Cytec Cycom 5215 T650 3K70PW Fabric 38%RC Qualification Material Property Data Report

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Rev	By	Date	Pages Revised or Added
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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 does 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 a 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 Cycom 5215 3K70PW Fabric Qualification Statistical Analysis Report NCP-RP-2010-056 N/C or later revision. The qualification material was procured to NCAMP Material Specification NMS 323/3 Rev A dated July 16, 2007. The qualification test panels were cured in accordance with NCAMP Process Specification NPS 81323 Revision A dated July 16, 2007 Baseline "C" Cure Cycle. The NCAMP Test Plan NTP 3623Q1 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 323/3. NMS 323/3 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 323/3.* NMS 323/3 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 Used

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
ν_{12}^{c}	major Poisson's Ratio, compression
ν_{21}^{c}	minor Poisson's Ratio, compression
$F_{12}^{s5\% strain}$	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 Specimen Naming Format

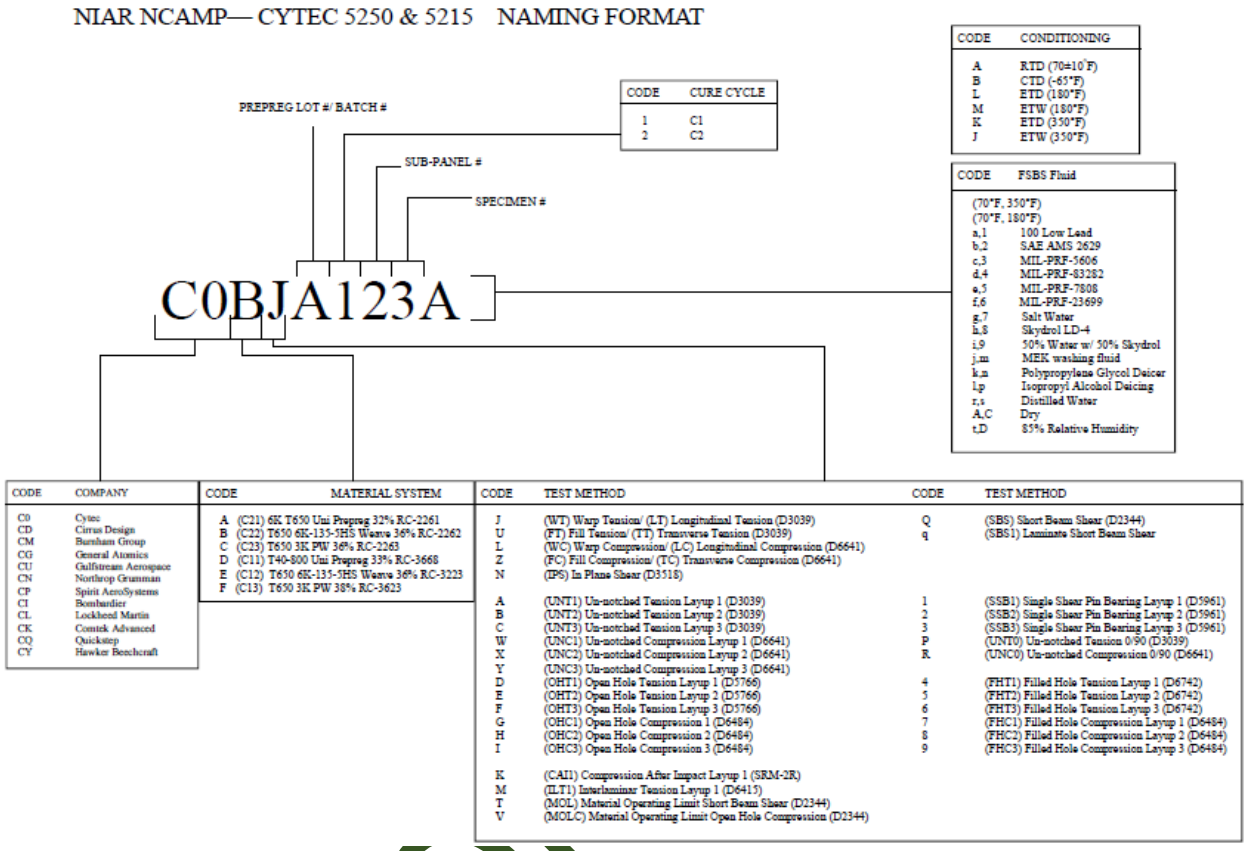


Figure 1-1: Naming Format

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(2007) – 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.

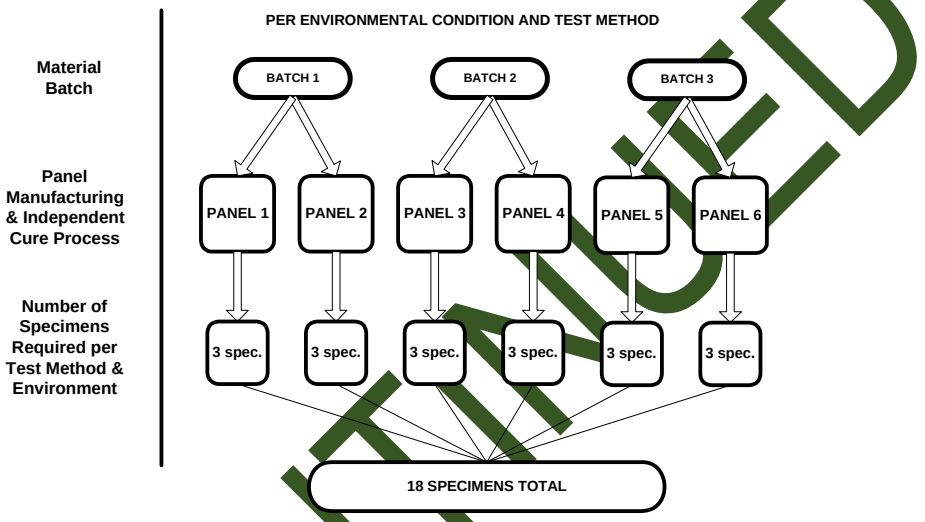


Figure 1-2: Specimen Selection Methodology

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.

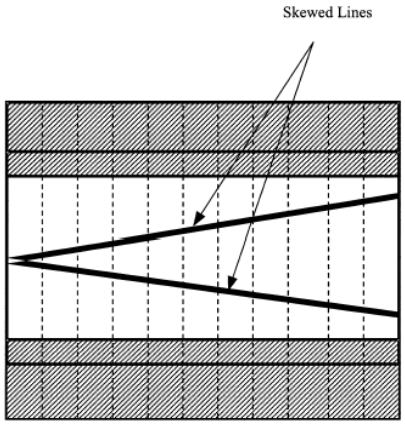


Figure 1-3: Specimen Traceability Line

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.

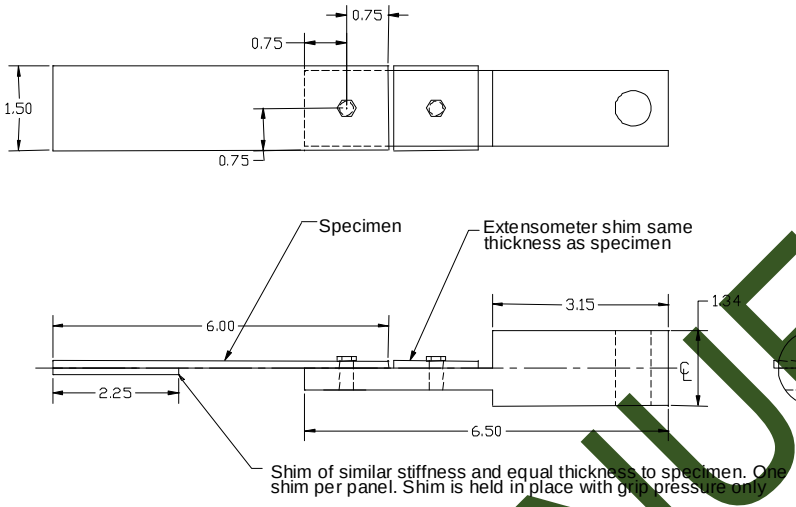


Figure 1-4: Modified ASTM D5961 (Single Shear Bearing) Specimen and Loading Arrangement

1.5.2 Specimen & Testing Details

1.5.2.1 Tabbing

No tabs were used for this program.

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 NASM 21084 nuts and MS21206 washers for FHT and FHC
2) NASM 21297-04013 bolts with MS 21084 nuts and MS21206 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 (warp direction)	Test Type and Direction	Property	Number of Batches x Number of Panels x Number of Test Specimens			
			Test Temperature/Moisture Condition			
			CTD	RTD	ETD	ETW
$[0]_{4S}$	ASTM D3039 Warp Tension	Strength, Modulus, and Poisson's Ratio	3x2x3	3x2x3		3x2x3
$[0]_{4S}$	ASTM D6641 Warp Compression (Note 1)	Strength and Modulus	3x2x3	3x2x3	3x2x3	3x2x3
$[90]_{4S}$	ASTM D3039 Fill Tension	Strength and Modulus	3x2x3	3x2x3		3x2x3
$[90]_{4S}$	ASTM D6641 Fill Compression (Note 1)	Strength and Modulus	3x2x3	3x2x3	3x2x3	3x2x3
$[45/-45]_{2S}$	ASTM D3518 In-Plane Shear	Strength and Modulus	3x2x3	3x2x3		3x2x3
$[0]_{17}$	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.

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]S	Strength & modulus	3x2x3	3x2x3	3x2x3
(10/80/10) UNT2	ASTM D3039 Un-notched Tension [45/-45/90/45/-45]S	Strength & modulus	3x2x3	3x2x3	3x2x3
(40/20/40) UNT3	ASTM D3039 Un-notched Tension [0/90/45/0/90]S	Strength & modulus	3x2x3	3x2x3	3x2x3
(25/50/25 - QI) UNC1	ASTM D6641 Un-notched Compression (4) [45/0/-45/90]S	Strength & modulus		3x2x3	3x2x3
(10/80/10) UNC2	ASTM D6641 Un-notched Compression (4) [45/-45/90/45/-45]S	Strength & modulus		3x2x3	3x2x3
(40/20/40) UNC3	ASTM D6641 Un-notched Compression (4) [0/90/45/0/90]S	Strength & modulus		3x2x3	3x2x3
(25/50/25 - QI) SBS1	ASTM D2344 Short Beam [45/0/-45/90/-45/90]S (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]S	Strength	3x2x3	3x2x3	3x2x3
(10/80/10) OHT2	ASTM D5766 Open Hole Tension (1) [45/-45/90/45/-45]S	Strength	3x2x3	3x2x3	3x2x3
(40/20/40) OHT3	ASTM D5766 Open Hole Tension (1) [0/90/45/0/90]S	Strength	3x2x3	3x2x3	3x2x3
(25/50/25 - QI) FHT1	ASTM D6742 Filled Hole Tension (2) [45/0/-45/90]S	Strength	3x2x3	3x2x3	3x2x3
(10/80/10) FHT2	ASTM D6742 Filled Hole Tension (2) [45/-45/90/45/-45]S	Strength	3x2x3	3x2x3	3x2x3
(40/20/40) FHT3	ASTM D6742 Filled Hole Tension (2) [0/90/45/0/90]S	Strength	3x2x3	3x2x3	3x2x3
(25/50/25 - QI) OHC1	ASTM D6484 Open Hole Compression (1)(4) [45/0/-45/90/-45/90]S	Strength		3x2x3	3x2x3
(10/80/10) OHC2	ASTM D6484 Open Hole Compression (1)(4) [45/-45/90/45/-45]S	Strength		3x2x3	3x2x3
(40/20/40) OHC3	ASTM D6484 Open Hole Compression (1)(4) [0/90/45/0/90]S	Strength		3x2x3	3x2x3
(25/50/25 - QI) FHC1	ASTM D6484 Filled Hole Compression (2) [45/0/-45/90/-45/90]S	Strength		3x2x3	3x2x3
(10/80/10) FHC2	ASTM D6484 Filled Hole Compression (2) [45/-45/90/45/-45]S	Strength		3x2x3	3x2x3
(40/20/40) FHC3	ASTM D6484 Filled Hole Compression (2) [0/90/45/0/90]S	Strength		3x2x3	3x2x3
(25/50/25 - QI) SSB1	ASTM D5961 Single Shear Bearing (3) (6) [45/0/-45/90]S	Strength & Deformation		3x2x3	3x2x3
(10/80/10) SSB2	ASTM D5961 Single Shear Bearing (3) (6) [45/-45/90/-45/45]	Strength & Deformation		3x2x3	3x2x3
(40/20/40) SSB3	ASTM D5961 Single Shear Bearing (3) (6) [0/90/45/90/0]	Strength & Deformation		3x2x3	3x2x3
(50/0/50) ILT	ASTM D6415 Interlaminar Tension [0]11	Strength	1x1x6	1x1x6	1x1x6
(25/50/25 - QI) CAI1	ASTM D7136 & D7137 Compression After Impact (1500 in.lb/in) (4) [45/0/-45/90/-45/90]S	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 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 3

1.5.4 Cured Laminate Physical Testing

The properties in Table 1-3 were determined for each panel used for test coupons with the exception of Tg by DMA which were conducted on one laminate per batch from each oven cure conducted where that batch is present. The tests were performed by 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, dry, room temperature dry

ETD = 180±5°F, dry

ETW = 180±5°F, wet (equilibrium moisture content)

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 was achieved when the average moisture content of the traveler specimen changed by less than 0.02% for two consecutive readings 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 three 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

Fluid sensitivity screening was not performed on this material. It was performed on Cytec 5215 T40-800 Unitape and Cytec 5215 6K-135-5HS fabric.

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.

The average cured ply thickness of 0.0081 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.

For Cytec 5215 PW, we predicted the cured ply thickness to be 0.00795 inch. However, the as-measured cured ply thickness of the qualification panels is 0.00805 inch. The grand average of all qualification and equivalency panel thickness is 0.00809 inch, with 0.00759 being the smallest and 0.00827 being the largest measured values. 0.0081 inch was suggested as the nominal CPT and all participants agreed it was acceptable.

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 T650 3K70PW
Material Specification: NMS 323/3

Cytec Cycom 5215 3K70PW Lamina Properties Summary

Fabric: T650 3K70PW **Resin:** CYCOM® 5215 Resin

Tg(dry): 330.82°F **Tg(wet):** 250.69°F **Tg METHOD:** DMA (SRM 18R-94)

PROCESSING: NPS 81323 Baseline "C" Cure Cycle

Date of fiber manufacture	3/2006 to 6/2006	**Date of testing**	Dec. 2010 to Sept. 2010
Date of resin manufacture	9/2006 to 12/2006	**Date of data submittal**	5/1/2011
Date of prepreg manufacture	12/1/2006		
Date of composite manufacture	February 2009		

LAMINA MECHANICAL PROPERTY SUMMARY
Data reported as: Normalized & Measured
(Normalized by CPT= .0081 inch)

	CTD Mean		RTD Mean		ETD Mean		ETW Mean	
	Normalized	Measured	Normalized	Measured	Normalized	Measured	Normalized	Measured
F_1^{tu} (ksi)	111.87	113.26	119.51	121.32	---	---	122.57	123.75
E_1^t (Msi)	9.33	9.45	9.10	9.24	---	---	9.14	9.22
ν_{12}	---	0.057	---	0.052	---	---	---	0.047
F_2^{tu} (ksi)	113.39	115.12	117.52	120.17	---	---	115.43	117.56
E_2^t (Msi)	9.33	9.47	9.13	9.34	---	---	9.14	9.30
F_1^{cu} (ksi)	110.39	112.83	96.31	98.92	80.51	82.55	55.22	56.30
E_1^c (Msi)	9.04	9.23	8.33	8.55	8.32	8.52	8.48	8.66
ν_{12}^c	---	0.054	---	0.054	---	0.049	---	0.051
F_2^{cu} (ksi)	102.15	102.84	94.78	95.86	79.09	80.36	55.84	56.67
E_2^c (Msi)	8.43	8.49	8.22	8.31	8.10	8.20	8.44	8.51
ν_{21}^c	---	0.063	---	0.052	---	0.049	---	0.045
$F_{12}^{s5\%strain}$ (ksi)	---	12.73	---	---	---	---	---	6.01
$F_{12}^{s0.2\%}$ (ksi)	---	8.62	---	6.13	---	---	---	3.61
G_{12}^s (Msi)	---	0.68	---	0.57	---	---	---	0.39
SBS (ksi)	---	10.52	---	9.95	---	8.17	---	6.14

Table 2-1: Lamina Summary Data

2.2 Laminate Level Test Summary

Prepreg Material: CYTEC CYCOM® 5215 T650 3K70PW
Material Specification: NMS 323/3

Cytec Cycom 5215 3K70PW Laminate Properties Summary

Fabric: T650 3K70PW **Resin:** CYCOM® 5215 Resin

Tg(dry): 330.82°F **Tg(wet):** 250.69°F **Tg METHOD:** DMA (SRM 18R-94)

PROCESSING: NPS 81323 Baseline "C" Cure Cycle

Date of fiber manufacture	3/2006 to 6/2006	**Date of testing**	2/25/2010
Date of resin manufacture	9/2006 to 12/2006	**Date of data submittal**	5/1/2011
Date of prepreg manufacture	12/1/2006		
Date of composite manufacture	Feb-09		

LAMINATE MECHANICAL PROPERTY SUMMARY
Data reported as: Normalized & Measured
(Normalized by CPT= .0081 inch)

	Layup:	25/50/25		10/80/10		40/20/40	
	Test Condition	Normalized	Measured	Normalized	Measured	Normalized	Measured
OHT Strength (ksi)	CTD	43.40	42.97	39.74	39.92	50.66	50.53
	RTD	44.88	44.35	37.73	38.11	53.83	53.79
	ETW	49.67	49.09	33.04	33.19	61.05	60.67
OHC Strength (ksi)	RTD	40.39	40.59	34.27	34.52	42.65	42.73
	ETW	31.21	31.40	26.48	26.75	32.24	32.28
UNT Strength (ksi)	CTD	80.25	80.95	53.46	53.83	95.01	96.46
	RTD	84.38	85.28	52.90	52.93	102.08	103.63
	ETW	80.96	81.41	45.74	45.86	104.43	105.67
Modulus (msi)	CTD	6.63	6.69	4.38	4.41	8.26	8.39
	RTD	6.46	6.53	4.23	4.23	8.21	8.33
	ETW	6.31	6.35	3.74	3.75	8.08	8.18
UNC Strength (ksi)	RTD	70.05	70.70	49.07	49.59	70.60	71.52
	ETW	51.73	52.52	34.43	34.80	55.95	56.88
Modulus (msi)	RTD	5.94	6.00	3.92	3.97	7.40	7.49
	ETW	5.84	5.85	3.61	3.62	7.39	7.43
νUNC	RTD	---	0.317	---	0.550	---	0.141
	ETW	---	0.325	---	0.572	---	0.139
FHT Strength (ksi)	CTD	47.34	47.46	43.98	43.98	53.40	53.90
	RTD	48.70	48.72	41.64	41.84	55.49	55.98
	ETW	51.02	51.01	35.35	35.37	59.82	60.01
FHC Strength (ksi)	RTD	66.93	66.84	47.97	48.11	66.62	67.13
	ETW	49.06	48.91	36.47	36.23	51.64	51.77
SBS1 Strength (ksi)	RTD	---	9.39	---	---	---	---
	ETW	---	6.28	---	---	---	---
SSB 2% Offset Strength (ksi)	RTD	93.38	95.54	91.10	92.39	84.03	85.97
	ETW	74.67	75.12	76.13	76.51	70.15	70.31
SSB Ult Strength (ksi)	RTD	108.57	111.07	107.52	109.06	98.75	101.02
	ETW	90.78	91.35	94.96	95.41	82.23	82.40
ILT Strength (ksi)	CTD	---	6.96	---	---	---	---
	RTD	---	8.05				
	ETW	---	3.15	---	---	---	---
CAI Strength (ksi)	RTD	27.14	26.56	---	---	---	---

Table 2-2: Laminate Summary Data

2.3 Individual Test Summaries

2.3.1 Warp Tension Properties (WT)

Material: Cytec Cycom 5215 T650 3K70PW Fabric

Tension, 1-axis
Gr/ Ep
Cytec Cycom 5215 T650 3K70PW Fabric
[0]15

Resin content: 37.68 % wt **Comp. density:** 1.51 [g/cc]
Fiber volume: 53.21 % vol
Ply count: 15

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

Normalized by: 0.0081 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		C0FJX X1XB		C0FJX X1XA		C0FJX X1XM	
		Normalized	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**
	Mean	111.87	113.26	119.51	121.32	122.57	123.75
	Minimum	104.19	100.50	111.40	110.94	116.44	111.89
	Maximum	117.44	123.03	128.40	132.30	132.05	134.11
F_1^{tu} **(ksi)**	**C.V.(%)**	3.56	4.79	3.99	3.89	2.94	4.18
	No. Specimens	21		21		21	
	No. Prepreg Lots	3		3		3	
	Mean	9.33	9.45	9.10	9.24	9.14	9.22
	Minimum	9.04	9.03	9.01	8.77	9.02	8.69
	Maximum	9.54	10.14	9.19	9.68	9.27	9.92
E_1^t **(Msi)**	**C.V.(%)**	1.51	4.11	0.53	3.24	0.70	3.94
	No. Specimens	21		21		22	
	No. Prepreg Lots	3		3		3	
	Mean	0.057		0.052		0.047	
ν_{12}	**No. Specimens**	17		21		21	
	No. Prepreg Lots	3		3		3	

2.3.2 Fill Tension Properties (FT)

Material:	Cytec Cycom 5215 T650 3K70PW Fabric					**Fill Tension, 2-axis** Gr/ Ep Cytec Cycom 5215 T650 3K70PW Fabric [90]15	
Resin content:	37.42 % wt		**Comp. density:** 1.51 [g/cc]				
Fiber volume:	53.51 % vol						
Ply count:	15						
Test method:	ASTM D3039-00		**Modulus calculation:** 1000 to 3000 microstrain				
Normalized by:	0.0081	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			C0FUX X1XB		C0FUX X1XA		C0FUX X1XM	
			Normalized	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**
	Mean		113.39	115.12	117.52	120.17	115.43	117.56
	Minimum		102.70	101.56	110.03	108.57	107.82	108.44
	Maximum		119.32	121.88	124.46	129.05	122.20	129.55
F_2^{tu} (ksi)	**C.V.(%)**		4.09	4.92	3.30	4.54	3.46	6.21
	No. Specimens		21		21		21	
	No. Prepreg Lots		3		3		3	
	Mean		9.33	9.47	9.13	9.34	9.14	9.30
	Minimum		9.03	8.96	8.80	8.70	8.89	8.77
	Maximum		9.70	10.06	9.47	9.90	9.46	9.94
E_2^t (Msi)	**C.V.(%)**		1.93	3.87	1.62	4.10	1.47	4.37
	No. Specimens		21		21		21	
	No. Prepreg Lots		3		3		3	

2.3.3 Warp Compression Properties (WC)

Material: Cytec Cycom 5215 T650 3K70PW Fabric

Resin content: 37.87 % wt **Comp. density:** 1.51 [g/cc]
Fiber volume: 53.07 % vol
Ply count: 15

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

Normalized by: 0.0081 in. CPT

Compression, 1-axis
Gr/ Ep
Cytec Cycom 5215 T650 3K70PW Fabric
[0]15

		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		C0FLX X1XB		C0FLX X1XA		C0FLX X1XL		C0FLX X1XM	
		Normalized	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**
	Mean	110.39	112.83	96.31	98.92	80.51	82.55	55.22	56.30
	Minimum	100.38	100.67	90.87	92.47	67.05	68.54	46.65	47.11
	Maximum	122.38	126.02	102.81	106.84	87.96	8.91	63.73	64.87
F_1^{cu} (ksi)	**C.V.(%)**	5.85	6.11	3.43	3.83	7.50	7.73	9.37	9.50
	No. Specimens	22		17		20		23	
	No. Prepreg Lots	3		3		3		3	
	Mean	9.04	9.23	8.33	8.55	8.32	8.52	8.48	8.66
	Minimum	8.21	8.43	7.98	8.25	7.83	7.98	8.10	8.13
	Maximum	9.76	10.01	8.61	8.89	8.55	8.91	8.96	9.26
E_1^c (Msi)	**C.V.(%)**	5.25	5.05	2.10	2.28	2.09	2.41	2.72	3.50
	No. Specimens	21		24		26		21	
	No. Prepreg Lots	3		3		3		3	

2.3.4 Fill Compression Properties (FC)

Material: Cytec Cycom 5215 T650 3K70PW Fabric

Resin content: 38.42 % wt
Fiber volume: 52.49 % vol
Ply count: 15

Comp. density: 1.51 [g/cc]

Fill Compression, 2-axis
Gr/ Ep
Cytec Cycom 5215 T650 3K70PW Fabric
[90]15

Test method: ASTM D6641-01e1

Modulus calculation: 1000 to 3000 microstrain

Normalized by: 0.0081 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		C0FZX X1XB		C0FZX X1XA		C0FZX X1XL		C0FZX X1XM	
		Normalized	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**
F_2^{cu} (ksi)	**Mean**	102.15	102.84	94.78	95.86	79.09	80.36	55.84	56.67
	Minimum	89.43	90.65	86.41	87.85	65.73	64.26	46.63	46.57
	Maximum	119.33	116.24	101.73	103.04	86.33	89.84	68.39	70.22
	C.V.(%)	7.17	6.62	4.74	4.65	6.68	7.87	9.57	10.20
	No. Specimens	21		21		19		21	
	No. Prepreg Lots	3		3		3		3	
E_2^c (Msi)	**Mean**	8.43	8.49	8.22	8.31	8.10	8.20	8.44	8.51
	Minimum	7.71	7.89	7.21	7.14	7.39	7.53	7.90	8.07
	Maximum	9.04	8.93	8.73	8.79	8.48	8.65	9.37	9.31
	C.V.(%)	4.69	3.94	4.42	4.25	3.95	3.54	4.99	4.33
	No. Specimens	21		23		24		20	
	No. Prepreg Lots	3		3		3		3	

2.3.5 In-Plane Shear Properties (IPS)

Material: Cytec Cycom 5215 T650 3K70PW Fabric

Resin content: 38.18 % wt **Comp. density:** 1.51 [g/cc]
Fiber volume: 52.71 % vol
Ply count: 8
Test method: ASTM D3518-94 **Modulus calculation:** 2000 to 6000 microstrain

Normalized by: N/A

In-Plane Shear
Gr/ Ep
Cytec Cycom 5215 T650 3K70PW Fabric
[45/-45]2S

		CTD		RTD		ETW	
Test Temperature [°F]		-65		70		180	
Moisture Conditioning		dry		dry		equilibrium	
Equilibrium at T, RH						160 F,85%	
Source code		C0FNX X1XB		C0FNX X1XA		C0FNX X1XM	
		Normalized	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**
$F_{12}^{s5\% \text{ strain}}$ (ksi)	**Mean**		12.73				6.01
	Minimum		12.49				5.43
	Maximum		12.97				6.39
	C.V.(%)		1.90				4.07
	No. Specimens	3				21	
	No. Prepreg Lots	3				3	
$F_{12}^{s0.2\%}$ (ksi)	**Mean**		8.62		6.13		3.61
	Minimum		8.36		6.00		3.24
	Maximum		8.95		6.35		3.80
	C.V.(%)		2.01		1.48		4.37
	No. Specimens	21		21		21	
	No. Prepreg Lots	3		3		3	
G_{12}^{s} (Msi)	**Mean**		0.68		0.57		0.39
	Minimum		0.66		0.55		0.35
	Maximum		0.70		0.59		0.41
	C.V.(%)		1.71		1.58		4.10
	No. Specimens	21		21		21	
	No. Prepreg Lots	3		3		3	

2.3.6 "25/50/25" Unnotched Tension 1 Properties (UNT1)

Material: Cytec Cycom 5215 T650 3K70PW Fabric

Resin content: 37.85 % wt **Comp. density:** 1.51 [g/cc]
Fiber volume: 53.03 % vol
Ply count: 16

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

Normalized by: 0.0081 in. CPT

Unnotched Tension 1
Gr/ Ep
Cytec Cycom 5215 T650 3K70PW Fabric
[45/0/-45/90]2S

		CTD		RTD		ETW	
Test Temperature [°F]		-65		70		180	
Moisture Conditioning		dry		dry		equilibrium	
Equilibrium at T, RH						160 F,85%	
Source code		C0FAX X1XB		C0FAX X1XA		C0FAX X1XM	
		Normalized	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**
UNT1 Strength (ksi)	**Mean**	80.25	80.95	84.38	85.28	80.96	81.41
	Minimum	73.39	76.25	80.39	81.67	77.91	77.94
	Maximum	84.43	84.58	88.72	88.30	85.58	84.95
	C.V.(%)	3.73	2.60	2.97	2.09	2.57	2.19
	No. Specimens	21		21		21	
	No. Prepreg Lots	3		3		3	
UNT1 Modulus (Msi)	**Mean**	6.63	6.69	6.46	6.53	6.31	6.35
	Minimum	6.47	6.47	6.30	6.26	6.13	6.05
	Maximum	6.77	7.09	6.58	6.79	6.64	6.81
	C.V.(%)	1.18	2.95	1.10	2.33	2.02	3.32
	No. Specimens	21		21		21	
	No. Prepreg Lots	3		3		3	

2.3.7 "10/80/10" Unnotched Tension 2 Properties (UNT2)

Material: Cytec Cycom 5215 T650 3K70PW Fabric

Resin content: 38.15 % wt **Comp. density:** 1.51 [g/cc]
Fiber volume: 52.70 % vol
Ply count: 20

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

Normalized by: 0.0081 in. CPT

Unnotched Tension 2
Gr/ Ep
Cytec Cycom 5215 T650 3K70PW Fabric
[45/-45/0/45/-45/45/-45/90/45/-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		C0FBX X1XB		C0FBX X1XA		C0FBX X1XM	
		Normalized	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**
UNT2 Strength (ksi)	**Mean**	53.46	53.83	52.90	52.93	45.74	45.86
	Minimum	50.53	51.95	50.39	51.43	43.27	43.59
	Maximum	56.02	55.98	54.71	54.58	47.45	47.89
	C.V.(%)	2.76	1.82	2.05	1.59	2.47	2.28
	No. Specimens	21		23		21	
	No. Prepreg Lots	3		3		3	
UNT2 Modulus (Msi)	**Mean**	4.38	4.41	4.28	4.23	3.74	3.75
	Minimum	4.12	4.26	3.91	3.88	3.62	3.60
	Maximum	4.53	4.60	4.56	4.65	3.95	3.99
	C.V.(%)	2.26	2.12	4.59	4.57	2.66	3.16
	No. Specimens	21		23		21	
	No. Prepreg Lots	3		3		3	

2.3.8 "40/20/40" Unnotched Tension 3 Properties (UNT3)

Material: Cytec Cycom 5215 T650 3K70PW Fabric

Resin content: 37.74 % w t **Comp. density:** 1.51 [g/cc]
Fiber volume: 53.17 % vol
Ply count: 15

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

Normalized by: 0.0081 in. CPT

Unnotched Tension 3
Gr/ Ep
Cytec Cycom 5215 T650 3K70PW Fabric
[0/90/0/45/90/0/90/-45/90/0/90/45/0/90/0]

		CTD		RTD		ETW	
Test Temperature [°F]		-65		70		180	
Moisture Conditioning		dry		dry		equilibrium	
Equilibrium at T, RH						160 F,85%	
Source code		C0FCX X1XB		C0FCX X1XA		C0FCX X1XM	
		Normalized	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**
UNT3 Strength (ksi)	**Mean**	95.01	96.46	102.09	103.63	104.43	105.67
	Minimum	88.28	92.07	96.08	96.21	100.30	100.30
	Maximum	105.86	104.98	111.04	110.03	109.80	109.99
	C.V.(%)	4.25	3.06	4.03	3.33	2.55	2.49
	No. Specimens	21		22		21	
	No. Prepreg Lots	3		3		3	
UNT3 Modulus (Msi)	**Mean**	8.26	8.39	8.21	8.33	8.08	8.18
	Minimum	7.79	7.69	7.95	7.96	7.85	7.87
	Maximum	8.52	8.72	8.38	8.85	8.34	8.78
	C.V.(%)	2.11	3.42	1.24	2.97	1.44	3.38
	No. Specimens	21		22		21	
	No. Prepreg Lots	3		3		3	

2.3.9 "25/50/25" Unnotched Compression 1 Properties (UNC1)

Material: Cytec Cycom 5215 T650 3K70PW Fabric

Resin content: 38.05 % w t **Comp. density:** 1.51 [g/cc]
Fiber volume: 52.83 % vol
Ply count: 16

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

Normalized by: 0.0081 in. CPT

Unnotched Compression 1
Gr/ Ep
Cytec Cycom 5215 T650 3K70PW Fabric
[45/0/-45/90]2S

		RTD		ETW			
Test Temperature [°F]		70		180			
Moisture Conditioning		dry		equilibrium			
Equilibrium at T, RH				160 F,85%			
Source code		C0FWX X1XA		C0FWX X1XM			
		Normalized	**Measured**	**Normalized**	**Measured**		
UNC1 Strength (ksi)	**Mean**	70.05	70.70	51.73	52.52		
	Minimum	60.92	59.10	48.62	49.03		
	Maximum	82.85	86.33	54.99	56.39		
	C.V.(%)	8.22	8.46	3.46	3.92		
	No. Specimens	21		21			
	No. Prepreg Lots	3		3			
UNC1 Modulus (Msi)	**Mean**	5.94	6.00	5.84	5.85		
	Minimum	5.80	5.81	5.70	5.67		
	Maximum	6.20	6.19	6.14	5.97		
	C.V.(%)	1.66	1.71	1.98	1.50		
	No. Specimens	21		21			
	No. Prepreg Lots	3		3			
vUNC1	**Mean**	0.317		0.325			
	No. Specimens	21		21			
	No. Prepreg Lots	3		3			

2.3.10 "10/80/10" Unnotched Compression 2 Properties (UNC2)

Material: Cytec Cycom 5215 T650 3K70PW Fabric

Resin content: 38.16 % w t **Comp. density:** 1.51 [g/cc]
Fiber volume: 52.72 % vol
Ply count: 20

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

Normalized by: 0.0081 in. CPT

Unnotched Compression 2
Gr/ Ep
Cytec Cycom 5215 T650 3K70PW Fabric
[45/-45/0/45/-45/45/-45/90/45/-45]S

		RTD		ETW			
Test Temperature [°F]		70		180			
Moisture Conditioning		dry		equilibrium			
Equilibrium at T, RH				160 F,85%			
Source code		C0FXX X1XA		C0FXX X1XM			
		Normalized	**Measured**	**Normalized**	**Measured**		
UNC2 Strength (ksi)	**Mean**	49.07	49.59	34.43	34.80		
	Minimum	45.24	45.32	32.20	31.96		
	Maximum	52.26	52.27	36.05	36.03		
	C.V.(%)	4.03	1.84	2.76	2.82		
	No. Specimens	21		21			
	No. Prepreg Lots	3		3			
UNC2 Modulus (Msi)	**Mean**	3.92	3.97	3.61	3.62		
	Minimum	3.70	3.83	3.50	3.48		
	Maximum	4.07	4.07	3.78	3.75		
	C.V.(%)	2.57	1.84	2.35	2.28		
	No. Specimens	21		21			
	No. Prepreg Lots	3		3			
vUNC2	**Mean**	0.550		0.572			
	No. Specimens	21		21			
	No. Prepreg Lots	3		3			

2.3.11 "40/20/40" Unnotched Compression 3 Properties (UNC3)

Material: Cytec Cycom 5215 T650 3K70PW Fabric

Resin content: 37.97 % wt **Comp. density:** 1.51 [g/cc]
Fiber volume: 52.93 % vol
Ply count: 20

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

Normalized by: 0.0081 in. CPT

Unnotched Compression 3
Gr/ Ep
Cytec Cycom 5215 T650 3K70PW Fabric
[0/90/45/0/90/0/90/-45/0/90]S

		RTD		ETW	
Test Temperature [°F]		70		180	
Moisture Conditioning		dry		equilibrium	
Equilibrium at T, RH				160 F,85%	
Source code		C0FYX X1XA		C0FYX X1XM	
		Normalized	**Measured**	**Normalized**	**Measured**
UNC3 Strength (ksi)	**Mean**	70.60	71.52	55.95	56.88
	Minimum	62.94	63.89	51.16	51.44
	Maximum	75.19	78.56	60.55	62.10
	C.V.(%)	4.78	4.83	5.07	5.58
	No. Specimens	21		21	
	No. Prepreg Lots	3		3	
UNC3 Modulus (Msi)	**Mean**	7.40	7.49	7.39	7.43
	Minimum	7.09	7.22	7.06	7.11
	Maximum	7.86	7.86	7.63	7.82
	C.V.(%)	2.45	2.38	2.07	2.23
	No. Specimens	21		21	
	No. Prepreg Lots	3		3	
vUNC3	**Mean**	0.141		0.139	
	No. Specimens	21		21	
	No. Prepreg Lots	3		3	

2.3.12 Lamina Short-Beam Strength Properties (SBS)

Material: Cytec Cycom 5215 T650 3K70PW Fabric

Resin content: 37.40 % wt **Comp. density:** 1.51 [g/cc]
Fiber volume: 53.42 % vol
Ply count: 32

Test method: ASTM D2344-00

Normalized by: NA

Short Beam Strength
Gr/ Ep
Cytec Cycom 5215 T650 3K70PW Fabric
[0]32

		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		C0FQX X1XB		C0FQX X1XA		C0FQX X1XL		C0FQX X1XM	
		Normalized	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**
SBS Strength (ksi)	**Mean**		10.52		9.95		8.17		6.14
	Minimum		9.72		9.12		7.78		5.85
	Maximum		11.37		10.45		8.54		6.57
	C.V.(%)		3.91		2.93		2.22		3.53
	No. Specimens	21		23		21		22	
	No. Prepreg Lots	3		3		3		3	

2.3.13 Laminate Short-Beam Strength Properties (SBS1)

Material:	Cytec Cycom 5215 T650 3K70PW Fabric					**Laminate Short Beam Strength**	
Resin content:	see OHC1	**Comp. density:**	see OHC1			**Gr/ Ep**	
Fiber volume:	see OHC1					**Cytec Cycom 5215 T650 3K70PW Fabric**	
Ply count:	20					**[45/0/-45/90/45/0/-45/90/-45/90]S**	
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		C0FqX XGXA		C0FqX XGXM			
		Normalized	**Measured**	**Normalized**	**Measured**		
	Mean		9.39		6.28		
	Minimum		8.94		6.01		
	Maximum		9.96		6.44		
LSBS (ksi)	**C.V.(%)**		2.47		1.79		
	No. Specimens	21		21			
	No. Prepreg Lots	3		3			

2.3.14 "25/50/25" Open-Hole Tension 1 Properties (OHT1)

Material:	Cytec Cycom 5215 T650 3K70PW Fabric					**Open Hole Tension 1** Gr/ Ep Cytec Cycom 5215 T650 3K70PW Fabric [45/0/-45/90]2S	
Resin content:	38.46 % wt	**Comp. density:** 1.51 [g/cc]					
Fiber volume:	52.46 % vol						
Ply count:	16						
Test method:	ASTM D5766-02a						
Normalized by:	0.0081	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		C0FDX X1XB		C0FDX X1XA		C0FDX X1XM	
		Normalized	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**
OHT1 Strength (ksi)	**Mean**	43.40	42.97	44.88	44.35	49.67	49.09
	Minimum	41.51	41.14	41.73	40.98	47.29	47.31
	Maximum	45.51	44.98	46.62	47.22	51.46	50.55
	C.V.(%)	2.76	2.44	2.87	3.56	1.92	1.93
	No. Specimens	21		21		21	
	No. Prepreg Lots	3		3		3	

2.3.15 "10/80/10" Open-Hole Tension 2 Properties (OHT2)

Material:	Cytec Cycom 5215 T650 3K70PW Fabric					**Open Hole Tension 2** **Gr/ Ep** **Cytec Cycom 5215 T650 3K70PW Fabric** **[45/-45/0/45/-45/45/-45/90/45/-45]S**	
Resin content:	37.79 % wt	**Comp. density:** 1.51 [g/cc]					
Fiber volume:	53.06 % vol						
Ply count:	20						
Test method:	ASTM D5766-02a						
Normalized by:	0.0081	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		C0FEX X1XB		C0FEX X1XA		C0FEX X1XM	
		Normalized	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**
OHT2 Strength (ksi)	**Mean**	39.74	39.92	37.73	38.11	33.04	33.19
	Minimum	38.33	38.87	36.19	37.09	31.95	32.20
	Maximum	40.69	41.36	38.72	38.74	34.28	34.27
	C.V.(%)	1.76	1.52	1.95	1.33	1.95	1.72
	No. Specimens	21		21		21	
	No. Prepreg Lots	3		3		3	

2.3.16 "40/20/40" Open-Hole Tension 3 Properties (OHT3)

Material: Cytec Cycom 5215 T650 3K70PW Fabric

Resin content: 38.13 % w t **Comp. density:** 1.51 [g/cc]
Fiber volume: 52.71 % vol
Ply count: 15

Test method: ASTM D5766-02a

Normalized by: 0.0081 in. CPT

Open Hole Tension 3
Gr/ Ep
Cytec Cycom 5215 T650 3K70PW Fabric
[0/90/0/45/90/0/90/-45/90/0/90/45/0/90/0]

		CTD		RTD		ETW	
Test Temperature [°F]		-65		70		180	
Moisture Conditioning		dry		dry		equilibrium	
Equilibrium at T, RH						160 F,85%	
Source code		C0FFX X1XB		C0FFX X1XA		C0FFX X1XM	
		Normalized	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**
OHT2 Strength (ksi)	**Mean**	50.66	50.53	53.83	53.79	61.05	60.67
	Minimum	47.14	45.37	50.15	50.18	57.51	57.66
	Maximum	57.41	57.49	55.91	56.32	64.24	63.80
	C.V.(%)	4.67	5.25	2.90	3.08	3.11	3.17
	No. Specimens	21		21		21	
	No. Prepreg Lots	3		3		3	

2.3.17 "25/50/25" Filled-Hole Tension 1 Properties (FHT1)

Material: Cytec Cycom 5215 T650 3K70PW Fabric

Resin content: 38.03 % w t **Comp. density:** 1.51 [g/cc]
Fiber volume: 52.83 % vol
Ply count: 16

Test method: ASTM D6742-02

Normalized by: 0.0081 in. CPT

Filled Hole Tension 1
Gr/ Ep
Cytec Cycom 5215 T650 3K70PW Fabric
[45/0/-45/90]2S

		CTD		RTD		ETW	
Test Temperature [°F]		-65		70		180	
Moisture Conditioning		dry		dry		equilibrium	
Equilibrium at T, RH						160 F,85%	
Source code		C0F4X X1XB		C0F4X X1XA		C0F4X X1XM	
		Normalized	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**
FHT1 Strength (ksi)	**Mean**	47.34	47.46	48.70	48.72	51.02	51.01
	Minimum	44.18	43.77	45.87	44.98	49.22	48.26
	Maximum	53.61	53.86	52.25	52.56	54.06	54.24
	C.V.(%)	4.96	5.55	3.61	4.55	2.73	3.49
	No. Specimens	21		21		21	
	No. Prepreg Lots	3		3		3	

2.3.18 "10/80/10" Filled-Hole Tension 2 Properties (FHT2)

Material: Cytec Cycom 5215 T650-3K70PW Fabric

Resin content: 38.19 % wt **Comp. density:** 1.51 [g/cc]
Fiber volume: 52.66 % vol
Ply count: 20

Test method: ASTM D6742-02

Normalized by: 0.0081 in. CPT

Filled Hole Tension Layup 2
Gr/ Ep
Cytec Cycom 5215 T650 3K70PW Fabric
[45/-45/0/45/-45/45/-45/90/45/-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		C0F5X X1XB		C0F5X X1XA		C0F5X X1XM	
		Normalized	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**
FHT2 Strength (ksi)	**Mean**	43.98	43.98	41.64	41.84	35.35	35.37
	Minimum	43.05	42.17	40.26	39.96	34.11	33.59
	Maximum	44.93	45.11	42.77	44.15	36.54	36.66
	C.V.(%)	1.31	1.81	1.57	2.56	1.66	2.33
	No. Specimens	21		21		21	
	No. Prepreg Lots	3		3		3	

2.3.19 "40/20/40" Filled-Hole Tension 3 Properties (FHT3)

Material: Cytec Cycom 5215 T650 3K70PW Fabric

Resin content: 37.85 % wt **Comp. density:** 1.51 [g/cc]
Fiber volume: 53.00 % vol
Ply count: 15

Test method: ASTM D6742-02

Normalized by: 0.0081 in. CPT

Filled Hole Tension 3
Gr/ Ep
Cytec Cycom 5215 T650 3K70PW Fabric
[0/90/0/45/90/0/90/-45/90/0/90/45/0/90/0]

		CTD		RTD		ETW	
Test Temperature [°F]		-65		70		180	
Moisture Conditioning		dry		dry		equilibrium	
Equilibrium at T, RH						160 F,85%	
Source code		C0F6X X1XB		C0F6X X1XA		C0F6X X1XM	
		Normalized	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**
FHT3 Strength (ksi)	**Mean**	53.40	53.90	55.49	55.98	59.82	60.01
	Minimum	48.40	48.44	50.52	50.34	55.92	55.55
	Maximum	56.13	57.71	59.99	62.20	64.11	63.78
	C.V.(%)	3.28	4.18	4.50	5.92	3.89	4.46
	No. Specimens	21		21		21	
	No. Prepreg Lots	3		3		3	

2.3.20 "25/50/25" Open-Hole Compression 1 Properties (OHC1)

Material:	Cytec Cycom 5215 T650 3K70PW Fabric			**Open Hole Compression 1** **Gr/ Ep** **Cytec Cycom 5215 T650 3K70PW Fabric** **[45/0/-45/90/45/0/-45/90/-45/90]S**			
Resin content:	37.83 % wt	**Comp. density:** 1.51 [g/cc]					
Fiber volume:	52.98 % vol						
Ply count:	20						
Test method:	ASTM D6484-04						
Normalized by:	0.0081	in. CPT					
			RTD		**ETW**		
Test Temperature [°F]			70		180		
Moisture Conditioning			dry		equilibrium		
Equilibrium at T, RH					160 F,85%		
Source code			C0FGX X1XA		C0FGX X1XM		
			Normalized	**Measured**	**Normalized**	**Measured**	
OHC1 Strength (ksi)	**Mean**		40.39	40.59	31.21	31.40	
	Minimum		38.36	38.68	28.87	29.29	
	Maximum		41.79	42.40	33.53	33.48	
	C.V.(%)		2.42	2.48	4.23	3.68	
	No. Specimens		21		21		
	No. Prepreg Lots		3		3		

2.3.21 "10/80/10" Open-Hole Compression 2 Properties (OHC2)

Material:	Cytec Cycom 5215 T650 3K70PW Fabric			**Open Hole Compression 2**			
				Gr/ Ep			
Resin content:	37.92 % wt	**Comp. density:** 1.51 [g/cc]		**Cytec Cycom 5215 T650 3K70PW Fabric**			
Fiber volume:	52.94 % vol			**[45/-45/0/45/-45/45/-45/90/45/-45]S**			
Ply count:	20						
Test method:	ASTM D6484-04						
Normalized by:	0.0081	in. CPT					
			RTD		**ETW**		
Test Temperature [°F]			70		180		
Moisture Conditioning			dry		equilibrium		
Equilibrium at T, RH					160 F,85%		
Source code			C0FHX X1XA		C0FHX X1XM		
			Normalized	**Measured**	**Normalized**	**Measured**	
OHC2 Strength (ksi)	**Mean**		34.27	34.52	26.48	26.75	
	Minimum		32.34	33.00	25.27	25.38	
	Maximum		36.18	35.80	28.07	27.64	
	C.V.(%)		3.25	2.12	3.10	2.25	
	No. Specimens		21		21		
	No. Prepreg Lots		3		3		

2.3.22 "40/20/40" Open-Hole Compression 3 Properties (OHC3)

Material:	Cytec Cycom 5215 T650 3K70PW Fabric			**Open Hole Compression 3**			
				Gr/ Ep			
Resin content:	37.95 % wt	**Comp. density:** 1.51 [g/cc]		**Cytec Cycom 5215 T650 3K70PW Fabric**			
Fiber volume:	52.88 % vol			**[0/90/45/90/0/0/90/-45/90/0]S**			
Ply count:	20						
Test method:	ASTM D6484-04						
Normalized by:	0.0081	in. CPT					
			RTD		**ETW**		
Test Temperature [°F]			70		180		
Moisture Conditioning			dry		equilibrium		
Equilibrium at T, RH					160 F,85%		
Source code			C0FIX X1XA		C0FIX X1XM		
			Normalized	**Measured**	**Normalized**	**Measured**	
OHC2 Strength (ksi)	**Mean**		42.65	42.73	32.24	32.28	
	Minimum		38.97	39.60	29.56	30.36	
	Maximum		45.27	45.77	34.32	33.96	
	C.V.(%)		3.53	3.86	4.33	3.57	
	No. Specimens		21		21		
	No. Prepreg Lots		3		3		

2.3.23 "25/50/25" Filled-Hole Compression 1 Properties (FHC1)

Material:	Cytec Cycom 5215 T650 3K70PW Fabric			**Filled Hole Compression 1**			
				Gr/ Ep			
Resin content:	37.80 % w t	**Comp. density:**	1.51 [g/cc]	**Cytec Cycom 5215 T650 3K70PW Fabric**			
Fiber volume:	53.01 % vol			**[45/0/-45/90/45/0/-45/90/-45/90]S**			
Ply count:	20						
Test method:	ASTM D6742-02						
Normalized by:	0.0081	in. CPT					
			RTD		**ETW**		
Test Temperature [°F]			70		180		
Moisture Conditioning			dry		equilibrium		
Equilibrium at T, RH					160 F,85%		
Source code			C0F7X X1XA		C0F7X X1XM		
			Normalized	**Measured**	**Normalized**	**Measured**	
FHC1 Strength (ksi)	**Mean**		66.93	66.84	49.06	48.91	
	Minimum		65.09	63.87	46.66	46.25	
	Maximum		70.20	69.39	51.42	52.79	
	C.V.(%)		1.98	2.92	3.01	3.44	
	No. Specimens		12		15		
	No. Prepreg Lots		3		3		

2.3.24 "10/80/10" Filled-Hole Compression 2 Properties (FHC2)

Material:	Cytec Cycom 5215 T650 3K70PW Fabric			**Filled Hole Compression 2**			
				Gr/ Ep			
Resin content:	38.27 % wt	**Comp. density**	1.51 [g/cc]	**Cytec Cycom 5215 T650 3K70PW Fabric**			
Fiber volume:	52.54 % vol			**[45/-45/0/45/-45/45/-45/90/45/-45]S**			
Ply count:	20						
Test method:	ASTM D6742-02						
Normalized by:	0.0081	in. CPT					
			RTD		**ETW**		
Test Temperature [°F]			70		180		
Moisture Conditioning			dry		equilibrium		
Equilibrium at T, RH					160 F,85%		
Source code			C0F8X X1XA		C0F8X X1XM		
			Normalized	**Measured**	**Normalized**	**Measured**	
FHC2 Strength (ksi)	**Mean**		47.97	48.11	36.47	36.23	
	Minimum		44.39	43.53	34.72	34.17	
	Maximum		49.93	50.32	37.97	38.46	
	C.V.(%)		2.99	3.18	2.41	3.96	
	No. Specimens		19		21		
	No. Prepreg Lots		3		3		

2.3.25 "40/20/40" Filled-Hole Compression 3 Properties (FHC3)

Material:	Cytec Cycom 5215 T650 3K70PW Fabric					**Filled Hole Compression 3** Gr/ Ep Cytec Cycom 5215 T650 3K70PW Fabric [0/90/45/90/0/0/90/-45/90/0]S	
Resin content:	37.72 % wt	**Comp. density:**	1.51 [g/cc]				
Fiber volume:	53.03 % vol						
Ply count:	20						
Test method:	ASTM D6742-02						
Normalized by:	0.0081	in. CPT					
		RTD		**ETW**			
Test Temperature [°F]		70		180			
Moisture Conditioning		dry		equilibrium			
Equilibrium at T, RH				160 F,85%			
Source code		C0F9X X1XA		C0F9X X1XM			
		Normalized	**Measured**	**Normalized**	**Measured**		
FHC3 Strength (ksi)	**Mean**	66.62	67.13	51.64	51.77		
	Minimum	57.54	58.38	38.40	38.38		
	Maximum	72.74	71.87	57.72	57.69		
	C.V.(%)	6.02	5.31	8.06	7.99		
	No. Specimens	18		18			
	No. Prepreg Lots	3		3			

2.3.26 "25/50/25" Single-Shear Bearing 1 Properties (SSB1)

Material:	Cytec Cycom 5215 T650 3K70PW Fabric					**Single Shear Bearing 1** **Gr/ Ep** **Cytec Cycom 5215 T650 3K70PW Fabric** **[45/0/-45/90]S**	
Resin content:	37.31 %wt	**Comp. density:** 1.51 [g/cc]					
Fiber volume:	53.55 % vol						
Ply count:	8						
Test method:	ASTM D5961-05e1						
Normalized by:	0.0081	in CPT					
		RTD		**ETW**			
Test Temperature [°F]		70		180			
Moisture Conditioning		dry		equilibrium			
Equilibrium at T, RH				160 F,85%			
Source code		C0F1X X1XA		C0F1X X1XM			
		Normalized	**Measured**	**Normalized**	**Measured**		
SSB1 Ultimate Strength (ksi)	**Mean**	108.57	111.07	90.78	91.35		
	Minimum	97.14	96.94	83.75	82.46		
	Maximum	118.42	120.30	96.20	96.92		
	C.V.(%)	4.58	4.89	3.86	4.78		
	No. Specimens	21		21			
	No. Prepreg Lots	3		3			
SSB1 2% Offset Strength (ksi)	**Mean**	93.38	95.54	74.67	75.12		
	Minimum	84.92	86.16	67.08	66.60		
	Maximum	101.07	104.55	80.80	79.55		
	C.V.(%)	4.93	5.50	4.75	5.02		
	No. Specimens	21		21			
	No. Prepreg Lots	3		3			

2.3.27 "10/80/10" Single-Shear Bearing 2 Properties (SSB2)

