.633	4.487
C0DXA211A	A	C2	1	2	54.797	4.678	0.613	0.110	20	BGM	0.0055	53.042	4.529
C0DXA212A	A	C2	1	2	59.262	4.631	0.626	0.111	20	BGM	0.0056	57.729	4.511
C0DXA213A	A	C2	1	2		4.670	0.619	0.111	20	ENDCRUSH	0.0055		4.543
C0DXA214A	A	C2	1	2	61.840			0.111	20	BGM	0.0055	60.204	
C0DXB111A	B	C1	2	1	58.977	4.751	0.611	0.112	20	BGM	0.0056	58.097	4.681
C0DXB112A	B	C1	2	1	60.349	4.752	0.617	0.113	20	BGM	0.0057	59.899	4.717
C0DXB113A	B	C1	2	1	59.568	4.683	0.602	0.113	20	BGM	0.0057	59.071	4.644
C0DXB114A	B	C1	2	1	60.630	4.565	0.581	0.113	20	BGM	0.0056	60.009	4.519
C0DXB211A	B	C2	2	2	59.998	4.555	0.587	0.113	20	BGM	0.0056	59.270	4.500
C0DXB212A	B	C2	2	2	59.019	4.604	0.618	0.113	20	BAT	0.0057	58.648	4.576
C0DXB213A	B	C2	2	2	56.534	4.647	0.609	0.114	20	BGM	0.0057	56.485	4.642
C0DXC111A	C	C1	3	1	62.097	4.666	0.605	0.109	20	BGM	0.0054	59.255	4.452
C0DXC112A	C	C1	3	1	64.343	4.711	0.598	0.109	20	BGM	0.0055	61.775	4.523
C0DXC113A	C	C1	3	1	62.846	4.698	0.605	0.110	20	BGM	0.0055	60.669	4.535
C0DXC114A	C	C1	3	1	63.732	4.662	0.612	0.111	20	BGM	0.0055	61.971	4.533
C0DXC211A	C	C2	3	2	63.216	4.557	0.616	0.113	20	BGM	0.0056	62.421	4.500
C0DXC212A	C	C2	3	2	58.655	4.528	0.607	0.113	20	BGM	0.0057	58.235	4.496
C0DXC213A	C	C2	3	2	62.826	4.660	0.613	0.113	20	BGM	0.0057	62.321	4.623

THE COMPRESSIVE STRENGTH FOR SPECIMEN C0DXA213A WAS REMOVED DUE TO BAD FAILURE.
THE SPECIMEN C0DXA214A WAS TESTED FOR STRENGTH ONLY.

Average	**59.921**	**4.627**		**$Average_{norm}$**	**0.0056**	**58.951**	**4.553**
Standard Dev.	**2.817**	**0.078**		**$Standard\ Dev._{norm}$**		**2.488**	**0.072**
Coeff. of Var. [%]	**4.701**	**1.676**		**$Coeff.\ of\ Var.\ [\%]_{norm}$**		**4.220**	**1.574**
Min.	**53.826**	**4.500**		**Min.**	**0.0054**	**53.042**	**4.452**
Max.	**64.343**	**4.752**		**Max.**	**0.0057**	**62.421**	**4.717**
Number of Spec.	**21**	**21**		**Number of Spec.**		**21**	**21**


Laminate Unnotched Compression Properties (UNC2) -- (RTD)
Normalized Strength
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
Laminate Compression Strength (UNC2) [ksi]


Laminate Unnotched Compression Properties (UNC2) -- (RTD)
Normalized Modulus
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3.5
4.0
4.5
5.0
Laminate Compression Modulus (UNC2) [Msi]

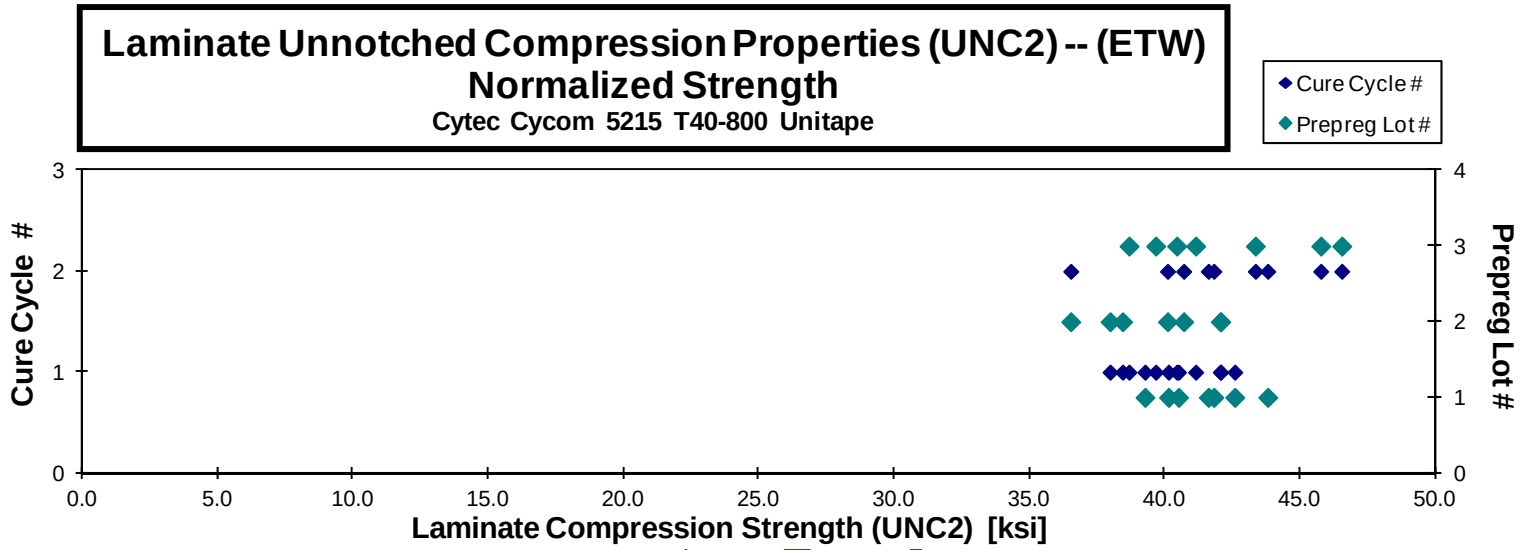
Laminate Unnotched Compression Properties (UNC2) -- (ETW)
Strength & Modulus
Cytec Cycom 5215 T40-800 Unitape

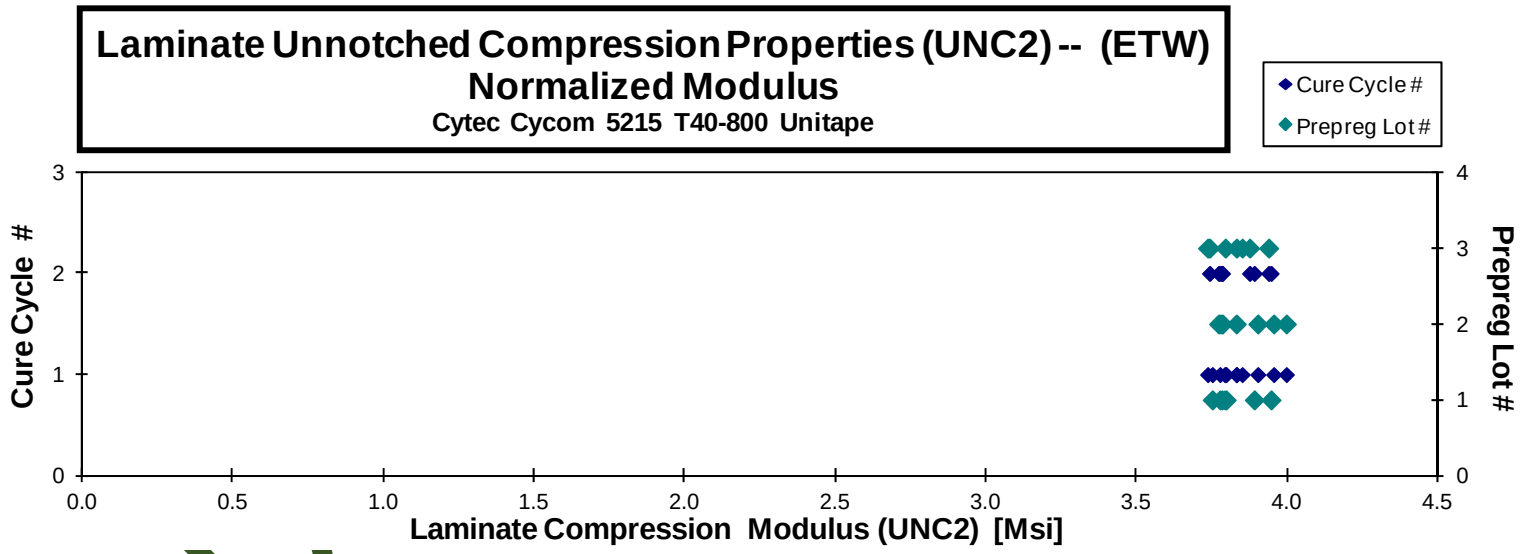
normalizing t_{ply} [in]: 0.0057

Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Modulus [Msi]	Poisson's Ratio	Avg. Specimen Thickn. [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
C0DXA116M	A	C1	1	1		3.818	0.595	0.113	20	BGM	0.0057		3.798
C0DXA117M	A	C1	1	1		3.782	0.595	0.114	20	BGM	0.0057		3.793
C0DXA118M	A	C1	1	1		3.739	0.576	0.114	20	BGM	0.0057		3.752
C0DXA119M	A	C1	1	1		3.820	0.588	0.113	20	BGM	0.0056		3.777
C0DXA11AM	A	C1	1	1	42.840			0.113	20	BAB	0.0057	42.595	
C0DXA11BM	A	C1	1	1	39.447			0.114	20	BAB	0.0057	39.274	
C0DXA11CM	A	C1	1	1	40.483			0.113	20	BAT	0.0057	40.146	
C0DXA11DM	A	C1	1	1	40.725			0.113	20	BGM	0.0057	40.516	
C0DXA215M	A	C2	1	2		3.883	0.597	0.111	20	BGM	0.0056		3.784
C0DXA216M	A	C2	1	2		4.085	0.588	0.110	20	HIT	0.0055		3.947
C0DXA217M	A	C2	1	2		4.035	0.593	0.110	20	BGM	0.0055		3.891
C0DXA218M	A	C2	1	2	44.530			0.112	20	BGM	0.0056	43.814	
C0DXA219M	A	C2	1	2	42.441			0.112	20	BGM	0.0056	41.821	
C0DXA21AM	A	C2	1	2	42.170			0.113	20	BGM	0.0056	41.615	
C0DXB116M	B	C1	2	1		3.829	0.602	0.114	20	BGM	0.0057		3.831
C0DXB117M	B	C1	2	1		4.009	0.609	0.114	20	BGM	0.0057		3.998
C0DXB118M	B	C1	2	1		3.961	0.596	0.114	20	BAB	0.0057		3.956
C0DXB119M	B	C1	2	1		4.004	0.608	0.111	20	BGM	0.0056		3.903
C0DXB11AM	B	C1	2	1	39.152			0.112	20	BGM	0.0056	38.448	
C0DXB11BM	B	C1	2	1	42.951			0.112	20	BGM	0.0056	42.066	
C0DXB11CM	B	C1	2	1	42.698			0.112	20	BGM	0.0056	42.067	
C0DXB11DM	B	C1	2	1	38.481			0.113	20	BGM	0.0056	37.986	
C0DXB215M	B	C2	2	2		3.787	0.599	0.114	20	BGM	0.0057		3.779
C0DXB216M	B	C2	2	2		3.784	0.590	0.114	20	BGM	0.0057		3.773
C0DXB217M	B	C2	2	2		3.798	0.589	0.114	20	BGM	0.0057		3.785
C0DXB218M	B	C2	2	2	40.832			0.112	20	BGM	0.0056	40.110	
C0DXB219M	B	C2	2	2	36.554			0.114	20	BGM	0.0057	36.532	
C0DXB21AM	B	C2	2	2	40.617			0.114	20	BGM	0.0057	40.706	
C0DXC116M	C	C1	3	1		3.990	0.560	0.110	20	BGM	0.0055		3.851
C0DXC117M	C	C1	3	1		3.922	0.589	0.110	20	BGM	0.0055		3.795
C0DXC118M	C	C1	3	1		3.880	0.613	0.110	20	BGM	0.0055		3.736
C0DXC119M	C	C1	3	1		3.969	0.586	0.110	20	BAB	0.0055		3.832
C0DXC11AM	C	C1	3	1	39.821			0.111	20	BGM	0.0055	38.686	
C0DXC11BM	C	C1	3	1	40.775			0.111	20	BAB	0.0055	39.672	
C0DXC11CM	C	C1	3	1	41.486			0.111	20	BAB	0.0056	40.449	
C0DXC11DM	C	C1	3	1	42.298			0.111	20	BAT	0.0055	41.148	
C0DXC215M	C	C2	3	2		3.914	0.617	0.113	20	BGM	0.0056		3.876
C0DXC216M	C	C2	3	2		3.977	0.599	0.113	20	BGM	0.0056		3.939
C0DXC217M	C	C2	3	2		3.772	0.596	0.113	20	BGM	0.0057		3.743
C0DXC218M	C	C2	3	2	47.058			0.113	20	BGM	0.0056	46.549	
C0DXC219M	C	C2	3	2	45.814			0.114	20	BGM	0.0057	45.774	
C0DXC21AM	C	C2	3	2	43.553			0.113	20	BGM	0.0057	43.356	

	Strength [ksi]	Modulus [Msi]
Average	41.654	3.892
Standard Dev.	2.442	0.102
Coeff. of Var. [%]	5.862	2.630
Min.	36.554	3.739
Max.	47.058	4.085
Number of Spec.	21	21

	t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
$Average_{norm}$	0.0056	41.111	3.835
$Standard\ Dev._{norm}$		2.454	0.077
$Coeff.\ of\ Var.\ [\%]_{norm}$		5.970	2.015
Min.	0.0055	36.532	3.736
Max.	0.0057	46.549	3.998
Number of Spec.		21	21


Laminate Unnotched Compression Properties (UNC2) -- (ETW)
Normalized Strength
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0
45.0
50.0
Laminate Compression Strength (UNC2) [ksi]


Laminate Unnotched Compression Properties (UNC2) -- (ETW)
Normalized Modulus
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3.5
4.0
4.5
Laminate Compression Modulus (UNC2) [Msi]

4.13 "50/40/10" Unnotched Compression 3 Properties (UNC3)

Laminate Unnotched Compression Properties (UNC3) -- (RTD)
Strength & Modulus
Cytec Cycom 5215 T40-800 Unitape

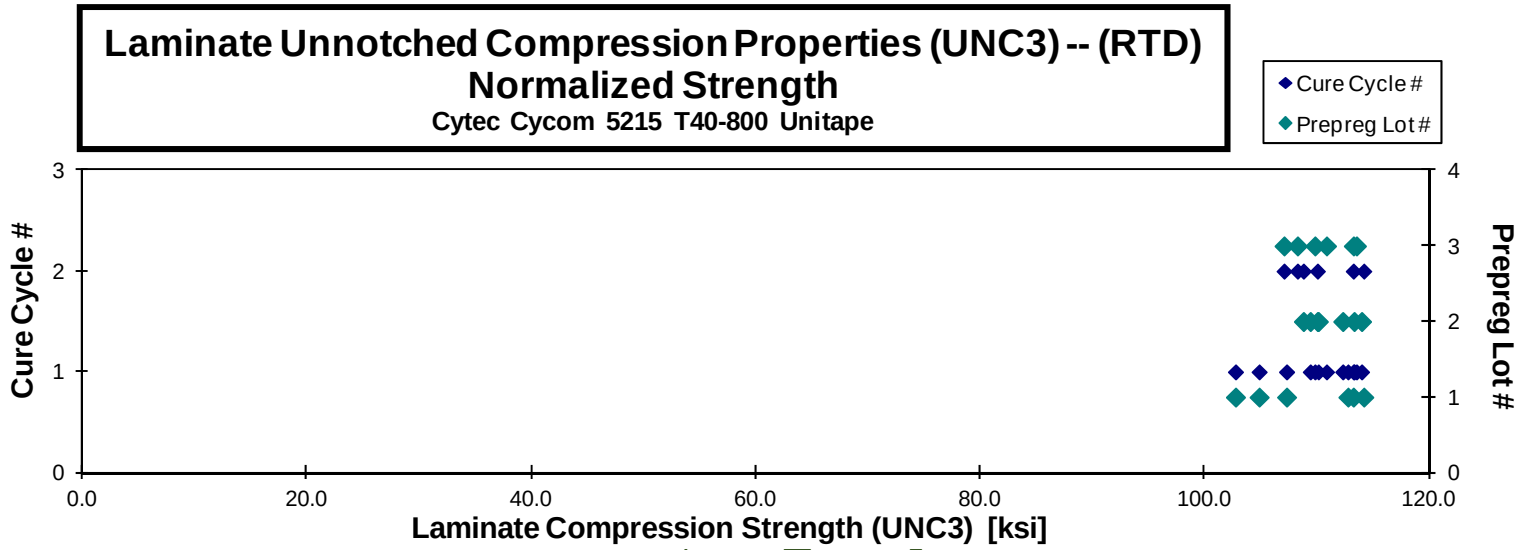
normalizing t_{ply} [in]: 0.0057

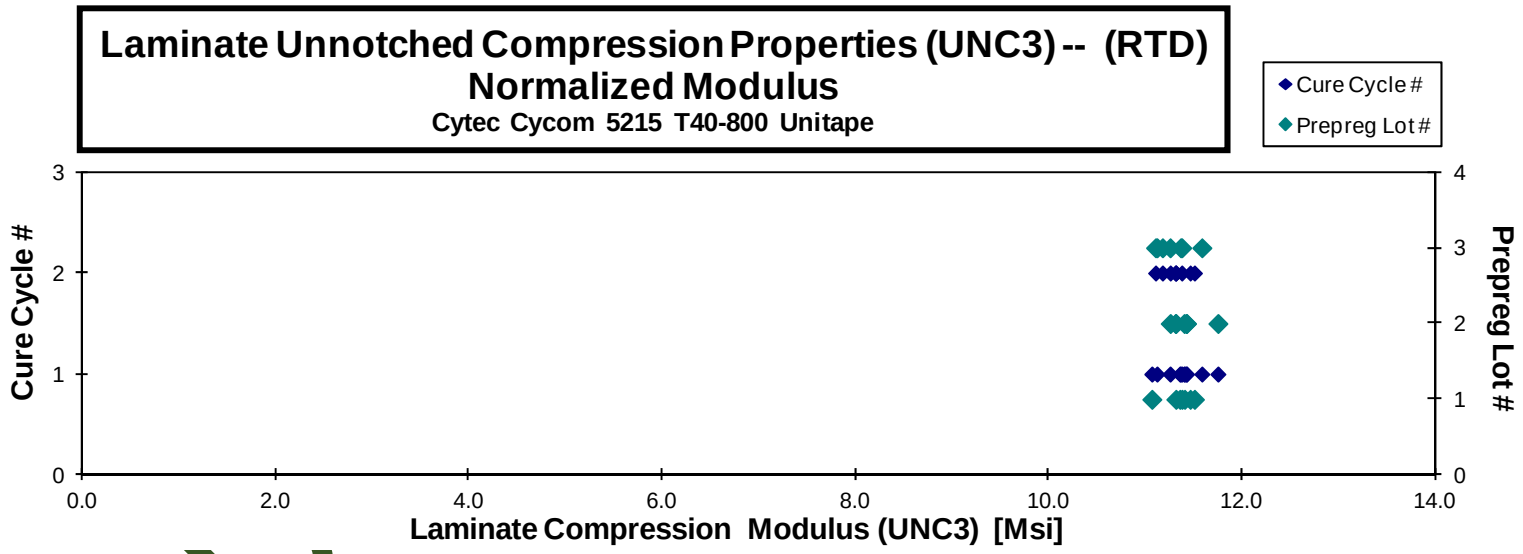
Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Modulus [Msi]	Poisson's Ratio	Avg. Specimen Thickn. [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
C0DYA111A	A	C1	1	1	105.421	11.705	0.441	0.111	20	BAB	0.0056	102.739	11.407
C0DYA112A	A	C1	1	1	107.296	11.326	0.437	0.111	20	BGM	0.0056	104.848	11.068
C0DYA113A	A	C1	1	1	115.599	11.643	0.433	0.111	20	BAB	0.0056	112.760	11.357
C0DYA114A	A	C1	1	1	110.292	11.698	0.448	0.111	20	BGM	0.0055	107.292	11.380
C0DYA211A	A	C2	1	2	*	11.571	0.468	0.113	20	ENDCRUSH	0.0056		11.465
C0DYA212A	A	C2	1	2	*	11.587	0.448	0.113	20	ENDCRUSH	0.0057		11.509
C0DYA213A	A	C2	1	2	114.777	11.376	0.455	0.113	20	BGM	0.0057	114.173	11.317
C0DYA214A	A	C2	1	2	113.539			0.114	20	BGM	0.0057	113.240	
C0DYB111A	B	C1	2	1	114.418	11.537	0.437	0.113	20	BGM	0.0056	113.314	11.426
C0DYB112A	B	C1	2	1	110.641	11.479	0.459	0.113	20	BGM	0.0057	110.124	11.425
C0DYB113A	B	C1	2	1	114.359	11.791	0.461	0.114	20	BGM	0.0057	113.974	11.752
C0DYB114A	B	C1	2	1	109.584	11.421	0.462	0.114	20	BGM	0.0057	109.408	11.403
C0DYB115A	B	C1	2	1	112.798			0.114	20	BGM	0.0057	112.303	
C0DYB211A	B	C2	2	2	*	11.357	0.445	0.114	20	ENDCRUSH	0.0057		11.316
C0DYB212A	B	C2	2	2	*	11.300	0.405	0.114	20	HIT	0.0057		11.312
C0DYB213A	B	C2	2	2	108.084	11.185	0.413	0.115	20	BGM	0.0057	108.795	11.258
C0DYB214A	B	C2	2	2	109.209			0.115	20	BGM	0.0057	110.040	
C0DYC111A	C	C1	3	1	111.425	11.284	0.412	0.112	20	BAB	0.0056	109.812	11.121
C0DYC112A	C	C1	3	1	114.289	11.664	0.406	0.113	20	BAB	0.0057	113.520	11.586
C0DYC113A	C	C1	3	1	111.502	11.323	0.416	0.113	20	BAB	0.0057	110.850	11.257
C0DYC114A	C	C1	3	1	*	11.401	0.439	0.114	20	HIT	0.0057		11.366
C0DYC115A	C	C1	3	1	114.031			0.113	20	BGM	0.0057	113.247	
C0DYC211A	C	C2	3	2	109.520	11.361	0.432	0.111	20	BGM	0.0056	107.070	11.107
C0DYC212A	C	C2	3	2	*	11.622	0.431	0.112	20	HIT	0.0056		11.377
C0DYC213A	C	C2	3	2	110.113	11.369	0.435	0.112	20	BAB	0.0056	108.261	11.178

***STRENGTH NOT REPORTED DUE TO BAD FAILURE.**
THE SPECIMENS C0DYB115A & C0DYB214A , C0DYC115A & C0DYC214A WERE TESTED FOR STRENGTH ONLY.

Average	111.416	11.476	
Standard Dev.	2.862	0.168	
Coeff. of Var. [%]	2.568	1.467	
Min.	105.421	11.185	
Max.	115.599	11.791	
Number of Spec.	19	21	

$Average_{norm}$	0.0056	110.304	11.352
$Standard\ Dev._{norm}$		3.245	0.161
$Coeff.\ of\ Var.\ [\%]_{norm}$		2.942	1.416
Min.	0.0055	102.739	11.068
Max.	0.0057	114.173	11.752
Number of Spec.		19	21


Laminate Unnotched Compression Properties (UNC3) -- (RTD)
Normalized Strength
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
20.0
40.0
60.0
80.0
100.0
120.0
Laminate Compression Strength (UNC3) [ksi]


Laminate Unnotched Compression Properties (UNC3) -- (RTD)
Normalized Modulus
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
2.0
4.0
6.0
8.0
10.0
12.0
14.0
Laminate Compression Modulus (UNC3) [Msi]

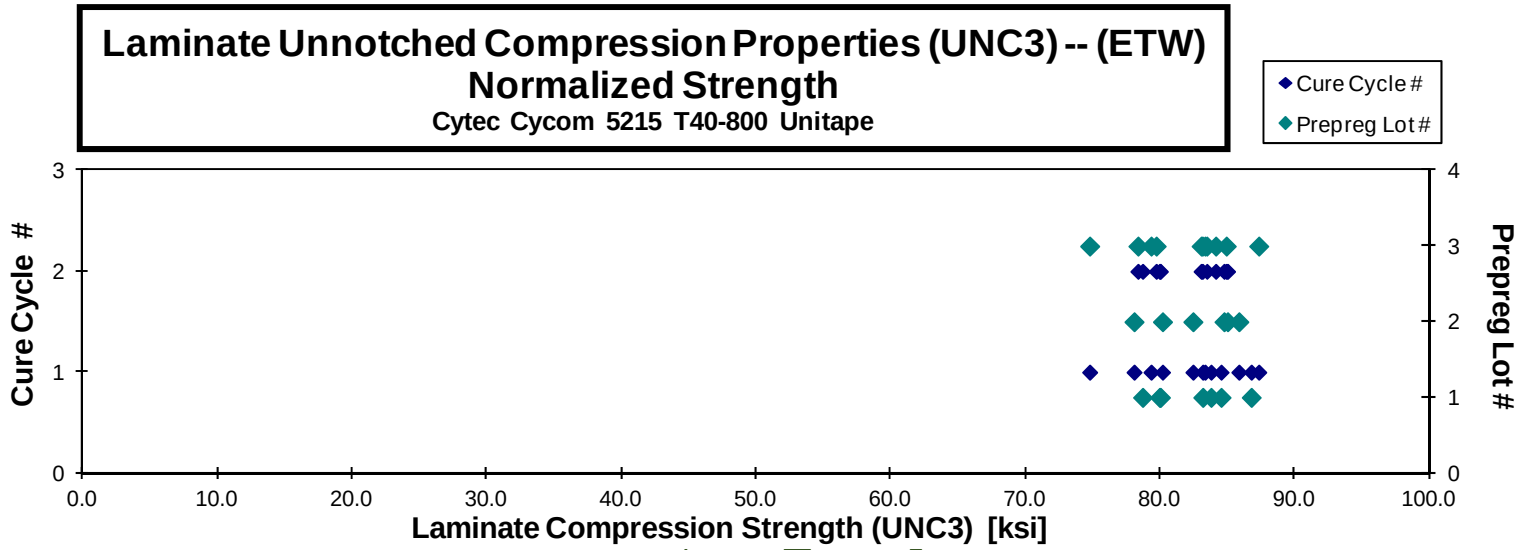
Laminate Unnotched Compression Properties (UNC3) -- (ETW)
Strength & Modulus
Cytec Cycom 5215 T40-800 Unitape

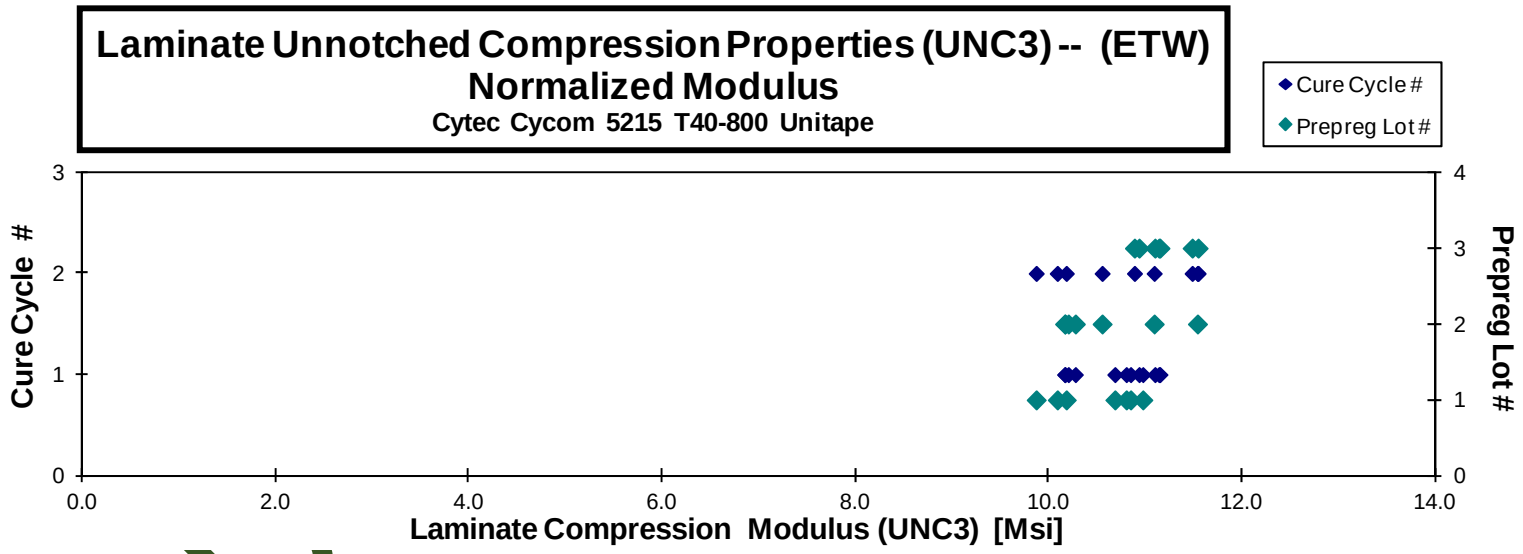
normalizing t_{ply} [in]: 0.0057

Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Modulus [Msi]	Poisson's Ratio	Avg. Specimen Thickn. [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
C0DYA116M	A	C1	1	1		11.083	0.420	0.112	20	BGM	0.0056		10.848
C0DYA117M	A	C1	1	1		10.902	0.411	0.112	20	BGM / HIT	0.0056		10.685
C0DYA118M	A	C1	1	1		10.990	0.419	0.112	20	BAT	0.0056		10.803
C0DYA119M	A	C1	1	1		11.222	0.417	0.111	20	BGM	0.0056		10.975
C0DYA11AM	A	C1	1	1	85.754			0.111	20	BAT	0.0056	83.798	
C0DYA11BM	A	C1	1	1	86.468			0.111	20	BAT	0.0056	84.547	
C0DYA11CM	A	C1	1	1	88.576			0.112	20	BAT	0.0056	86.789	
C0DYA11DM	A	C1	1	1	84.952			0.112	20	BAT	0.0056	83.189	
C0DYA215M	A	C2	1	2		9.909	0.417	0.114	20	BAT	0.0057		9.871
C0DYA216M	A	C2	1	2		10.151	0.431	0.113	20	HIB	0.0057		10.090
C0DYA217M	A	C2	1	2		10.241	0.413	0.113	20	BAB	0.0057		10.182
C0DYA218M	A	C2	1	2	80.815			0.113	20	BGM	0.0056	79.977	
C0DYA21BM	A	C2	1	2	81.289			0.112	20	BGM / BAB	0.0056	80.041	
C0DYA21CM	A	C2	1	2	79.532			0.113	20	BAT	0.0056	78.718	
C0DYB116M	B	C1	2	1		10.198	0.431	0.114	20	HIB	0.0057		10.203
C0DYB117M	B	C1	2	1		10.165	0.449	0.114	20	BGM	0.0057		10.168
C0DYB118M	B	C1	2	1		10.288	0.437	0.114	20	BAB	0.0057		10.276
C0DYB119M	B	C1	2	1		10.179	0.432	0.114	20	HIB	0.0057		10.167
C0DYB11AM	B	C1	2	1	85.469			0.115	20	BAT	0.0057	85.869	
C0DYB11BM	B	C1	2	1	77.450			0.115	20	BAB	0.0057	78.084	
C0DYB11CM	B	C1	2	1	81.810			0.115	20	BAT	0.0057	82.456	
C0DYB11DM	B	C1	2	1	79.916			0.114	20	BAT	0.0057	80.196	
C0DYB215M	B	C2	2	2		11.420	0.431	0.115	20	BAT	0.0058		11.540
C0DYB216M	B	C2	2	2		11.023	0.410	0.113	20	BAT	0.0057		11.092
C0DYB217M	B	C2	2	2		10.549	0.416	0.114	20	BGM	0.0057		10.554
C0DYB218M	B	C2	2	2	84.790			0.114	20	BGM	0.0057	85.025	
C0DYB219M	B	C2	2	2	84.751			0.114	20	BGM	0.0057	84.764	
C0DYB21AM	B	C2	3	1	87.228			0.114	20	BGM	0.0057	87.343	
C0DYC116M	C	C1	3	1		11.246	0.426	0.113	20	HIB	0.0057		11.152
C0DYC117M	C	C1	3	1		11.227	0.417	0.113	20	BGM	0.0056		11.100
C0DYC118M	C	C1	3	1		11.068	0.417	0.113	20	BGM	0.0056		10.935
C0DYC11AM	C	C1	3	1		11.249	0.427	0.113	20	HIB	0.0056		11.142
C0DYC11BM	C	C1	3	1	80.299			0.113	20	BAB	0.0056	79.348	
C0DYC11DM	C	C1	3	1	75.630			0.113	20	BAB	0.0056	74.790	
C0DYC11EM	C	C1	3	1	84.963			0.112	20	BGM	0.0056	83.348	
C0DYC215M	C	C2	3	2		11.691	0.411	0.112	20	HIT / BGM	0.0056		11.486
C0DYC216M	C	C2	3	2		11.762	0.431	0.112	20	BGM	0.0056		11.547
C0DYC217M	C	C2	3	2		11.093	0.428	0.112	20	BGM	0.0056		10.888
C0DYC218M	C	C2	3	2	85.055			0.111	20	BGM	0.0056	83.165	
C0DYC219M	C	C2	3	2	80.239			0.111	20	BGM	0.0056	78.374	
C0DYC21AM	C	C2	3	2	85.018			0.111	20	BAT / HIT	0.0056	83.067	
C0DYC21BM	C	C2	3	2	85.501			0.111	20	BGM	0.0056	83.489	
C0DYC21CM	C	C2	3	2	81.504			0.112	20	HAT / HIT	0.0056	79.729	
C0DYC21DM	C	C2	3	2	85.872			0.113	20	BGM / HIT	0.0056	84.931	
C0DYC21EM	C	C2	3	2	85.967			0.112	20	BAT / HIT	0.0056	84.145	

	Strength [ksi]	Modulus [Msi]
Average	83.285	10.841
Standard Dev.	3.305	0.555
Coeff. of Var. [%]	3.968	5.122
Min.	75.630	9.909
Max.	88.576	11.762
Number of Spec.	24	21

	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
$Average_{norm}$	0.0056	82.299	10.748
Standard $Dev._{norm}$		3.140	0.512
Coeff. of Var. $[\%]_{norm}$		3.815	4.765
Min.	0.0056	74.790	9.871
Max.	0.0058	87.343	11.547
Number of Spec.		24	21


Laminate Unnotched Compression Properties (UNC3) -- (ETW)
Normalized Strength
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
80.0
90.0
100.0
Laminate Compression Strength (UNC3) [ksi]

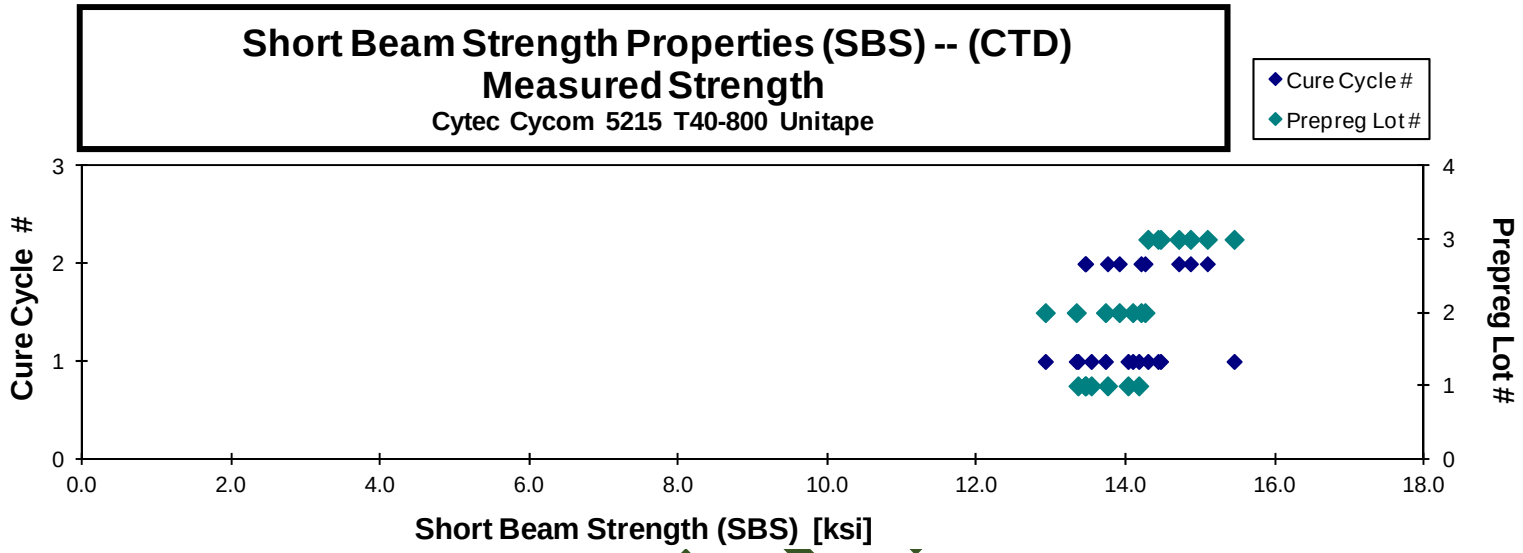

Laminate Unnotched Compression Properties (UNC3) -- (ETW)
Normalized Modulus
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
2.0
4.0
6.0
8.0
10.0
12.0
14.0
Laminate Compression Modulus (UNC3) [Msi]

4.14 Lamina Short-Beam Strength Properties (SBS)

Short Beam Strength Properties (SBS) -- (CTD) Strength
Cytec Cycom 5215 T40-800 Unitape

Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Avg. Specimen Thickn. [in]	# Plies in Laminate	Avg. tply [in]	Failure Mode
C0DQA116B	A	C1	1	1	14.028	0.253	45	0.0056	ILS
C0DQA117B	A	C1	1	1	14.171	0.253	45	0.0056	ILS
C0DQA118B	A	C1	1	1	13.534	0.253	45	0.0056	ILS
C0DQA119B	A	C1	1	1	13.356	0.252	45	0.0056	ILS
C0DQA215B	A	C2	1	2	13.451	0.252	45	0.0056	ILS
C0DQA216B	A	C2	1	2	13.753	0.252	45	0.0056	ILS
C0DQA217B	A	C2	1	2	13.459	0.252	45	0.0056	ILS
C0DQB116B	B	C1	2	1	14.090	0.260	45	0.0058	ILS
C0DQB118B	B	C1	2	1	13.334	0.259	45	0.0058	ILS
C0DQB119B	B	C1	2	1	13.725	0.257	45	0.0057	ILS
C0DQB11AB	B	C1	2	1	12.918	0.254	45	0.0057	ILS
C0DQB215B	B	C2	2	2	13.910	0.258	45	0.0057	ILS
C0DQB216B	B	C2	2	2	14.256	0.258	45	0.0057	ILS
C0DQB217B	B	C2	2	2	14.202	0.258	45	0.0057	ILS
C0DQC116B	C	C1	3	1	14.463	0.255	45	0.0057	ILS
C0DQC117B	C	C1	3	1	14.430	0.254	45	0.0057	ILS
C0DQC118B	C	C1	3	1	15.450	0.254	45	0.0056	ILS
C0DQC119B	C	C1	3	1	14.294	0.254	45	0.0056	ILS
C0DQC215B	C	C2	3	2	14.708	0.252	45	0.0056	ILS
C0DQC216B	C	C2	3	2	15.091	0.252	45	0.0056	ILS
C0DQC217B	C	C2	3	2	14.865	0.252	45	0.0056	ILS

Average	**14.071**	**Average**	**0.0057**
Standard Dev.	**0.635**	**Standard Dev.**	
Coeff. of Var. [%]	**4.510**	**Coeff. of Var. [%]**	
Min.	**12.918**	**Min.**	**0.0056**
Max.	**15.450**	**Max.**	**0.0058**
Number of Spec.	**21**	**Number of Spec.**	**21**


Short Beam Strength Properties (SBS) -- (CTD)
Measured Strength
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
2.0
4.0
6.0
8.0
10.0
12.0
14.0
16.0
18.0
Short Beam Strength (SBS) [ksi]

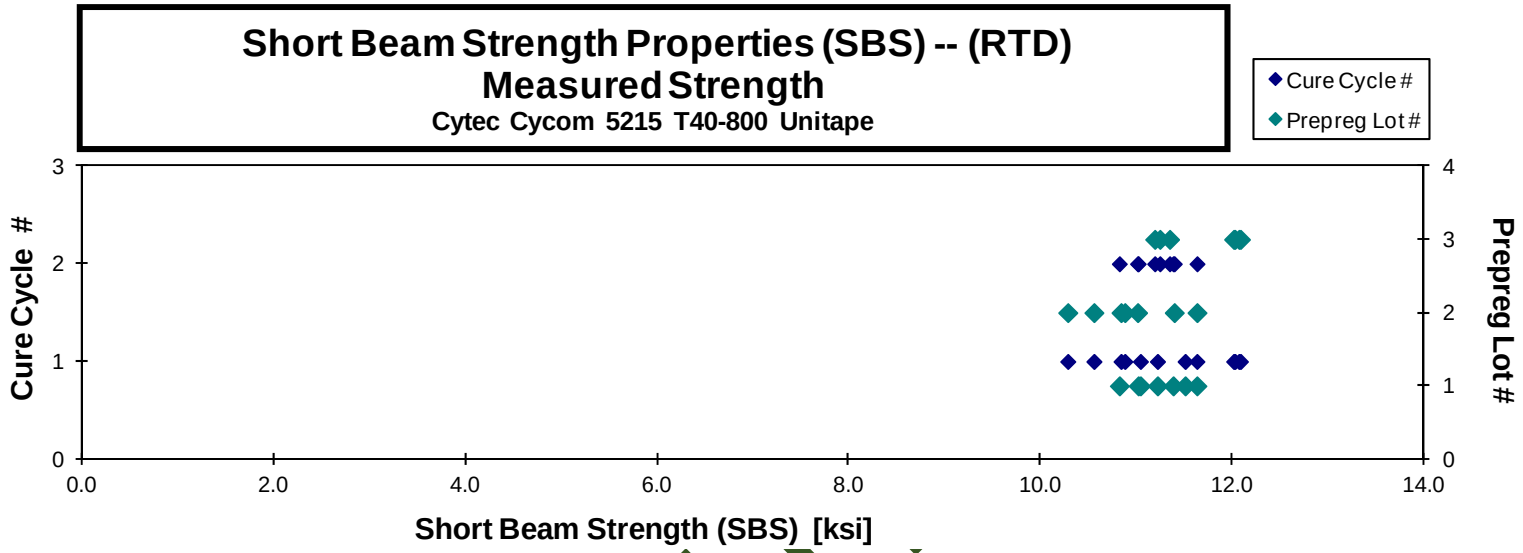
Short Beam Strength Properties (SBS) -- (RTD) Strength

Cytec Cycom 5215 T40-800 Unitape

Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Avg. Specimen Thickn. [in]	# Plies in Laminate	Avg. tply [in]	Failure Mode
C0DQA111A	A	C1	1	1	11.506	0.249	45	0.0055	ILS
C0DQA112A	A	C1	1	1	11.629	0.250	45	0.0056	ILS
C0DQA113A	A	C1	1	1	11.040	0.251	45	0.0056	ILS
C0DQA114A	A	C1	1	1	11.217	0.252	45	0.0056	ILS
C0DQA211A	A	C2	1	2	11.017	0.252	45	0.0056	ILS
C0DQA212A	A	C2	1	2	10.820	0.250	45	0.0056	ILS
C0DQA213A	A	C2	1	2	11.381	0.250	45	0.0055	ILS
C0DQB111A	B	C1	2	1	10.837	0.251	45	0.0056	ILS
C0DQB112A	B	C1	2	1	10.555	0.255	45	0.0057	ILS
C0DQB113A	B	C1	2	1	10.282	0.257	45	0.0057	ILS
C0DQB114A	B	C1	2	1	10.877	0.259	45	0.0057	ILS
C0DQB211A	B	C2	2	2	11.393	0.254	45	0.0056	ILS
C0DQB212A	B	C2	2	2	11.630	0.256	45	0.0057	ILS
C0DQB213A	B	C2	2	2	11.010	0.256	45	0.0057	ILS
C0DQC111A	C	C1	3	1	12.013	0.245	45	0.0054	ILS
C0DQC112A	C	C1	3	1	12.025	0.249	45	0.0055	ILS
C0DQC113A	C	C1	3	1	12.068	0.252	45	0.0056	ILS
C0DQC114A	C	C1	3	1	12.083	0.254	45	0.0056	ILS
C0DQC211A	C	C2	3	2	11.242	0.255	45	0.0057	ILS
C0DQC212A	C	C2	3	2	11.189	0.253	45	0.0056	ILS
C0DQC213A	C	C2	3	2	11.344	0.252	45	0.0056	ILS

Average	**11.293**
Standard Dev.	**0.499**
Coeff. of Var. [%]	**4.419**
Min.	**10.282**
Max.	**12.083**
Number of Spec.	**21**

Average	**0.0056**
Standard Dev.	
Coeff. of Var. [%]	
Min.	**0.0054**
Max.	**0.0057**
Number of Spec.	**21**