Material:	Cytec Cycom 5215 T650 3K70PW Fabric					**Single Shear Bearing 2**	
						Gr/ Ep	
Resin content:	37.98 % wt	**Comp. density:**	1.51 [g/cc]			**Cytec Cycom 5215 T650 3K70PW Fabric**	
Fiber volume:	52.85 % vol					**[45/-45/90/45/-45]S**	
Ply count:	10						
Test method:	ASTM D5961-05e1						
Normalized by:	0.0081	in CPT					
		RTD		**ETW**			
Test Temperature [°F]		70		180			
Moisture Conditioning		dry		equilibrium			
Equilibrium at T, RH				160 F,85%			
Source code		C0F2X X1XA		C0F2X X1XM			
		Normalized	**Measured**	**Normalized**	**Measured**		
SSB2 Ultimate Strength (ksi)	**Mean**	107.52	109.06	94.96	95.41		
	Minimum	99.31	100.74	89.45	88.14		
	Maximum	119.03	124.87	99.43	102.73		
	C.V.(%)	4.37	5.07	3.58	3.99		
	No. Specimens	21		21			
	No. Prepreg Lots	3		3			
SSB2 2% Offset Strength (ksi)	**Mean**	91.10	92.39	76.13	76.51		
	Minimum	74.04	73.58	69.25	70.03		
	Maximum	100.53	104.63	87.54	90.14		
	C.V.(%)	6.82	7.12	6.66	7.47		
	No. Specimens	21		21			
	No. Prepreg Lots	3		3			

2.3.28 "40/20/40" Single-Shear Bearing 3 Properties (SSB3)

Material:	Cytec Cycom 5215 T650 3K70PW Fabric					**Single Shear Bearing 3** Gr/ Ep Cytec Cycom 5215 T650 3K70PW Fabric [0/90/45/0/90]S	
Resin content:	37.87 % wt	**Comp. density:** 1.51 [g/cc]					
Fiber volume:	53.02 % vol						
Ply count:	10						
Test method:	ASTM D5961-05e1						
Normalized by:	0.0081						
		RTD		**ETW**			
Test Temperature [°F]		70		180			
Moisture Conditioning		dry		equilibrium			
Equilibrium at T, RH				160 F,85%			
Source code		C0F3X X1XA		C0F3X X1XM			
		Normalized	**Measured**	**Normalized**	**Measured**		
SSB3 Ultimate Strength (ksi)	**Mean**	98.75	101.02	82.23	82.40		
	Minimum	85.84	89.30	76.89	76.76		
	Maximum	106.29	108.84	88.51	92.81		
	C.V.(%)	6.16	5.64	3.87	4.56		
	No. Specimens	21		21			
	No. Prepreg Lots	3		3			
SSB3 2% Offset Strength (ksi)	**Mean**	84.03	85.97	70.09	70.25		
	Minimum	71.60	75.07	58.61	57.84		
	Maximum	92.92	94.56	80.35	83.09		
	C.V.(%)	6.24	5.81	8.15	8.58		
	No. Specimens	21		21			
	No. Prepreg Lots	3		3			

2.3.29 Compression After Impact 1 Properties (CAI1)

Material:	Cytec Cycom 5215 T650 3K70PW Fabric			**Compression After Impact Layup 1** **Gr/ Ep** **Cytec Cycom 5215 T650 3K70PW Fabric** **[45/0/-45/90]3S**
Resin content:	38.95 % w t	**Comp. density:**	1.50 [g/cc]	
Fiber volume:	52.85 % vol			
Ply count:	24			
Test method:	ASTM D 7136/D7137-05e1			
Normalized by:	0.0081	in. CPT		

		RTD	
Test Temperature [°F]		70	
Moisture Conditioning		dry	
Equilibrium at T, RH			
Source code		C0FKX X1XA	
		Normalized	**Measured**
CAI Strength (ksi)	**Mean**	27.14	26.56
	Minimum	26.23	25.44
	Maximum	28.63	27.99
	C.V.(%)	3.67	4.00
	No. Specimens	7	
	No. Prepreg Lots	1	

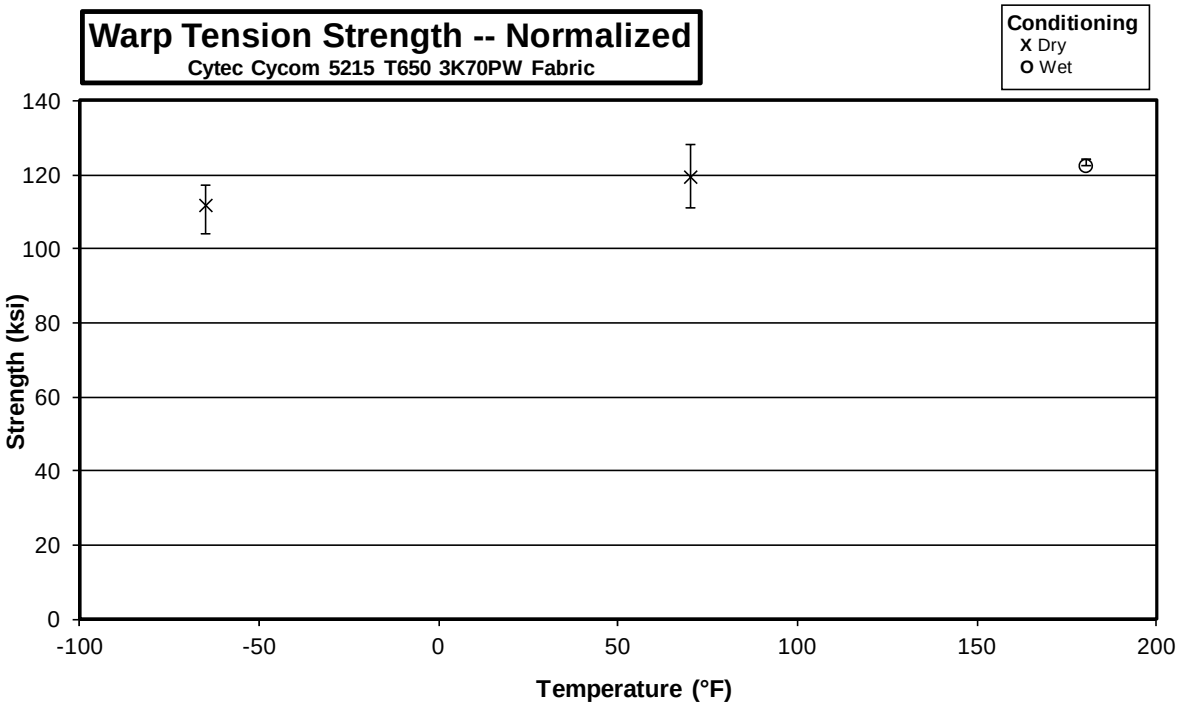
2.3.30 Interlaminar Tension Properties (ILT)

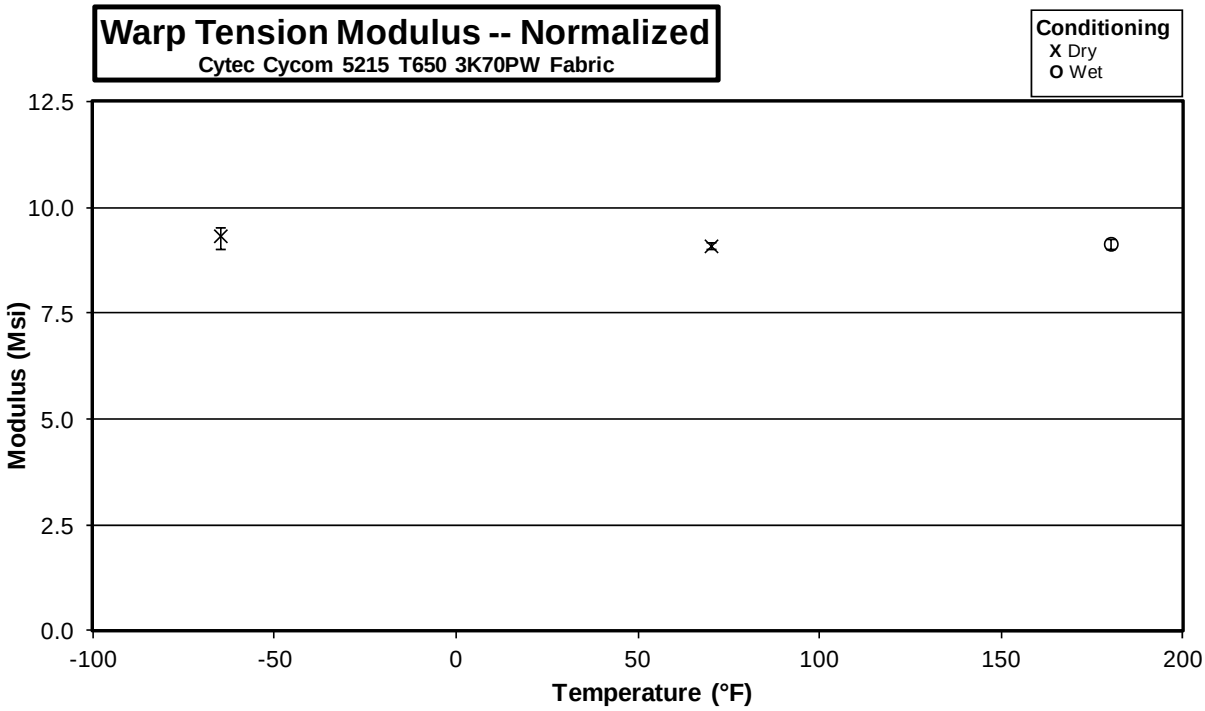
Material:	Cytec Cycom 5215 T650 3K70PW Fabric					**Interlaminar Tension Layup 1**	
Resin content:	38.04 %wt	**Comp. density:**	1.51 [g/cc]			**Gr/ Ep**	
Fiber volume:	54.05 % vol					**Cytec Cycom 5215 T650 3K70PW Fabric**	
Ply count:	21					**[0]21**	
Test method:	ASTM D6415-06ae1						
Normalized 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		C0FMX X1XB		C0FMX X1XA		C0FMX X1XM	
		Normalized	**Measured**	**Normalized**	**Measured**	**Normalized**	**Measured**
ILT Strength (ksi)	**Mean**		6.96		8.05		3.15
	Minimum		5.58		7.20		2.76
	Maximum		7.86		8.68		3.49
	C.V.(%)		13.19		7.08		9.44
	No. Specimens		6		5		6
	No. Prepreg Lots		1		1		1

3. Individual Test Charts

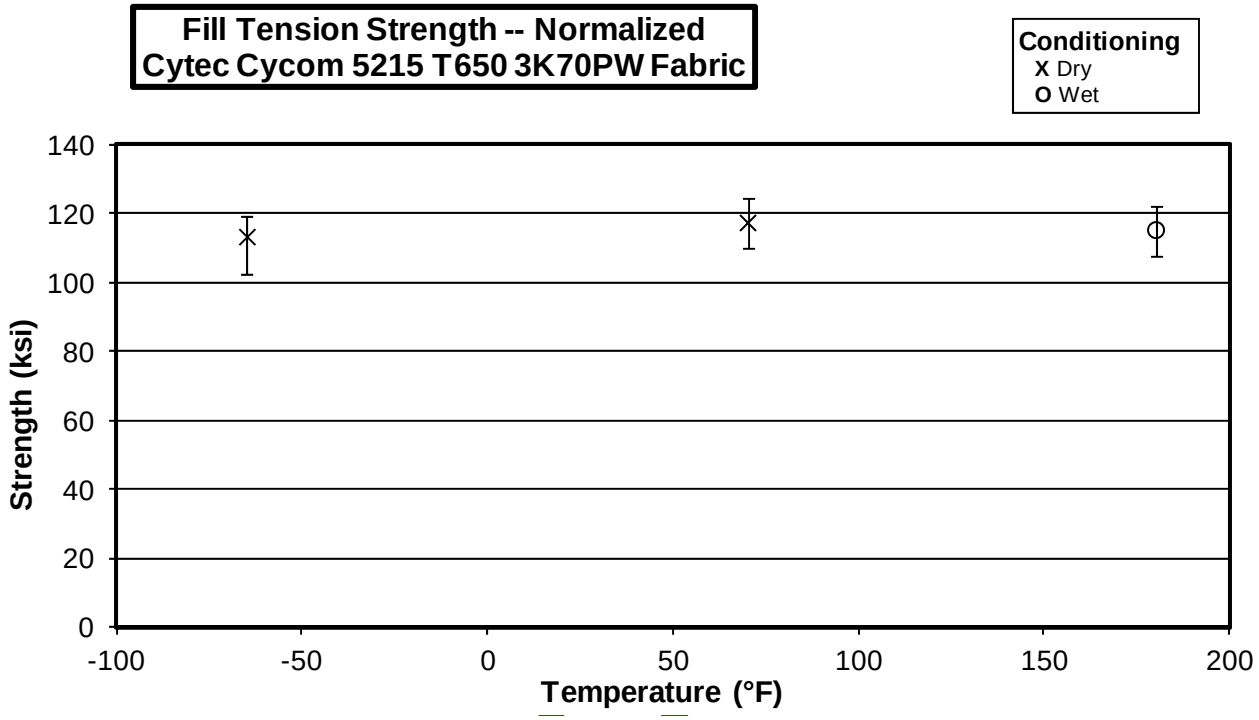
These charts combine all three batches of data and plot the minimum and maximum modulus and strength range based on the test temperature.

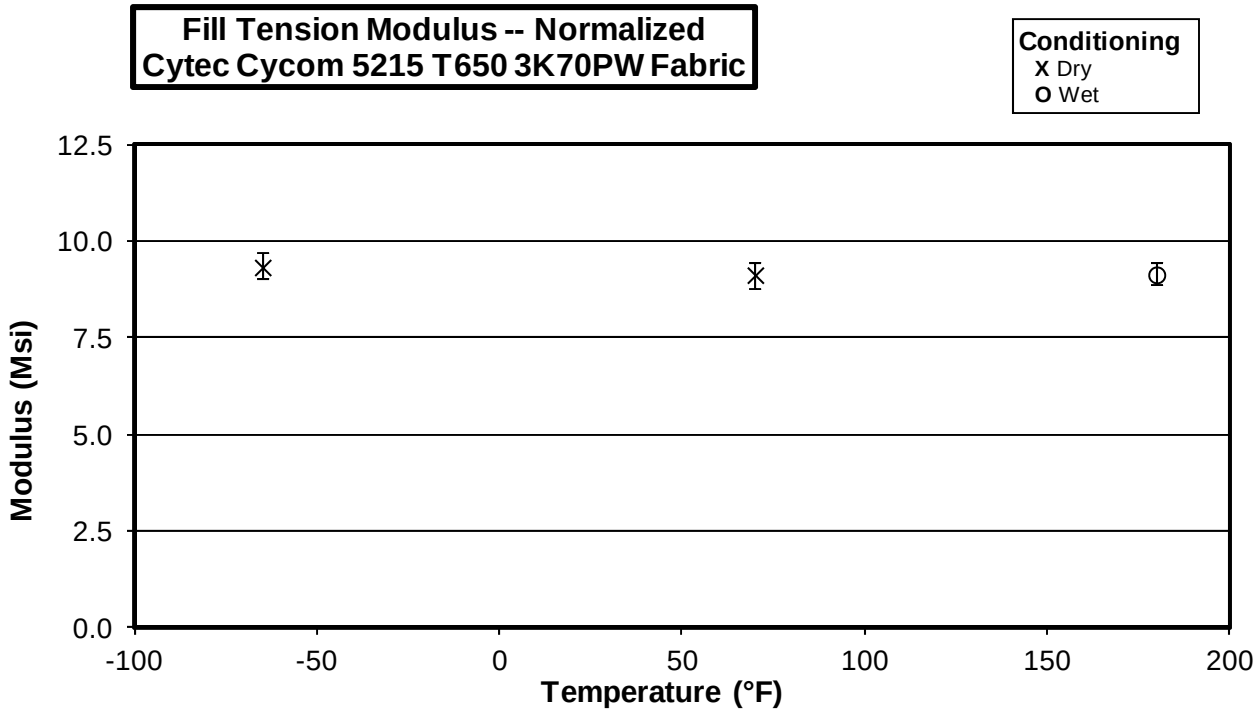
3.1 Warp Tension Properties (WT)



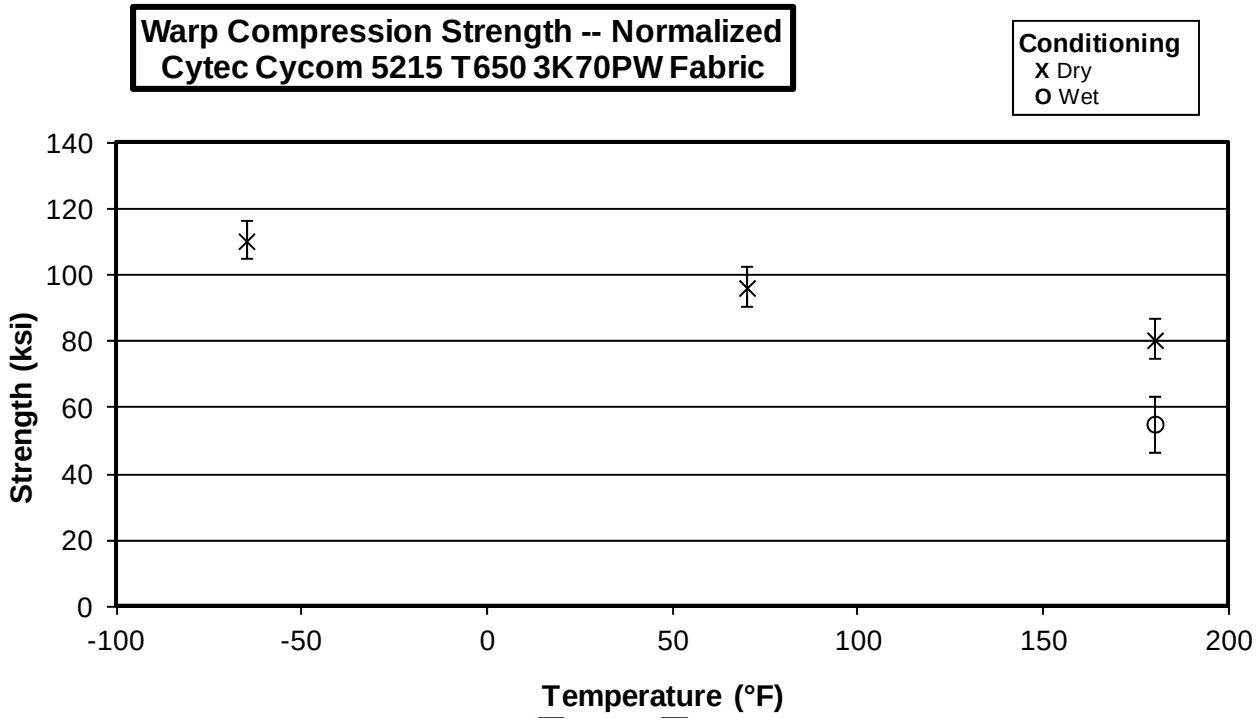


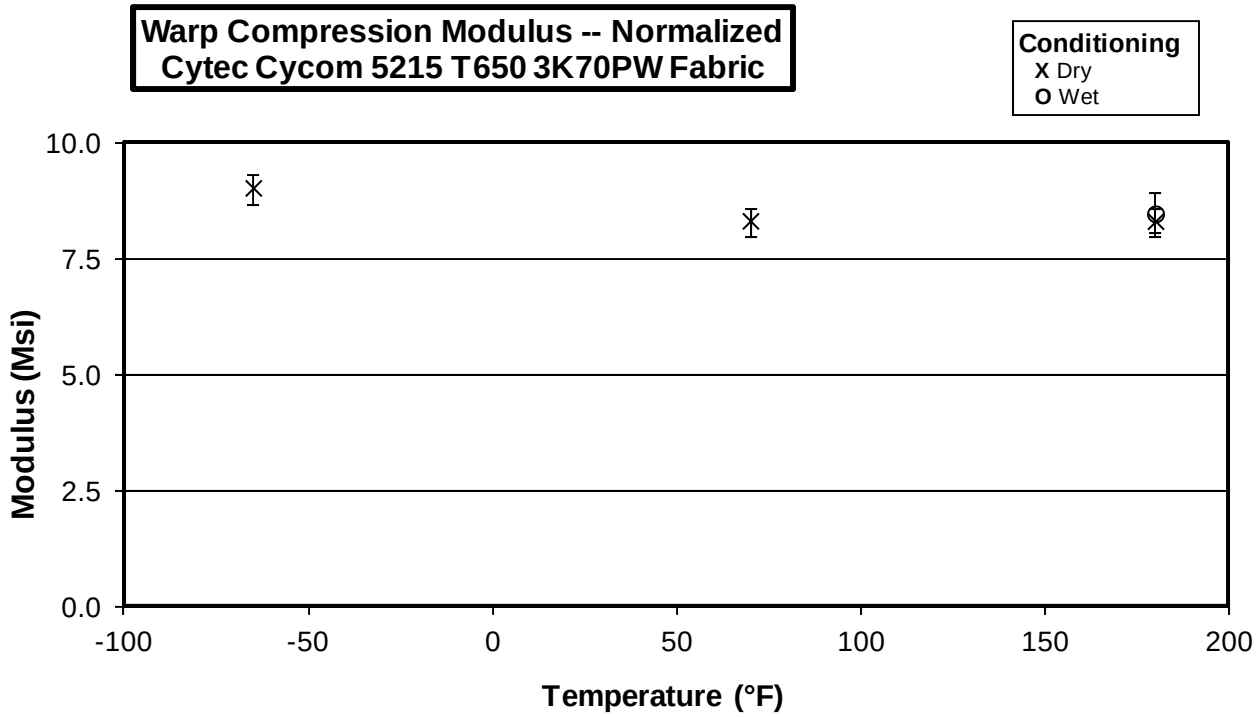
3.2 Fill Tension Properties (FT)



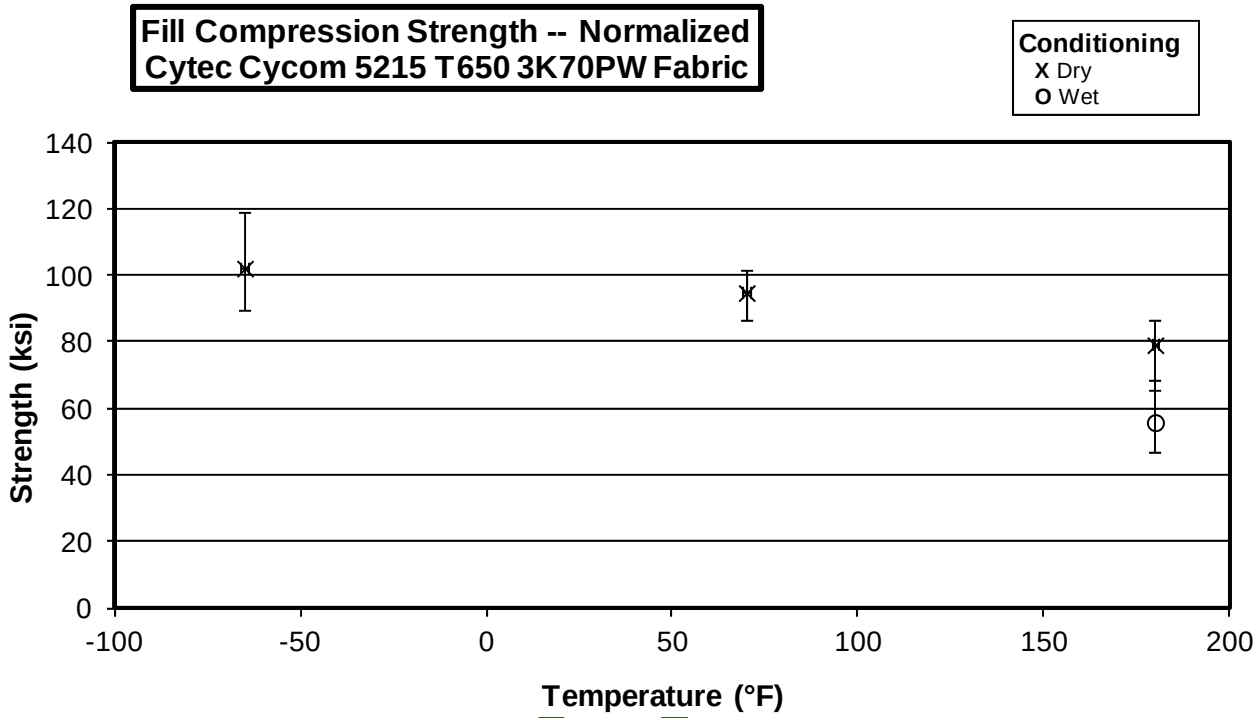


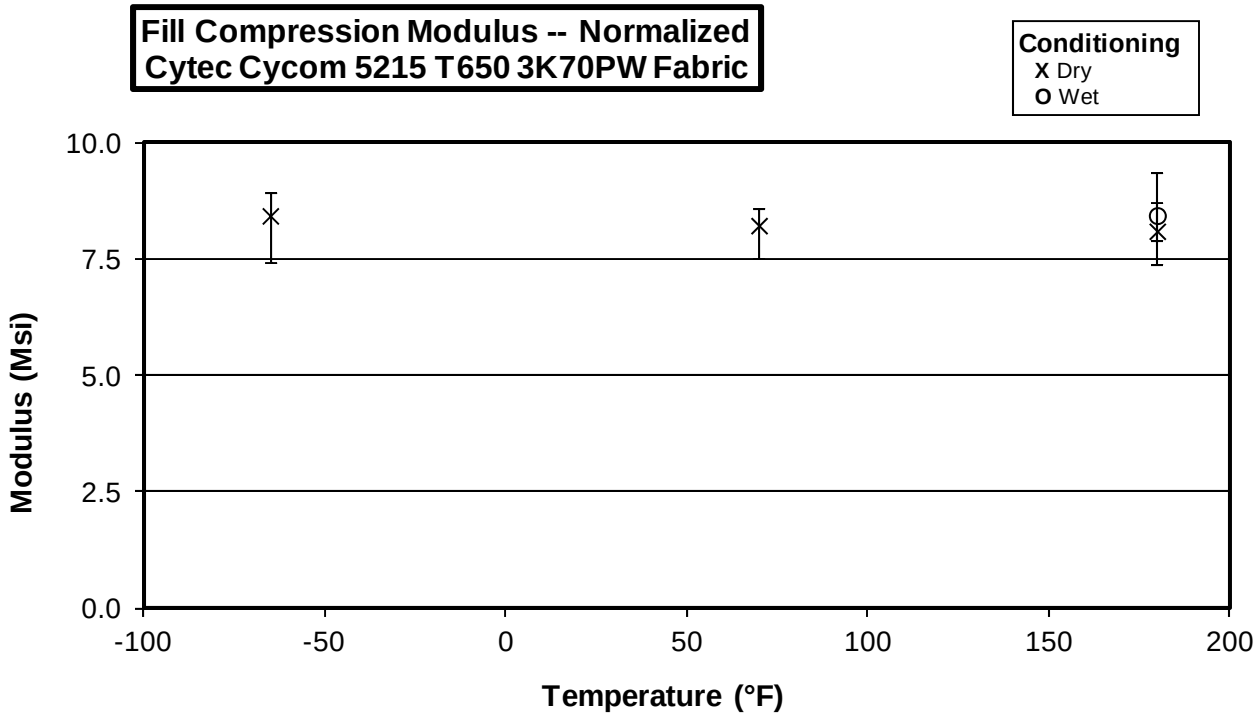
3.3 Warp Compression Properties (WC)



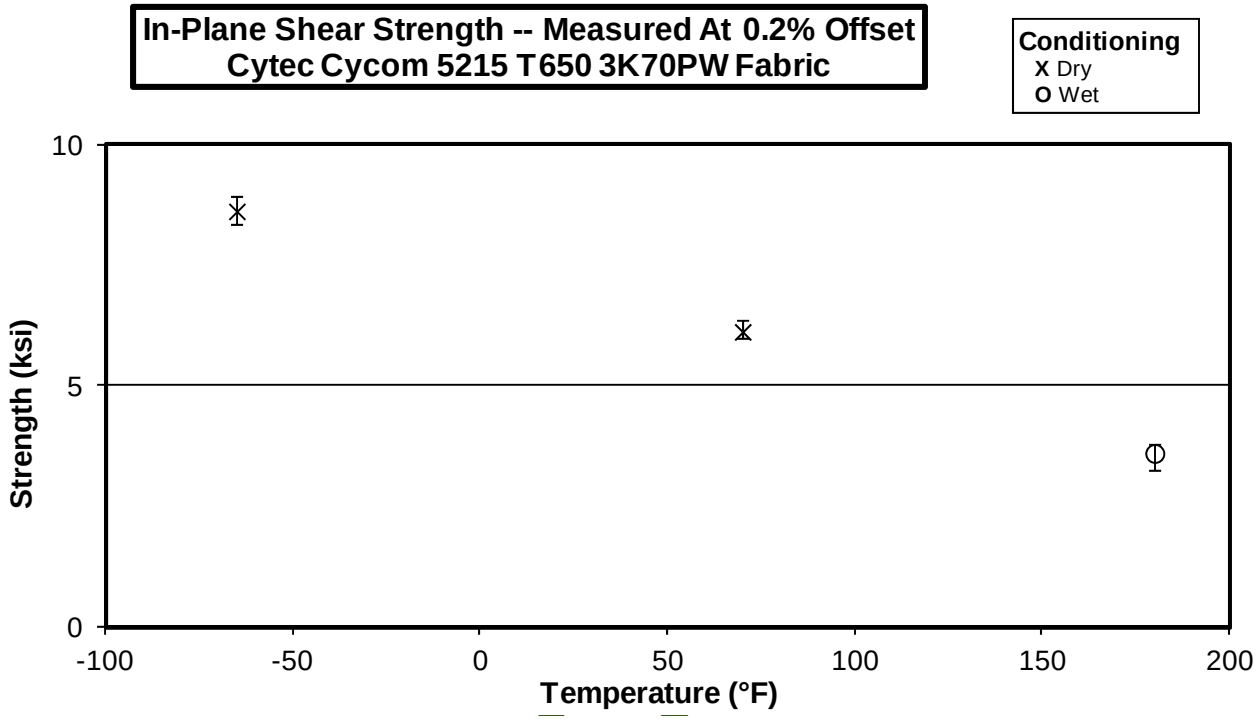


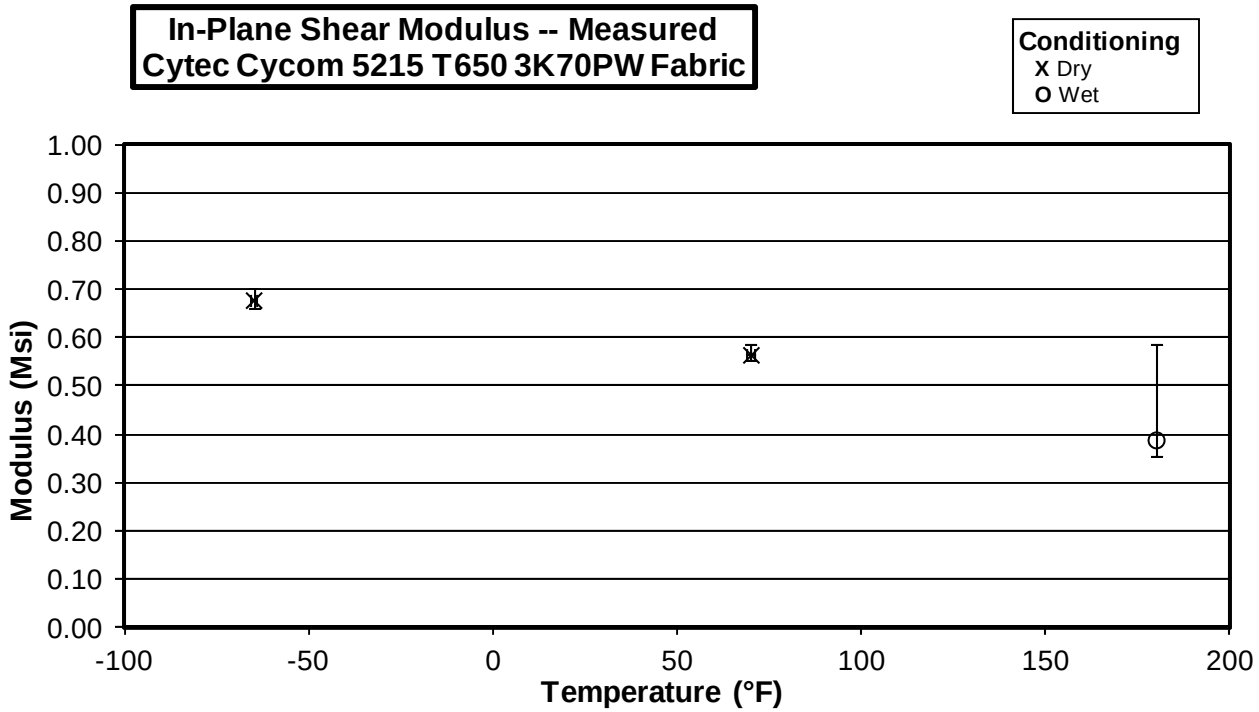
3.4 Fill Compression Properties (FC)



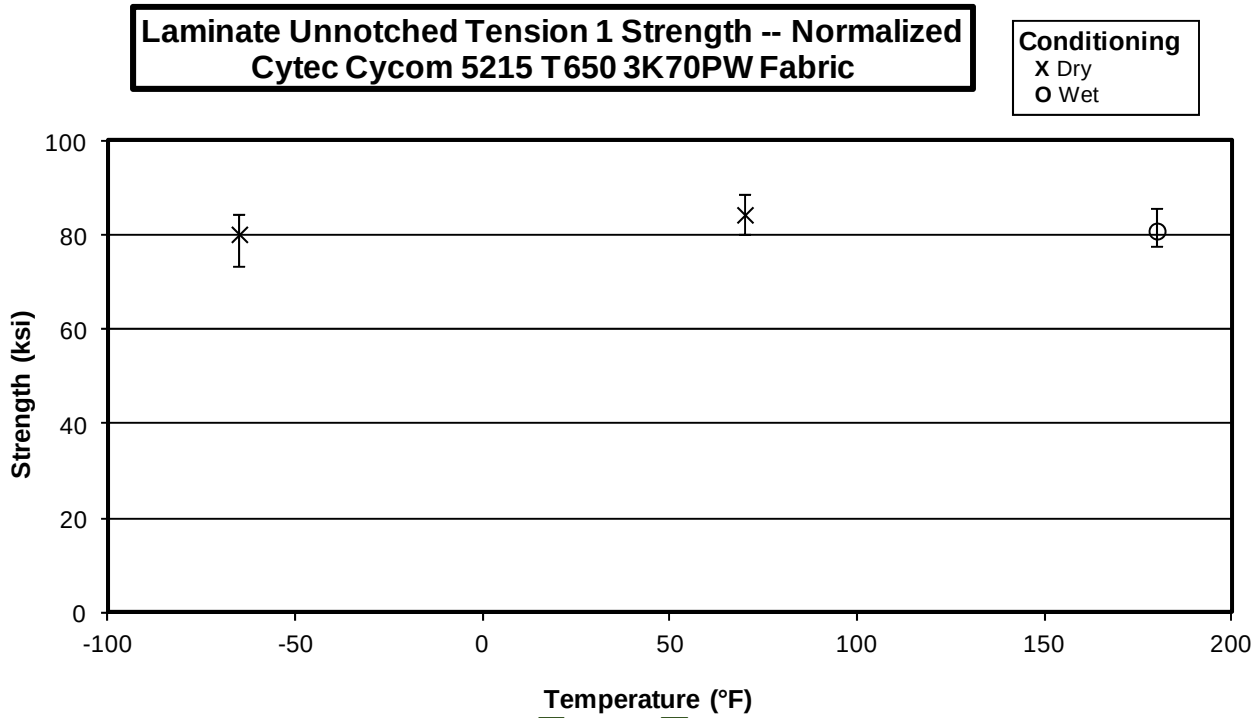


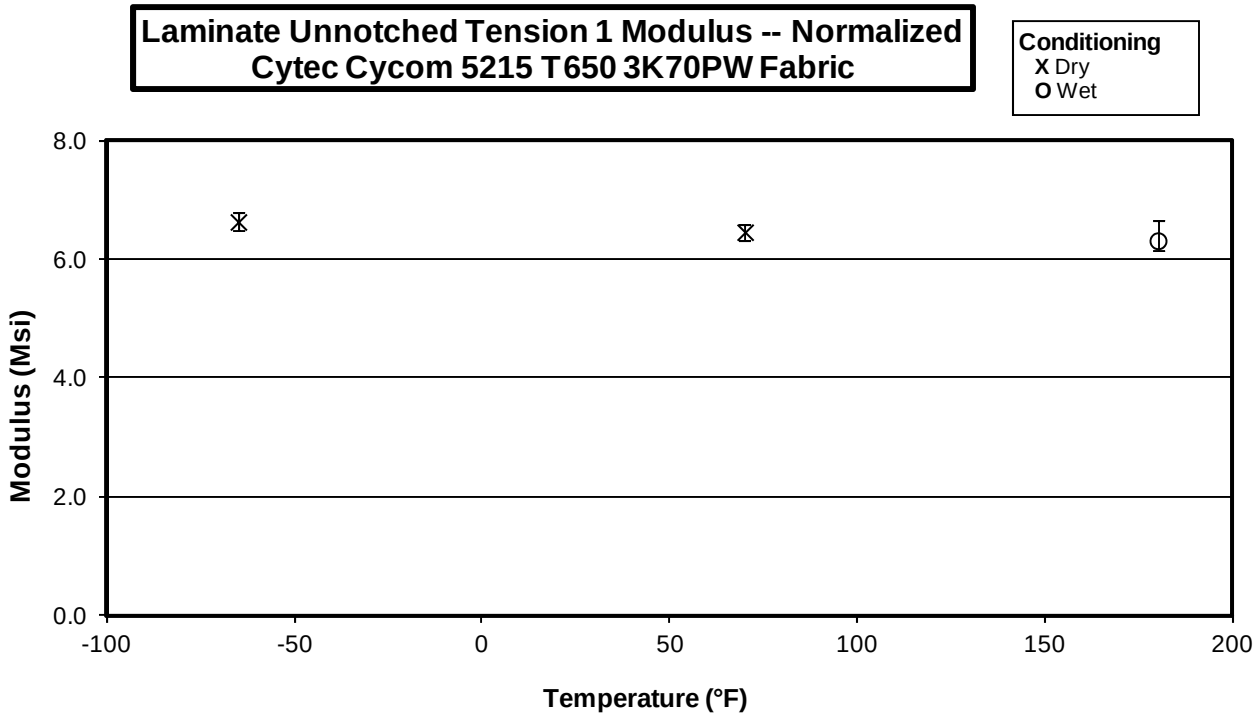
3.5 In-Plane Shear Properties (IPS)



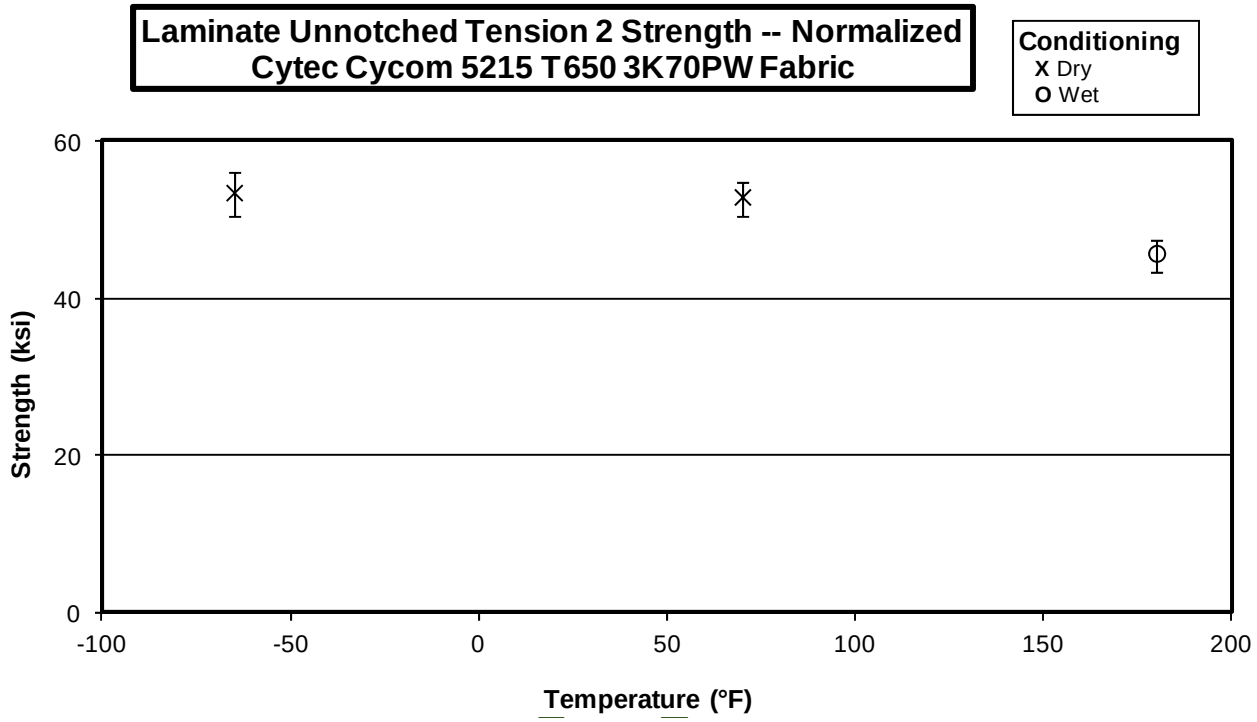


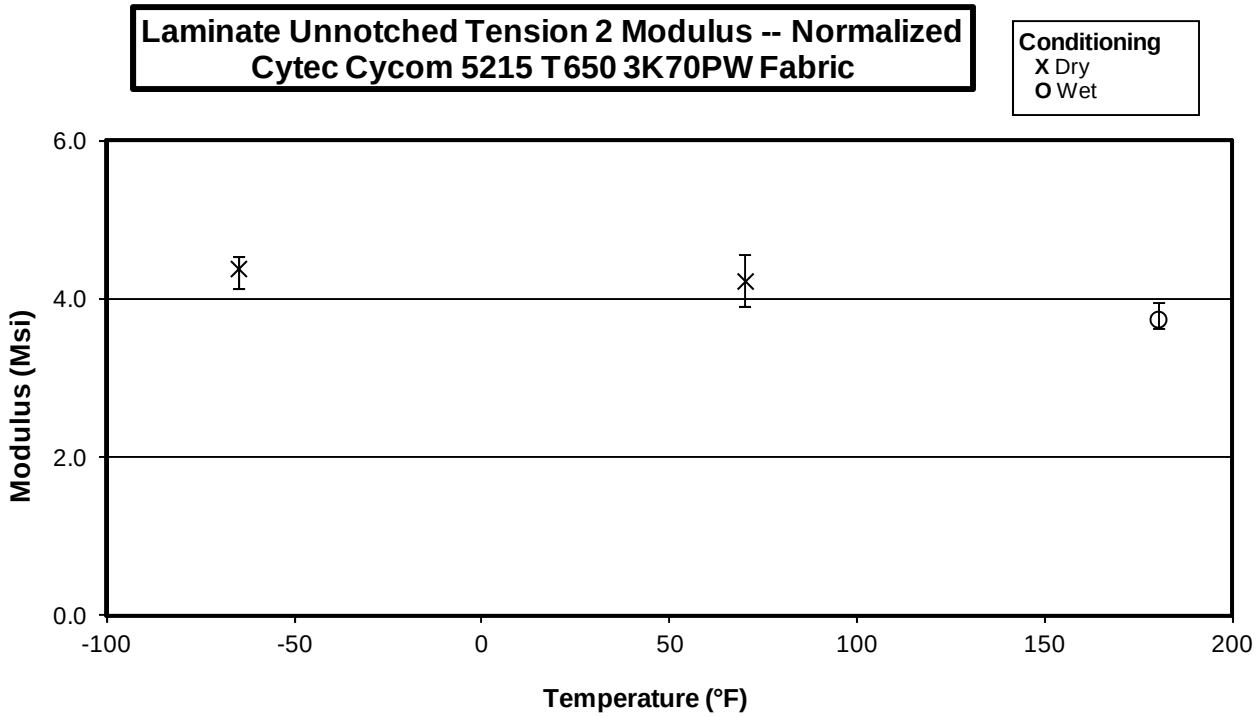
3.6 "25/50/25" Unnotched Tension 1 Properties (UNT1)



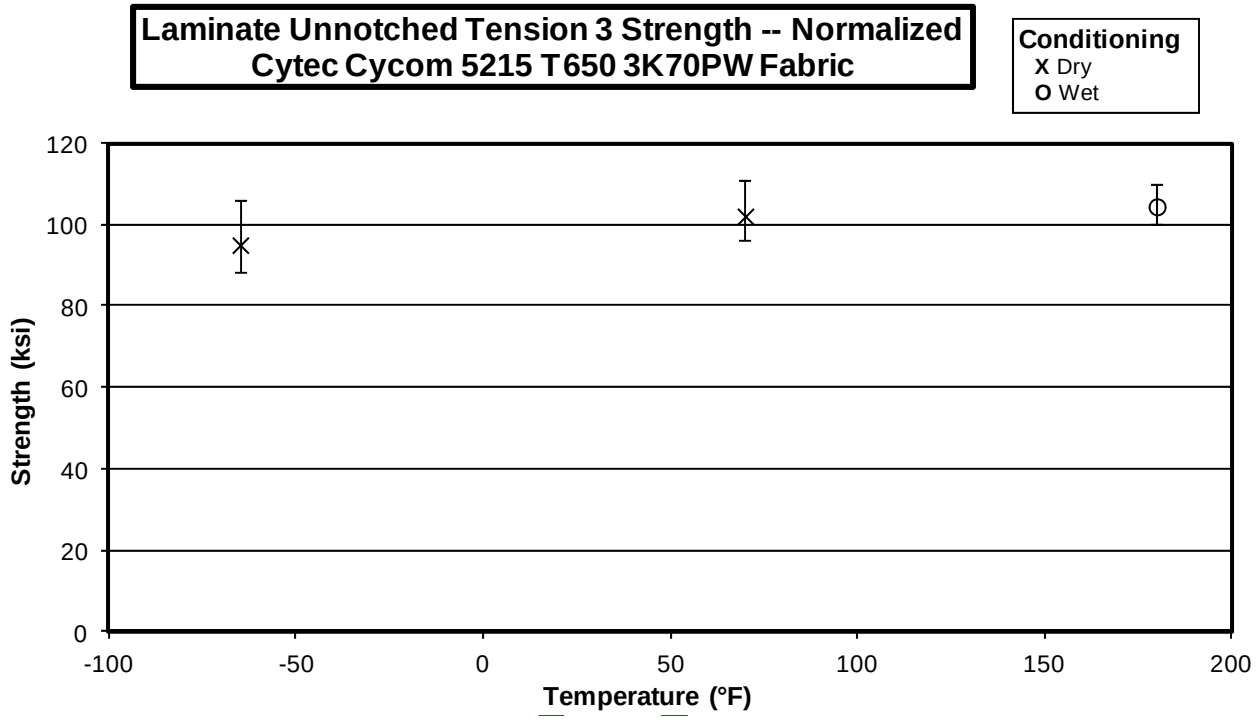


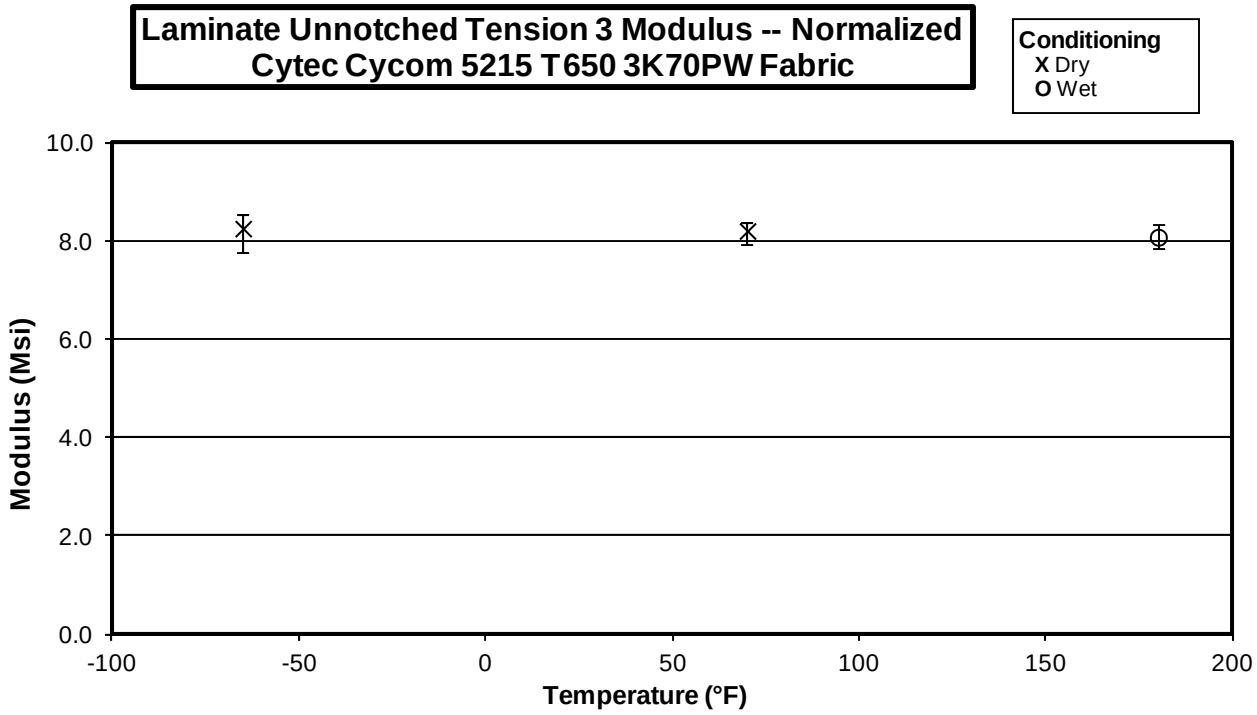
3.7 "10/80/10" Unnotched Tension 2 Properties (UNT2)



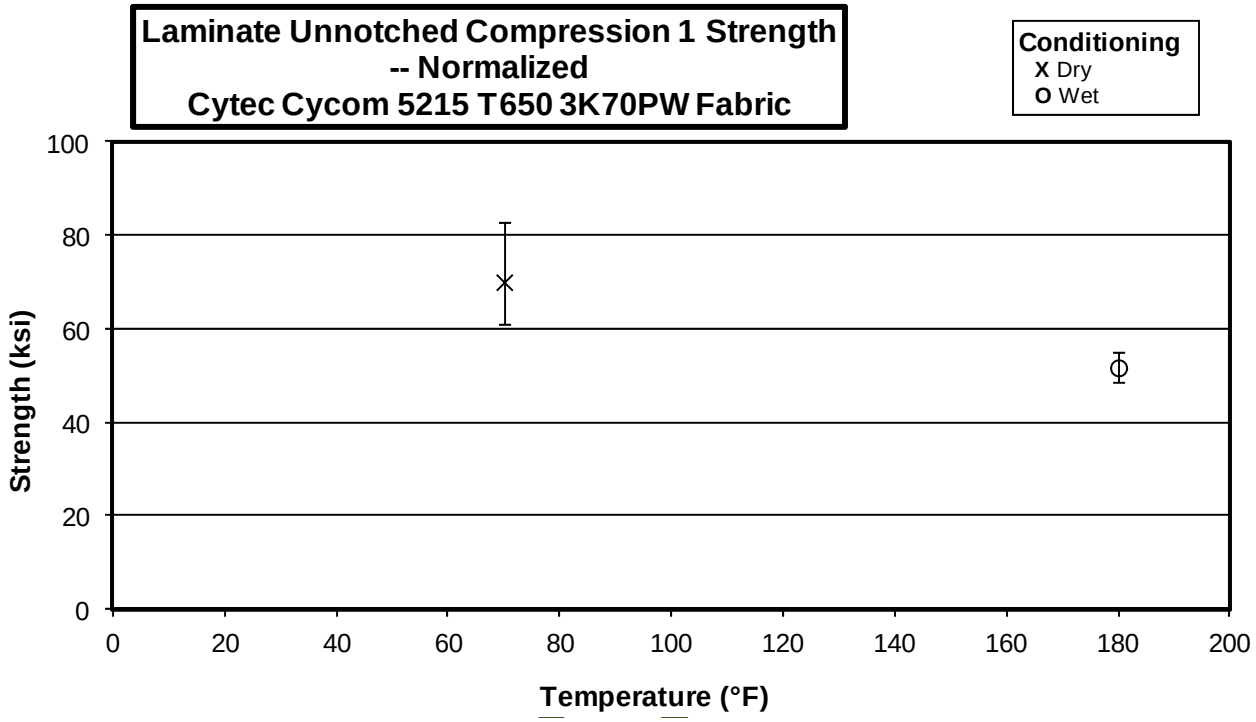


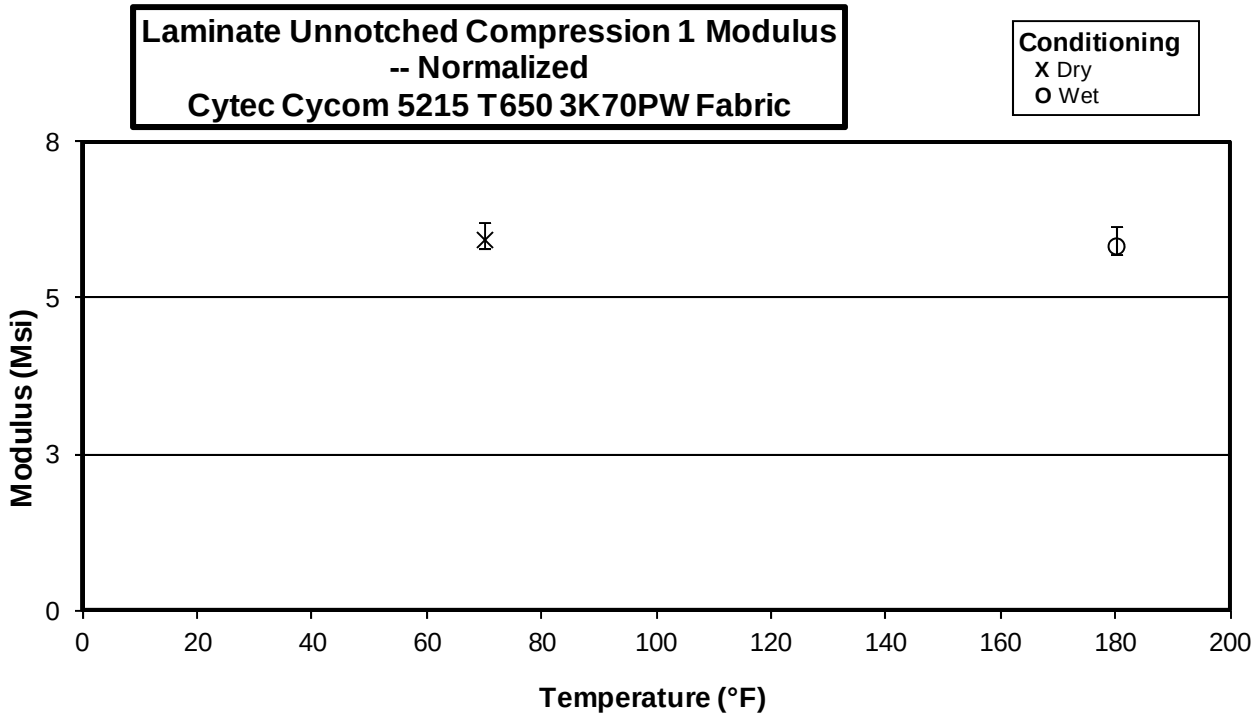
3.8 "40/20/40" Unnotched Tension 3 Properties (UNT3)



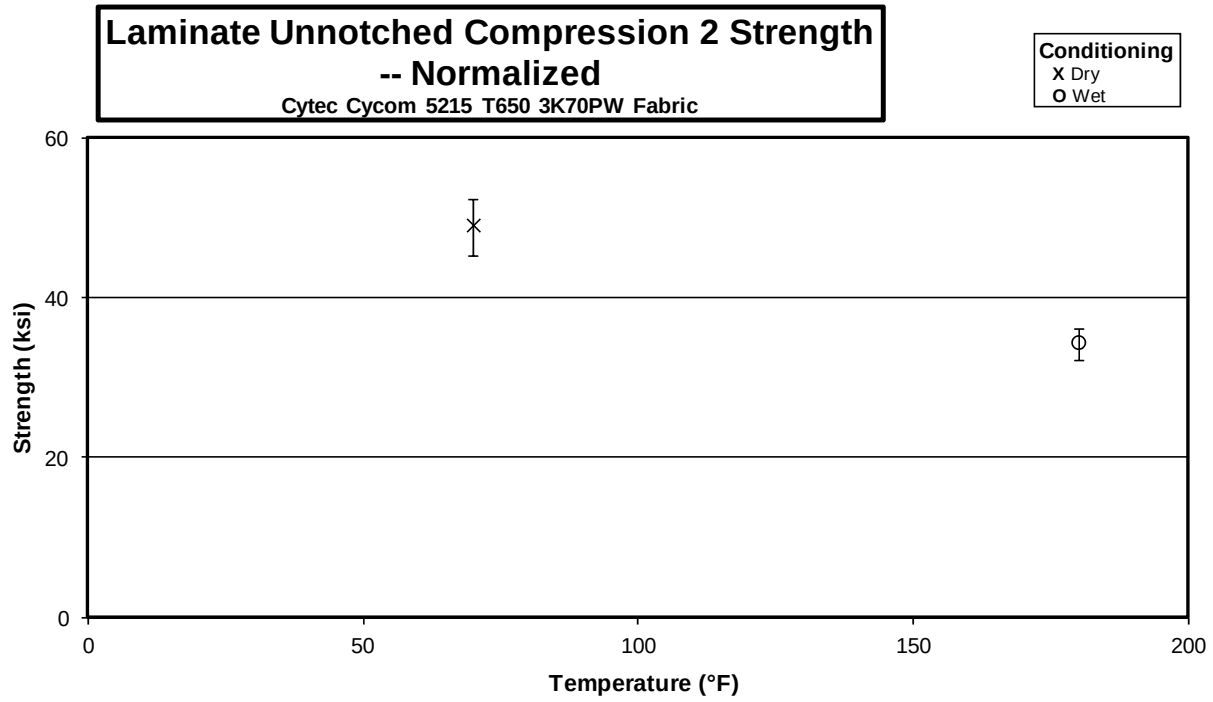


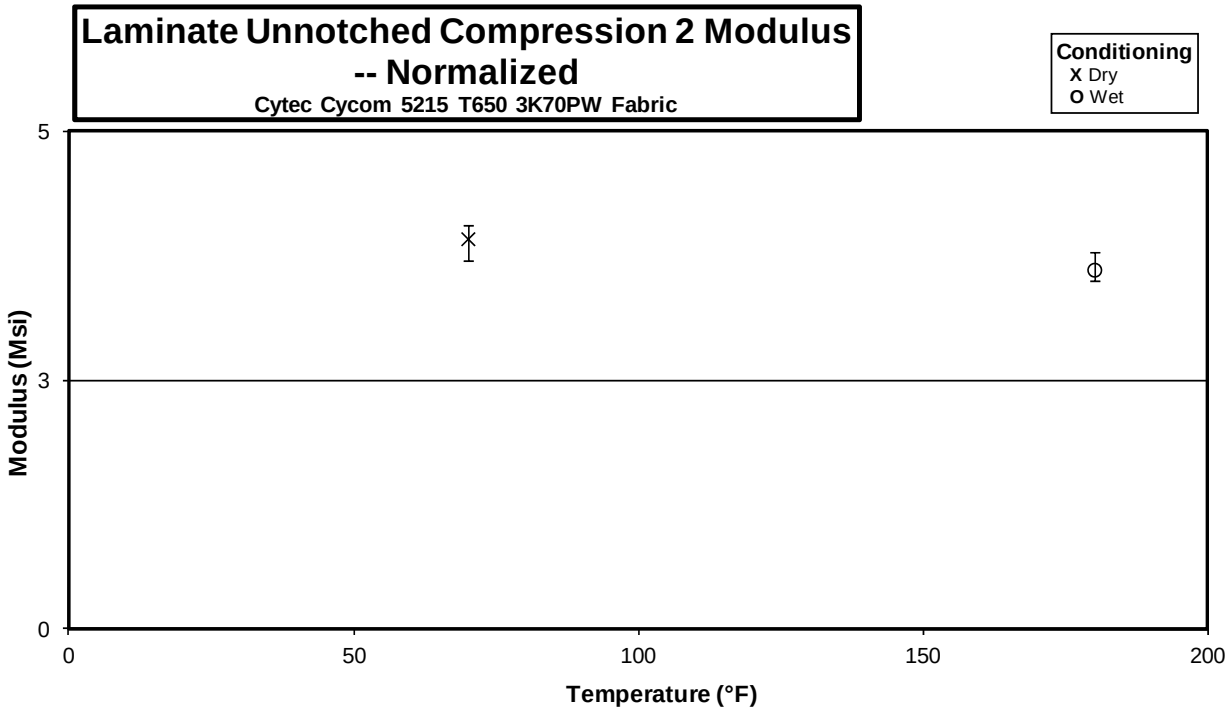
3.9 "25/50/25" Unnotched Compression 1 Properties (UNC1)



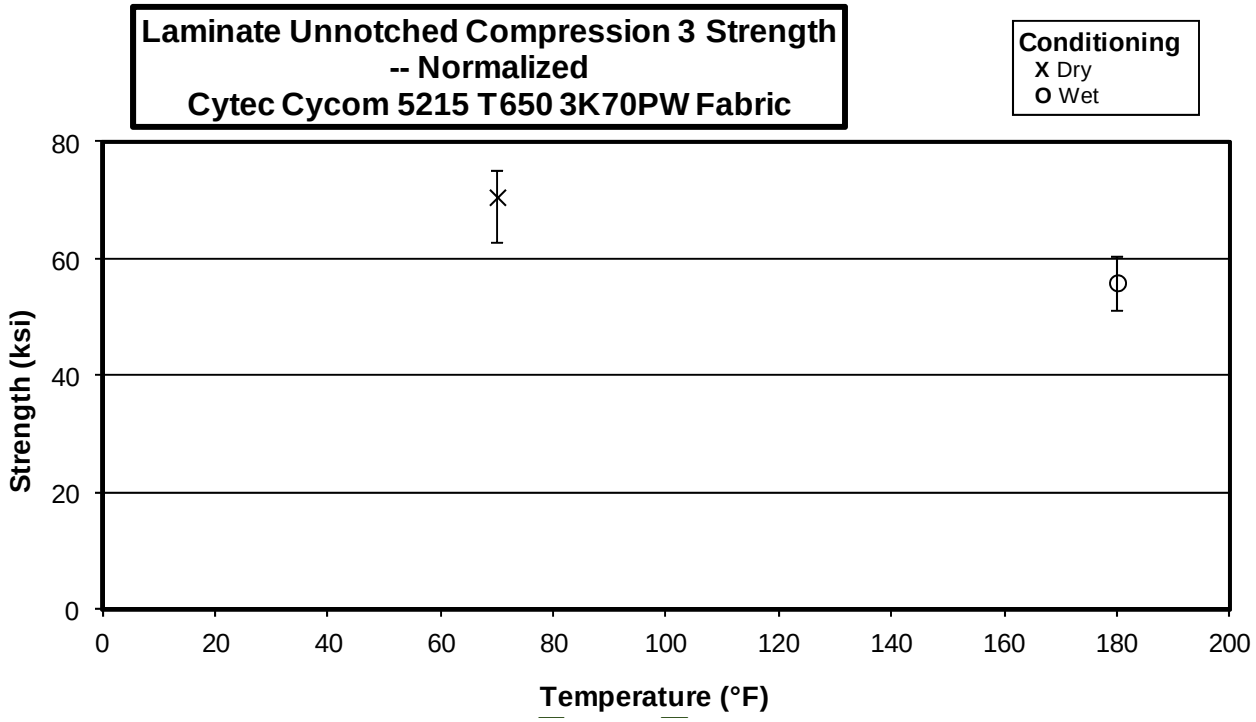


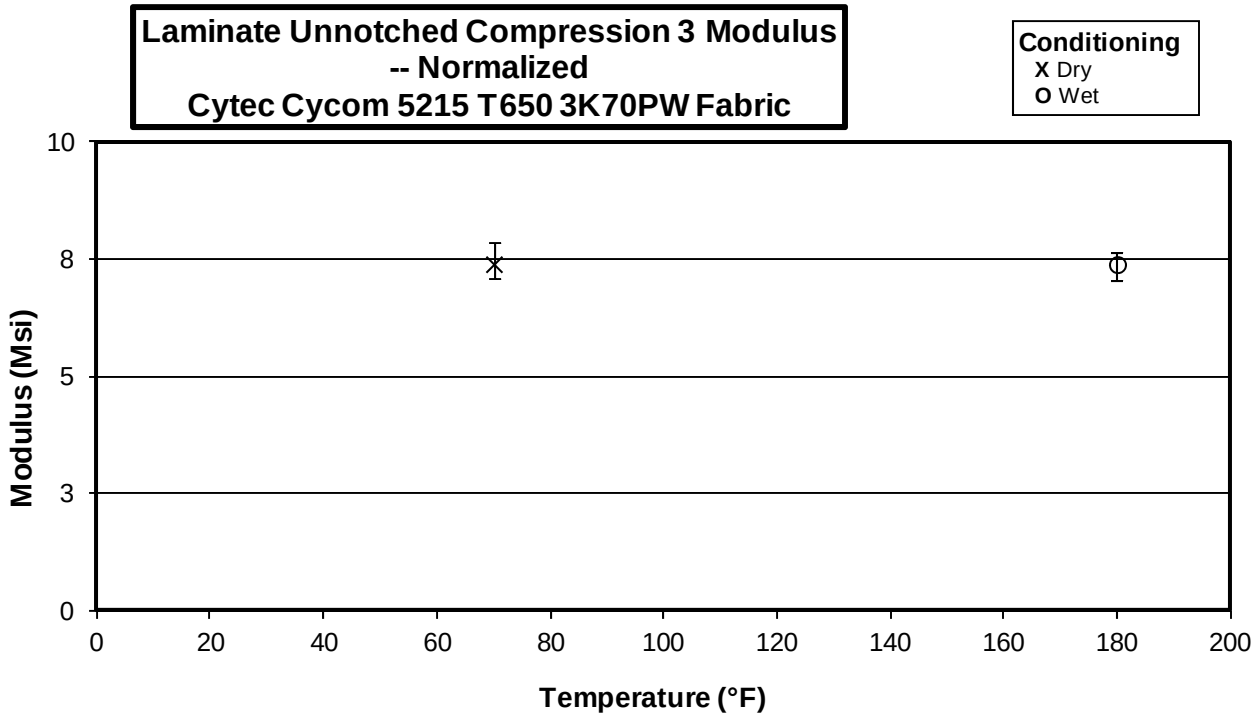
3.10 "10/80/10" Unnotched Compression 2 Properties (UNC2)



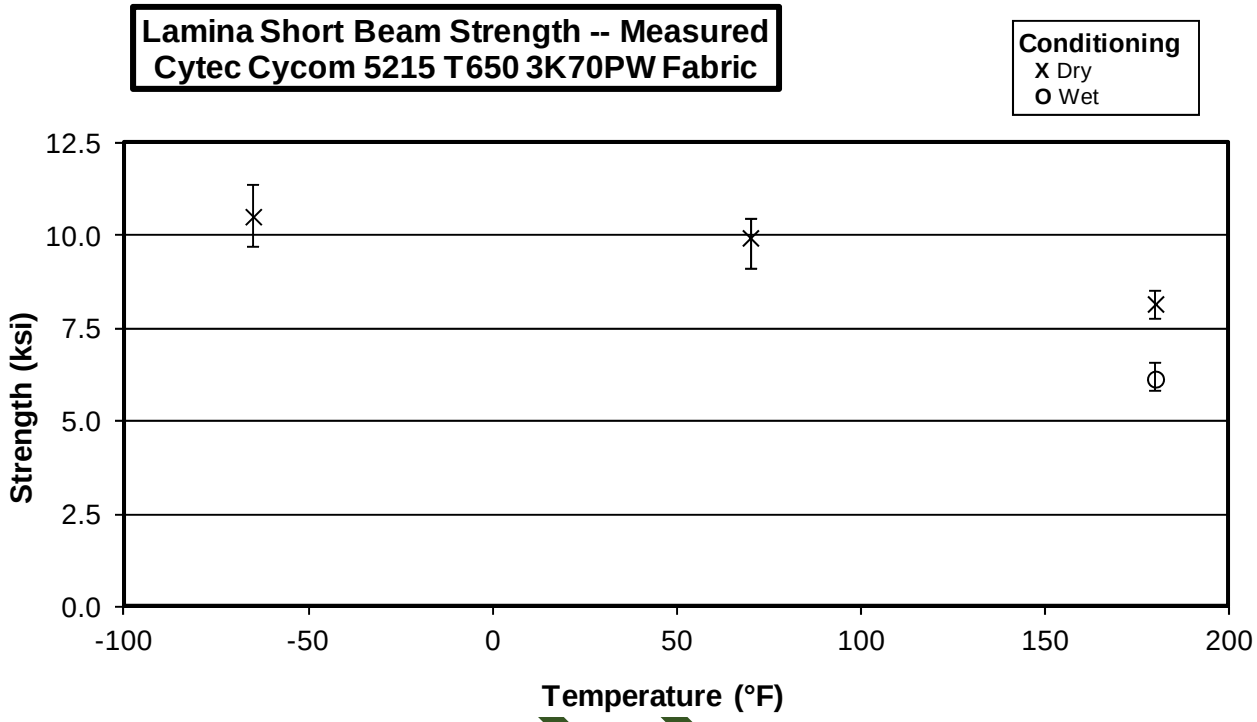


3.11 "40/20/40" Unnotched Compression 3 Properties (UNC3)

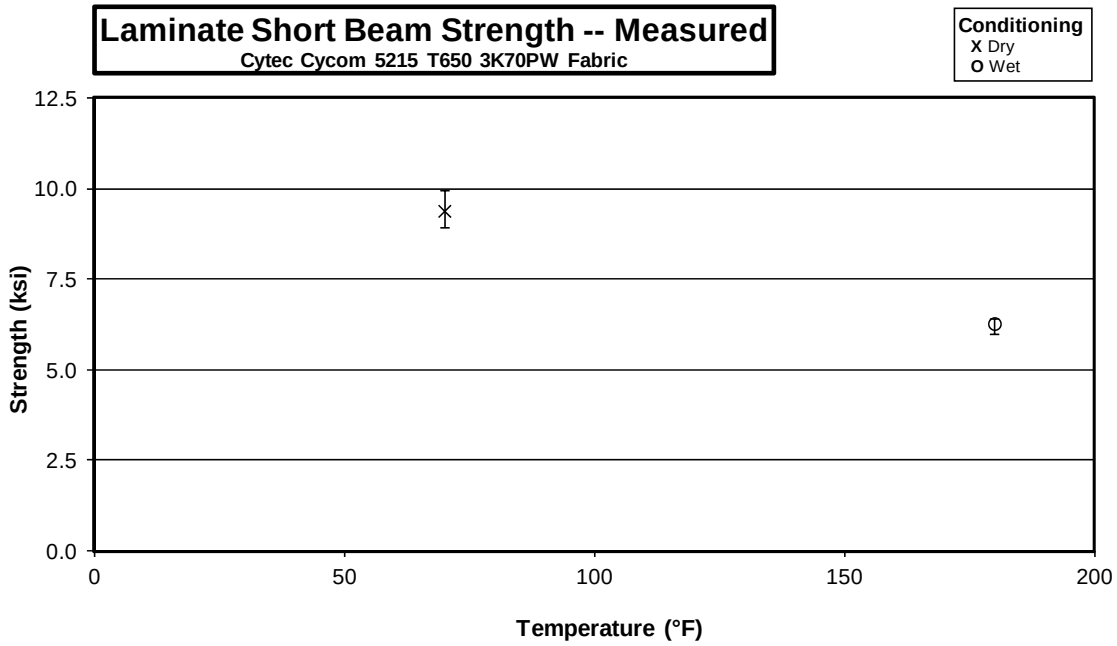




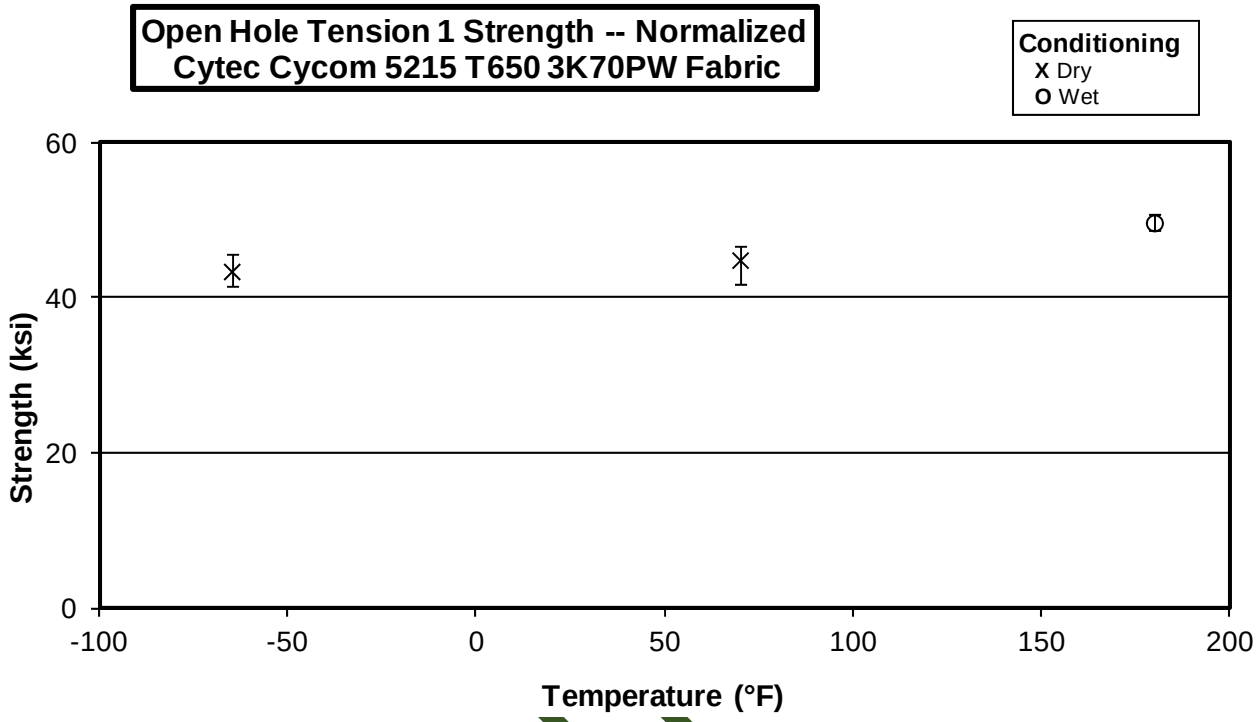
3.12 Lamina Short-Beam Strength Properties (SBS)



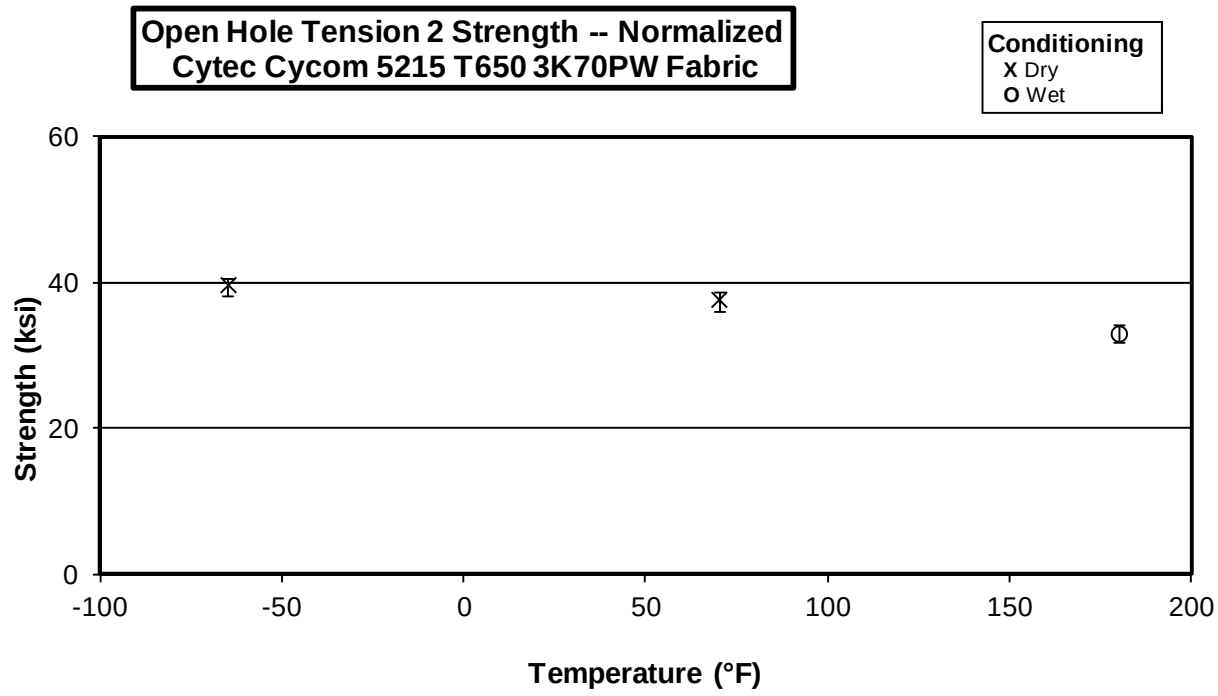
3.13 Laminate Short-Beam Strength Properties (SBS1)



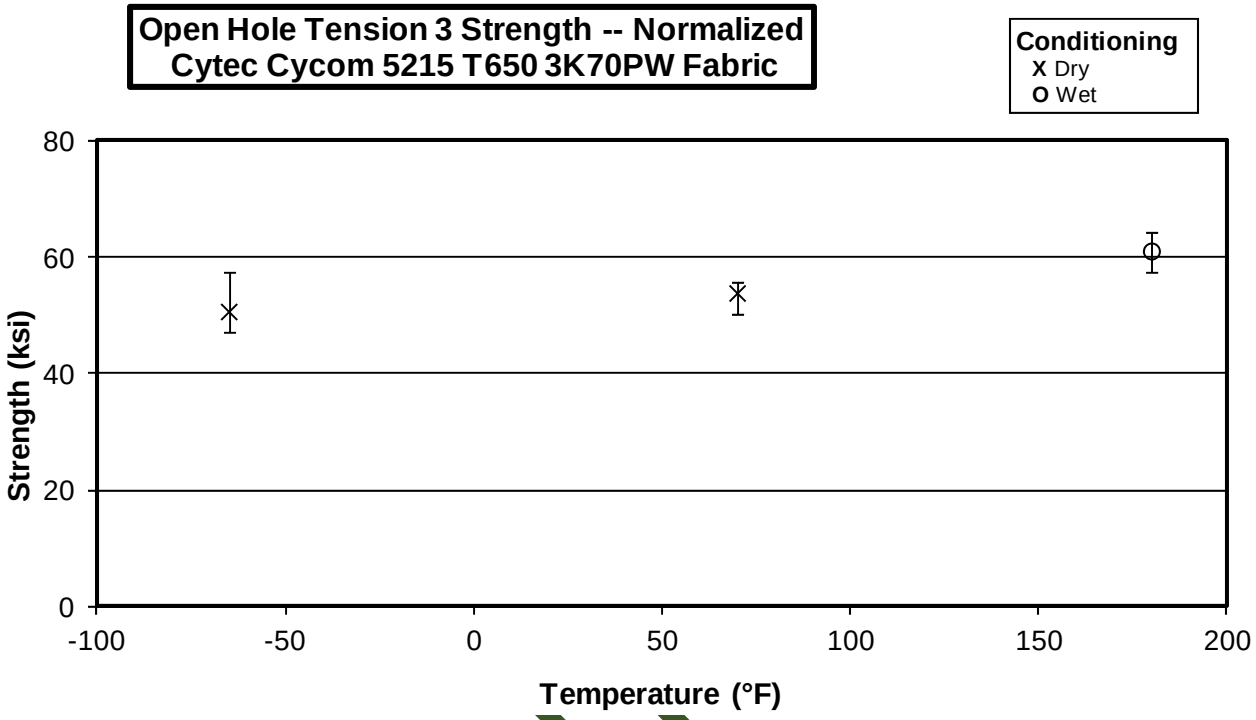
3.14 "25/50/25" Open-Hole Tension 1 Properties (OHT1)



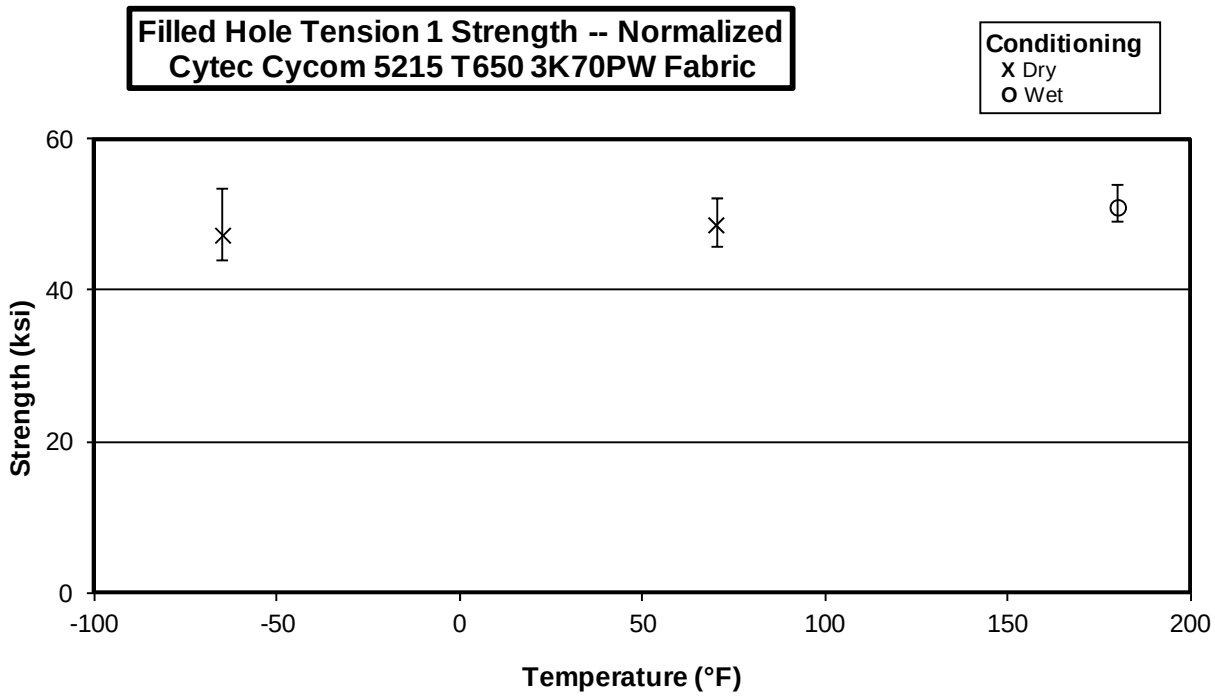
3.15 "10/80/10" Open-Hole Tension 2 Properties (OHT2)



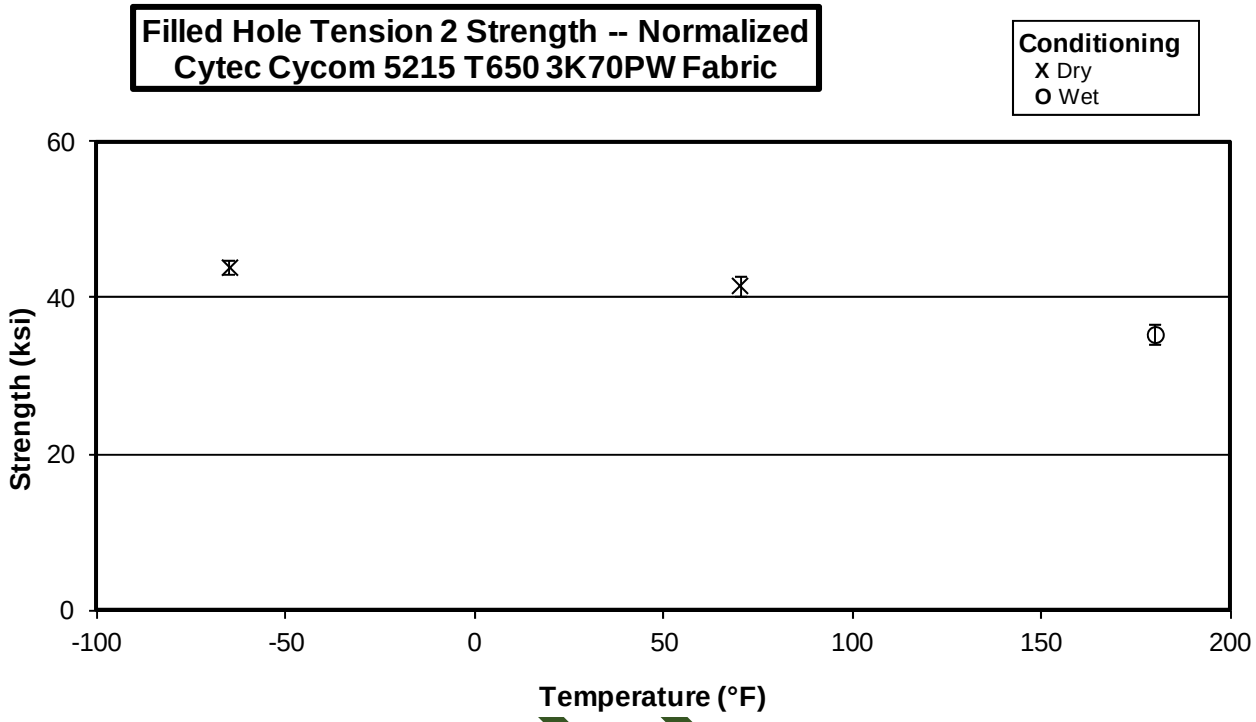
3.16 "40/20/40" Open-Hole Tension 3 Properties (OHT3)



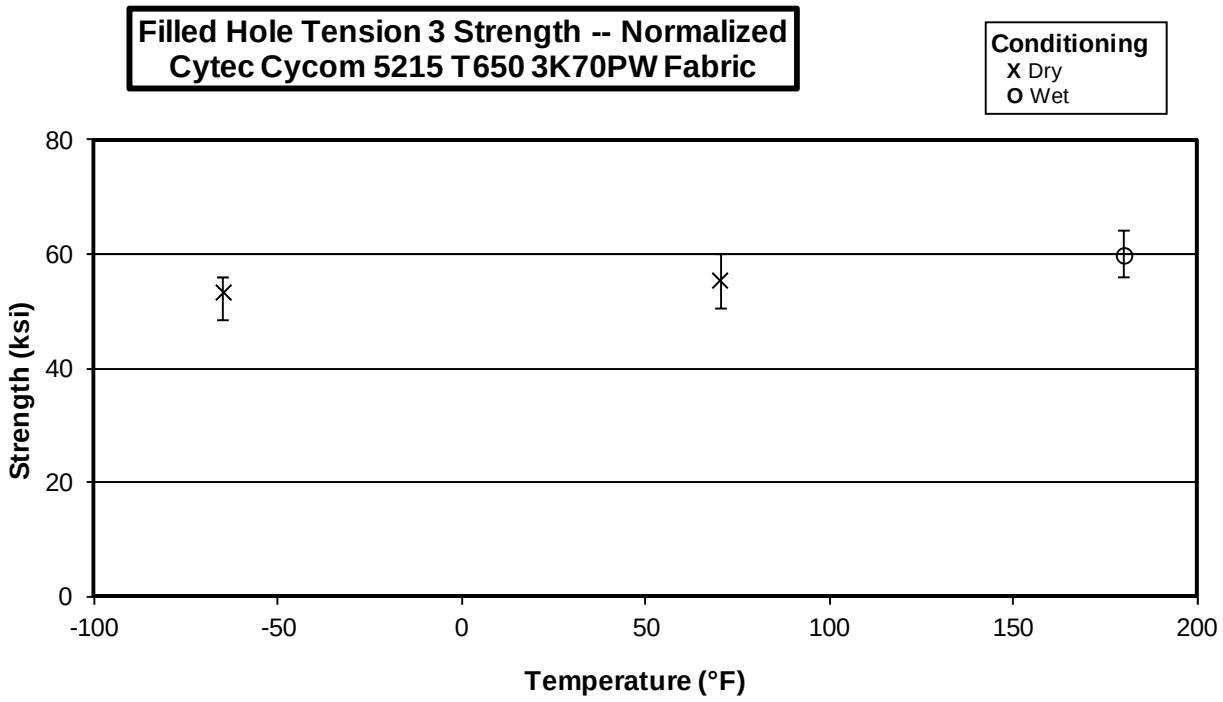
3.17 "25/50/25" Filled-Hole Tension 1 Properties (FHT1)



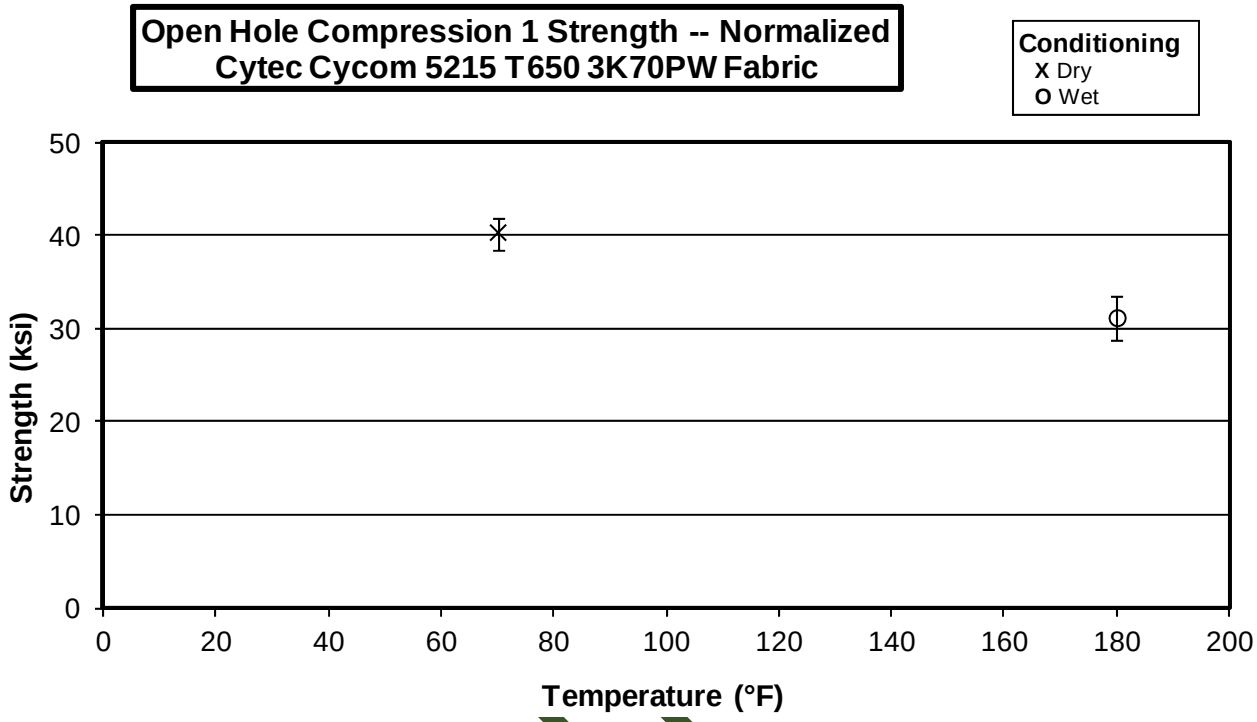
3.18 "10/80/10" Filled-Hole Tension 2 Properties (FHT2)



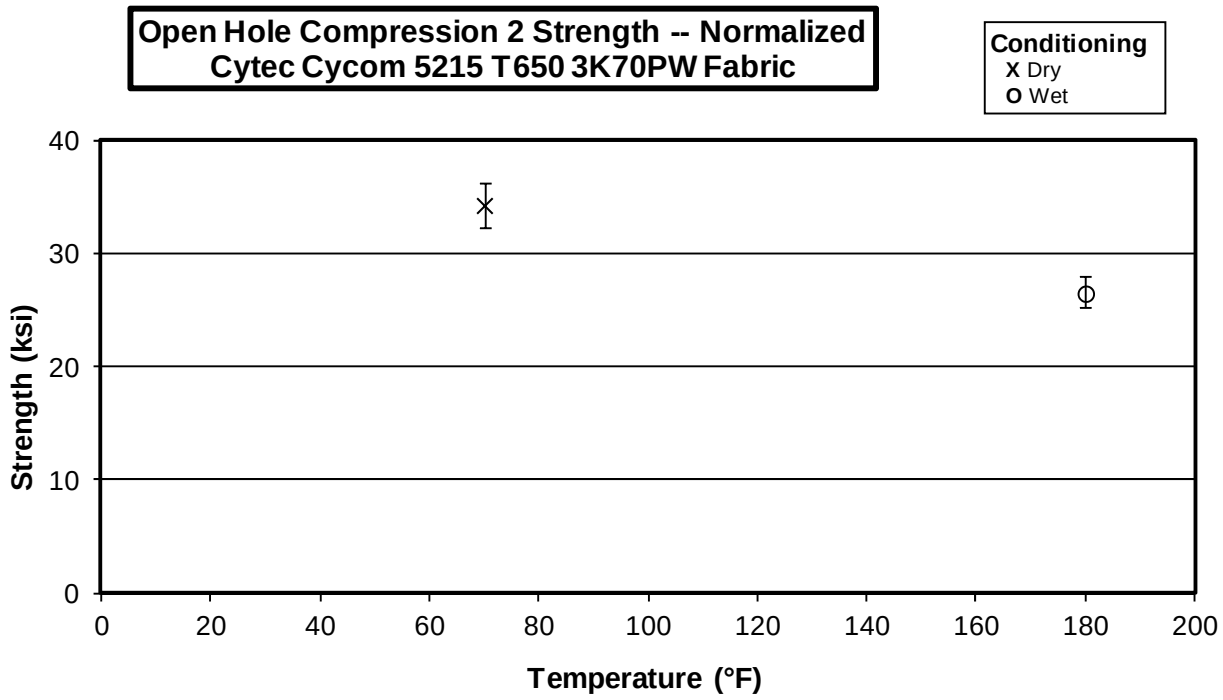
3.19 "40/20/40" Filled-Hole Tension 3 Properties (FHT3)



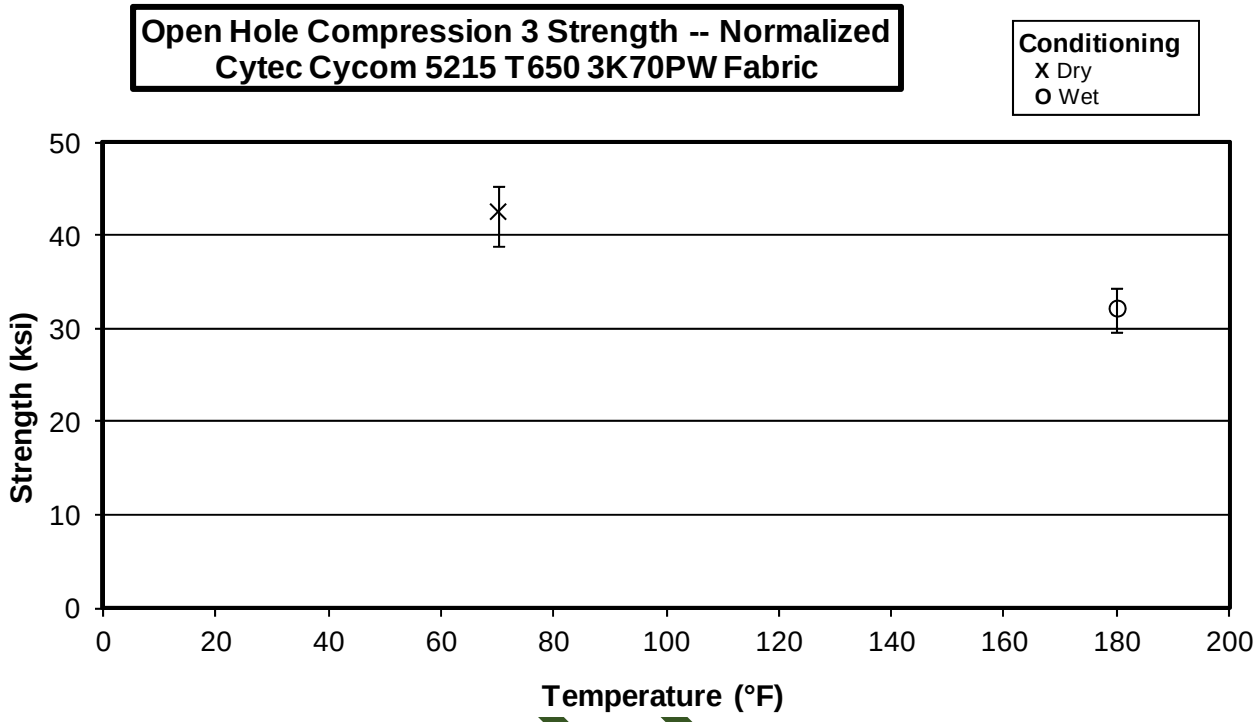
3.20 "25/50/25" Open-Hole Compression 1 Properties (OHC1)



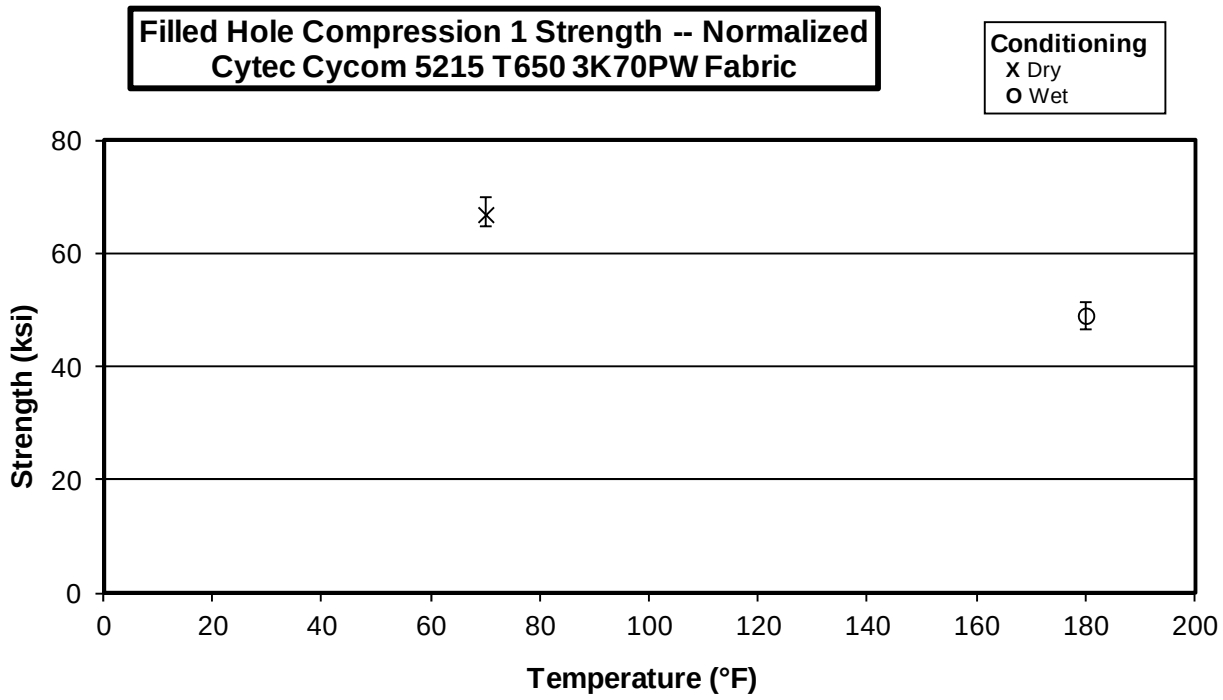
3.21 "10/80/10" Open-Hole Compression 2 Properties (OHC2)



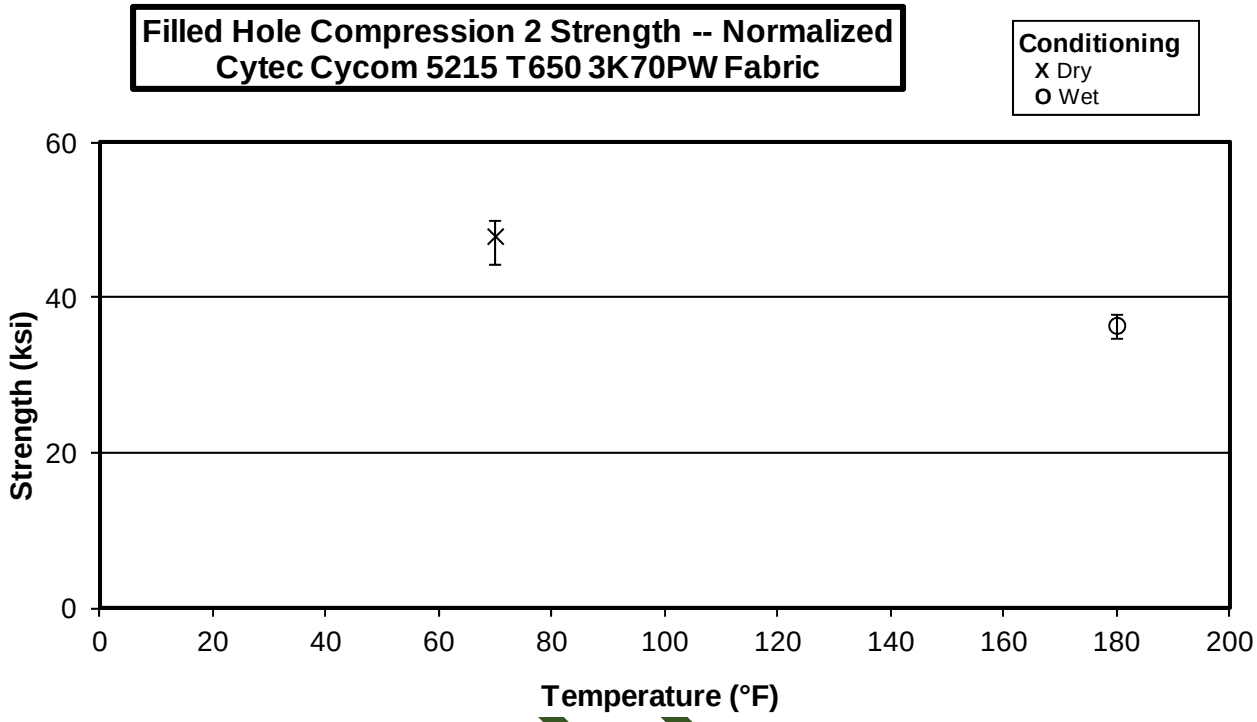
3.22 "40/20/40" Open-Hole Compression 3 Properties (OHC3)



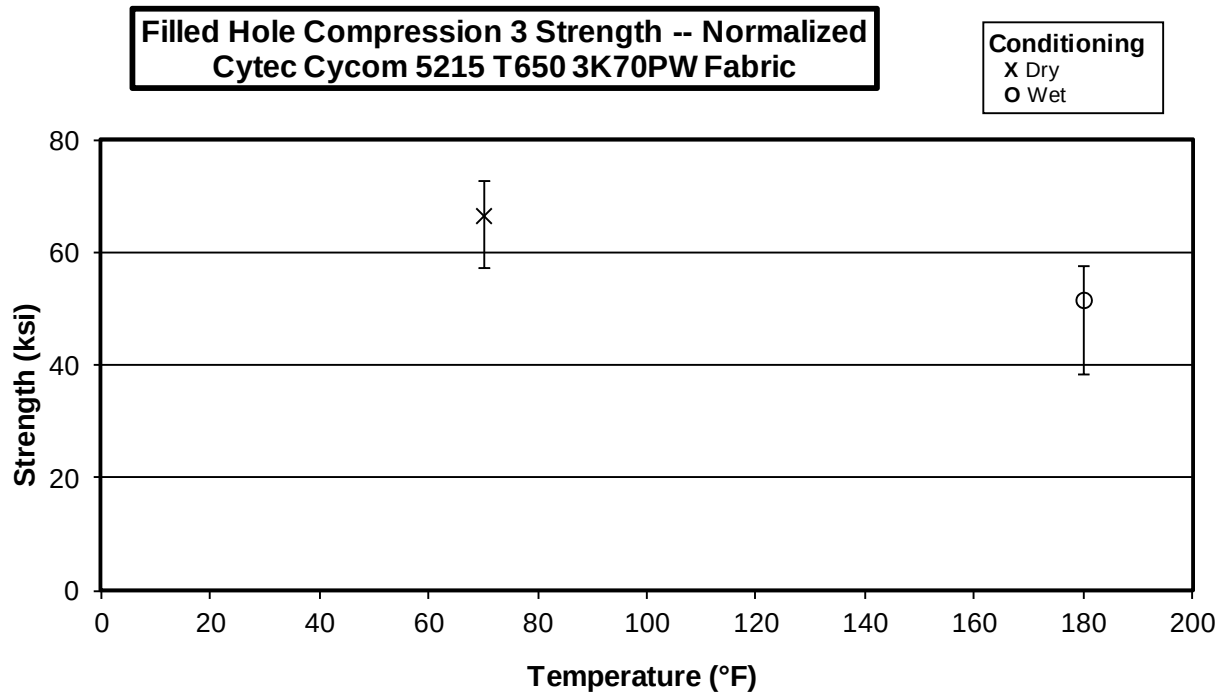
3.23 "25/50/25" Filled-Hole Compression 1 Properties (FHC1)



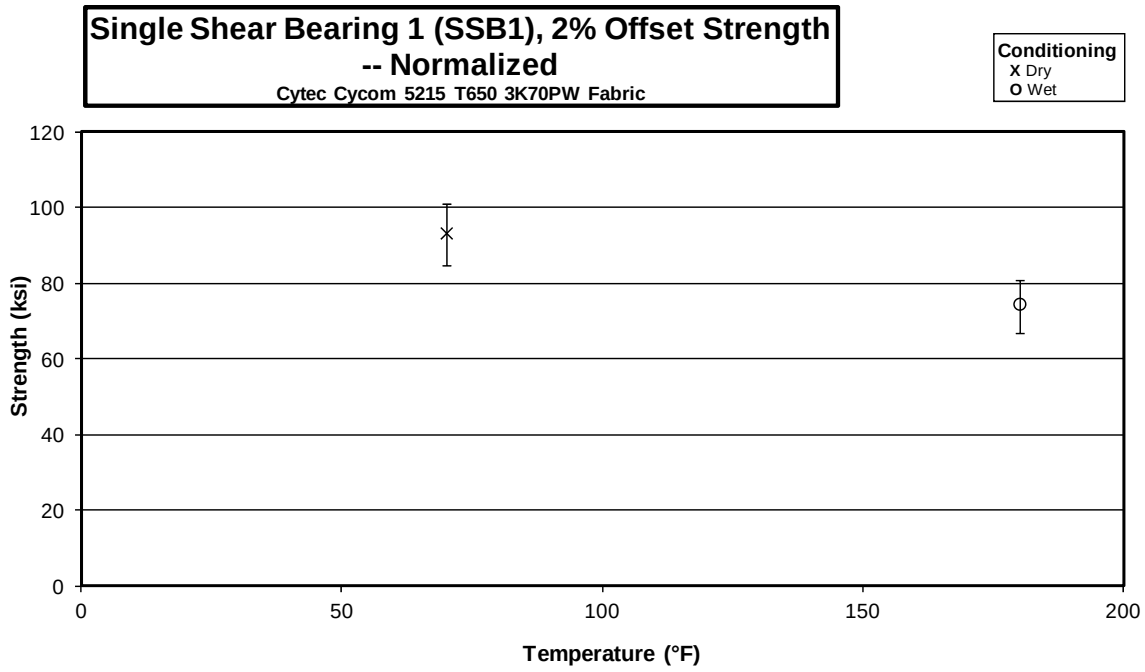
3.24 "10/80/10" Filled-Hole Compression 2 Properties (FHC2)