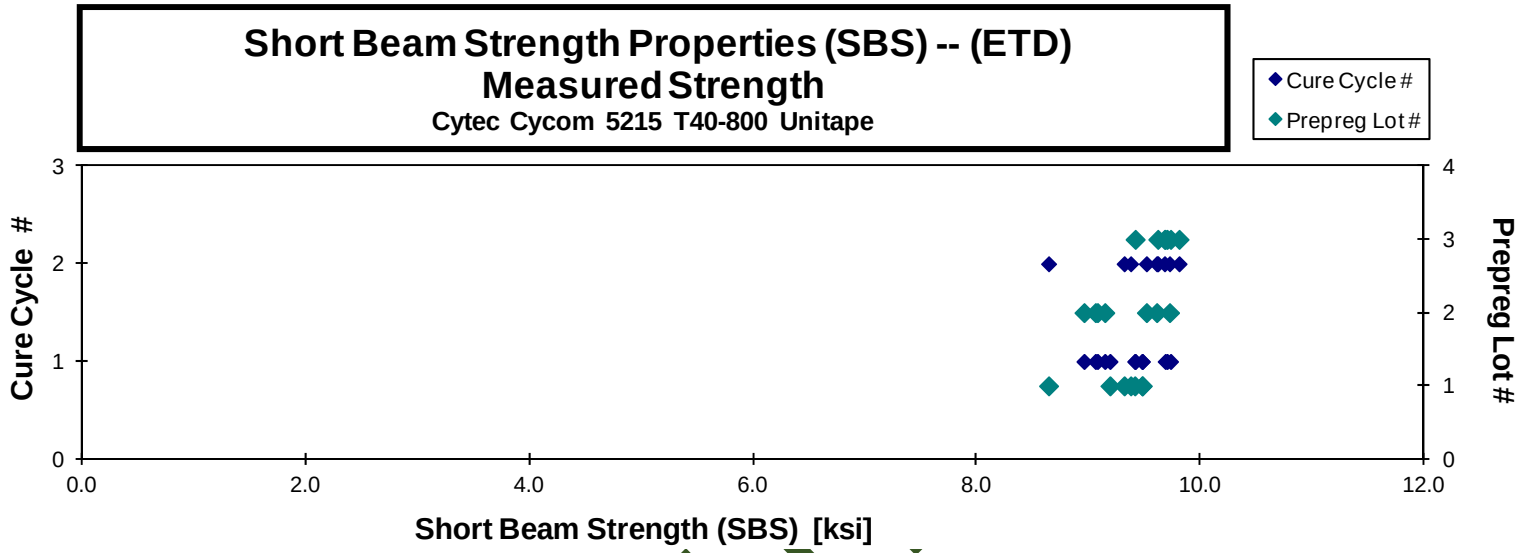

Short Beam Strength Properties (SBS) -- (RTD)
Measured Strength
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Short Beam Strength (SBS) [ksi]
0.0
2.0
4.0
6.0
8.0
10.0
12.0
14.0
0
1
2
3
4

Short Beam Strength Properties (SBS) -- (ETD)
Strength
Cytec Cycom 5215 T40-800 Unitape

Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Avg. Specimen Thickn. [in]	# Plies in Laminate	Avg. tply [in]	Failure Mode
C0DQA11BL	A	C1	1	1	9.190	0.250	45	0.0055	ILS
C0DQA11CL	A	C1	1	1	9.412	0.250	45	0.0056	ILS
C0DQA11DL	A	C1	1	1	9.477	0.251	45	0.0056	ILS
C0DQA11EL	A	C1	1	1	9.479	0.252	45	0.0056	ILS
C0DQA219L	A	C2	1	2	9.375	0.252	45	0.0056	ILS
C0DQA21AL	A	C2	1	2	8.642	0.254	45	0.0056	ILS
C0DQA21CL	A	C2	1	2	9.317	0.253	45	0.0056	ILS
C0DQB11BL	B	C1	2	1	9.060	0.249	45	0.0055	ILS
C0DQB11CL	B	C1	2	1	9.144	0.250	45	0.0056	ILS
C0DQB11DL	B	C1	2	1	8.958	0.253	45	0.0056	ILS
C0DQB11EL	B	C1	2	1	9.079	0.256	45	0.0057	ILS
C0DQB21AL	B	C2	2	2	9.723	0.257	45	0.0057	ILS
C0DQB21BL	B	C2	2	2	9.516	0.256	45	0.0057	ILS
C0DQB21CL	B	C2	2	2	9.608	0.257	45	0.0057	ILS
C0DQC11BL	C	C1	3	1	9.416	0.253	45	0.0056	ILS
C0DQC11DL	C	C1	3	1	9.701	0.248	45	0.0055	ILS
C0DQC11EL	C	C1	3	1	9.684	0.251	45	0.0056	ILS
C0DQC11FL	C	C1	3	1	9.732	0.252	45	0.0056	ILS
C0DQC219L	C	C2	3	2	9.809	0.251	45	0.0056	ILS
C0DQC21AL	C	C2	3	2	9.678	0.251	45	0.0056	ILS
C0DQC21BL	C	C2	3	2	9.618	0.251	45	0.0056	ILS

Average	**9.410**
Standard Dev.	**0.304**
Coeff. of Var. [%]	**3.233**
Min.	**8.642**
Max.	**9.809**
Number of Spec.	**21**

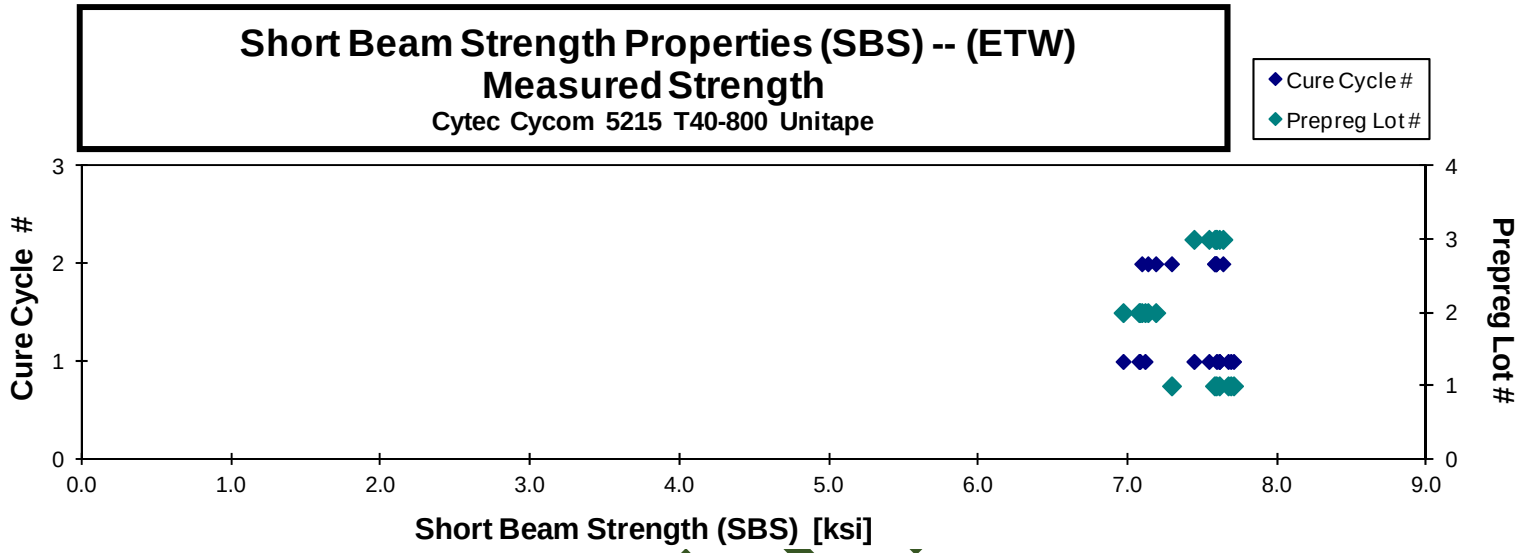
Average	**0.0056**
Standard Dev.	
Coeff. of Var. [%]	
Min.	**0.0055**
Max.	**0.0057**
Number of Spec.	**21**


Short Beam Strength Properties (SBS) -- (ETD)
Measured Strength
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
2.0
4.0
6.0
8.0
10.0
12.0
Short Beam Strength (SBS) [ksi]

Short Beam Strength Properties (SBS) -- (ETW)
Strength
Cytec Cycom 5215 T40-800 Unitape

Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Avg. Specimen Thickn. [in]	# Plies in Laminate	Avg. tply [in]	Failure Mode
C0DQA11GM	A	C1	1	1	7.670	0.254	45	0.0057	ILS
C0DQA11HM	A	C1	1	1	7.707	0.255	45	0.0057	ILS
C0DQA11IM	A	C1	1	1	7.611	0.255	45	0.0057	ILS
C0DQA11JM	A	C1	1	1	7.688	0.254	45	0.0057	ILS
C0DQA21DM	A	C2	1	2	7.579	0.251	45	0.0056	ILS
C0DQA21EM	A	C2	1	2	7.591	0.251	45	0.0056	ILS
C0DQA21FM	A	C2	1	2	7.292	0.251	45	0.0056	ILS
C0DQB11GM	B	C1	2	1	7.114	0.259	45	0.0058	ILS
C0DQB11HM	B	C1	2	1	7.080	0.259	45	0.0058	ILS
C0DQB11IM	B	C1	2	1	7.074	0.258	45	0.0057	ILS
C0DQB11JM	B	C1	2	1	6.968	0.257	45	0.0057	ILS
C0DQB21DM	B	C2	2	2	7.133	0.259	45	0.0058	ILS
C0DQB21EM	B	C2	2	2	7.092	0.259	45	0.0057	ILS
C0DQB21FM	B	C2	2	2	7.186	0.259	45	0.0057	ILS
C0DQC11GM	C	C1	3	1	7.593	0.252	45	0.0056	ILS
C0DQC11HM	C	C1	3	1	7.542	0.252	45	0.0056	ILS
C0DQC11IM	C	C1	3	1	7.611	0.252	45	0.0056	ILS
C0DQC11JM	C	C1	3	1	7.442	0.252	45	0.0056	ILS
C0DQC21DM	C	C2	3	2	7.590	0.255	45	0.0057	ILS
C0DQC21FM	C	C2	3	2	7.581	0.255	45	0.0057	ILS
C0DQC21GM	C	C2	3	2	7.635	0.255	45	0.0057	ILS

Average	**7.418**	**Average**	**0.0057**
Standard Dev.	**0.253**	**Standard Dev.**	
Coeff. of Var. [%]	**3.417**	**Coeff. of Var. [%]**	
Min.	**6.968**	**Min.**	**0.0056**
Max.	**7.707**	**Max.**	**0.0058**
Number of Spec.	**21**	**Number of Spec.**	**21**

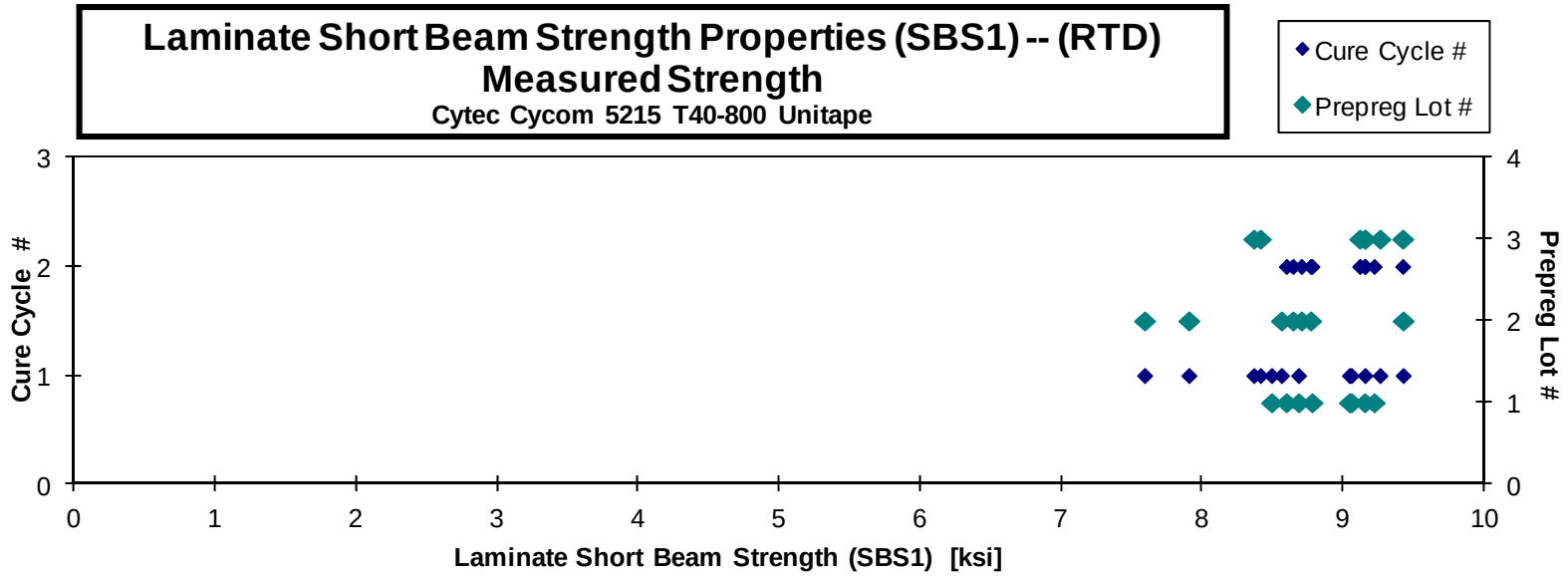

Short Beam Strength Properties (SBS) -- (ETW)
Measured Strength
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Short Beam Strength (SBS) [ksi]
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
0
1
2
3
4

4.15 Laminate Short-Beam Strength Properties (SBS1)

Laminate Short Beam Strength Properties (SBS1) -- (RTD) Strength
Cytec Cycom 5215 T40-800 Unitape

Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Avg. Specimen Thickn. [in]	# Plies in Laminate	Avg. t_{ply} [in]	Failure Mode
C0DqA1G1A	A	C1	1	1	8.689	0.177	32	0.0055	ILS
C0DqA1G2A	A	C1	1	1	9.063	0.179	32	0.0056	ILS
C0DqA1G3A	A	C1	1	1	8.498	0.179	32	0.0056	ILS
C0DqA1G4A	A	C1	1	1	9.050	0.179	32	0.0056	ILS
C0DqA2G1A	A	C2	1	2	8.784	0.182	32	0.0057	ILS
C0DqA2G2A	A	C2	1	2	8.602	0.182	32	0.0057	ILS
C0DqA2G3A	A	C2	1	2	9.225	0.182	32	0.0057	ILS
C0DqA2G4A	A	C2	1	2	9.158	0.181	32	0.0057	ILS
C0DqB1G1A	B	C1	2	1	7.597	0.181	32	0.0057	ILS
C0DqB1G2A	B	C1	2	1	9.431	0.181	32	0.0056	ILS
C0DqB1G3A	B	C1	2	1	8.568	0.181	32	0.0057	ILS
C0DqB1G4A	B	C1	2	1	7.911	0.182	32	0.0057	ILS
C0DqB2G1A	B	C2	2	2	8.649	0.182	32	0.0057	ILS
C0DqB2G2A	B	C2	2	2	8.774	0.182	32	0.0057	ILS
C0DqB2G3A	B	C2	2	2	8.709	0.183	32	0.0057	ILS
C0DqC1G1A	C	C1	3	1	9.160	0.180	32	0.0056	ILS
C0DqC1G2A	C	C1	3	1	8.418	0.181	32	0.0057	ILS
C0DqC1G3A	C	C1	3	1	9.267	0.182	32	0.0057	ILS
C0DqC1G4A	C	C1	3	1	8.371	0.182	32	0.0057	ILS
C0DqC2G1A	C	C2	3	2	9.428	0.177	32	0.0055	ILS
C0DqC2G2A	C	C2	3	2	9.160	0.177	32	0.0055	ILS
C0DqC2G3A	C	C2	3	2	9.123	0.178	32	0.0056	ILS

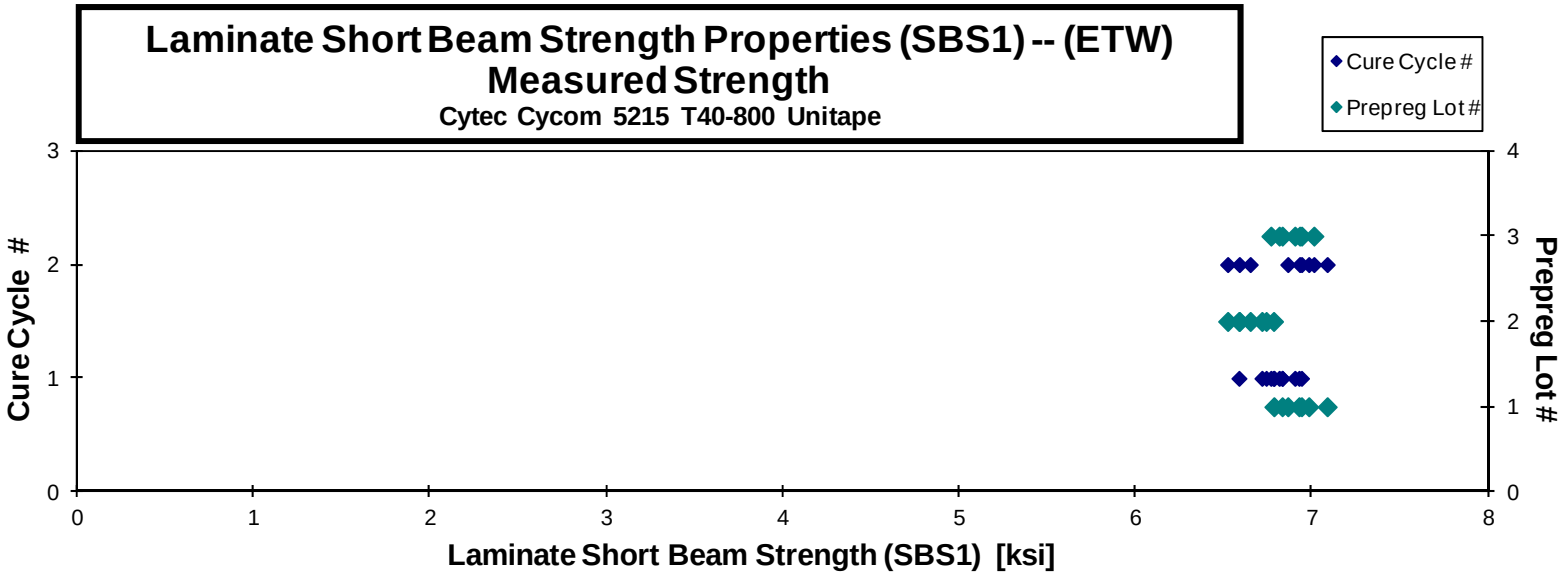
Average	**8.802**	**Average**	**0.0056**
Standard Dev.	**0.469**	**Standard Dev.**	
Coeff. of Var. [%]	**5.324**	**Coeff. of Var. [%]**	
Min.	**7.597**	**Min.**	**0.0055**
Max.	**9.431**	**Max.**	**0.0057**
Number of Spec.	**22**	**Number of Spec.**	**22**


Laminate Short Beam Strength Properties (SBS1) -- (RTD)
Measured Strength
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Short Beam Strength (SBS1) [ksi]
0
1
2
3
4
5
6
7
8
9
10

Laminate Short Beam Strength Properties (SBS1) -- (ETW)
Strength
Cytec Cycom 5215 T40-800 Unitape

Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Avg. Specimen Thickn. [in]	# Plies in Laminate	Avg. t_{ply} [in]	Failure Mode
C0DqA1G7M	A	C1	1	1	6.927	0.181	32	0.0057	ILS
C0DqA1G8M	A	C1	1	1	6.940	0.182	32	0.0057	ILS
C0DqA1G9M	A	C1	1	1	6.784	0.181	32	0.0057	ILS
C0DqA1GAM	A	C1	1	1	6.831	0.182	32	0.0057	ILS
C0DqA2G6M	A	C2	1	2	7.086	0.180	32	0.0056	ILS
C0DqA2G7M	A	C2	1	2	6.981	0.180	32	0.0056	ILS
C0DqA2G8M	A	C2	1	2	6.863	0.180	32	0.0056	ILS
C0DqB1G7M	B	C1	2	1	6.716	0.182	32	0.0057	ILS
C0DqB1G8M	B	C1	2	1	6.586	0.182	32	0.0057	ILS
C0DqB1G9M	B	C1	2	1	6.740	0.183	32	0.0057	ILS
C0DqB1GAM	B	C1	2	1	6.782	0.184	32	0.0057	ILS
C0DqB2G6M	B	C2	2	2	6.650	0.182	32	0.0057	ILS
C0DqB2G7M	B	C2	2	2	6.588	0.183	32	0.0057	ILS
C0DqB2GAM	B	C2	2	2	6.522	0.182	32	0.0057	ILS
C0DqC1G7M	C	C1	3	1	6.814	0.182	32	0.0057	ILS
C0DqC1G8M	C	C1	3	1	6.831	0.183	32	0.0057	ILS
C0DqC1G9M	C	C1	3	1	6.767	0.184	32	0.0057	ILS
C0DqC1GAM	C	C1	3	1	6.903	0.184	32	0.0058	ILS
C0DqC2G8M	C	C2	3	2	6.930	0.180	32	0.0056	ILS
C0DqC2G9M	C	C2	3	2	6.941	0.180	32	0.0056	ILS
C0DqC2GAM	C	C2	3	2	7.011	0.180	32	0.0056	ILS

Average	**6.819**	**Average**	**0.0057**
Standard Dev.	**0.149**	**Standard Dev.**	
Coeff. of Var. [%]	**2.186**	**Coeff. of Var. [%]**	
Min.	**6.522**	**Min.**	**0.0056**
Max.	**7.086**	**Max.**	**0.0058**
Number of Spec.	**21**	**Number of Spec.**	**21**


Laminate Short Beam Strength Properties (SBS1) -- (ETW)
Measured Strength
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Short Beam Strength (SBS1) [ksi]
0
1
2
3
4
5
6
7
8

4.16 "25/50/25" Open-Hole Tension 1 Properties (OHT1)

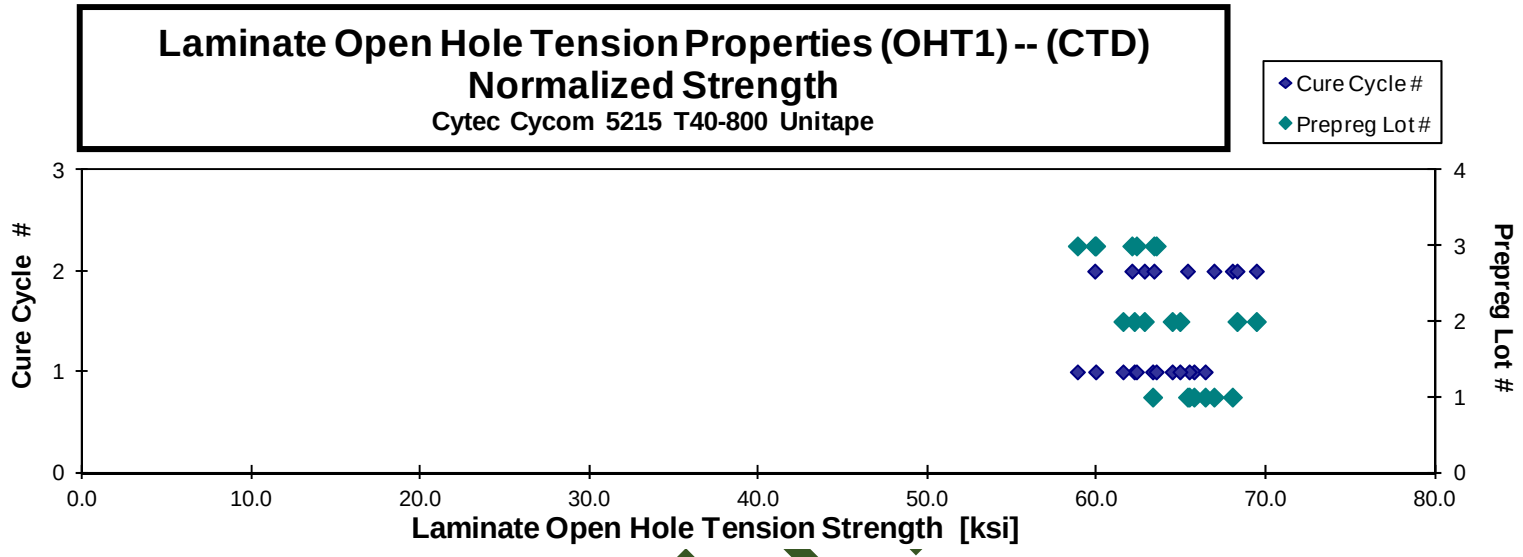
Laminate Open Hole Tension Properties (OHT1) -- (CTD)
Strength
Cytec Cycom 5215 T40-800 Unitape

normalizing t_{ply} [in]: 0.0057

Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Avg. Specimen Thickn. [in]	# Plies in Laminate	Failure Modes	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]
C0DDA116B	A	C1	1	1	66.065	0.091	16	LGM/AGM	0.0057	65.739
C0DDA117B	A	C1	1	1	63.852	0.090	16	LGM/AGM	0.0057	63.292
C0DDA118B	A	C1	1	1	66.926	0.090	16	LGM/AGM	0.0057	66.400
C0DDA119B	A	C1	1	1	65.552	0.091	16	LGM/AGM	0.0057	65.456
C0DDA215B	A	C2	1	2	67.945	0.091	16	LGM/AGM	0.0057	68.008
C0DDA216B	A	C2	1	2	66.971	0.091	16	LGM/AGM	0.0057	66.922
C0DDA217B	A	C2	1	2	65.272	0.091	16	LGM/AGM	0.0057	65.356
C0DDB116B	B	C1	2	1	63.341	0.090	16	LGM/AGM	0.0056	62.207
C0DDB117B	B	C1	2	1	62.279	0.090	16	LGM/AGM	0.0056	61.539
C0DDB118B	B	C1	2	1	65.464	0.090	16	LGM/AGM	0.0056	64.447
C0DDB119B	B	C1	2	1	66.785	0.089	16	LGM/AGM	0.0055	64.905
C0DDB215B	B	C2	2	2	68.118	0.093	16	LGM/AGM	0.0058	69.425
C0DDB216B	B	C2	2	2	66.995	0.093	16	LGM/AGM	0.0058	68.280
C0DDB217B	B	C2	2	2	63.101	0.091	16	LGM/AGM	0.0057	62.801
C0DDC116B	C	C1	3	1	61.199	0.089	16	LGM/AGM	0.0056	59.924
C0DDC117B	C	C1	3	1	64.235	0.089	16	LGM/AGM	0.0055	62.333
C0DDC118B	C	C1	3	1	60.625	0.089	16	LGM/AGM	0.0055	58.841
C0DDC119B	C	C1	3	1	64.614	0.090	16	LGM/AGM	0.0056	63.504
C0DDC215B	C	C2	3	2	62.087	0.091	16	LGM/AGM	0.0057	62.064
C0DDC216B	C	C2	3	2	59.188	0.092	16	LGM/AGM	0.0058	59.869
C0DDC217B	C	C2	3	2	63.393	0.091	16	LGM/AGM	0.0057	63.369

	Strength [ksi]
Average	64.477
Standard Dev.	2.484
Coeff. of Var. [%]	3.852
Min.	59.188
Max.	68.118
Number of Spec.	21

	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]
$Average_{norm}$	0.0057	64.033
$Standard\ Dev._{norm}$		2.870
$Coeff.\ of\ Var.\ [\%]_{norm}$		4.482
Min.	0.0055	58.841
Max.	0.0058	69.425
Number of Spec.		21


Laminate Open Hole Tension Properties (OHT1) -- (CTD)
Normalized Strength
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
80.0
Laminate Open Hole Tension Strength [ksi]

Laminate Open Hole Tension Properties (OHT1) -- (RTD) Strength

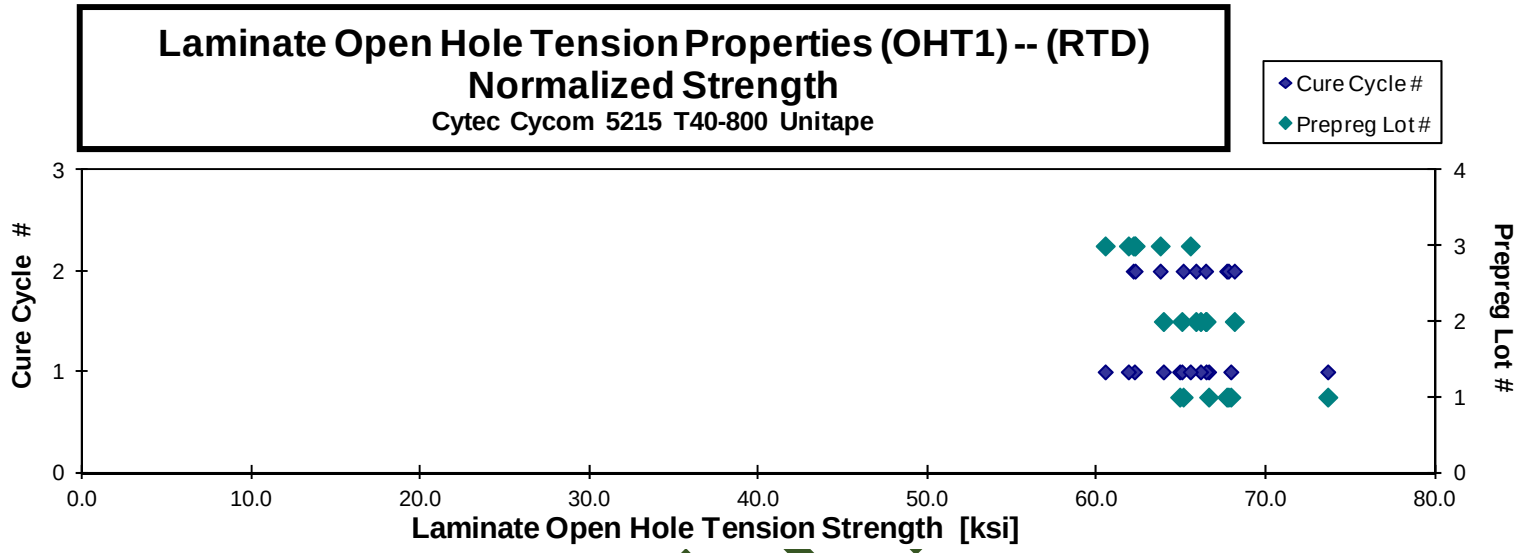
Cytec Cycom 5215 t40-800 Unitape

normalizing t_{ply} [in]: 0.0057

Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Avg. Specimen Thickn. [in]	# Plies in Laminate	Failure Modes	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]
C0DDA111A	A	C1	1	1	64.764	0.091	16	AGM	0.0057	64.894
C0DDA112A	A	C1	1	1	67.008	0.091	16	AGM	0.0057	66.604
C0DDA113A	A	C1	1	1	68.316	0.091	16	AGM	0.0057	67.916
C0DDA114A	A	C1	1	1	73.624	0.091	16	AGM	0.0057	73.651
C0DDA211A	A	C2	1	2	65.734	0.090	16	AGM	0.0056	65.097
C0DDA212A	A	C2	1	2	68.121	0.091	16	AGM	0.0057	67.673
C0DDA213A	A	C2	1	2	66.522	0.093	16	AGM	0.0058	67.774
C0DDB111A	B	C1	2	1	65.928	0.088	16	AGM	0.0055	63.928
C0DDB112A	B	C1	2	1	66.096	0.090	16	AGM	0.0056	65.021
C0DDB113A	B	C1	2	1	67.726	0.089	16	AGM	0.0056	66.451
C0DDB114A	B	C1	2	1	67.217	0.090	16	AGM	0.0056	66.124
C0DDB211A	B	C2	2	2	67.386	0.092	16	AGM	0.0058	68.125
C0DDB212A	B	C2	2	2	64.694	0.093	16	AGM	0.0058	65.853
C0DDB213A	B	C2	2	2	65.437	0.093	16	AGM	0.0058	66.430
C0DDC111A	C	C1	3	1	63.825	0.089	16	AGM	0.0056	62.216
C0DDC112A	C	C1	3	1	67.102	0.089	16	AGM	0.0056	65.521
C0DDC113A	C	C1	3	1	61.671	0.089	16	AGM	0.0056	60.488
C0DDC114A	C	C1	3	1	63.197	0.089	16	AGM	0.0056	61.858
C0DDC211A	C	C2	3	2	61.806	0.092	16	AGM	0.0057	62.145
C0DDC212A	C	C2	3	2	63.475	0.092	16	AGM	0.0057	63.742
C0DDC213A	C	C2	3	2	62.121	0.091	16	AGM	0.0057	62.258

Average	65.799	
Standard Dev.	2.738	
Coeff. of Var. [%]	4.162	
Min.	61.671	
Max.	73.624	
Number of Spec.	21	

$Average_{norm}$	0.00567	65.418
$Standard\ Dev._{norm}$		2.913
$Coeff.\ of\ Var.\ [\%]_{norm}$		4.453
Min.	0.0055	60.488
Max.	0.0058	73.651
Number of Spec.		21

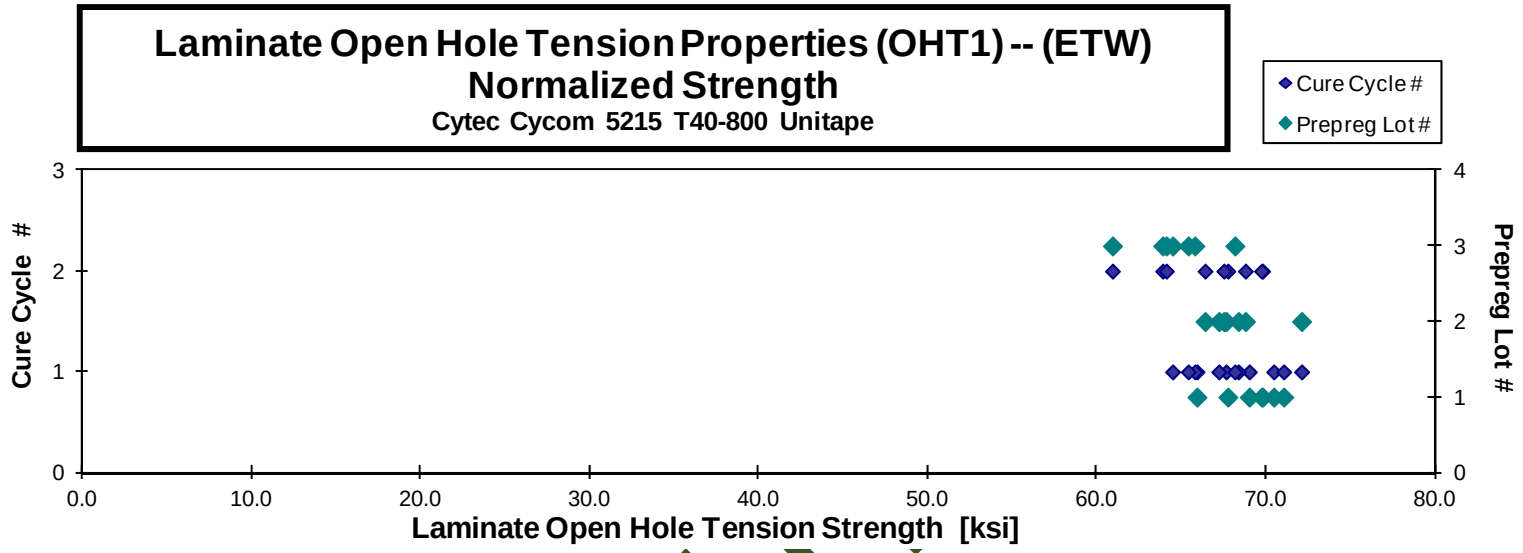

Laminate Open Hole Tension Properties (OHT1) -- (RTD)
Normalized Strength
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
80.0
Laminate Open Hole Tension Strength [ksi]

Laminate Open Hole Tension Properties (OHT1) -- (ETW)
Strength
Cytec Cycom 5215 T40-800 Unitape

normalizing t_{ply} [in]
0.0057

Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Avg. Specimen Thickn. [in]	# Plies in Laminate	Failure Modes	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]
C0DDA11BM	A	C1	1	1	65.344	0.092	16	AGM	0.0058	65.918
C0DDA11CM	A	C1	1	1	70.365	0.091	16	AGM	0.0057	70.455
C0DDA11DM	A	C1	1	1	71.111	0.091	16	AGM	0.0057	71.046
C0DDA11EM	A	C1	1	1	68.808	0.091	16	AGM	0.0057	69.010
C0DDA219M	A	C2	1	2	70.066	0.091	16	MGM	0.0057	69.797
C0DDA21AM	A	C2	1	2	70.157	0.091	16	AGM	0.0057	69.734
C0DDA21BM	A	C2	1	2	68.543	0.090	16	AGM	0.0056	67.741
C0DDB11BM	B	C1	2	1	72.636	0.091	16	AGM	0.0057	72.105
C0DDB11CM	B	C1	2	1	67.815	0.091	16	AGM	0.0057	67.642
C0DDB11DM	B	C1	2	1	68.641	0.091	16	AGM	0.0057	68.365
C0DDB11EM	B	C1	2	1	67.778	0.090	16	AGM	0.0057	67.208
C0DDB219M	B	C2	2	2	65.877	0.092	16	AGM	0.0057	66.394
C0DDB21AM	B	C2	2	2	67.209	0.092	16	AGM	0.0057	67.504
C0DDB21BM	B	C2	2	2	68.195	0.092	16	AGM	0.0057	68.781
C0DDC11BM	C	C1	3	1	66.518	0.090	16	AGM	0.0056	65.789
C0DDC11CM	C	C1	3	1	65.226	0.090	16	AGM	0.0056	64.475
C0DDC11DM	C	C1	3	1	66.125	0.090	16	AGM	0.0056	65.399
C0DDC11EM	C	C1	3	1	69.145	0.090	16	AGM	0.0056	68.160
C0DDC219M	C	C2	3	2	63.756	0.091	16	AGM	0.0057	63.891
C0DDC21AM	C	C2	3	2	61.286	0.091	16	AGM	0.0057	60.917
C0DDC21BM	C	C2	3	2	64.542	0.091	16	AGM	0.0057	64.106

	Strength		$Strength_{norm}$
Average	67.578	$Average_{norm}$ 0.00568	67.354
Standard Dev.	2.696	$Standard\ Dev._{norm}$	2.699
Coeff. of Var. [%]	3.990	$Coeff.\ of\ Var.\ [\%]_{norm}$	4.007
Min.	61.286	Min. 0.0056	60.917
Max.	72.636	Max. 0.0058	72.105
Number of Spec.	21	Number of Spec.	21


Laminate Open Hole Tension Properties (OHT1) -- (ETW)
Normalized Strength
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
80.0
Laminate Open Hole Tension Strength [ksi]

4.17 "10/80/10" Open-Hole Tension 2 Properties (OHT2)

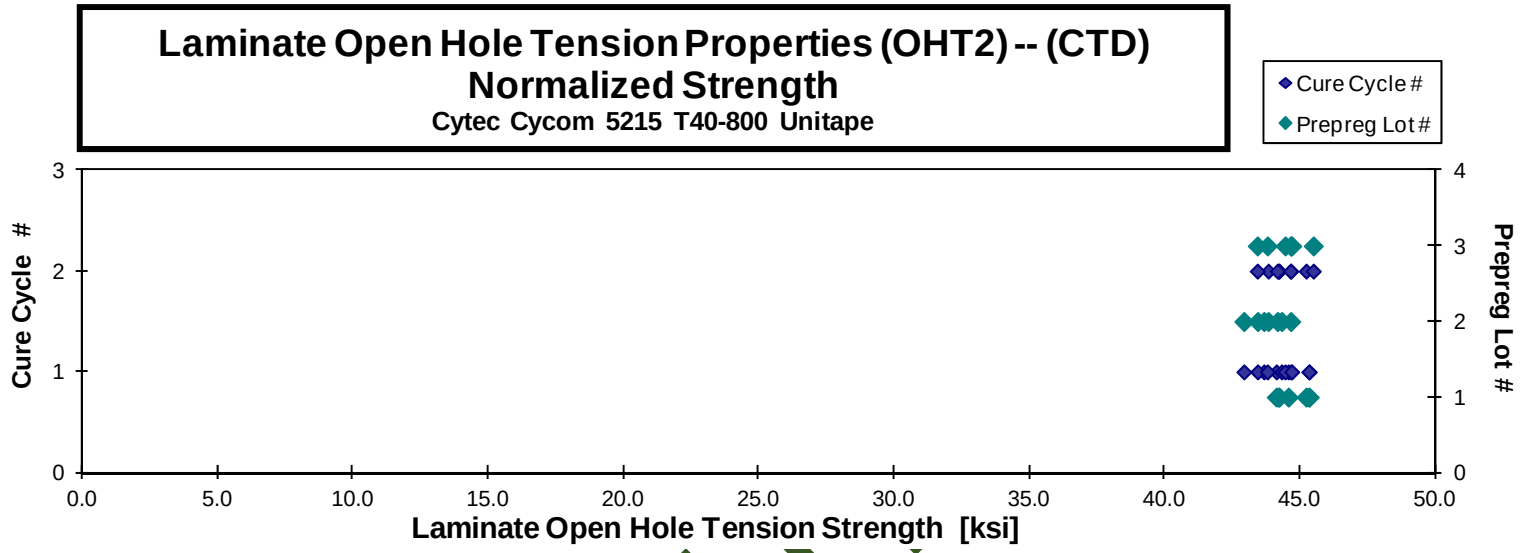
Laminate Open Hole Tension Properties (OHT2) -- (CTD) Strength
Cytec Cycom 5215 T40-800 Unitape

normalizing t_{ply} [in]: 0.0057

Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Avg. Specimen Thickn. [in]	# Plies in Laminate	Failure Modes	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]
C0DEA116B	A	C1	1	1	45.011	0.112	20	AGM	0.0056	44.129
C0DEA117B	A	C1	1	1	45.814	0.113	20	AGM	0.0056	45.345
C0DEA118B	A	C1	1	1	45.723	0.113	20	AGM	0.0057	45.335
C0DEA119B	A	C1	1	1	46.033	0.110	20	AGM	0.0055	44.573
C0DEA215B	A	C2	1	2	45.727	0.113	20	AGM	0.0056	45.232
C0DEA216B	A	C2	1	2	44.799	0.113	20	AGM	0.0056	44.229
C0DEA217B	A	C2	1	2	45.137	0.112	20	AGM	0.0056	44.213
C0DEB116B	B	C1	2	1	44.417	0.114	20	AGM	0.0057	44.326
C0DEB117B	B	C1	2	1	43.838	0.114	20	AGM	0.0057	43.672
C0DEB118B	B	C1	2	1	44.010	0.113	20	AGM	0.0056	43.437
C0DEB119B	B	C1	2	1	43.868	0.112	20	AGM	0.0056	42.932
C0DEB215B	B	C2	2	2	42.605	0.117	20	AGM	0.0059	43.832
C0DEB216B	B	C2	2	2	43.761	0.116	20	AGM	0.0058	44.664
C0DEB217B	B	C2	2	2	43.397	0.116	20	AGM	0.0058	44.171
C0DEC116B	C	C1	3	1	43.922	0.114	20	AGM	0.0057	43.800
C0DEC117B	C	C1	3	1	44.809	0.114	20	AGM	0.0057	44.672
C0DEC118B	C	C1	3	1	44.902	0.113	20	AGM	0.0056	44.455
C0DEC119B	C	C1	3	1	45.337	0.112	20	AGM	0.0056	44.700
C0DEC215B	C	C2	3	2	45.231	0.113	20	AGM	0.0056	44.655
C0DEC216B	C	C2	3	2	44.117	0.112	20	AGM	0.0056	43.427
C0DEC217B	C	C2	3	2	45.834	0.113	20	AGM	0.0057	45.499

Average	**44.681**	
Standard Dev.	**0.931**	
Coeff. of Var. [%]	**2.084**	
Min.	**42.605**	
Max.	**46.033**	
Number of Spec.	**21**	

$Average_{norm}$	**0.0057**	**44.348**
$Standard\ Dev._{norm}$		**0.685**
$Coeff.\ of\ Var.\ [\%]_{norm}$		**1.544**
Min.	**0.0055**	**42.932**
Max.	**0.0059**	**45.499**
Number of Spec.		**21**


Laminate Open Hole Tension Properties (OHT2) -- (CTD)
Normalized Strength
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0
45.0
50.0
Laminate Open Hole Tension Strength [ksi]