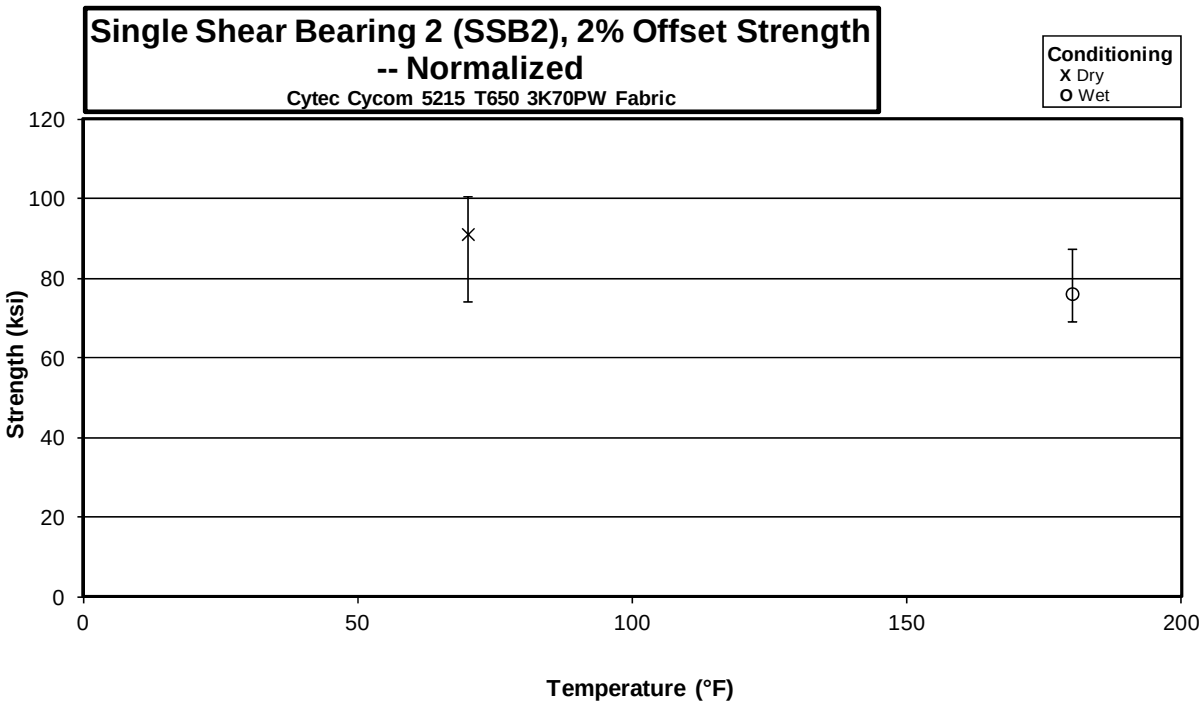
3.25 "40/20/40" Filled-Hole Compression 3 Properties (FHC3)



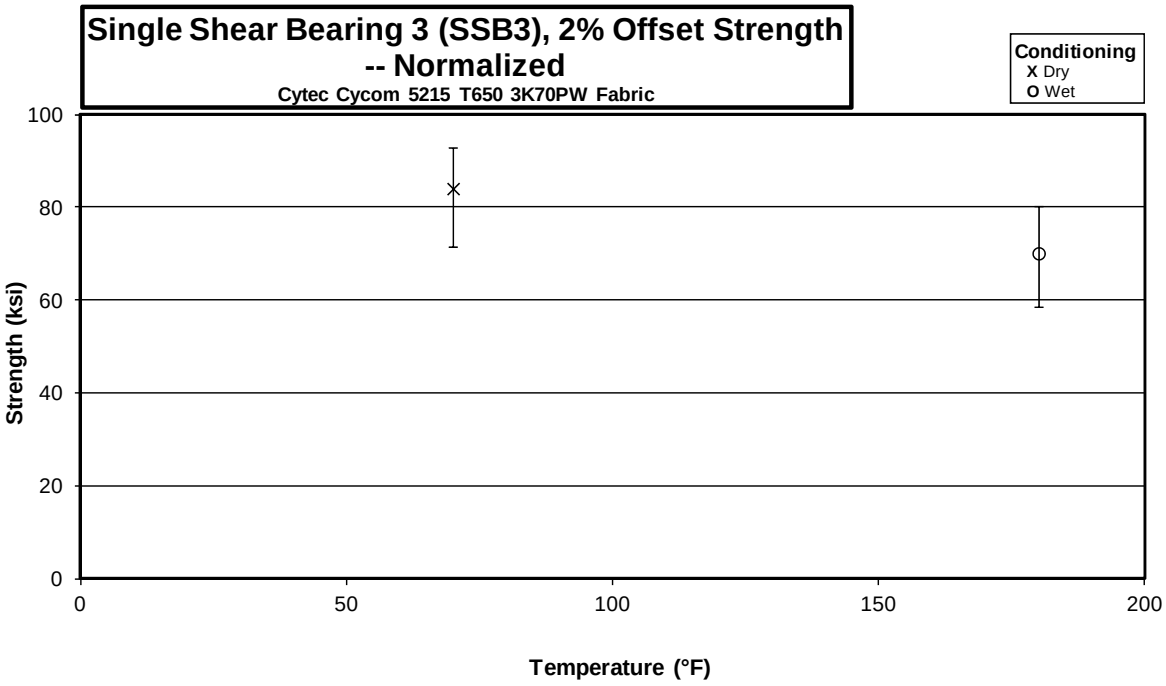
3.26 "25/50/25" Single-Shear Bearing 1 Properties (SSB1)



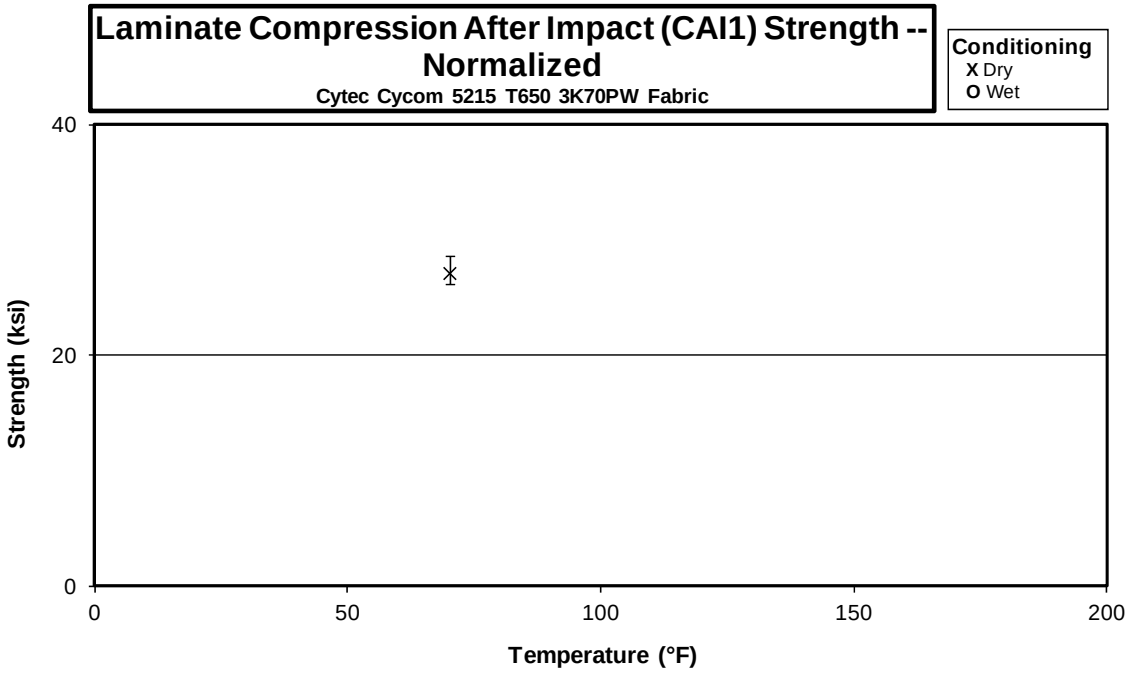
3.27 "10/80/10" Single-Shear Bearing 2 Properties (SSB2)



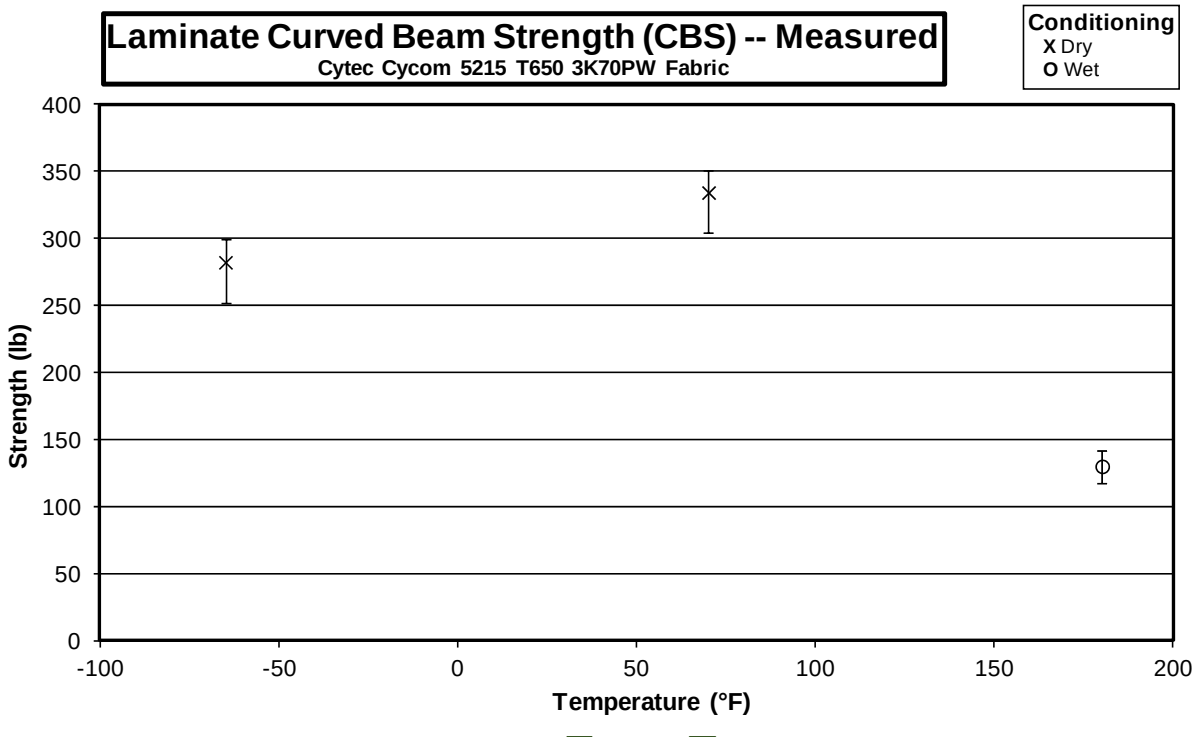
3.28 "40/20/40" Single-Shear Bearing 3 Properties (SSB3)

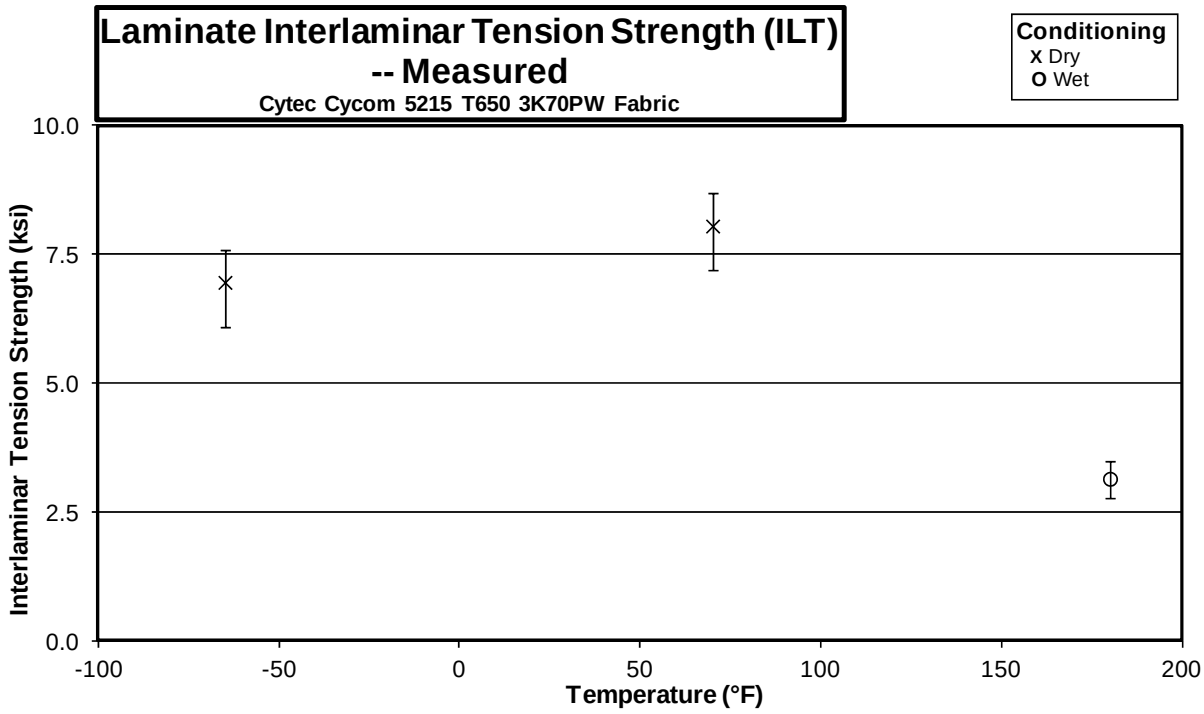


3.29 Compression After Impact 1 Properties (CAI1)



3.30 Interlaminar Tension Properties (ILT)





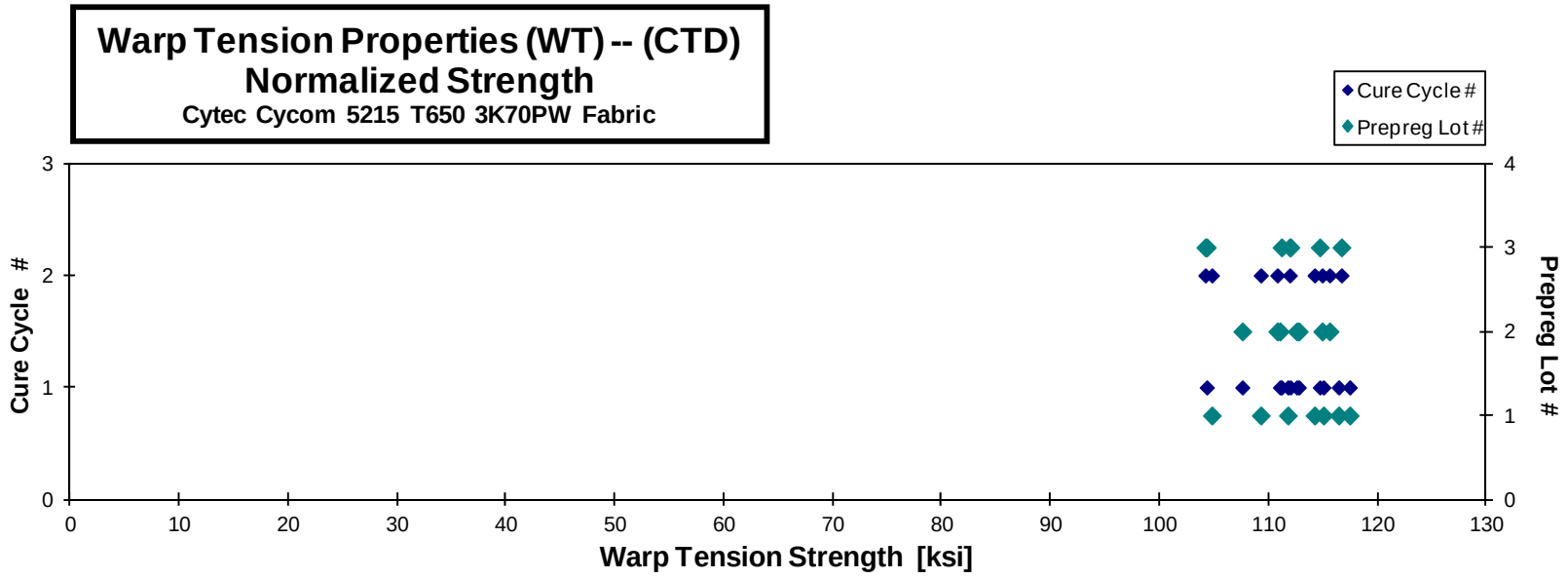
4. Raw Data

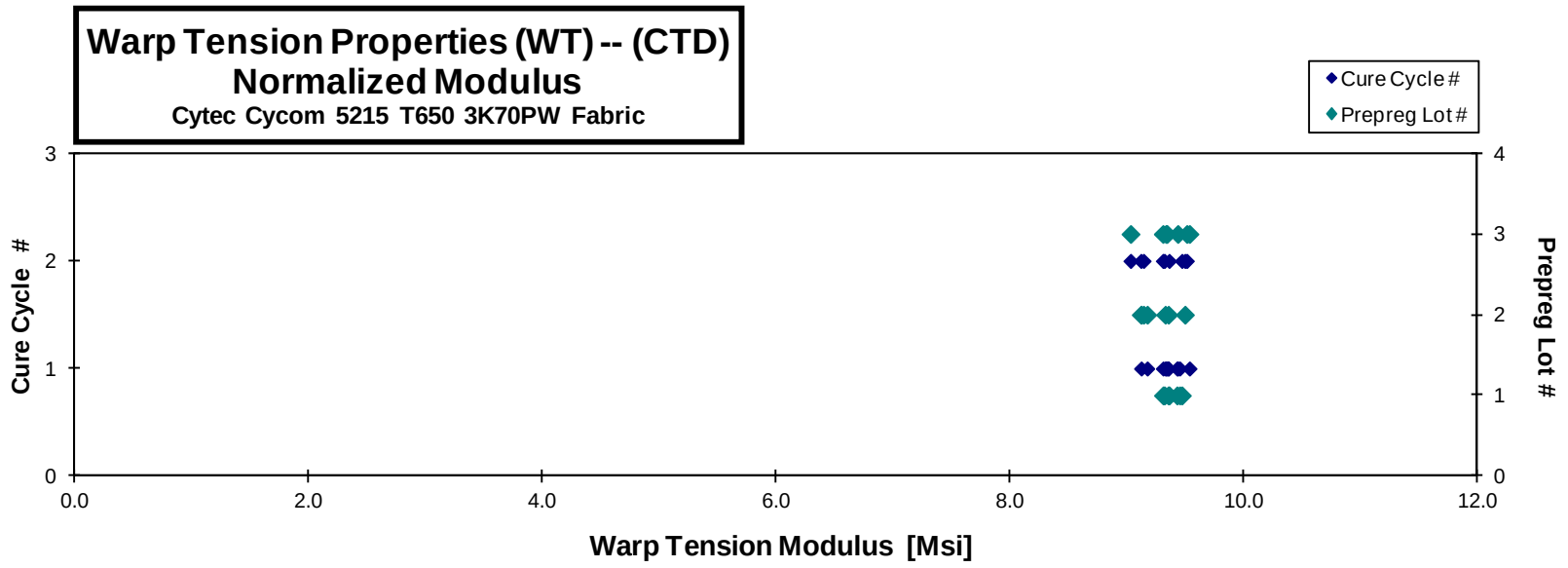
4.1 Warp Tension Properties (WT)

Warp Tension Properties (WT) -- (CTD)
Strength & Modulus
Cytec Cycom 5215 T650 3K70PW Fabric

normalizing t_{ply} [in]: 0.0081

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]
C0FJA116B	A	C1	1	1	113.303	9.106	0.051	0.125	15	LGM	0.0083	116.427	9.358
C0FJA117B	A	C1	1	1	112.663	9.261	0.067	0.124	15	LGM	0.0083	115.027	9.456
C0FJA118B	A	C1	1	1	115.167	9.250	0.045	0.124	15	LAB	0.0083	117.442	9.432
C0FJA119B	A	C1	1	1	111.464	9.287	0.053	0.122	15	LWT	0.0081	111.770	9.313
C0FJA215B	A	C2	1	2	100.504	9.087	0.061	0.127	15	LGM	0.0084	104.792	9.474
C0FJA216B	A	C2	1	2	105.388	9.032	0.051	0.126	15	LGM	0.0084	109.276	9.365
C0FJA217B	A	C2	1	2	110.971	9.060	0.062	0.125	15	LGM	0.0083	114.214	9.324
C0FJB116B	B	C1	2	1	105.924	9.036	0.059	0.123	15	LGM	0.0082	107.581	9.178
C0FJB117B	B	C1	2	1	111.296	9.353	0.063	0.121	15	LGM	0.0081	111.037	9.332
C0FJB118B	B	C1	2	1	112.582	9.343	0.075	0.122	15	LGM	0.0081	112.767	9.358
C0FJB119B	B	C1	2	1	112.962	9.158	0.052	0.121	15	LGM	0.0081	112.574	9.126
C0FJB215B	B	C2	2	2	115.121	9.140	0.060	0.121	15	LGM	0.0081	114.916	9.124
C0FJB216B	B	C2	2	2	112.132	9.615		0.120	15	LWT/LWB	0.0080	110.793	9.500
C0FJB217B	B	C2	2	2	117.021	9.260	0.046	0.120	15	LGM/LWT	0.0080	115.592	9.147
C0FJC116B	C	C1	3	1	123.031	10.125		0.113	15	LGM	0.0076	114.694	9.439
C0FJC117B	C	C1	3	1	119.066	10.141		0.114	15	LGM	0.0076	111.994	9.539
C0FJC118B	C	C1	3	1	116.837	9.813	0.070	0.116	15	LGM	0.0077	111.179	9.338
C0FJC119B	C	C1	3	1	111.940	10.029		0.113	15	LGM	0.0075	104.323	9.346
C0FJC215B	C	C2	3	2	109.825	10.031	0.054	0.115	15	LGM	0.0077	104.191	9.516
C0FJC216B	C	C2	3	2	118.421	9.851	0.042	0.115	15	LGM	0.0077	111.939	9.312
C0FJC217B	C	C2	3	2	122.918	9.518	0.057	0.115	15	LWB	0.0077	116.680	9.035
Average					**113.264**	**9.452**	**0.057**				**Average$_{norm}$**	**0.0080**	**111.867**	**9.334**
Standard Dev.					**5.430**	**0.389**	**0.009**				**Standard Dev.$_{norm}$**		**3.977**	**0.141**
Coeff. of Var. [%]					**4.794**	**4.111**	**15.769**				**Coeff. of Var. [%]$_{norm}$**		**3.555**	**1.511**
Min.					**100.504**	**9.032**	**0.042**				**Min.**	**0.0075**	**104.191**	**9.035**
Max.					**123.031**	**10.141**	**0.075**				**Max.**	**0.0084**	**117.442**	**9.539**
Number of Spec.					**21**	**21**	**17**				**Number of Spec.**		**21**	**21**


Warp Tension Properties (WT) -- (CTD)
Normalized Strength
Cytec Cycom 5215 T650 3K70PW Fabric
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Warp Tension Strength [ksi]
0
10
20
30
40
50
60
70
80
90
100
110
120
130
0
1
2
3
4


Warp Tension Properties (WT) -- (CTD)
Normalized Modulus
Cytec Cycom 5215 T650 3K70PW Fabric
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Warp Tension Modulus [Msi]
0.0
2.0
4.0
6.0
8.0
10.0
12.0
0
1
2
3
4

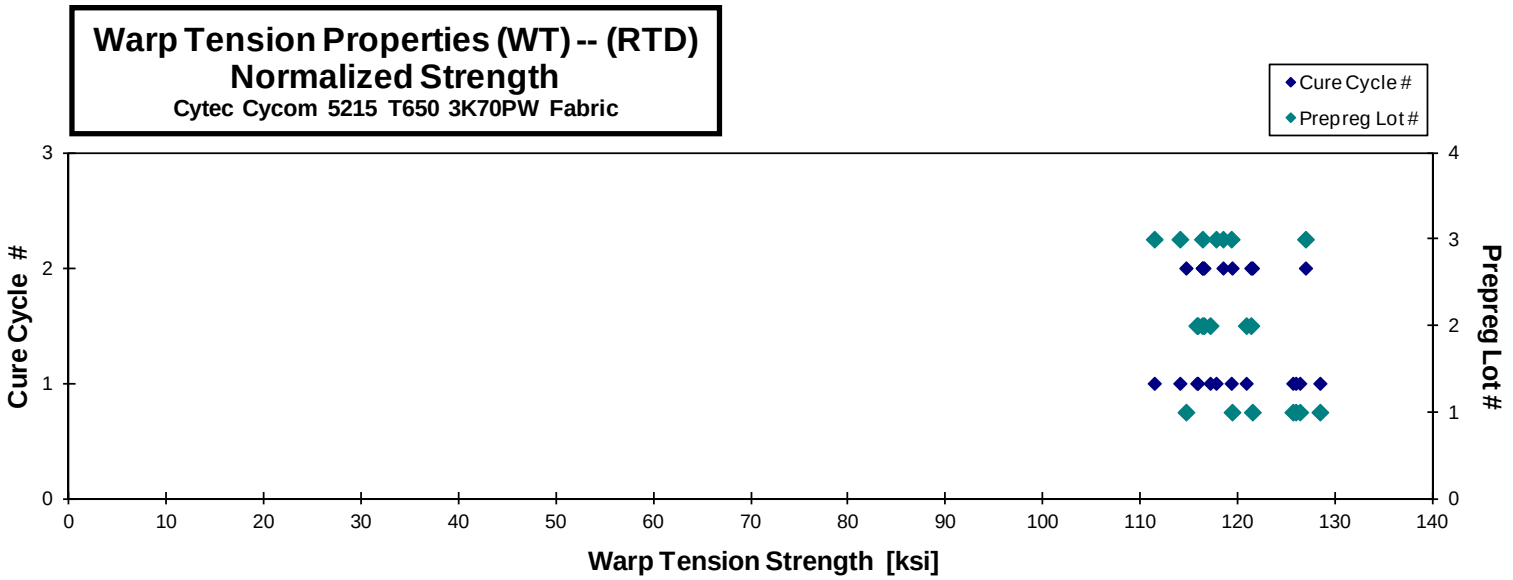
Warp Tension Properties (WT) -- (RTD)
Strength & Modulus
Cytec Cycom 5215 T650 3K70PW Fabric

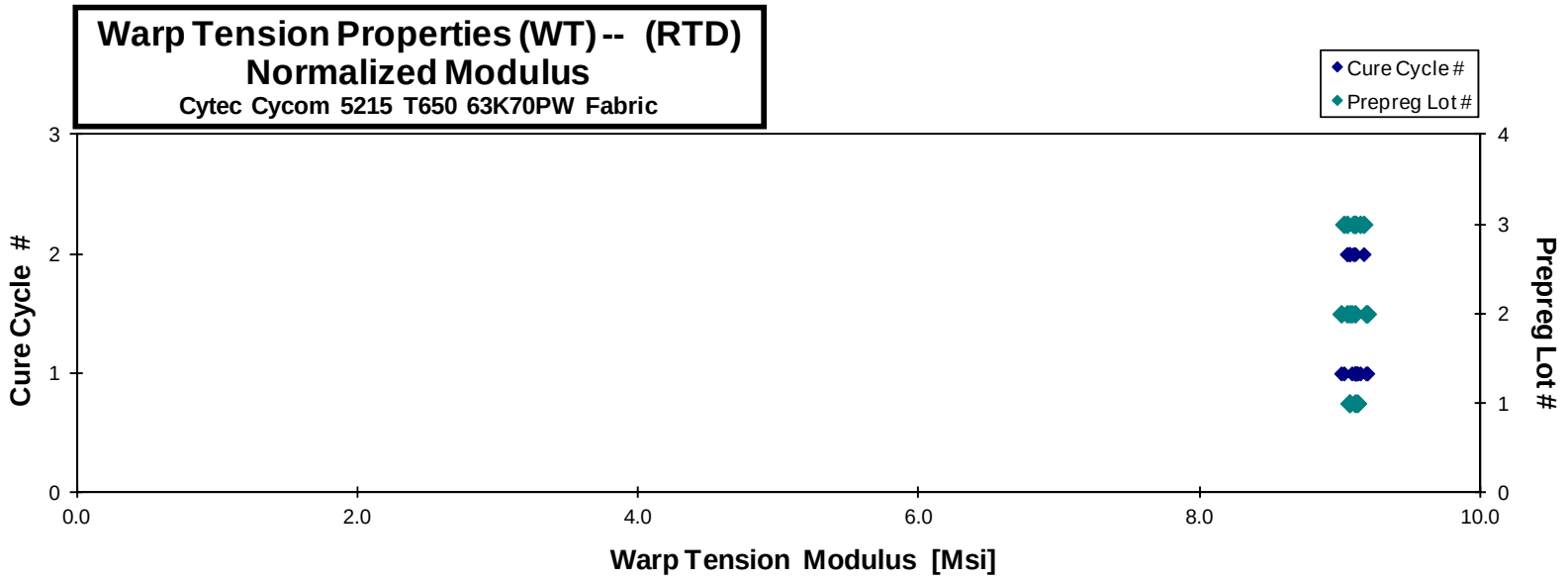
normalizing t_{ply} [in]: 0.0081

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]
C0FJA111A	A	C1	1	1	125.175	9.019	0.048	0.123	15	LWT / LWB	0.0082	126.342	9.103
C0FJA112A	A	C1	1	1	124.232	8.985	0.047	0.123	15	LAT	0.0082	125.919	9.107
C0FJA113A	A	C1	1	1	127.235	9.036	0.046	0.123	15	LGM	0.0082	128.405	9.119
C0FJA114A	A	C1	1	1	122.693	8.909	0.051	0.124	15	LWT /LAB	0.0083	125.622	9.122
C0FJA211A	A	C2	1	2	118.719	8.858	0.051	0.124	15	LGM	0.0083	121.471	9.063
C0FJA212A	A	C2	1	2	115.534	8.774	0.053	0.126	15	LGM	0.0084	119.385	9.066
C0FJA213A	A	C2	1	2	110.939	8.772	0.054	0.126	15	LWT / LWB	0.0084	114.652	9.065
C0FJB111A	B	C1	2	1	117.980	9.171	0.050	0.119	15	LGM	0.0080	115.860	9.006
C0FJB112A	B	C1	2	1	121.925	9.275	0.052	0.120	15	LWT / LWB	0.0080	120.838	9.192
C0FJB113A	B	C1	2	1	117.361	9.099	0.050	0.121	15	LGM	0.0081	117.136	9.082
C0FJB114A	B	C1	2	1	116.754	9.262	0.053	0.120	15	LGM	0.0080	115.761	9.183
C0FJB211A	B	C2	2	2	119.691	9.368	0.055	0.118	15	LGM	0.0079	116.325	9.105
C0FJB212A	B	C2	2	2	118.946	9.237	0.067	0.119	15	LWT	0.0079	116.499	9.047
C0FJB213A	B	C2	2	2	121.926	9.111	0.059	0.121	15	LWT / LWB	0.0081	121.324	9.066
C0FJC111A	C	C1	3	1	118.277	9.583	0.053	0.114	15	LGM	0.0076	111.398	9.025
C0FJC112A	C	C1	3	1	126.709	9.670	0.053	0.114	15	LGM	0.0076	119.304	9.105
C0FJC113A	C	C1	3	1	120.073	9.591	0.046	0.115	15	LWT / LWB	0.0077	114.029	9.108
C0FJC114A	C	C1	3	1	124.615	9.675	0.049	0.115	15	LWT	0.0077	117.743	9.141
C0FJC211A	C	C2	3	2	122.710	9.543	0.050	0.115	15	LGM	0.0077	116.347	9.048
C0FJC212A	C	C2	3	2	124.000	9.595	0.053	0.116	15	LGM	0.0077	118.455	9.166
C0FJC213A	C	C2	3	2	132.298	9.478	0.051	0.117	15	LGM	0.0078	126.926	9.093

	Strength [ksi]	Modulus [Msi]	Poisson's Ratio
Average	121.323	9.239	0.052
Standard Dev.	4.718	0.300	0.005
Coeff. of Var. [%]	3.889	3.244	8.925
Min.	110.939	8.772	0.046
Max.	132.298	9.675	0.067
Number of Spec.	21	21	21

		$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
$Average_{norm}$	0.0080	119.511	9.096
$Standard\ Dev._{norm}$		4.765	0.049
$Coeff.\ of\ Var.\ [\%]_{norm}$		3.987	0.534
Min.	0.0076	111.398	9.006
Max.	0.0084	128.405	9.192
Number of Spec.		21	21


Warp Tension Properties (WT) -- (RTD)
Normalized Strength
Cytec Cycom 5215 T650 3K70PW Fabric
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0
10
20
30
40
50
60
70
80
90
100
110
120
130
140
Warp Tension Strength [ksi]


Warp Tension Properties (WT) -- (RTD)
Normalized Modulus
Cytec Cycom 5215 T650 63K70PW Fabric
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
Warp Tension Modulus [Msi]

Warp Tension Properties (WT) -- (ETW)
Strength & Modulus
Cytec Cycom 5215 T650 3K70PW Fabric

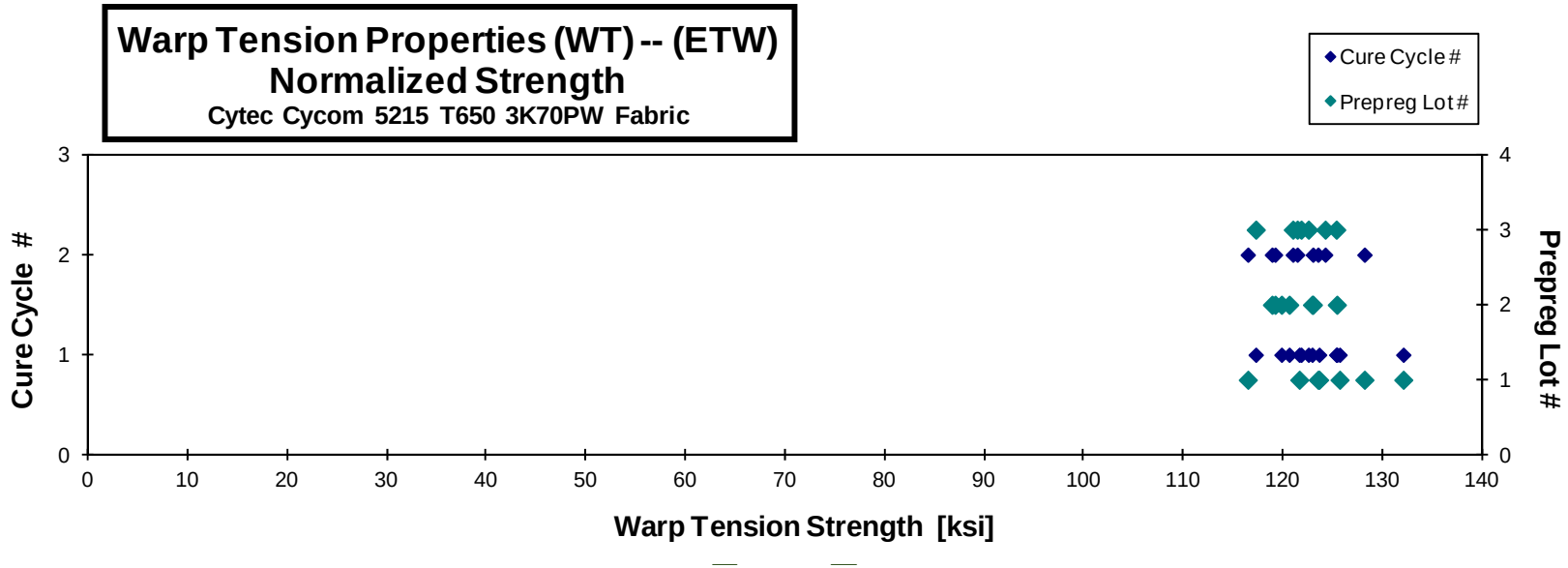
normalizing t_{ply} [in]: 0.0081

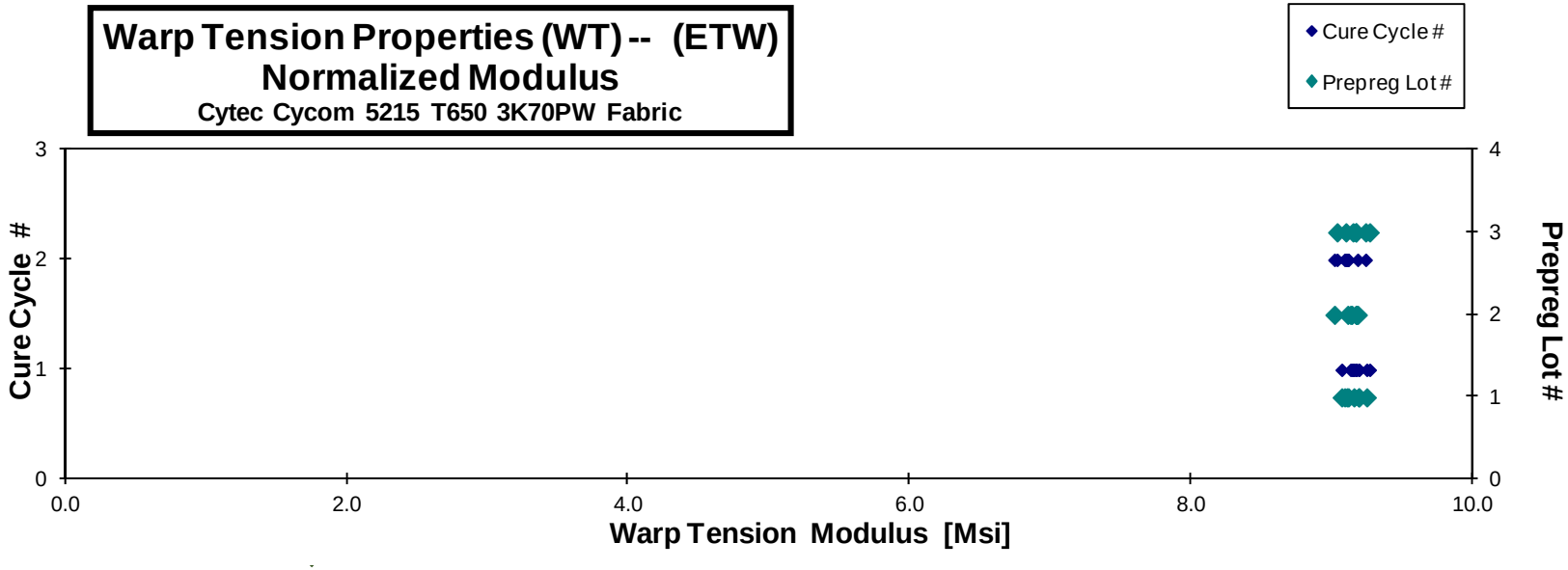
Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Modulus [Msi]	Poisson's Ratio	Avg. Specimen Thickn. [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
C0FJA11BM	A	C1	1	1	119.830	9.020	0.048	0.123	15	LAT/LWB	0.0082	121.605	9.154
C0FJA11CM	A	C1	1	1	122.770	8.859	0.048	0.124	15	LGM/LAT	0.0083	125.650	9.067
C0FJA11DM	A	C1	1	1	119.263	8.868	0.044	0.126	15	LGM/LAT	0.0084	123.598	9.190
C0FJA11EM	A	C1	1	1		8.853	0.051	0.126	15	LIT	0.0084		9.186
C0FJA11FM	A	C1	1	1	129.593	9.073		0.124	15	LGM/LAT	0.0083	132.047	9.245
C0FJA219M	A	C2	1	2	111.893	8.759	0.049	0.126	15	LAT/LWB	0.0084	116.436	9.114
C0FJA21AM	A	C2	1	2	122.919	8.733	0.053	0.127	15	LGM/LAT	0.0084	128.146	9.104
C0FJA21BM	A	C2	1	2	118.050	8.688	0.051	0.127	15	LAB	0.0085	123.475	9.088
C0FJB11BM	B	C1	2	1	121.823	9.232	0.047	0.120	15	LAB/LWT	0.0080	120.586	9.138
C0FJB11CM	B	C1	2	1	123.340	9.205	0.041	0.121	15	LWT	0.0081	122.884	9.171
C0FJB11DM	B	C1	2	1	126.648	9.260	0.047	0.120	15	LGM/LWT	0.0080	125.379	9.167
C0FJB11EM	B	C1	2	1	119.992	9.143	0.046	0.121	15	LWT/LWB	0.0081	119.811	9.129
C0FJB219M	B	C2	2	2	118.995	9.002	0.048	0.122	15	LWT	0.0081	119.174	9.015
C0FJB21AM	B	C2	2	2	120.749	9.255	0.048	0.120	15	LGM	0.0080	118.860	9.110
C0FJB21BM	B	C2	2	2	122.144	9.119	0.049	0.122	15	LGM/LWT	0.0082	122.965	9.180
C0FJC11BM	C	C1	3	1	124.162	9.709	0.046	0.115	15	LGM/LWB	0.0076	117.230	9.167
C0FJC11CM	C	C1	3	1	129.725	9.707	0.044	0.115	15	LWT/LGM	0.0077	122.518	9.168
C0FJC11DM	C	C1	3	1	128.950	9.685	0.048	0.115	15	LWT/LGM	0.0077	121.786	9.147
C0FJC11EM	C	C1	3	1	134.108	9.916	0.040	0.114	15	LGM	0.0076	125.315	9.266
C0FJC219M	C	C2	3	2	126.346	9.502	0.042	0.116	15	LAB	0.0078	120.956	9.097
C0FJC21AM	C	C2	3	2	129.792	9.653	0.048	0.116	15	LGM/LWT	0.0078	124.201	9.237
C0FJC21BM	C	C2	3	2	127.685	9.502	0.046	0.116	15	LAB/LWT	0.0077	121.397	9.034

Tensile strength is not reported for C0FJA11EM due to unacceptable failure mode.
Poisson's ratio is not reported for C0FJA11FM due to non linear data.

Average	**123.751**	**9.216**	**0.047**
Standard Dev.	**5.167**	**0.363**	**0.003**
Coeff. of Var. [%]	**4.175**	**3.944**	**6.804**
Min.	**111.893**	**8.688**	**0.040**
Max.	**134.108**	**9.916**	**0.053**
Number of Spec.	**21**	**22**	**21**

$Average_{norm}$	**0.0080**	**122.572**	**9.144**
Standard $Dev._{norm}$		**3.599**	**0.064**
Coeff. of Var. $[\%]_{norm}$		**2.937**	**0.697**
Min.	**0.0076**	**116.436**	**9.015**
Max.	**0.0085**	**132.047**	**9.266**
Number of Spec.		**21**	**22**


Warp Tension Properties (WT) -- (ETW)
Normalized Strength
Cytec Cycom 5215 T650 3K70PW Fabric
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Warp Tension Strength [ksi]
0
10
20
30
40
50
60
70
80
90
100
110
120
130
140
0
1
2
3
4


Warp Tension Properties (WT) -- (ETW)
Normalized Modulus
Cytec Cycom 5215 T650 3K70PW Fabric
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Warp Tension Modulus [Msi]
0.0
2.0
4.0
6.0
8.0
10.0
0
1
2
3
4

4.2 Fill Tension Properties (FT)

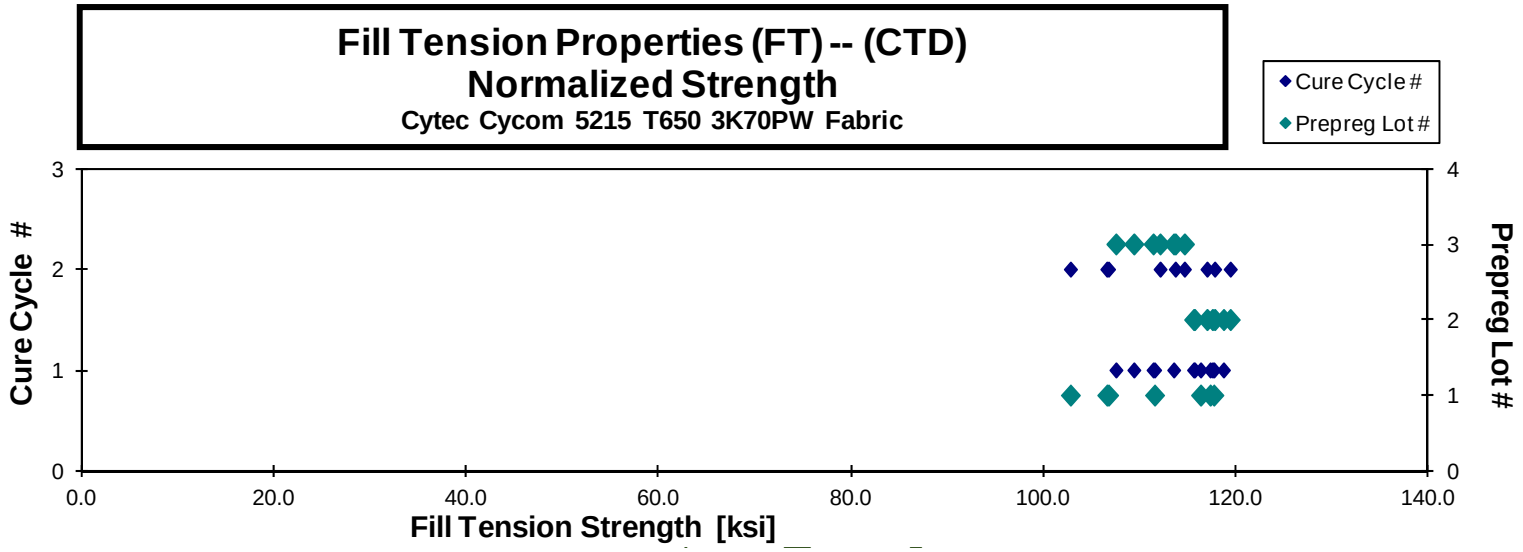
Fill Tension Properties (FT) -- (CTD)
Strength & Modulus
Cytec Cycom 5215 T650 3K70PW Fabric

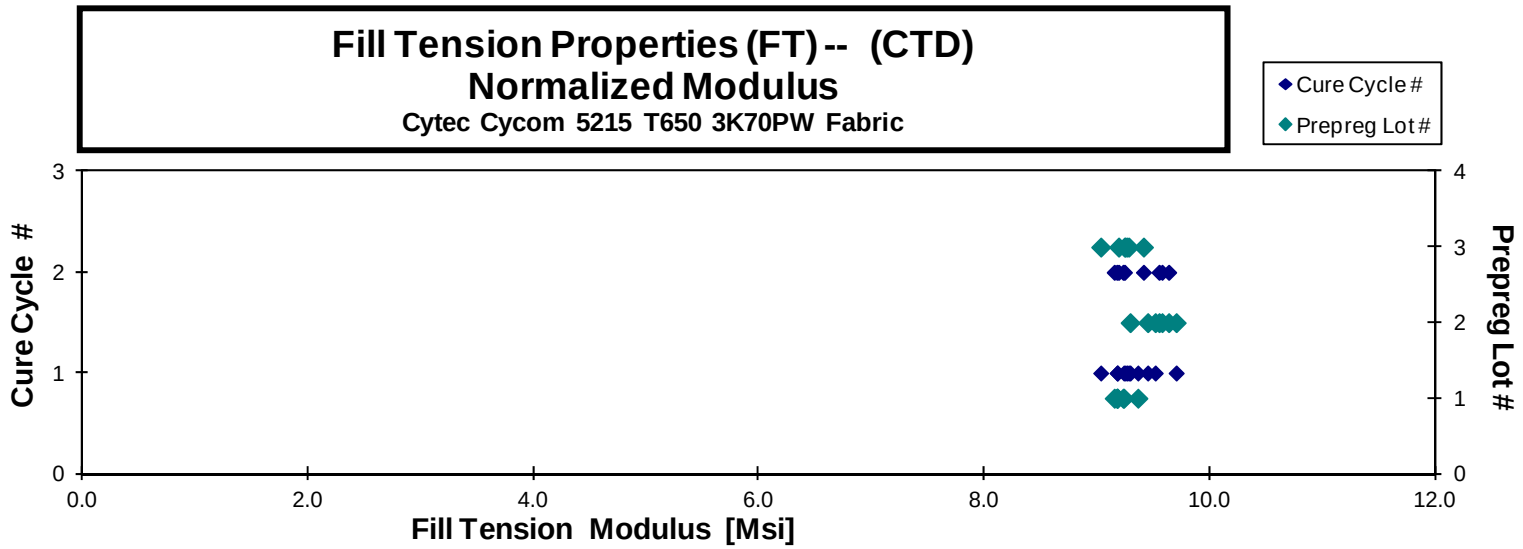
normalizing t_{ply} [in]: 0.0081

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]
C0FUA116B	A	C1	1	1	112.739	8.960	0.125	15	LGM	0.0084	116.234	9.238
C0FUA117B	A	C1	1	1	108.621	9.125	0.125	15	LGM	0.0083	111.452	9.363
C0FUA118B	A	C1	1	1	115.958	9.051	0.123	15	LGM	0.0082	117.612	9.180
C0FUA119B	A	C1	1	1	115.333	9.031	0.124	15	LGM	0.0082	117.232	9.179
C0FUA215B	A	C2	1	2	101.560	9.129	0.123	15	LGM	0.0082	102.702	9.231
C0FUA216B	A	C2	1	2	105.036	9.051	0.123	15	LWT	0.0082	106.491	9.177
C0FUA217B	A	C2	1	2	104.769	8.990	0.124	15	LWB	0.0082	106.666	9.153
C0FUB116B	B	C1	2	1	115.846	9.320	0.123	15	LGM	0.0082	117.467	9.450
C0FUB117B	B	C1	2	1	117.425	9.606	0.123	15	LWT / LWB	0.0082	118.617	9.703
C0FUB118B	B	C1	2	1	114.870	9.456	0.122	15	LGM	0.0082	115.611	9.517
C0FUB119B	B	C1	2	1	114.837	9.240	0.122	15	LGM	0.0081	115.515	9.294
C0FUB215B	B	C2	2	2	119.255	9.704	0.120	15	LGM	0.0080	117.701	9.577
C0FUB216B	B	C2	2	2	120.030	9.693	0.121	15	LWB	0.0081	119.322	9.636
C0FUB217B	B	C2	2	2	116.595	9.526	0.122	15	LWB	0.0081	116.899	9.551
C0FUC116B	C	C1	3	1	116.866	9.659	0.114	15	LGM	0.0076	109.299	9.034
C0FUC117B	C	C1	3	1	115.565	9.985	0.113	15	LWB	0.0075	107.433	9.282
C0FUC118B	C	C1	3	1	119.362	9.937	0.113	15	LWB	0.0076	111.306	9.267
C0FUC119B	C	C1	3	1	119.987	9.786	0.115	15	LGM	0.0077	113.437	9.252
C0FUC215B	C	C2	3	2	121.366	10.055	0.114	15	LGM	0.0076	113.608	9.413
C0FUC216B	C	C2	3	2	121.877	9.835	0.114	15	LGM	0.0076	114.554	9.244
C0FUC217B	C	C2	3	2	119.709	9.823	0.114	15	LGM	0.0076	112.024	9.192

Average	**115.124**	**9.474**	
Standard Dev.	**5.663**	**0.367**	
Coeff. of Var. [%]	**4.919**	**3.871**	
Min.	**101.560**	**8.960**	
Max.	**121.877**	**10.055**	
Number of Spec.	**21**	**21**	

$Average_{norm}$	**0.0080**	**113.390**	**9.330**
Standard $Dev._{norm}$		**4.641**	**0.180**
Coeff. of Var. $[\%]_{norm}$		**4.093**	**1.927**
Min.	**0.0075**	**102.702**	**9.034**
Max.	**0.0084**	**119.322**	**9.703**
Number of Spec.		**21**	**21**


Fill Tension Properties (FT) -- (CTD)
Normalized Strength
Cytec Cycom 5215 T650 3K70PW Fabric
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Fill Tension Strength [ksi]
0.0
20.0
40.0
60.0
80.0
100.0
120.0
140.0

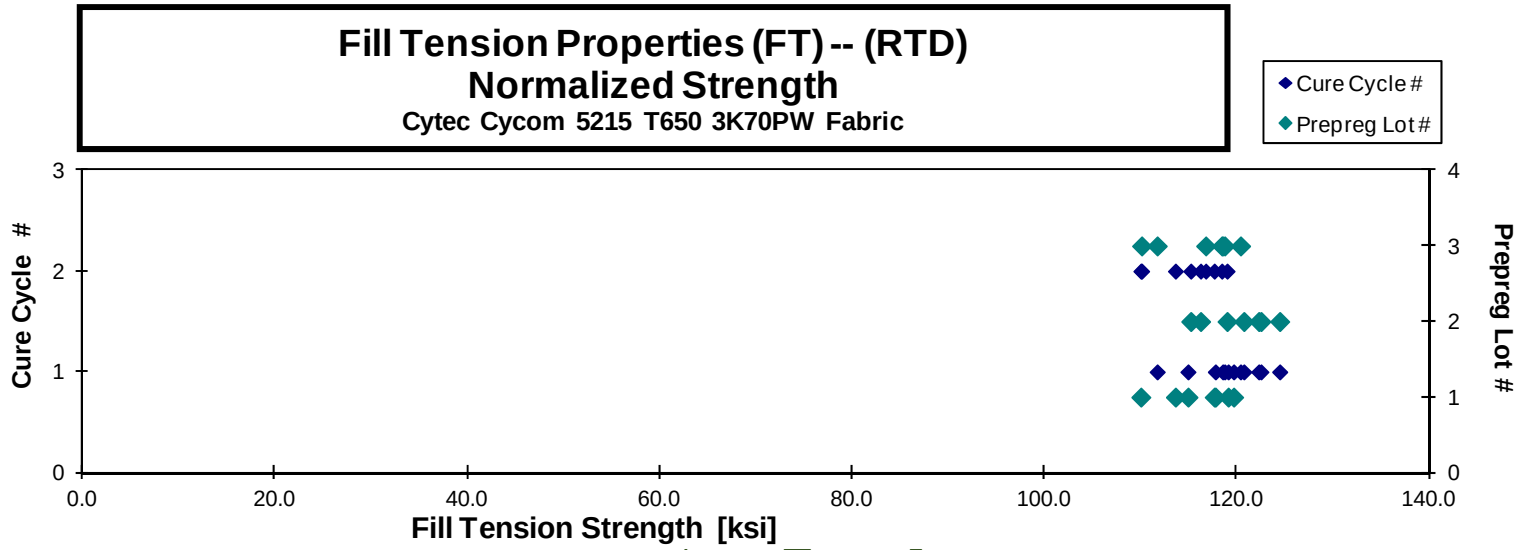

Fill Tension Properties (FT) -- (CTD)
Normalized Modulus
Cytec Cycom 5215 T650 3K70PW Fabric
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Fill Tension Modulus [Msi]
0.0
2.0
4.0
6.0
8.0
10.0
12.0