Laminate Open Hole Tension Properties (OHT2) -- (RTD) Strength

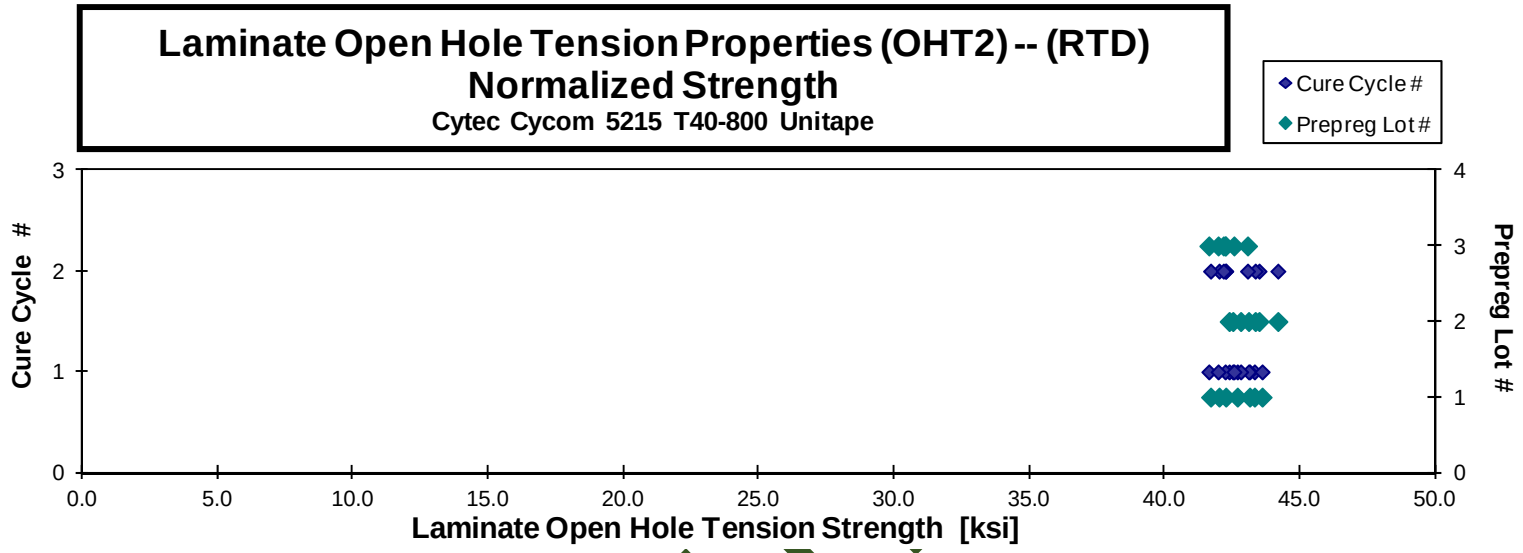
Cytec Cycom 5215 T40-800 Unitape

normalizing t_{ply} [in]: 0.0057

Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Avg. Specimen Thickn. [in]	# Plies in Laminate	Failure Modes	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]
C0DEA111A	A	C1	1	1	43.328	0.112	20	AGM	0.0056	42.688
C0DEA112A	A	C1	1	1	44.093	0.112	20	AGM	0.0056	43.320
C0DEA113A	A	C1	1	1	44.225	0.111	20	AGM	0.0056	43.145
C0DEA114A	A	C1	1	1	44.517	0.112	20	AGM	0.0056	43.605
C0DEA211A	A	C2	1	2	42.727	0.112	20	AGM	0.0056	42.015
C0DEA212A	A	C2	1	2	42.698	0.113	20	AGM	0.0056	42.261
C0DEA213A	A	C2	1	2	41.952	0.113	20	AGM	0.0057	41.700
C0DEB111A	B	C1	2	1	42.906	0.113	20	AGM	0.0056	42.523
C0DEB112A	B	C1	2	1	43.149	0.114	20	AGM	0.0057	43.105
C0DEB113A	B	C1	2	1	42.588	0.115	20	AGM	0.0057	42.812
C0DEB114A	B	C1	2	1	42.258	0.114	20	AGM	0.0057	42.388
C0DEB211A	B	C2	2	2	42.768	0.116	20	AGM	0.0058	43.494
C0DEB212A	B	C2	2	2	42.517	0.116	20	AGM	0.0058	43.350
C0DEB213A	B	C2	2	2	43.313	0.116	20	AGM	0.0058	44.187
C0DEC111A	C	C1	3	1	42.677	0.113	20	AGM	0.0056	42.240
C0DEC112A	C	C1	3	1	42.979	0.113	20	AGM	0.0056	42.565
C0DEC113A	C	C1	3	1	42.229	0.112	20	AGM	0.0056	41.636
C0DEC114A	C	C1	3	1	42.383	0.113	20	AGM	0.0056	41.981
C0DEC211A	C	C2	3	2	42.620	0.113	20	AGM	0.0057	42.252
C0DEC212A	C	C2	3	2	43.667	0.112	20	AGM	0.0056	43.066
C0DEC213A	C	C2	3	2	41.580	0.116	20	AGM	0.0058	42.176

Average	42.913	
Standard Dev.	0.743	
Coeff. of Var. [%]	1.731	
Min.	41.580	
Max.	44.517	
Number of Spec.	21	

$Average_{norm}$	0.00567	42.691
$Standard\ Dev._{norm}$		0.675
$Coeff.\ of\ Var.\ [\%]_{norm}$		1.582
Min.	0.0056	41.636
Max.	0.0058	44.187
Number of Spec.		21

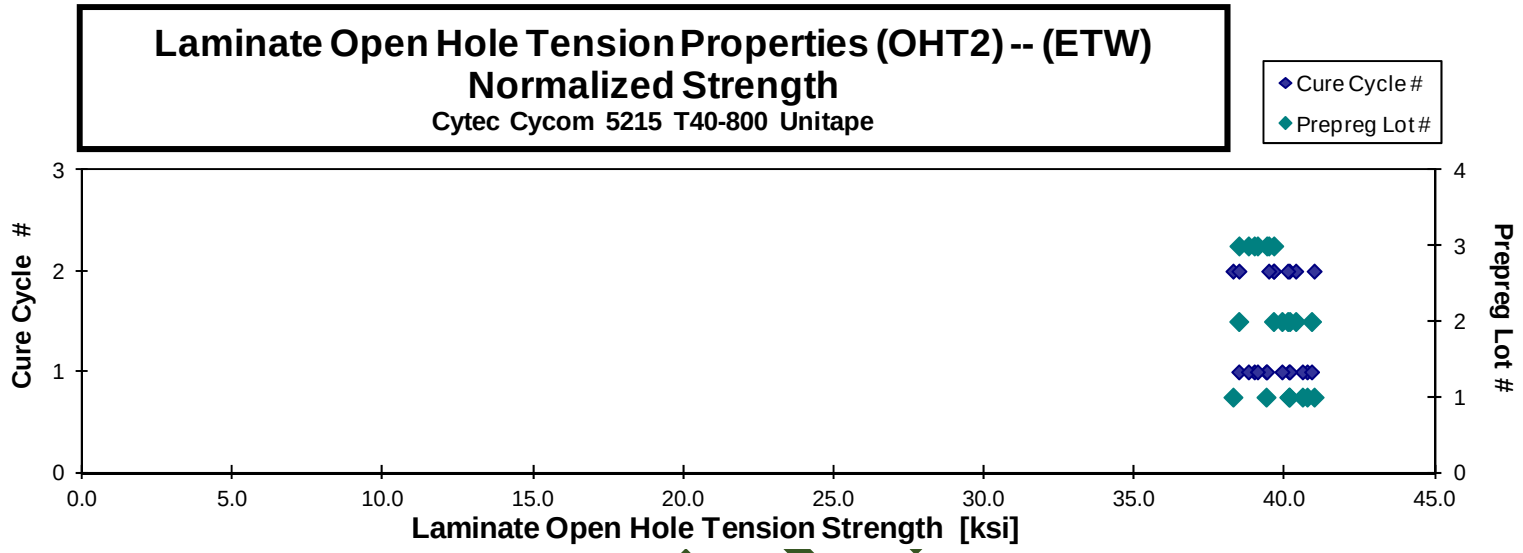

Laminate Open Hole Tension Properties (OHT2) -- (RTD)
Normalized Strength
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0
45.0
50.0
Laminate Open Hole Tension Strength [ksi]

Laminate Open Hole Tension Properties (OHT2) -- (ETW)
Strength
Cytec Cycom 5215 T40-800 Unitape

normalizing t_{ply} [in]: 0.0057

Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Avg. Specimen Thickn. [in]	# Plies in Laminate	Failure Modes	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]
C0DEA11BM	A	C1	1	1	41.759	0.111	20	AGM	0.0056	40.740
C0DEA11CM	A	C1	1	1	41.601	0.111	20	AGM	0.0056	40.585
C0DEA11DM	A	C1	1	1	40.702	0.110	20	AGM	0.0055	39.375
C0DEA11EM	A	C1	1	1	40.736	0.112	20	AGM	0.0056	40.134
C0DEA219M	A	C2	1	2	40.938	0.112	20	AGM	0.0056	40.148
C0DEA21AM	A	C2	1	2	39.074	0.112	20	AGM	0.0056	38.274
C0DEA21BM	A	C2	1	2	41.689	0.112	20	AGM	0.0056	40.975
C0DEB11BM	B	C1	2	1	41.368	0.113	20	AGM	0.0056	40.890
C0DEB11CM	B	C1	2	1	40.858	0.112	20	AGM	0.0056	40.159
C0DEB11DM	B	C1	2	1	40.774	0.112	20	AGM	0.0056	39.904
C0DEB11EM	B	C1	2	1	39.051	0.112	20	AGM	0.0056	38.468
C0DEB21AM	B	C2	2	2	39.580	0.116	20	AGM	0.0058	40.362
C0DEB21BM	B	C2	2	2	39.349	0.116	20	AGM	0.0058	40.097
C0DEB21CM	B	C2	2	2	38.723	0.117	20	AGM	0.0058	39.623
C0DEC11CM	C	C1	3	1	39.355	0.113	20	AGM	0.0056	38.981
C0DEC11DM	C	C1	3	1	39.328	0.112	20	AGM	0.0056	38.787
C0DEC11EM	C	C1	3	1	40.011	0.112	20	AGM	0.0056	39.397
C0DEC11FM	C	C1	3	1	38.866	0.115	20	AGM	0.0057	39.088
C0DEC219M	C	C2	3	2	40.183	0.112	20	AGM	0.0056	39.631
C0DEC21AM	C	C2	3	2	40.151	0.112	20	AGM	0.0056	39.464
C0DEC21BM	C	C2	3	2	39.272	0.112	20	AGM	0.0056	38.474

	Strength		$Strength_{norm}$
Average	40.160	$Average_{norm}$ 0.00563	39.693
Standard Dev.	0.996	$Standard\ Dev._{norm}$	0.812
Coeff. of Var. [%]	2.479	$Coeff.\ of\ Var.\ [\%]_{norm}$	2.046
Min.	38.723	Min. 0.0055	38.274
Max.	41.759	Max. 0.0058	40.975
Number of Spec.	21	Number of Spec.	21


Laminate Open Hole Tension Properties (OHT2) -- (ETW)
Normalized Strength
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0
45.0
Laminate Open Hole Tension Strength [ksi]

4.18 "50/40/10" Open-Hole Tension 3 Properties (OHT3)

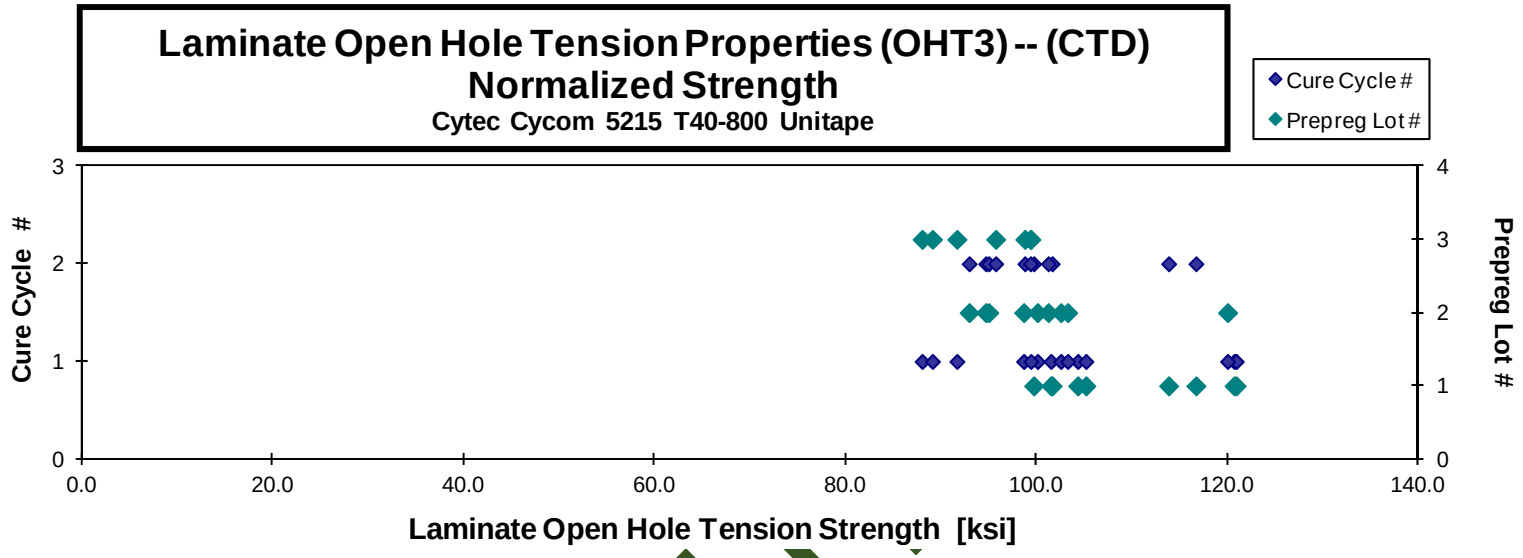
Laminate Open Hole Tension Properties (OHT3) -- (CTD) Strength
Cytec Cycom 5215 T40-800 Unitape

normalizing t_{ply} [in]: 0.0057

Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Avg. Specimen Thickn. [in]	# Plies in Laminate	Failure Modes	Avg. t_{ply} [in]	Strength$_{norm}$ [ksi]
C0DFA116B	A	C1	1	1	101.277	0.114	20	MGM	0.0057	101.514
C0DFA117B	A	C1	1	1	103.577	0.115	20	LGM	0.0057	104.319
C0DFA118B	A	C1	1	1	120.181	0.115	20	LGM / XGM	0.0057	120.708
C0DFA119B	A	C1	1	1	123.048	0.112	20	LGM / XGM	0.0056	120.925
C0DFA11AB	A	C1	1	1	105.267	0.114	20	LGM	0.0057	105.174
C0DFA215B	A	C2	1	2	100.774	0.115	20	MGM	0.0057	101.643
C0DFA216B	A	C2	1	2	113.381	0.114	20	LGM	0.0057	113.846
C0DFA217B	A	C2	1	2	115.758	0.115	20	MGM	0.0057	116.706
C0DFA218B	A	C2	1	2	99.114	0.115	20	MGM	0.0057	99.709
C0DFB116B	B	C1	2	1	100.675	0.112	20	LGM	0.0056	98.659
C0DFB117B	B	C1	2	1	103.616	0.110	20	MGM	0.0055	100.101
C0DFB118B	B	C1	2	1	125.049	0.109	20	MGM/XGM	0.0055	120.021
C0DFB119B	B	C1	2	1	106.408	0.110	20	LGM/AGM	0.0055	102.550
C0DFB11AB	B	C1	2	1	105.818	0.111	20	LGM	0.0056	103.266
C0DFB215B	B	C2	2	2	94.755	0.114	20	LGM	0.0057	94.686
C0DFB216B	B	C2	2	2	95.062	0.114	20	LGM	0.0057	94.993
C0DFB217B	B	C2	2	2	102.580	0.113	20	LGM	0.0056	101.231
C0DFB218B	B	C2	2	2	93.574	0.113	20	MGM	0.0057	92.945
C0DFC116B	C	C1	3	1	88.707	0.113	20	LGM	0.0057	88.020
C0DFC117B	C	C1	3	1	93.270	0.112	20	LGM	0.0056	91.661
C0DFC118B	C	C1	3	1	90.402	0.112	20	MGM	0.0056	89.094
C0DFC119B	C	C1	3	1	99.346	0.114	20	LGM	0.0057	99.404
C0DFC215B	C	C2	3	2	98.681	0.111	20	LGM	0.0055	95.723
C0DFC216B	C	C2	3	2	101.207	0.111	20	LGM	0.0056	98.780
C0DFC217B	C	C2	3	2	99.681	0.114	20	LGM	0.0057	99.361

Average	**103.248**	
Standard Dev.	**9.639**	
Coeff. of Var. [%]	**9.336**	
Min.	**88.707**	
Max.	**125.049**	
Number of Spec.	**25**	

Average$_{norm}$	**0.0056**	**102.201**
Standard Dev.$_{norm}$		**9.451**
Coeff. of Var. [%]$_{norm}$		**9.248**
Min.	**0.0055**	**88.020**
Max.	**0.0057**	**120.925**
Number of Spec.		**25**


Laminate Open Hole Tension Properties (OHT3) -- (CTD)
Normalized Strength
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
20.0
40.0
60.0
80.0
100.0
120.0
140.0
Laminate Open Hole Tension Strength [ksi]

Laminate Open Hole Tension Properties (OHT3) -- (RTD) Strength

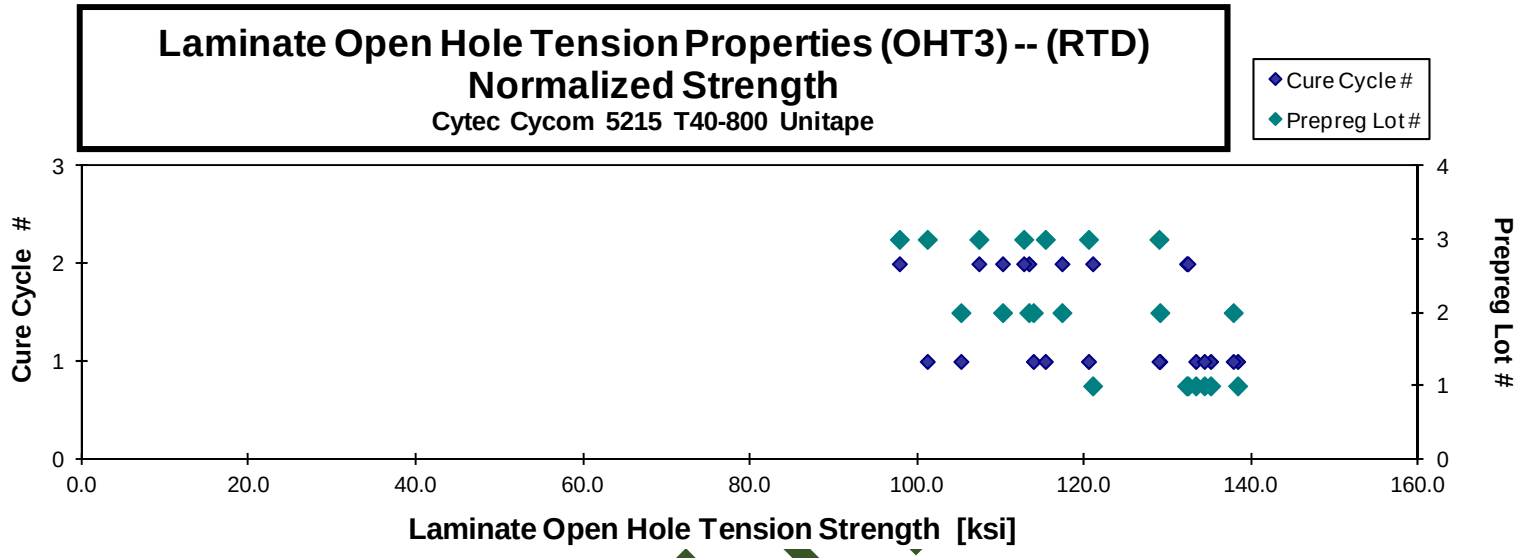
Cytec Cycom 5215 t40-800 Unitape

normalizing t_{ply} [in]: 0.0057

Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Avg. Specimen Thickn. [in]	# Plies in Laminate	Failure Modes	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]
C0DFA111A	A	C1	1	1	140.068	0.113	20	LGM / AGM	0.0056	138.369
C0DFA112A	A	C1	1	1	136.072	0.113	20	LGM / AGM	0.0057	135.137
C0DFA113A	A	C1	1	1	132.577	0.115	20	LGM / AGM	0.0057	133.353
C0DFA114A	A	C1	1	1	134.648	0.114	20	LGM / AGM	0.0057	134.372
C0DFA211A	A	C2	1	2	131.964	0.114	20	LGM / AGM	0.0057	132.254
C0DFA212A	A	C2	1	2	119.593	0.115	20	MGM	0.0058	121.009
C0DFA213A	A	C2	1	2	130.803	0.115	20	MGM	0.0058	132.410
C0DFB111A	B	C1	2	1	118.969	0.109	20	MGM	0.0055	113.907
C0DFB112A	B	C1	2	1	142.702	0.110	20	MGM	0.0055	137.841
C0DFB113A	B	C1	2	1	108.159	0.111	20	LGM / AGM	0.0055	105.233
C0DFB114A	B	C1	2	1	130.655	0.113	20	MGM	0.0056	129.051
C0DFB211A	B	C2	2	2	108.962	0.115	20	LGM	0.0058	110.220
C0DFB212A	B	C2	2	2	117.232	0.114	20	MGM	0.0057	117.335
C0DFB213A	B	C2	2	2	112.868	0.115	20	LGM	0.0057	113.363
C0DFC111A	C	C1	3	1	121.220	0.113	20	LGM	0.0057	120.511
C0DFC112A	C	C1	3	1	128.350	0.115	20	LGM / AGM	0.0057	128.950
C0DFC113A	C	C1	3	1	116.447	0.113	20	MGM	0.0056	115.340
C0DFC114A	C	C1	3	1	102.162	0.113	20	LGM	0.0056	101.206
C0DFC211A	C	C2	3	2	106.713	0.115	20	LGM	0.0057	107.383
C0DFC212A	C	C2	3	2	98.919	0.113	20	LGM / AGM	0.0056	97.864
C0DFC213A	C	C2	3	2	113.498	0.113	20	LGM	0.0057	112.751

Average	121.551	
Standard Dev.	12.765	
Coeff. of Var. [%]	10.502	
Min.	98.919	
Max.	142.702	
Number of Spec.	21	

$Average_{norm}$	0.00567	120.850
$Standard\ Dev._{norm}$		12.650
$Coeff.\ of\ Var.\ [\%]_{norm}$		10.468
Min.	0.0055	97.864
Max.	0.0058	138.369
Number of Spec.		21


Laminate Open Hole Tension Properties (OHT3) -- (RTD)
Normalized Strength
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
20.0
40.0
60.0
80.0
100.0
120.0
140.0
160.0
Laminate Open Hole Tension Strength [ksi]

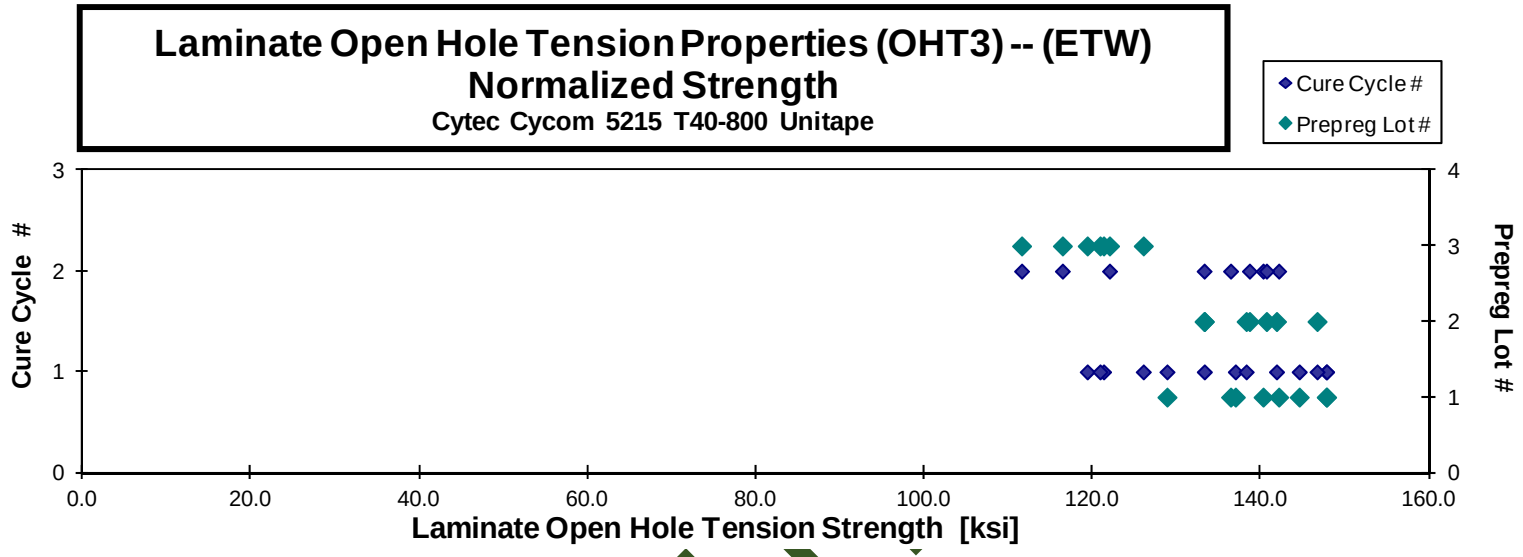
Laminate Open Hole Tension Properties (OHT3) -- (ETW)
Strength
Cytec Cycom 5215 T40-800 Unitape

normalizing t_{ply} [in]: 0.0057

Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Avg. Specimen Thickn. [in]	# Plies in Laminate	Failure Modes	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]
C0DFA11BM	A	C1	1	1	145.621	0.116	20	MGM	0.0058	147.771
C0DFA11CM	A	C1	1	1	146.401	0.115	20	MGM	0.0058	147.813
C0DFA11DM	A	C1	1	1	142.972	0.115	20	MGM	0.0058	144.561
C0DFA11EM	A	C1	1	1	135.776	0.115	20	MGM	0.0058	136.967
C0DFA11FM	A	C1	1	1	128.340	0.114	20	MGM	0.0057	128.847
C0DFA219M	A	C2	1	2	141.914	0.114	20	MGM	0.0057	142.121
C0DFA21AM	A	C2	1	2	140.128	0.114	20	MGM	0.0057	140.271
C0DFA21BM	A	C2	1	2	136.723	0.114	20	MGM	0.0057	136.403
C0DFB11BM	B	C1	2	1	141.549	0.111	20	MGM	0.0056	138.259
C0DFB11CM	B	C1	2	1	143.436	0.113	20	MGM	0.0056	141.863
C0DFB11DM	B	C1	2	1	134.404	0.113	20	MGM	0.0057	133.284
C0DFB11EM	B	C1	2	1	148.109	0.113	20	MGM	0.0056	146.680
C0DFB21AM	B	C2	2	2	132.992	0.114	20	MGM	0.0057	133.264
C0DFB21BM	B	C2	2	2	140.301	0.114	20	MGM	0.0057	140.670
C0DFB21CM	B	C2	2	2	139.479	0.113	20	MGM	0.0057	138.643
C0DFC11BM	C	C1	3	1	122.952	0.112	20	MGM	0.0056	121.317
C0DFC11CM	C	C1	3	1	120.682	0.113	20	MGM	0.0056	119.376
C0DFC11DM	C	C1	3	1	127.980	0.112	20	MGM	0.0056	126.034
C0DFC11EM	C	C1	3	1	123.395	0.112	20	MGM	0.0056	120.888
C0DFC219M	C	C2	3	2	120.090	0.116	20	MGM	0.0058	122.022
C0DFC21AM	C	C2	3	2	113.988	0.112	20	MGM	0.0056	111.572
C0DFC21BM	C	C2	3	2	117.744	0.113	20	MGM	0.0056	116.419

Average	133.863	
Standard Dev.	10.314	
Coeff. of Var. [%]	7.705	
Min.	113.988	
Max.	148.109	
Number of Spec.	22	

$Average_{norm}$	0.00568	133.411
$Standard\ Dev._{norm}$		10.920
$Coeff.\ of\ Var.\ [\%]_{norm}$		8.186
Min.	0.0056	111.572
Max.	0.0058	147.813
Number of Spec.		22


Laminate Open Hole Tension Properties (OHT3) -- (ETW)
Normalized Strength
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
20.0
40.0
60.0
80.0
100.0
120.0
140.0
160.0
Laminate Open Hole Tension Strength [ksi]

4.19 "25/50/25" Filled-Hole Tension 1 Properties (FHT1)

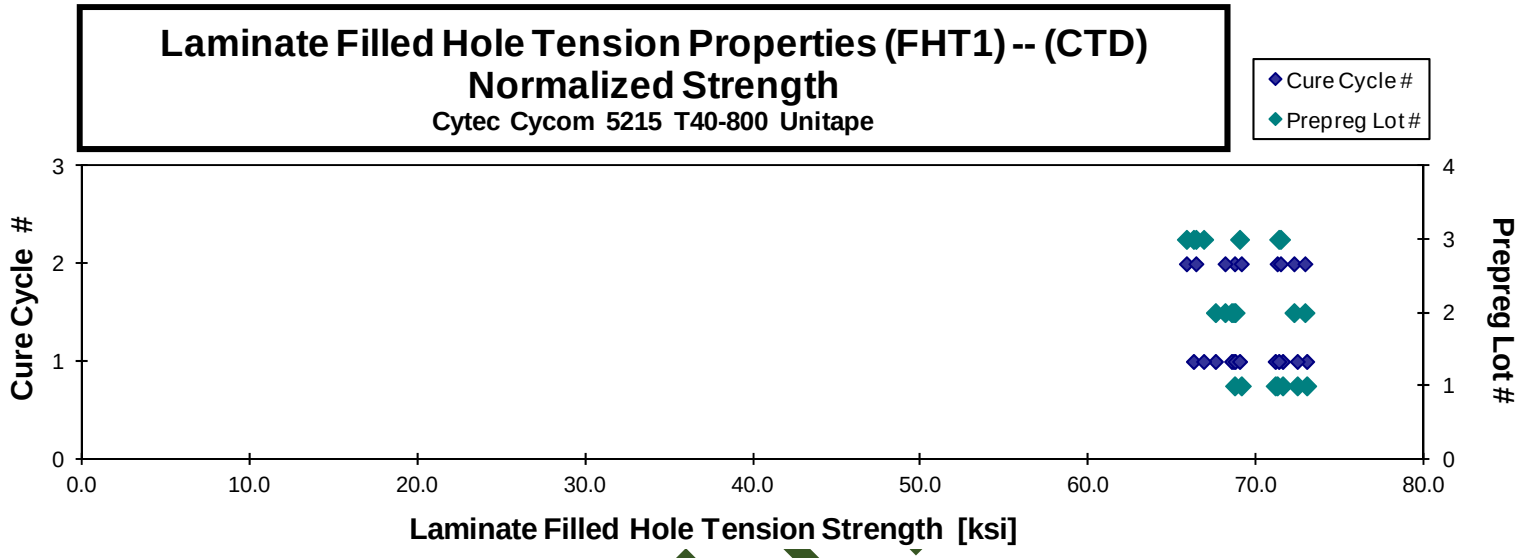
Laminate Filled Hole Tension Properties (FHT1) -- (CTD) Strength
Cytec Cycom 5215 T40-800 Unitape

normalizing t_{ply} [in]: 0.0057

Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Avg. Specimen Thickn. [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]
C0D4A116B	A	C1	1	1	71.768	0.091	16	LGM / AGM	0.0057	71.558
C0D4A117B	A	C1	1	1	73.613	0.090	16	LGM / AGM	0.0057	72.994
C0D4A118B	A	C1	1	1	73.260	0.090	16	LGM / AGM	0.0056	72.430
C0D4A11AB	A	C1	1	1	70.703	0.092	16	LGM / AGM	0.0057	71.116
C0D4A215B	A	C2	1	2	69.517	0.093	16	LGM / AGM	0.0058	71.232
C0D4A216B	A	C2	1	2	67.804	0.092	16	LGM / AGM	0.0058	68.696
C0D4A217B	A	C2	1	2	68.066	0.093	16	LGM / AGM	0.0058	69.098
C0D4B116B	B	C1	2	1	69.127	0.091	16	LGM / AGM	0.0057	68.634
C0D4B117B	B	C1	2	1	69.381	0.090	16	LGM / AGM	0.0056	68.519
C0D4B118B	B	C1	2	1	69.451	0.090	16	LGM / AGM	0.0056	68.728
C0D4B119B	B	C1	2	1	68.115	0.090	16	LGM / AGM	0.0057	67.555
C0D4B215B	B	C2	2	2	73.900	0.089	16	LGM / AGM	0.0056	72.239
C0D4B216B	B	C2	2	2	70.311	0.088	16	LGM / AGM	0.0055	68.127
C0D4B217B	B	C2	2	2	72.769	0.091	16	LGM / AGM	0.0057	72.889
C0D4C116B	C	C1	3	1	66.148	0.091	16	LGM / AGM	0.0057	66.245
C0D4C117B	C	C1	3	1	67.233	0.091	16	LGM / AGM	0.0057	66.852
C0D4C118B	C	C1	3	1	71.512	0.091	16	LGM / AGM	0.0057	71.329
C0D4C119B	C	C1	3	1	69.324	0.091	16	LGM / AGM	0.0057	68.994
C0D4C215B	C	C2	3	2	71.238	0.091	16	LGM / AGM	0.0057	71.433
C0D4C216B	C	C2	3	2	65.814	0.091	16	LGM / AGM	0.0057	65.826
C0D4C217B	C	C2	3	2	66.415	0.091	16	LGM / AGM	0.0057	66.391

	Strength [ksi]
Average	69.784
Standard Dev.	2.452
Coeff. of Var. [%]	3.514
Min.	65.814
Max.	73.900
Number of Spec.	21

	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]
$Average_{norm}$	0.0057	69.566
Standard $Dev._{norm}$		2.307
Coeff. of Var. $[\%]_{norm}$		3.316
Min.	0.0055	65.826
Max.	0.0058	72.994
Number of Spec.		21


Laminate Filled Hole Tension Properties (FHT1) -- (CTD)
Normalized Strength
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
80.0
Laminate Filled Hole Tension Strength [ksi]

Laminate Filled Hole Tension Properties (FHT1) -- (RTD) Strength

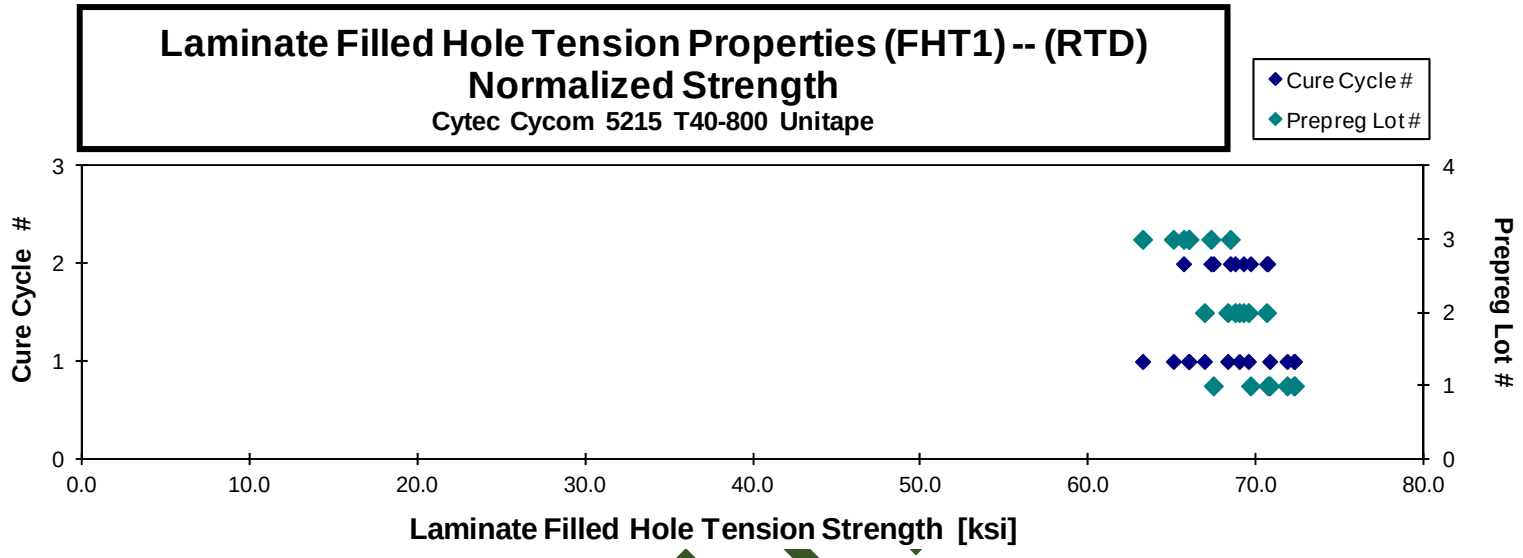
Cytec Cycom 5215 T40-800 Unitape

normalizing t_{ply} [in]: 0.0057

Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Avg. Specimen Thickn. [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]
C0D4A111A	A	C1	1	1	71.069	0.092	16	AGM	0.0058	71.823
C0D4A112A	A	C1	1	1	71.649	0.092	16	MGM	0.0057	72.265
C0D4A113A	A	C1	1	1	70.609	0.091	16	MGM	0.0057	70.790
C0D4A114A	A	C1	1	1	72.409	0.091	16	MGM	0.0057	72.237
C0D4A211A	A	C2	1	2	66.326	0.093	16	AGM	0.0058	67.429
C0D4A212A	A	C2	1	2	68.371	0.093	16	AGM	0.0058	69.646
C0D4A213A	A	C2	1	2	69.435	0.093	16	AGM	0.0058	70.678
C0D4B111A	B	C1	2	1	69.067	0.090	16	AGM	0.0056	68.285
C0D4B112A	B	C1	2	1	66.487	0.092	16	AGM	0.0057	66.900
C0D4B113A	B	C1	2	1	70.392	0.090	16	AGM	0.0056	69.518
C0D4B114A	B	C1	2	1	70.129	0.090	16	AGM	0.0056	68.976
C0D4B211A	B	C2	2	2	69.943	0.090	16	AGM	0.0056	69.227
C0D4B212A	B	C2	2	2	71.376	0.090	16	AGM	0.0056	70.606
C0D4B213A	B	C2	2	2	70.504	0.089	16	AGM	0.0056	68.726
C0D4C111A	C	C1	3	1	65.731	0.090	16	AGM	0.0056	65.046
C0D4C112A	C	C1	3	1	67.354	0.089	16	AGM	0.0056	65.951
C0D4C113A	C	C1	3	1	64.379	0.090	16	AGM	0.0056	63.215
C0D4C114A	C	C1	3	1	67.877	0.089	16	AGM	0.0055	65.979
C0D4C211A	C	C2	3	2	67.456	0.093	16	AGM	0.0058	68.442
C0D4C212A	C	C2	3	2	64.603	0.093	16	AGM	0.0058	65.654
C0D4C213A	C	C2	3	2	66.976	0.092	16	AGM	0.0057	67.282

Average	68.673	
Standard Dev.	2.358	
Coeff. of Var. [%]	3.433	
Min.	64.379	
Max.	72.409	
Number of Spec.	21	

$Average_{norm}$	0.0057	68.508
$Standard\ Dev._{norm}$		2.478
$Coeff.\ of\ Var.\ [\%]_{norm}$		3.617
Min.	0.0055	63.215
Max.	0.0058	72.265
Number of Spec.		21


Laminate Filled Hole Tension Properties (FHT1) -- (RTD)
Normalized Strength
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
80.0
Laminate Filled Hole Tension Strength [ksi]

Laminate Filled Hole Tension Properties (FHT1) -- (ETW) Strength

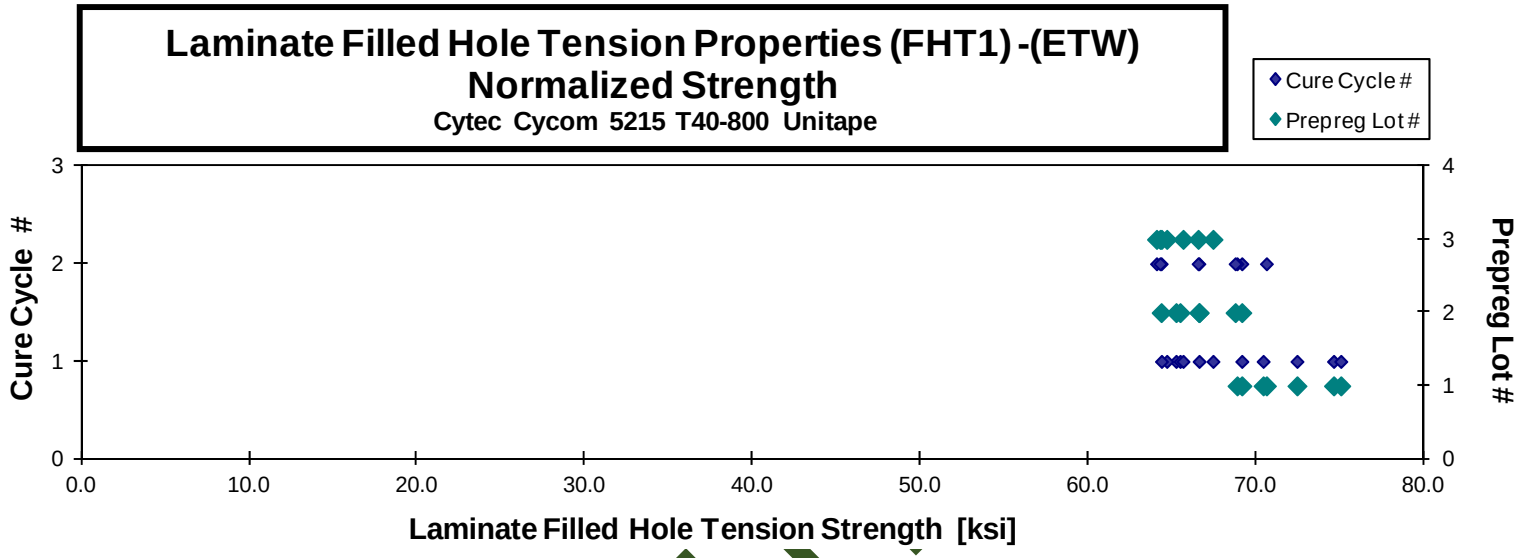
Cytec Cycom 5215 T40-800 Unitape

normalizing t_{ply} [in]: 0.0057

Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Avg. Specimen Thickn. [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]
C0D4A11BM	A	C1	1	1	74.177	0.092	16	AGM	0.0057	74.597
C0D4A11CM	A	C1	1	1	69.965	0.092	16	AGM	0.0057	70.399
C0D4A11DM	A	C1	1	1	74.268	0.092	16	AGM	0.0058	75.028
C0D4A11EM	A	C1	1	1	72.166	0.092	16	AGM	0.0057	72.417
C0D4A219M	A	C2	1	2	67.586	0.093	16	AGM	0.0058	69.130
C0D4A21AM	A	C2	1	2	68.687	0.094	16	AGM	0.0059	70.595
C0D4A21BM	A	C2	1	2	67.283	0.093	16	AGM	0.0058	68.844
C0D4B11BM	B	C1	2	1	69.294	0.091	16	AGM	0.0057	69.129
C0D4B11CM	B	C1	2	1	65.527	0.091	16	AGM	0.0057	65.204
C0D4B11DM	B	C1	2	1	66.657	0.091	16	AGM	0.0057	66.584
C0D4B11EM	B	C1	2	1	65.459	0.091	16	AGM	0.0057	65.447
C0D4B219M	B	C2	2	2	66.217	0.092	16	AGM	0.0057	66.568
C0D4B21AM	B	C2	2	2	64.169	0.091	16	AGM	0.0057	64.322
C0D4B21BM	B	C2	2	2	68.782	0.091	16	AGM	0.0057	68.731
C0D4C11BM	C	C1	3	1	64.915	0.091	16	AGM	0.0057	64.654
C0D4C11CM	C	C1	3	1	66.473	0.090	16	AGM	0.0056	65.622
C0D4C11DM	C	C1	3	1	67.311	0.091	16	AGM	0.0057	67.409
C0D4C11EM	C	C1	3	1	64.824	0.091	16	AGM	0.0057	64.338
C0D4C219M	C	C2	3	2	64.708	0.090	16	AGM	0.0056	64.045
C0D4C21AM	C	C2	3	2	64.668	0.091	16	AGM	0.0057	64.255
C0D4C21BM	C	C2	3	2	67.384	0.090	16	AGM	0.0056	66.522

Average	67.644	
Standard Dev.	2.970	
Coeff. of Var. [%]	4.390	
Min.	64.169	
Max.	74.268	
Number of Spec.	21	

$Average_{norm}$	0.0057	67.802
$Standard\ Dev._{norm}$		3.334
$Coeff.\ of\ Var.\ [\%]_{norm}$		4.917
Min.	0.0056	64.045
Max.	0.0059	75.028
Number of Spec.		21


Laminate Filled Hole Tension Properties (FHT1) -(ETW)
Normalized Strength
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
80.0
Laminate Filled Hole Tension Strength [ksi]

4.20 "10/80/10" Filled-Hole Tension 2 Properties (FHT2)

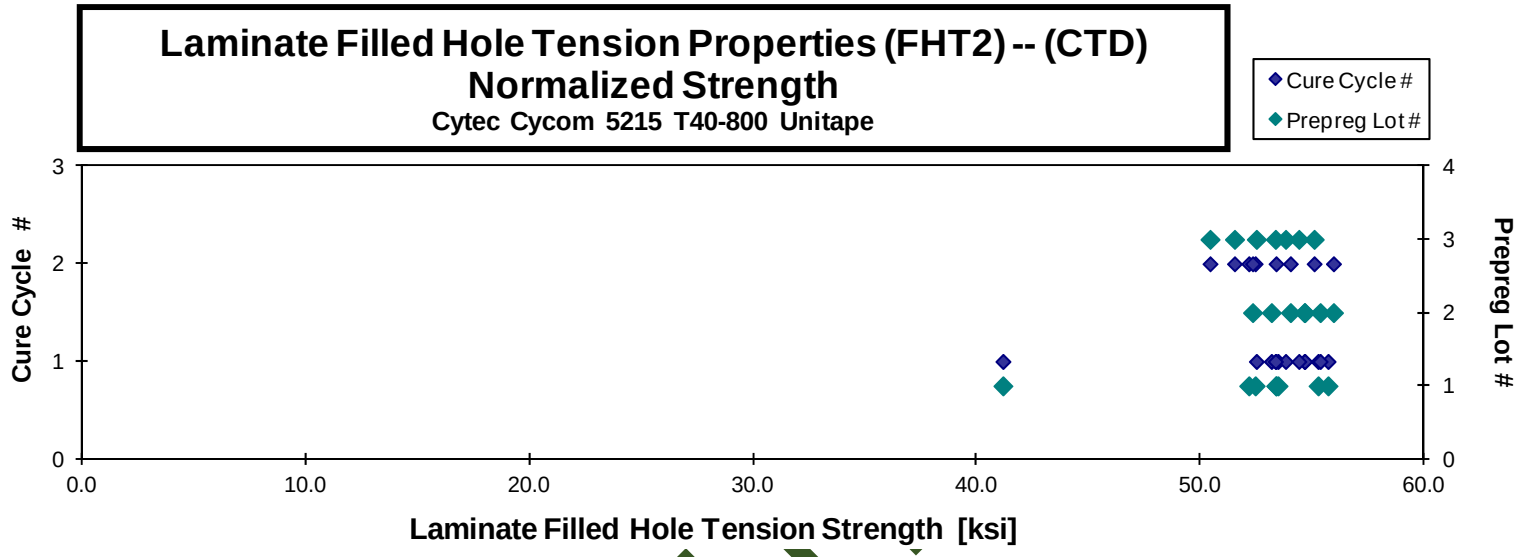
Laminate Filled Hole Tension Properties (FHT2) -- (CTD) Strength
Cytec Cycom 5215 T40-800 Unitape

normalizing t_{ply} [in]: 0.0057

Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Avg. Specimen Thickn. [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]
C0D5A116B	A	C1	1	1	52.414	0.116	20	AGM	0.0058	53.464
C0D5A117B	A	C1	1	1	55.073	0.115	20	AGM	0.0058	55.701
C0D5A118B*	A	C1	1	1	41.149	0.114	20	MGF / AGM	0.0057	41.167
C0D5A119B	A	C1	1	1	54.702	0.115	20	AGM	0.0058	55.254
C0D5A11AB	A	C1	1	1	52.326	0.116	20	AGM	0.0058	53.366
C0D5A215B	A	C2	1	2	52.455	0.113	20	AGM	0.0057	52.156
C0D5A216B	A	C2	1	2	52.405	0.114	20	AGM	0.0057	52.444
C0D5A217B	A	C2	1	2	53.409	0.114	20	AGM	0.0057	53.378
C0D5B116B	B	C1	2	1	54.716	0.114	20	AGM	0.0057	54.644
C0D5B117B	B	C1	2	1	55.220	0.113	20	AGM	0.0056	54.655
C0D5B118B	B	C1	2	1	54.035	0.112	20	AGM	0.0056	53.166
C0D5B119B	B	C1	2	1	56.495	0.112	20	AGM	0.0056	55.347
C0D5B215B	B	C2	2	2	53.906	0.114	20	AGM	0.0057	54.017
C0D5B216B	B	C2	2	2	52.319	0.114	20	AGM	0.0057	52.327
C0D5B217B	B	C2	2	2	56.672	0.113	20	AGM	0.0056	55.943
C0D5C116B	C	C1	3	1	54.165	0.113	20	AGM	0.0057	53.801
C0D5C117B	C	C1	3	1	54.731	0.113	20	AGM	0.0057	54.395
C0D5C119B	C	C1	3	1	52.277	0.114	20	AGM	0.0057	52.498
C0D5C11AB	C	C1	3	1	54.153	0.112	20	AGM	0.0056	53.346
C0D5C215B	C	C2	3	2	55.601	0.113	20	AGM	0.0056	55.080
C0D5C216B	C	C2	3	2	52.666	0.112	20	AGM	0.0056	51.519
C0D5C217B	C	C2	3	2	51.780	0.111	20	AGM	0.0056	50.425

* Specimen was investigated. Coupon showed extensive delamination throughout gage region.