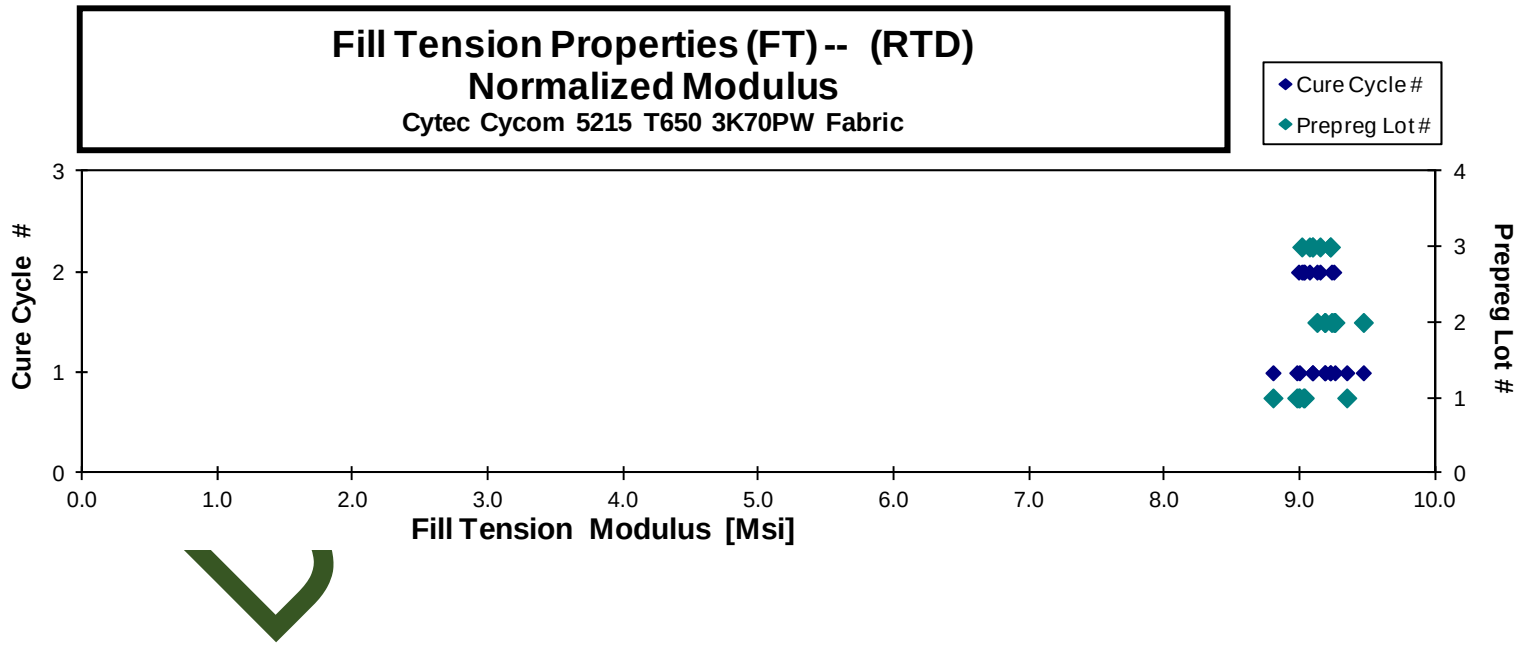
Fill Tension Properties (FT) -- (RTD)
Strength & Modulus
Cytec Cycom 5215 T650 3K70PW Fabric

normalizing t_{ply} [in]: 0.0081

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]
C0FUA111A	A	C1	1	1	117.629	8.986	0.122	15	LGM	0.0081	117.774	8.997
C0FUA112A	A	C1	1	1	117.763	8.702	0.123	15	LGM	0.0082	119.104	8.801
C0FUA113A	A	C1	1	1	113.459	9.228	0.123	15	LGM	0.0082	114.922	9.347
C0FUA114A	A	C1	1	1	118.517	8.891	0.123	15	LGM	0.0082	119.671	8.977
C0FUA211A	A	C2	1	2	116.582	8.944	0.123	15	LAT/LWB	0.0082	117.653	9.026
C0FUA212A	A	C2	1	2	108.566	8.913	0.123	15	LGM	0.0082	110.025	9.033
C0FUA213A	A	C2	1	2	112.024	8.864	0.123	15	LWT/LWB	0.0082	113.622	8.991
C0FUB111A	B	C1	2	1	123.043	9.240	0.121	15	LWT/LWB	0.0081	122.284	9.183
C0FUB112A	B	C1	2	1	123.682	9.128	0.122	15	LGM	0.0082	124.462	9.185
C0FUB113A	B	C1	2	1	120.601	9.249	0.122	15	LWT/LWB	0.0081	120.733	9.260
C0FUB114A	B	C1	2	1	121.758	9.411	0.122	15	LGM	0.0082	122.509	9.469
C0FUB211A	B	C2	2	2	117.787	9.357	0.120	15	LGM	0.0080	116.235	9.234
C0FUB212A	B	C2	2	2	120.207	9.346	0.120	15	LGM	0.0080	118.986	9.251
C0FUB213A	B	C2	2	2	116.659	9.240	0.120	15	LGM	0.0080	115.219	9.126
C0FUC111A	C	C1	3	1	129.049	9.900	0.112	15	LGM	0.0074	118.533	9.093
C0FUC112A	C	C1	3	1	119.900	9.900	0.113	15	LGM	0.0075	111.726	9.225
C0FUC113A	C	C1	3	1	127.236	9.745	0.113	15	LGM	0.0076	118.736	9.094
C0FUC114A	C	C1	3	1	128.745	9.864	0.114	15	LGM	0.0076	120.391	9.224
C0FUC211A	C	C2	3	2	125.699	9.765	0.113	15	LGM	0.0075	116.767	9.071
C0FUC212A	C	C2	3	2	126.632	9.782	0.114	15	LWT/LWB	0.0076	118.433	9.149
C0FUC213A	C	C2	3	2	117.970	9.658	0.113	15	LWB	0.0076	110.106	9.014

Average	**120.167**	**9.339**	**$Average_{norm}$**	**0.0079**	**117.519**	**9.131**
Standard Dev.	**5.453**	**0.383**	**$Standard\ Dev._{norm}$**		**3.881**	**0.148**
Coeff. of Var. [%]	**4.538**	**4.101**	**$Coeff.\ of\ Var.\ [\%]_{norm}$**		**3.302**	**1.618**
Min.	**108.566**	**8.702**	**Min.**	**0.0074**	**110.025**	**8.801**
Max.	**129.049**	**9.900**	**Max.**	**0.0082**	**124.462**	**9.469**
Number of Spec.	**21**	**21**	**Number of Spec.**		**21**	**21**


Fill Tension Properties (FT) -- (RTD)
Normalized Strength
Cytec Cycom 5215 T650 3K70PW Fabric
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
Fill Tension Strength [ksi]


Fill Tension Properties (FT) -- (RTD)
Normalized Modulus
Cytec Cycom 5215 T650 3K70PW Fabric
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
Fill Tension Modulus [Msi]

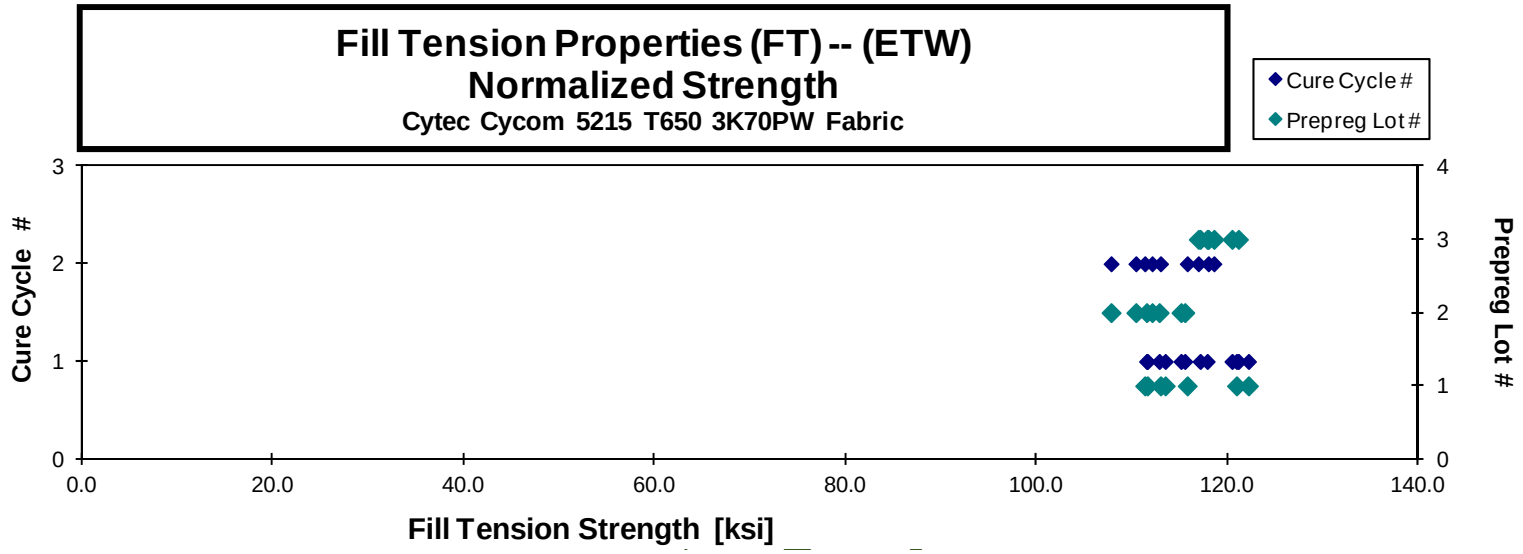
Fill Tension Properties (FT) -- (ETW)
Strength & Modulus
Cytec Cycom 5215 T650 3K70PW Fabric

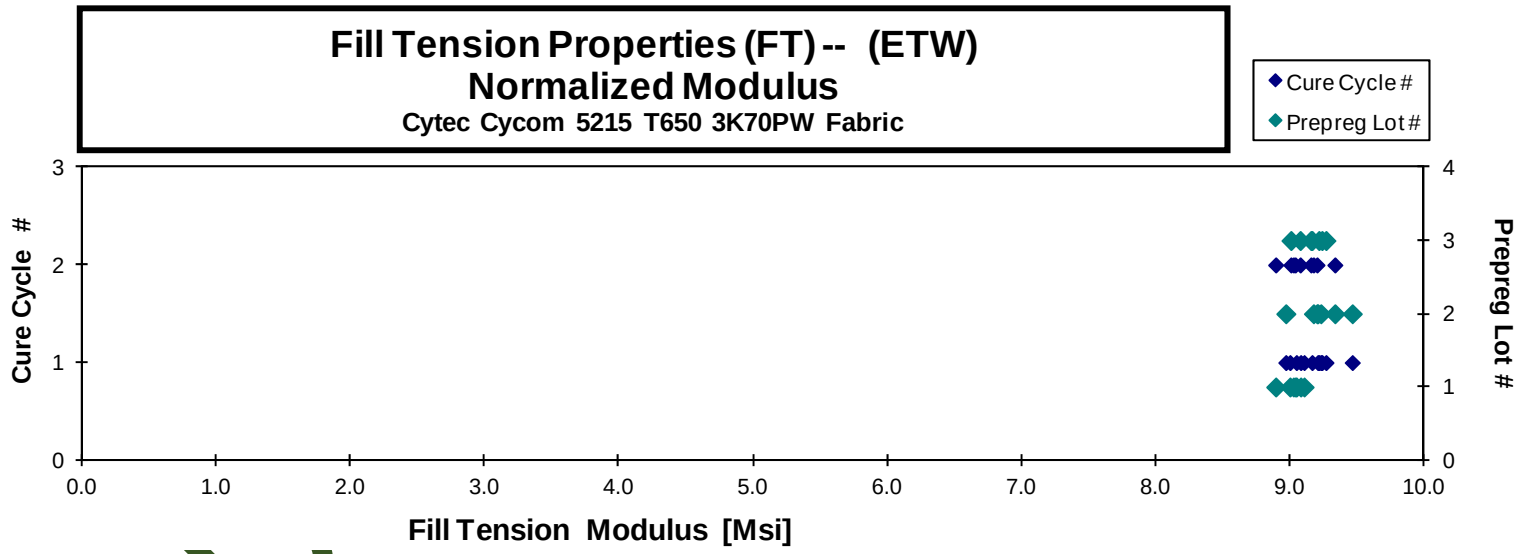
normalizing t_{ply} [in]: 0.0081

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]
C0FUA11BM	A	C1	1	1	109.911	8.966	0.123	15	LGM	0.0082	111.615	9.105
C0FUA11CM	A	C1	1	1	110.915	8.874	0.124	15	LWT / LWB	0.0083	113.486	9.079
C0FUA11DM	A	C1	1	1	119.532	8.803	0.124	15	LWT / LWB	0.0083	122.205	9.000
C0FUA11EM	A	C1	1	1	119.578	8.944	0.123	15	LGM	0.0082	120.956	9.048
C0FUA219M	A	C2	1	2	111.092	8.887	0.124	15	LGM	0.0082	112.997	9.039
C0FUA21AM	A	C2	1	2	113.737	8.865	0.124	15	LWT / LWB	0.0082	115.796	9.025
C0FUA21BM	A	C2	1	2	109.791	8.770	0.123	15	LGM	0.0082	111.342	8.894
C0FUB11BM	B	C1	2	1	113.025	8.983	0.121	15	LWT / LWB	0.0081	112.854	8.969
C0FUB11CM	B	C1	2	1	111.066	9.424	0.122	15	LGM	0.0081	111.539	9.464
C0FUB11DM	B	C1	2	1	115.250	9.184	0.122	15	LWT / LWB	0.0081	115.535	9.207
C0FUB11EM	B	C1	2	1	114.310	9.163	0.122	15	LGM	0.0082	115.141	9.230
C0FUB219M	B	C2	2	2	110.507	9.182	0.121	15	LWT / LGM	0.0081	110.416	9.175
C0FUB21AM	B	C2	2	2	114.164	9.505	0.119	15	LWT	0.0080	112.113	9.334
C0FUB21BM	B	C2	2	2	108.441	9.254	0.121	15	LGM	0.0081	107.817	9.201
C0FUC11BM	C	C1	3	1	128.862	9.880	0.114	15	LGM / LWT	0.0076	120.484	9.238
C0FUC11CM	C	C1	3	1	126.467	9.943	0.113	15	LGM	0.0076	117.880	9.268
C0FUC11DM	C	C1	3	1	126.018	9.858	0.113	15	LGM	0.0075	117.150	9.164
C0FUC11EM	C	C1	3	1	129.546	9.853	0.114	15	LGM	0.0076	121.158	9.215
C0FUC219M	C	C2	3	2	124.016	9.624	0.115	15	LAT / LAB	0.0076	116.956	9.076
C0FUC21AM	C	C2	3	2	126.909	9.639	0.114	15	LWB / LAT	0.0076	118.588	9.007
C0FUC21BM	C	C2	3	2	125.634	9.748	0.114	15	LWT / LWB	0.0076	117.999	9.156

Average	117.561	9.302	
Standard Dev.	7.304	0.406	
Coeff. of Var. [%]	6.213	4.368	
Min.	108.441	8.770	
Max.	129.546	9.943	
Number of Spec.	21	21	

$Average_{norm}$	0.0080	115.430	9.138
$Standard\ Dev._{norm}$		3.998	0.134
$Coeff.\ of\ Var.\ [\%]_{norm}$		3.464	1.470
Min.	0.0075	107.817	8.894
Max.	0.0083	122.205	9.464
Number of Spec.		21	21


Fill Tension Properties (FT) -- (ETW)
Normalized Strength
Cytec Cycom 5215 T650 3K70PW Fabric
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
Fill Tension Strength [ksi]


Fill Tension Properties (FT) -- (ETW)
Normalized Modulus
Cytec Cycom 5215 T650 3K70PW Fabric
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
Fill Tension Modulus [Msi]

4.3 Warp Compression Properties (WC)

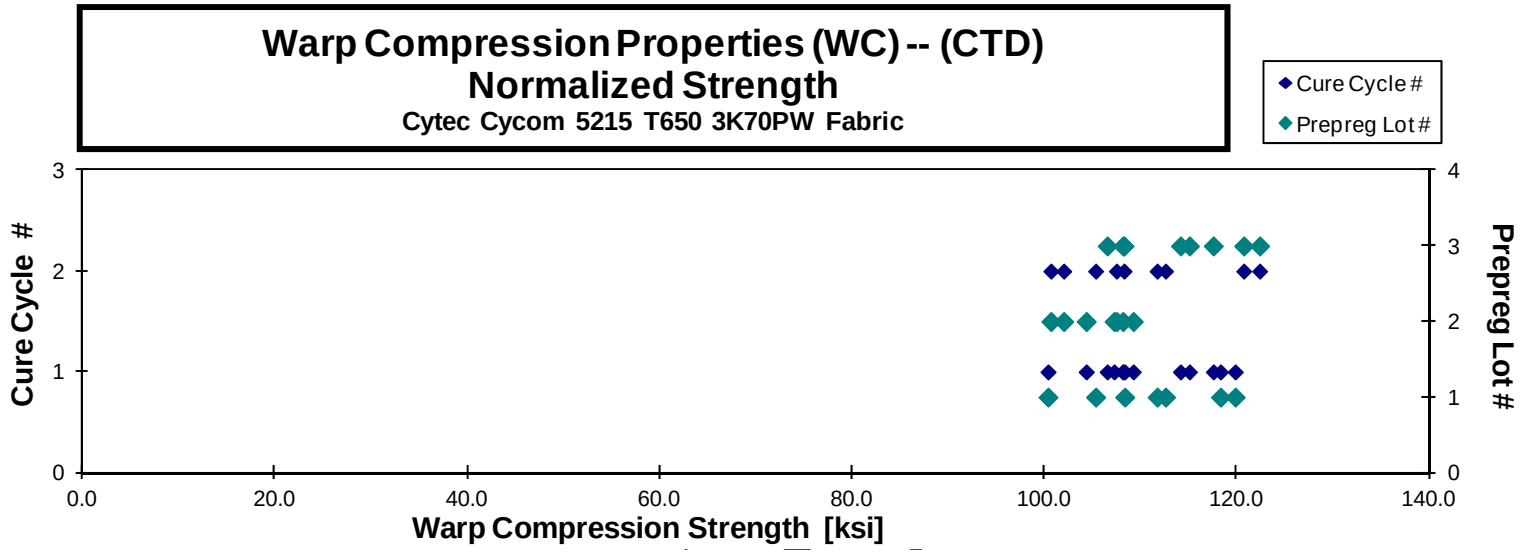
Warp Compression Properties (WC) -- (CTD)
Strength & Modulus
Cytec Cycom 5215 T650 3K70PW Fabric

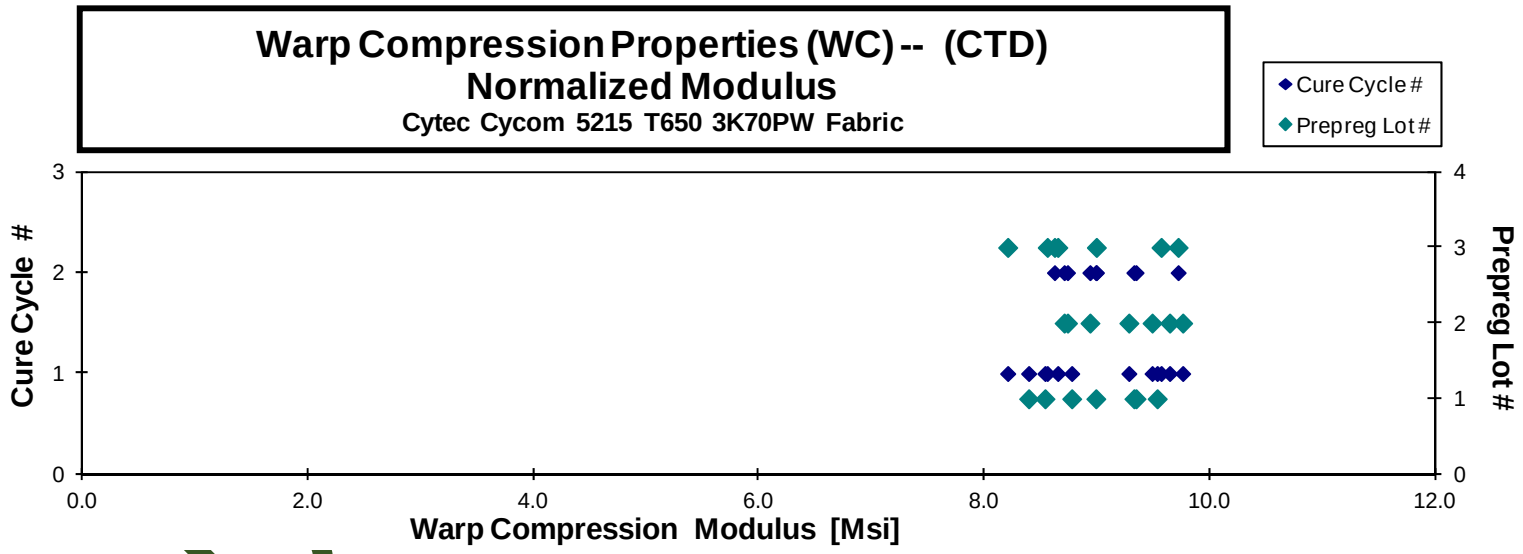
normalizing t_{ply} [in]: 0.0081

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]
C0FLA116B	A	C1	1	1	110.457	8.705	0.050	0.119	15	BGM	0.0079	108.351	8.539
C0FLA117B	A	C1	1	1	120.069	8.519	0.053	0.120	15	BGM	0.0080	118.307	8.394
C0FLA118B	A	C1	1	1	120.184	9.562	0.058	0.121	15	BGM	0.0081	119.838	9.534
C0FLA119B	A	C1	1	1	100.665	8.801	0.050	0.121	15	BGM	0.0081	100.375	8.776
C0FLA215B	A	C2	1	2	105.368	9.332	0.060	0.121	15	BGM	0.0081	105.325	9.328
C0FLA216B	A	C2	1	2	113.111	9.463	0.041	0.120	15	BGM	0.0080	111.715	9.346
C0FLA217B	A	C2	1	2	112.962	9.020	0.043	0.121	15	BGM	0.0081	112.590	8.990
C0FLB116B	B	C1	2	1	111.610	9.973	0.056	0.119	15	BGM	0.0079	109.237	9.761
C0FLB117B	B	C1	2	1	109.250	9.742	0.065	0.120	15	BGM	0.0080	108.156	9.645
C0FLB118B	B	C1	2	1	105.652	9.399	0.055	0.120	15	BGM	0.0080	104.348	9.283
C0FLB119B	B	C1	2	1	109.057	9.649	0.050	0.119	15	BGM	0.0080	107.247	9.489
C0FLB215B	B	C2	2	2	111.512	9.035	*	0.117	15	BGM	0.0078	107.489	8.709
C0FLB216B	B	C2	2	2	105.422	9.081	*	0.118	15	BGM	0.0078	102.009	8.739
C0FLB217B	B	C2	2	2	104.114	9.244	*	0.117	15	BGM	0.0078	100.672	8.938
C0FLC116B	C	C1	3	1	118.605	9.862	0.074	0.118	15	BGM	0.0079	115.075	9.569
C0FLC117B	C	C1	3	1	117.445	8.807	0.051	0.118	15	BGM	0.0079	114.143	8.559
C0FLC118B	C	C1	3	1	120.707	8.428	0.051	0.118	15	BGM / HAB	0.0079	117.561	8.208
C0FLC119B	C	C1	3	1	110.712	8.857	0.062	0.119	15	BGM	0.0079	108.161	8.653
C0FLC11AB	C	C1	3	1	110.263			0.117	15	BGM	0.0078	106.527	
C0FLC215B	C	C2	3	2	126.024	10.010	0.054	0.118	15	BGM	0.0079	122.377	9.720
C0FLC216B	C	C2	3	2	125.708	8.979	0.046	0.117	15	BGM	0.0078	120.724	8.623
C0FLC217B	C	C2	3	2	113.295	9.412	*	0.116	15	BGM	0.0077	108.275	8.995

*Poissons ratio not reported due to non linear data
C0FLC11AB- Strain gage was not used

	Strength [ksi]	Modulus [Msi]	Poisson's Ratio	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
Average	112.827	9.230	0.054	110.386	9.038
Standard Dev.	6.888	0.466	0.008	6.461	0.475
Coeff. of Var. [%]	6.105	5.051	15.110	5.853	5.254
Min.	100.665	8.428	0.041	100.375	8.208
Max.	126.024	10.010	0.074	122.377	9.761
Number of Spec.	22	21	17	22	21


Warp Compression Properties (WC) -- (CTD)
Normalized Strength
Cytec Cycom 5215 T650 3K70PW Fabric
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Warp Compression Strength [ksi]
0.0
20.0
40.0
60.0
80.0
100.0
120.0
140.0


Warp Compression Properties (WC) -- (CTD)
Normalized Modulus
Cytec Cycom 5215 T650 3K70PW Fabric
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Warp Compression Modulus [Msi]
0.0
2.0
4.0
6.0
8.0
10.0
12.0

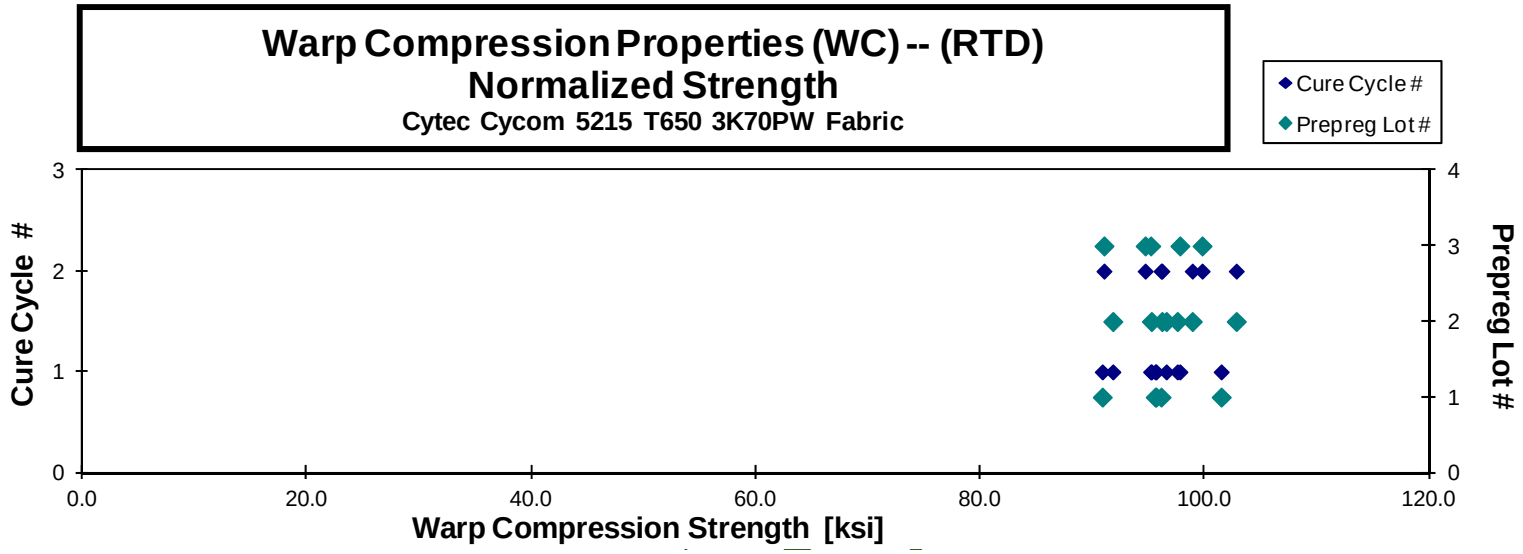
Warp Compression Properties (WC) -- (RTD)
Strength & Modulus
Cytec Cycom 5215 T650 3K70PW Fabric

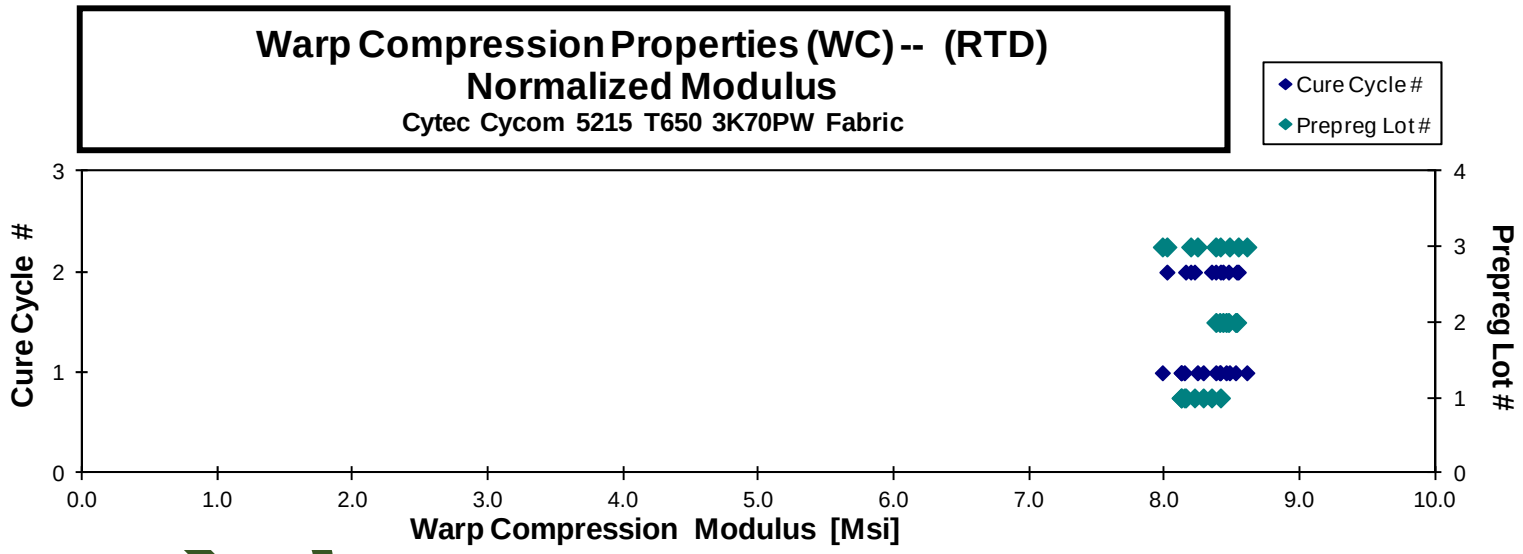
normalizing t_{ply} [in]: 0.0081

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]
C0FLA111A	A	C1	1	1	97.839	8.338	0.047	0.119	15	BGM	0.0079	95.584	8.146
C0FLA112A	A	C1	1	1	103.657	8.298	0.052	0.119	15	BGM	0.0079	101.467	8.122
C0FLA113A	A	C1	1	1	92.470	8.266	0.048	0.119	15	BGM	0.0080	90.872	8.123
C0FLA114A	A	C1	1	1	97.262	8.424	0.053	0.120	15	BGM	0.0080	95.661	8.285
C0FLA211A	A	C2	1	2	*	8.619	0.065	0.118	15	BGM / ENDCRUSH	0.0078		8.347
C0FLA212A	A	C2	1	2	98.668	8.440	0.045	0.118	15	BGM	0.0079	96.109	8.221
C0FLA213A	A	C2	1	2	*	8.252	0.059	0.120	15	HIT	0.0080		8.155
C0FLA214A	A	C2	1	2	*	8.474	0.045	0.121	15	HIT	0.0080		8.413
C0FLB111A	B	C1	2	1	97.752	8.599	0.050	0.118	15	BGM	0.0079	95.245	8.379
C0FLB112A	B	C1	2	1	93.727	8.632	0.053	0.119	15	BGM	0.0079	91.811	8.455
C0FLB113A	B	C1	2	1	98.483	8.487	0.059	0.120	15	BGM	0.0080	97.551	8.407
C0FLB114A	B	C1	2	1	96.862	8.550	0.055	0.121	15	BGM	0.0081	96.569	8.524
C0FLB211A	B	C2	2	2	99.037	8.786	0.050	0.118	15	BGM	0.0079	96.184	8.533
C0FLB212A	B	C2	2	2	106.840	8.805	0.051	0.117	15	BGM	0.0078	102.810	8.473
C0FLB213A	B	C2	2	2	101.865	8.685	0.053	0.118	15	BGM	0.0079	98.888	8.431
C0FLC111A	C	C1	3	1	102.528	8.819	0.049	0.116	15	BGM	0.0077	97.788	8.412
C0FLC112A	C	C1	3	1	98.074	8.738	0.063	0.118	15	BGM	0.0079	95.181	8.480
C0FLC113A	C	C1	3	1	*	8.268	0.055	0.117	15	HIT	0.0078		7.983
C0FLC114A	C	C1	3	1	*	8.515	0.053	0.118	15	HIT	0.0078		8.243
C0FLC115A	C	C1	3	1	*	8.716	0.058	0.120	15	HAT/HIT	0.0080		8.608
C0FLC211A	C	C2	3	2	*	8.309	0.066	0.117	15	ENDCRUSH	0.0078		8.017
C0FLC212A	C	C2	3	2	94.348	8.684	0.052	0.117	15	BGM	0.0078	91.022	8.378
C0FLC213A	C	C2	3	2	103.705	8.516	0.053	0.117	15	BGM	0.0078	99.764	8.193
C0FLC214A	C	C2	3	2	98.475	8.886	0.067	0.117	15	BGM	0.0078	94.693	8.545

*Strength Values not reported due to bad failure mode

	Strength [ksi]	Modulus [Msi]	Poisson's Ratio		Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
Average	98.917	8.546	0.054	$Average_{norm}$	0.0079	96.306	8.328
Standard Dev.	3.791	0.195	0.006	Standard $Dev._{norm}$		3.307	0.175
Coeff. of Var. [%]	3.832	2.281	11.601	Coeff. of $Var.\ [\%]_{norm}$		3.434	2.101
Min.	92.470	8.252	0.045	Min.	0.0077	90.872	7.983
Max.	106.840	8.886	0.067	Max.	0.0081	102.810	8.608
Number of Spec.	17	24	24	Number of Spec.		17	24


Warp Compression Properties (WC) -- (RTD)
Normalized Strength
Cytec Cycom 5215 T650 3K70PW Fabric
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Warp Compression Strength [ksi]
0.0
20.0
40.0
60.0
80.0
100.0
120.0


Warp Compression Properties (WC) -- (RTD)
Normalized Modulus
Cytec Cycom 5215 T650 3K70PW Fabric
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Warp Compression Modulus [Msi]
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
10.0

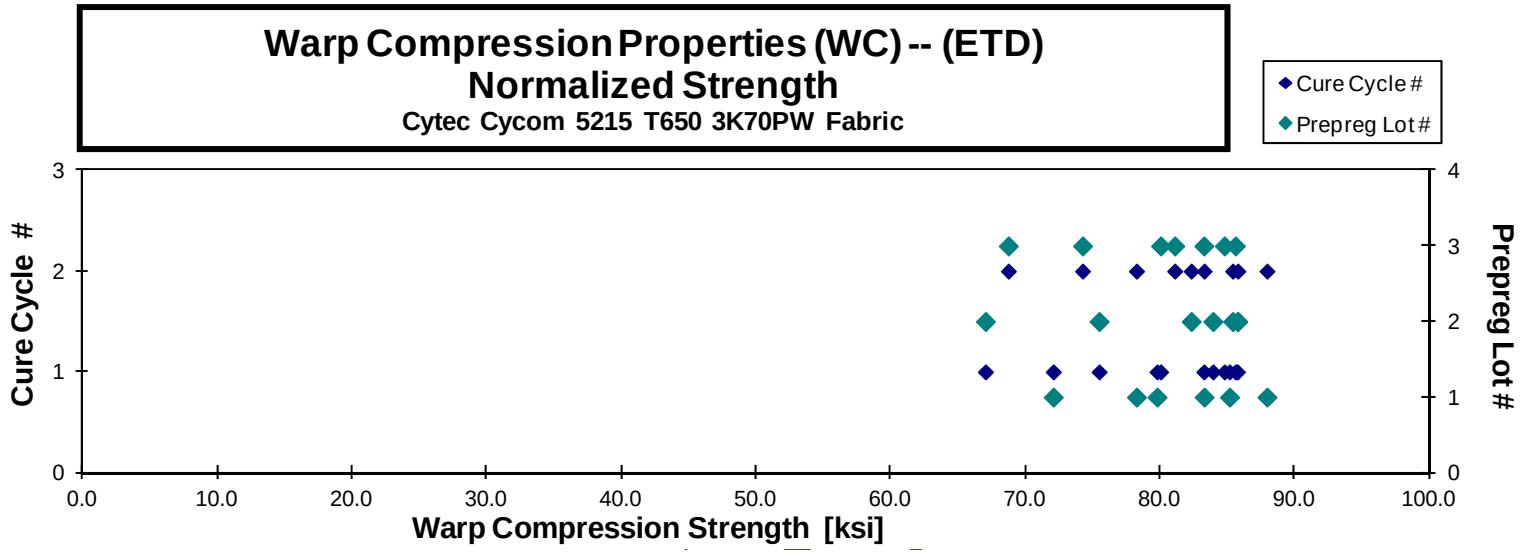
Warp Compression Properties (WC) -- (ETD)
Strength & Modulus
Cytec Cycom 5215 T650 3K70PW Fabric

normalizing t_{ply} [in]: 0.0081

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]
C0FLA11BL	A	C1	1	1	*	7.976	0.040	0.119	15	HGM / HIT	0.0079		7.826
C0FLA11CL	A	C1	1	1	*	8.336	0.040	0.120	15	BGM / HIB	0.0080		8.210
C0FLA11DL	A	C1	1	1	73.388	8.480	0.040	0.119	15	HGM	0.0080	72.089	8.330
C0FLA11EL	A	C1	1	1	86.527	8.442	0.040	0.120	15	BGM	0.0080	85.174	8.310
C0FLA11FL	A	C1	1	1	81.333	8.565	0.033	0.119	15	BGM	0.0079	79.793	8.403
C0FLA219L	A	C2	1	2	89.753	8.557	0.049	0.119	15	BGM	0.0079	87.955	8.386
C0FLA21AL	A	C2	1	2	84.825	8.472	0.045	0.119	15	HGM / HAT	0.0080	83.289	8.319
C0FLA21BL	A	C2	1	2	*	8.514	0.049	0.120	15	BAT / HIT	0.0080		8.389
C0FLA21CL	A	C2	1	2	78.860	8.572	0.039	0.121	15	BAT	0.0080	78.265	8.508
C0FLB11BL	B	C1	2	1	86.689	8.765	0.053	0.118	15	BAT	0.0078	83.942	8.487
C0FLB11CL	B	C1	2	1	*	8.704	0.071	0.119	15	HGM / HIT	0.0080		8.551
C0FLB11DL	B	C1	2	1	87.098	8.399	0.053	0.120	15	BGM	0.0080	85.760	8.269
C0FLB11EL	B	C1	2	1	*	8.501	0.055	0.120	15	BGM / HIT	0.0080		8.416
C0FLB11FL	B	C1	2	1	76.584	8.214	0.046	0.120	15	BAB	0.0080	75.492	8.097
C0FLB11GL	B	C1	2	1	68.544	8.629	0.041	0.119	15	BGM	0.0079	67.049	8.441
C0FLB219L	B	C2	2	2	90.023	8.820	0.049	0.116	15	BGM	0.0077	85.788	8.405
C0FLB21AL	B	C2	2	2	89.869	8.906	0.043	0.115	15	BGM	0.0077	85.406	8.464
C0FLB21BL	B	C2	2	2	85.494	8.599	0.057	0.117	15	BAT	0.0078	82.327	8.280
C0FLC11BL	C	C1	3	1	*	8.553	0.048	0.117	15	HIT / BAT	0.0078		8.222
C0FLC11CL	C	C1	3	1	81.841	8.612	0.065	0.119	15	BAT	0.0079	80.056	8.424
C0FLC11DL	C	C1	3	1	85.270	8.737	0.057	0.119	15	HAT / BAT	0.0079	83.270	8.532
C0FLC11EL	C	C1	3	1	87.954	8.540	0.049	0.118	15	BGM	0.0079	85.613	8.313
C0FLC11FL	C	C1	3	1	85.876	8.396	0.047	0.120	15	BAB	0.0080	84.793	8.290
C0FLC219L	C	C2	3	2	77.051	8.370	0.048	0.117	15	BGM	0.0078	74.260	8.067
C0FLC21AL	C	C2	3	2	83.184	8.176	0.058	0.119	15	BGM	0.0079	81.105	7.976
C0FLC21BL	C	C2	3	2	70.942	8.700	0.065	0.118	15	BGM	0.0079	68.753	8.431

*Strength Values not reported due to bad failure mode

Average	**82.553**	**8.521**	**0.049**	**Average$_{norm}$**	**0.0079**	**80.509**	**8.321**
Standard Dev.	**6.379**	**0.205**	**0.009**	**Standard Dev.$_{norm}$**		**6.035**	**0.174**
Coeff. of Var. [%]	**7.727**	**2.406**	**18.672**	**Coeff. of Var. [%]$_{norm}$**		**7.496**	**2.088**
Min.	**68.544**	**7.976**	**0.033**	**Min.**	**0.0077**	**67.049**	**7.826**
Max.	**90.023**	**8.906**	**0.071**	**Max.**	**0.0080**	**87.955**	**8.551**
Number of Spec.	**20**	**26**	**26**	**Number of Spec.**		**20**	**26**


Warp Compression Properties (WC) -- (ETD)
Normalized Strength
Cytec Cycom 5215 T650 3K70PW Fabric
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Warp Compression Strength [ksi]
0.0
10.0
20.0
30.0
40.0
50.0
60.0
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80.0
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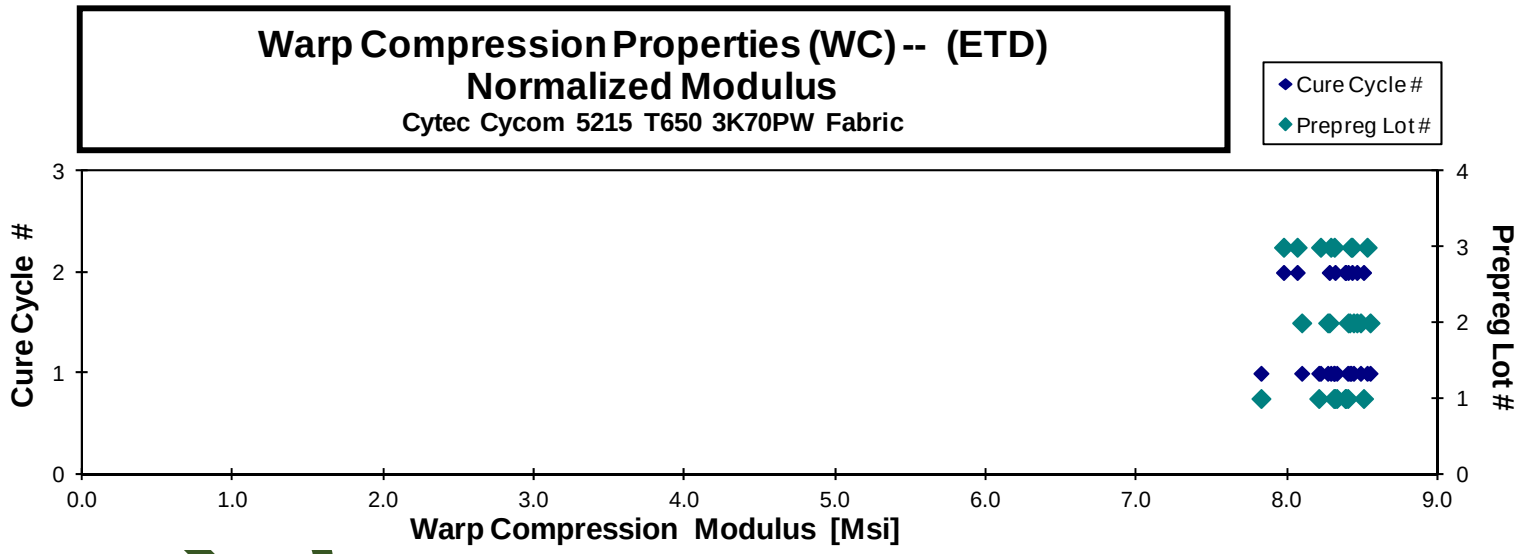
100.0


Warp Compression Properties (WC) -- (ETD)
Normalized Modulus
Cytec Cycom 5215 T650 3K70PW Fabric
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Warp Compression Modulus [Msi]
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0

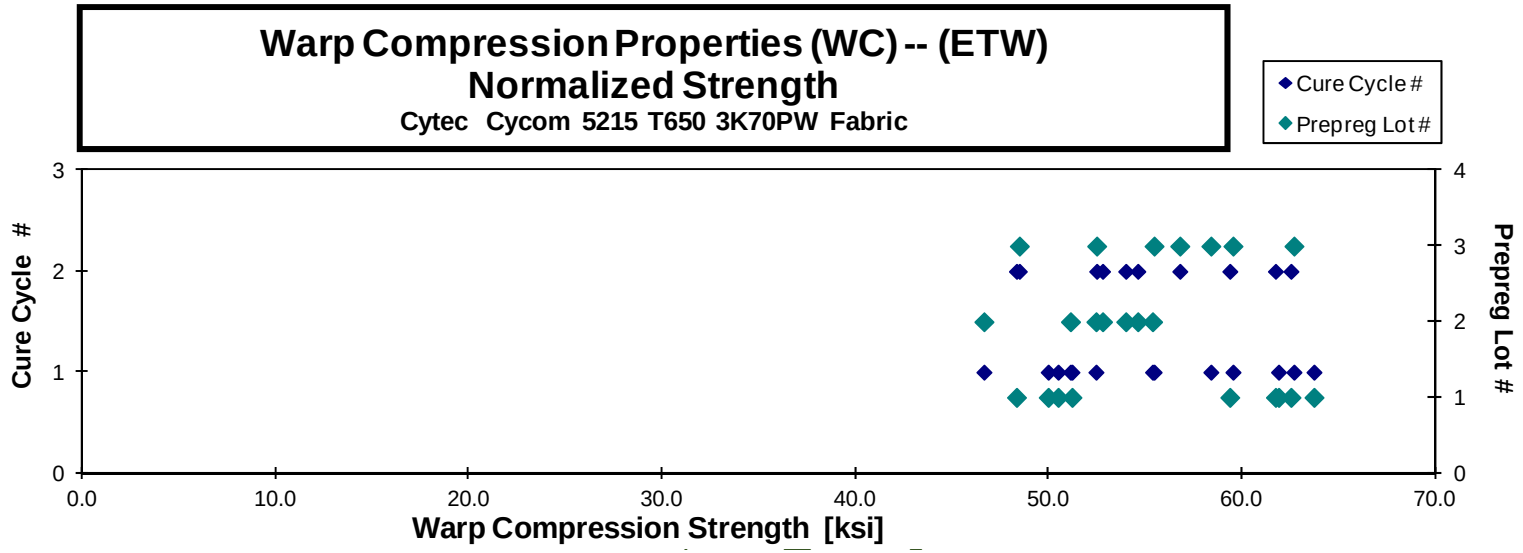
Warp Compression Properties (WC) -- (ETW)
Strength & Modulus
Cytec Cycom 5215 T650 3K70PW Fabric

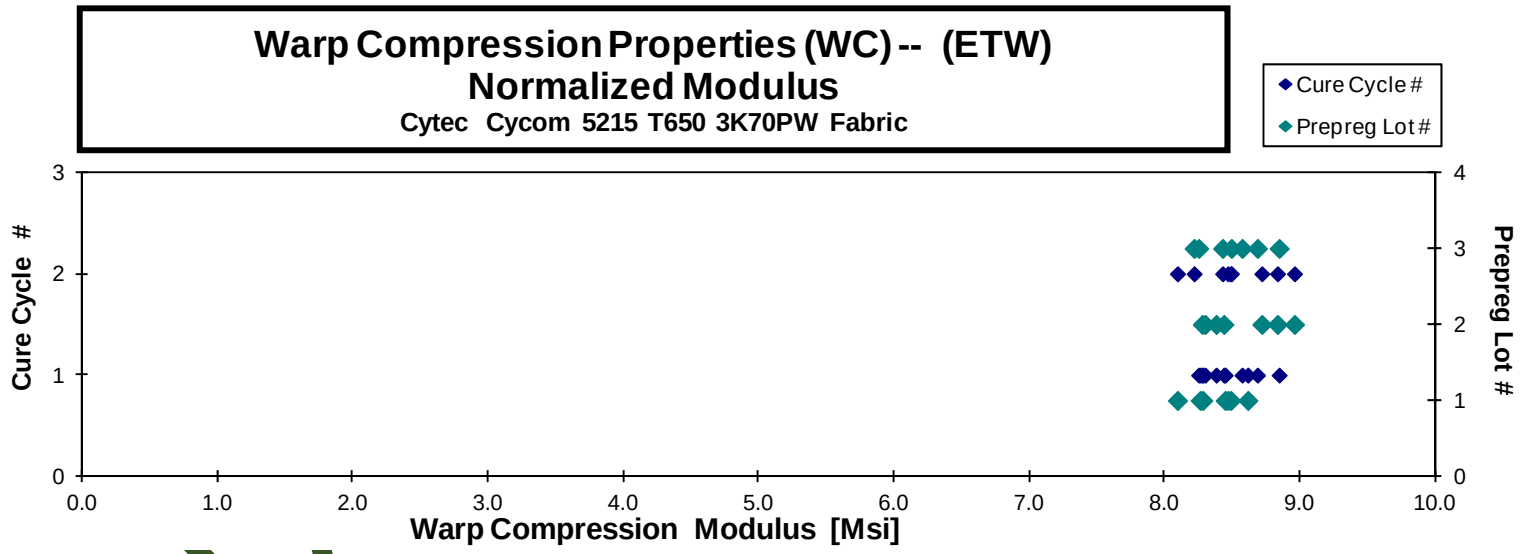
normalizing t_{ply} [in]: 0.0081

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]
C0FLA11GM	A	C1	1	1		8.640	0.042	0.119	15	BGM	0.0079		8.448
C0FLA11HM	A	C1	1	1		8.370	0.042	0.120	15	BGM	0.0080		8.263
C0FLA11IM	A	C1	1	1		8.340	0.044	0.121	15	BAB	0.0080		8.282
C0FLA11JM	A	C1	1	1		8.707	0.040	0.120	15	HGM	0.0080		8.616
C0FLA11KM	A	C1	1	1	64.084			0.121	15	BGM	0.0081	63.732	
C0FLA11LM	A	C1	1	1	62.358			0.121	15	BGM	0.0080	61.896	
C0FLA11MM	A	C1	1	1	50.808			0.120	15	BAT	0.0080	49.978	
C0FLA11NM	A	C1	1	1	51.963			0.120	15	HGM	0.0080	51.207	
C0FLA11OM	A	C1	1	1	51.579			0.119	15	HGM	0.0079	50.489	
C0FLA21DM	A	C2	1	2		8.133	0.032	0.121	15	HAT	0.0081		8.095
C0FLA21EM	A	C2	1	2		8.505	0.039	0.121	15	BGM	0.0081		8.489
C0FLA21FM	A	C2	1	2		8.534	0.034	0.121	15	BAB	0.0080		8.468
C0FLA21GM	A	C2	1	2	63.410			0.120	15	HGM	0.0080	62.540	
C0FLA21HM	A	C2	1	2	62.622			0.120	15	BAB	0.0080	61.737	
C0FLA21IM	A	C2	1	2	48.576			0.121	15	HAB	0.0081	48.336	
C0FLA21JM	A	C2	1	2	60.060			0.120	15	BGM	0.0080	59.376	
C0FLB11HM	B	C1	2	1		8.394	0.037	0.120	15	HAB	0.0080		8.279
C0FLB11IM	B	C1	2	1		8.571	0.062	0.119	15	HAB	0.0079		8.382
C0FLB11JM	B	C1	2	1		8.538	0.071	0.120	15	HAB	0.0080		8.439
C0FLB11KM	B	C1	2	1		8.412	0.058	0.120	15	HAB	0.0080		8.300
C0FLB11MM	B	C1	2	1	50.885			0.122	15	HAB	0.0081	51.129	
C0FLB11NM	B	C1	2	1	47.110			0.120	15	HAB	0.0080	46.652	
C0FLB11OM	B	C1	2	1	53.133			0.120	15	HAB	0.0080	52.448	
C0FLB11PM	B	C1	2	1	55.806			0.121	15	HAB	0.0080	55.377	
C0FLB21EM	B	C2	2	2		9.086	0.043	0.117	15	BGM	0.0078		8.719
C0FLB21FM	B	C2	2	2		9.263	0.041	0.118	15	BGM	0.0078		8.961
C0FLB21GM	B	C2	2	2		9.200	0.034	0.117	15	BGM	0.0078		8.835
C0FLB21HM	B	C2	2	2	53.500			0.120	15	HGM	0.0080	52.788	
C0FLB21IM	B	C2	2	2	55.002			0.119	15	HGM	0.0080	53.991	
C0FLB21JM	B	C2	2	2	55.981			0.119	15	BGM	0.0079	54.614	
C0FLC11GM	C	C1	3	1		8.514	0.045	0.118	15	BGM	0.0079		8.252
C0FLC11HM	C	C1	3	1		8.937	0.055	0.118	15	BGM	0.0079		8.686
C0FLC11IM	C	C1	3	1		8.761	0.099	0.119	15	HGM	0.0079		8.573
C0FLC11JM	C	C1	3	1		9.099	0.051	0.118	15	BGM	0.0079		8.847
C0FLC11KM	C	C1	3	1	57.377			0.117	15	HGM	0.0078	55.456	
C0FLC11LM	C	C1	3	1	61.244			0.118	15	HGM	0.0079	59.539	
C0FLC11MM	C	C1	3	1	60.589			0.117	15	HGM	0.0078	58.395	
C0FLC11NM	C	C1	3	1	64.867			0.117	15	HGM	0.0078	62.696	
C0FLC21DM	C	C2	3	2		8.600	0.071	0.119	15	HGM	0.0079		8.429
C0FLC21EM	C	C2	3	2		8.792	0.065	0.117	15	BAB	0.0078		8.493
C0FLC21FM	C	C2	3	2		8.532	0.064	0.117	15	HGM	0.0078		8.219
C0FLC21GM	C	C2	3	2	58.913			0.117	15	BGM	0.0078	56.787	
C0FLC21HM	C	C2	3	2	54.684			0.117	15	HAB	0.0078	52.486	
C0FLC21IM	C	C2	3	2	50.334			0.117	15	HGM	0.0078	48.483	

	Strength	Modulus	Poisson's Ratio
Average	56.299	8.663	0.051
Standard Dev.	5.347	0.303	0.016
Coeff. of Var. [%]	9.497	3.497	32.317
Min.	47.110	8.133	0.032
Max.	64.867	9.263	0.099
Number of Spec.	23	21	21

	Avg. t_{ply}	Strength$_{norm}$	Modulus$_{norm}$
Average$_{norm}$	0.0079	55.223	8.480
Standard Dev.$_{norm}$		5.176	0.230
Coeff. of Var. [%]$_{norm}$		9.372	2.717
Min.	0.0078	46.652	8.095
Max.	0.0081	63.732	8.961
Number of Spec.		23	21


Warp Compression Properties (WC) -- (ETW)
Normalized Strength
Cytec Cycom 5215 T650 3K70PW Fabric
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Warp Compression Strength [ksi]
0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0


Warp Compression Properties (WC) -- (ETW)
Normalized Modulus
Cytec Cycom 5215 T650 3K70PW Fabric
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Warp Compression Modulus [Msi]
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
10.0

4.4 Fill Compression Properties (FC)

Fill Compression Properties (FC) -- (CTD)
Strength & Modulus
Cytec Cycom 5215 T650 3K70PW Fabric

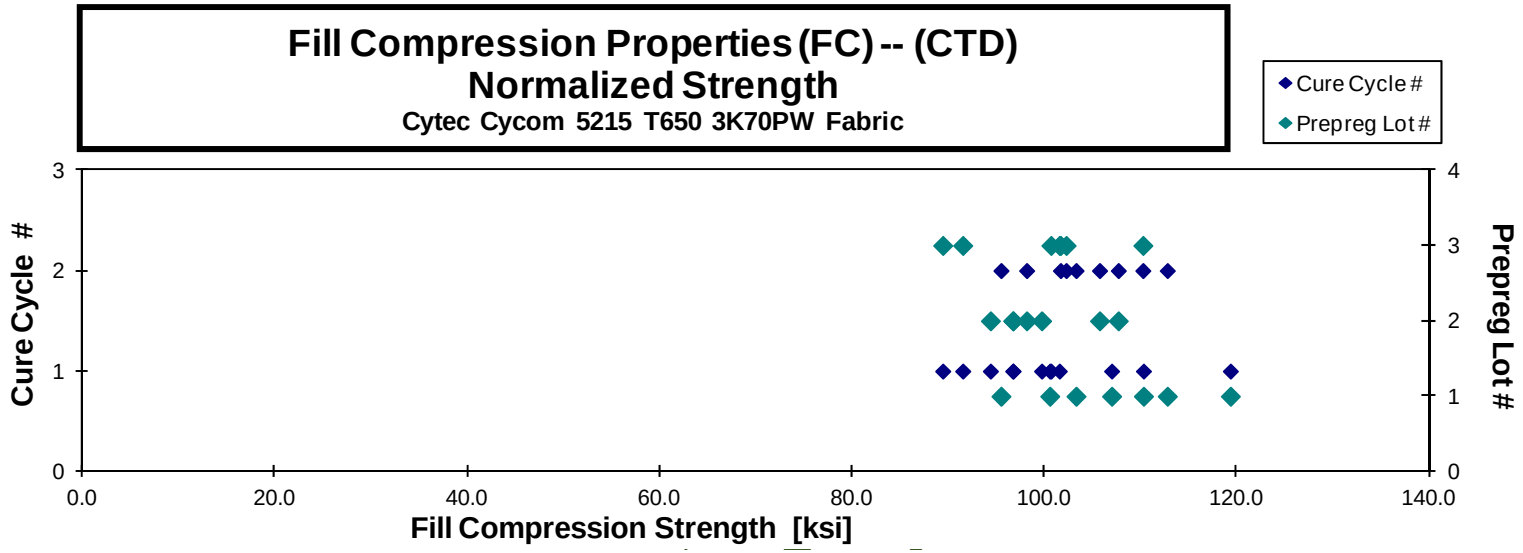
normalizing t_{ply} [in]: 0.0081

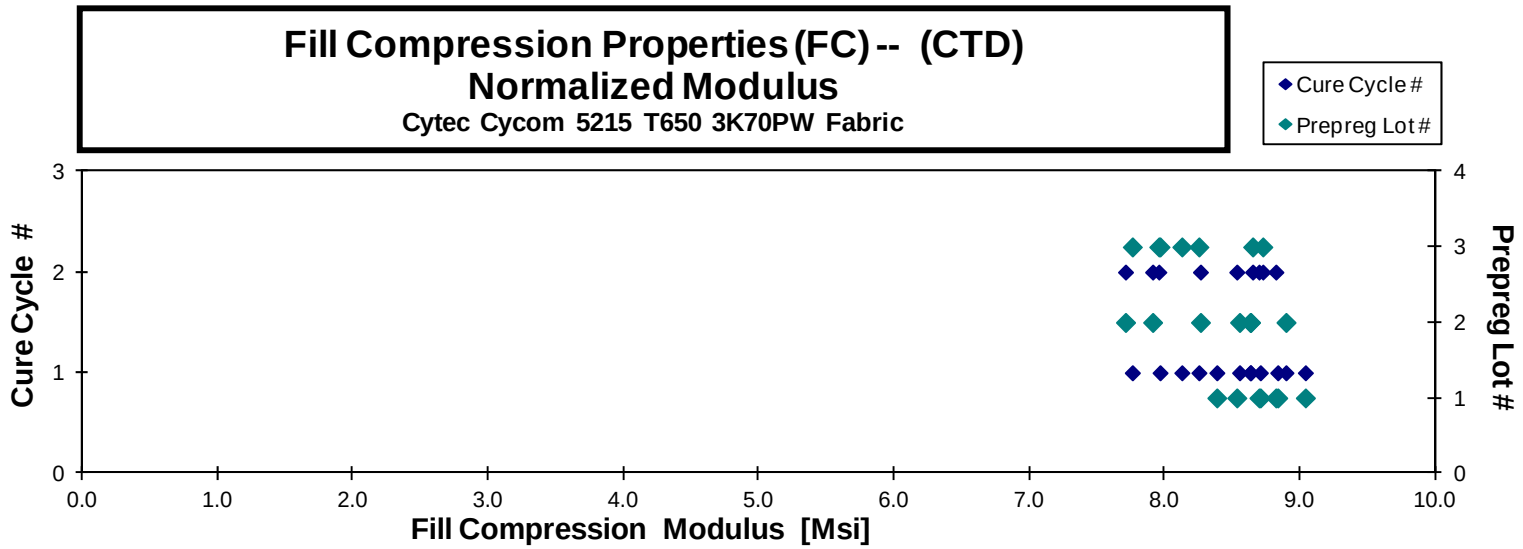
Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Modulus [Msi]	Poisson's Ratio	Avg. Specimen Thickn. [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
C0FZA116B	A	C1	1	1		8.529	0.062	0.124	15	END CRUSH	0.0083		8.708
C0FZA117B	A	C1	1	1	97.961	8.170	0.049	0.125	15	BGM	0.0083	100.554	8.386
C0FZA118B	A	C1	1	1	108.086	8.860	0.087	0.124	15	BGM	0.0083	110.295	9.041
C0FZA119B	A	C1	1	1	116.239	8.607	0.075	0.125	15	BGM	0.0083	119.332	8.836
C0FZA11AB	A	C1	1	1	103.810			0.125	15	BGM	0.0083	106.986	
C0FZA215B	A	C2	1	2	102.568	8.637	0.035	0.122	15	BGM	0.0082	103.286	8.698
C0FZA216B	A	C2	1	2	96.345	8.611	0.041	0.120	15	BGM	0.0080	95.486	8.534
C0FZA217B	A	C2	1	2	112.313	8.786	0.058	0.122	15	BGM	0.0081	112.775	8.823
C0FZB116B	B	C1	2	1	95.317	8.720	0.072	0.120	15	BGM	0.0080	94.389	8.635
C0FZB117B	B	C1	2	1	100.912	8.737	0.072	0.120	15	BGM	0.0080	99.708	8.633
C0FZB118B	B	C1	2	1	97.617	8.633	0.041	0.120	15	BGM	0.0080	96.733	8.554
C0FZB119B	B	C1	2	1	96.961	8.920	0.083	0.121	15	BGM	0.0081	96.722	8.898
C0FZB215B	B	C2	2	2	108.238	7.894		0.119	15	BGM	0.0079	105.729	7.711
C0FZB216B	B	C2	2	2	99.656	8.033	0.032	0.120	15	BGM	0.0080	98.152	7.912
C0FZB217B	B	C2	2	2	109.881	8.434	0.049	0.119	15	BGM	0.0079	107.680	8.265
C0FZC116B	C	C1	3	1	103.771	8.305	0.050	0.119	15	BGM	0.0079	101.551	8.128
C0FZC117B	C	C1	3	1	93.774	7.954	0.035	0.119	15	BGM	0.0079	91.510	7.762
C0FZC118B	C	C1	3	1	90.649	8.075	0.040	0.120	15	BGM	0.0080	89.430	7.966
C0FZC119B	C	C1	3	1	102.417	8.397	0.056	0.119	15	BGM	0.0080	100.675	8.254
C0FZC215B	C	C2	3	2	113.504	8.193	0.076	0.118	15	BGM	0.0079	110.235	7.957
C0FZC216B	C	C2	3	2	104.920	8.928	0.145	0.118	15	BGM	0.0078	101.668	8.651
C0FZC217B	C	C2	3	2	104.635	8.930	0.097	0.119	15	BGM	0.0079	102.253	8.726

Batch B Poisson's ratio are from non linear data
For C0FZA116B, Strength not reportted because of bad failure mode
For C0FZA11AB Modulus not reported because of non linear data

Average	**102.837**	**8.493**	**0.063**
Standard Dev.	**6.812**	**0.335**	**0.027**
Coeff. of Var. [%]	**6.624**	**3.941**	**43.236**
Min.	**90.649**	**7.894**	**0.032**
Max.	**116.239**	**8.930**	**0.145**
Number of Spec.	**21**	**21**	**20**

$Average_{norm}$	**0.0081**	**102.150**	**8.432**
Standard $Dev._{norm}$		**7.327**	**0.395**
Coeff. of Var. $[\%]_{norm}$		**7.173**	**4.690**
Min.	**0.0078**	**89.430**	**7.711**
Max.	**0.0083**	**119.332**	**9.041**
Number of Spec.		**21**	**21**


Fill Compression Properties (FC) -- (CTD)
Normalized Strength
Cytec Cycom 5215 T650 3K70PW Fabric
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
Fill Compression Strength [ksi]


Fill Compression Properties (FC) -- (CTD)
Normalized Modulus
Cytec Cycom 5215 T650 3K70PW Fabric
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
Fill Compression Modulus [Msi]

Fill Compression Properties (FC) -- (RTD)
Strength & Modulus
Cytec Cycom 5215 T650 3K70PW Fabric

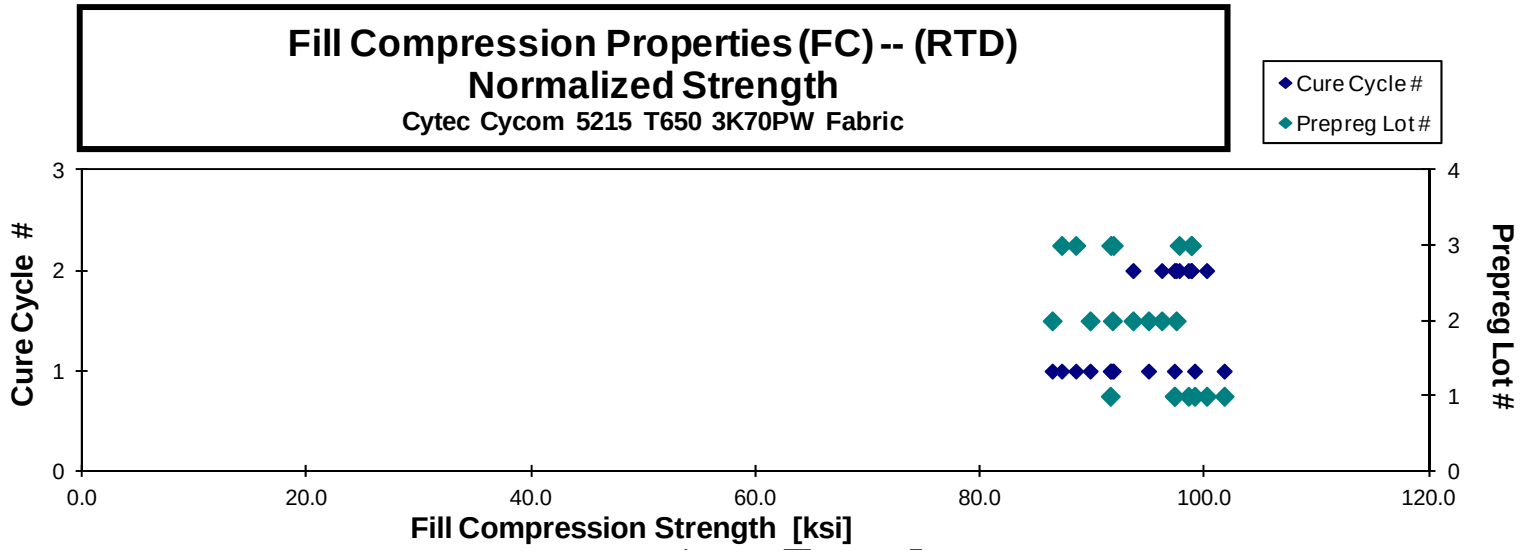
normalizing t_{ply} [in]: 0.0081

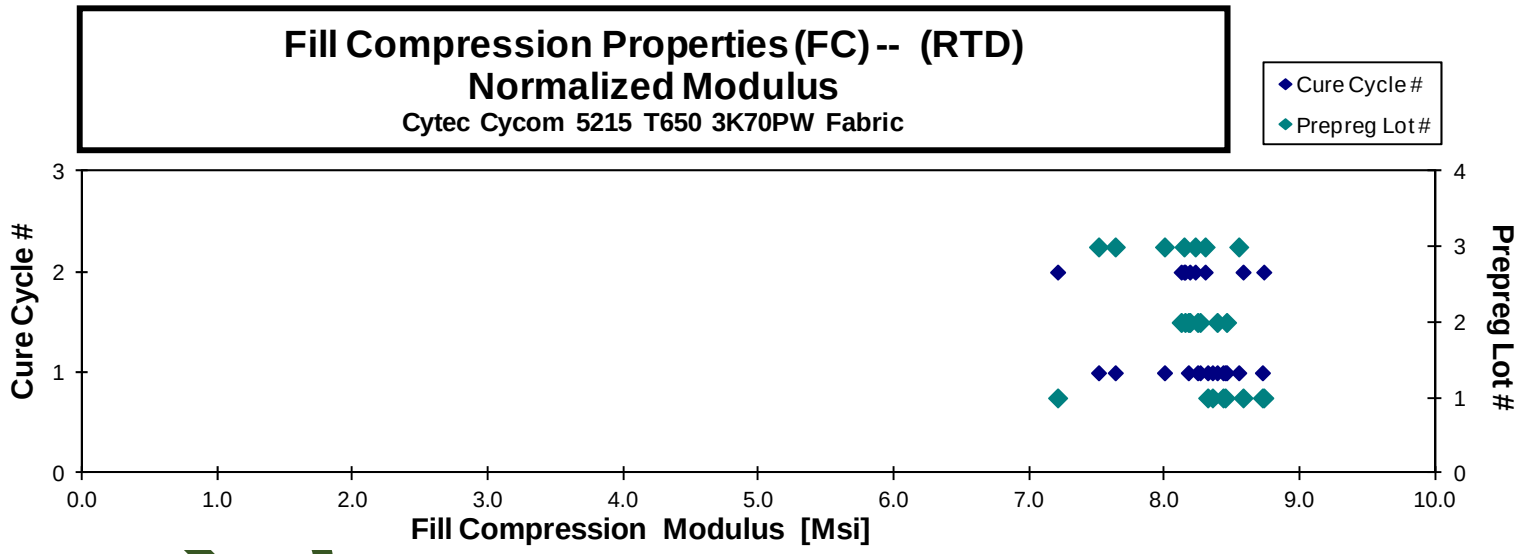
Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Modulus [Msi]	Poisson's Ratio	Avg. Specimen Thickn. [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
C0FZA111A	A	C1	1	1	*	8.228	0.046	0.123	15	BGM/HIB	0.0082		8.319
C0FZA112A	A	C1	1	1	97.006	8.178	0.057	0.124	15	BGM	0.0083	99.095	8.354
C0FZA113A	A	C1	1	1	94.504	8.191	0.055	0.125	15	BGM	0.0083	97.291	8.433
C0FZA114A	A	C1	1	1	98.856	8.477	0.056	0.125	15	BGM	0.0083	101.731	8.723
C0FZA115A	A	C1	1	1	88.643	8.176	0.056	0.126	15	BGM	0.0084	91.586	8.448
C0FZA211A	A	C2	1	2	100.816	8.790	0.049	0.121	15	BGM	0.0080	100.166	8.733
C0FZA212A	A	C2	1	2	96.342	7.139		0.123	15	BGM	0.0082	97.293	7.209
C0FZA213A	A	C2	1	2	98.162	8.547	0.051	0.122	15	BGM	0.0081	98.539	8.580
C0FZB111A	B	C1	2	1	97.823	8.419	0.054	0.118	15	BGM	0.0079	94.992	8.176
C0FZB112A	B	C1	2	1	*	8.380	0.040	0.120	15	BAT/ HIT	0.0080		8.244
C0FZB113A	B	C1	2	1	87.855	8.401	0.054	0.120	15	BGM	0.0080	86.408	8.263
C0FZB114A	B	C1	2	1	93.638	8.630	0.049	0.119	15	BGM	0.0079	91.775	8.459
C0FZB115A	B	C1	2	1	91.402	8.540	0.027	0.119	15	BGM	0.0080	89.785	8.389
C0FZB211A	B	C2	2	2	95.468	8.284	0.048	0.119	15	BGM	0.0079	93.608	8.123
C0FZB212A	B	C2	2	2	98.173	8.321	0.058	0.119	15	BGM	0.0079	96.166	8.150
C0FZB213A	B	C2	2	2	99.730	8.377	0.057	0.119	15	BGM	0.0079	97.459	8.186
C0FZC111A	C	C1	3	1	91.190	7.980	0.072	0.116	15	BGM	0.0078	87.250	7.635
C0FZC112A	C	C1	3	1	93.328	8.148	0.029	0.119	15	BGM	0.0080	91.626	7.999
C0FZC113A	C	C1	3	1	89.777	8.671	0.062	0.120	15	HAB/BGM	0.0080	88.509	8.548
C0FZC114A	C	C1	3	1	93.871	7.677	0.046	0.119	15	BGM	0.0079	91.849	7.512
C0FZC211A	C	C2	3	2	103.040	8.494	0.054	0.117	15	BGM	0.0078	98.800	8.144
C0FZC212A	C	C2	3	2	102.357	8.523	0.062	0.117	15	BGM	0.0078	98.790	8.226
C0FZC213A	C	C2	3	2	101.061	8.584	0.057	0.117	15	BGM	0.0078	97.720	8.300

*Strength not reportted because of bad failure mode
Poisson's ratio for C0FZA212A is not reported dur to non linear data

	Strength [ksi]	Modulus [Msi]	Poisson's Ratio
Average	**95.859**	**8.311**	**0.052**
Standard Dev.	**4.458**	**0.353**	**0.010**
Coeff. of Var. [%]	**4.651**	**4.253**	**19.508**
Min.	**87.855**	**7.139**	**0.027**
Max.	**103.040**	**8.790**	**0.072**
Number of Spec.	**21**	**23**	**22**

	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
$Average_{norm}$	**0.0080**	**94.783**	**8.224**
Standard $Dev._{norm}$		**4.488**	**0.364**
Coeff. of Var. $[\%]_{norm}$		**4.736**	**4.422**
Min.	**0.0078**	**86.408**	**7.209**
Max.	**0.0084**	**101.731**	**8.733**
Number of Spec.		**21**	**23**


Fill Compression Properties (FC) -- (RTD)
Normalized Strength
Cytec Cycom 5215 T650 3K70PW Fabric
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Fill Compression Strength [ksi]
0.0
20.0
40.0
60.0
80.0
100.0
120.0


Fill Compression Properties (FC) -- (RTD)
Normalized Modulus
Cytec Cycom 5215 T650 3K70PW Fabric
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Fill Compression Modulus [Msi]
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
10.0

Fill Compression Properties (FC) -- (ETD)
Strength & Modulus
Cytec Cycom 5215 T650 3K70PW Fabric

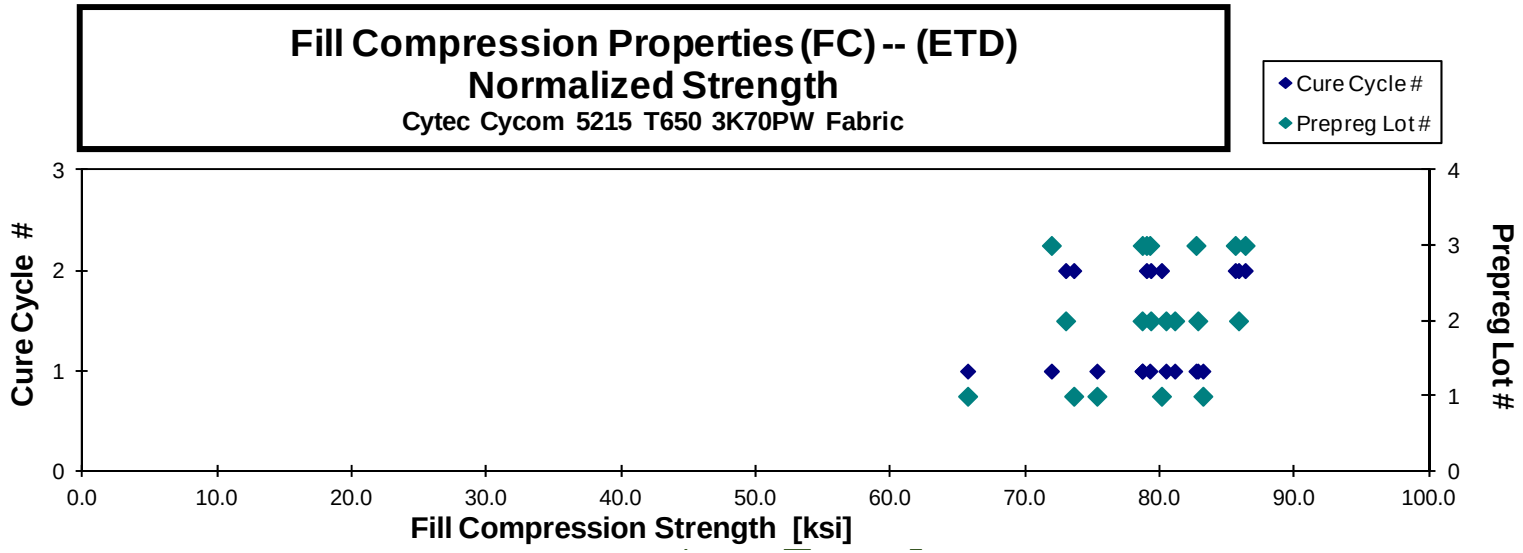
normalizing t_{ply} [in]: 0.0081

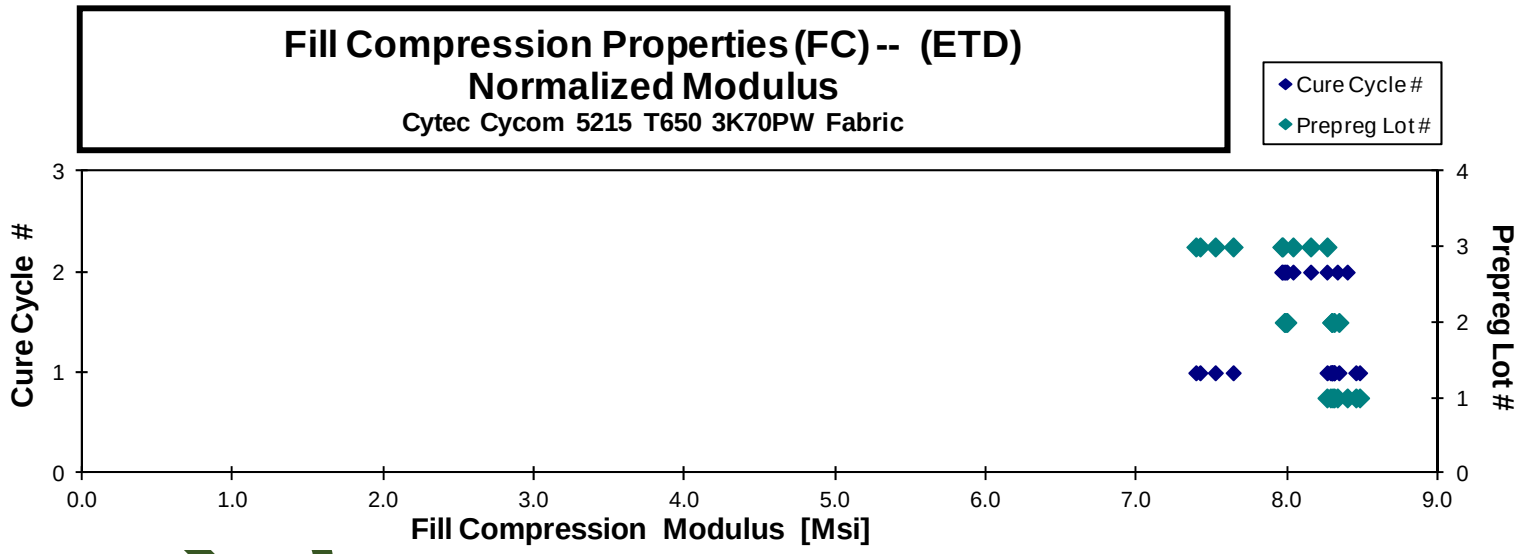
Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Modulus [Msi]	Poisson's Ratio	Avg. Specimen Thickn. [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
C0FZA11BL	A	C1	1	1	82.526	8.235	0.044	0.122	15	BGM	0.0082	83.194	8.302
C0FZA11CL	A	C1	1	1	*	8.151	0.062	0.124	15	HIT	0.0083		8.312
C0FZA11DL	A	C1	1	1	73.679	8.296	0.059	0.124	15	BGM	0.0083	75.326	8.482
C0FZA11EL	A	C1	1	1	64.263	8.268	0.043	0.124	15	BGM	0.0083	65.726	8.456
C0FZA11FL	A	C1	1	1	*	8.090	0.041	0.124	15	HIT	0.0083		8.288
C0FZA219L	A	C2	1	2	73.004	8.330	0.045	0.123	15	BGM	0.0082	73.605	8.399
C0FZA21AL	A	C2	1	2	*	8.161	0.050	0.124	15	HIT	0.0083		8.333
C0FZA21BL	A	C2	1	2	79.488	8.200	0.060	0.122	15	BGM	0.0082	80.121	8.265
C0FZB11BL	B	C1	2	1	84.077	8.650	0.044	0.117	15	BAT	0.0078	81.102	8.344
C0FZB11CL	B	C1	2	1	81.944	8.451	0.039	0.119	15	BGM	0.0080	80.449	8.297
C0FZB11DL	B	C1	2	1	83.843	8.415	0.046	0.120	15	BGM	0.0080	82.820	8.312
C0FZB11EL	B	C1	2	1	79.932	8.429	0.053	0.120	15	BGM	0.0080	78.682	8.298
C0FZB219L	B	C2	2	2	74.855	8.191	0.052	0.119	15	BGM	0.0079	73.007	7.989
C0FZB21AL	B	C2	2	2	80.681	8.136	0.058	0.119	15	BGM	0.0080	79.320	7.999
C0FZB21BL	B	C2	2	2	88.326	8.212	0.034	0.118	15	BGM	0.0079	85.843	7.981
C0FZC11BL	C	C1	3	1	80.995	7.557	0.027	0.119	15	BGM	0.0079	79.251	7.394
C0FZC11CL	C	C1	3	1	73.148	7.770	0.061	0.120	15	BGM	0.0080	71.944	7.642
C0FZC11DL	C	C1	3	1	79.888	7.534	0.060	0.120	15	BGM	0.0080	78.693	7.421
C0FZC11EL	C	C1	3	1	*	7.672	0.062	0.119	15	ENDCRUSH	0.0079		7.523
C0FZC11FL	C	C1	3	1	84.895	8.487	0.051	0.118	15	BGM	0.0079	82.682	8.265
C0FZC21AL	C	C2	3	2	*	8.313	0.050	0.116	15	ENDCRUSH	0.0078		7.970
C0FZC219L	C	C2	3	2	83.008	8.369	0.036	0.116	15	BGM	0.0077	79.000	7.965
C0FZC21BL	C	C2	3	2	88.378	8.421	0.049	0.118	15	BGM	0.0078	85.602	8.156
C0FZC21CL	C	C2	3	2	89.845	8.367	0.050	0.117	15	BGM	0.0078	86.332	8.039

*Strength not reportted because of bad failure mode

Average	**80.357**	**8.196**	**0.049**
Standard Dev.	**6.326**	**0.290**	**0.010**
Coeff. of Var. [%]	**7.872**	**3.542**	**19.543**
Min.	**64.263**	**7.534**	**0.027**
Max.	**89.845**	**8.650**	**0.062**
Number of Spec.	**19**	**24**	**24**

$Average_{norm}$	**0.0080**	**79.089**	**8.101**
Standard $Dev._{norm}$		**5.283**	**0.320**
Coeff. of Var. $[\%]_{norm}$		**6.680**	**3.949**
Min.	**0.0077**	**65.726**	**7.394**
Max.	**0.0083**	**86.332**	**8.482**
Number of Spec.		**19**	**24**


Fill Compression Properties (FC) -- (ETD)
Normalized Strength
Cytec Cycom 5215 T650 3K70PW Fabric
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Fill Compression Strength [ksi]
0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
80.0
90.0
100.0


Fill Compression Properties (FC) -- (ETD)
Normalized Modulus
Cytec Cycom 5215 T650 3K70PW Fabric
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Fill Compression Modulus [Msi]
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0

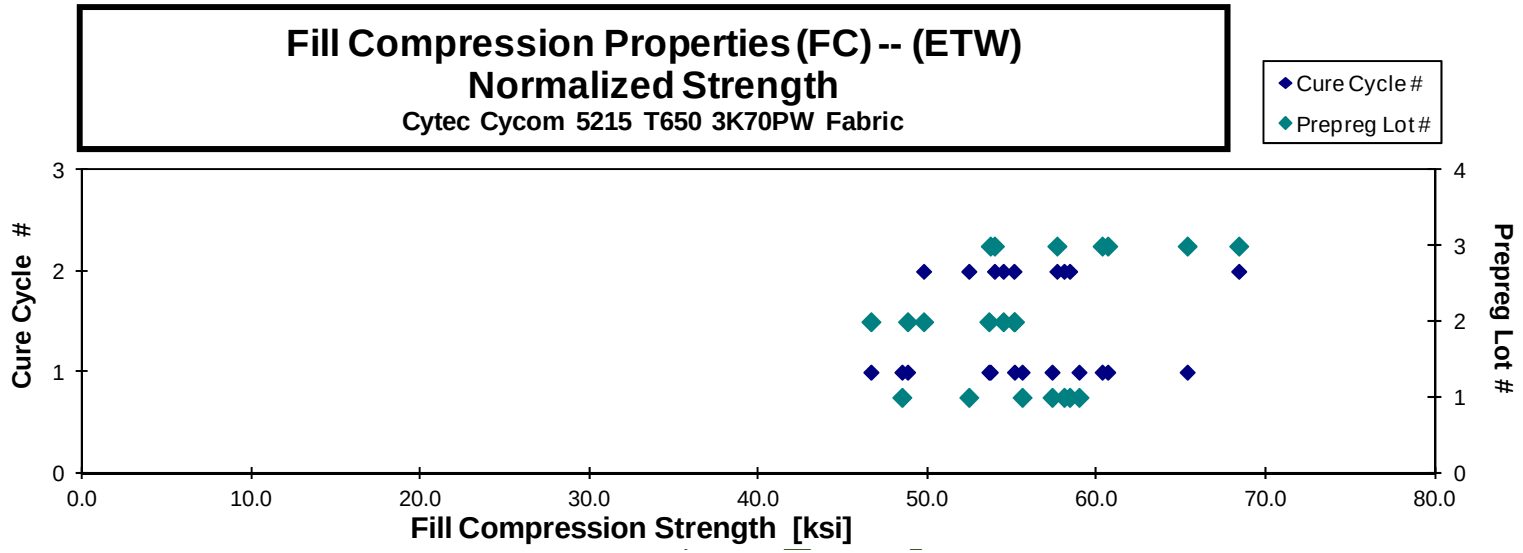
Fill Compression Properties (FC) -- (ETW)
Strength & Modulus
Cytec Cycom 5215 T650 3K70PW Fabric

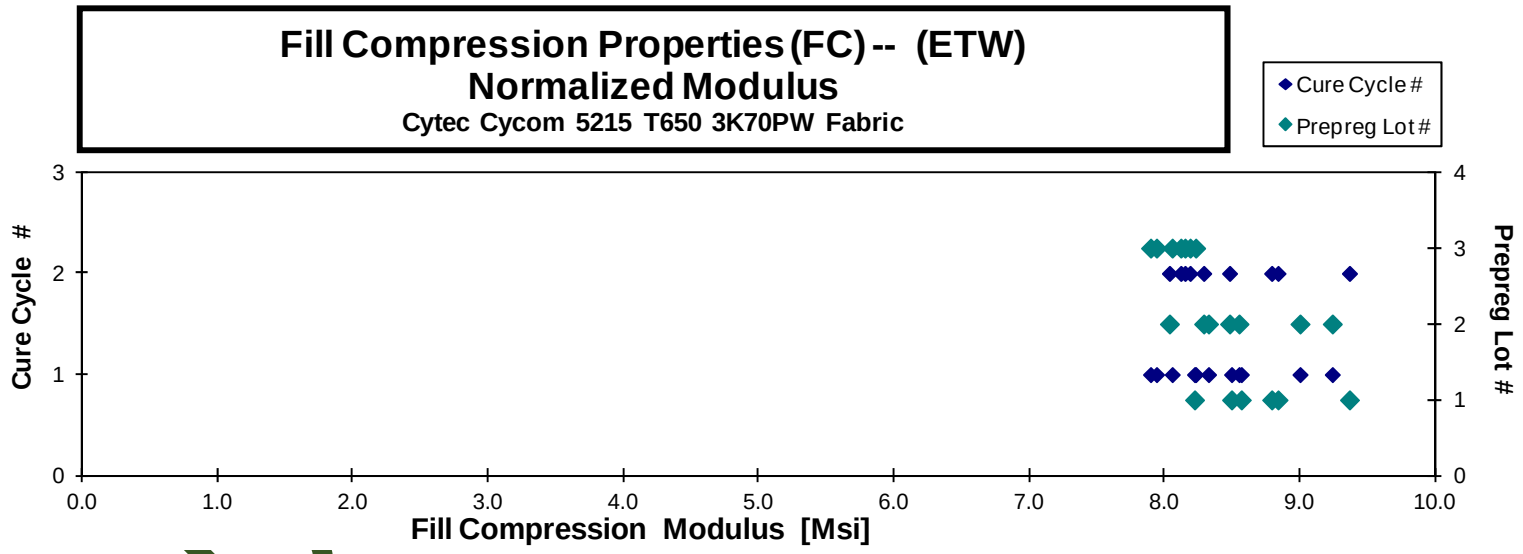
normalizing t_{ply} [in]: 0.0081

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]
C0FZA11GM	A	C1	1	1		8.334	0.052	0.124	15	BGM	0.0083		8.495
C0FZA11HM	A	C1	1	1		8.096	0.058	0.123	15	BGM	0.0082		8.221
C0FZA11IM	A	C1	1	1		8.394	0.037	0.124	15	HGM	0.0083		8.567
C0FZA11KM	A	C1	1	1	47.225			0.125	15	HGM	0.0083	48.462	
C0FZA11LM	A	C1	1	1	54.423			0.124	15	BGM	0.0083	55.573	
C0FZA11MM	A	C1	1	1	55.997			0.124	15	BAB	0.0083	57.341	
C0FZA11NM	A	C1	1	1	57.571			0.124	15	BAB	0.0083	58.937	
C0FZA21DM	A	C2	1	2		8.668	0.046	0.123	15	BGM	0.0082		8.792
C0FZA21EM	A	C2	1	2		9.307	0.034	0.122	15	HAB	0.0082		9.367
C0FZA21FM	A	C2	1	2		8.782	0.037	0.122	15	HGM	0.0082		8.839
C0FZA21GM	A	C2	1	2	58.251			0.122	15	BGM	0.0081	58.387	
C0FZA21HM	A	C2	1	2	57.938			0.122	15	BGM	0.0081	58.049	
C0FZA21IM	A	C2	1	2	51.573			0.124	15	BGM	0.0082	52.422	
C0FZB11GM	B	C1	2	1		9.120	0.049	0.120	15	HGM	0.0080		9.001
C0FZB11HM	B	C1	2	1		9.309	0.059	0.121	15	HGM	0.0080		9.240
C0FZB11IM	B	C1	2	1		8.375	0.075	0.121	15	HGM	0.0081		8.325
C0FZB11JM	B	C1	2	1		8.461	0.048	0.123	15	HGM	0.0082		8.550
C0FZB11KM	B	C1	2	1	48.619			0.122	15	HGM	0.0081	48.800	
C0FZB11LM	B	C1	2	1	46.574			0.122	15	HGM	0.0081	46.631	
C0FZB11MM	B	C1	2	1	54.834			0.122	15	BGM	0.0081	55.120	
C0FZB11NM	B	C1	2	1	53.726			0.121	15	HGM	0.0081	53.608	
C0FZB21DM	B	C2	2	2		8.201	0.043	0.119	15	BAT	0.0079		8.036
C0FZB21EM	B	C2	2	2		8.581	0.045	0.120	15	HGM	0.0080		8.480
C0FZB21FM	B	C2	2	2		8.476	0.049	0.119	15	HAB	0.0079		8.289
C0FZB21GM	B	C2	2	2	56.508			0.118	15	HGM	0.0079	55.089	
C0FZB21HM	B	C2	2	2	66.820			0.109	15	BAT	0.0073	54.454	
C0FZB21IM	B	C2	2	2	55.225			0.109	15	BGM	0.0073	49.748	
C0FZC11GM	C	C1	3	1		8.280	0.045	0.118	15	BGM	0.0079		8.056
C0FZC11HM	C	C1	3	1		8.086	0.047	0.119	15	HGM	0.0080		7.940
C0FZC11IM	C	C1	3	1		8.073	0.032	0.119	15	HAB	0.0079		7.896
C0FZC11JM	C	C1	3	1		8.290	0.048	0.121	15	BAB	0.0080		8.230
C0FZC11KM	C	C1	3	1	61.686			0.119	15	HAB	0.0079	60.307	
C0FZC11LM	C	C1	3	1	55.291			0.118	15	HAT	0.0079	53.691	
C0FZC11MM	C	C1	3	1	66.596			0.119	15	HAB	0.0079	65.336	
C0FZC11NM	C	C1	3	1	61.999			0.119	15	BAB	0.0079	60.638	
C0FZC21DM	C	C2	3	2		8.480	0.034	0.117	15	BGM	0.0078		8.188
C0FZC21EM	C	C2	3	2		8.466	0.031	0.117	15	BGM	0.0078		8.151
C0FZC21FM	C	C2	3	2		8.383	0.030	0.118	15	HAB	0.0078		8.120
C0FZC21GM	C	C2	3	2	55.694			0.118	15	HGM	0.0078	53.937	
C0FZC21HM	C	C2	3	2	59.214			0.118	15	HAB	0.0079	57.630	
C0FZC21IM	C	C2	3	2	70.216			0.118	15	BGM	0.0079	68.386	

	Strength [ksi]	Modulus [Msi]	Poisson's Ratio
Average	56.666	8.508	0.045
Standard Dev.	5.782	0.368	0.011
Coeff. of Var. [%]	10.204	4.326	24.748
Min.	46.574	8.073	0.030
Max.	70.216	9.309	0.075
Number of Spec.	21	20	20

	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
$Average_{norm}$	0.0080	55.836	8.439
$Standard\ Dev._{norm}$		5.343	0.421
$Coeff.\ of\ Var.\ [\%]_{norm}$		9.568	4.986
Min.	0.0073	46.631	7.896
Max.	0.0083	68.386	9.367
Number of Spec.		21	20


Fill Compression Properties (FC) -- (ETW)
Normalized Strength
Cytec Cycom 5215 T650 3K70PW Fabric
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
80.0
Fill Compression Strength [ksi]


Fill Compression Properties (FC) -- (ETW)
Normalized Modulus
Cytec Cycom 5215 T650 3K70PW Fabric
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
10.0
Fill Compression Modulus [Msi]

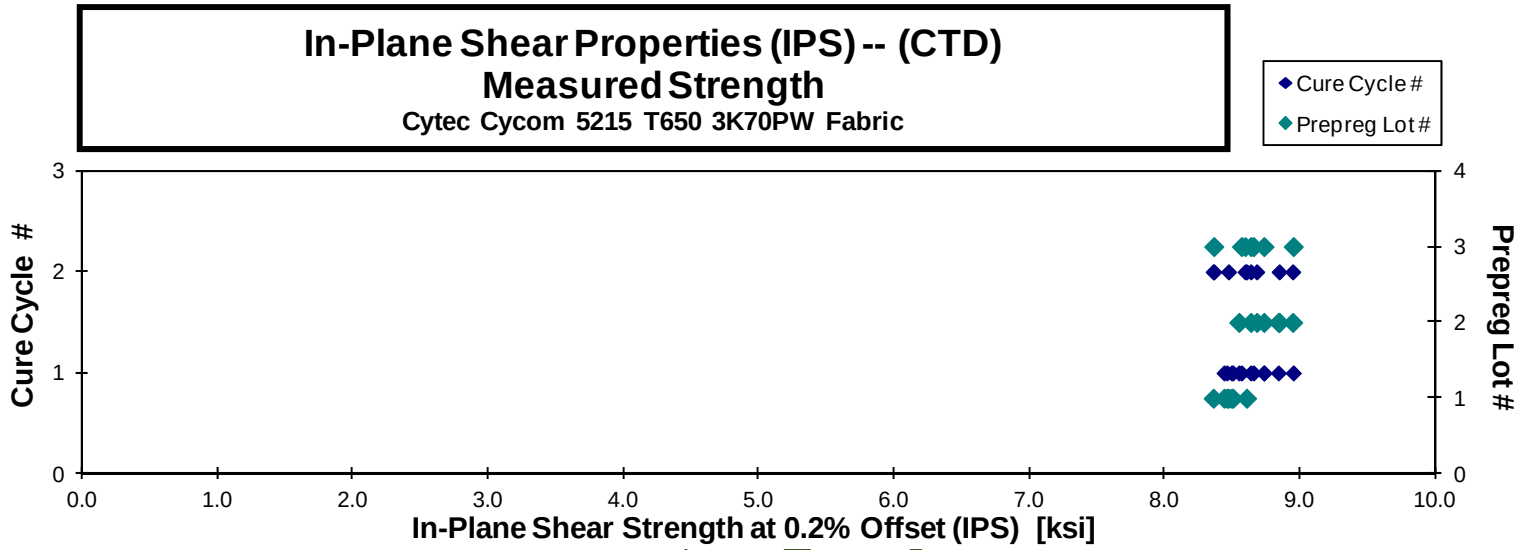
4.5 In-Plane Shear Properties (IPS)

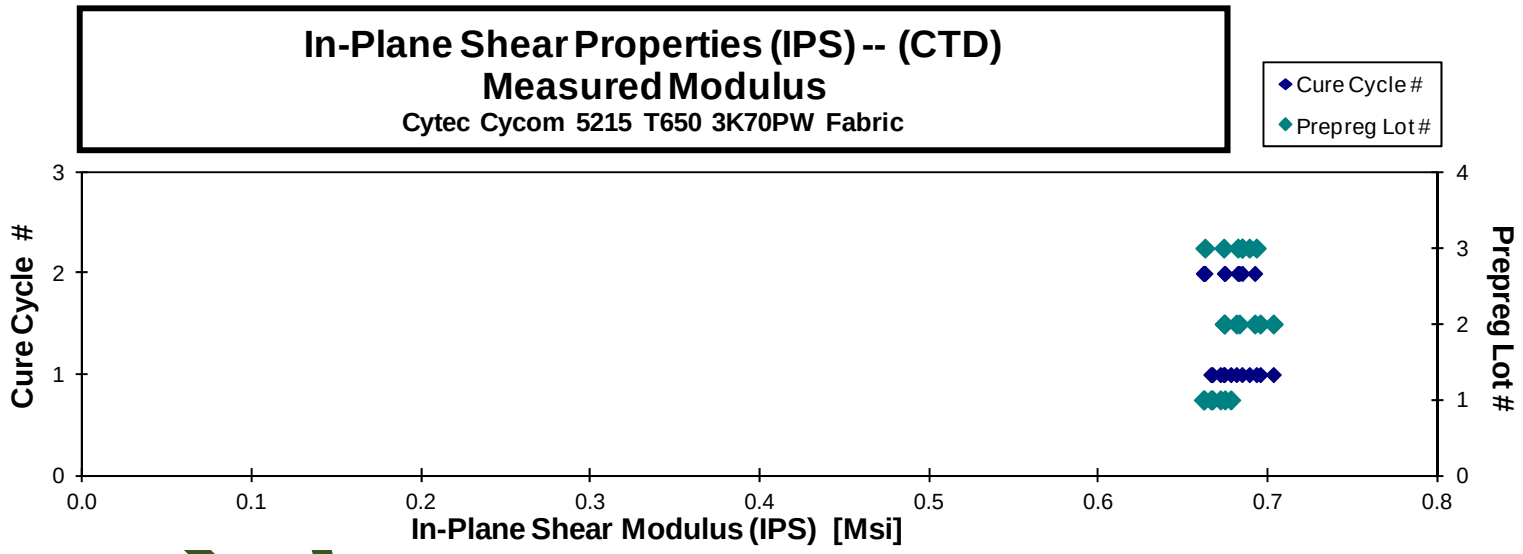
In-Plane Shear Properties (IPS) -- (CTD)
Strength & Modulus
Cytec Cycom 5215 T650 3K70PW Fabric

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]
C0FNA116B	A	C1	1	1		8.495	0.667	0.066	8	0.0082
C0FNA117B	A	C1	1	1		8.461	0.678	0.066	8	0.0082
C0FNA118B	A	C1	1	1		8.505	0.672	0.066	8	0.0082
C0FNA119B	A	C1	1	1		8.440	0.666	0.065	8	0.0081
C0FNA215B	A	C2	1	2		8.360	0.662	0.067	8	0.0083
C0FNA216B	A	C2	1	2		8.606	0.674	0.066	8	0.0083
C0FNA217B	A	C2	1	2		8.473	0.662	0.065	8	0.0082
C0FNB116B	B	C1	2	1	12.487	8.549	0.674	0.066	8	0.0082
C0FNB117B	B	C1	2	1		8.637	0.681	0.065	8	0.0081
C0FNB118B	B	C1	2	1		8.734	0.695	0.064	8	0.0080
C0FNB119B	B	C1	2	1		8.841	0.703	0.063	8	0.0079
C0FNB215B	B	C2	2	2		8.847	0.674	0.065	8	0.0081
C0FNB216B	B	C2	2	2		8.947	0.683	0.065	8	0.0081
C0FNB217B	B	C2	2	2	12.971	8.681	0.692	0.063	8	0.0079
C0FNC116B	C	C1	3	1		8.569	0.693	0.063	8	0.0079
C0FNC117B	C	C1	3	1		8.657	0.674	0.063	8	0.0079
C0FNC118B	C	C1	3	1		8.951	0.684	0.063	8	0.0079
C0FNC119B	C	C1	3	1	12.727	8.734	0.689	0.062	8	0.0077
C0FNC215B	C	C2	3	2		8.364	0.663	0.065	8	0.0081
C0FNC216B	C	C2	3	2		8.637	0.682	0.064	8	0.0080
C0FNC217B	C	C2	3	2		8.595	0.685	0.063	8	0.0079

Strength at 5% strain not reported because of SG Failure

Average	**12.729**	**8.623**	**0.679**	**Average**	**0.0081**
Standard Dev.	**0.242**	**0.173**	**0.012**	**Standard Dev.**	
Coeff. of Var. [%]	**1.901**	**2.007**	**1.713**	**Coeff. of Var. [%]**	
Min.	**12.487**	**8.360**	**0.662**	**Min.**	**0.0077**
Max.	**12.971**	**8.951**	**0.703**	**Max.**	**0.0083**
Number of Spec.	**3**	**21**	**21**	**Number of Spec.**	**21**


In-Plane Shear Properties (IPS) -- (CTD)
Measured Strength
Cytec Cycom 5215 T650 3K70PW Fabric
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
In-Plane Shear Strength at 0.2% Offset (IPS) [ksi]

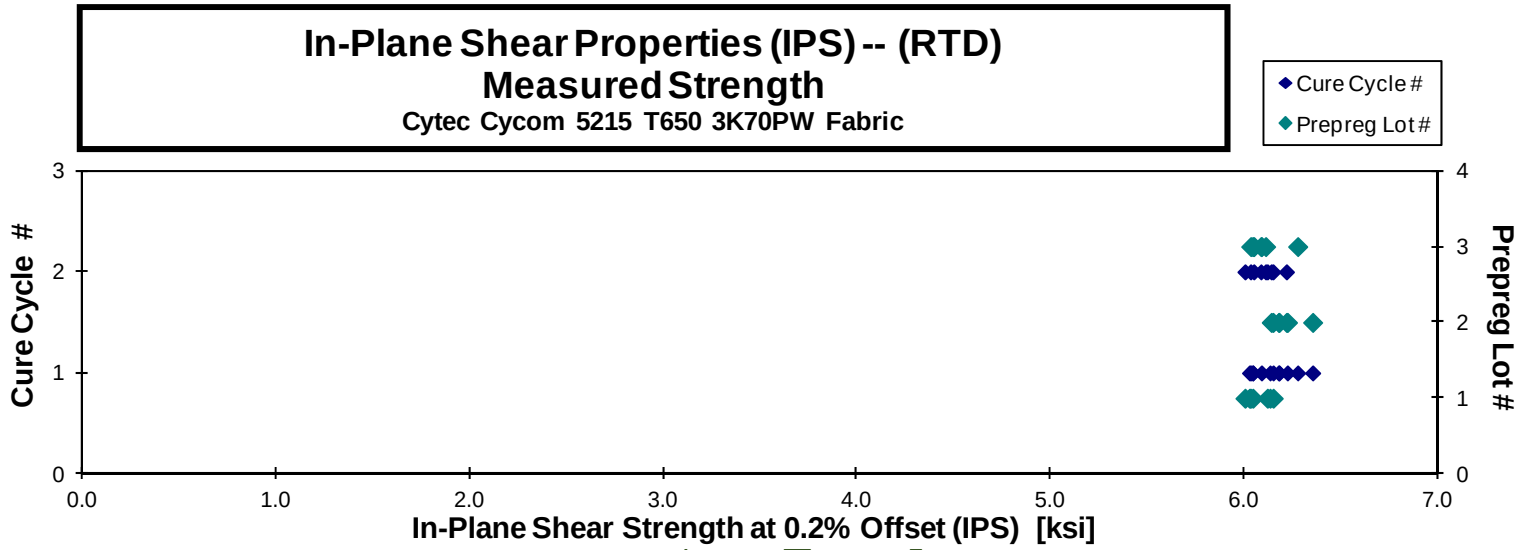

In-Plane Shear Properties (IPS) -- (CTD)
Measured Modulus
Cytec Cycom 5215 T650 3K70PW Fabric
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
In-Plane Shear Modulus (IPS) [Msi]

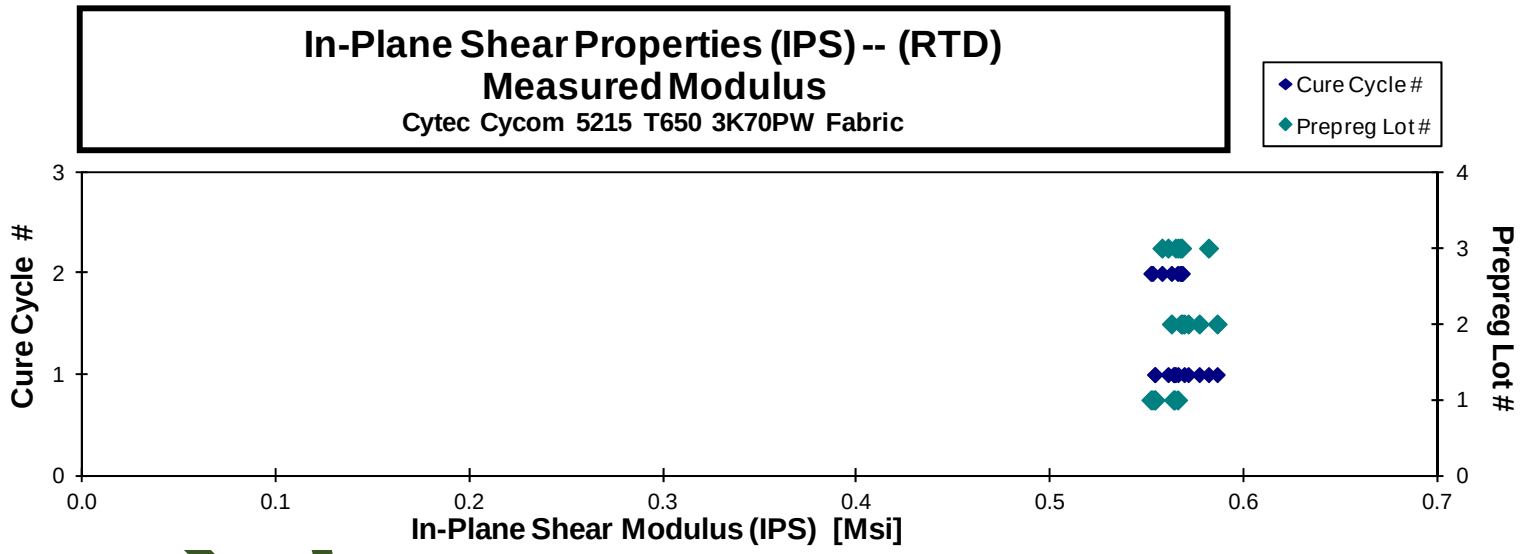
In-Plane Shear Properties (IPS) -- (RTD)
Strength & Modulus
Cytec Cycom 5215 T650 3K70PW Fabric

Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle #	0.2% Offset Strength [ksi]	Modulus [Msi]	Avg. Specimen Thickn. [in]	# Plies in Laminate	Avg. tply [in]
C0FNA111A	A	C1	1	1	6.150	0.564	0.065	8	0.0081
C0FNA112A	A	C1	1	1	6.045	0.554	0.066	8	0.0082
C0FNA113A	A	C1	1	1	6.134	0.564	0.065	8	0.0081
C0FNA114A	A	C1	1	1	6.028	0.554	0.066	8	0.0083
C0FNA211A	A	C2	1	2	6.120	0.566	0.065	8	0.0082
C0FNA212A	A	C2	1	2	6.034	0.553	0.065	8	0.0082
C0FNA213A	A	C2	1	2	6.005	0.552	0.066	8	0.0082
C0FNB111A	B	C1	2	1	6.354	0.586	0.062	8	0.0078
C0FNB112A	B	C1	2	1	6.178	0.571	0.065	8	0.0081
C0FNB113A	B	C1	2	1	6.181	0.569	0.064	8	0.0080
C0FNB114A	B	C1	2	1	6.224	0.577	0.064	8	0.0079
C0FNB211A	B	C2	2	2	6.150	0.562	0.065	8	0.0081
C0FNB212A	B	C2	2	2	6.219	0.567	0.064	8	0.0081
C0FNB213A	B	C2	2	2	6.141	0.568	0.065	8	0.0081
C0FNC111A	C	C1	3	1	6.277	0.582	0.062	8	0.0077
C0FNC112A	C	C1	3	1	6.034	0.565	0.064	8	0.0080
C0FNC113A	C	C1	3	1	6.044	0.566	0.064	8	0.0080
C0FNC114A	C	C1	3	1	6.090	0.561	0.063	8	0.0079
C0FNC211A	C	C2	3	2	6.112	0.568	0.063	8	0.0078
C0FNC212A	C	C2	3	2	6.050	0.558	0.064	8	0.0080
C0FNC213A	C	C2	3	2	6.087	0.567	0.063	8	0.0079