Average	**53.303**		**Average$_{norm}$**	**0.0057**	**53.095**
Standard Dev.	**3.069**		**Standard Dev.$_{norm}$**		**3.015**
Coeff. of Var. [%]	**5.757**		**Coeff. of Var. [%]$_{norm}$**		**5.679**
Min.	**41.149**		**Min.**	**0.0056**	**41.167**
Max.	**56.672**		**Max.**	**0.0058**	**55.943**
Number of Spec.	**22**		**Number of Spec.**		**22**


Laminate Filled Hole Tension Properties (FHT2) -- (CTD)
Normalized Strength
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
10.0
20.0
30.0
40.0
50.0
60.0
Laminate Filled Hole Tension Strength [ksi]

Laminate Filled Hole Tension Properties (FHT2) -- (RTD) Strength

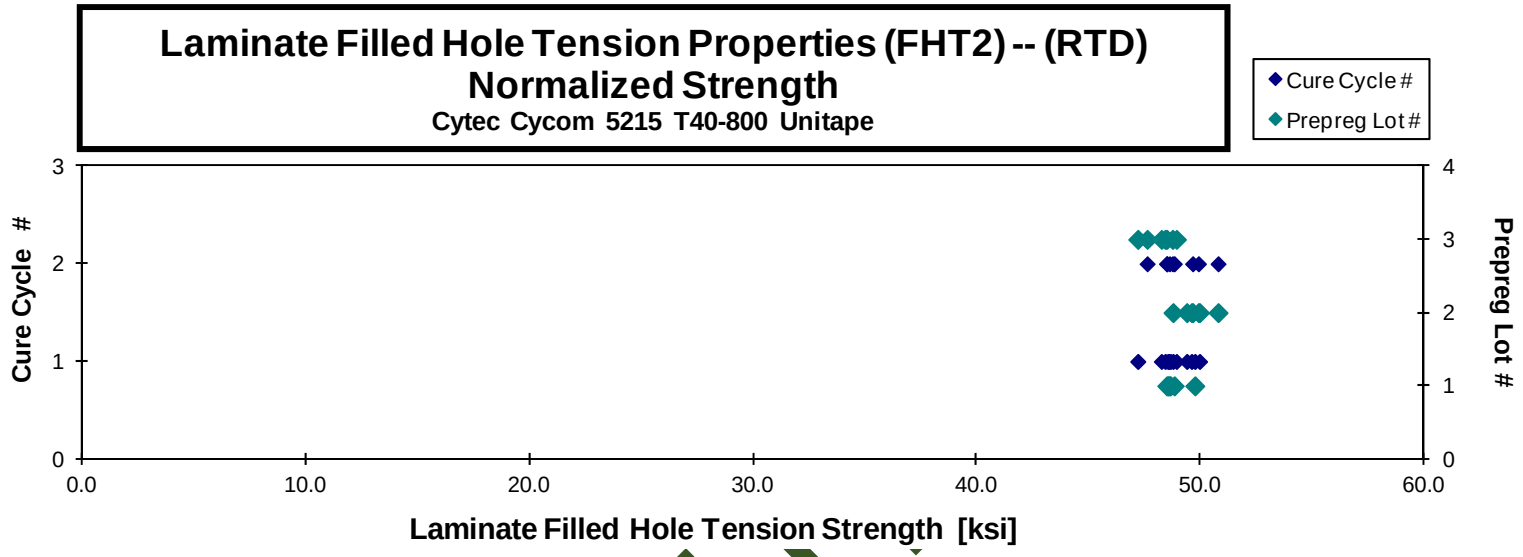
Cytec Cycom 5215 T40-800 Unitape

normalizing t_{ply} [in]: 0.0057

Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Avg. Specimen Thickn. [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]
C0D5A111A	A	C1	1	1	48.225	0.115	20	AGM	0.0057	48.542
C0D5A112A	A	C1	1	1	49.037	0.116	20	AGM	0.0058	49.746
C0D5A113A	A	C1	1	1	47.739	0.116	20	AGM	0.0058	48.577
C0D5A114A	A	C1	1	1	47.834	0.116	20	AGM	0.0058	48.652
C0D5A211A	A	C2	1	2	48.034	0.115	20	AGM	0.0058	48.490
C0D5A212A	A	C2	1	2	48.488	0.115	20	AGM	0.0057	48.828
C0D5A213A	A	C2	1	2	48.193	0.115	20	AGM	0.0058	48.615
C0D5B111A	B	C1	2	1	50.147	0.114	20	AGM	0.0057	49.956
C0D5B112A	B	C1	2	1	49.421	0.114	20	AGM	0.0057	49.384
C0D5B113A	B	C1	2	1	49.801	0.114	20	AGM	0.0057	49.598
C0D5B114A	B	C1	2	1	49.276	0.113	20	AGM	0.0056	48.771
C0D5B211A	B	C2	2	2	50.423	0.113	20	AGM	0.0056	49.907
C0D5B212A	B	C2	2	2	49.816	0.114	20	AGM	0.0057	49.649
C0D5B213A	B	C2	2	2	50.636	0.114	20	AGM	0.0057	50.784
C0D5C111A	C	C1	3	1	48.491	0.113	20	AGM	0.0057	48.250
C0D5C112A	C	C1	3	1	48.518	0.114	20	AGM	0.0057	48.418
C0D5C113A	C	C1	3	1	48.336	0.115	20	AGM	0.0058	48.922
C0D5C114A	C	C1	3	1	46.354	0.116	20	AGM	0.0058	47.195
C0D5C211A	C	C2	3	2	47.894	0.113	20	AGM	0.0057	47.614
C0D5C212A	C	C2	3	2	49.072	0.113	20	AGM	0.0057	48.749
C0D5C213A	C	C2	3	2	48.931	0.113	20	AGM	0.0056	48.488

Average	48.794	
Standard Dev.	1.031	
Coeff. of Var. [%]	2.112	
Min.	46.354	
Max.	50.636	
Number of Spec.	21	

$Average_{norm}$	0.0057	48.911
$Standard\ Dev._{norm}$		0.826
$Coeff.\ of\ Var.\ [\%]_{norm}$		1.689
Min.	0.0056	47.195
Max.	0.0058	50.784
Number of Spec.		21


Laminate Filled Hole Tension Properties (FHT2) -- (RTD)
Normalized Strength
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
10.0
20.0
30.0
40.0
50.0
60.0
Laminate Filled Hole Tension Strength [ksi]

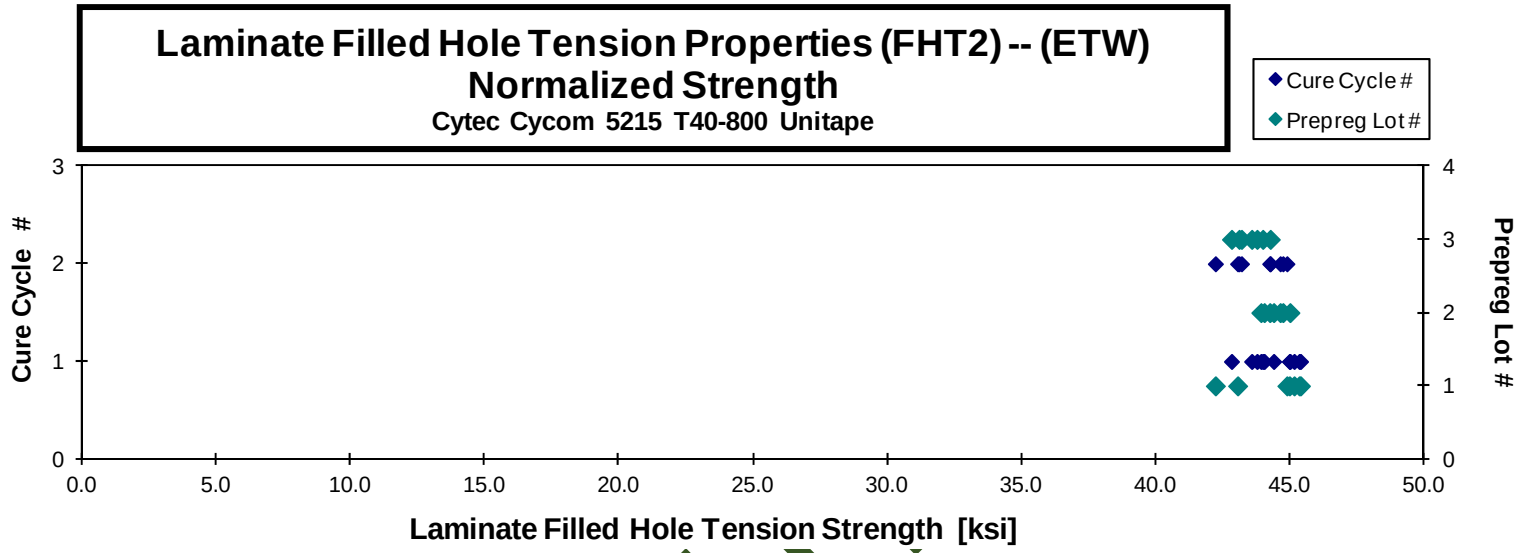
Laminate Filled Hole Tension Properties (FHT2) -- (ETW)
Strength
Cytec Cycom 5215 T40-800 Unitape

normalizing t_{ply} [in]: 0.0057

Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Avg. Specimen Thickn. [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]
C0D5A11BM	A	C1	1	1	44.391	0.116	20	AGM	0.0058	45.151
C0D5A11CM	A	C1	1	1	44.525	0.116	20	AGM	0.0058	45.390
C0D5A11DM	A	C1	1	1	44.365	0.117	20	AGM	0.0058	45.345
C0D5A11EM	A	C1	1	1	43.988	0.117	20	AGM	0.0058	44.979
C0D5A219M	A	C2	1	2	43.220	0.114	20	AGM	0.0057	43.049
C0D5A21AM	A	C2	1	2	45.069	0.114	20	AGM	0.0057	44.884
C0D5A21BM	A	C2	1	2	42.550	0.113	20	AGM	0.0057	42.220
C0D5B11BM	B	C1	2	1	44.259	0.113	20	AGM	0.0057	43.916
C0D5B11CM	B	C1	2	1	44.338	0.113	20	AGM	0.0057	44.040
C0D5B11DM	B	C1	2	1	45.261	0.113	20	AGM	0.0057	44.996
C0D5B11EM	B	C1	2	1	44.943	0.113	20	AGM	0.0056	44.391
C0D5B219M	B	C2	2	2	45.018	0.113	20	AGM	0.0057	44.735
C0D5B21AM	B	C2	2	2	44.743	0.113	20	AGM	0.0056	44.246
C0D5B21BM	B	C2	2	2	45.088	0.113	20	AGM	0.0056	44.633
C0D5C11BM	C	C1	3	1	44.253	0.112	20	AGM	0.0056	43.573
C0D5C11CM	C	C1	3	1	44.735	0.112	20	AGM	0.0056	43.983
C0D5C11DM	C	C1	3	1	43.560	0.112	20	AGM	0.0056	42.821
C0D5C11EM	C	C1	3	1	44.926	0.111	20	AGM	0.0056	43.770
C0D5C219M	C	C2	3	2	43.866	0.112	20	AGM	0.0056	43.103
C0D5C21AM	C	C2	3	2	43.985	0.112	20	AGM	0.0056	43.194
C0D5C21BM	C	C2	3	2	44.857	0.113	20	AGM	0.0056	44.266

Average	44.378	
Standard Dev.	0.680	
Coeff. of Var. [%]	1.533	
Min.	42.550	
Max.	45.261	
Number of Spec.	21	

$Average_{norm}$	0.0057	44.128
$Standard\ Dev._{norm}$		0.890
$Coeff.\ of\ Var.\ [\%]_{norm}$		2.017
Min.	0.0056	42.220
Max.	0.0058	45.390
Number of Spec.		21


Laminate Filled Hole Tension Properties (FHT2) -- (ETW)
Normalized Strength
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0
45.0
50.0
Laminate Filled Hole Tension Strength [ksi]

4.21 "50/40/10" Filled-Hole Tension 3 Properties (FHT3)

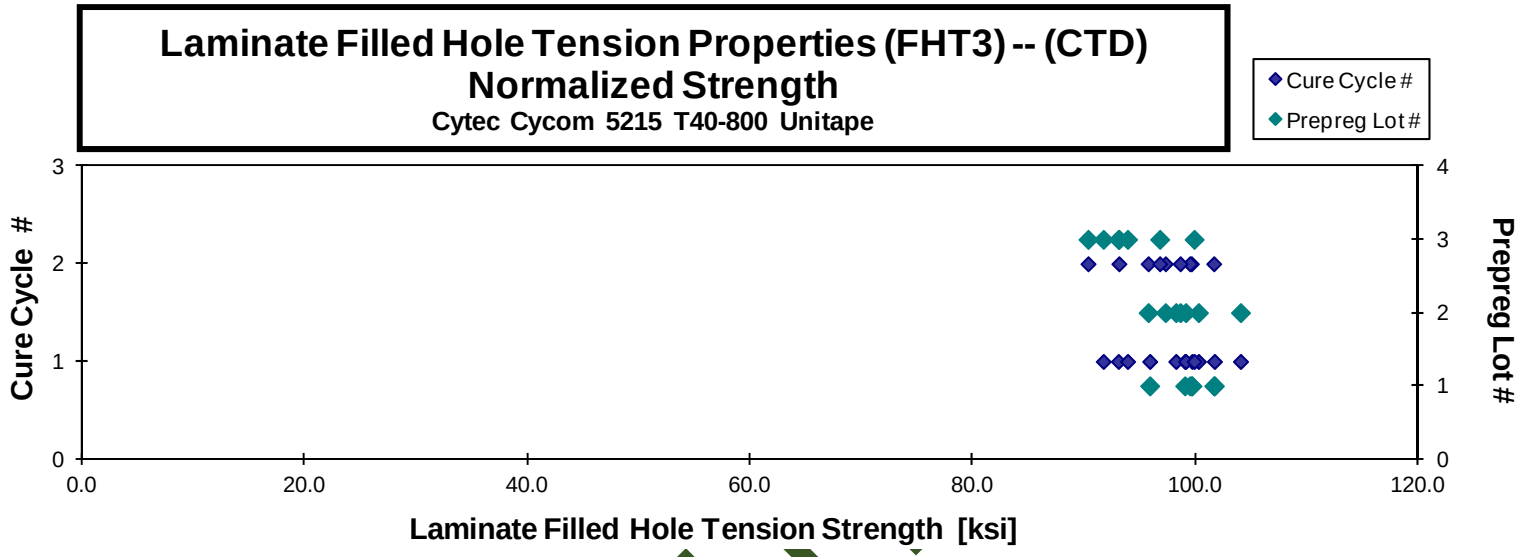
Laminate Filled Hole Tension Properties (FHT3) -- (CTD)
Strength
Cytec Cycom 5215 T40-800 Unitape

normalizing t_{ply} [in]: 0.0057

Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Avg. Specimen Thickn. [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]
C0D6A116B	A	C1	1	1	98.637	0.114	20	MGM	0.0057	99.026
C0D6A117B	A	C1	1	1	100.733	0.115	20	MGM	0.0058	101.690
C0D6A118B	A	C1	1	1	99.339	0.114	20	MGM	0.0057	99.673
C0D6A119B	A	C1	1	1	95.882	0.114	20	MGM	0.0057	95.882
C0D6A215B	A	C2	1	2	98.912	0.117	20	MGM	0.0059	101.631
C0D6A216B	A	C2	1	2	96.536	0.118	20	MGM	0.0059	99.627
C0D6A217B	A	C2	1	2	98.402	0.115	20	MGM	0.0058	99.481
C0D6B116B	B	C1	2	1	97.601	0.115	20	MGM	0.0057	98.229
C0D6B117B	B	C1	2	1	98.813	0.114	20	MGM	0.0057	99.102
C0D6B118B	B	C1	2	1	101.008	0.113	20	MGM	0.0057	100.255
C0D6B119B	B	C1	2	1	105.064	0.113	20	MGM	0.0056	104.035
C0D6B215B	B	C2	2	2	96.135	0.115	20	MGM	0.0058	97.288
C0D6B216B	B	C2	2	2	94.870	0.115	20	MGM	0.0058	95.744
C0D6B217B	B	C2	2	2	98.439	0.114	20	MGM	0.0057	98.612
C0D6C116B	C	C1	3	1	92.076	0.114	20	MGM	0.0057	91.713
C0D6C117B	C	C1	3	1	101.444	0.112	20	MGM	0.0056	99.872
C0D6C118B	C	C1	3	1	93.900	0.113	20	MGM	0.0056	93.063
C0D6C119B	C	C1	3	1	93.329	0.115	20	MGM	0.0057	93.889
C0D6C215B	C	C2	3	2	98.434	0.112	20	MGM	0.0056	96.779
C0D6C216B	C	C2	3	2	91.085	0.113	20	MGM	0.0057	90.340
C0D6C217B	C	C2	3	2	95.801	0.111	20	MGM	0.0055	93.112

Average	**97.450**	
Standard Dev.	**3.336**	
Coeff. of Var. [%]	**3.423**	
Min.	**91.085**	
Max.	**105.064**	
Number of Spec.	**21**	

$Average_{norm}$	**0.0057**	**97.573**
Standard $Dev._{norm}$		**3.559**
Coeff. of Var. $[\%]_{norm}$		**3.647**
Min.	**0.0055**	**90.340**
Max.	**0.0059**	**104.035**
Number of Spec.		**21**


Laminate Filled Hole Tension Properties (FHT3) -- (CTD)
Normalized Strength
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
20.0
40.0
60.0
80.0
100.0
120.0
Laminate Filled Hole Tension Strength [ksi]

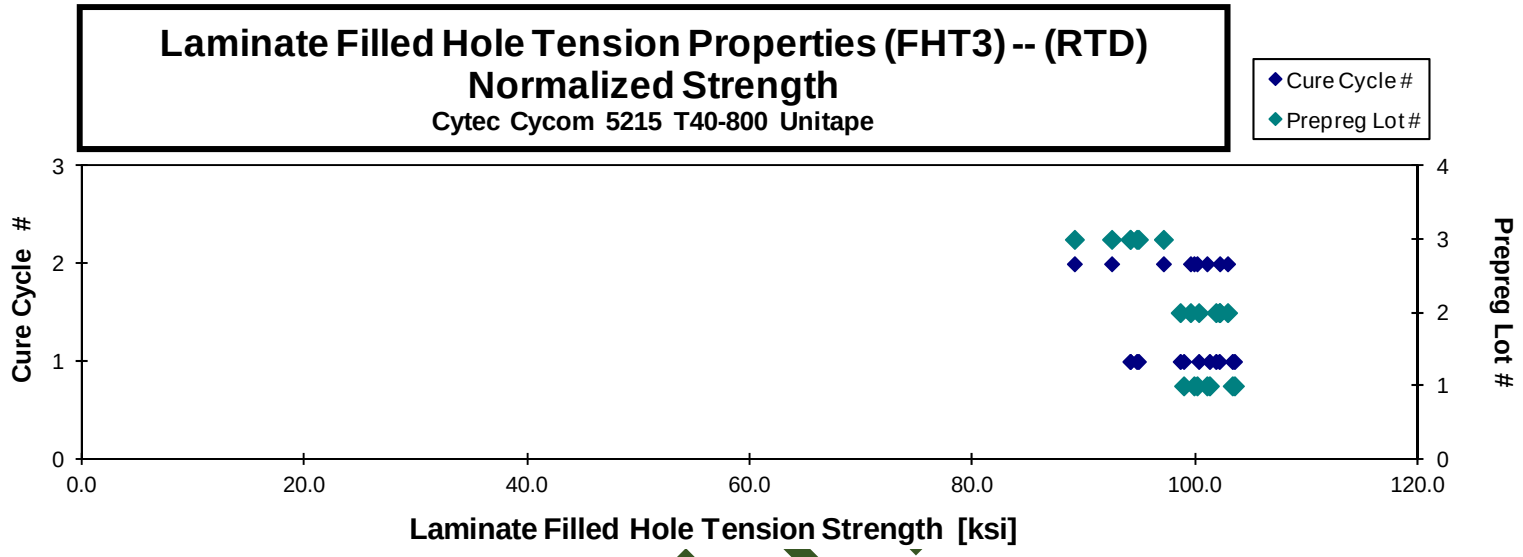
Laminate Filled Hole Tension Properties (FHT3) -- (RTD) Strength

Cytec Cycom 5215 T40-800 Unitape

normalizing t_{ply} [in]: 0.0057

Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Avg. Specimen Thickn. [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]
C0D6A111A	A	C1	1	1	98.839	0.114	20	MGM	0.0057	98.926
C0D6A112A	A	C1	1	1	101.822	0.113	20	MGM	0.0057	101.242
C0D6A113A	A	C1	1	1	103.309	0.114	20	MGM	0.0057	103.490
C0D6A114A	A	C1	1	1	102.905	0.114	20	MGM	0.0057	103.296
C0D6A211A	A	C2	1	2	100.406	0.115	20	MGM	0.0057	101.023
C0D6A212A	A	C2	1	2	98.704	0.115	20	MGM	0.0058	99.858
C0D6A213A	A	C2	1	2	98.827	0.116	20	MGM	0.0058	100.128
C0D6B111A	B	C1	2	1	99.319	0.113	20	MGM	0.0057	98.622
C0D6B112A	B	C1	2	1	101.730	0.114	20	MGM	0.0057	101.819
C0D6B113A	B	C1	2	1	101.190	0.115	20	MGM	0.0058	102.122
C0D6B114A	B	C1	2	1	99.492	0.115	20	MGM	0.0057	100.277
C0D6B211A	B	C2	2	2	102.450	0.114	20	MGM	0.0057	102.165
C0D6B212A	B	C2	2	2	102.812	0.114	20	MGM	0.0057	102.872
C0D6B213A	B	C2	2	2	98.762	0.115	20	MGM	0.0057	99.542
C0D6C111A	C	C1	3	1	94.364	0.114	20	MGM	0.0057	94.115
C0D6C112A	C	C1	3	1	94.656	0.114	20	MGM	0.0057	94.863
C0D6C113A	C	C1	3	1	94.585	0.114	20	MGM	0.0057	94.710
C0D6C114A	C	C1	3	1	95.425	0.112	20	MGM	0.0056	94.128
C0D6C211A	C	C2	3	2	88.868	0.114	20	MGM	0.0057	89.115
C0D6C212A	C	C2	3	2	94.168	0.112	20	MGM	0.0056	92.461
C0D6C213A	C	C2	3	2	97.900	0.113	20	MGM	0.0057	97.112

	Strength		$Strength_{norm}$
Average	98.597	$Average_{norm}$	98.661
Standard Dev.	3.738	$Standard\ Dev._{norm}$	3.995
Coeff. of Var. [%]	3.791	$Coeff.\ of\ Var.\ [\%]_{norm}$	4.050
Min.	88.868	Min.	89.115
Max.	103.309	Max.	103.490
Number of Spec.	21	Number of Spec.	21


Laminate Filled Hole Tension Properties (FHT3) -- (RTD)
Normalized Strength
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
20.0
40.0
60.0
80.0
100.0
120.0
Laminate Filled Hole Tension Strength [ksi]

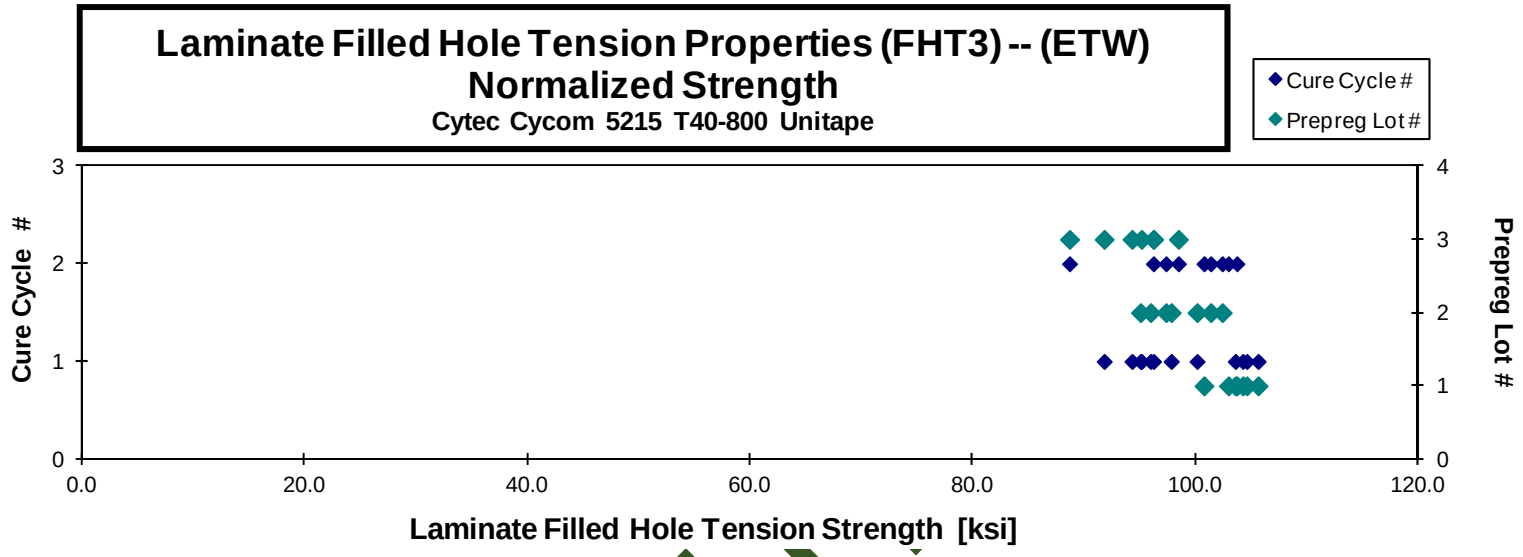
Laminate Filled Hole Tension Properties (FHT3) -- (ETW)
Strength
Cytec Cycom 5215 T40-800 Unitape

normalizing t_{ply} [in]: 0.0057

Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Avg. Specimen Thickn. [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]
C0D6A11BM	A	C1	1	1	105.199	0.114	20	AGM	0.0057	105.614
C0D6A11CM	A	C1	1	1	103.739	0.115	20	AGM	0.0057	104.603
C0D6A11DM	A	C1	1	1	102.553	0.115	20	AGM	0.0058	103.573
C0D6A11EM	A	C1	1	1	103.157	0.115	20	AGM	0.0058	104.243
C0D6A219M	A	C2	1	2	101.363	0.116	20	AGM	0.0058	102.949
C0D6A21AM	A	C2	1	2	99.150	0.116	20	AGM	0.0058	100.759
C0D6A21BM	A	C2	1	2	101.167	0.117	20	AGM	0.0058	103.711
C0D6B11AM	B	C1	2	1	96.569	0.113	20	AGM	0.0057	95.962
C0D6B11CM	B	C1	2	1	97.526	0.114	20	AGM	0.0057	97.812
C0D6B11DM	B	C1	2	1	95.417	0.114	20	AGM	0.0057	95.054
C0D6B11EM	B	C1	2	1	100.310	0.114	20	AGM	0.0057	100.134
C0D6B219M	B	C2	2	2	100.508	0.115	20	AGM	0.0057	101.360
C0D6B21AM	B	C2	2	2	100.559	0.116	20	AGM	0.0058	102.396
C0D6B21BM	B	C2	2	2	95.985	0.116	20	AGM	0.0058	97.346
C0D6C11BM	C	C1	3	1	97.028	0.112	20	AGM	0.0056	95.141
C0D6C11DM	C	C1	3	1	95.990	0.112	20	AGM	0.0056	94.292
C0D6C11EM	C	C1	3	1	92.840	0.113	20	AGM	0.0056	91.795
C0D6C11FM	C	C1	3	1	96.409	0.114	20	MGM	0.0057	96.226
C0D6C219M	C	C2	3	2	100.245	0.112	20	AGM	0.0056	98.457
C0D6C21AM	C	C2	3	2	89.891	0.112	20	AGM	0.0056	88.682
C0D6C21BM	C	C2	3	2	97.099	0.113	20	AGM	0.0056	96.218

Average	98.700	
Standard Dev.	3.751	
Coeff. of Var. [%]	3.800	
Min.	89.891	
Max.	105.199	
Number of Spec.	21	

$Average_{norm}$	0.0057	98.873
$Standard\ Dev._{norm}$		4.597
$Coeff.\ of\ Var.\ [\%]_{norm}$		4.649
Min.	0.0056	88.682
Max.	0.0058	105.614
Number of Spec.		21


Laminate Filled Hole Tension Properties (FHT3) -- (ETW)
Normalized Strength
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
20.0
40.0
60.0
80.0
100.0
120.0
Laminate Filled Hole Tension Strength [ksi]

4.22 "25/50/25" Open-Hole Compression 1 Properties (OHC1)

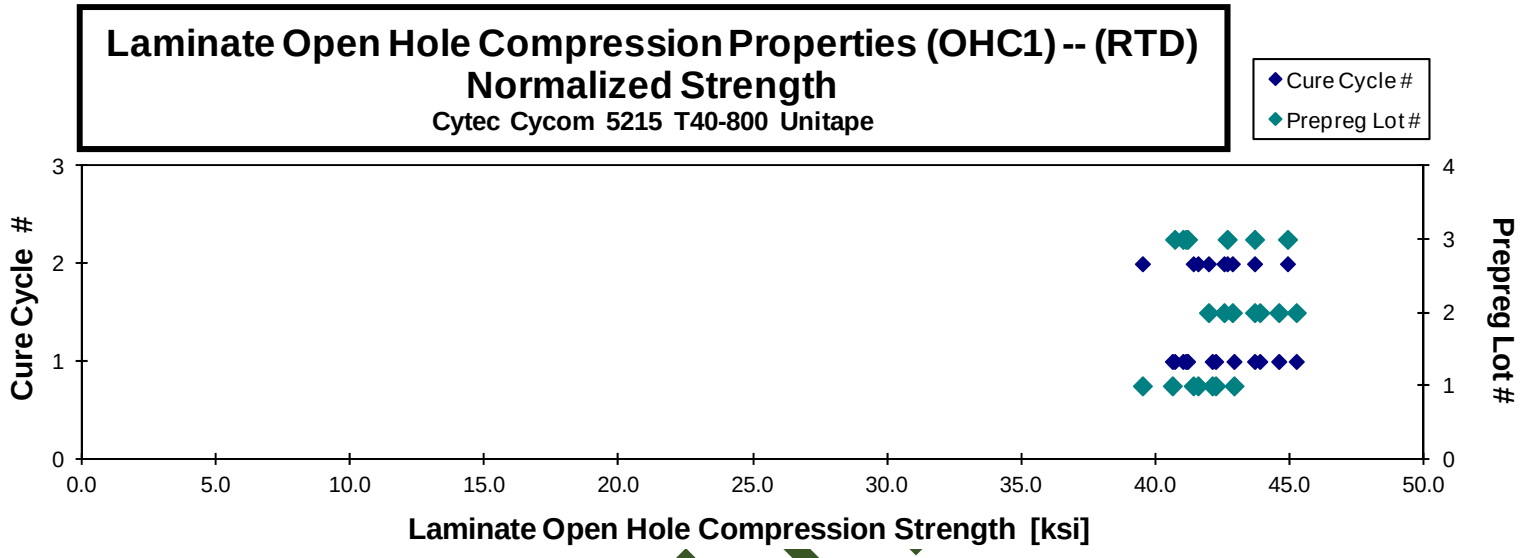
Laminate Open Hole Compression Properties (OHC1) -- (RTD) Strength
Cytec Cycom 5215 T40-800 Unitape

normalizing t_{ply} [in]
0.0057

Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Avg. Specimen Thickn. [in]	# Plies in Laminate	Failure Modes	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]
C0DGA111A	A	C1	1	1	42.634	0.181	32	MGM	0.0056	42.229
C0DGA112A	A	C1	1	1	42.111	0.182	32	MGM	0.0057	42.103
C0DGA113A	A	C1	1	1	42.781	0.183	32	LGM	0.0057	42.914
C0DGA114A	A	C1	1	1	40.109	0.185	32	LGM	0.0058	40.619
C0DGA211A	A	C2	1	2	40.155	0.179	32	LGM	0.0056	39.502
C0DGA212A	A	C2	1	2	42.378	0.179	32	LGM	0.0056	41.572
C0DGA213A	A	C2	1	2	41.986	0.180	32	LGM / AGM	0.0056	41.395
C0DGB111A	B	C1	2	1	44.117	0.181	32	LGM / AGM	0.0057	43.875
C0DGB112A	B	C1	2	1	45.274	0.182	32	LGM	0.0057	45.233
C0DGB113A	B	C1	2	1	44.700	0.182	32	LGM	0.0057	44.582
C0DGB114A	B	C1	2	1	43.700	0.182	32	LGM	0.0057	43.680
C0DGB211A	B	C2	2	2	43.341	0.180	32	LGM	0.0056	42.854
C0DGB212A	B	C2	2	2	42.746	0.182	32	LGM	0.0057	42.542
C0DGB213A	B	C2	2	2	42.078	0.182	32	LGM	0.0057	41.963
C0DGC111A	C	C1	3	1	41.316	0.182	32	LGM	0.0057	41.116
C0DGC112A	C	C1	3	1	40.485	0.183	32	LGM	0.0057	40.703
C0DGC113A	C	C1	3	1	40.856	0.183	32	LGM	0.0057	41.009
C0DGC114A	C	C1	3	1	41.015	0.183	32	LGM	0.0057	41.184
C0DGC211A	C	C2	3	2	44.477	0.179	32	LGM	0.0056	43.680
C0DGC212A	C	C2	3	2	45.350	0.181	32	LGM	0.0056	44.906
C0DGC213A	C	C2	3	2	43.001	0.181	32	LGM	0.0057	42.659

Average	**42.600**	
Standard Dev.	**1.608**	
Coeff. of Var. [%]	**3.775**	
Min.	**40.109**	
Max.	**45.350**	
Number of Spec.	**21**	

$Average_{norm}$	**0.0057**	**42.396**
$Standard\ Dev._{norm}$		**1.526**
$Coeff.\ of\ Var.\ [\%]_{norm}$		**3.600**
Min.	**0.0056**	**39.502**
Max.	**0.0058**	**45.233**
Number of Spec.		**21**

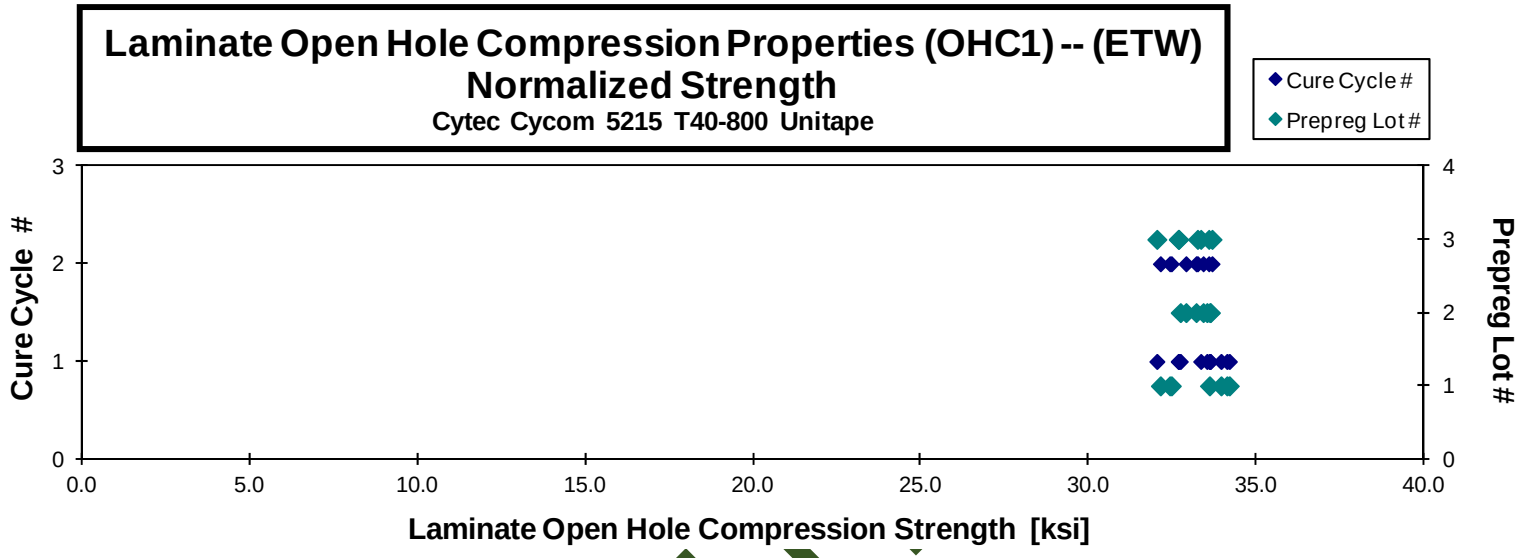

Laminate Open Hole Compression Properties (OHC1) -- (RTD)
Normalized Strength
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0
45.0
50.0
Laminate Open Hole Compression Strength [ksi]

Laminate Open Hole Compression Properties (OHC1) -- (ETW)
Strength
Cytec Cycom 5215 T40-800 Unitape

normalizing t_{ply} [in]
0.0057

Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Avg. Specimen Thickn. [in]	# Plies in Laminate	Failure Modes	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]
C0DGA116M	A	C1	1	1	33.929	0.181	32	LGM	0.0056	33.600
C0DGA117M	A	C1	1	1	34.166	0.181	32	LGM	0.0057	33.944
C0DGA118M	A	C1	1	1	33.919	0.184	32	LGM	0.0057	34.192
C0DGA119M	A	C1	1	1	33.684	0.185	32	LGM	0.0058	34.121
C0DGA215M	A	C2	1	2	32.988	0.179	32	LGM	0.0056	32.415
C0DGA216M	A	C2	1	2	32.808	0.180	32	LGM	0.0056	32.463
C0DGA217M	A	C2	1	2	32.499	0.180	32	LGM	0.0056	32.137
C0DGB116M	B	C1	2	1	34.087	0.180	32	LGM	0.0056	33.611
C0DGB117M	B	C1	2	1	33.781	0.181	32	LGM	0.0057	33.524
C0DGB118M	B	C1	2	1	33.971	0.181	32	LGM	0.0056	33.626
C0DGB119M	B	C1	2	1	33.056	0.181	32	LGM	0.0056	32.730
C0DGB215M	B	C2	2	2	32.990	0.182	32	LGM	0.0057	32.900
C0DGB216M	B	C2	2	2	33.636	0.181	32	LGM	0.0057	33.412
C0DGB217M	B	C2	2	2	33.305	0.182	32	LGM	0.0057	33.202
C0DGC116M	C	C1	3	1	33.536	0.181	32	LGM	0.0057	33.340
C0DGC117M	C	C1	3	1	32.289	0.181	32	LGM	0.0057	32.032
C0DGC118M	C	C1	3	1	32.957	0.181	32	LGM	0.0057	32.671
C0DGC119M	C	C1	3	1	32.474	0.184	32	LGM	0.0057	32.682
C0DGC215M	C	C2	3	2	33.618	0.180	32	LGM	0.0056	33.243
C0DGC216M	C	C2	3	2	34.213	0.180	32	LGM	0.0056	33.676
C0DGC217M	C	C2	3	2	33.966	0.180	32	LGM	0.0056	33.578

Average	**33.422**	**$Average_{norm}$**	**0.0057**	**33.195**
Standard Dev.	**0.599**	**$Standard\ Dev._{norm}$**		**0.630**
Coeff. of Var. [%]	**1.791**	**$Coeff.\ of\ Var.\ [\%]_{norm}$**		**1.899**
Min.	**32.289**	**Min.**	**0.0056**	**32.032**
Max.	**34.213**	**Max.**	**0.0058**	**34.192**
Number of Spec.	**21**	**Number of Spec.**		**21**


Laminate Open Hole Compression Properties (OHC1) -- (ETW)
Normalized Strength
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0
Laminate Open Hole Compression Strength [ksi]

4.23 "10/80/10" Open-Hole Compression 2 Properties (OHC2)

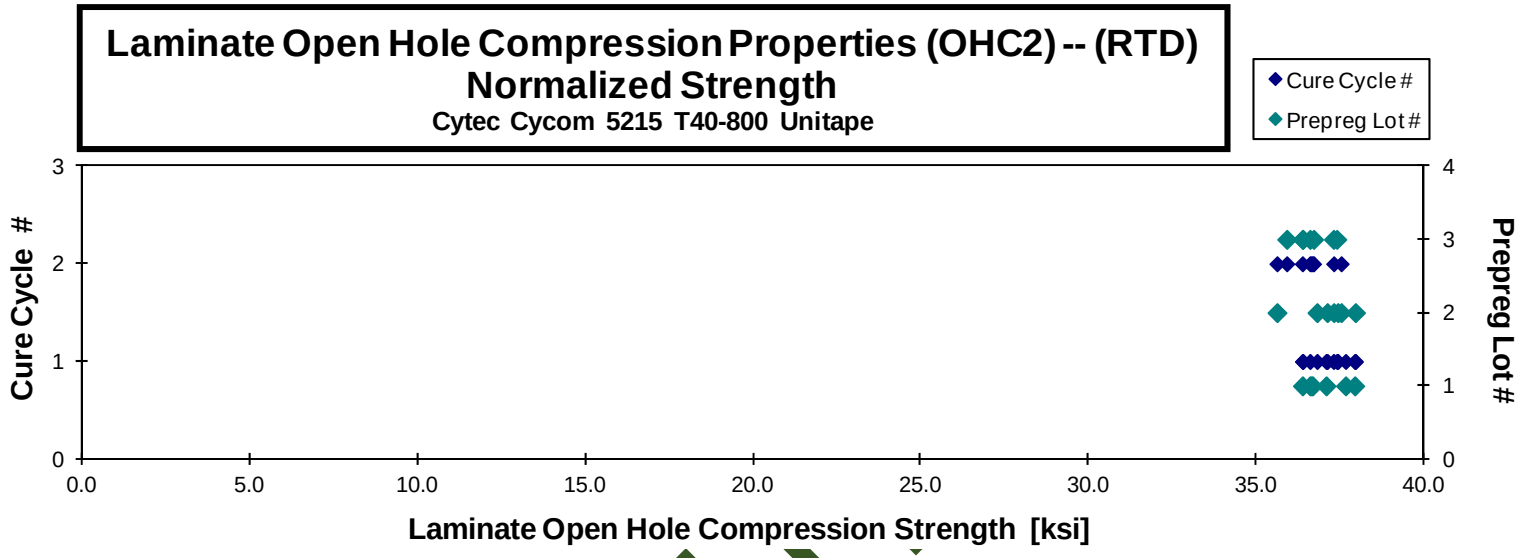
Laminate Open Hole Compression Properties (OHC2) -- (RTD) Strength
Cytec Cycom 5215 T40-800 Unitape

normalizing t_{ply} [in]: 0.0057

Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Avg. Specimen Thickn. [in]	# Plies in Laminate	Failure Modes	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]
C0DHA111A	A	C1	1	1	36.069	0.231	40	LGM / AGM	0.0058	36.596
C0DHA112A	A	C1	1	1	37.412	0.231	40	LGM / AGM	0.0058	37.929
C0DHA113A	A	C1	1	1	36.561	0.231	40	MGM	0.0058	37.076
C0DHA114A	A	C1	1	1	37.038	0.232	40	LGM / AGM	0.0058	37.655
C0DHA211A	A	C2	1	2	35.975	0.231	40	AGM	0.0058	36.369
C0DHA212A	A	C2	1	2	36.126	0.231	40	MGM	0.0058	36.633
C0DHA213A	A	C2	1	2	36.141	0.231	40	AGM	0.0058	36.669
C0DHB111A	B	C1	2	1	37.990	0.223	40	AGM	0.0056	37.110
C0DHB112A	B	C1	2	1	38.663	0.224	40	AGM	0.0056	37.951
C0DHB113A	B	C1	2	1	38.157	0.224	40	AGM	0.0056	37.423
C0DHB114A	B	C1	2	1	37.410	0.224	40	MGM	0.0056	36.805
C0DHB211A	B	C2	2	2	35.396	0.229	40	AGM	0.0057	35.613
C0DHB212A	B	C2	2	2	36.668	0.233	40	MGM	0.0058	37.525
C0DHB213A	B	C2	2	2	36.575	0.233	40	AGM	0.0058	37.302
C0DHC111A	C	C1	3	1	36.788	0.225	40	LGM / AGM	0.0056	36.371
C0DHC112A	C	C1	3	1	37.746	0.226	40	MGM	0.0056	37.393
C0DHC113A	C	C1	3	1	37.763	0.225	40	MGM	0.0056	37.296
C0DHC114A	C	C1	3	1	36.944	0.225	40	MGM	0.0056	36.382
C0DHC211A	C	C2	3	2	36.857	0.227	40	AGM	0.0057	36.703
C0DHC212A	C	C2	3	2	36.893	0.226	40	LGM / AGM	0.0057	36.593
C0DHC213A	C	C2	3	2	36.574	0.224	40	AGM	0.0056	35.903

Average	36.940	
Standard Dev.	0.813	
Coeff. of Var. [%]	2.201	
Min.	35.396	
Max.	38.663	
Number of Spec.	21	

$Average_{norm}$	0.0057	36.919
$Standard\ Dev._{norm}$		0.627
$Coeff.\ of\ Var.\ [\%]_{norm}$		1.699
Min.	0.0056	35.613
Max.	0.0058	37.951
Number of Spec.		21


Laminate Open Hole Compression Properties (OHC2) -- (RTD)
Normalized Strength
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0
Laminate Open Hole Compression Strength [ksi]

Laminate Open Hole Compression Properties (OHC2) -- (ETW) Strength

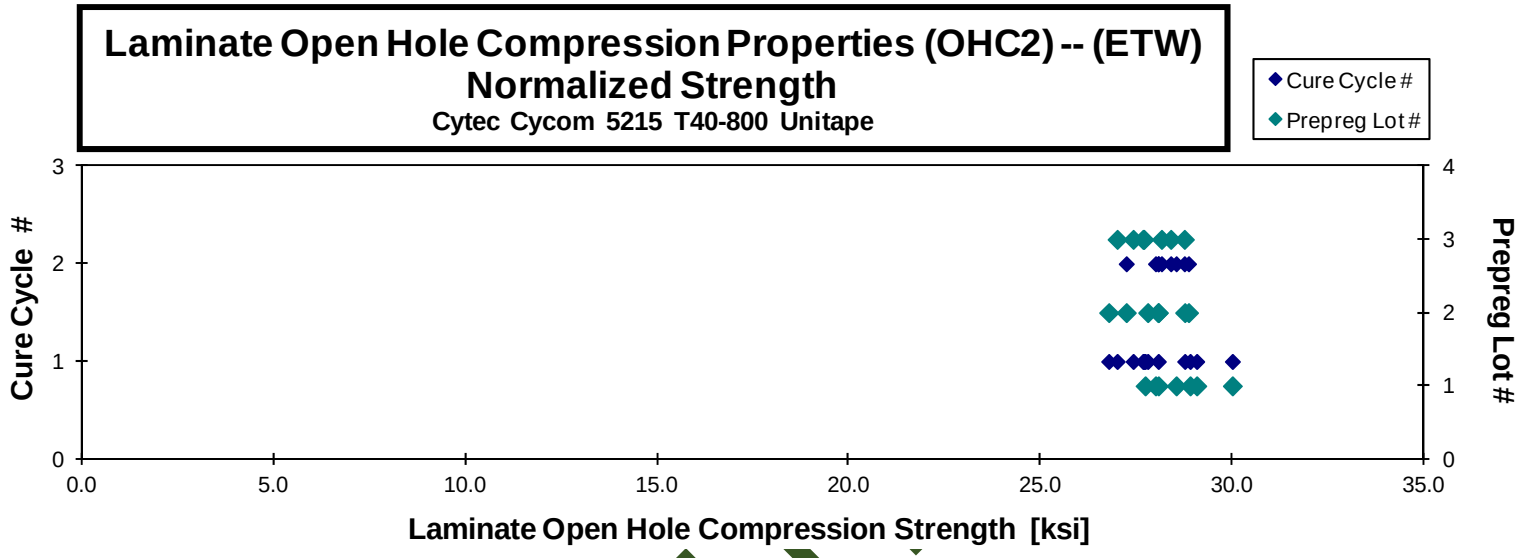
Cytec Cycom 5215 T40-800 Unitape

normalizing t_{ply} [in]
0.0057

Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Avg. Specimen Thickn. [in]	# Plies in Laminate	Failure Modes	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]
C0DHA117M	A	C1	1	1	28.645	0.231	40	LGM	0.0058	29.068
C0DHA118M	A	C1	1	1	29.589	0.231	40	LGM	0.0058	29.997
C0DHA119M	A	C1	1	1	27.175	0.233	40	LGM	0.0058	27.722
C0DHA11AM	A	C1	1	1	28.378	0.232	40	LGM	0.0058	28.894
C0DHA216M	A	C2	1	2	27.861	0.233	40	LGM/AGM	0.0058	28.531
C0DHA217M	A	C2	1	2	27.444	0.233	40	LGM	0.0058	27.992
C0DHA218M	A	C2	1	2	27.623	0.232	40	LGM	0.0058	28.067
C0DHB117M	B	C1	2	1	28.426	0.223	40	MGM	0.0056	27.791
C0DHB118M	B	C1	2	1	29.210	0.224	40	LGM	0.0056	28.755
C0DHB119M	B	C1	2	1	28.474	0.225	40	MGM	0.0056	28.066
C0DHB11AM	B	C1	2	1	27.223	0.224	40	MGM	0.0056	26.773
C0DHB216M	B	C2	2	2	28.551	0.230	40	LGM	0.0058	28.854
C0DHB217M	B	C2	2	2	26.801	0.232	40	LGM	0.0058	27.230
C0DHB218M	B	C2	2	2	27.373	0.234	40	LGM	0.0058	28.060
C0DHC117M	C	C1	3	1	28.014	0.225	40	LGM	0.0056	27.690
C0DHC118M	C	C1	3	1	27.965	0.226	40	LGM/AGM	0.0056	27.665
C0DHC119M	C	C1	3	1	27.358	0.225	40	MGM	0.0056	26.992
C0DHC11AM	C	C1	3	1	27.871	0.224	40	LGM	0.0056	27.411
C0DHC216M	C	C2	3	2	28.601	0.224	40	LGM	0.0056	28.148
C0DHC217M	C	C2	3	2	29.246	0.224	40	LGM	0.0056	28.745
C0DHC218M	C	C2	3	2	28.899	0.224	40	LGM	0.0056	28.390

	Strength [ksi]
Average	28.130
Standard Dev.	0.763
Coeff. of Var. [%]	2.712
Min.	26.801
Max.	29.589
Number of Spec.	21

	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]
$Average_{norm}$	0.0057	28.135
Standard $Dev._{norm}$		0.763
Coeff. of Var. $[\%]_{norm}$		2.714
Min.	0.0056	26.773
Max.	0.0058	29.997
Number of Spec.		21


Laminate Open Hole Compression Properties (OHC2) -- (ETW)
Normalized Strength
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
Laminate Open Hole Compression Strength [ksi]

4.24 "50/40/10" Open-Hole Compression 3 Properties (OHC3)

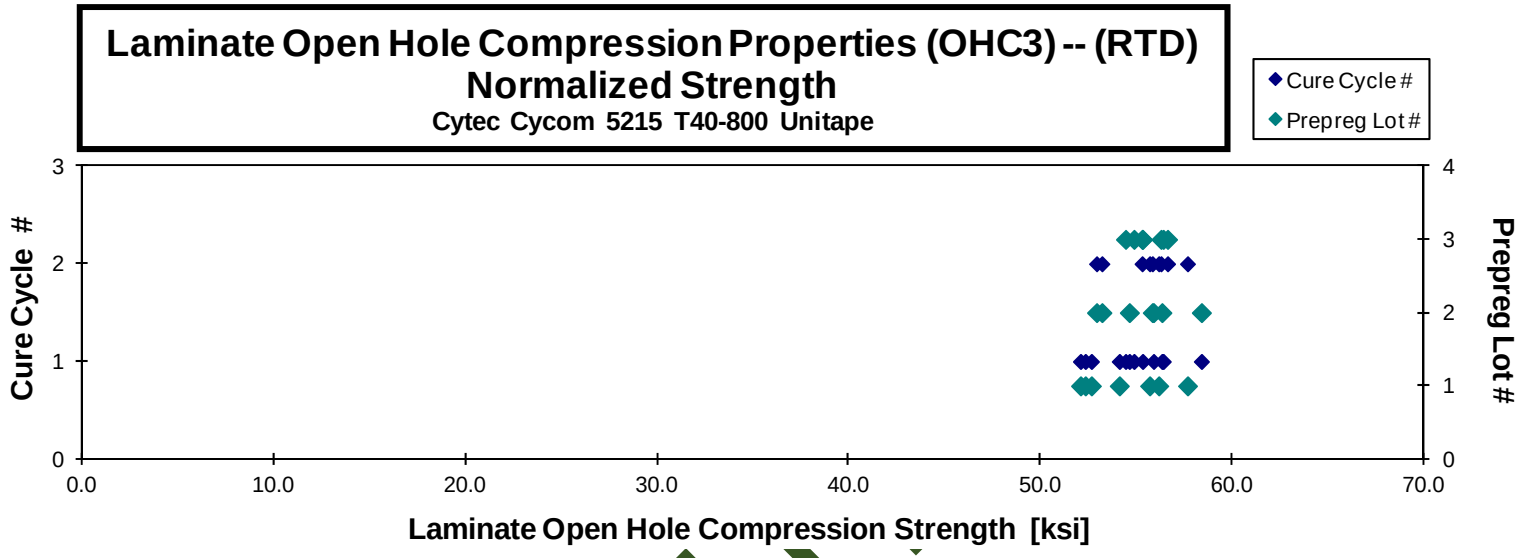
Laminate Open Hole Compression Properties (OHC3) -- (RTD) Strength
Cytec Cycom 5215 T40-800 Unitape

normalizing t_{ply} [in]
0.0057

Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Avg. Specimen Thickn. [in]	# Plies in Laminate	Failure Modes	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]
C0DIA111A	A	C1	1	1	51.819	0.230	40	MGM	0.0058	52.323
C0DIA112A	A	C1	1	1	51.258	0.232	40	LGM	0.0058	52.075
C0DIA113A	A	C1	1	1	51.800	0.232	40	LGM	0.0058	52.640
C0DIA114A	A	C1	1	1	53.070	0.232	40	LGM	0.0058	54.098
C0DIA211A	A	C2	1	2	56.179	0.228	40	MGM	0.0057	56.155
C0DIA212A	A	C2	1	2	57.671	0.228	40	LGM	0.0057	57.654
C0DIA213A	A	C2	1	2	55.203	0.230	40	AGM	0.0057	55.679
C0DIB111A	B	C1	2	1	55.643	0.224	40	AGM	0.0056	54.622
C0DIB112A	B	C1	2	1	56.481	0.226	40	LGM	0.0056	55.883
C0DIB113A	B	C1	2	1	56.868	0.226	40	LGM	0.0056	56.319
C0DIB114A	B	C1	2	1	58.857	0.226	40	MGM	0.0057	58.379
C0DIB211A	B	C2	2	2	55.323	0.218	40	LGM	0.0055	52.913
C0DIB212A	B	C2	2	2	55.231	0.220	40	LGM	0.0055	53.188
C0DIB213A	B	C2	2	2	57.698	0.221	40	LGM	0.0055	55.821
C0DIC111A	C	C1	3	1	55.568	0.227	40	MGM	0.0057	55.312
C0DIC112A	C	C1	3	1	56.734	0.227	40	MGM	0.0057	56.390
C0DIC113A	C	C1	3	1	55.013	0.227	40	MGM	0.0057	54.864
C0DIC114A	C	C1	3	1	54.502	0.228	40	MGM	0.0057	54.423
C0DIC211A	C	C2	3	2	56.185	0.224	40	LGM	0.0056	55.286
C0DIC212A	C	C2	3	2	57.691	0.224	40	LGM	0.0056	56.616
C0DIC213A	C	C2	3	2	56.730	0.226	40	LGM	0.0057	56.269

Average	**55.501**	
Standard Dev.	**2.062**	
Coeff. of Var. [%]	**3.714**	
Min.	**51.258**	
Max.	**58.857**	
Number of Spec.	**21**	

$Average_{norm}$	**0.0057**	**55.091**
$Standard\ Dev._{norm}$		**1.730**
$Coeff.\ of\ Var.\ [\%]_{norm}$		**3.140**
Min.	**0.0055**	**52.075**
Max.	**0.0058**	**58.379**
Number of Spec.		**21**


Laminate Open Hole Compression Properties (OHC3) -- (RTD)
Normalized Strength
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
Laminate Open Hole Compression Strength [ksi]

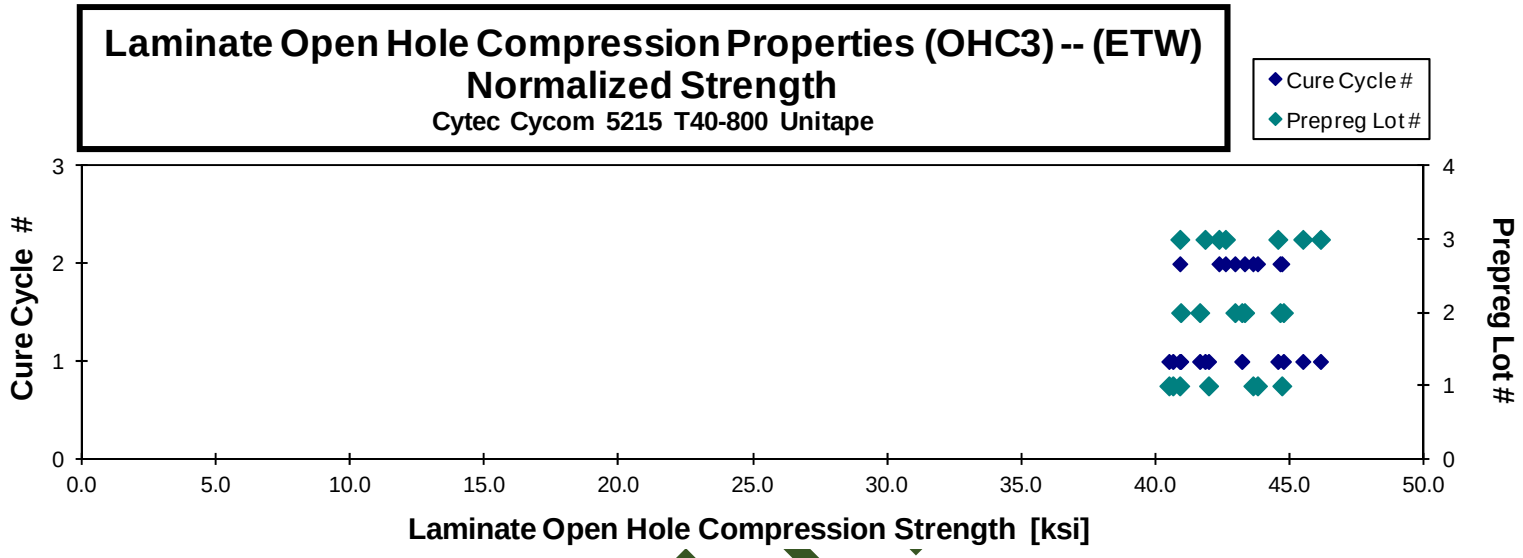
Laminate Open Hole Compression Properties (OHC3) -- (ETW)
Strength
Cytec Cycom 5215 T40-800 Unitape

normalizing t_{ply} [in]
0.0057

Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Avg. Specimen Thickn. [in]	# Plies in Laminate	Failure Modes	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]
C0DIA117M	A	C1	1	1	40.208	0.230	40	LGM	0.0058	40.634
C0DIA118M	A	C1	1	1	40.448	0.231	40	LGM	0.0058	40.892
C0DIA119M	A	C1	1	1	39.885	0.231	40	LGM	0.0058	40.488
C0DIA11AM	A	C1	1	1	40.957	0.234	40	LGM	0.0058	41.966
C0DIA216M	A	C2	1	2	44.614	0.228	40	LGM	0.0057	44.695
C0DIA217M	A	C2	1	2	43.573	0.229	40	LGM	0.0057	43.789
C0DIA218M	A	C2	1	2	43.049	0.231	40	LGM	0.0058	43.618
C0DIB117M	B	C1	2	1	41.194	0.227	40	LGO/LGM	0.0057	40.926
C0DIB118M	B	C1	2	1	43.421	0.227	40	LGO/LGM	0.0057	43.205
C0DIB119M	B	C1	2	1	41.776	0.227	40	LGM	0.0057	41.636
C0DIB11AM	B	C1	2	1	44.902	0.227	40	LGM	0.0057	44.754
C0DIB216M	B	C2	2	2	45.029	0.219	40	LGM	0.0055	43.307
C0DIB217M	B	C2	2	2	44.498	0.220	40	LGM	0.0055	42.946
C0DIB218M	B	C2	2	2	45.831	0.222	40	LGM	0.0056	44.628
C0DIC117M	C	C1	3	1	45.090	0.225	40	LGO/LGM	0.0056	44.546
C0DIC118M	C	C1	3	1	45.863	0.226	40	LGM	0.0057	45.477
C0DIC119M	C	C1	3	1	42.162	0.226	40	LGO/LGM	0.0057	41.832
C0DIC11AM	C	C1	3	1	46.220	0.228	40	LGM	0.0057	46.135
C0DIC216M	C	C2	3	2	43.564	0.223	40	LGM	0.0056	42.592
C0DIC217M	C	C2	3	2	41.684	0.224	40	LGM	0.0056	40.895
C0DIC218M	C	C2	3	2	42.788	0.226	40	LGM	0.0056	42.353

Average	**43.179**	
Standard Dev.	**1.989**	
Coeff. of Var. [%]	**4.606**	
Min.	**39.885**	
Max.	**46.220**	
Number of Spec.	**21**	

$Average_{norm}$	**0.0057**	**42.920**
$Standard\ Dev._{norm}$		**1.702**
$Coeff.\ of\ Var.\ [\%]_{norm}$		**3.965**
Min.	**0.0055**	**40.488**
Max.	**0.0058**	**46.135**
Number of Spec.		**21**


Laminate Open Hole Compression Properties (OHC3) -- (ETW)
Normalized Strength
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0
45.0
50.0
Laminate Open Hole Compression Strength [ksi]

4.25 "25/50/25" Filled-Hole Compression 1 Properties (FHC1)

Laminate Filled Hole Compression Properties (FHC1) -- (RTD) Strength

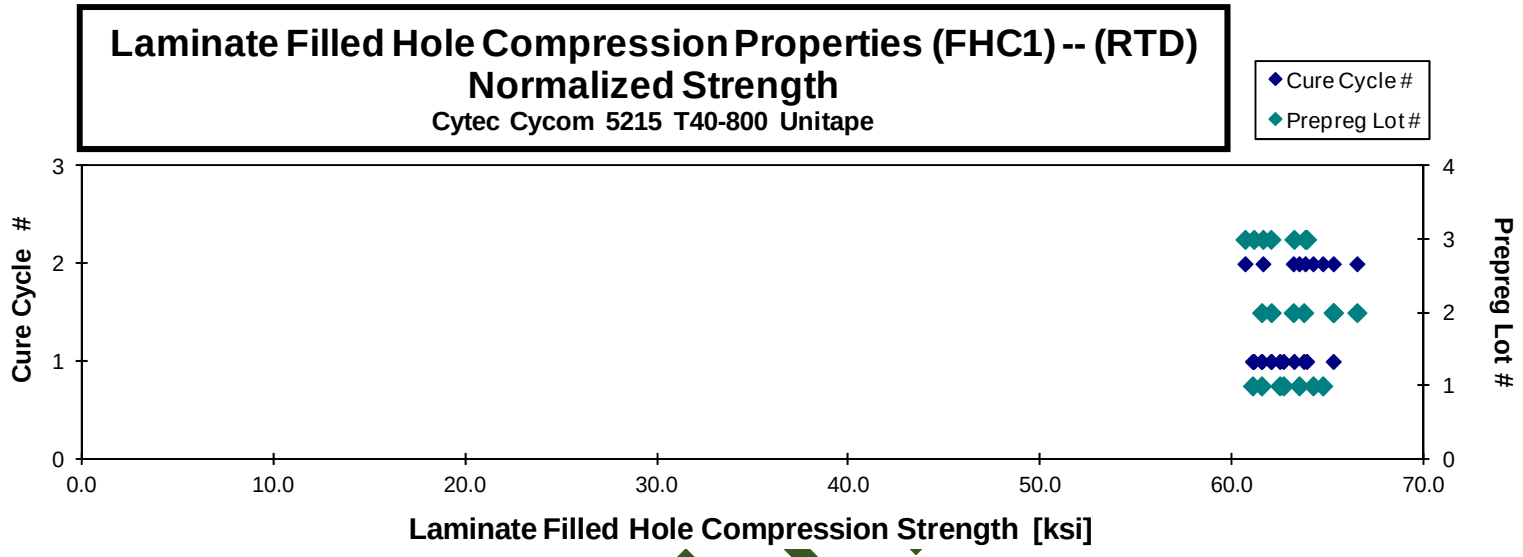
Cytec Cycom 5215 T40-800 Unitape

normalizing t_{ply} [in]: 0.0057

Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Avg. Specimen Thickn. [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]
C0D7A111A	A	C1	1	1	61.804	0.184	32	LGF	0.0058	62.465
C0D7A112A	A	C1	1	1	60.040	0.185	32	LGF	0.0058	61.044
C0D7A113A	A	C1	1	1	61.561	0.186	32	LGF	0.0058	62.658
C0D7A114A	A	C1	1	1	60.556	0.185	32	LGF	0.0058	61.513
C0D7A211A	A	C2	1	2	63.824	0.185	32	LGF	0.0058	64.710
C0D7A213A	A	C2	1	2	62.815	0.186	32	MGF	0.0058	64.198
C0D7A214A	A	C2	1	2	62.211	0.186	32	MGF	0.0058	63.473
C0D7B111A	B	C1	2	1	63.320	0.179	32	LGM	0.0056	62.019
C0D7B112A	B	C1	2	1	62.649	0.179	32	LGF	0.0056	61.521
C0D7B113A	B	C1	2	1	66.574	0.179	32	LGF	0.0056	65.254
C0D7B114A	B	C1	2	1	65.146	0.178	32	LGF	0.0056	63.718
C0D7B211A	B	C2	2	2	67.312	0.177	32	LGF	0.0055	65.257
C0D7B212A	B	C2	2	2	64.834	0.178	32	LGF	0.0056	63.169
C0D7B213A	B	C2	2	2	67.974	0.178	32	LGF	0.0056	66.489
C0D7C111A	C	C1	3	1	63.794	0.181	32	LGF	0.0056	63.205
C0D7C112A	C	C1	3	1	62.227	0.182	32	MGF	0.0057	62.000
C0D7C113A	C	C1	3	1	61.422	0.181	32	LGF	0.0057	61.108
C0D7C114A	C	C1	3	1	64.735	0.180	32	LGF	0.0056	63.865
C0D7C211A	C	C2	3	2	61.651	0.182	32	MGF	0.0057	61.589
C0D7C212A	C	C2	3	2	60.664	0.182	32	MGF	0.0057	60.653
C0D7C213A	C	C2	3	2	63.679	0.183	32	LGF	0.0057	63.789

Average	63.276	
Standard Dev.	2.199	
Coeff. of Var. [%]	3.476	
Min.	60.040	
Max.	67.974	
Number of Spec.	21	

$Average_{norm}$	0.0057	63.033
$Standard\ Dev._{norm}$		1.590
$Coeff.\ of\ Var.\ [\%]_{norm}$		2.522
Min.	0.0055	60.653
Max.	0.0058	66.489
Number of Spec.		21

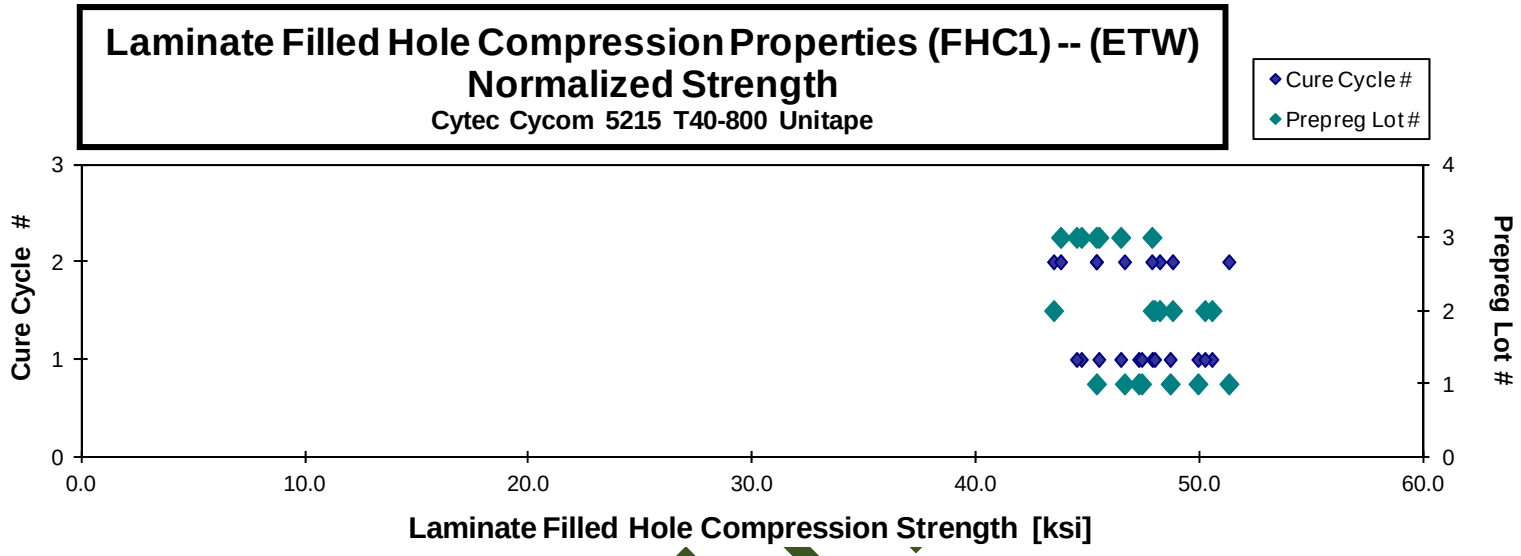

Laminate Filled Hole Compression Properties (FHC1) -- (RTD)
Normalized Strength
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
Laminate Filled Hole Compression Strength [ksi]

Laminate Filled Hole Compression Properties (FHC1) -- (ETW)
Strength
Cytec Cycom 5215 T40-800 Unitape

normalizing t_{ply} [in]: 0.0057

Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Avg. Specimen Thickn. [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]
C0D7A118M	A	C1	1	1	47.857	0.185	32	LGF/LGO	0.0058	48.644
C0D7A119M	A	C1	1	1	46.488	0.185	32	LGF	0.0058	47.236
C0D7A11AM	A	C1	1	1	49.105	0.185	32	LGF/LGO	0.0058	49.885
C0D7A11BM	A	C1	1	1	46.706	0.185	32	MGF	0.0058	47.368
C0D7A216M	A	C2	1	2	46.275	0.184	32	LGF/LGO	0.0057	46.600
C0D7A217M	A	C2	1	2	44.953	0.184	32	LGF/LGO	0.0058	45.348
C0D7A218M	A	C2	1	2	50.601	0.185	32	MGF/MGO	0.0058	51.267
C0D7B117M	B	C1	2	1	51.738	0.178	32	LGF/LGO	0.0056	50.509
C0D7B118M	B	C1	2	1	51.307	0.178	32	LGF/LGO	0.0056	50.191
C0D7B119M	B	C1	2	1	48.716	0.179	32	LGF/LGO	0.0056	47.844
C0D7B11AM	B	C1	2	1	48.694	0.180	32	LGF/LGO	0.0056	47.946
C0D7B216M	B	C2	2	2	49.622	0.177	32	LGF/LGO	0.0055	48.171
C0D7B217M	B	C2	2	2	49.782	0.179	32	LGF/LGO	0.0056	48.750
C0D7B218M	B	C2	2	2	44.191	0.179	32	MGF	0.0056	43.432
C0D7C117M	C	C1	3	1	45.390	0.180	32	LGF/LGO	0.0056	44.672
C0D7C118M	C	C1	3	1	45.825	0.181	32	LGF/LGO	0.0057	45.453
C0D7C119M	C	C1	3	1	44.718	0.181	32	LGF/LGO	0.0057	44.457
C0D7C11AM	C	C1	3	1	46.873	0.181	32	LGF/LGO	0.0056	46.432
C0D7C216M	C	C2	3	2	45.659	0.181	32	LGF/LGO	0.0057	45.338
C0D7C217M	C	C2	3	2	47.874	0.182	32	LGF/LGO	0.0057	47.826
C0D7C218M	C	C2	3	2	43.664	0.183	32	LGF/LGO	0.0057	43.743

	Strength		$Strength_{norm}$
Average	47.430	$Average_{norm}$	47.196
Standard Dev.	2.361	$Standard\ Dev._{norm}$	2.252
Coeff. of Var. [%]	4.978	$Coeff.\ of\ Var.\ [\%]_{norm}$	4.772
Min.	43.664	Min.	43.432
Max.	51.738	Max.	51.267
Number of Spec.	21	Number of Spec.	21


Laminate Filled Hole Compression Properties (FHC1) -- (ETW)
Normalized Strength
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
10.0
20.0
30.0
40.0
50.0
60.0
Laminate Filled Hole Compression Strength [ksi]

4.26 "10/80/10" Filled-Hole Compression 2 Properties (FHC2)

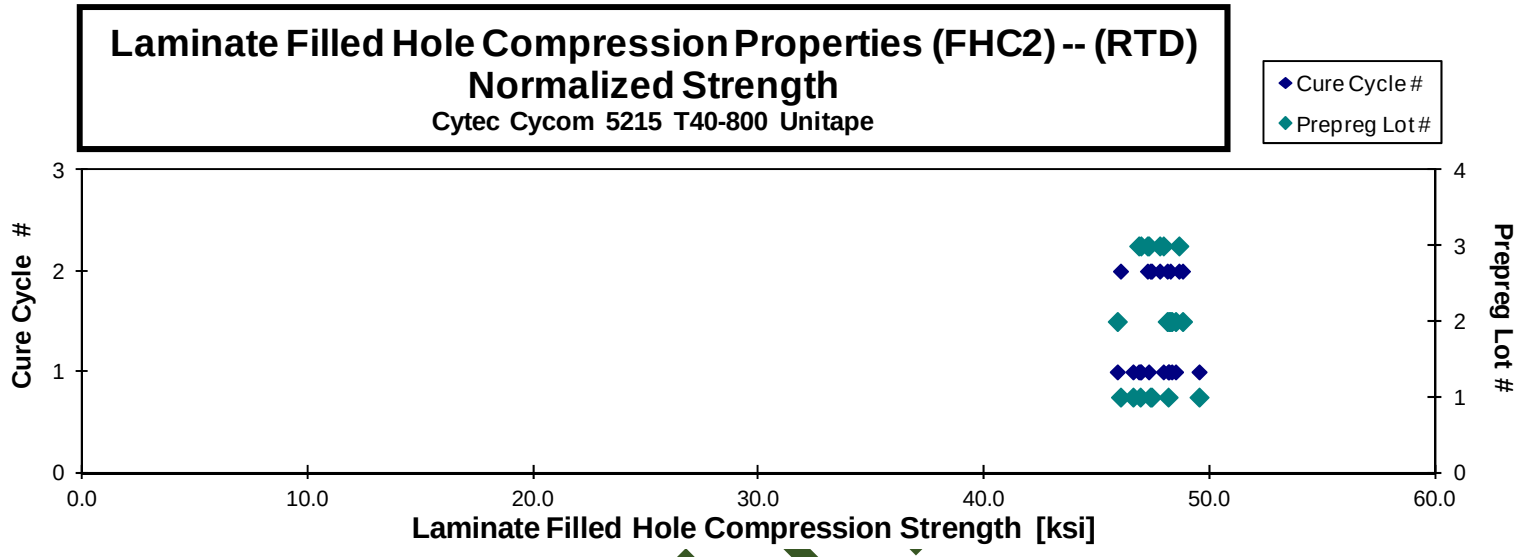
Laminate Filled Hole Compression Properties (FHC2) -- (RTD) Strength
Cytec Cycom 5215 T40-800 Unitape

normalizing t_{ply} [in]: 0.0057

Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Avg. Specimen Thickn. [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]
C0D8A111A	A	C1	1	1	47.565	0.231	40	MGF	0.0058	48.156
C0D8A112A	A	C1	1	1	45.956	0.231	40	LGF	0.0058	46.597
C0D8A113A	A	C1	1	1	48.805	0.231	40	MGF	0.0058	49.529
C0D8A114A	A	C1	1	1	46.277	0.231	40	LGF	0.0058	46.916
C0D8A211A	A	C2	1	2	45.700	0.230	40	LGF	0.0057	46.044
C0D8A212A	A	C2	1	2	46.905	0.230	40	AGF	0.0058	47.364
C0D8A213A	A	C2	1	2	46.757	0.231	40	LGF	0.0058	47.420
C0D8B111A	B	C1	2	1	49.688	0.222	40	MGF	0.0055	48.316
C0D8B112A	B	C1	2	1	46.928	0.223	40	AGF	0.0056	45.903
C0D8B113A	B	C1	2	1	48.858	0.225	40	MGF	0.0056	48.190
C0D8B114A	B	C1	2	1	49.421	0.224	40	MGF	0.0056	48.489
C0D8B211A	B	C2	2	2	48.368	0.230	40	MGF	0.0058	48.795
C0D8B212A	B	C2	2	2	47.805	0.230	40	AGF	0.0058	48.249
C0D8B213A	B	C2	2	2	47.500	0.231	40	AGF	0.0058	48.114
C0D8C111A	C	C1	3	1	47.600	0.227	40	AGF	0.0057	47.291
C0D8C112A	C	C1	3	1	47.324	0.226	40	MGF	0.0057	46.947
C0D8C113A	C	C1	3	1	48.439	0.226	40	MGF	0.0056	47.943
C0D8C114A	C	C1	3	1	47.492	0.225	40	AGF	0.0056	46.853
C0D8C211A	C	C2	3	2	47.477	0.227	40	MGF	0.0057	47.238
C0D8C212A	C	C2	3	2	48.021	0.227	40	LGF	0.0057	47.782
C0D8C213A	C	C2	3	2	48.958	0.226	40	MGF	0.0057	48.632

Average	47.707	
Standard Dev.	1.087	
Coeff. of Var. [%]	2.279	
Min.	45.700	
Max.	49.688	
Number of Spec.	21	

$Average_{norm}$	0.0057	47.656
$Standard\ Dev._{norm}$		0.922
$Coeff.\ of\ Var.\ [\%]_{norm}$		1.936
Min.	0.0055	45.903
Max.	0.0058	49.529
Number of Spec.		21


Laminate Filled Hole Compression Properties (FHC2) -- (RTD)
Normalized Strength
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
10.0
20.0
30.0
40.0
50.0
60.0
Laminate Filled Hole Compression Strength [ksi]

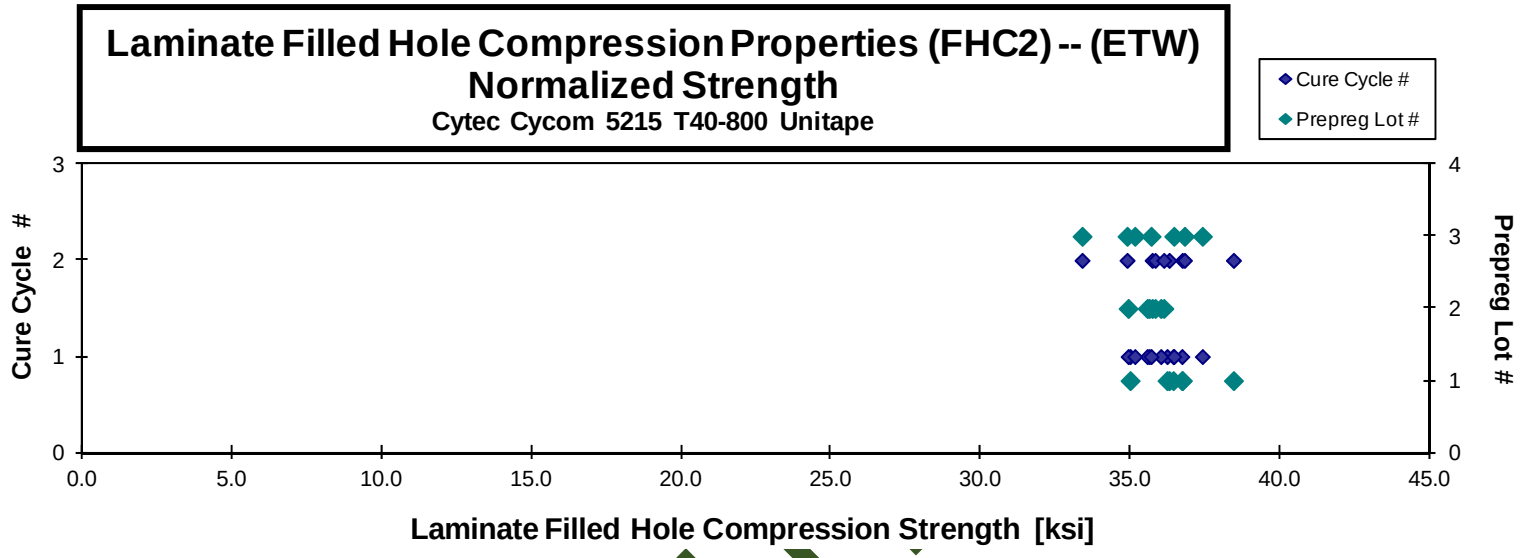
Laminate Filled Hole Compression Properties (FHC2) -- (ETW)
Strength
Cytec Cycom 5215 T40-800 Unitape

normalizing t_{ply} [in]: 0.0057

Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Avg. Specimen Thickn. [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]
C0D8A118M	A	C1	1	1	35.694	0.233	40	LGF	0.0058	36.425
C0D8A119M	A	C1	1	1	35.614	0.232	40	LGF/AGF	0.0058	36.221
C0D8A11AM	A	C1	1	1	34.424	0.232	40	MGF	0.0058	34.987
C0D8A11BM	A	C1	1	1	36.104	0.232	40	LGF	0.0058	36.716
C0D8A216M	A	C2	1	2	38.018	0.231	40	LGF	0.0058	38.438
C0D8A217M	A	C2	1	2	35.666	0.232	40	MGF	0.0058	36.289
C0D8A218M	A	C2	1	2	36.115	0.232	40	MGF	0.0058	36.730
C0D8B116M	B	C1	2	1	36.325	0.224	40	LGF	0.0056	35.624
C0D8B118M	B	C1	2	1	36.120	0.224	40	LGF	0.0056	35.560
C0D8B119M	B	C1	2	1	36.610	0.224	40	LGF	0.0056	36.013
C0D8B11AM	B	C1	2	1	35.353	0.225	40	LGF	0.0056	34.921
C0D8B216M	B	C2	2	2	35.559	0.229	40	MGF	0.0057	35.722
C0D8B217M	B	C2	2	2	35.565	0.230	40	MGF	0.0057	35.823
C0D8B218M	B	C2	2	2	35.594	0.231	40	LGF	0.0058	36.111
C0D8C117M	C	C1	3	1	37.918	0.225	40	LGF	0.0056	37.399
C0D8C119M	C	C1	3	1	36.095	0.225	40	MGF	0.0056	35.686
C0D8C11AM	C	C1	3	1	36.890	0.225	40	LGF	0.0056	36.448
C0D8C11BM	C	C1	3	1	35.341	0.227	40	LGF	0.0057	35.144
C0D8C216M	C	C2	3	2	35.330	0.225	40	MGF	0.0056	34.886
C0D8C217M	C	C2	3	2	37.290	0.225	40	MGF	0.0056	36.802
C0D8C218M	C	C2	3	2	32.980	0.231	40	LGF	0.0058	33.383

	Strength [ksi]
Average	35.934
Standard Dev.	1.106
Coeff. of Var. [%]	3.077
Min.	32.980
Max.	38.018
Number of Spec.	21

	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]
Average	0.0057	35.968
Standard Dev.		1.040
Coeff. of Var. [%]		2.893
Min.	0.0056	33.383
Max.	0.0058	38.438
Number of Spec.		21


Laminate Filled Hole Compression Properties (FHC2) -- (ETW)
Normalized Strength
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0
45.0
Laminate Filled Hole Compression Strength [ksi]

4.27 "50/40/10" Filled-Hole Compression 3 Properties (FHC3)

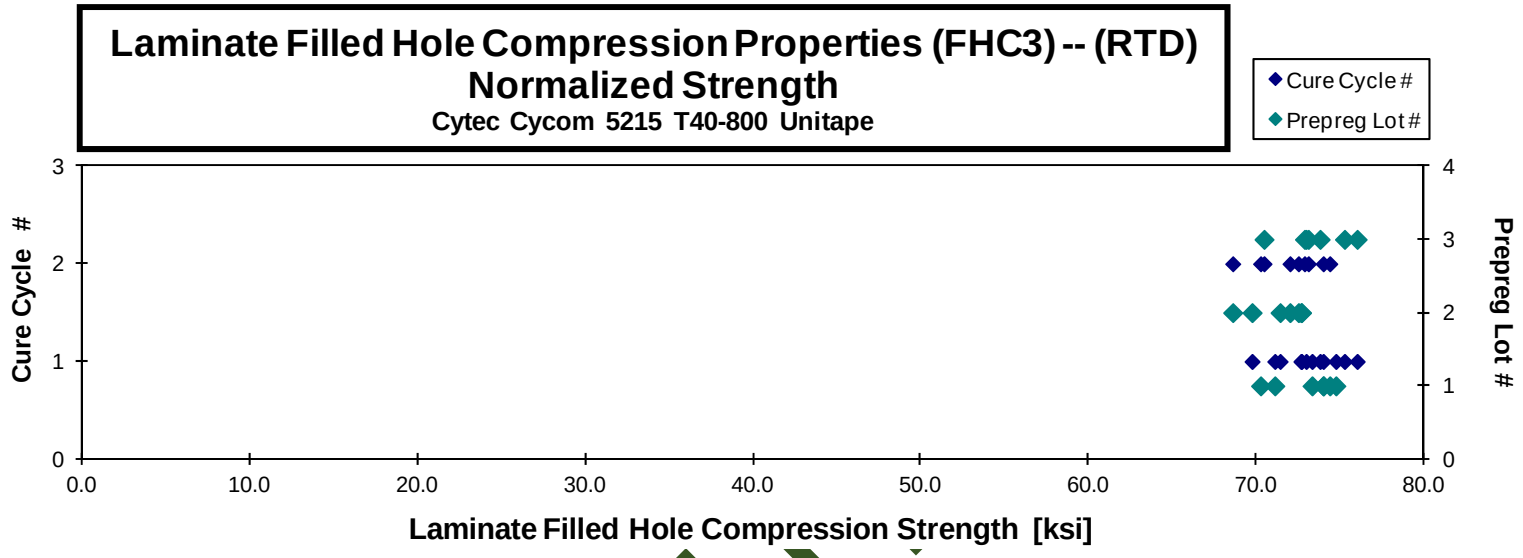
Laminate Filled Hole Compression Properties (FHC3) -- (RTD) Strength
Cytec Cycom 5215 T40-800 Unitape

normalizing t_{ply} [in]
0.0057

Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Avg. Specimen Thickn. [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]
C0D9A111A	A	C1	1	1	73.604	0.227	40	MGF	0.0057	73.313
C0D9A112A	A	C1	1	1	73.778	0.229	40	MGF	0.0057	73.983
C0D9A113A	A	C1	1	1	70.456	0.230	40	MGF	0.0058	71.095
C0D9A114A	A	C1	1	1	73.564	0.232	40	MGF	0.0058	74.736
C0D9A211A	A	C2	1	2	70.098	0.228	40	MGF	0.0057	70.247
C0D9A212A	A	C2	1	2	73.596	0.230	40	MGF	0.0058	74.371
C0D9A213A	A	C2	1	2	73.216	0.230	40	MGF	0.0058	73.981
C0D9B111A	B	C1	2	1	75.946	0.218	40	MGF	0.0055	72.687
C0D9B112A	B	C1	2	1	72.545	0.219	40	MGF	0.0055	69.740
C0D9B113A	B	C1	2	1	73.745	0.221	40	MGF	0.0055	71.410
C0D9B114A	B	C1	2	1	74.602	0.222	40	MGF	0.0056	72.655
C0D9B211A	B	C2	2	2	72.941	0.227	40	MGF	0.0057	72.503
C0D9B212A	B	C2	2	2	68.178	0.229	40	MGF	0.0057	68.587
C0D9B213A	B	C2	2	2	71.395	0.230	40	MGF	0.0057	72.000
C0D9C112A	C	C1	3	1	76.663	0.226	40	MGF	0.0057	76.002
C0D9C113A	C	C1	3	1	75.470	0.227	40	MGF	0.0057	75.249
C0D9C114A	C	C1	3	1	73.734	0.226	40	MGF	0.0056	72.963
C0D9C115A	C	C1	3	1	74.744	0.225	40	MGF	0.0056	73.793
C0D9C211A	C	C2	3	2	70.525	0.228	40	MGF	0.0057	70.453
C0D9C212A	C	C2	3	2	72.735	0.228	40	MGF	0.0057	72.863
C0D9C213A	C	C2	3	2	72.961	0.228	40	MGM	0.0057	73.095