Extensometer was removed before 5% strain

Average	**6.127**	**0.565**	**Average**	**0.0080**
Standard Dev.	**0.090**	**0.009**	**Standard Dev.**	
Coeff. of Var. [%]	**1.476**	**1.580**	**Coeff. of Var. [%]**	
Min.	**6.005**	**0.552**	**Min.**	**0.0077**
Max.	**6.354**	**0.586**	**Max.**	**0.0083**
Number of Spec.	**21**	**21**	**Number of Spec.**	**21**

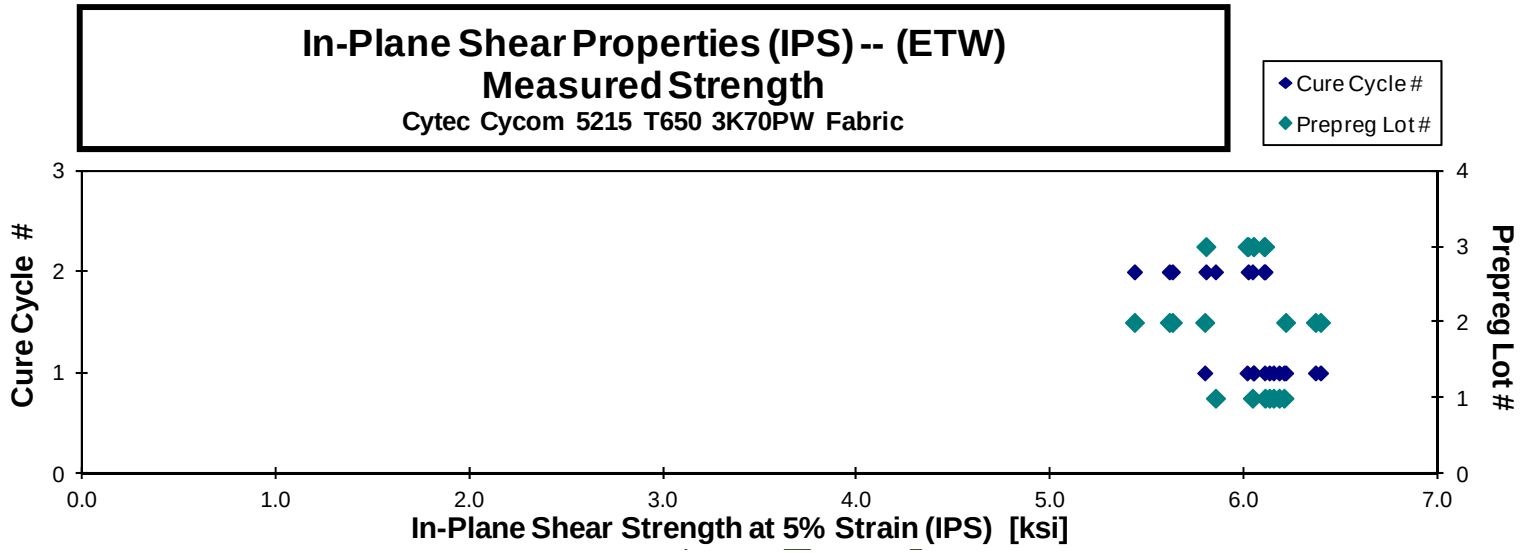

In-Plane Shear Properties (IPS) -- (RTD)
Measured Strength
Cytec Cycom 5215 T650 3K70PW Fabric
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
In-Plane Shear Strength at 0.2% Offset (IPS) [ksi]

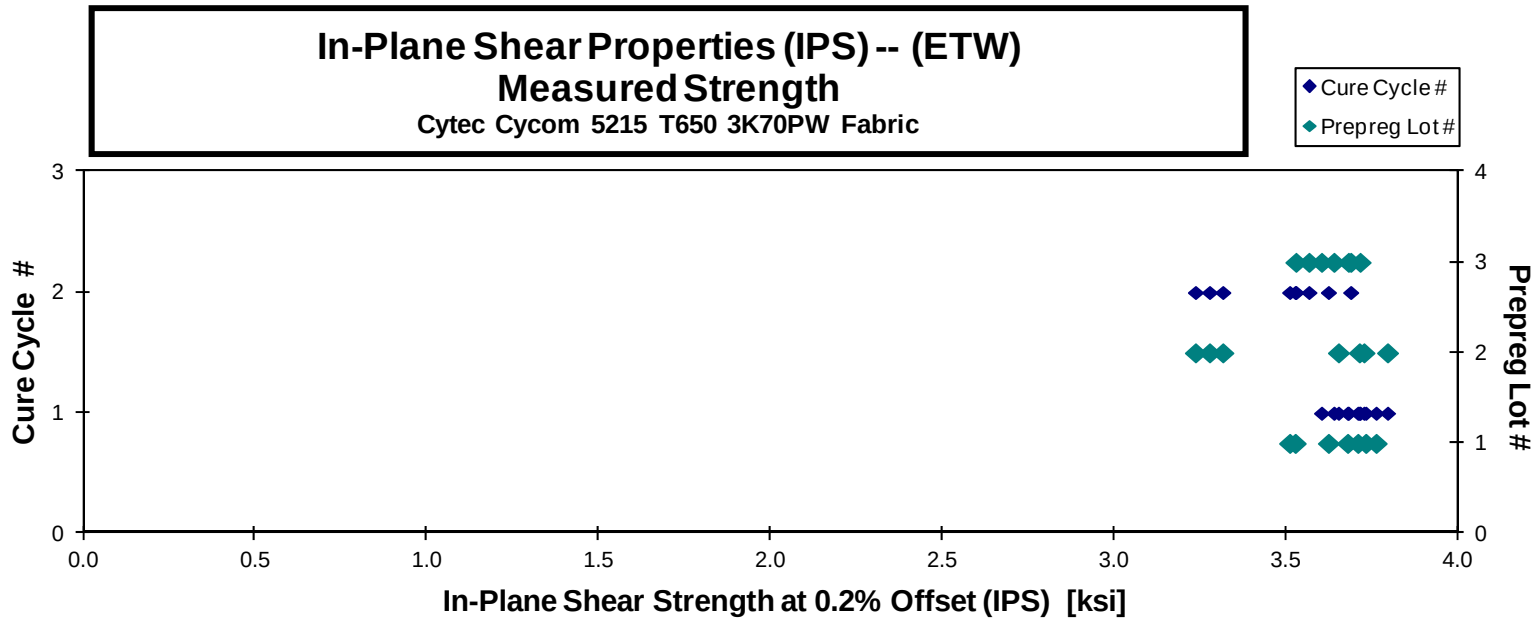

In-Plane Shear Properties (IPS) -- (RTD)
Measured Modulus
Cytec Cycom 5215 T650 3K70PW Fabric
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
In-Plane Shear Modulus (IPS) [Msi]

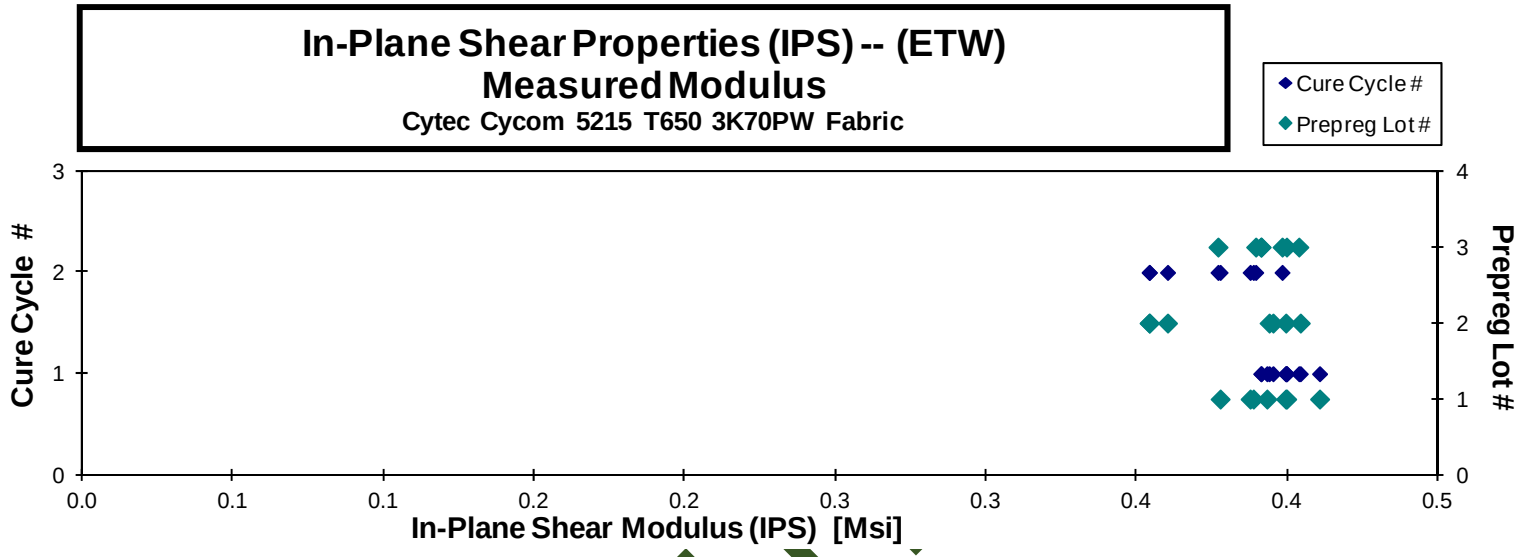
In-Plane Shear Properties (IPS) -- (ETW)
Strength & Modulus
Cytec Cycom 5215 T650 3K70PW Fabric

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]
C0FNA11BM	A	C1	1	1	6.181	3.765	0.400	0.066	8	0.0082
C0FNA11CM	A	C1	1	1	6.152	3.682	0.393	0.065	8	0.0082
C0FNA11DM	A	C1	1	1	6.131	3.735	0.411	0.066	8	0.0083
C0FNA11EM	A	C1	1	1	6.206	3.712	0.400	0.066	8	0.0082
C0FNA219M	A	C2	1	2	6.043	3.530	0.389	0.066	8	0.0082
C0FNA21AM	A	C2	1	2	6.108	3.627	0.388	0.067	8	0.0083
C0FNA21BM	A	C2	1	2	5.852	3.514	0.378	0.065	8	0.0082
C0FNB11BM	B	C1	2	1	6.215	3.717	0.395	0.064	8	0.0080
C0FNB11CM	B	C1	2	1	6.369	3.799	0.404	0.064	8	0.0080
C0FNB11DM	B	C1	2	1	5.797	3.730	0.394	0.064	8	0.0081
C0FNB11EM	B	C1	2	1	6.395	3.656	0.400	0.064	8	0.0079
C0FNB219M	B	C2	2	2	5.614	3.319	0.360	0.064	8	0.0080
C0FNB21AM	B	C2	2	2	5.630	3.280	0.354	0.065	8	0.0081
C0FNB21BM	B	C2	2	2	5.434	3.240	0.354	0.064	8	0.0079
C0FNC11BM	C	C1	3	1	6.106	3.719	0.400	0.062	8	0.0078
C0FNC11CM	C	C1	3	1	6.048	3.607	0.391	0.063	8	0.0079
C0FNC11DM	C	C1	3	1	6.049	3.643	0.404	0.063	8	0.0078
C0FNC11EM	C	C1	3	1	6.016	3.685	0.391	0.064	8	0.0079
C0FNC219M	C	C2	3	2	6.021	3.570	0.390	0.064	8	0.0080
C0FNC21AM	C	C2	3	2	6.103	3.691	0.398	0.063	8	0.0079
C0FNC21BM	C	C2	3	2	5.803	3.532	0.377	0.064	8	0.0080

Average	**6.013**	**3.607**	**0.389**	**Average**	**0.0081**
Standard Dev.	**0.245**	**0.158**	**0.016**	**Standard Dev.**	
Coeff. of Var. [%]	**4.073**	**4.375**	**4.098**	**Coeff. of Var. [%]**	
Min.	**5.434**	**3.240**	**0.354**	**Min.**	**0.0078**
Max.	**6.395**	**3.799**	**0.411**	**Max.**	**0.0083**
Number of Spec.	**21**	**21**	**21**	**Number of Spec.**	**21**


In-Plane Shear Properties (IPS) -- (ETW)
Measured Strength
Cytec Cycom 5215 T650 3K70PW Fabric
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
In-Plane Shear Strength at 5% Strain (IPS) [ksi]


In-Plane Shear Properties (IPS) -- (ETW)
Measured Strength
Cytec Cycom 5215 T650 3K70PW Fabric
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
In-Plane Shear Strength at 0.2% Offset (IPS) [ksi]


In-Plane Shear Properties (IPS) -- (ETW)
Measured Modulus
Cytec Cycom 5215 T650 3K70PW Fabric
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
In-Plane Shear Modulus (IPS) [Msi]
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

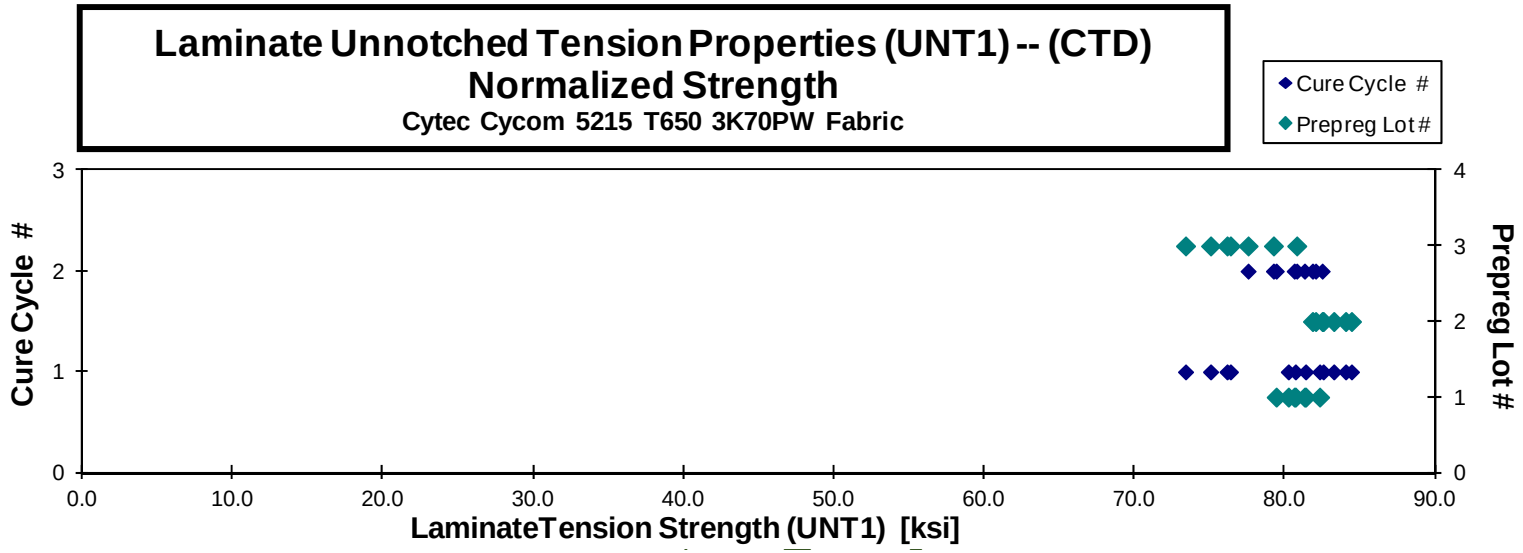
4.6 "25/50/25" Unnotched Tension 1 Properties (UNT1)

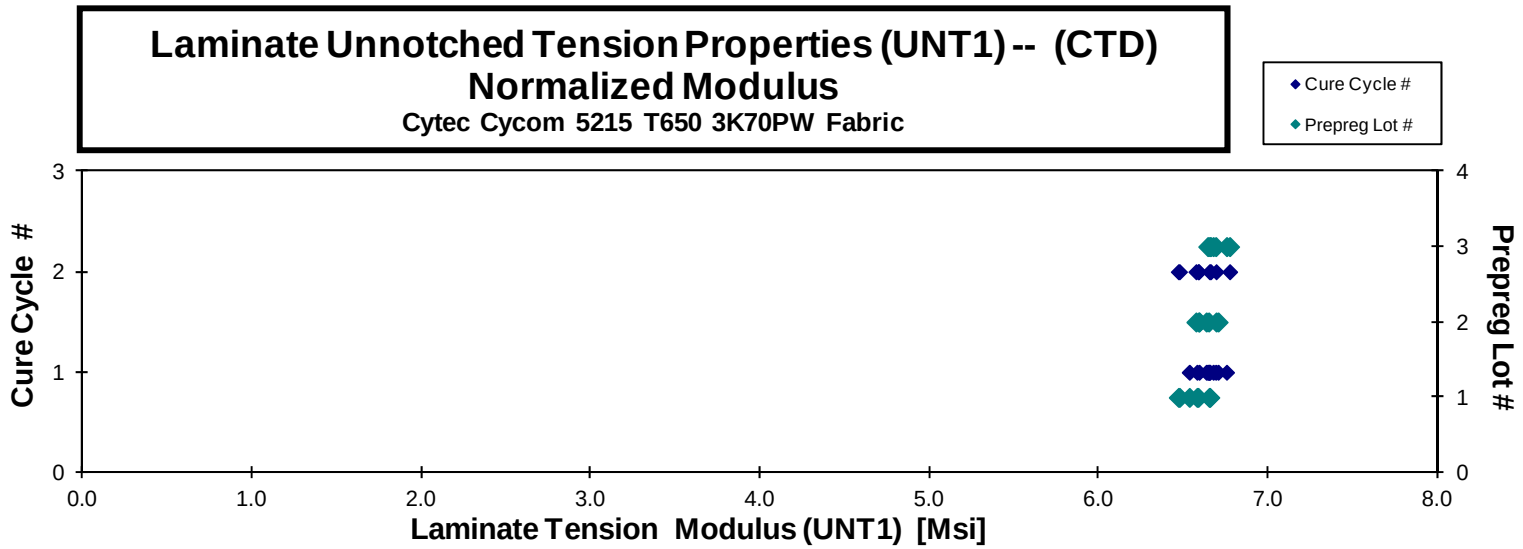
Laminate Unnotched Tension Properties (UNT1) -- (CTD)
Strength & Modulus
Cytec Cycom 5215 T650 3K70PW Fabric

normalizing t_{ply} [in]: 0.0081

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]
C0FAA116B	A	C1	1	1	79.712	6.498	0.131	16	LGM	0.0082	80.707	6.579
C0FAA117B	A	C1	1	1	79.056	6.557	0.132	16	LWT	0.0082	80.235	6.655
C0FAA118B	A	C1	1	1	81.096	6.553	0.132	16	LWB	0.0082	82.316	6.651
C0FAA119B	A	C1	1	1	80.649	6.475	0.131	16	LGM	0.0082	81.385	6.534
C0FAA215B	A	C2	1	2	81.268	6.466	0.130	16	LGM	0.0081	81.310	6.469
C0FAA216B	A	C2	1	2	79.124	6.561	0.130	16	LGM	0.0081	79.430	6.586
C0FAA217B	A	C2	1	2	81.118	6.515	0.129	16	LWT / LWB	0.0081	80.628	6.476
C0FAB115B	B	C1	2	1	82.828	6.670	0.130	16	LGM	0.0081	83.254	6.704
C0FAB116B	B	C1	2	1	84.272	6.635	0.130	16	LWB	0.0081	84.435	6.648
C0FAB117B	B	C1	2	1	84.373	6.617	0.129	16	LGM	0.0081	84.048	6.592
C0FAB118B	B	C1	2	1	81.532	6.551	0.131	16	LWT	0.0082	82.559	6.634
C0FAB215B	B	C2	2	2	82.176	6.599	0.129	16	LGM	0.0081	82.049	6.589
C0FAB216B	B	C2	2	2	81.677	6.626	0.131	16	LGM	0.0082	82.486	6.692
C0FAB217B	B	C2	2	2	82.096	6.593	0.129	16	LGM	0.0081	81.842	6.573
C0FAC115B	C	C1	3	1	76.247	7.016	0.125	16	LGM	0.0078	73.394	6.754
C0FAC116B	C	C1	3	1	78.655	6.874	0.126	16	LGM	0.0079	76.379	6.675
C0FAC117B	C	C1	3	1	78.714	6.966	0.124	16	LGM	0.0077	75.059	6.643
C0FAC118B	C	C1	3	1	79.475	6.981	0.124	16	LGM	0.0078	76.154	6.689
C0FAC215B	C	C2	3	2	81.647	6.855	0.126	16	LWT / LWB	0.0079	79.243	6.653
C0FAC216B	C	C2	3	2	79.740	6.847	0.126	16	LWT	0.0079	77.556	6.659
C0FAC217B	C	C2	3	2	84.578	7.089	0.124	16	LWT	0.0077	80.792	6.772

Average	**80.954**	**6.693**	**Average$_{norm}$**	**0.0080**	**80.250**	**6.630**
Standard Dev.	**2.102**	**0.197**	**Standard Dev.$_{norm}$**		**2.992**	**0.078**
Coeff. of Var. [%]	**2.596**	**2.950**	**Coeff. of Var. [%]$_{norm}$**		**3.728**	**1.184**
Min.	**76.247**	**6.466**	**Min.**	**0.0077**	**73.394**	**6.469**
Max.	**84.578**	**7.089**	**Max.**	**0.0082**	**84.435**	**6.772**
Number of Spec.	**21**	**21**	**Number of Spec.**		**21**	**21**


Laminate Unnotched Tension Properties (UNT1) -- (CTD)
Normalized Strength
Cytec Cycom 5215 T650 3K70PW Fabric
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
80.0
90.0
LaminateTension Strength (UNT1) [ksi]

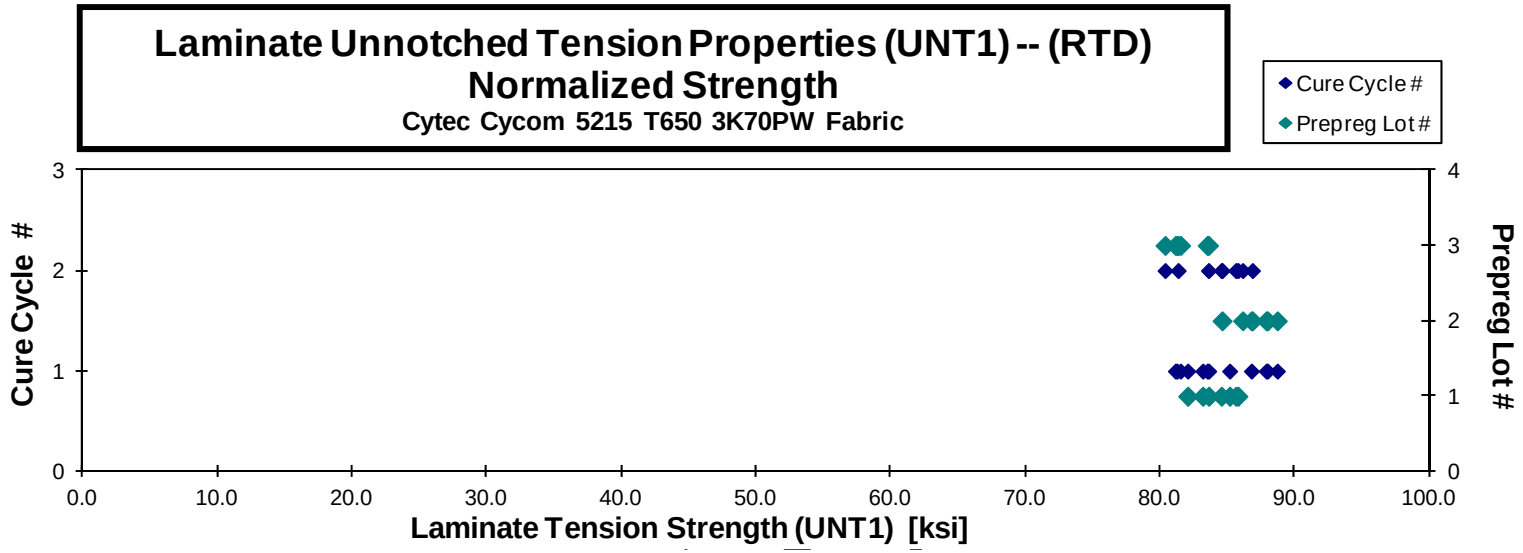

Laminate Unnotched Tension Properties (UNT1) -- (CTD)
Normalized Modulus
Cytec Cycom 5215 T650 3K70PW Fabric
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
Laminate Tension Modulus (UNT1) [Msi]

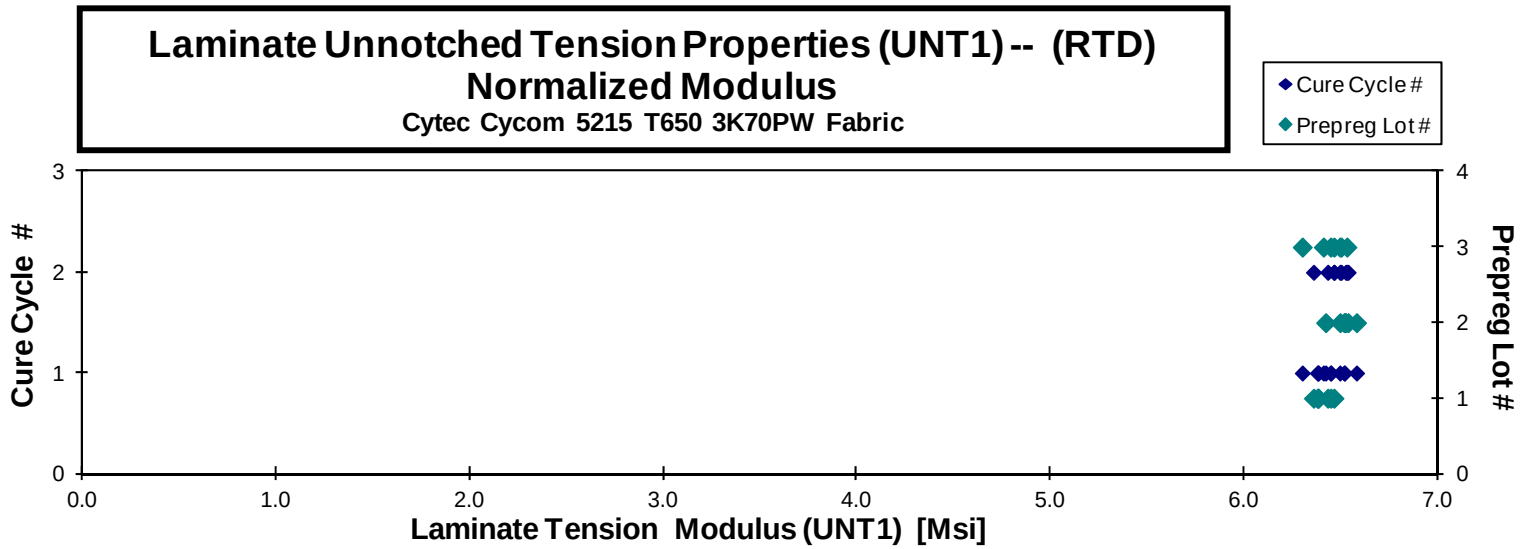
Laminate Unnotched Tension Properties (UNT1) -- (RTD)
Strength & Modulus
Cytec Cycom 5215 T650 3K70PW Fabric

normalizing t_{ply} [in]: 0.0081

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]
C0FAA111A	A	C1	1	1	85.282	6.391	0.129	16	LGM	0.0081	85.184	6.384
C0FAA112A	A	C1	1	1	81.671	6.348	0.130	16	LWT / LWB	0.0081	82.070	6.379
C0FAA113A	A	C1	1	1	82.764	6.415	0.130	16	LWT / LWB	0.0081	83.189	6.448
C0FAA114A	A	C1	1	1	82.095	6.265	0.132	16	LGM	0.0083	83.625	6.381
C0FAA211A	A	C2	1	2	85.017	6.466	0.129	16	LWT / LWB	0.0081	84.569	6.432
C0FAA212A	A	C2	1	2	85.654	6.454	0.130	16	LGM / LWT	0.0081	85.798	6.464
C0FAA213A	A	C2	1	2	85.356	6.338	0.130	16	LGM	0.0081	85.642	6.359
C0FAB111A	B	C1	2	1	88.295	6.549	0.129	16	LWT / LWB	0.0081	87.898	6.519
C0FAB112A	B	C1	2	1	85.906	6.450	0.131	16	LGM / LWT	0.0082	86.801	6.517
C0FAB113A	B	C1	2	1	87.589	6.550	0.130	16	LGM	0.0081	87.995	6.581
C0FAB114A	B	C1	2	1	88.143	6.380	0.130	16	LGM	0.0082	88.721	6.422
C0FAB211A	B	C2	2	2	86.978	6.600	0.128	16	LGM	0.0080	86.150	6.537
C0FAB212A	B	C2	2	2	86.685	6.512	0.130	16	LGM	0.0081	86.874	6.526
C0FAB213A	B	C2	2	2	84.505	6.487	0.130	16	LGM	0.0081	84.625	6.496
C0FAC111A	C	C1	3	1	85.902	6.792	0.123	16	LWT/LWB	0.0077	81.538	6.447
C0FAC112A	C	C1	3	1	84.917	6.787	0.124	16	LWT/LWB	0.0078	81.269	6.495
C0FAC113A	C	C1	3	1	86.234	6.618	0.126	16	LGM/LWT	0.0078	83.517	6.410
C0FAC114A	C	C1	3	1	84.606	6.569	0.124	16	LWB	0.0078	81.157	6.301
C0FAC211A	C	C2	3	2	83.726	6.733	0.124	16	LGM	0.0078	80.388	6.465
C0FAC212A	C	C2	3	2	84.164	6.726	0.125	16	LGM	0.0078	81.360	6.502
C0FAC213A	C	C2	3	2	85.470	6.676	0.127	16	LGM	0.0079	83.612	6.531

Average	85.284	6.529	$Average_{norm}$	0.0080	84.380	6.457
Standard Dev.	1.786	0.152	$Standard\ Dev._{norm}$		2.507	0.071
Coeff. of Var. [%]	2.094	2.334	$Coeff.\ of\ Var.\ [\%]_{norm}$		2.971	1.095
Min.	81.671	6.265	Min.	0.0077	80.388	6.301
Max.	88.295	6.792	Max.	0.0083	88.721	6.581
Number of Spec.	21	21	Number of Spec.		21	21


Laminate Unnotched Tension Properties (UNT1) -- (RTD)
Normalized Strength
Cytec Cycom 5215 T650 3K70PW Fabric
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 Tension Strength (UNT1) [ksi]

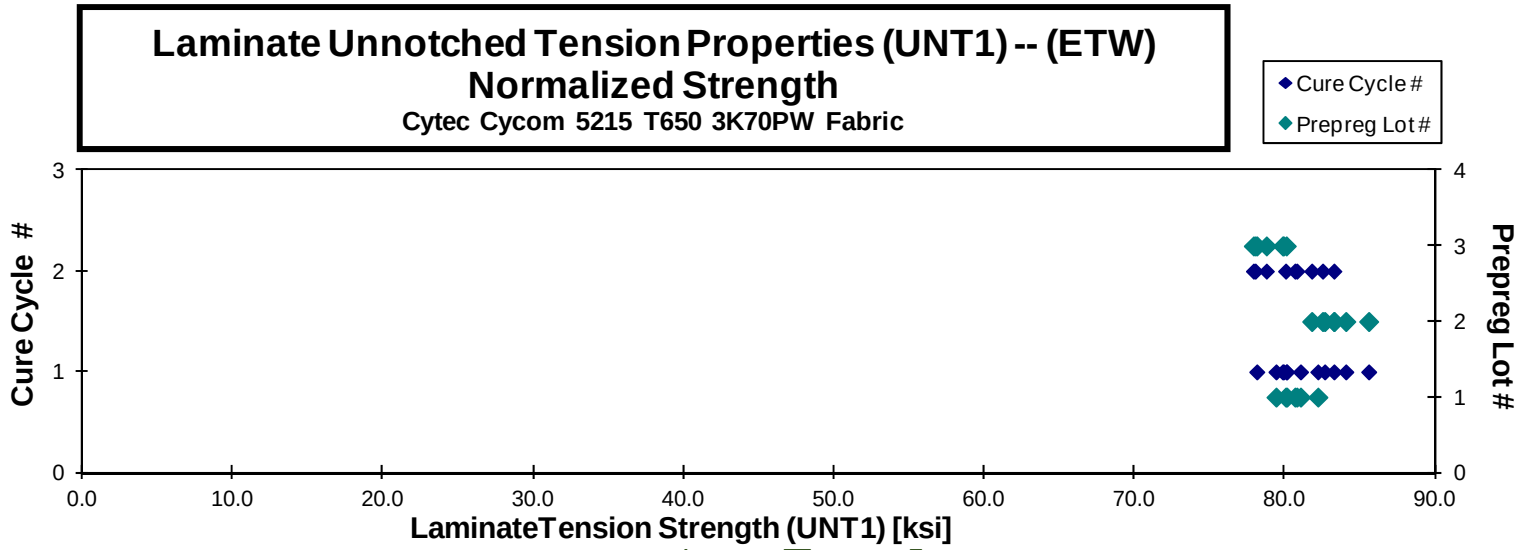

Laminate Unnotched Tension Properties (UNT1) -- (RTD)
Normalized Modulus
Cytec Cycom 5215 T650 3K70PW Fabric
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
Laminate Tension Modulus (UNT1) [Msi]

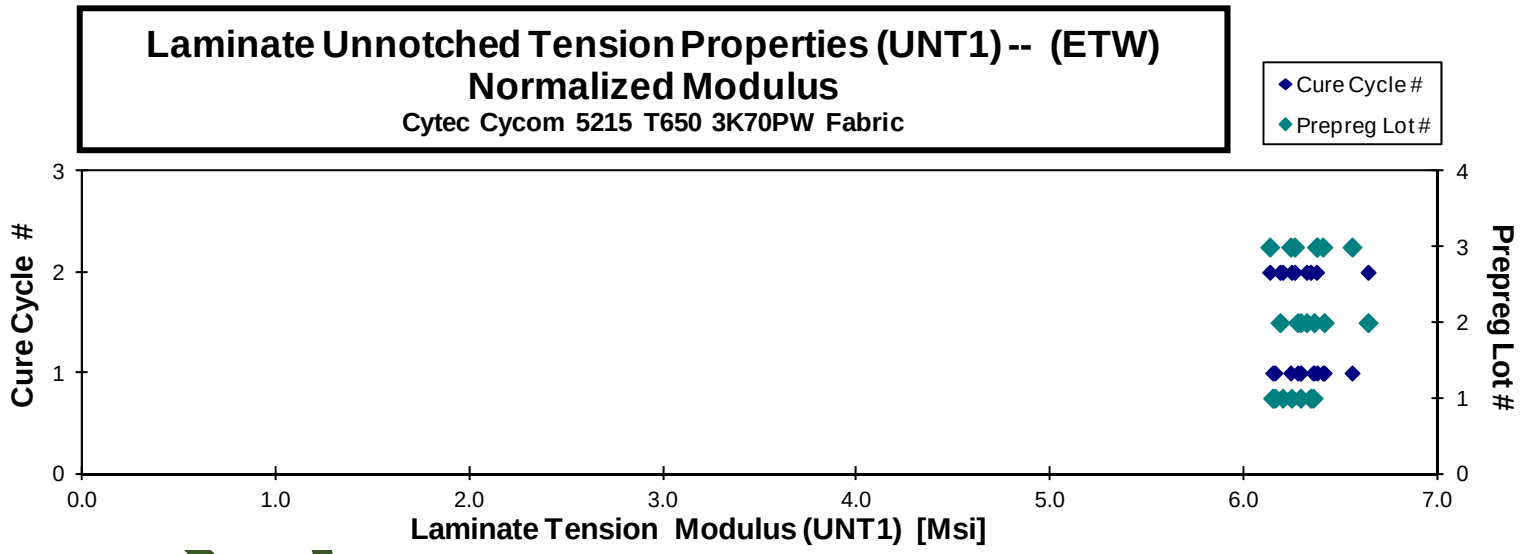
Laminate Unnotched Tension Properties (UNT1) -- (ETW)
Strength & Modulus
Cytec Cycom 5215 T650 3K70PW Fabric

normalizing t_{ply} [in]: 0.0081

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]
C0FAA11BM	A	C1	1	1	79.821	6.067	0.132	16	LGM	0.0082	81.043	6.160
C0FAA11CM	A	C1	1	1	77.939	6.175	0.132	16	AGM	0.0083	79.413	6.292
C0FAA11DM	A	C1	1	1	78.886	6.053	0.132	16	AGM	0.0082	80.124	6.148
C0FAA11EM	A	C1	1	1	80.816	6.250	0.132	16	AGM/LWB	0.0082	82.198	6.356
C0FAA219M	A	C2	1	2	80.025	6.140	0.131	16	LGM/AGM	0.0082	80.797	6.199
C0FAA21AM	A	C2	1	2	79.127	6.173	0.131	16	LGM/AGM	0.0082	80.053	6.245
C0FAA21BM	A	C2	1	2	79.557	6.256	0.131	16	LWB/AGM	0.0082	80.672	6.344
C0FAB119M	B	C1	2	1	84.947	6.230	0.131	16	LGM	0.0082	85.581	6.277
C0FAB11AM	B	C1	2	1	83.012	6.283	0.131	16	LGM	0.0082	84.058	6.362
C0FAB11BM	B	C1	2	1	81.834	6.230	0.131	16	LGM	0.0082	82.655	6.292
C0FAB11CM	B	C1	2	1	82.526	6.357	0.131	16	LGM	0.0082	83.269	6.414
C0FAB219M	B	C2	2	2	82.354	6.366	0.129	16	LGM	0.0080	81.793	6.323
C0FAB21AM	B	C2	2	2	83.019	6.621	0.130	16	AGM	0.0081	83.265	6.640
C0FAB21BM	B	C2	2	2	82.875	6.213	0.129	16	LGM	0.0081	82.512	6.186
C0FAC119M	C	C1	3	1	83.266	6.650	0.124	16	LGM	0.0078	79.850	6.377
C0FAC11AM	C	C1	3	1	82.837	6.454	0.125	16	LGM	0.0078	80.099	6.241
C0FAC11BM	C	C1	3	1	83.031	6.656	0.125	16	LGM	0.0078	79.913	6.406
C0FAC11CM	C	C1	3	1	81.160	6.812	0.125	16	LGM	0.0078	78.133	6.558
C0FAC219M	C	C2	3	2	81.203	6.571	0.126	16	LGM	0.0079	78.770	6.374
C0FAC21AM	C	C2	3	2	80.850	6.354	0.125	16	LGM	0.0078	78.033	6.133
C0FAC21BM	C	C2	3	2	80.487	6.468	0.125	16	LGM	0.0078	77.909	6.261

Average	81.408	6.351	$Average_{norm}$	0.0081	80.959	6.314
Standard Dev.	1.780	0.211	$Standard\ Dev._{norm}$		2.084	0.128
Coeff. of Var. [%]	2.186	3.321	$Coeff.\ of\ Var.\ [\%]_{norm}$		2.574	2.023
Min.	77.939	6.053	Min.	0.0078	77.909	6.133
Max.	84.947	6.812	Max.	0.0083	85.581	6.640
Number of Spec.	21	21	Number of Spec.		21	21


Laminate Unnotched Tension Properties (UNT1) -- (ETW)
Normalized Strength
Cytec Cycom 5215 T650 3K70PW Fabric
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
80.0
90.0
LaminateTension Strength (UNT1) [ksi]


Laminate Unnotched Tension Properties (UNT1) -- (ETW)
Normalized Modulus
Cytec Cycom 5215 T650 3K70PW Fabric
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
Laminate Tension Modulus (UNT1) [Msi]

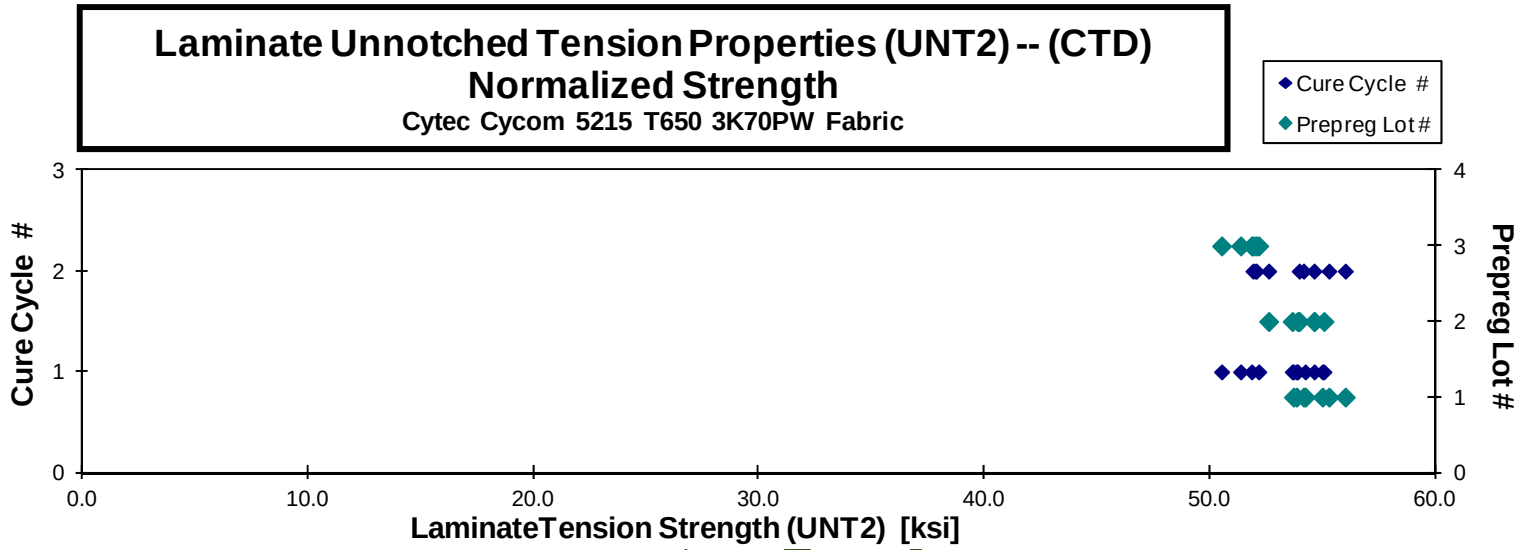
4.7 "10/80/10" Unnotched Tension 2 Properties (UNT2)

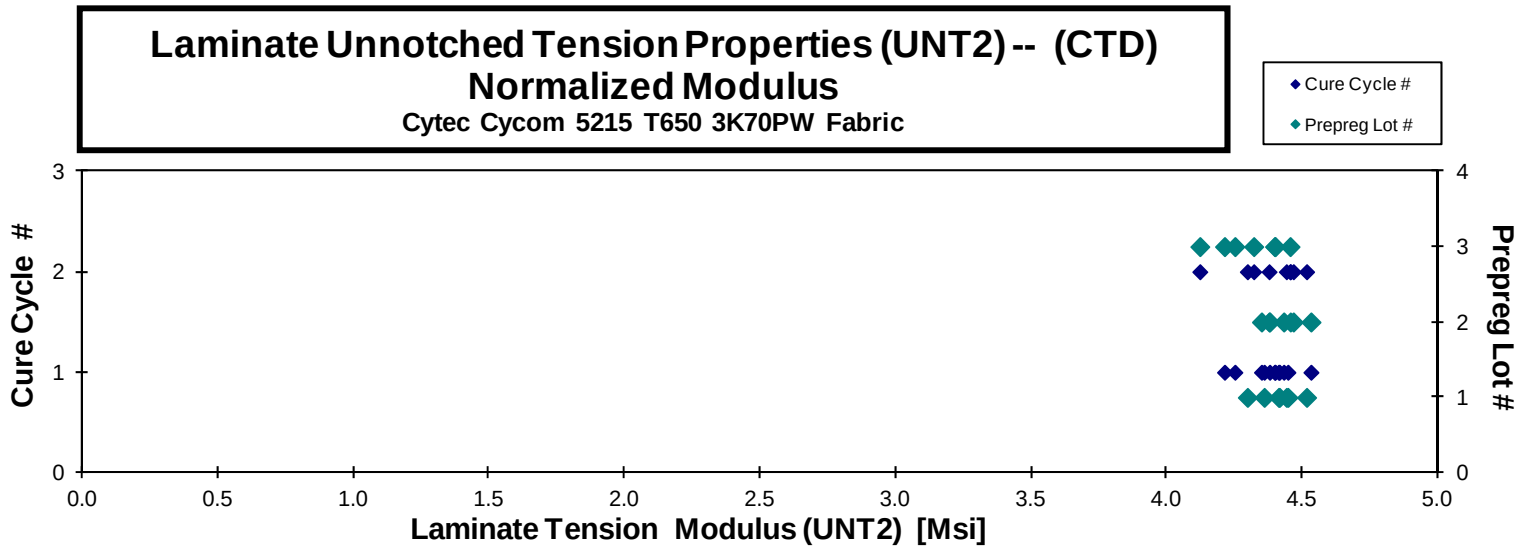
Laminate Unnotched Tension Properties (UNT2) -- (CTD)
Strength & Modulus
Cytec Cycom 5215 T650 3K70PW Fabric

normalizing t_{ply} [in]: 0.0081

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]
C0FBA116B	A	C1	1	1	53.200	4.362	0.164	20	AWT	0.0082	53.851	4.416
C0FBA117B	A	C1	1	1	54.483	4.406	0.164	20	AWB	0.0082	54.999	4.448
C0FBA118B	A	C1	1	1	53.595	4.360	0.164	20	AWB	0.0082	54.240	4.413
C0FBA119B	A	C1	1	1	53.410	4.335	0.163	20	AGM	0.0081	53.718	4.360
C0FBA215B	A	C2	1	2	53.131	4.430	0.165	20	AWB	0.0083	54.164	4.516
C0FBA216B	A	C2	1	2	53.607	4.307	0.167	20	AGM	0.0084	55.289	4.442
C0FBA217B	A	C2	1	2	55.981	4.295	0.162	20	AGM	0.0081	56.016	4.298
C0FBB115B	B	C1	2	1	53.532	4.421	0.162	20	AWT	0.0081	53.664	4.432
C0FBB116B	B	C1	2	1	54.537	4.372	0.162	20	AWB	0.0081	54.638	4.380
C0FBB117B	B	C1	2	1	54.859	4.427	0.159	20	AGM	0.0080	53.899	4.350
C0FBB118B	B	C1	2	1	55.469	4.565	0.161	20	AWB	0.0080	55.069	4.533
C0FBB215B	B	C2	2	2	54.914	4.491	0.161	20	AGM	0.0081	54.632	4.468
C0FBB216B	B	C2	2	2	52.341	4.355	0.163	20	AWT	0.0081	52.616	4.378
C0FBB217B	B	C2	2	2	54.329	4.486	0.161	20	AGM	0.0080	53.971	4.456
C0FBC115B	C	C1	3	1	52.874	4.337	0.157	20	AGM	0.0079	51.372	4.214
C0FBC116B	C	C1	3	1	53.422	4.531	0.157	20	AWT	0.0079	51.862	4.399
C0FBC117B	C	C1	3	1	54.033	4.557	0.156	20	AWB	0.0078	52.176	4.400
C0FBC118B	C	C1	3	1	51.946	4.371	0.158	20	AGM	0.0079	50.530	4.252
C0FBC215B	C	C2	3	2	53.561	4.596	0.157	20	AWT	0.0079	51.919	4.455
C0FBC216B	C	C2	3	2	53.295	4.423	0.158	20	AWT	0.0079	52.072	4.321
C0FBC217B	C	C2	3	2	53.812	4.264	0.157	20	AGM	0.0078	52.023	4.123

Average	**53.825**	**4.414**	**$Average_{norm}$**	**0.0080**	**53.463**	**4.383**
Standard Dev.	**0.980**	**0.093**	**$Standard\ Dev._{norm}$**		**1.477**	**0.099**
Coeff. of Var. [%]	**1.821**	**2.118**	**$Coeff.\ of\ Var.\ [\%]_{norm}$**		**2.763**	**2.264**
Min.	**51.946**	**4.264**	**Min.**	**0.0078**	**50.530**	**4.123**
Max.	**55.981**	**4.596**	**Max.**	**0.0084**	**56.016**	**4.533**
Number of Spec.	**21**	**21**	**Number of Spec.**		**21**	**21**


Laminate Unnotched Tension Properties (UNT2) -- (CTD)
Normalized Strength
Cytec Cycom 5215 T650 3K70PW Fabric
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0.0
10.0
20.0
30.0
40.0
50.0
60.0
LaminateTension Strength (UNT2) [ksi]

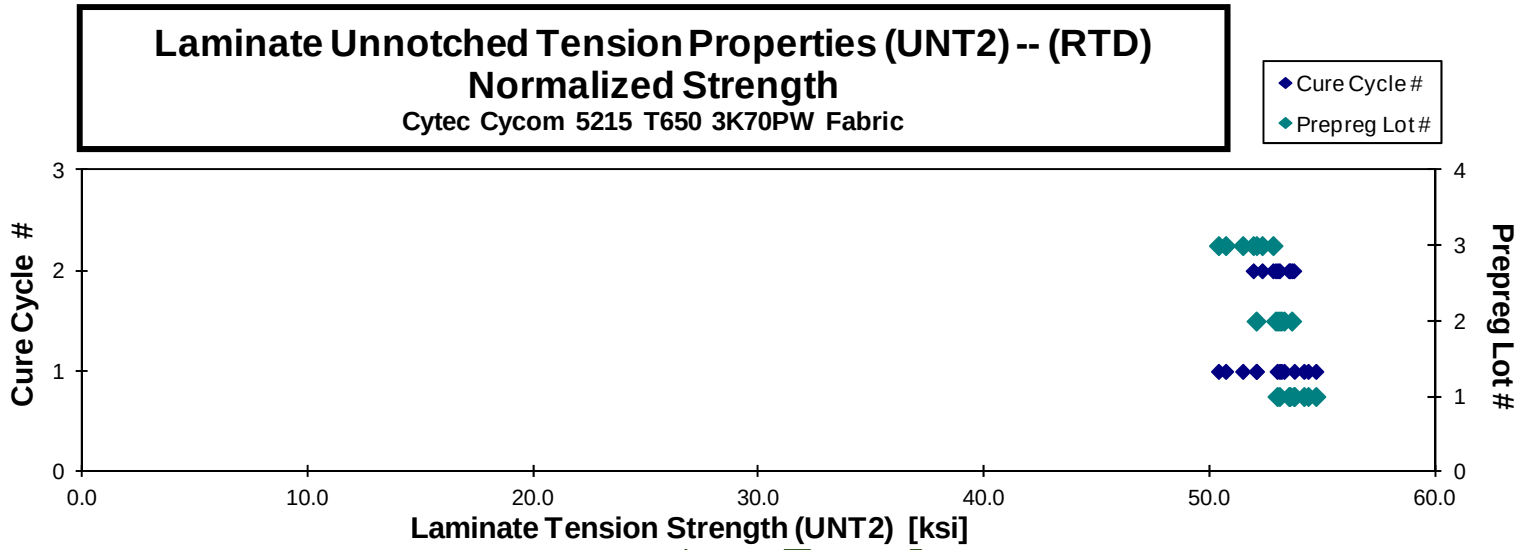

Laminate Unnotched Tension Properties (UNT2) -- (CTD)
Normalized Modulus
Cytec Cycom 5215 T650 3K70PW Fabric
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3.5
4.0
4.5
5.0
Laminate Tension Modulus (UNT2) [Msi]

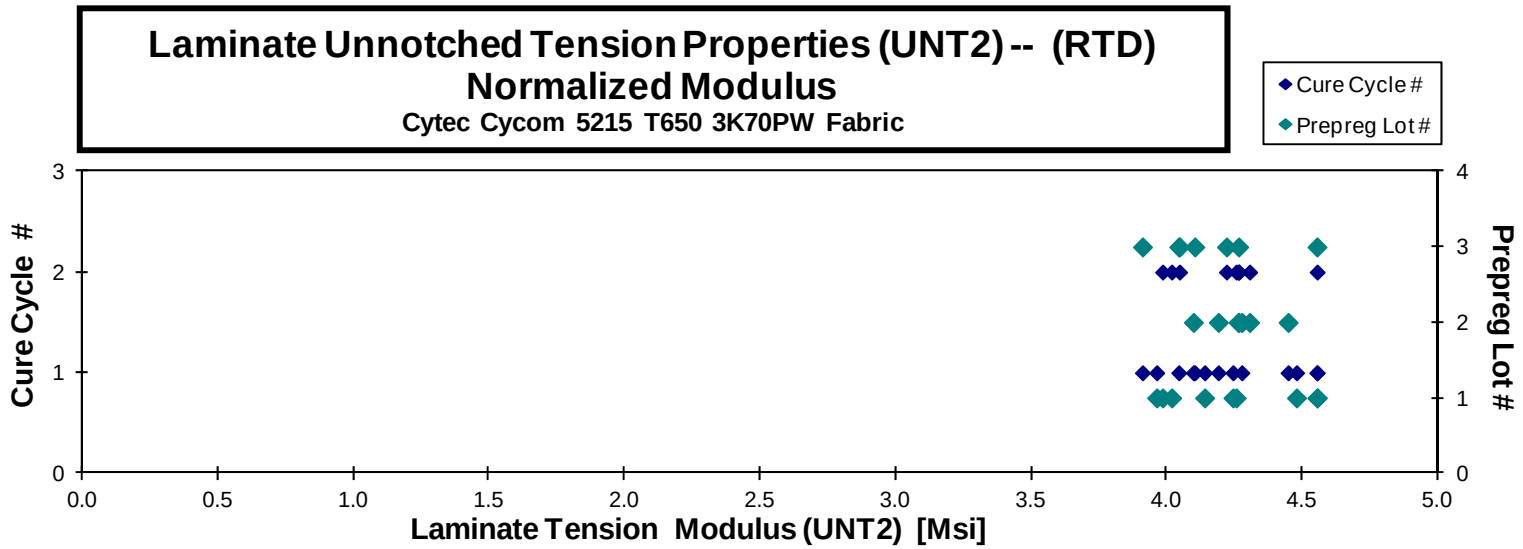
Laminate Unnotched Tension Properties (UNT2) -- (RTD)
Strength & Modulus
Cytec Cycom 5215 T650 3K70PW Fabric

normalizing t_{ply} [in]: 0.0081

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]
C0FBA111A	A	C1	1	1	52.703	3.942	0.163	20	AGM	0.0081	52.990	3.963
C0FBA112A	A	C1	1	1	53.838	4.483	0.165	20	AGM	0.0082	54.708	4.555
C0FBA113A	A	C1	1	1	53.622	4.187	0.164	20	AWT	0.0082	54.366	4.245
C0FBA114A	A	C1	1	1	53.402	4.081	0.164	20	AWT	0.0082	54.177	4.140
C0FBA115A	A	C1	1	1	52.635	4.386	0.165	20	AGM	0.0083	53.756	4.479
C0FBA211A	A	C2	1	2	51.735	4.148	0.166	20	AGM	0.0083	53.092	4.257
C0FBA212A	A	C2	1	2	51.865	4.398	0.168	20	AWT	0.0084	53.727	4.556
C0FBA213A	A	C2	1	2	51.767	3.888	0.167	20	AWB	0.0084	53.508	4.018
C0FBA214A	A	C2	1	2	52.174	3.882	0.166	20	AWT	0.0083	53.558	3.985
C0FBB111A	B	C1	2	1	53.480	4.292	0.161	20	AWT	0.0081	53.298	4.277
C0FBB112A	B	C1	2	1	52.362	4.215	0.161	20	AWT	0.0081	52.060	4.191
C0FBB113A	B	C1	2	1	52.698	4.415	0.163	20	AGM	0.0082	53.099	4.448
C0FBB114A	B	C1	2	1	53.280	4.107	0.162	20	AWT	0.0081	53.181	4.099
C0FBB212A	B	C2	2	2	52.764	4.293	0.162	20	AGM	0.0081	52.921	4.306
C0FBB213A	B	C2	2	2	53.695	4.271	0.162	20	AGM	0.0081	53.639	4.267
C0FBB214A	B	C2	2	2	53.176	4.277	0.162	20	AWB	0.0081	53.012	4.264
C0FBC111A	C	C1	3	1	53.749	4.286	0.155	20	AWT	0.0078	51.465	4.104
C0FBC112A	C	C1	3	1	51.432	4.649	0.159	20	AWB	0.0079	50.389	4.555
C0FBC113A	C	C1	3	1	53.353	4.007	0.158	20	AGM	0.0079	52.074	3.911
C0FBC114A	C	C1	3	1	51.860	4.137	0.158	20	AGM	0.0079	50.708	4.045
C0FBC212A	C	C2	3	2	53.620	4.404	0.157	20	AGM	0.0078	51.932	4.266
C0FBC213A	C	C2	3	2	54.579	4.362	0.157	20	AGM	0.0078	52.810	4.221
C0FBC214A	C	C2	3	2	53.598	4.146	0.158	20	AWT	0.0079	52.324	4.048