Average	**73.071**	
Standard Dev.	**2.045**	
Coeff. of Var. [%]	**2.798**	
Min.	**68.178**	
Max.	**76.663**	
Number of Spec.	**21**	

$Average_{norm}$	**0.0057**	**72.654**
$Standard\ Dev._{norm}$		**1.883**
$Coeff.\ of\ Var.\ [\%]_{norm}$		**2.592**
Min.	**0.0055**	**68.587**
Max.	**0.0058**	**76.002**
Number of Spec.		**21**


Laminate Filled Hole Compression Properties (FHC3) -- (RTD)
Normalized Strength
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
80.0
Laminate Filled Hole Compression Strength [ksi]

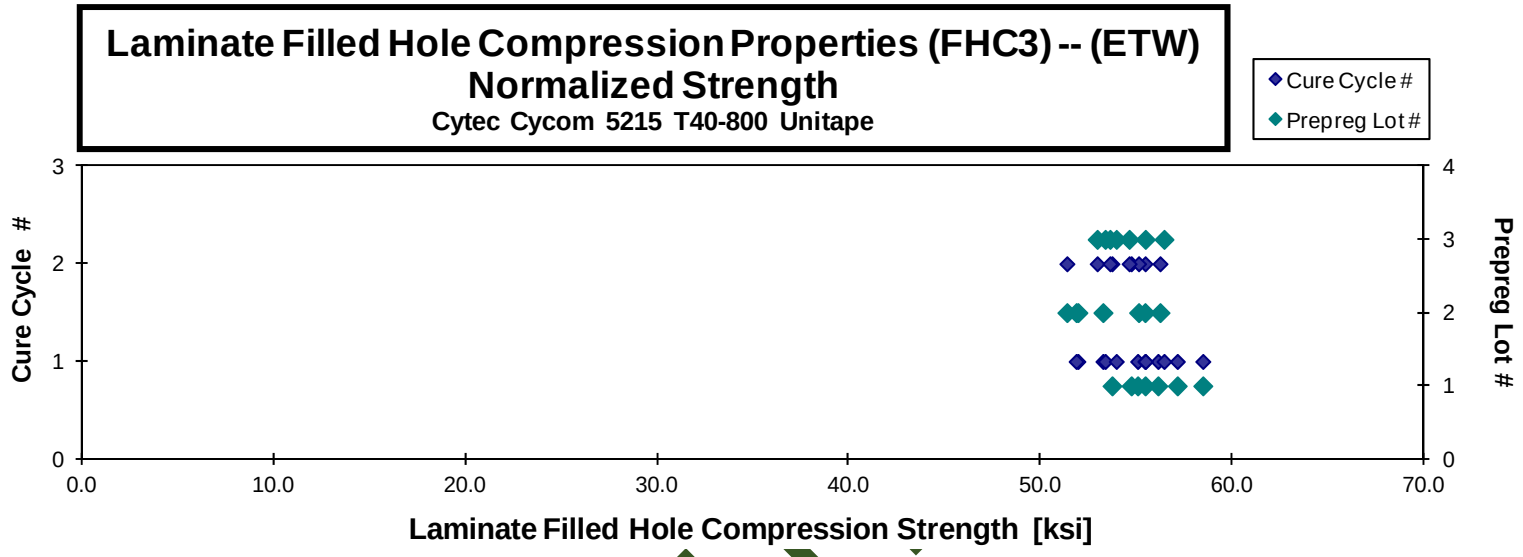
Laminate Filled Hole Compression Properties (FHC3) -- (ETW)
Strength
Cytec Cycom 5215 T40-800 Unitape

normalizing t_{ply} [in]: 0.0057

Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Avg. Specimen Thickn. [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]
C0D9A118M	A	C1	1	1	56.855	0.229	40	LGO	0.006	57.121
C0D9A119M	A	C1	1	1	57.869	0.230	40	MGF	0.006	58.453
C0D9A11AM	A	C1	1	1	54.199	0.232	40	MGF	0.006	55.055
C0D9A11BM	A	C1	1	1	54.868	0.233	40	LGO	0.006	56.115
C0D9A216M	A	C2	1	2	55.471	0.228	40	MGF	0.006	55.443
C0D9A217M	A	C2	1	2	54.279	0.230	40	LGF / LGO	0.006	54.716
C0D9A218M	A	C2	1	2	52.956	0.231	40	LGF / LGO	0.006	53.715
C0D9B117M	B	C1	2	1	54.188	0.219	40	LGF	0.005	51.938
C0D9B118M	B	C1	2	1	53.570	0.221	40	LGF	0.006	51.847
C0D9B119M	B	C1	2	1	56.868	0.222	40	LGF	0.006	55.434
C0D9B11AM	B	C1	2	1	54.451	0.223	40	LGF	0.006	53.245
C0D9B216M	B	C2	2	2	56.049	0.229	40	LGF	0.006	56.221
C0D9B217M	B	C2	2	2	50.643	0.231	40	LGF	0.006	51.365
C0D9B218M	B	C2	2	2	54.662	0.230	40	LGF	0.006	55.106
C0D9C117M	C	C1	3	1	56.944	0.226	40	LGF	0.006	56.428
C0D9C118M	C	C1	3	1	55.919	0.226	40	LGF	0.006	55.453
C0D9C119M	C	C1	3	1	53.647	0.227	40	LGF	0.006	53.360
C0D9C11AM	C	C1	3	1	54.408	0.226	40	LGF	0.006	53.938
C0D9C216M	C	C2	3	2	53.452	0.226	40	LGF	0.006	52.944
C0D9C217M	C	C2	3	2	53.761	0.227	40	LGF	0.006	53.608
C0D9C218M	C	C2	3	2	54.554	0.228	40	LGF	0.006	54.610

	Strength [ksi]
Average	54.744
Standard Dev.	1.636
Coeff. of Var. [%]	2.988
Min.	50.643
Max.	57.869
Number of Spec.	21

	t_{ply} [in]	$Strength_{norm}$ [ksi]
$Average_{norm}$	0.0057	54.577
$Standard\ Dev._{norm}$		1.810
$Coeff.\ of\ Var.\ [\%]_{norm}$		3.316
Min.	0.0055	51.365
Max.	0.0058	58.453
Number of Spec.		21


Laminate Filled Hole Compression Properties (FHC3) -- (ETW)
Normalized Strength
Cytec Cycom 5215 T40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
Laminate Filled Hole Compression Strength [ksi]

4.28 "25/50/25" Single-Shear Bearing 1 Properties (SSB1)

Laminate Single Shear Bearing Properties (SSB1) -- (RTD) Strength
Cytec Cycom 5215 T40-800 Unitape

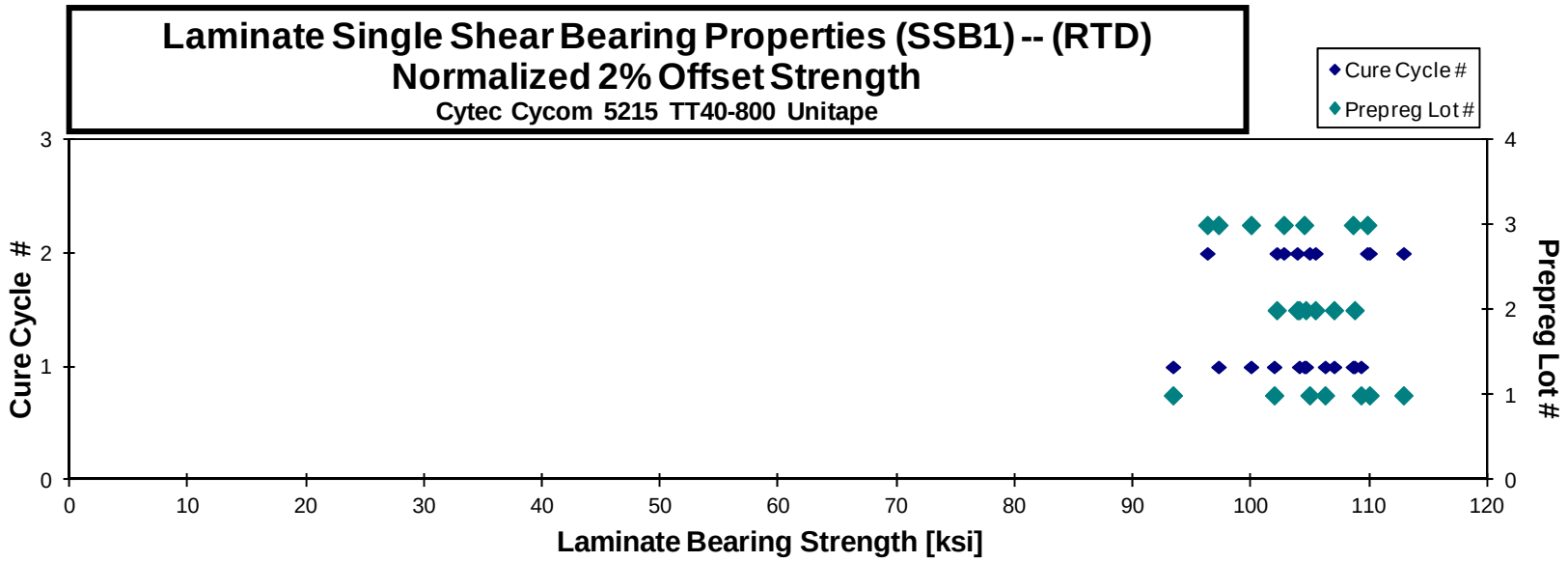
normalizing t_{ply} [in]: 0.0057

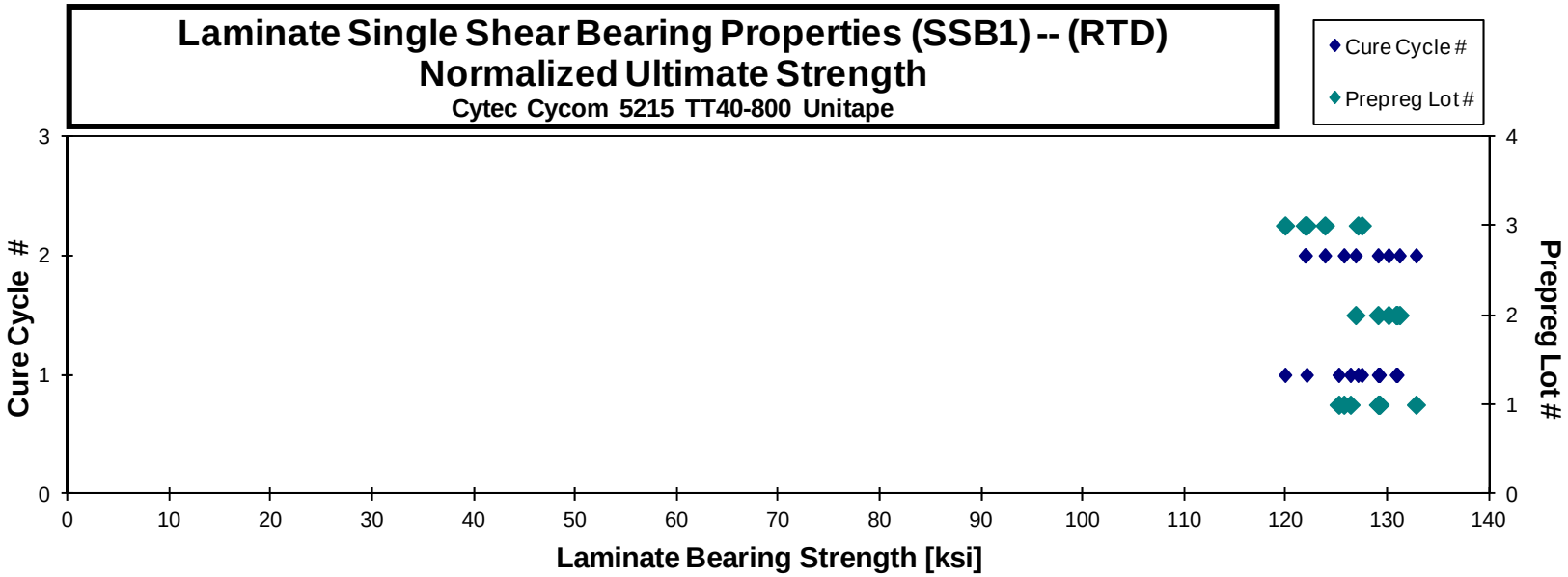
Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle #	2% Offset Strength [ksi]	Ultimate Strength [ksi]	Avg. Specimen Thickn. [in]	# Plies in Laminate	Comments	Avg. t_{ply} [in]	2% Offset Strength$_{norm}$ [ksi]	Ultimate Strength$_{norm}$ [ksi]
C0D1A111A	A	C1	1	1	95.556	128.051	0.089	16	B1I	0.0056	93.390	125.149
C0D1A112A	A	C1	1	1	104.013	128.846	0.089	16	B1I	0.0056	101.960	126.303
C0D1A113A	A	C1	1	1	108.247	131.584	0.090	16	B1I	0.0056	106.269	129.179
C0D1A114A	A	C1	1	1	111.527	131.716	0.089	16	B1I	0.0056	109.306	129.093
C0D1A211A	A	C2	1	2	105.960	134.038	0.090	16	B1I	0.0056	104.953	132.764
C0D1A212A	A	C2	1	2	109.693	128.629	0.091	16	B1I	0.0057	110.034	129.029
C0D1A213A	A	C2	1	2	112.682	125.410	0.091	16	B1I	0.0057	112.908	125.662
C0D1B111A	B	C1	2	1	106.404	130.088	0.092	16	B1I	0.0057	107.027	130.849
C0D1B112A	B	C1	2	1	103.815	130.587	0.091	16	B1I	0.0057	104.081	130.921
C0D1B113A	B	C1	2	1	107.861	127.947	0.092	16	B1I	0.0057	108.767	129.022
C0D1B114A	B	C1	2	1	104.827	131.040	0.091	16	B1I	0.0057	104.635	130.801
C0D1B211A	B	C2	2	2	103.062	132.278	0.090	16	B1I	0.0057	102.176	131.142
C0D1B212A	B	C2	2	2	106.871	131.815	0.090	16	B1I	0.0056	105.445	130.056
C0D1B213A	B	C2	2	2	105.706	129.005	0.090	16	B1I	0.0056	103.909	126.812
C0D1C111A	C	C1	3	1	110.942	130.135	0.089	16	B1I	0.0056	108.630	127.424
C0D1C112A	C	C1	3	1	98.854	129.138	0.090	16	B1I	0.0056	97.246	127.038
C0D1C113A	C	C1	3	1	105.878	121.438	0.090	16	B1I	0.0056	104.504	119.862
C0D1C114A	C	C1	3	1	101.747	121.126	0.090	16	B1I	0.0056	99.999	121.993
C0D1C211A	C	C2	3	2	111.805	126.002	0.090	16	B1I	0.0056	109.844	123.791
C0D1C212A	C	C2	3	2	98.293	124.426	0.089	16	B1I	0.0056	96.299	121.902
C0D1C213A	C	C2	3	2	103.908	123.170	0.090	16	B1I	0.0056	102.768	121.820

Ultimate Bearing Strength / B1I: B:Bearing, 1:first hole, I: Inapplicable (not on bolt, nut or head side)

Average	105.602	128.546	
Standard Dev.	4.549	3.338	
Coeff. of Var. [%]	4.308	2.597	
Min.	95.556	121.438	
Max.	112.682	134.038	
Number of Spec.	21	21	

Average$_{norm}$	0.0056	104.483	127.172
Standard Dev.$_{norm}$		4.888	3.648
Coeff. of Var. [%]$_{norm}$		4.678	2.868
Min.	0.0056	93.390	119.862
Max.	0.0057	112.908	132.764
Number of Spec.		21	21


Laminate Single Shear Bearing Properties (SSB1) -- (RTD)
Normalized 2% Offset Strength
Cytec Cycom 5215 TT40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Bearing Strength [ksi]
0
10
20
30
40
50
60
70
80
90
100
110
120
0
1
2
3
4


Laminate Single Shear Bearing Properties (SSB1) -- (RTD)
Normalized Ultimate Strength
Cytec Cycom 5215 TT40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Bearing Strength [ksi]
0
10
20
30
40
50
60
70
80
90
100
110
120
130
140
0
1
2
3
4

Laminate Single Shear Bearing Properties (SSB1) -- (ETW) Strength

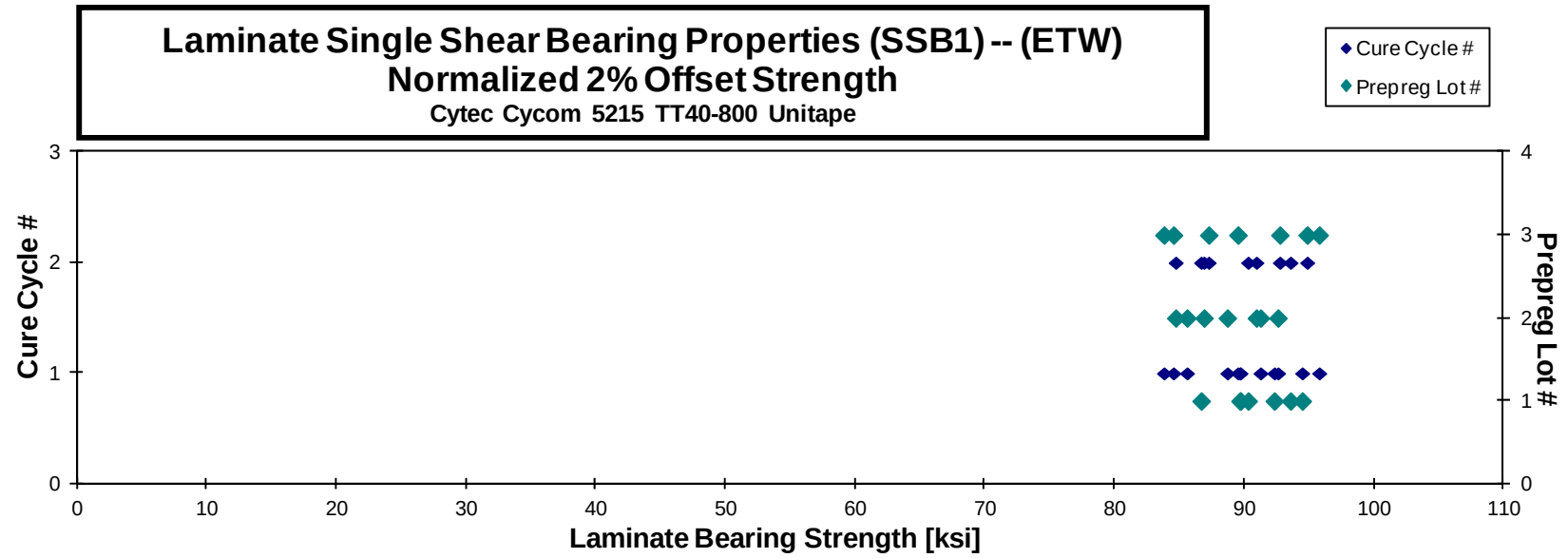
Cytec Cycom 5215 T40-800 Unitape

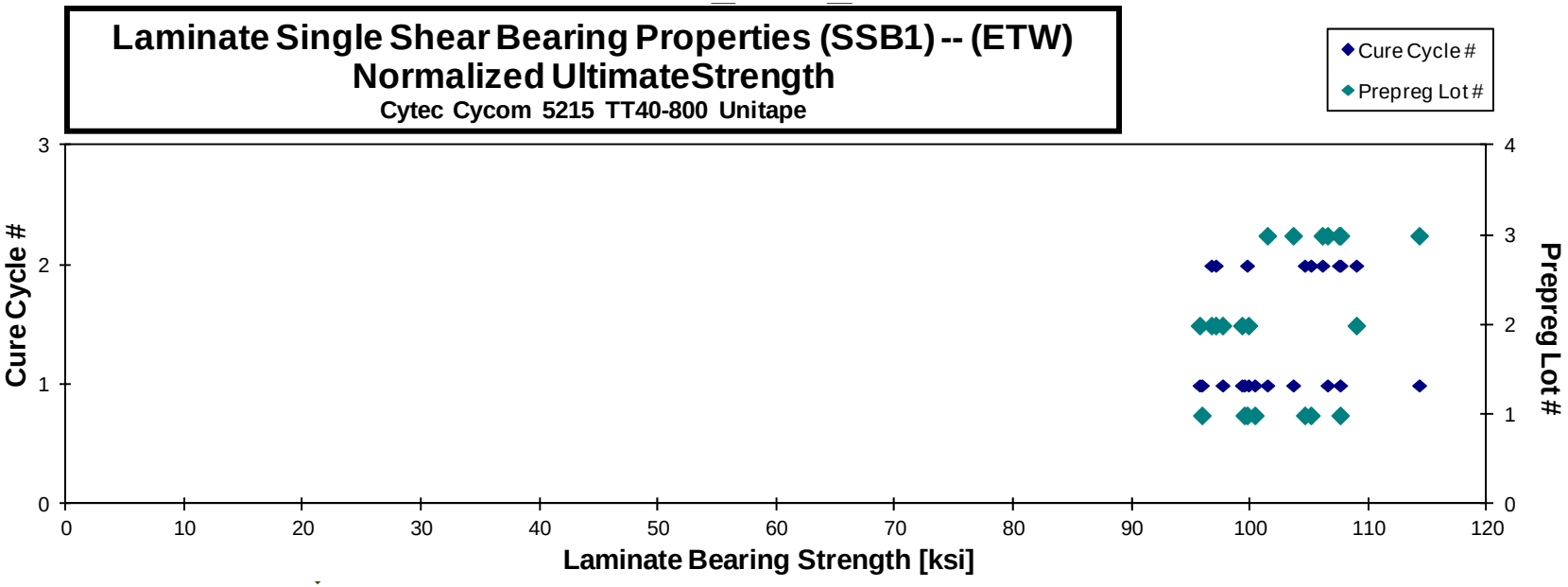
normalizing t_{ply} [in]: 0.0057

Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle #	2% Offset Strength [ksi]	Ultimate Strength [ksi]	Avg. Specimen Thickn. [in]	# Plies in Laminate	Comments	Avg. t_{ply} [in]	2% Offset Strength$_{norm}$ [ksi]	Ultimate Strength$_{norm}$ [ksi]
C0D1A116M	A	C1	1	1	91.285	97.624	0.090	16	B1I	0.0056	89.700	95.929
C0D1A117M	A	C1	1	1	95.323	100.413	0.090	16	B1I	0.0056	94.470	99.513
C0D1A118M	A	C1	1	1	90.709	108.836	0.090	16	B1I	0.0056	89.681	107.603
C0D1A119M	A	C1	1	1	92.980	101.121	0.091	16	B1I	0.0057	92.317	100.401
C0D1A215M	A	C2	1	2	90.763	100.261	0.091	16	B1I	0.0057	90.299	99.748
C0D1A216M	A	C2	1	2	94.358	105.504	0.090	16	B1I	0.0057	93.565	104.617
C0D1A217M	A	C2	1	2	86.232	104.597	0.092	16	B1I	0.0057	86.673	105.132
C0D1B116M	B	C1	2	1	85.980	98.122	0.091	16	B1I	0.0057	85.587	97.673
C0D1B117M	B	C1	2	1	88.261	98.825	0.092	16	B1I	0.0057	88.697	99.312
C0D1B118M	B	C1	2	1	91.663	94.770	0.092	16	B1I	0.0058	92.601	95.740
C0D1B119M	B	C1	2	1	90.792	99.352	0.092	16	B1I	0.0057	91.256	99.860
C0D1B215M	B	C2	2	2	92.973	99.276	0.089	16	B1I	0.0056	90.934	97.099
C0D1B216M	B	C2	2	2	85.655	97.804	0.090	16	B1I	0.0056	84.715	96.732
C0D1B217M	B	C2	2	2	87.926	110.260	0.090	16	B1I	0.0056	86.898	108.970
C0D1C116M	C	C1	3	1	85.227	105.391	0.090	16	B1I	0.0056	83.809	103.639
C0D1C117M	C	C1	3	1	91.398	103.595	0.089	16	B1I	0.0056	89.511	101.456
C0D1C118M	C	C1	3	1	98.294	109.337	0.089	16	B1I	0.0056	95.779	106.540
C0D1C119M	C	C1	3	1	86.582	117.037	0.089	16	B1I	0.0056	84.541	114.278
C0D1C215M	C	C2	3	2	95.548	106.883	0.091	16	B1I	0.0057	94.850	106.101
C0D1C216M	C	C2	3	2	88.603	109.161	0.090	16	B1I	0.0056	87.259	107.505
C0D1C217M	C	C2	3	2	93.842	108.907	0.090	16	B1I	0.0056	92.745	107.633

Ultimate Bearing Strength / B1I: B:Bearing, 1:first hole, I: Inapplicable (not on bolt, nut or head side)

Average	**90.685**	**103.670**	**Average$_{norm}$**	**0.0056**	**89.804**	**102.642**
Standard Dev.	**3.678**	**5.600**	**Standard Dev.$_{norm}$**		**3.584**	**5.066**
Coeff. of Var. [%]	**4.056**	**5.401**	**Coeff. of Var. [%]$_{norm}$**		**3.991**	**4.936**
Min.	**85.227**	**94.770**	**Min.**	**0.0056**	**83.809**	**95.740**
Max.	**98.294**	**117.037**	**Max.**	**0.0058**	**95.779**	**114.278**
Number of Spec.	**21**	**21**	**Number of Spec.**		**21**	**21**


Laminate Single Shear Bearing Properties (SSB1) -- (ETW)
Normalized 2% Offset Strength
Cytec Cycom 5215 TT40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Bearing Strength [ksi]
0
10
20
30
40
50
60
70
80
90
100
110
0
1
2
3
4


Laminate Single Shear Bearing Properties (SSB1) -- (ETW)
Normalized UltimateStrength
Cytec Cycom 5215 TT40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Bearing Strength [ksi]
0
10
20
30
40
50
60
70
80
90
100
110
120
0
1
2
3
4

4.29 "10/80/10" Single-Shear Bearing 2 Properties (SSB2)

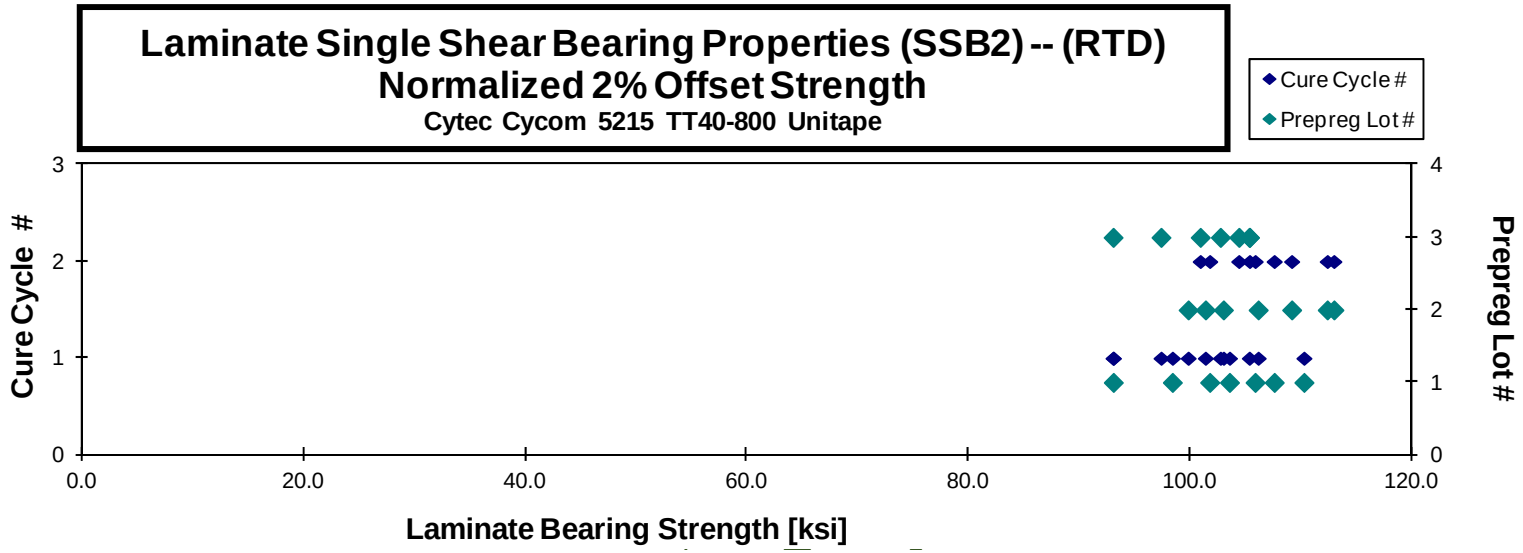
Laminate Single Shear Bearing Properties (SSB2) -- (RTD) Strength
Cytec Cycom 5215 T40-800 Unitape

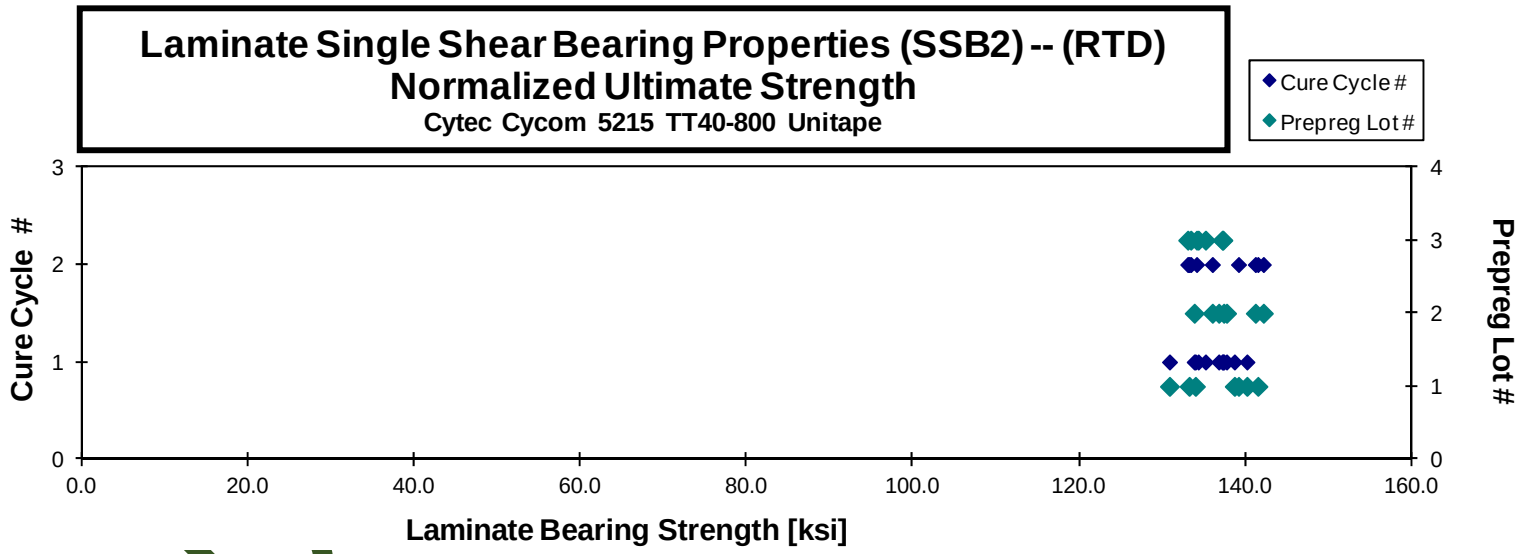
normalizing t_{ply} [in]: 0.0057

Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle #	2% Offset Strength [ksi]	Ultimate Strength [ksi]	Avg. Specimen Thickn. [in]	# Plies in Laminate	Comments	Avg. t_{ply} [in]	2% Offset Strength$_{norm}$ [ksi]	Ultimate Strength$_{norm}$ [ksi]
C0D2A111A	A	C1	1	1	94.637	133.056	0.112	20	B1I	0.0056	93.074	130.858
C0D2A112A	A	C1	1	1	104.905	135.721	0.113	20	B1I	0.0056	103.555	133.975
C0D2A113A	A	C1	1	1	111.976	140.801	0.112	20	B1I	0.0056	110.273	138.660
C0D2A114A	A	C1	1	1	99.391	141.583	0.113	20	B1I	0.0056	98.403	140.175
C0D2A211A	A	C2	1	2	109.759	135.907	0.112	20	B1I	0.0056	107.593	133.225
C0D2A212A	A	C2	1	2	107.647	143.863	0.112	20	B1I	0.0056	105.868	141.487
C0D2A213A	A	C2	1	2	102.550	140.226	0.113	20	B1I	0.0057	101.770	139.159
C0D2B111A	B	C1	2	1	107.976	136.147	0.112	20	B1I	0.0056	106.145	133.838
C0D2B112A	B	C1	2	1	104.182	139.288	0.113	20	B1I	0.0056	103.009	137.720
C0D2B113A	B	C1	2	1	101.520	139.099	0.112	20	B1I	0.0056	99.828	136.780
C0D2B114A	B	C1	2	1	102.643	139.083	0.113	20	B1I	0.0056	101.382	137.375
C0D2B211A	B	C2	2	2	110.508	137.683	0.113	20	B1I	0.0056	109.167	136.012
C0D2B212A	B	C2	2	2	112.690	141.580	0.114	20	B1I	0.0057	112.377	141.187
C0D2B213A	B	C2	2	2	112.927	142.085	0.114	20	B1I	0.0057	112.977	142.147
C0D2C111A	C	C1	3	1	106.391	139.091	0.110	20	B1I	0.0055	102.735	134.312
C0D2C112A	C	C1	3	1	108.029	140.691	0.111	20	B1I	0.0056	105.344	137.194
C0D2C113A	C	C1	3	1	94.985	137.990	0.112	20	B1I	0.0056	93.055	135.186
C0D2C114A	C	C1	3	1	99.147	139.771	0.112	20	B1I	0.0056	97.378	137.278
C0D2C211A	C	C2	3	2	105.432	134.368	0.113	20	B1I	0.0056	104.400	133.052
C0D2C212A	C	C2	3	2	101.692	134.432	0.113	20	B1I	0.0057	100.919	133.410
C0D2C213A	C	C2	3	2	106.013	134.944	0.113	20	B1I	0.0057	105.363	134.115

Ultimate Bearing Strength / B1I: B:Bearing, 1:first hole, I: Inapplicable (not on bolt, nut or head side)

Average	105.000	138.448	Average$_{norm}$	0.0056	103.553	136.531
Standard Dev.	5.294	2.947	Standard Dev.$_{norm}$		5.446	3.141
Coeff. of Var. [%]	5.042	2.129	Coeff. of Var. [%]$_{norm}$		5.260	2.300
Min.	94.637	133.056	Min.	0.0055	93.055	130.858
Max.	112.927	143.863	Max.	0.0057	112.977	142.147
Number of Spec.	21	21	Number of Spec.		21	21


Laminate Single Shear Bearing Properties (SSB2) -- (RTD)
Normalized 2% Offset Strength
Cytec Cycom 5215 TT40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
20.0
40.0
60.0
80.0
100.0
120.0
Laminate Bearing Strength [ksi]


Laminate Single Shear Bearing Properties (SSB2) -- (RTD)
Normalized Ultimate Strength
Cytec Cycom 5215 TT40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
20.0
40.0
60.0
80.0
100.0
120.0
140.0
160.0
Laminate Bearing Strength [ksi]

Laminate Single Shear Bearing Properties (SSB2) -- (ETW) Strength

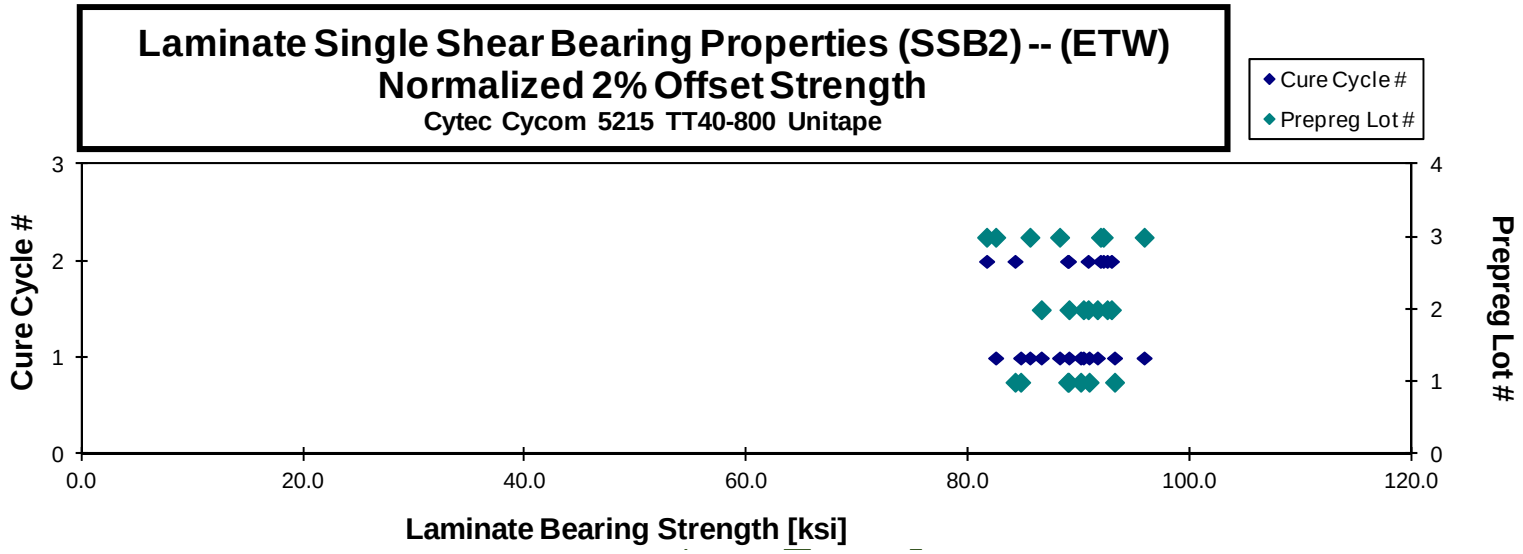
Cytec Cycom 5215 T40-800 Unitape

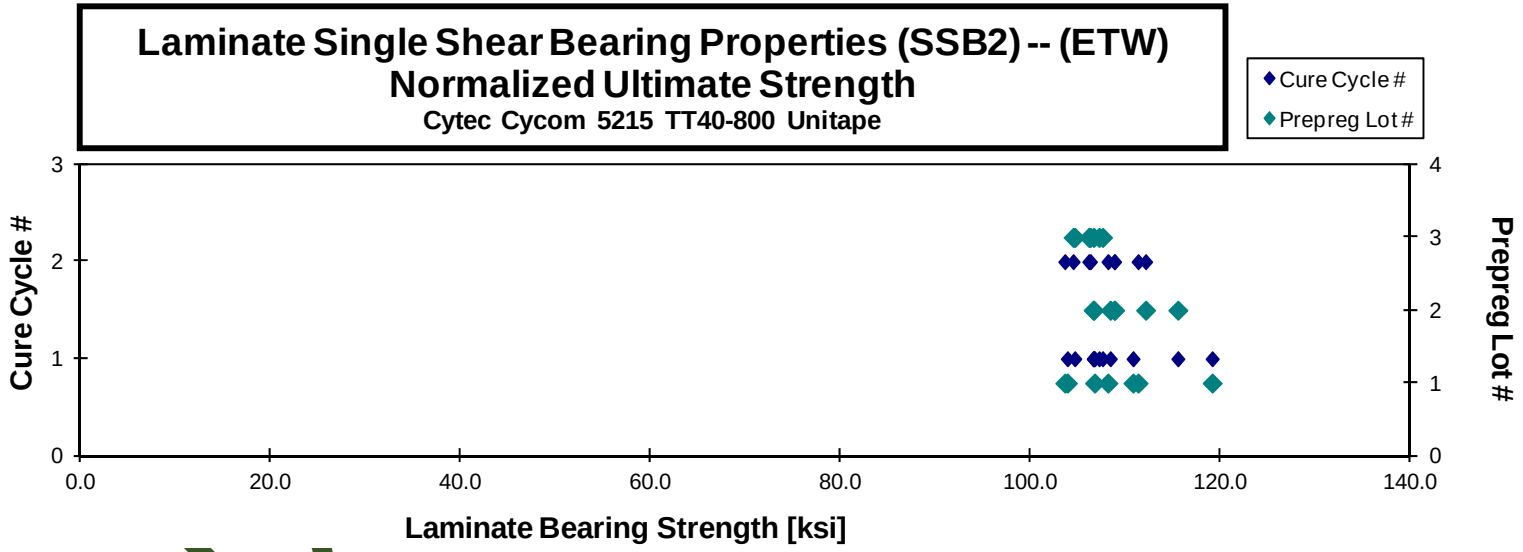
normalizing t_{ply} [in]: 0.0057

Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle #	2% Offset Strength [ksi]	Ultimate Strength [ksi]	Avg. Specimen Thickn. [in]	# Plies in Laminate	Comments	Avg. t_{ply} [in]	2% Offset Strength$_{norm}$ [ksi]	Ultimate Strength$_{norm}$ [ksi]
C0D2A116M	A	C1	1	1	85.742	105.010	0.113	20	B1I	0.0056	84.714	103.751
C0D2A117M	A	C1	1	1	90.995	106.738	0.114	20	B1I	0.0057	90.888	106.614
C0D2A118M	A	C1	1	1	93.404	110.922	0.114	20	B1I	0.0057	93.185	110.663
C0D2A119M	A	C1	1	1	89.551	118.235	0.115	20	B1I	0.0057	90.127	118.995
C0D2A215M	A	C2	1	2	92.221	111.893	0.110	20	B1I	0.0055	89.026	108.016
C0D2A216M	A	C2	1	2	86.728	114.524	0.111	20	B1I	0.0055	84.205	111.192
C0D2A217M	A	C2	1	2	90.340	105.097	0.112	20	B1I	0.0056	88.953	103.483
C0D2B116M	B	C1	2	1	89.912	109.286	0.113	20	B1I	0.0056	89.071	108.263
C0D2B117M	B	C1	2	1	92.062	107.008	0.113	20	B1I	0.0057	91.631	106.507
C0D2B118M	B	C1	2	1	86.120	114.776	0.115	20	B1I	0.0057	86.574	115.380
C0D2B119M	B	C1	2	1	90.304	106.394	0.114	20	B1I	0.0057	90.370	106.472
C0D2B215M	B	C2	2	2	92.859	111.935	0.114	20	B1I	0.0057	92.900	111.985
C0D2B216M	B	C2	2	2	91.603	109.661	0.113	20	B1I	0.0057	90.800	108.699
C0D2B217M	B	C2	2	2	91.911	107.998	0.115	20	B1I	0.0057	92.516	108.708
C0D2C116M	C	C1	3	1	90.194	106.855	0.112	20	B1I	0.0056	88.229	104.527
C0D2C117M	C	C1	3	1	98.105	109.600	0.111	20	B1I	0.0056	95.853	107.085
C0D2C118M	C	C1	3	1	84.574	109.245	0.111	20	B1I	0.0056	82.460	106.514
C0D2C119M	C	C1	3	1	87.847	110.347	0.111	20	B1I	0.0056	85.548	107.460
C0D2C215M	C	C2	3	2	92.933	105.510	0.113	20	B1I	0.0056	91.914	104.353
C0D2C216M	C	C2	3	2	92.871	106.988	0.113	20	B1I	0.0057	92.165	106.175
C0D2C217M	C	C2	3	2	82.424	107.027	0.113	20	B1I	0.0056	81.641	106.010
									Ultimate Bearing Strength / B1I: B:Bearing, 1:first hole, I: Inapplicable (not on bolt, nut or head side)			

Average	90.129	109.288	
Standard Dev.	3.565	3.490	
Coeff. of Var. [%]	3.955	3.193	
Min.	82.424	105.010	
Max.	98.105	118.235	
Number of Spec.	21	21	

Average$_{norm}$	0.0056	89.179	108.136
Standard Dev.$_{norm}$		3.765	3.809
Coeff. of Var. [%]$_{norm}$		4.221	3.522
Min.	0.0055	81.641	103.483
Max.	0.0057	95.853	118.995
Number of Spec.		21	21


Laminate Single Shear Bearing Properties (SSB2) -- (ETW)
Normalized 2% Offset Strength
Cytec Cycom 5215 TT40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
20.0
40.0
60.0
80.0
100.0
120.0
Laminate Bearing Strength [ksi]


Laminate Single Shear Bearing Properties (SSB2) -- (ETW)
Normalized Ultimate Strength
Cytec Cycom 5215 TT40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
20.0
40.0
60.0
80.0
100.0
120.0
140.0
Laminate Bearing Strength [ksi]

4.30 "50/40/10" Single-Shear Bearing 3 Properties (SSB3)

Laminate Single Shear Bearing Properties (SSB3) -- (RTD) Strength
Cytec Cycom 5215 T40-800 Unitape

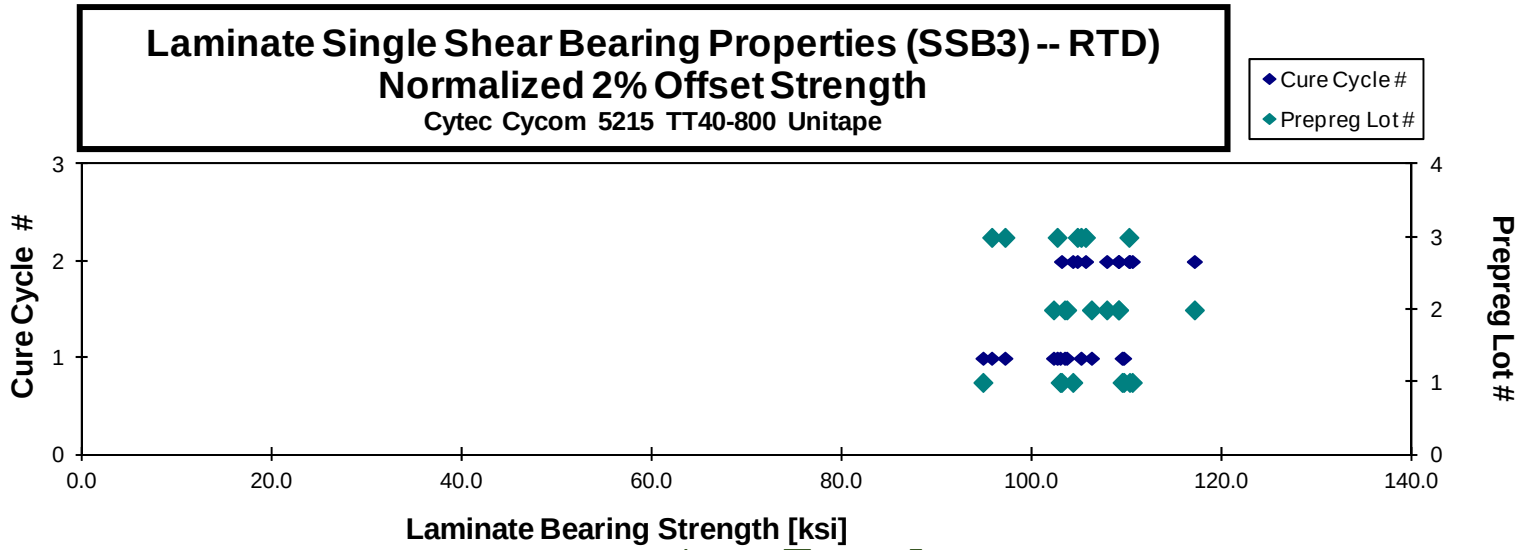
normalizing t_{ply} [in]: 0.0057

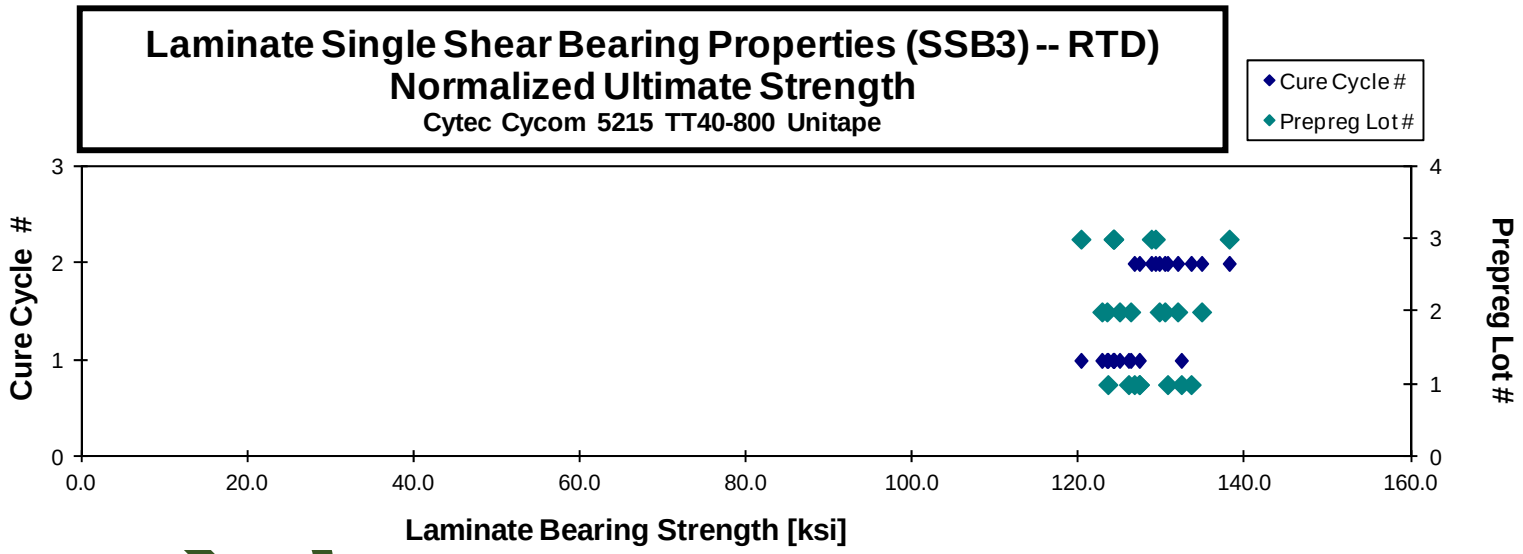
Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle #	2% Offset Strength [ksi]	Ultimate Strength [ksi]	Avg. Specimen Thickn. [in]	# Plies in Laminate	Comments	Avg. t_{ply} [in]	2% Offset Strength$_{norm}$ [ksi]	Ultimate Strength$_{norm}$ [ksi]
C0D3A111A	A	C1	1	1	96.170	128.973	0.112	20	B1I	0.0056	94.862	127.220
C0D3A112A	A	C1	1	1	103.916	124.553	0.113	20	B1I/D1B	0.0056	102.989	123.442
C0D3A113A	A	C1	1	1	110.888	127.510	0.113	20	B1I	0.0056	109.510	125.925
C0D3A114A	A	C1	1	1	111.123	134.020	0.113	20	B1I	0.0056	109.677	132.277
C0D3A211A	A	C2	1	2	105.834	132.522	0.112	20	B1I	0.0056	104.318	130.623
C0D3A212A	A	C2	1	2	103.466	133.889	0.114	20	B1I	0.0057	103.133	133.458
C0D3A213A	A	C2	1	2	110.780	127.176	0.114	20	B1I/S1I	0.0057	110.294	126.618
C0D3A214A	A	C2	1	2	111.262	128.018	0.113	20	B1I/D1B	0.0057	110.579	127.232
C0D3B111A	B	C1	2	1	105.506	125.779	0.112	20	B1I/S1I	0.0056	103.455	123.334
C0D3B112A	B	C1	2	1	104.058	127.005	0.112	20	B1I	0.0056	102.293	124.851
C0D3B113A	B	C1	2	1	104.952	124.229	0.113	20	B1I/S1I	0.0056	103.678	122.722
C0D3B114A	B	C1	2	1	108.019	128.248	0.112	20	B1I	0.0056	106.282	126.185
C0D3B211A	B	C2	2	2	111.562	134.720	0.110	20	B1I/S1B	0.0055	107.893	130.288
C0D3B212A	B	C2	2	2	111.499	134.717	0.112	20	B1I/S1I	0.0056	109.119	131.841
C0D3B213A	B	C2	2	2	119.086	131.798	0.112	20	B1I/S1I/D1B	0.0056	117.119	129.621
C0D3B214A	B	C2	2	2	110.680	136.621	0.112	20	B1I/S1I	0.0056	109.143	134.723
C0D3C111A	C	C1	3	1	98.935	128.152	0.110	20	B1I / S1I	0.0055	95.781	124.067
C0D3C112A	C	C1	3	1	105.162	127.159	0.111	20	B1I / S1I	0.0056	102.671	124.147
C0D3C113A	C	C1	3	1	100.178	123.918	0.111	20	B1I / S1I	0.0055	97.176	120.204
C0D3C114A	C	C1	3	1	108.057	127.534	0.111	20	B1I / S1I	0.0055	105.181	124.141
C0D3C211A	C	C2	3	2	106.594	139.260	0.113	20	B1I	0.0057	105.659	138.039
C0D3C212A	C	C2	3	2	106.203	130.491	0.112	20	B1I	0.0056	104.790	128.666
C0D3C213A	C	C2	3	2	111.647	130.818	0.113	20	B1I / S1I	0.0056	110.227	129.154

Ultimate Bearing Strength / B1I: B:Bearing, 1:first hole, I: Inapplicable (not on bolt, nut or head side)

ALL THE NON-BEARING DEFORMATIONS OCCURED AS SECONDARY FAILURES

Average	**107.199**	**129.870**	**Average$_{norm}$**	**0.0056**	**105.471**	**127.773**
Standard Dev.	**5.043**	**4.167**	**Standard Dev.$_{norm}$**		**5.174**	**4.375**
Coeff. of Var. [%]	**4.705**	**3.208**	**Coeff. of Var. [%]$_{norm}$**		**4.906**	**3.424**
Min.	**96.170**	**123.918**	**Min.**	**0.0055**	**94.862**	**120.204**
Max.	**119.086**	**139.260**	**Max.**	**0.0057**	**117.119**	**138.039**
Number of Spec.	**23**	**23**	**Number of Spec.**		**23**	**23**


Laminate Single Shear Bearing Properties (SSB3) -- RTD)
Normalized 2% Offset Strength
Cytec Cycom 5215 TT40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
20.0
40.0
60.0
80.0
100.0
120.0
140.0
Laminate Bearing Strength [ksi]


Laminate Single Shear Bearing Properties (SSB3) -- RTD)
Normalized Ultimate Strength
Cytec Cycom 5215 TT40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
20.0
40.0
60.0
80.0
100.0
120.0
140.0
160.0
Laminate Bearing Strength [ksi]

Laminate Single Shear Bearing Properties (SSB3) -- (ETW) Strength

Cytec Cycom 5215 T40-800 Unitape

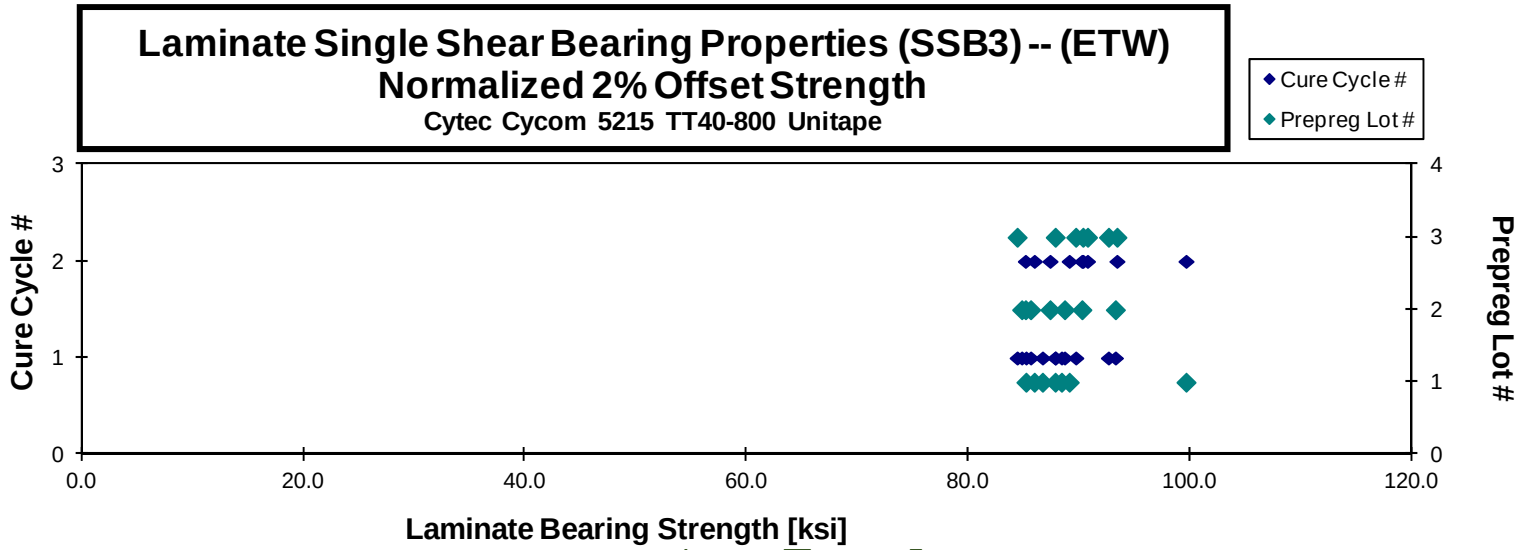
normalizing t_{ply} [in]: 0.0057

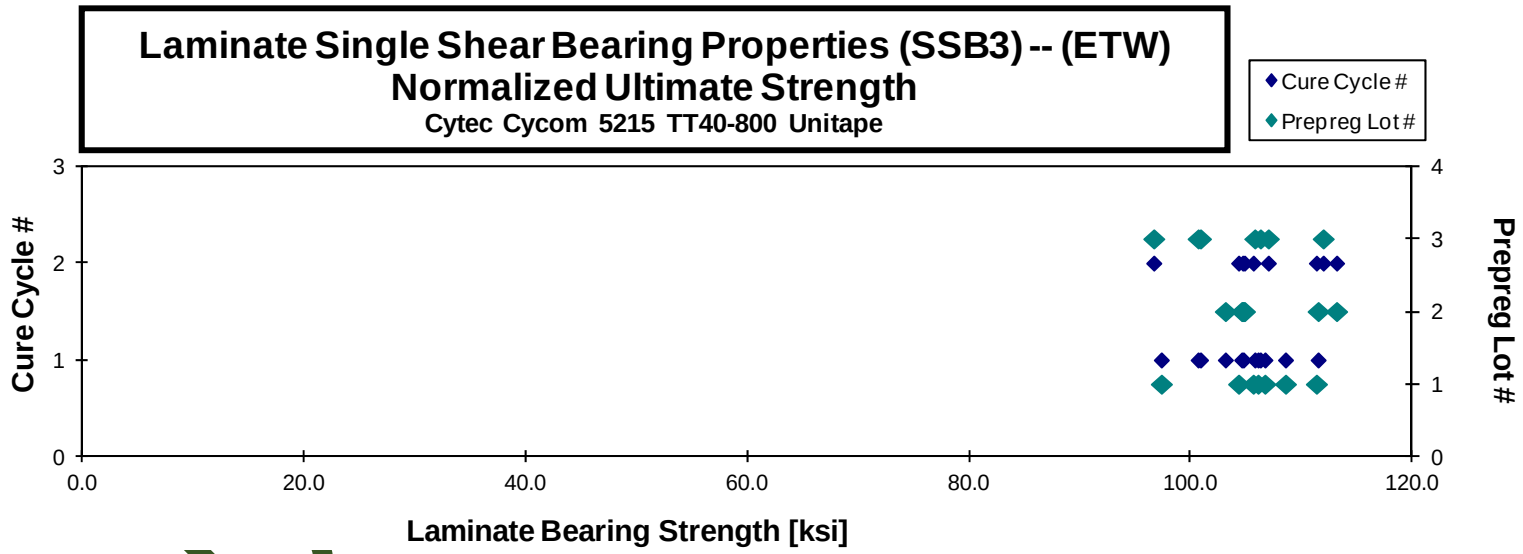
Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle #	2% Offset Strength [ksi]	Ultimate Strength [ksi]	Avg. Specimen Thickn. [in]	# Plies in Laminate	Comments	Avg. t_{ply} [in]	2% Offset Strength$_{norm}$ [ksi]	Ultimate Strength$_{norm}$ [ksi]
C0D3A116M	A	C1	1	1	86.906	108.271	0.112	20	B1I	0.0056	85.191	106.134
C0D3A117M	A	C1	1	1	90.198	100.041	0.111	20	B1I	0.0056	87.825	97.409
C0D3A118M	A	C1	1	1	90.122	108.837	0.112	20	B1I	0.0056	88.396	106.753
C0D3A119M	A	C1	1	1	88.399	110.763	0.112	20	B1I	0.0056	86.680	108.609
C0D3A215M	A	C2	1	2	100.588	112.468	0.113	20	B1I	0.0056	99.632	111.399
C0D3A216M	A	C2	1	2	90.297	105.786	0.112	20	B1I	0.0056	89.095	104.379
C0D3A217M	A	C2	1	2	86.641	106.556	0.113	20	B1I	0.0057	85.944	105.699
C0D3B116M	B	C1	2	1	86.640	104.422	0.113	20	B1I	0.0056	85.614	103.186
C0D3B117M	B	C1	2	1	85.784	112.843	0.113	20	B1I	0.0056	84.806	111.556
C0D3B118M	B	C1	2	1	94.616	106.333	0.112	20	B1I	0.0056	93.260	104.810
C0D3B119M	B	C1	2	1	89.726	105.904	0.113	20	B1I	0.0056	88.677	104.666
C0D3B215M	B	C2	2	2	86.302	106.341	0.112	20	B1I	0.0056	85.141	104.910
C0D3B216M	B	C2	2	2	90.746	117.605	0.110	20	B1I	0.0055	87.363	113.220
C0D3B217M	B	C2	2	2	92.538	107.417	0.111	20	B1I	0.0056	90.239	104.747
C0D3C116M	C	C1	3	1	86.223	103.126	0.112	20	B1I	0.0056	84.395	100.940
C0D3C117M	C	C1	3	1	89.442	102.572	0.112	20	B1I	0.0056	87.834	100.727
C0D3C118M	C	C1	3	1	90.784	107.144	0.113	20	B1I	0.0056	89.682	105.844
C0D3C119M	C	C1	3	1	94.698	108.713	0.112	20	B1I	0.0056	92.635	106.345
C0D3C215M	C	C2	3	2	92.528	114.218	0.112	20	B1I	0.0056	90.742	112.014
C0D3C216M	C	C2	3	2	95.311	98.704	0.112	20	B1I	0.0056	93.402	96.727
C0D3C217M	C	C2	3	2	92.150	109.218	0.112	20	B1I	0.0056	90.331	107.063

Ultimate Bearing Strength / B1I: B:Bearing, 1:first hole, I: Inapplicable (not on bolt, nut or head side)

Average	90.507	107.490	
Standard Dev.	3.728	4.544	
Coeff. of Var. [%]	4.119	4.228	
Min.	85.784	98.704	
Max.	100.588	117.605	
Number of Spec.	21	21	

Average$_{norm}$	0.0056	88.899	105.578
Standard Dev.$_{norm}$		3.679	4.376
Coeff. of Var. [%]$_{norm}$		4.138	4.145
Min.	0.0055	84.395	96.727
Max.	0.0057	99.632	113.220
Number of Spec.		21	21


Laminate Single Shear Bearing Properties (SSB3) -- (ETW)
Normalized 2% Offset Strength
Cytec Cycom 5215 TT40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
20.0
40.0
60.0
80.0
100.0
120.0
Laminate Bearing Strength [ksi]


Laminate Single Shear Bearing Properties (SSB3) -- (ETW)
Normalized Ultimate Strength
Cytec Cycom 5215 TT40-800 Unitape
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
20.0
40.0
60.0
80.0
100.0
120.0
Laminate Bearing Strength [ksi]

4.31 Compression After Impact 1 Properties (CAI1)

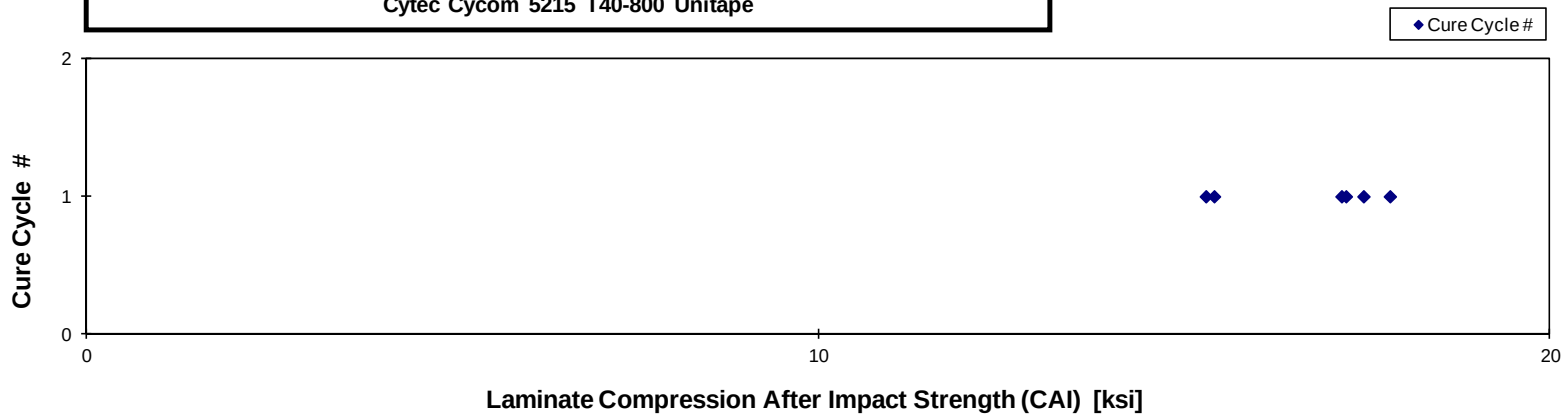
Laminate Compression After Impact Properties (CAI1) -- (RTD)
Strength
Cytec Cycom 5215 T40-800 Unitape

normalizing t_{ply} [in]: 0.0057

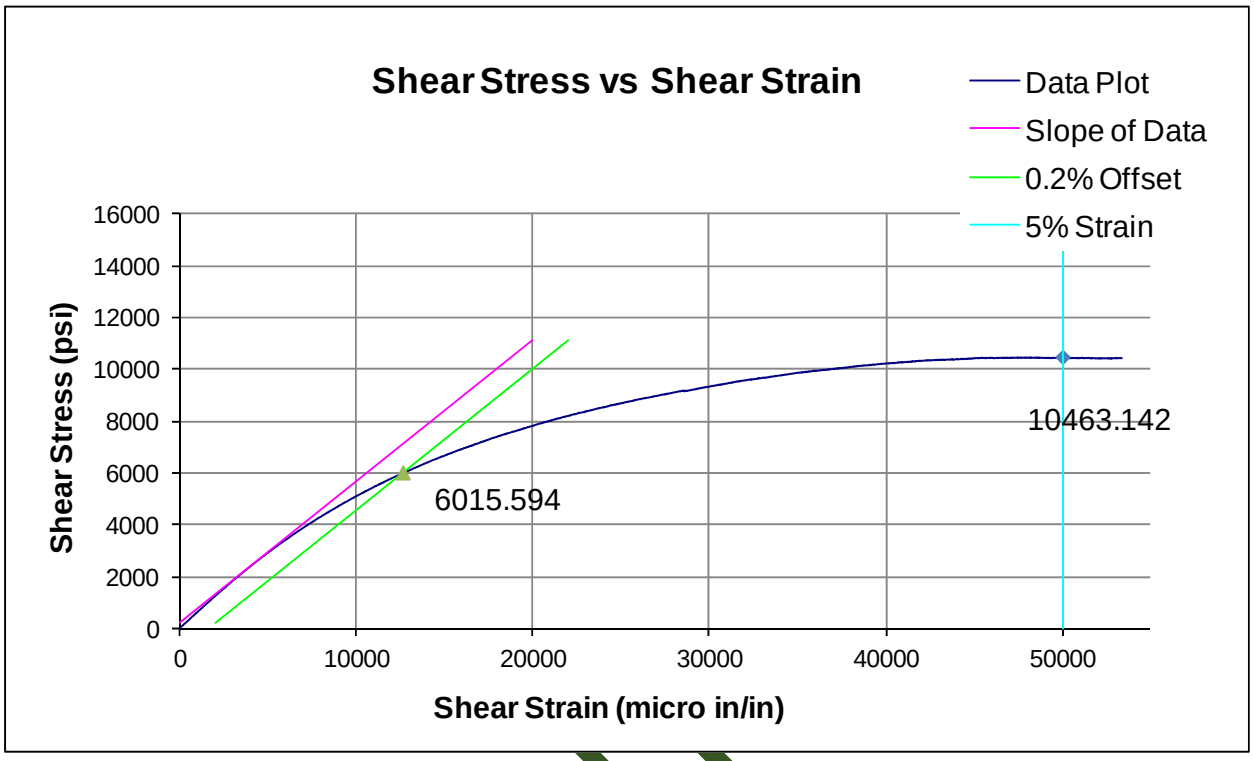
Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle #	Measured Impact Energy (in-lbf)	Strength [ksi]	Avg. Specimen Thickn. [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]
C0DKA111A	A	C1	1	1	269.72	18.140	0.179	32	LDM	0.0056	17.808
C0DKA112A	A	C1	1	1	270.79	17.460	0.180	32	LDM	0.0056	17.207
C0DKA113A	A	C1	1	1	264.85	15.832	0.178	32	LDM	0.0055	15.406
C0DKA114A	A	C1	1	1	269.83	15.517	0.180	32	LDM	0.0056	15.293
C0DKA115A	A	C1	1	1	267.50	17.520	0.179	32	LDM	0.0056	17.147
C0DKA116A	A	C1	1	1	268.73	17.608	0.181	32	LDM	0.0056	17.447

Average	17.013	$Average_{norm}$	0.00560	16.718
Standard Dev.	1.069	$Standard\ Dev._{norm}$		1.086
Coeff. of Var. [%]	6.284	$Coeff.\ of\ Var.\ [\%]_{norm}$		6.494
Min.	15.517	Min.	0.0055	15.293
Max.	18.140	Max.	0.0056	17.808
Number of Spec.	6	Number of Spec.		6

Laminate Compression After Impact Properties (CAI1) -- (RTD)
Normalized Strength
Cytec Cycom 5215 T40-800 Unitape



5. Shear Stress vs. Shear Strain, RTD



6. Fluid Sensitivity Comparison

Fluid	Average Short Beam Strength With Fluid (ksi)	Same Environment Short Beam Strength Without Fluid (ksi) (RTD)	Worst Case Environment Short Beam Strength (ksi) (RTW)	% Strength Reduction With Respect to RTD (no fluid)
a	11.473	10.556	10.504	-8.690
b	11.791	10.556	10.504	-11.701
c	11.534	10.556	10.504	-9.272
d	11.363	10.556	10.504	-7.646
e	11.591	10.556	10.504	-9.806
f	11.425	10.556	10.504	-8.240
g	11.139	10.556	10.504	-5.531
h	11.603	10.556	10.504	-9.925
i	10.823	10.556	10.504	-2.535
j	10.902	10.556	10.504	-3.279
k	11.015	10.556	10.504	-4.350
l	11.264	10.556	10.504	-6.714
R	10.937	10.556	10.504	-3.610
A	10.556	10.556	10.504	0.000
t	10.504	10.556	10.504	0.487

	Fluid	Exposure
a	100 Low lead Fuel	90 days min @ 70°F ± 10F
b	Jet A Fuel	
c	Mil-H-5606 Hydraulic Oil	
d	Mil-H-83282 Hydraulic Oil	
e	Engine Lube Oil Mil-L-7808	
f	Engine Lube Oil Mil-L-23699	
g	Salt Water	
h	Skydrol LD-4	
i	50% Water w/ 50% Skydrol	
r	Distilled Water	
j	MEK Washing Fluid	90 mins @ 70°F ± 10F
k	P.G. Deicer I Mil-A-8243	
l	I.A. Deicing Agent (TT-I-735)	48±4 hrs @ 70°F ± 10F
A	Dry	Per section 6.1 Test Plan
t	85% Relative Humidity	

	Fluid	Exposure
1	100 Low lead Fuel	90 days min @ 70°F ± 10F
2	Jet A Fuel	
3	Mil-H-5606 Hydraulic Oil	
4	Mil-H-83282 Hydraulic Oil	
5	Engine Lube Oil Mil-L-7808	
6	Engine Lube Oil Mil-L-23699	
7	Salt Water	
8	Skydrol LD-4	
9	50% Water w/ 50% Skydrol	
s	Distilled Water	
m	MEK Washing Fluid	90 mins @ 70°F ± 10F
n	P.G. Deicer I Mil-A-8243	
p	I.A. Deicing Agent (TT-I-735)	48±4 hrs @ 70°F ± 10F
x	Dry	Per section 6.1 Test Plan
w	85% Relative Humidity	

Fluid	Average Short Beam Strength With Fluid (ksi)	Same Environment Short Beam Strength Without Fluid (ksi) (ETD)	Worst Case Environment Short Beam Strength (ksi) (ETW)	% Strength Reduction With Respect to ETD (no fluid)
1	9.023	9.489	7.398	4.907
2	8.869	9.489	7.398	6.534
3	8.976	9.489	7.398	5.398
4	9.008	9.489	7.398	5.066
5	8.989	9.489	7.398	5.266
6	9.099	9.489	7.398	4.102
7	8.272	9.489	7.398	12.820
8	9.153	9.489	7.398	3.541
9	8.311	9.489	7.398	12.412
m	9.574	9.489	7.398	-0.904
n	9.904	9.489	7.398	-4.380
p	9.307	9.489	7.398	1.918
s	8.254	9.489	7.398	13.010
x	9.489	9.489	7.398	0.000
w	7.398	9.489	7.398	22.032

Fluid Sensitivity Screening
Short Beam Strength (SBS) -- (RT)
Cytec Cycom 5215 T40-800 Unitape

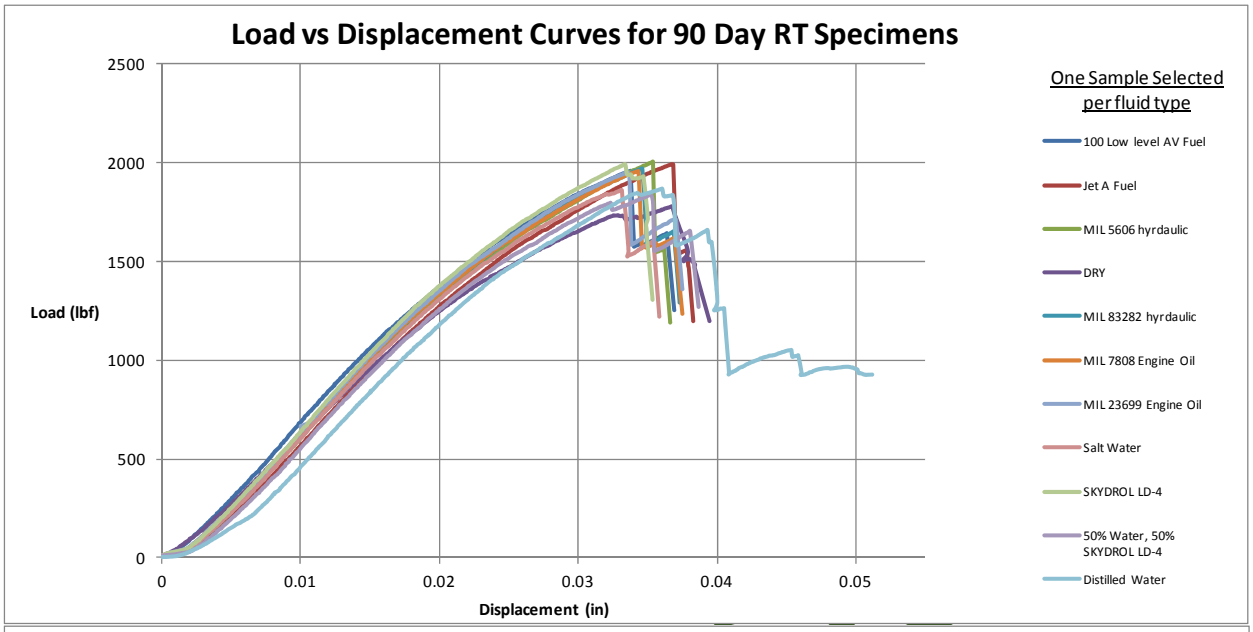
Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Fluid	Strength [ksi]	Avg. Specimen Thickn. [in]	# Plies in Laminate	Avg. tply [in]	Failure Mode	Average
C0DQA321a	A	C1	1	1	11.576	0.255	45	0.0057	INTERLAMINAR SHEAR / COMPRESSION	
C0DQA322a	A	C1	1	1	11.191	0.255	45	0.0057	INTERLAMINAR SHEAR / COMPRESSION	
C0DQA323a	A	C1	1	1	11.540	0.255	45	0.0057	INTERLAMINAR SHEAR / COMPRESSION	11.473
C0DQA324a	A	C1	1	1	11.392	0.255	45	0.0057	INTERLAMINAR SHEAR / COMPRESSION	
C0DQA325a	A	C1	1	1	11.664	0.253	45	0.0056	INTERLAMINAR SHEAR / COMPRESSION	
C0DQA32Db	A	C1	1	2	11.731	0.256	45	0.0057	INTERLAMINAR SHEAR / COMPRESSION	
C0DQA32Eb	A	C1	1	2	11.804	0.258	45	0.0057	INTERLAMINAR SHEAR / COMPRESSION	
C0DQA32Fb	A	C1	1	2	11.839	0.258	45	0.0057	INTERLAMINAR SHEAR / COMPRESSION	11.791
C0DQA32Gb	A	C1	1	2	11.883	0.258	45	0.0057	INTERLAMINAR SHEAR / COMPRESSION	
C0DQA32Hb	A	C1	1	2	11.551	0.258	45	0.0057	INTERLAMINAR SHEAR / COMPRESSION	
C0DQA32Ib	A	C1	1	2	11.935	0.256	45	0.0057	INTERLAMINAR SHEAR / COMPRESSION	
C0DQA331c	A	C1	1	3	11.514	0.259	45	0.0058	INTERLAMINAR SHEAR / COMPRESSION	
C0DQA333c	A	C1	1	3	11.651	0.257	45	0.0057	INTERLAMINAR SHEAR / COMPRESSION	
C0DQA334c	A	C1	1	3	11.556	0.255	45	0.0057	INTERLAMINAR SHEAR / COMPRESSION	11.534
C0DQA335c	A	C1	1	3	11.291	0.254	45	0.0057	INTERLAMINAR SHEAR / COMPRESSION	
C0DQA336c	A	C1	1	3	11.661	0.253	45	0.0056	INTERLAMINAR SHEAR / COMPRESSION	
C0DQA33Dd	A	C1	1	4	11.583	0.254	45	0.0057	INTERLAMINAR SHEAR / COMPRESSION	
C0DQA33Ed	A	C1	1	4	11.036	0.255	45	0.0057	INTERLAMINAR SHEAR / COMPRESSION	
C0DQA33Fd	A	C1	1	4	11.398	0.254	45	0.0057	INTERLAMINAR SHEAR / COMPRESSION	11.363
C0DQA33Gd	A	C1	1	4	11.148	0.255	45	0.0057	INTERLAMINAR SHEAR / COMPRESSION	
C0DQA33Hd	A	C1	1	4	11.496	0.255	45	0.0057	INTERLAMINAR SHEAR / COMPRESSION	
C0DQA33Id	A	C1	1	4	11.515	0.257	45	0.0057	INTERLAMINAR SHEAR / COMPRESSION	
C0DQA341e	A	C1	1	5	11.355	0.253	45	0.0056	INTERLAMINAR SHEAR / COMPRESSION	
C0DQA342e	A	C1	1	5	11.788	0.254	45	0.0056	INTERLAMINAR SHEAR / COMPRESSION	
C0DQA343e	A	C1	1	5	11.612	0.254	45	0.0056	INTERLAMINAR SHEAR / COMPRESSION	11.591
C0DQA344e	A	C1	1	5	11.320	0.255	45	0.0057	INTERLAMINAR SHEAR / COMPRESSION	
C0DQA345e	A	C1	1	5	12.018	0.254	45	0.0056	INTERLAMINAR SHEAR / COMPRESSION	
C0DQA346e	A	C1	1	5	11.451	0.253	45	0.0056	INTERLAMINAR SHEAR / COMPRESSION	
C0DQA34Cf	A	C1	1	6	11.569	0.254	45	0.0056	INTERLAMINAR SHEAR	
C0DQA34Df	A	C1	1	6	11.365	0.254	45	0.0056	INTERLAMINAR SHEAR / COMPRESSION	
C0DQA34Ef	A	C1	1	6	11.557	0.253	45	0.0056	INTERLAMINAR SHEAR / COMPRESSION	11.425
C0DQA34Ff	A	C1	1	6	11.349	0.253	45	0.0056	INTERLAMINAR SHEAR / COMPRESSION	
C0DQA34Gf	A	C1	1	6	11.470	0.253	45	0.0056	INTERLAMINAR SHEAR	
C0DQA34Hf	A	C1	1	6	11.242	0.251	45	0.0056	INTERLAMINAR SHEAR / COMPRESSION	
C0DQA351g	A	C1	1	7	11.270	0.253	45	0.0056	INTERLAMINAR SHEAR / COMPRESSION	
C0DQA352g	A	C1	1	7	11.002	0.253	45	0.0056	INTERLAMINAR SHEAR / COMPRESSION	
C0DQA353g	A	C1	1	7	11.062	0.254	45	0.0056	INTERLAMINAR SHEAR	11.139
C0DQA354g	A	C1	1	7	10.984	0.254	45	0.0057	INTERLAMINAR SHEAR / COMPRESSION	
C0DQA355g	A	C1	1	7	11.456	0.254	45	0.0056	INTERLAMINAR SHEAR / COMPRESSION	
C0DQA356g	A	C1	1	7	11.064	0.251	45	0.0056	INTERLAMINAR SHEAR / COMPRESSION	
C0DQA35Dh	A	C1	1	8	11.181	0.254	45	0.0056	INTERLAMINAR SHEAR / COMPRESSION	
C0DQA35Eh	A	C1	1	8	11.648	0.258	45	0.0057	INTERLAMINAR SHEAR / COMPRESSION	
C0DQA35Fh	A	C1	1	8	11.775	0.258	45	0.0057	INTERLAMINAR SHEAR / COMPRESSION	11.603
C0DQA35Gh	A	C1	1	8	11.222	0.257	45	0.0057	INTERLAMINAR SHEAR / COMPRESSION	
C0DQA35Hh	A	C1	1	8	11.910	0.256	45	0.0057	INTERLAMINAR SHEAR / COMPRESSION	
C0DQA35Ih	A	C1	1	8	11.883	0.255	45	0.0057	INTERLAMINAR SHEAR / COMPRESSION	
C0DQA461i	A	C2	1	9	11.496	0.256	45	0.0057	INTERLAMINAR SHEAR / COMPRESSION	
C0DQA462i	A	C2	1	9	10.438	0.255	45	0.0057	INTERLAMINAR SHEAR / COMPRESSION	10.823
C0DQA463i	A	C2	1	9	11.141	0.255	45	0.0057	INTERLAMINAR SHEAR / COMPRESSION	
C0DQA464i	A	C2	1	9	10.822	0.254	45	0.0057	INTERLAMINAR SHEAR / COMPRESSION	
C0DQA465i	A	C2	1	9	10.420	0.254	45	0.0056	INTERLAMINAR SHEAR / COMPRESSION	
C0DQA466i	A	C2	1	9	10.622	0.254	45	0.0056	INTERLAMINAR SHEAR / COMPRESSION	

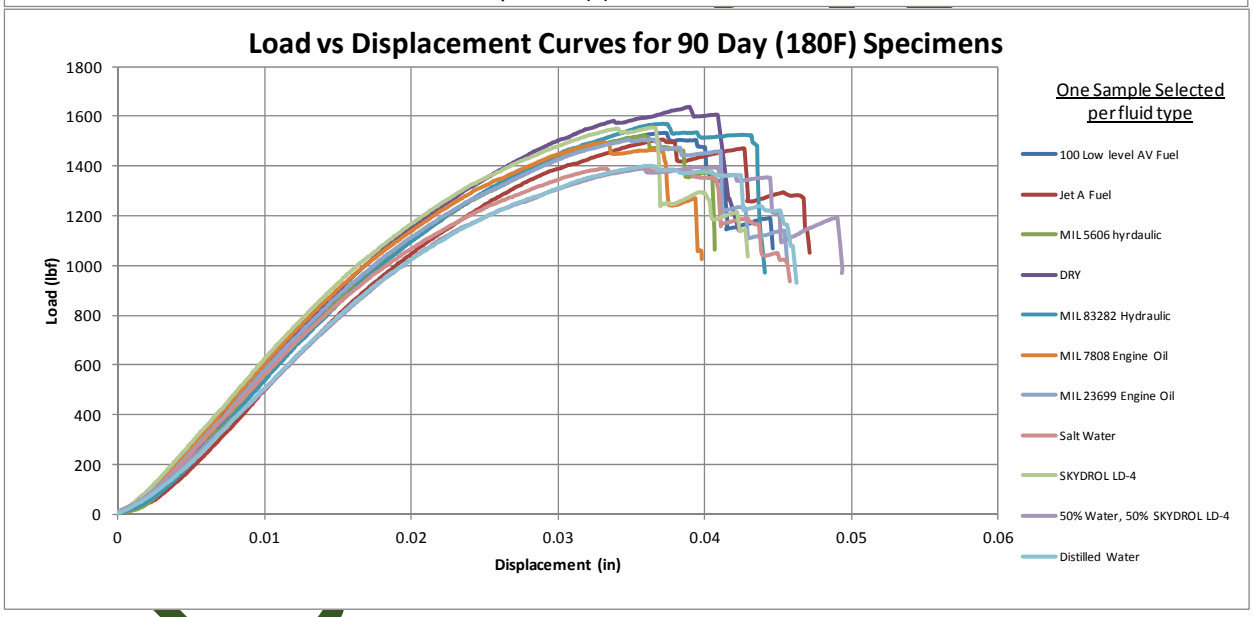
C0DQA46Dj	A	C2	1	10	10.656	0.255	45	0.0057	INTERLAMINAR SHEAR	
C0DQA46Ej	A	C2	1	10	11.013	0.256	45	0.0057	INTERLAMINAR SHEAR	
C0DQA46Fj	A	C2	1	10	10.858	0.256	45	0.0057	INTERLAMINAR SHEAR	10.902
C0DQA46Gj	A	C2	1	10	10.856	0.256	45	0.0057	INTERLAMINAR SHEAR	
C0DQA46Hj	A	C2	1	10	11.048	0.256	45	0.0057	INTERLAMINAR SHEAR	
C0DQA46Ij	A	C2	1	10	10.979	0.256	45	0.0057	INTERLAMINAR SHEAR	
C0DQA471k	A	C2	1	11	11.344	0.254	45	0.0056	INTERLAMINAR SHEAR	
C0DQA472k	A	C2	1	11	10.702	0.253	45	0.0056	INTERLAMINAR SHEAR	
C0DQA473k	A	C2	1	11	10.762	0.253	45	0.0056	INTERLAMINAR SHEAR	11.015
C0DQA474k	A	C2	1	11	11.206	0.253	45	0.0056	INTERLAMINAR SHEAR	
C0DQA475k	A	C2	1	11	11.248	0.253	45	0.0056	INTERLAMINAR SHEAR	
C0DQA476k	A	C2	1	11	10.828	0.254	45	0.0056	INTERLAMINAR SHEAR	
C0DQA47Dl	A	C2	1	12	11.301	0.256	45	0.0057	INTERLAMINAR SHEAR	
C0DQA47El	A	C2	1	12	11.435	0.256	45	0.0057	INTERLAMINAR SHEAR	11.264
C0DQA47Fl	A	C2	1	12	11.453	0.256	45	0.0057	INTERLAMINAR SHEAR	
C0DQA47Gl	A	C2	1	12	11.612	0.255	45	0.0057	INTERLAMINAR SHEAR	
C0DQA47Hl	A	C2	1	12	11.020	0.254	45	0.0056	INTERLAMINAR SHEAR	
C0DQA47Il	A	C2	1	12	10.766	0.254	45	0.0057	INTERLAMINAR SHEAR	
C0DQA481r	A	C2	1	13	10.995	0.254	45	0.0056	INTERLAMINAR SHEAR / COMPRESSION	
C0DQA482r	A	C2	1	13	10.659	0.254	45	0.0057	INTERLAMINAR SHEAR / COMPRESSION	10.937
C0DQA483r	A	C2	1	13	10.795	0.254	45	0.0056	INTERLAMINAR SHEAR / COMPRESSION	
C0DQA484r	A	C2	1	13	11.033	0.254	45	0.0056	INTERLAMINAR SHEAR / COMPRESSION	
C0DQA485r	A	C2	1	13	10.995	0.253	45	0.0056	INTERLAMINAR SHEAR / COMPRESSION	
C0DQA486r	A	C2	1	13	11.144	0.253	45	0.0056	INTERLAMINAR SHEAR / COMPRESSION	
C0DQA48DA	A	C2	1	14	10.541	0.253	45	0.0056	INTERLAMINAR SHEAR	
C0DQA48EA	A	C2	1	14	10.743	0.252	45	0.0056	INTERLAMINAR SHEAR	10.556
C0DQA48FA	A	C2	1	14	10.523	0.253	45	0.0056	INTERLAMINAR SHEAR	
C0DQA48GA	A	C2	1	14	10.736	0.253	45	0.0056	INTERLAMINAR SHEAR	
C0DQA48HA	A	C2	1	14	10.161	0.254	45	0.0056	INTERLAMINAR SHEAR	
C0DQA48IA	A	C2	1	14	10.630	0.254	45	0.0056	INTERLAMINAR SHEAR	
C0DQA491t	A	C2	1	15	10.473	0.254	45	0.0056	INTERLAMINAR SHEAR/COMPRESSION	
C0DQA492t	A	C2	1	15	10.472	0.255	45	0.0057	INTERLAMINAR SHEAR/COMPRESSION	10.504
C0DQA493t	A	C2	1	15	10.483	0.255	45	0.0057	INTERLAMINAR SHEAR/COMPRESSION	
C0DQA494t	A	C2	1	15	10.556	0.255	45	0.0057	INTERLAMINAR SHEAR/COMPRESSION	
C0DQA495t	A	C2	1	15	10.416	0.256	45	0.0057	INTERLAMINAR SHEAR/COMPRESSION	
C0DQA496t	A	C2	1	15	10.625	0.256	45	0.0057	INTERLAMINAR SHEAR/COMPRESSION	

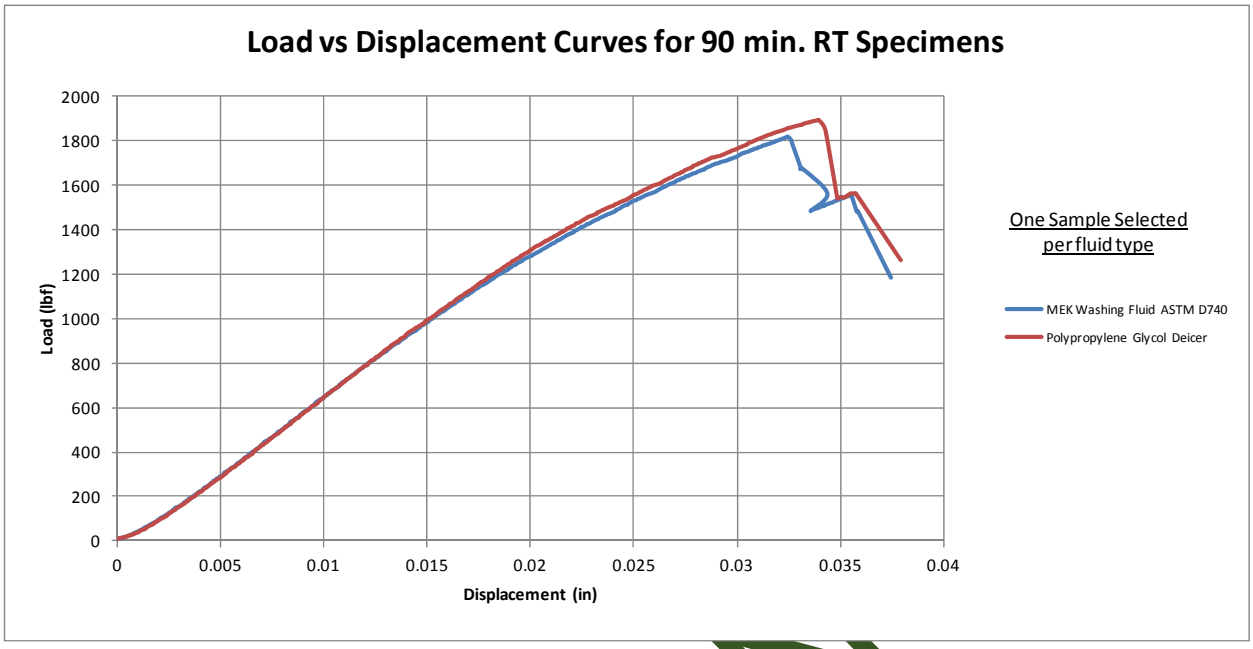
Fluid Sensitivity Screening
Short Beam Strength (SBS) -- (180F)
Cytec Cycom 5215 T40-800 Unitape

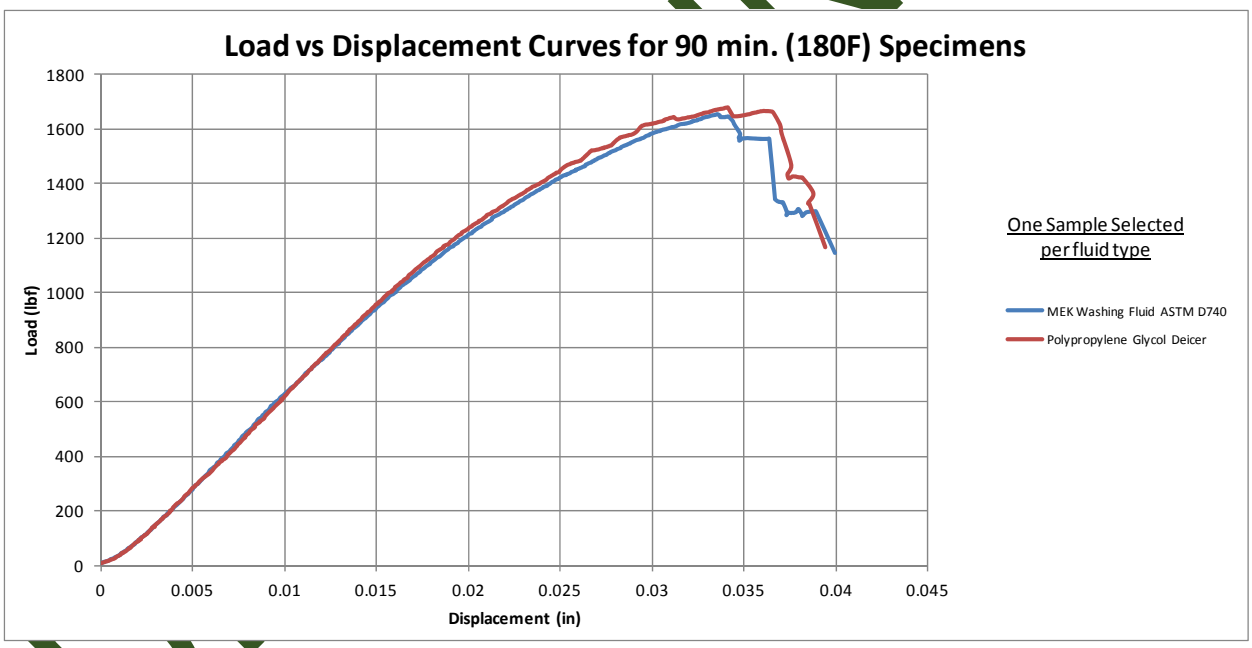
Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Fluid	Strength [ksi]	Avg. Specimen Thickn. [in]	# Plies in Laminate	Avg. tply [in]	Failure Mode	Average
C0DQA3271	A	C1	1	1	9.108	0.252	45	0.0056	INTERLAMINAR SHEAR	
C0DQA3281	A	C1	1	1	8.943	0.251	45	0.0056	INTERLAMINAR SHEAR	
C0DQA3291	A	C1	1	1	8.993	0.251	45	0.0056	INTERLAMINAR SHEAR	9.023
C0DQA32A1	A	C1	1	1	8.963	0.252	45	0.0056	INTERLAMINAR SHEAR	
C0DQA32B1	A	C1	1	1	9.098	0.254	45	0.0056	INTERLAMINAR SHEAR	
C0DQA32C1	A	C1	1	1	9.032	0.254	45	0.0057	INTERLAMINAR SHEAR	
C0DQA32J2	A	C1	1	2	8.850	0.256	45	0.0057	INTERLAMINAR SHEAR	
C0DQA32K2	A	C1	1	2	8.897	0.258	45	0.0057	INTERLAMINAR SHEAR	
C0DQA32L2	A	C1	1	2	8.869	0.258	45	0.0057	INTERLAMINAR SHEAR	8.869
C0DQA32M2	A	C1	1	2	8.725	0.255	45	0.0057	INTERLAMINAR SHEAR	
C0DQA32N2	A	C1	1	2	8.947	0.255	45	0.0057	INTERLAMINAR SHEAR	
C0DQA32O2	A	C1	1	2	8.924	0.255	45	0.0057	INTERLAMINAR SHEAR	
C0DQA3373	A	C1	1	3	9.048	0.251	45	0.0056	INTERLAMINAR SHEAR	
C0DQA3383	A	C1	1	3	8.971	0.251	45	0.0056	INTERLAMINAR SHEAR	
C0DQA3393	A	C1	1	3	9.003	0.251	45	0.0056	INTERLAMINAR SHEAR	8.976
C0DQA33A3	A	C1	1	3	9.037	0.252	45	0.0056	INTERLAMINAR SHEAR	
C0DQA33B3	A	C1	1	3	8.678	0.253	45	0.0056	INTERLAMINAR SHEAR	
C0DQA33C3	A	C1	1	3	9.120	0.254	45	0.0056	INTERLAMINAR SHEAR	
C0DQA33J4	A	C1	1	4	9.144	0.257	45	0.0057	INTERLAMINAR SHEAR	
C0DQA33K4	A	C1	1	4	9.282	0.258	45	0.0057	INTERLAMINAR SHEAR/COMPRESSION	
C0DQA33L4	A	C1	1	4	9.152	0.255	45	0.0057	INTERLAMINAR SHEAR/COMPRESSION	9.008
C0DQA33M4	A	C1	1	4	8.961	0.254	45	0.0056	INTERLAMINAR SHEAR/COMPRESSION	
C0DQA33N4	A	C1	1	4	8.756	0.253	45	0.0056	INTERLAMINAR SHEAR/COMPRESSION	
C0DQA33O4	A	C1	1	4	8.753	0.252	45	0.0056	INTERLAMINAR SHEAR/COMPRESSION	
C0DQA3475	A	C1	1	5	8.870	0.252	45	0.0056	INTERLAMINAR SHEAR	
C0DQA3485	A	C1	1	5	8.943	0.251	45	0.0056	INTERLAMINAR SHEAR	
C0DQA3495	A	C1	1	5	9.161	0.252	45	0.0056	INTERLAMINAR SHEAR	8.989
C0DQA34A5	A	C1	1	5	8.890	0.253	45	0.0056	INTERLAMINAR SHEAR	
C0DQA34B5	A	C1	1	5	9.081	0.254	45	0.0056	INTERLAMINAR SHEAR	
C0DQA34I6	A	C1	1	6	9.019	0.252	45	0.0056	INTERLAMINARSHEAR/COMPRESSION	
C0DQA34J6	A	C1	1	6	9.004	0.253	45	0.0056	INTERLAMINARSHEAR/COMPRESSION	
C0DQA34K6	A	C1	1	6	9.117	0.253	45	0.0056	INTERLAMINARSHEAR/COMPRESSION	9.099
C0DQA34L6	A	C1	1	6	9.104	0.254	45	0.0056	INTERLAMINARSHEAR/COMPRESSION	
C0DQA34M6	A	C1	1	6	9.252	0.253	45	0.0056	INTERLAMINARSHEAR/COMPRESSION	
C0DQA3577	A	C1	1	7	8.458	0.252	45	0.0056	INTERLAMINARSHEAR/COMPRESSION	
C0DQA3587	A	C1	1	7	8.251	0.253	45	0.0056	INTERLAMINARSHEAR/COMPRESSION	
C0DQA3597	A	C1	1	7	8.311	0.253	45	0.0056	INTERLAMINARSHEAR/COMPRESSION	8.272
C0DQA35A7	A	C1	1	7	8.265	0.252	45	0.0056	INTERLAMINARSHEAR/COMPRESSION	
C0DQA35B7	A	C1	1	7	8.022	0.251	45	0.0056	INTERLAMINARSHEAR/COMPRESSION	
C0DQA35C7	A	C1	1	7	8.335	0.254	45	0.0056	INTERLAMINARSHEAR/COMPRESSION	
C0DQA35J8	A	C1	1	8	9.095	0.254	45	0.0056	INTERLAMINARSHEAR/COMPRESSION	
C0DQA35K8	A	C1	1	8	9.208	0.253	45	0.0056	INTERLAMINARSHEAR/COMPRESSION	
C0DQA35L8	A	C1	1	8	9.007	0.252	45	0.0056	INTERLAMINARSHEAR/COMPRESSION	9.153
C0DQA35M8	A	C1	1	8	9.056	0.251	45	0.0056	INTERLAMINARSHEAR/COMPRESSION	
C0DQA35N8	A	C1	1	8	9.402	0.251	45	0.0056	INTERLAMINARSHEAR/COMPRESSION	
C0DQA4679	A	C2	1	9	8.243	0.254	45	0.0056	INTERLAMINAR SHEAR	
C0DQA4689	A	C2	1	9	8.221	0.254	45	0.0056	INTERLAMINAR SHEAR	
C0DQA4699	A	C2	1	9	8.391	0.254	45	0.0056	INTERLAMINAR SHEAR	8.311
C0DQA46A9	A	C2	1	9	8.270	0.254	45	0.0056	INTERLAMINAR SHEAR	
C0DQA46B9	A	C2	1	9	8.328	0.255	45	0.0057	INTERLAMINAR SHEAR	
C0DQA46C9	A	C2	1	9	8.411	0.255	45	0.0057	INTERLAMINAR SHEAR/COMPRESSION	

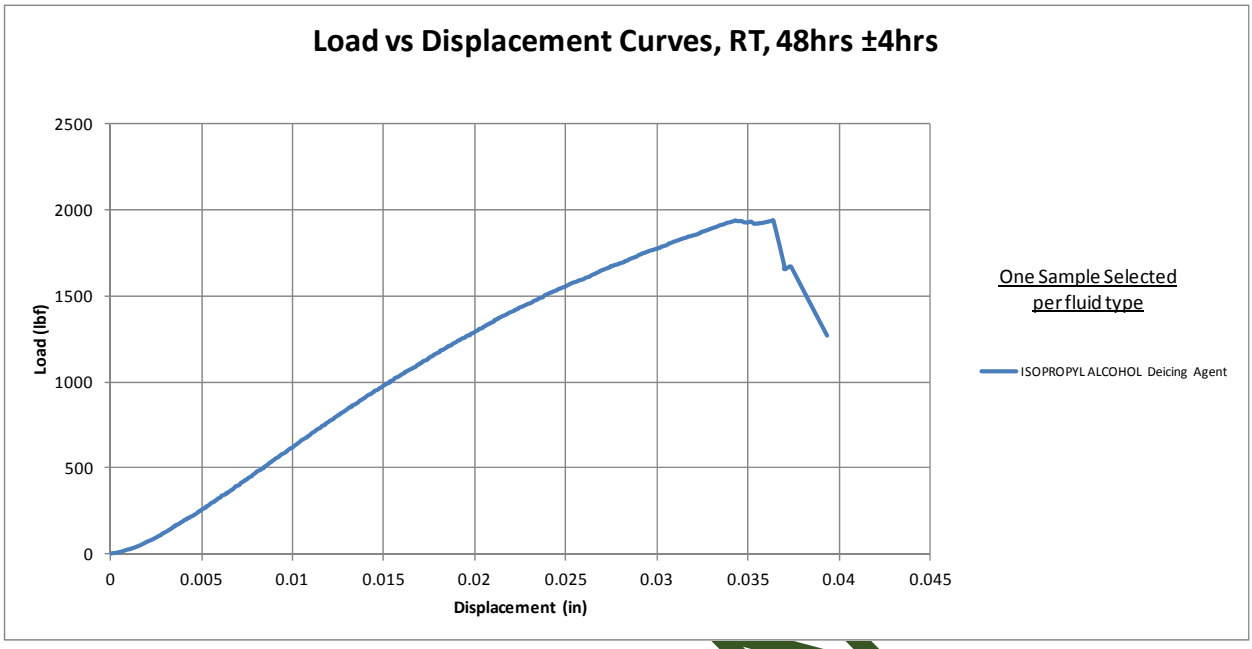
C0DQA46Jm	A	C2	1	10	9.710	0.256	45	0.0057	INTERLAMINAR SHEAR	
C0DQA46Km	A	C2	1	10	9.682	0.256	45	0.0057	INTERLAMINAR SHEAR	
C0DQA46Lm	A	C2	1	10	9.656	0.253	45	0.0056	INTERLAMINAR SHEAR	9.574
C0DQA46Mm	A	C2	1	10	9.449	0.254	45	0.0056	INTERLAMINAR SHEAR	
C0DQA46Nm	A	C2	1	10	9.479	0.254	45	0.0056	INTERLAMINAR SHEAR	
C0DQA46Om	A	C2	1	10	9.470	0.254	45	0.0056	INTERLAMINAR SHEAR	
C0DQA477n	A	C2	1	11	10.286	0.254	45	0.0057	INTERLAMINAR SHEAR	
C0DQA478n	A	C2	1	11	9.867	0.255	45	0.0057	INTERLAMINAR SHEAR	
C0DQA479n	A	C2	1	11	10.076	0.255	45	0.0057	INTERLAMINAR SHEAR	9.904
C0DQA47An	A	C2	1	11	9.897	0.256	45	0.0057	INTERLAMINAR SHEAR	
C0DQA47Bn	A	C2	1	11	9.756	0.255	45	0.0057	INTERLAMINAR SHEAR	
C0DQA47Cn	A	C2	1	11	9.544	0.256	45	0.0057	INTERLAMINAR SHEAR	
C0DQA47Jp	A	C2	1	12	9.338	0.255	45	0.0057	INTERLAMINAR SHEAR	
C0DQA47Kp	A	C2	1	12	9.099	0.254	45	0.0056	INTERLAMINAR SHEAR	
C0DQA47Lp	A	C2	1	12	9.055	0.255	45	0.0057	INTERLAMINAR SHEAR	9.307
C0DQA47Mp	A	C2	1	12	9.796	0.254	45	0.0057	INTERLAMINAR SHEAR	
C0DQA47Np	A	C2	1	12	9.141	0.255	45	0.0057	INTERLAMINAR SHEAR	
C0DQA47Op	A	C2	1	12	9.410	0.257	45	0.0057	INTERLAMINAR SHEAR	
C0DQA487s	A	C2	1	13	8.297	0.253	45	0.0056	INTERLAMINAR SHEAR	
C0DQA488s	A	C2	1	13	8.155	0.252	45	0.0056	INTERLAMINAR SHEAR/COMPRESSION	
C0DQA489s	A	C2	1	13	8.120	0.252	45	0.0056	INTERLAMINAR SHEAR/COMPRESSION	8.254
C0DQA48As	A	C2	1	13	8.444	0.252	45	0.0056	INTERLAMINAR SHEAR/COMPRESSION	
C0DQA48Cs	A	C2	1	13	8.254	0.253	45	0.0056	INTERLAMINAR SHEAR/COMPRESSION	
C0DQA48Jx	A	C2	1	14	9.474	0.255	45	0.0057	INTERLAMINAR SHEAR	
C0DQA48Kx	A	C2	1	14	9.535	0.254	45	0.0056	INTERLAMINAR SHEAR	
C0DQA48Lx	A	C2	1	14	9.368	0.254	45	0.0056	INTERLAMINAR SHEAR	9.489
C0DQA48Mx	A	C2	1	14	9.619	0.254	45	0.0057	INTERLAMINAR SHEAR	
C0DQA48Nx	A	C2	1	14	9.559	0.254	45	0.0057	INTERLAMINAR SHEAR	
C0DQA48Ox	A	C2	1	14	9.377	0.255	45	0.0057	INTERLAMINAR SHEAR	
C0DQA497w	A	C2	1	15	7.469	0.256	45	0.0057	INTERLAMINAR SHEAR / INELASTIC DEFORMATION	
C0DQA498w	A	C2	1	15	7.637	0.252	45	0.0056	INTERLAMINAR SHEAR / INELASTIC DEFORMATION	
C0DQA499w	A	C2	1	15	7.434	0.255	45	0.0057	INTERLAMINAR SHEAR / INELASTIC DEFORMATION	7.398
C0DQA49Aw	A	C2	1	15	7.255	0.254	45	0.0056	INTERLAMINAR SHEAR / INELASTIC DEFORMATION	
C0DQA49Bw	A	C2	1	15	7.294	0.254	45	0.0056	INTERLAMINAR SHEAR / INELASTIC DEFORMATION	
C0DQA49Cw	A	C2	1	15	7.299	0.253	45	0.0056	INTERLAMINAR SHEAR / INELASTIC DEFORMATION	

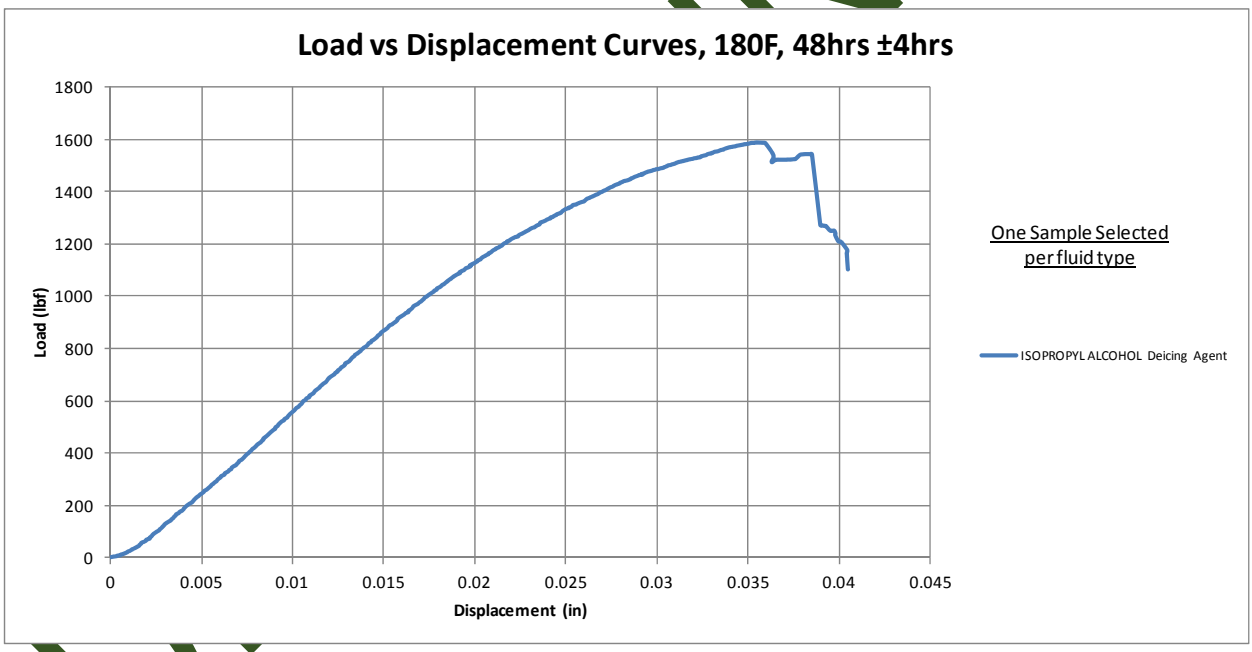

Load vs Displacement Curves for 90 Day RT Specimens
Load (lbf)
2500
2000
1500
1000
500
0
0
0.01
0.02
0.03
0.04
0.05
Displacement (in)
One Sample Selected per fluid type
100 Low level AV Fuel
Jet A Fuel
MIL 5606 hyrdaulic
DRY
MIL 83282 hyrdaulic
MIL 7808 Engine Oil
MIL 23699 Engine Oil
Salt Water
SKYDROL LD-4
50% Water, 50% SKYDROL LD-4
Distilled Water

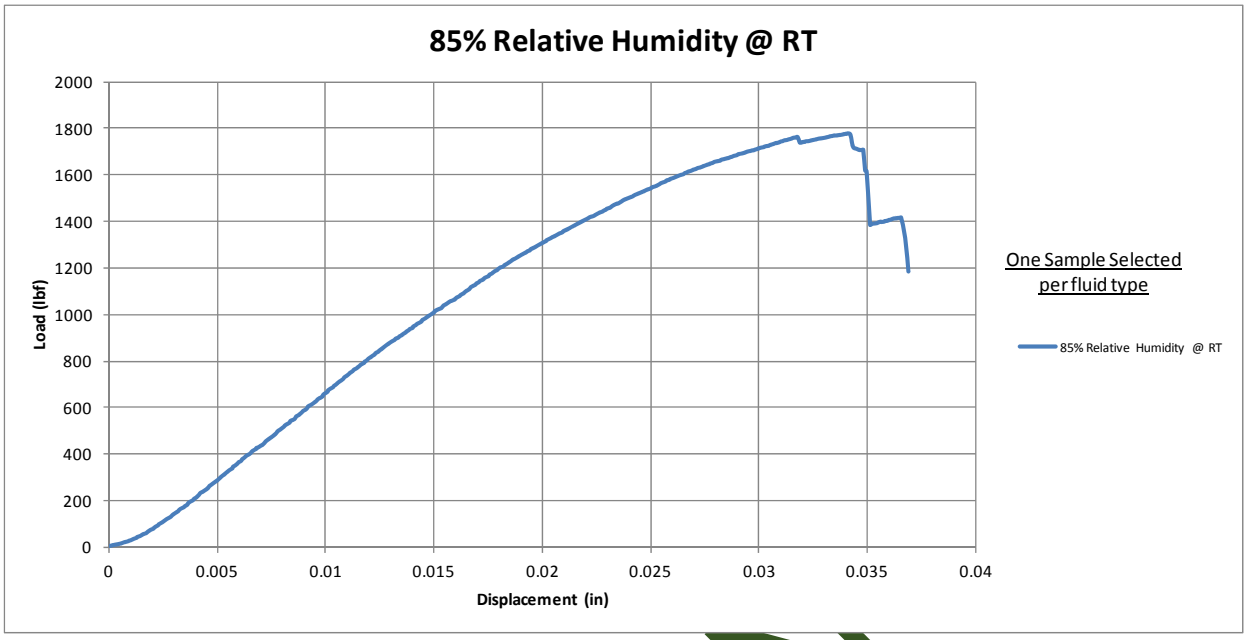

Load vs Displacement Curves for 90 Day (180F) Specimens
Load (lbf)
1800
1600
1400
1200
1000
800
600
400
200
0
0
0.01
0.02
0.03
0.04
0.05
0.06
Displacement (in)
One Sample Selected per fluid type
100 Low level AV Fuel
Jet A Fuel
MIL 5606 hyrdaulic
DRY
MIL 83282 Hydraulic
MIL 7808 Engine Oil
MIL 23699 Engine Oil
Salt Water
SKYDROL LD-4
50% Water, 50% SKYDROL LD-4
Distilled Water

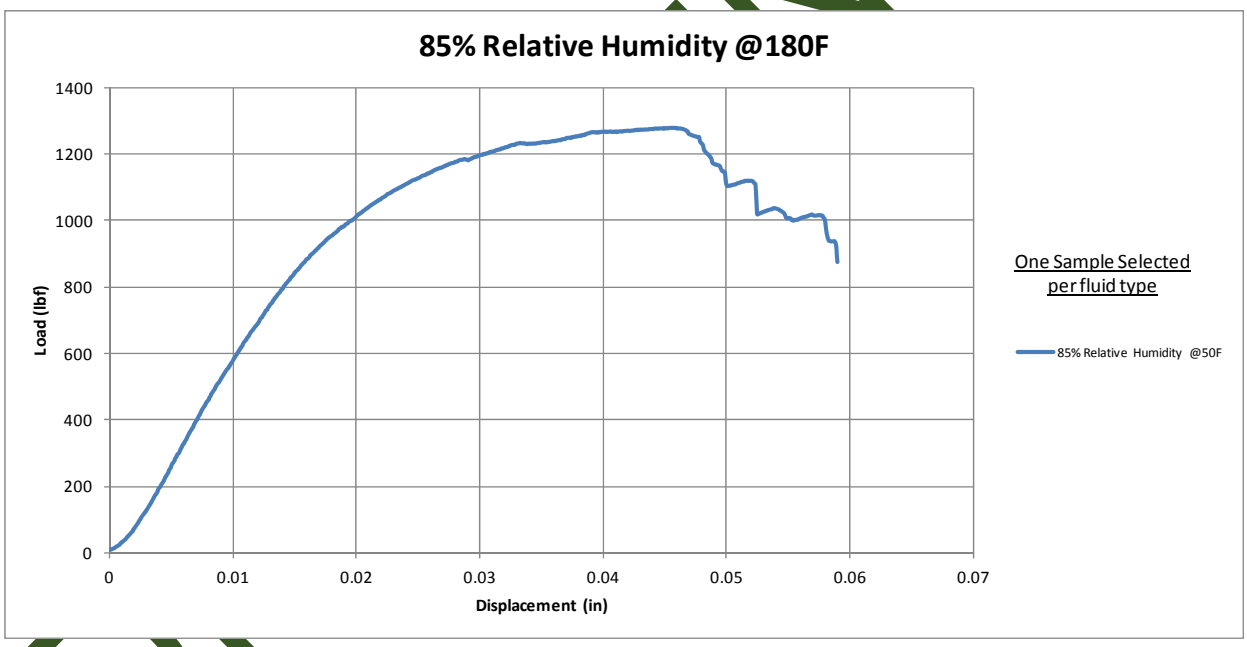

Load vs Displacement Curves for 90 min. RT Specimens
Load (lbf)
2000
1800
1600
1400
1200
1000
800
600
400
200
0
0
0.005
0.01
0.015
0.02
0.025
0.03
0.035
0.04
Displacement (in)
One Sample Selected per fluid type
MEK Washing Fluid ASTM D740
Polypropylene Glycol Deicer


Load vs Displacement Curves for 90 min. (180F) Specimens
Load (lbf)
1800
1600
1400
1200
1000
800
600
400
200
0
0
0.005
0.01
0.015
0.02
0.025
0.03
0.035
0.04
0.045
Displacement (in)
One Sample Selected per fluid type
MEK Washing Fluid ASTM D740
Polypropylene Glycol Deicer


Load vs Displacement Curves, RT, 48hrs ±4hrs
Load (lbf)
2500
2000
1500
1000
500
0
0
0.005
0.01
0.015
0.02
0.025
0.03
0.035
0.04
0.045
Displacement (in)
One Sample Selected per fluid type
ISOPROPYL ALCOHOL Deicing Agent

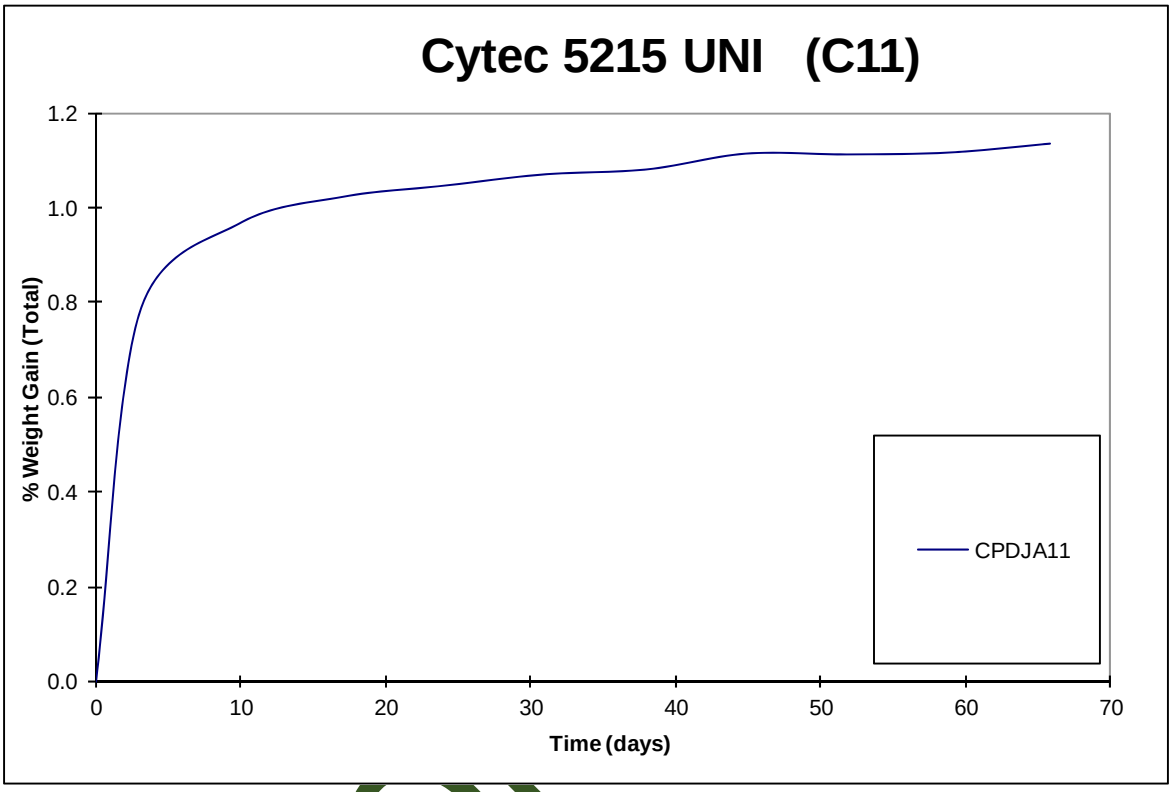

Load vs Displacement Curves, 180F, 48hrs ±4hrs
Load (lbf)
1800
1600
1400
1200
1000
800
600
400
200
0
0
0.005
0.01
0.015
0.02
0.025
0.03
0.035
0.04
0.045
Displacement (in)
One Sample Selected per fluid type
ISOPROPYL ALCOHOL Deicing Agent


85% Relative Humidity @ RT
Load (lbf)
2000
1800
1600
1400
1200
1000
800
600
400
200
0
0
0.005
0.01
0.015
0.02
0.025
0.03
0.035
0.04
Displacement (in)
One Sample Selected per fluid type
85% Relative Humidity @ RT

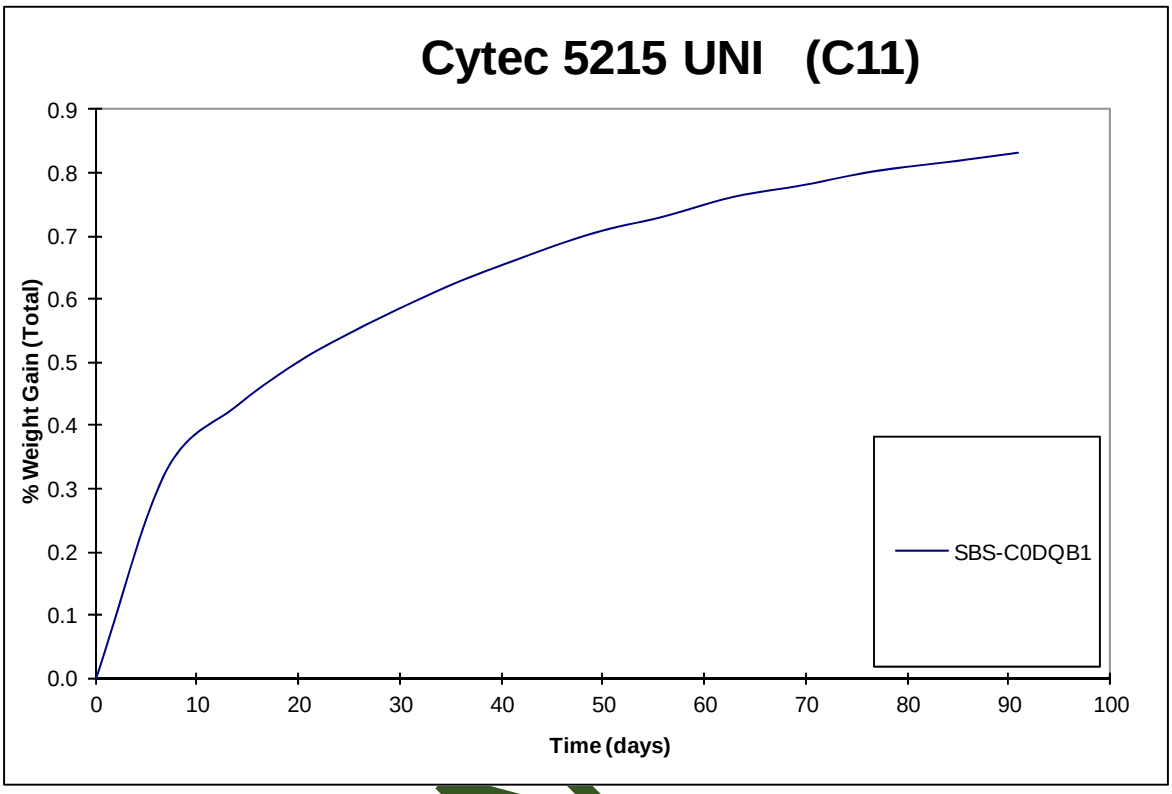

85% Relative Humidity @180F
Load (lbf)
1400
1200
1000
800
600
400
200
0
0
0.01
0.02
0.03
0.04
0.05
0.06
0.07
Displacement (in)
One Sample Selected per fluid type
85% Relative Humidity @50F

7. Moisture Conditioning Charts

7.1 Longitudinal Tension– Thinnest Panel



7.2 Short Beam Strength- Thickest Panel



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.

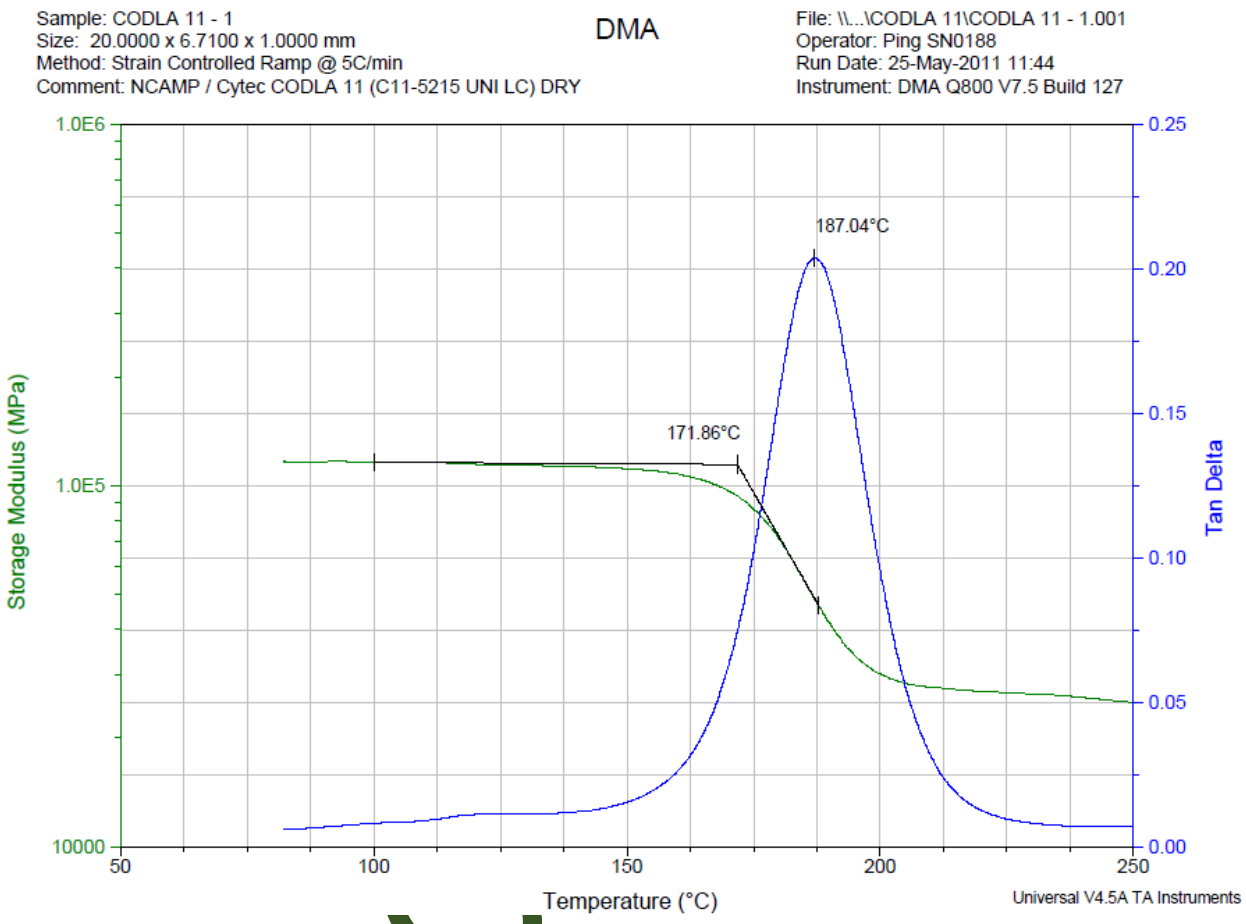
The rest of the curves can be found on the CD that accompanies this report.

8. DMA Results

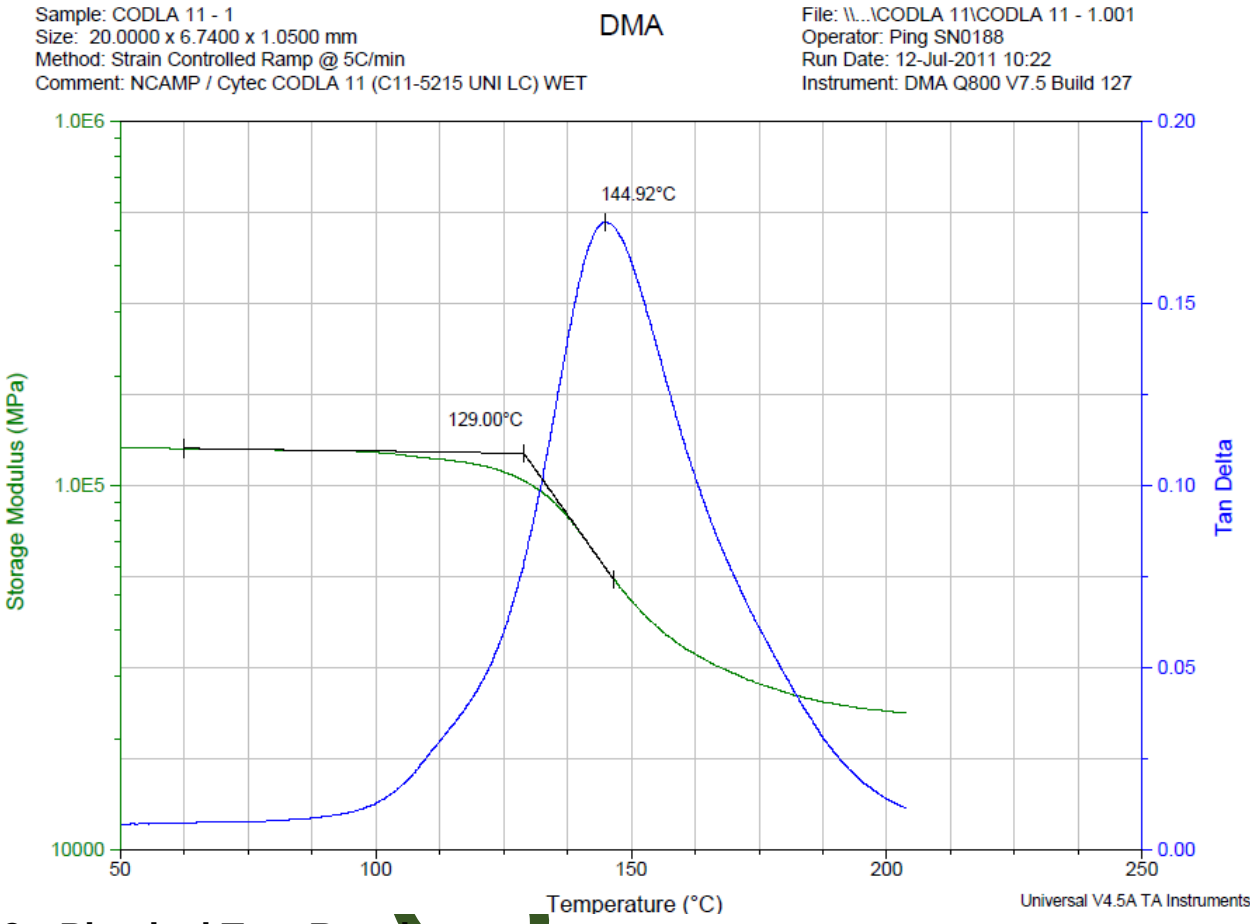
DMA Results Summary				
Cytec C11-5215 UNI CODXX XX DRY				
Sample #	Onset Storage Modulus Average		Peak of Tangent Delta Average	
	Tg [°C]	Tg [°F]	Tg [°C]	Tg [°F]
CODLA 11	172.31	342.15	186.42	367.56
CODLA 21	173.65	344.57	187.76	369.96
CODLB 11	174.20	345.56	188.33	371.00
CODLC 11	168.67	335.60	184.11	363.39
CODZB 21	167.76	333.97	182.43	360.37
CODZC 21	170.77	339.38	186.01	366.82
AVERAGE		**340.21**		

DMA Results Summary				
Cytec C11-5215 UNI CODXX XX WET				
Sample #	Onset Storage Modulus Average		Peak of Tangent Delta Average	
	Tg [°C]	Tg [°F]	Tg [°C]	Tg [°F]
CODLA 11	128.36	263.05	144.59	292.26
CODLA 21	129.82	265.67	146.09	294.96
CODLB 11	129.59	265.26	146.12	295.02
CODLC 11	131.06	267.90	147.51	297.52
CODZB 21	126.24	259.23	140.89	285.60
CODZC 21	127.43	261.37	143.65	290.57
Average		**263.75**		

8.1 DMA Dry Batch A



8.2 DMA Wet Batch A



9. Physical Test Results

The physical test results are provided in the CD accompanying this report.

10. Deviations

1. For fluid sensitivity testing Jet Reference fluid called out in the NCAMP test plan is a rare fuel and therefore extremely expensive. As a replacement, we used Jet Fuel A per ASTM D1655. AMS2629 is a jet reference fuel intended to simulate jet engine fuel only. This was approved by all participating panel fabricators.
2. SBS1 sampling were taken from OHC1 panel instead of CAI1 panel to fulfill batch requirements
3. ILT data was not available due to insufficient resources to fabricate a replacement panel.