Average	**52.930**	**4.229**	**$Average_{norm}$**	**0.0081**	**52.904**	**4.226**
Standard Dev.	**0.840**	**0.193**	**$Standard\ Dev._{norm}$**		**1.087**	**0.194**
Coeff. of Var. [%]	**1.586**	**4.570**	**$Coeff.\ of\ Var.\ [\%]_{norm}$**		**2.054**	**4.588**
Min.	**51.432**	**3.882**	**Min.**	**0.0078**	**50.389**	**3.911**
Max.	**54.579**	**4.649**	**Max.**	**0.0084**	**54.708**	**4.556**
Number of Spec.	**23**	**23**	**Number of Spec.**		**23**	**23**


Laminate Unnotched Tension Properties (UNT2) -- (RTD)
Normalized Strength
Cytec Cycom 5215 T650 3K70PW Fabric
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0.0
10.0
20.0
30.0
40.0
50.0
60.0
Laminate Tension Strength (UNT2) [ksi]


Laminate Unnotched Tension Properties (UNT2) -- (RTD)
Normalized Modulus
Cytec Cycom 5215 T650 3K70PW Fabric
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
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]

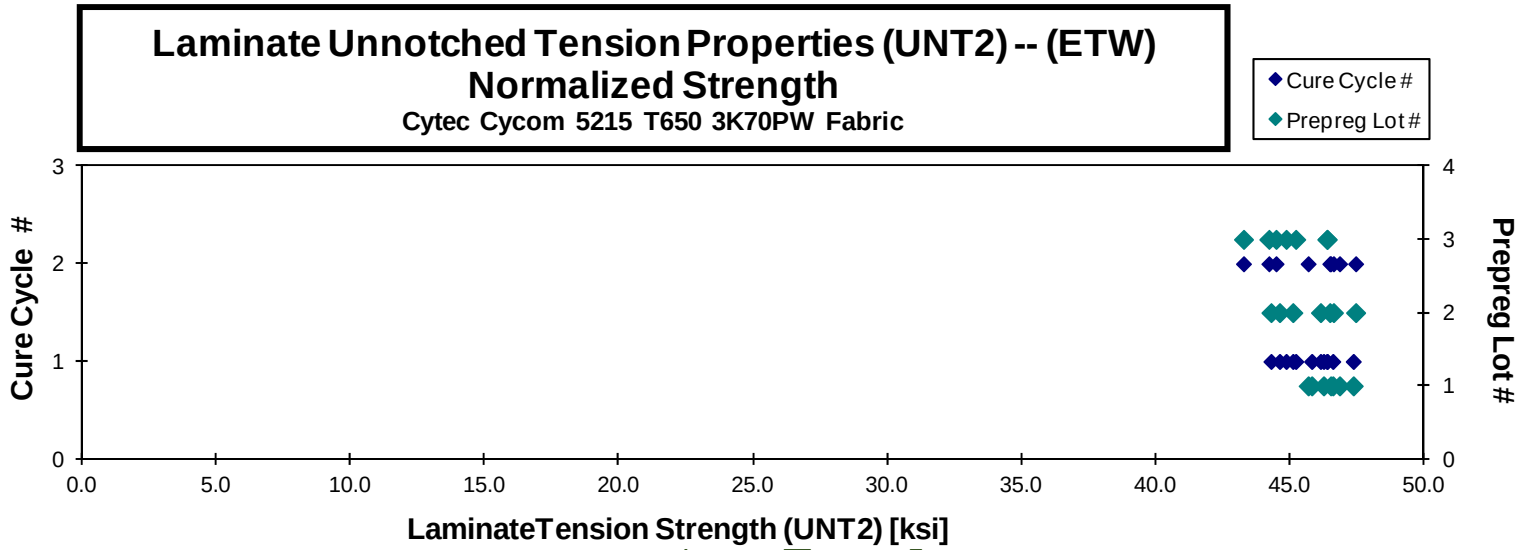
Laminate Unnotched Tension Properties (UNT2) -- (ETW)
Strength & Modulus
Cytec Cycom 5215 T650 3K70PW Fabric

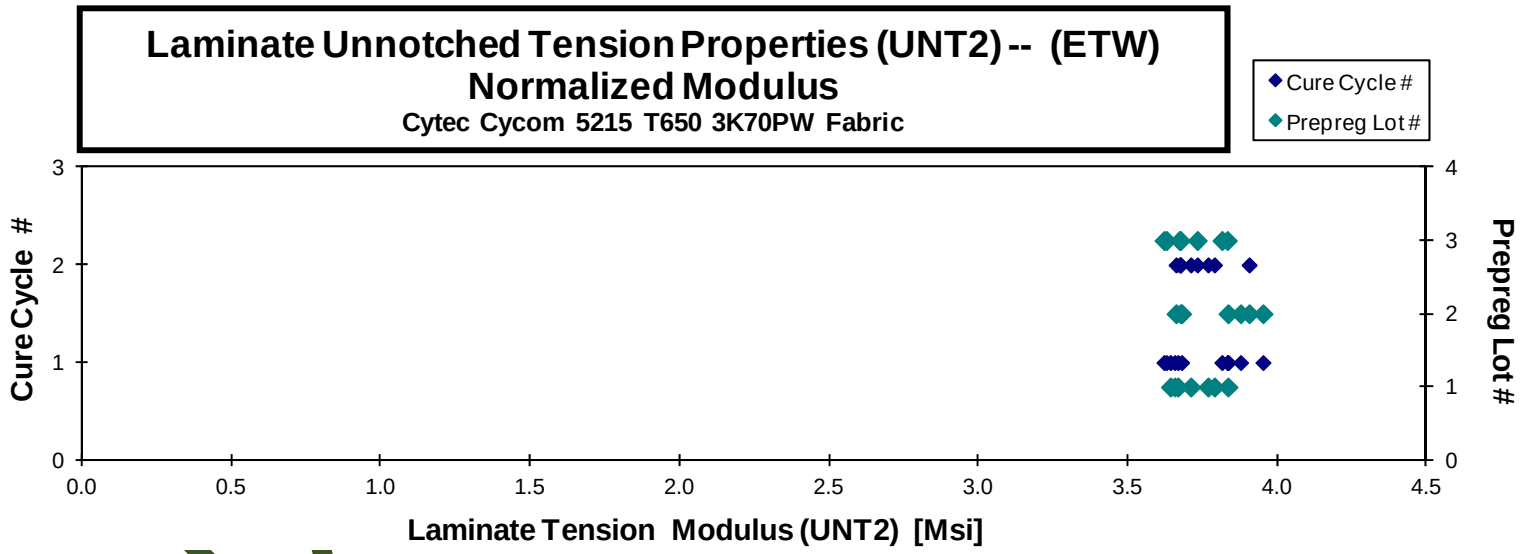
normalizing t_{ply} [in]: 0.0081

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]
C0FBA11BM	A	C1	1	1	46.741	3.785	0.164	20	AGM / DGM	0.0082	47.357	3.835
C0FBA11CM	A	C1	1	1	45.992	3.620	0.164	20	DGM	0.0082	46.593	3.668
C0FBA11DM	A	C1	1	1	45.272	3.600	0.164	20	DGM	0.0082	45.808	3.642
C0FBA11EM	A	C1	1	1	45.823	3.623	0.164	20	DGM	0.0082	46.248	3.656
C0FBA219M	A	C2	1	2	46.265	3.664	0.164	20	DGM	0.0082	46.845	3.710
C0FBA21AM	A	C2	1	2	45.390	3.677	0.166	20	AGM / DGM	0.0083	46.515	3.768
C0FBA21BM	A	C2	1	2	43.586	3.616	0.170	20	AGM / DGM	0.0085	45.676	3.790
C0FBB119M	B	C1	2	1	45.485	3.985	0.161	20	AGM/DGM	0.0080	45.106	3.952
C0FBB11AM	B	C1	2	1	44.237	3.830	0.162	20	AGM/DGM	0.0081	44.292	3.835
C0FBB11BM	B	C1	2	1	44.620	3.681	0.162	20	AGM/DGM	0.0081	44.611	3.680
C0FBB11CM	B	C1	2	1	46.455	3.904	0.161	20	AGM/DGM	0.0080	46.135	3.877
C0FBB219M	B	C2	2	2	47.431	3.660	0.162	20	AGM/DGM	0.0081	47.446	3.661
C0FBB21AM	B	C2	2	2	46.479	3.665	0.162	20	AGM/DGM	0.0081	46.618	3.676
C0FBB21BM	B	C2	2	2	46.086	3.872	0.163	20	AGM/DGM	0.0082	46.485	3.906
C0FBC119M	C	C1	3	1	46.160	3.944	0.157	20	AGM/DGM	0.0079	44.854	3.833
C0FBC11AM	C	C1	3	1	47.063	3.683	0.160	20	AGM/DGM	0.0080	46.376	3.629
C0FBC11BM	C	C1	3	1	46.172	3.896	0.159	20	AGM/DGM	0.0079	45.213	3.815
C0FBC11CM	C	C1	3	1	47.886	3.738	0.157	20	AGM/DGM	0.0078	46.383	3.621
C0FBC219M	C	C2	3	2	45.468	3.780	0.158	20	AGM / DGM	0.0079	44.214	3.675
C0FBC21AM	C	C2	3	2	44.556	3.843	0.157	20	AGM / DGM	0.0079	43.268	3.732
C0FBC21BM	C	C2	3	2	45.788	3.781	0.157	20	AGM / DGM	0.0079	44.479	3.673

	Strength [ksi]	Modulus [Msi]
Average	45.855	3.755
Standard Dev.	1.046	0.119
Coeff. of Var. [%]	2.280	3.160
Min.	43.586	3.600
Max.	47.886	3.985
Number of Spec.	21	21

	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
$Average_{norm}$	0.0081	45.739	3.744
$Standard\ Dev._{norm}$		1.129	0.100
$Coeff.\ of\ Var.\ [\%]_{norm}$		2.469	2.658
Min.	0.0078	43.268	3.621
Max.	0.0085	47.446	3.952
Number of Spec.		21	21


Laminate Unnotched Tension Properties (UNT2) -- (ETW)
Normalized Strength
Cytec Cycom 5215 T650 3K70PW Fabric
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0
45.0
50.0
LaminateTension Strength (UNT2) [ksi]


Laminate Unnotched Tension Properties (UNT2) -- (ETW)
Normalized Modulus
Cytec Cycom 5215 T650 3K70PW Fabric
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3.5
4.0
4.5
Laminate Tension Modulus (UNT2) [Msi]

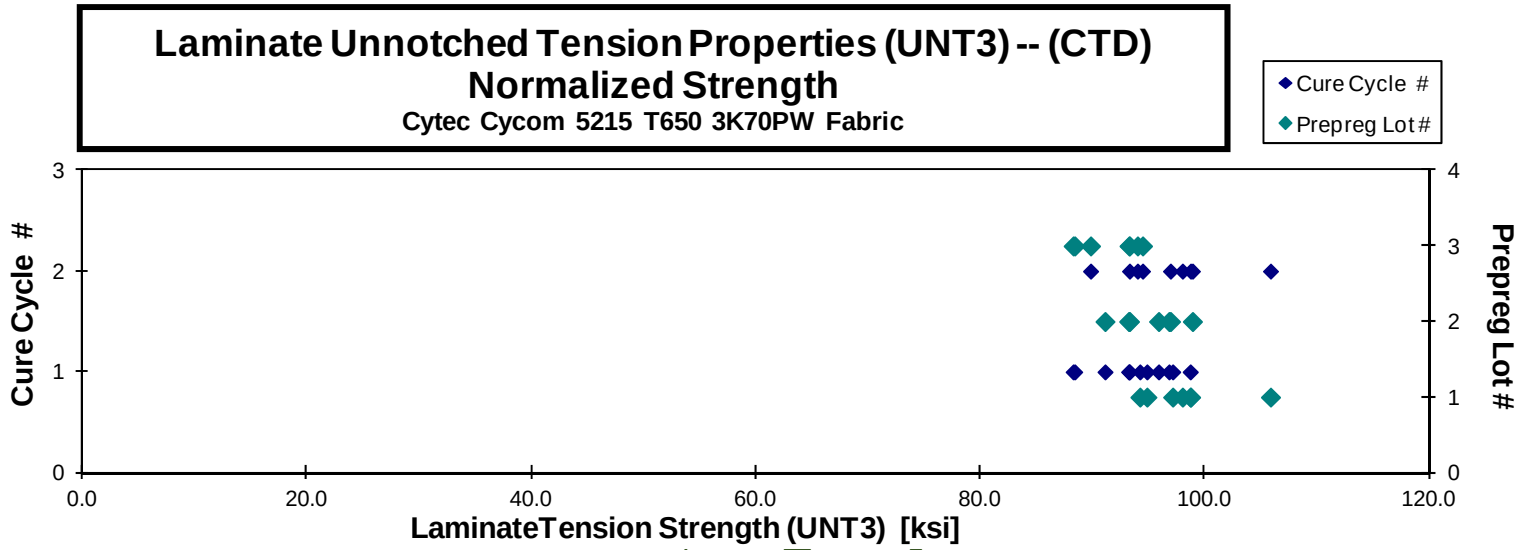
4.8 "40/20/40" Unnotched Tension 3 Properties (UNT3)

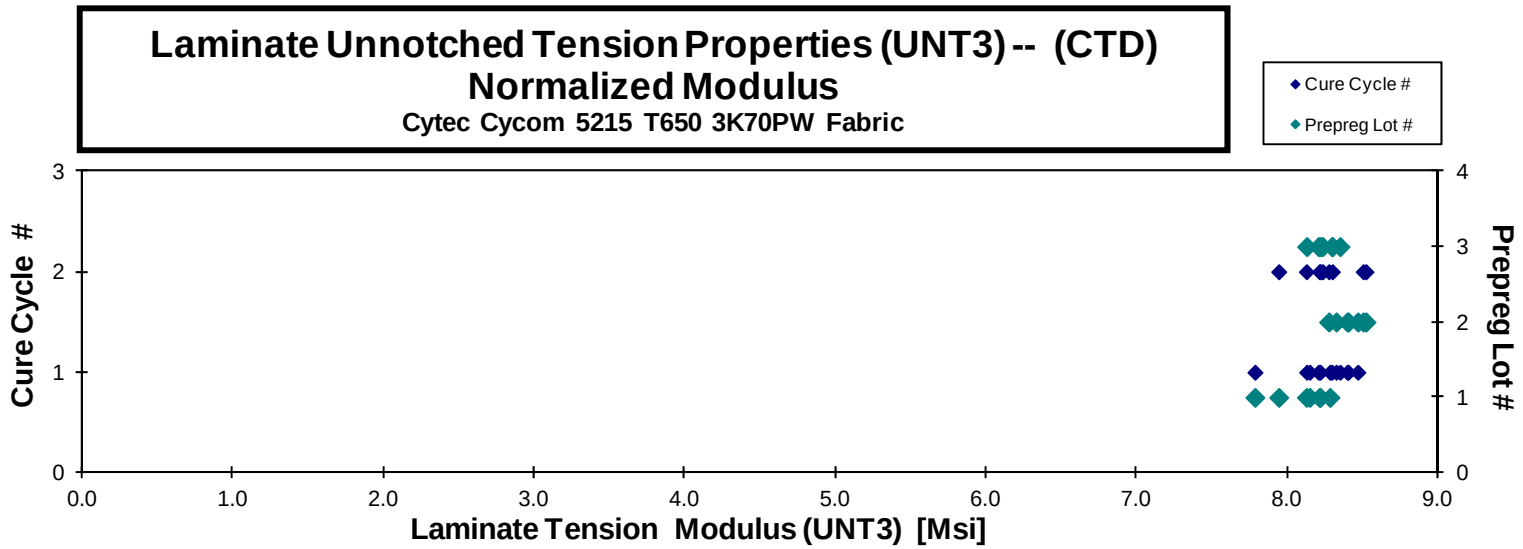
Laminate Unnotched Tension Properties (UNT3) -- (CTD)
Strength & Modulus
Cytec Cycom 5215 T650 3K70PW Fabric

normalizing t_{ply} [in]: 0.0081

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]
C0FCA116B	A	C1	1	1	97.771	8.142	0.123	15	LGM	0.0082	98.710	8.220
C0FCA117B	A	C1	1	1	93.098	7.694	0.123	15	LGM	0.0082	94.222	7.787
C0FCA118B	A	C1	1	1	94.604	8.263	0.122	15	LWT / LWB	0.0081	94.851	8.285
C0FCA119B	A	C1	1	1	97.354	8.168	0.121	15	LGM	0.0081	97.140	8.150
C0FCA215B	A	C2	1	2	96.449	8.083	0.123	15	LGM /LWT	0.0082	98.011	8.214
C0FCA216B	A	C2	1	2	104.982	7.879	0.123	15	LGM / LWT	0.0082	105.861	7.945
C0FCA217B	A	C2	1	2	98.714	8.126	0.122	15	LGM / LWT	0.0081	98.741	8.128
C0FCB115B	B	C1	2	1	96.099	8.344	0.121	15	LGM	0.0081	95.888	8.326
C0FCB116B	B	C1	2	1	96.705	8.390	0.122	15	LGM	0.0081	96.811	8.400
C0FCB117B	B	C1	2	1	94.497	8.521	0.120	15	LGM	0.0080	93.226	8.406
C0FCB118B	B	C1	2	1	92.074	8.559	0.120	15	LGM / LWT	0.0080	91.114	8.470
C0FCB215B	B	C2	2	2	96.723	8.486	0.122	15	LGM	0.0081	96.948	8.506
C0FCB216B	B	C2	2	2	98.432	8.483	0.122	15	LGM	0.0081	98.905	8.524
C0FCB217B	B	C2	2	2	95.071	8.434	0.119	15	LGM / LWT	0.0079	93.297	8.277
C0FCC115B	C	C1	3	1	92.313	8.720	0.116	15	LWT / LWB	0.0078	88.413	8.352
C0FCC116B	C	C1	3	1	92.729	8.716	0.116	15	LGM	0.0077	88.277	8.297
C0FCC117B	C	C1	3	1	97.836	8.608	0.116	15	LGM / LWT	0.0077	93.300	8.209
C0FCC118B	C	C1	3	1	97.022	8.459	0.117	15	LGM	0.0078	93.255	8.130
C0FCC216B	C	C2	3	2	98.546	8.702	0.116	15	LGM	0.0077	94.004	8.301
C0FCC217B	C	C2	3	2	94.944	8.705	0.115	15	LGM	0.0077	89.826	8.235
C0FCC218B	C	C2	3	2	99.653	8.673	0.115	15	LGM / LWT	0.0077	94.459	8.221

Average	**96.458**	**8.388**	**$Average_{norm}$**	**0.0080**	**95.012**	**8.256**
Standard Dev.	**2.952**	**0.287**	**Standard Dev.$_{norm}$**		**4.042**	**0.175**
Coeff. of Var. [%]	**3.061**	**3.422**	**Coeff. of Var. [%]$_{norm}$**		**4.255**	**2.115**
Min.	**92.074**	**7.694**	**Min.**	**0.0077**	**88.277**	**7.787**
Max.	**104.982**	**8.720**	**Max.**	**0.0082**	**105.861**	**8.524**
Number of Spec.	**21**	**21**	**Number of Spec.**		**21**	**21**


Laminate Unnotched Tension Properties (UNT3) -- (CTD)
Normalized Strength
Cytec Cycom 5215 T650 3K70PW Fabric
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 (UNT3) [ksi]


Laminate Unnotched Tension Properties (UNT3) -- (CTD)
Normalized Modulus
Cytec Cycom 5215 T650 3K70PW Fabric
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 (UNT3) [Msi]

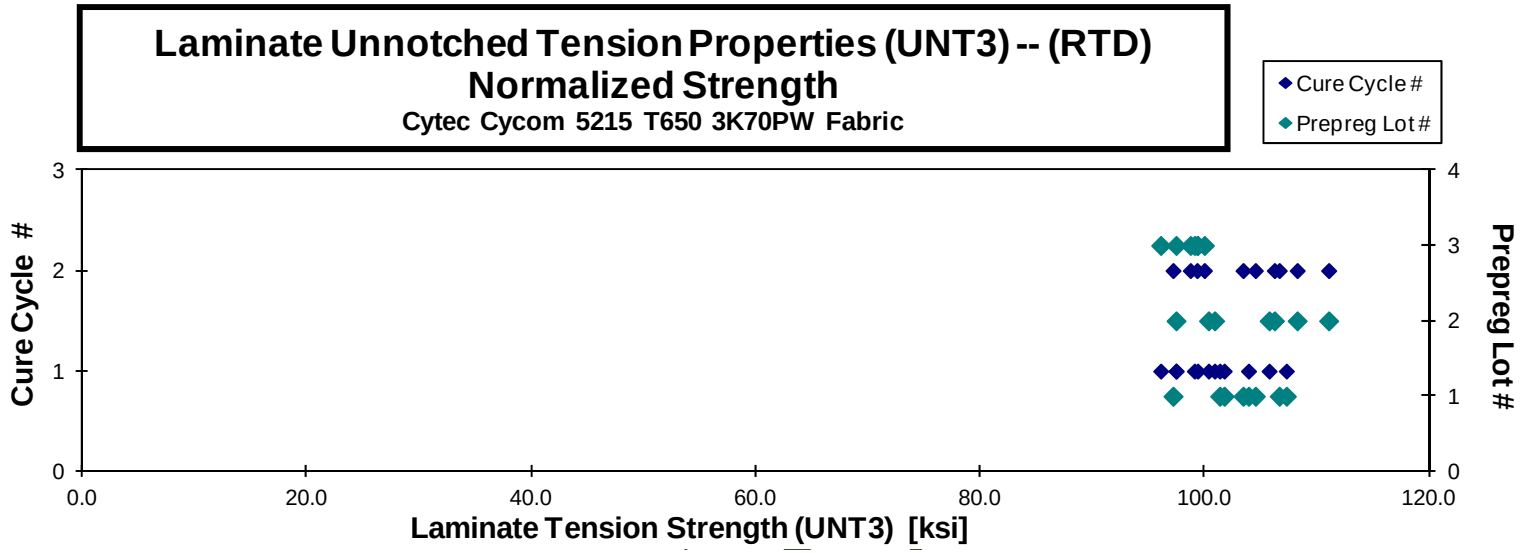
Laminate Unnotched Tension Properties (UNT3) -- (RTD)
Strength & Modulus
Cytec Cycom 5215 T650 3K70PW Fabric

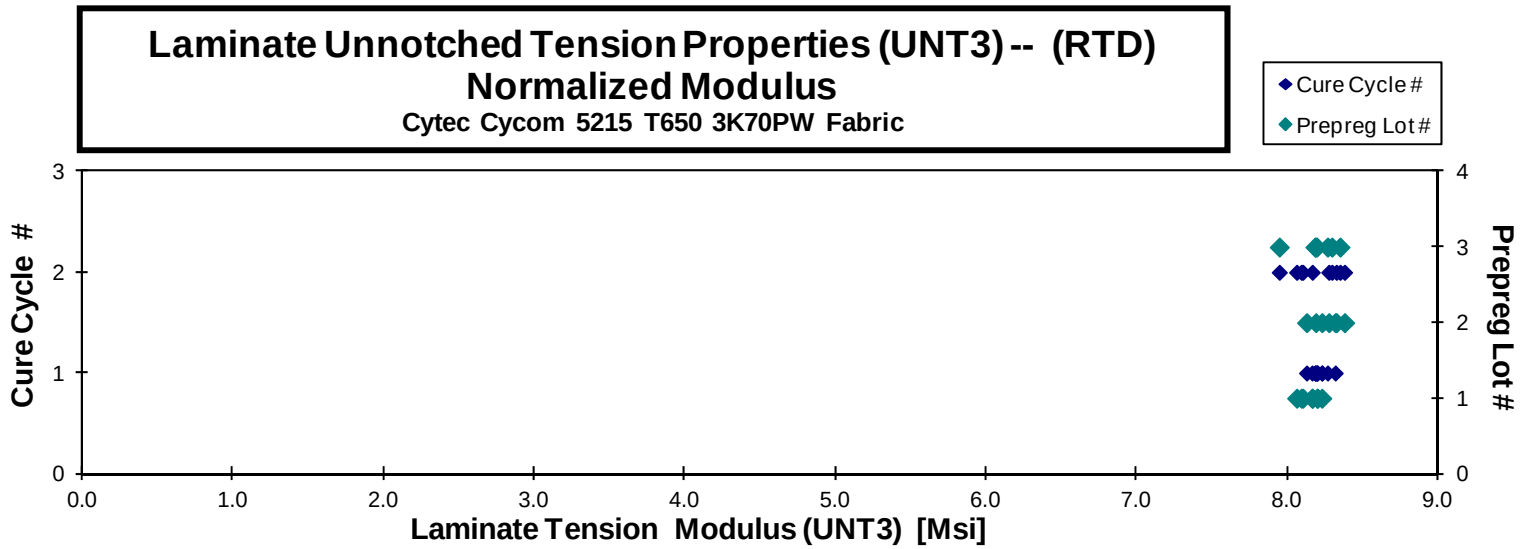
normalizing t_{ply} [in]: 0.0081

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]
C0FCA111A	A	C1	1	1	104.764	8.269	0.121	15	LWT/ LGM	0.0080	103.902	8.201
C0FCA112A	A	C1	1	1	100.971	8.170	0.122	15	LWT/ LWB	0.0081	101.331	8.199
C0FCA113A	A	C1	1	1	101.789	8.235	0.121	15	LWT/ LWB	0.0081	101.733	8.231
C0FCA114A	A	C1	1	1	107.111	8.154	0.122	15	LGM / LWB	0.0081	107.273	8.166
C0FCA211A	A	C2	1	2	104.333	8.176	0.120	15	LGM / LWB	0.0080	103.417	8.104
C0FCA212A	A	C2	1	2	105.181	7.983	0.123	15	LGM	0.0082	106.639	8.094
C0FCA213A	A	C2	1	2	96.213	8.086	0.123	15	LGM/ LWT	0.0082	97.176	8.167
C0FCA214A	A	C2	1	2	103.152	7.959	0.123	15	LWT/ LWB	0.0082	104.510	8.063
C0FCB111A	B	C1	2	1	106.908	8.323	0.120	15	LGM/LWB	0.0080	105.735	8.232
C0FCB112A	B	C1	2	1	101.841	8.269	0.120	15	LWT/LWB	0.0080	100.877	8.191
C0FCB113A	B	C1	2	1	97.164	8.296	0.122	15	LGM/LWT	0.0081	97.444	8.320
C0FCB114A	B	C1	2	1	99.682	8.076	0.122	15	LWT/LWB	0.0082	100.338	8.129
C0FCB211A	B	C2	2	2	110.034	8.521	0.120	15	LGM/LWB	0.0080	108.238	8.382
C0FCB212A	B	C2	2	2	109.822	8.186	0.123	15	LWT/LWB	0.0082	111.042	8.277
C0FCB213A	B	C2	2	2	105.244	8.251	0.123	15	LGM/LWB	0.0082	106.211	8.327
C0FCC111A	C	C1	3	1	104.516	8.636	0.115	15	LWT/LWB	0.0077	99.082	8.187
C0FCC112A	C	C1	3	1	103.398	8.528	0.117	15	LGM	0.0078	99.370	8.196
C0FCC113A	C	C1	3	1	100.692	8.579	0.116	15	LGM	0.0077	96.078	8.186
C0FCC114A	C	C1	3	1	102.610	8.707	0.115	15	LGM/LWT	0.0077	97.445	8.268
C0FCC211A	C	C2	3	2	104.448	8.410	0.115	15	LGM	0.0077	98.717	7.948
C0FCC212A	C	C2	3	2	105.183	8.846	0.115	15	LGM	0.0076	99.310	8.352
C0FCC214A	C	C2	3	2	104.786	8.697	0.116	15	LWT.LWB	0.0077	99.971	8.298

Average	**103.629**	**8.334**	
Standard Dev.	**3.452**	**0.248**	
Coeff. of Var. [%]	**3.331**	**2.970**	
Min.	**96.213**	**7.959**	
Max.	**110.034**	**8.846**	
Number of Spec.	**22**	**22**	

$Average_{norm}$	**0.0080**	**102.084**	**8.205**
$Standard\ Dev._{norm}$		**4.114**	**0.102**
Coeff. of Var. [%]$_{norm}$		**4.030**	**1.243**
Min.	**0.0076**	**96.078**	**7.948**
Max.	**0.0082**	**111.042**	**8.382**
Number of Spec.		**22**	**22**


Laminate Unnotched Tension Properties (UNT3) -- (RTD)
Normalized Strength
Cytec Cycom 5215 T650 3K70PW Fabric
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 Tension Strength (UNT3) [ksi]


Laminate Unnotched Tension Properties (UNT3) -- (RTD)
Normalized Modulus
Cytec Cycom 5215 T650 3K70PW Fabric
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
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0.0
1.0
2.0
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6.0
7.0
8.0
9.0
Laminate Tension Modulus (UNT3) [Msi]

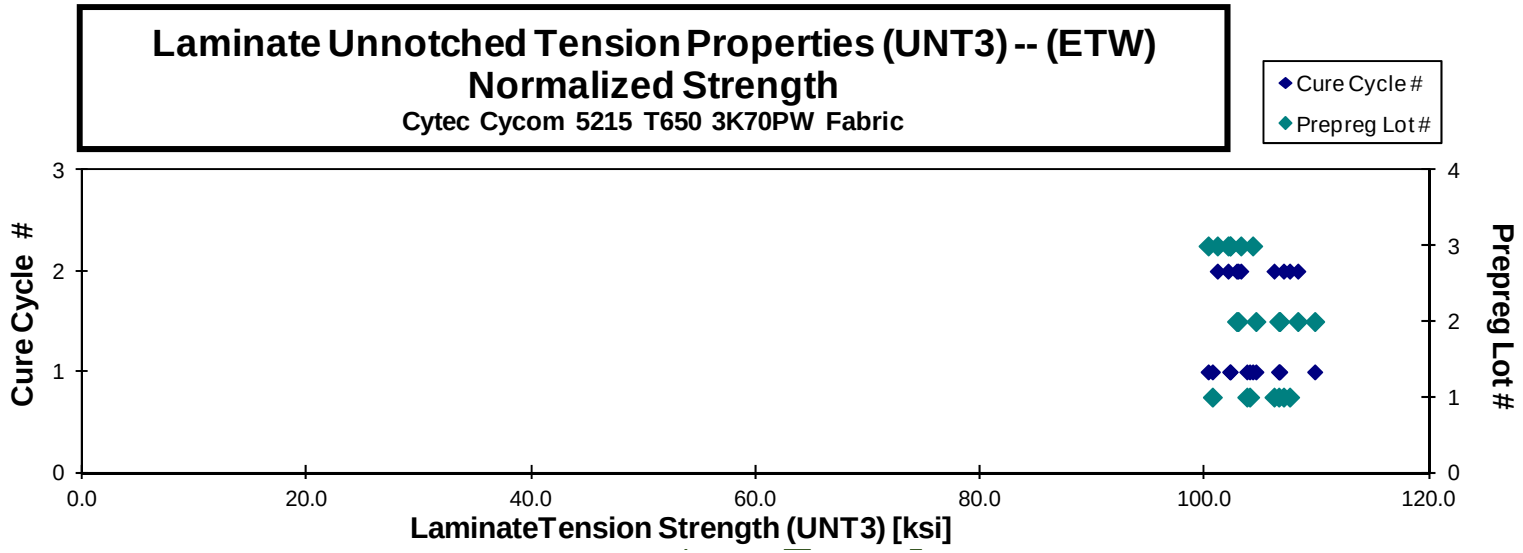
Laminate Unnotched Tension Properties (UNT3) -- (ETW)
Strength & Modulus
Cytec Cycom 5215 T650 3K70PW Fabric

normalizing t_{ply} [in]: 0.0081

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]
C0FCA11BM	A	C1	1	1	105.494	7.989	0.123	15	LGM	0.0082	106.594	8.072
C0FCA11CM	A	C1	1	1	100.295	8.023	0.122	15	LGM	0.0081	100.681	8.054
C0FCA11DM	A	C1	1	1	102.541	7.969	0.123	15	LGM	0.0082	103.750	8.063
C0FCA11EM	A	C1	1	1	101.579	7.891	0.124	15	LGM	0.0083	104.004	8.079
C0FCA219M	A	C2	1	2	104.117	7.999	0.124	15	LGM	0.0083	106.173	8.157
C0FCA21AM	A	C2	1	2	106.643	7.869	0.123	15	LGM / LWB	0.0082	107.565	7.937
C0FCA21BM	A	C2	1	2	105.118	7.953	0.124	15	LGM / AGM	0.0082	107.021	8.097
C0FCB119M	B	C1	2	1	109.994	8.166	0.121	15	LGM	0.0081	109.798	8.152
C0FCB11AM	B	C1	2	1	107.980	7.950	0.120	15	LGM / LWT	0.0080	106.603	7.849
C0FCB11BM	B	C1	2	1	107.749	7.965	0.120	15	LGM	0.0080	106.685	7.887
C0FCB11CM	B	C1	2	1	104.859	8.131	0.121	15	LGM	0.0081	104.557	8.108
C0FCB219M	B	C2	2	2	107.804	7.979	0.122	15	LGM / LWB	0.0081	108.292	8.015
C0FCB21AM	B	C2	2	2	102.116	8.021	0.123	15	LGM	0.0082	102.971	8.088
C0FCB21BM	B	C2	2	2	103.109	8.252	0.121	15	LGM / LWB	0.0081	102.840	8.230
C0FCC119M	C	C1	3	1	108.561	8.404	0.117	15	LGM / LWB	0.0078	104.272	8.072
C0FCC11AM	C	C1	3	1	106.814	8.566	0.116	15	LGM / LWB	0.0078	102.272	8.202
C0FCC11BM	C	C1	3	1	104.249	8.236	0.117	15	LWB / LGM	0.0078	100.302	7.924
C0FCC11CM	C	C1	3	1	107.493	8.508	0.116	15	LGM / LWB	0.0077	102.229	8.091
C0FCC219M	C	C2	3	2	106.914	8.658	0.115	15	LWB / LGM	0.0077	101.121	8.189
C0FCC21AM	C	C2	3	2	107.437	8.781	0.115	15	LWT / LGM	0.0077	102.073	8.342
C0FCC21BM	C	C2	3	2	108.307	8.467	0.116	15	LGM	0.0077	103.211	8.068

	Strength	Modulus
Average	105.675	8.180
Standard Dev.	2.632	0.276
Coeff. of Var. [%]	2.490	3.376
Min.	100.295	7.869
Max.	109.994	8.781
Number of Spec.	21	21

	t_{ply}	$Strength_{norm}$	$Modulus_{norm}$
$Average_{norm}$	0.0080	104.429	8.080
$Standard\ Dev._{norm}$		2.662	0.117
$Coeff.\ of\ Var.\ [\%]_{norm}$		2.549	1.443
Min.	0.0077	100.302	7.849
Max.	0.0083	109.798	8.342
Number of Spec.		21	21


Laminate Unnotched Tension Properties (UNT3) -- (ETW)
Normalized Strength
Cytec Cycom 5215 T650 3K70PW Fabric
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
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0.0
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60.0
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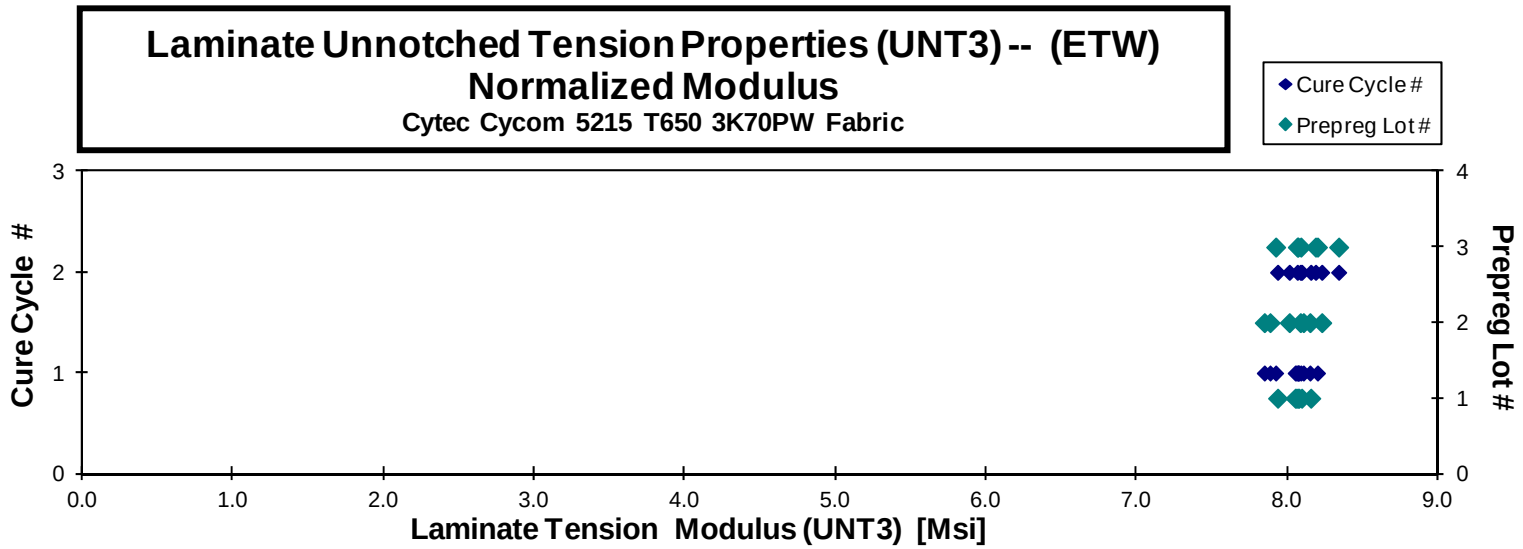
100.0
120.0
LaminateTension Strength (UNT3) [ksi]


Laminate Unnotched Tension Properties (UNT3) -- (ETW)
Normalized Modulus
Cytec Cycom 5215 T650 3K70PW Fabric
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
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Laminate Tension Modulus (UNT3) [Msi]

4.9 "25/50/25" Unnotched Compression 1 Properties (UNC1)

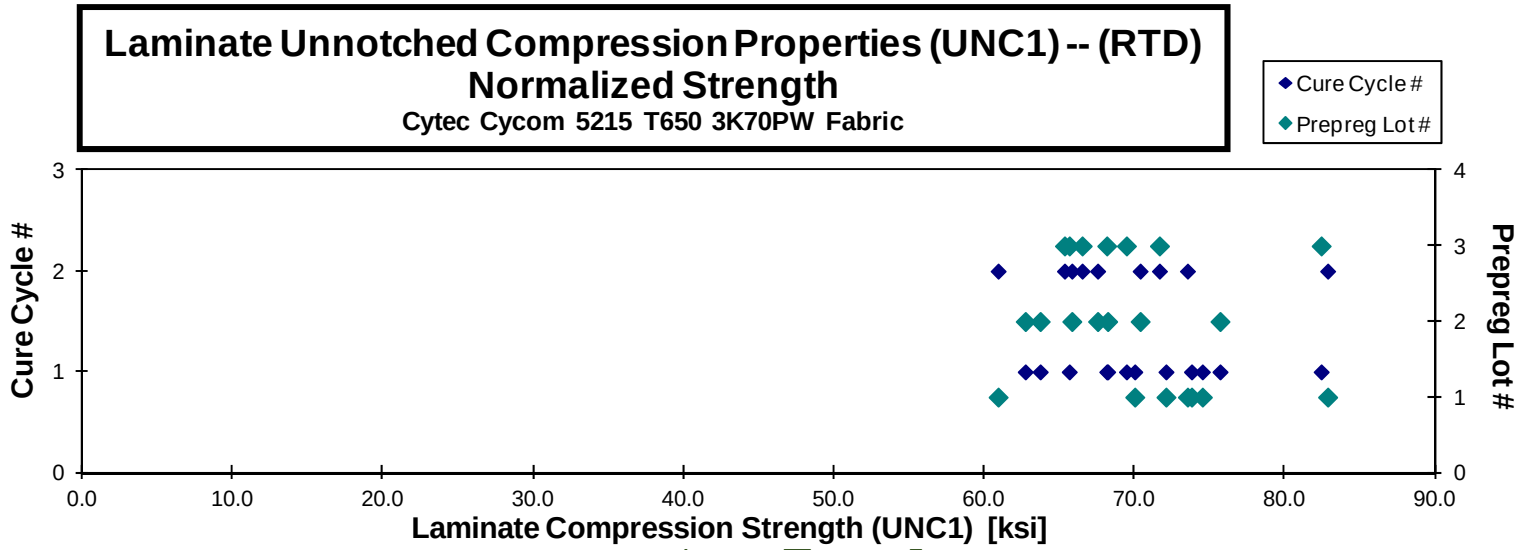
Laminate Unnotched Compression Properties (UNC1) -- (RTD)
Strength & Modulus
Cytec Cycom 5215 T650 3K70PW Fabric

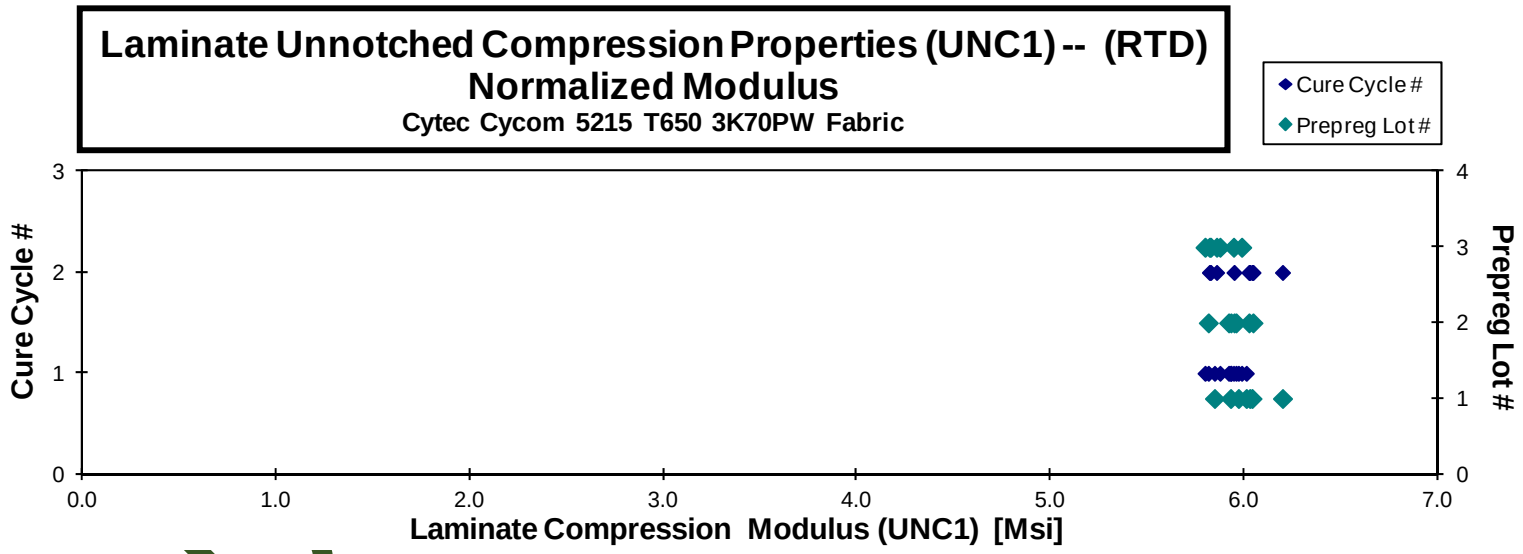
normalizing t_{ply} [in]: 0.0081

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]
C0FWA111A	A	C1	1	1	72.036	5.843	0.293	0.130	16	BGM	0.0081	72.092	5.847
C0FWA112A	A	C1	1	1	74.340	5.998	0.326	0.130	16	BGM	0.0081	74.512	6.011
C0FWA113A	A	C1	1	1	69.631	5.898	0.316	0.130	16	BGM	0.0081	70.016	5.931
C0FWA114A	A	C1	1	1	72.205	5.842	0.307	0.132	16	BGM	0.0083	73.792	5.971
C0FWA211A	A	C2	1	2	72.524	5.959	0.316	0.131	16	BGM	0.0082	73.522	6.041
C0FWA212A	A	C2	1	2	59.100	6.013	0.321	0.134	16	BGM	0.0084	60.924	6.199
C0FWA213A	A	C2	1	2	81.118	5.903	0.322	0.132	16	BGM	0.0083	82.849	6.029
C0FWB111A	B	C1	2	1	68.555	5.988	0.314	0.129	16	BGM	0.0081	68.211	5.958
C0FWB112A	B	C1	2	1	75.794	5.941	0.328	0.129	16	BGM	0.0081	75.687	5.932
C0FWB113A	B	C1	2	1	62.914	5.938	0.329	0.129	16	BGM	0.0081	62.728	5.920
C0FWB114A	B	C1	2	1	63.697	5.813	0.334	0.130	16	BGM	0.0081	63.722	5.815
C0FWB211A	B	C2	2	2	66.133	5.976	0.317	0.129	16	BGM	0.0081	65.827	5.948
C0FWB212A	B	C2	2	2	67.761	6.066	0.319	0.129	16	BGM	0.0081	67.543	6.046
C0FWB213A	B	C2	2	2	70.847	6.066	0.312	0.129	16	BGM	0.0080	70.373	6.025
C0FWC111A	C	C1	3	1	86.327	6.073	0.307	0.124	16	BGM	0.0077	82.419	5.798
C0FWC112A	C	C1	3	1	70.408	6.186	0.315	0.125	16	BGM	0.0078	68.153	5.988
C0FWC113A	C	C1	3	1	71.362	6.036	0.309	0.126	16	BGM	0.0079	69.462	5.875
C0FWC114A	C	C1	3	1	67.551	6.117	0.329	0.126	16	BGM	0.0079	65.657	5.946
C0FWC211A	C	C2	3	2	69.885	6.155	0.312	0.123	16	BGM	0.0077	66.515	5.858
C0FWC212A	C	C2	3	2	74.823	6.078	0.315	0.124	16	BGM	0.0078	71.658	5.821
C0FWC213A	C	C2	3	2	67.763	6.043	0.311	0.125	16	BGM	0.0078	65.340	5.827

	Strength [ksi]	Modulus [Msi]	Poisson's Ratio
Average	**70.704**	**5.997**	**0.317**
Standard Dev.	**5.981**	**0.102**	**0.009**
Coeff. of Var. [%]	**8.460**	**1.707**	**2.962**
Min.	**59.100**	**5.813**	**0.293**
Max.	**86.327**	**6.186**	**0.334**
Number of Spec.	**21**	**21**	**21**

	Avg. t_{ply} [in]	$Strength_{norm}$ [ksi]	$Modulus_{norm}$ [Msi]
$Average_{norm}$	**0.0080**	**70.048**	**5.942**
Standard $Dev._{norm}$		**5.761**	**0.099**
Coeff. of Var. $[\%]_{norm}$		**8.224**	**1.660**
Min.	**0.0077**	**60.924**	**5.798**
Max.	**0.0084**	**82.849**	**6.199**
Number of Spec.		**21**	**21**


Laminate Unnotched Compression Properties (UNC1) -- (RTD)
Normalized Strength
Cytec Cycom 5215 T650 3K70PW Fabric
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
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 T650 3K70PW Fabric
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
Laminate Compression Modulus (UNC1) [Msi]

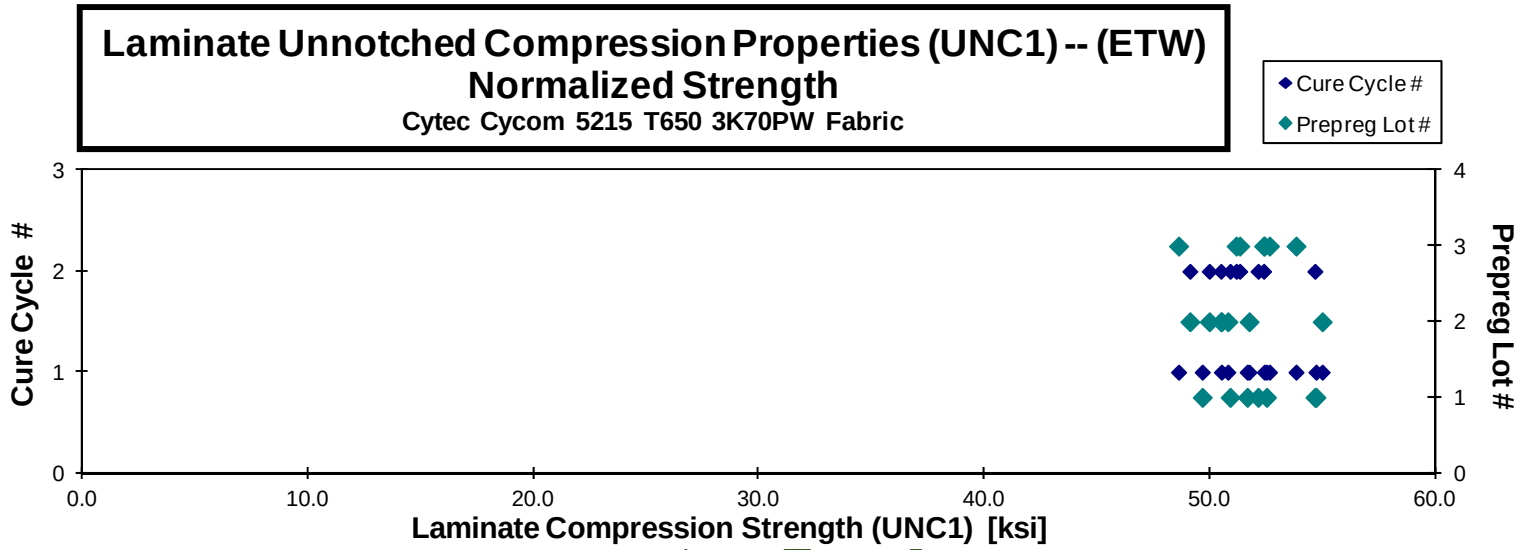
Laminate Unnotched Compression Properties (UNC1) -- (ETW)
Strength & Modulus
Cytec Cycom 5215 T650 3K70PW Fabric

normalizing t_{ply} [in]: 0.0081

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]
C0FWA116M	A	C1	1	1		5.704	0.326	0.131	16	BGM	0.0082		5.762
C0FWA117M	A	C1	1	1		5.767	0.339	0.131	16	BGM	0.0082		5.848
C0FWA118M	A	C1	1	1		5.887	0.333	0.132	16	BGM	0.0082		5.974
C0FWA119M	A	C1	1	1		5.773	0.318	0.132	16	BGM	0.0082		5.875
C0FWA11AM	A	C1	1	1	53.965			0.131	16	BGM	0.0082	54.714	
C0FWA11BM	A	C1	1	1	49.474			0.130	16	BGM	0.0081	49.671	
C0FWA11CM	A	C1	1	1	51.666			0.130	16	BGM	0.0081	51.666	
C0FWA11DM	A	C1	1	1	52.187			0.130	16	BGM	0.0082	52.523	
C0FWA215M	A	C2	1	2		5.808	0.330	0.132	16	BGM	0.0082		5.903
C0FWA216M	A	C2	1	2		5.971	0.331	0.133	16	BGM	0.0083		6.142
C0FWA217M	A	C2	1	2		5.688	0.331	0.134	16	BGM	0.0084		5.876
C0FWA218M	A	C2	1	2	49.470			0.133	16	BGM	0.0083	50.908	
C0FWA219M	A	C2	1	2	51.905			0.130	16	BGM	0.0081	52.145	
C0FWA21AM	A	C2	1	2	53.940			0.131	16	BGM	0.0082	54.669	
C0FWB115M	B	C1	2	1		5.858	0.326	0.130	16	BGM	0.0081		5.879
C0FWB116M	B	C1	2	1		5.959	0.335	0.130	16	BGM	0.0081		5.978
C0FWB117M	B	C1	2	1		5.669	0.319	0.130	16	BGM	0.0082		5.705
C0FWB118M	B	C1	2	1		5.947	0.320	0.130	16	BGM	0.0081		5.950
C0FWB119M	B	C1	2	1	52.146			0.126	16	BGM	0.0079	50.805	
C0FWB11AM	B	C1	2	1	53.031			0.126	16	BGM	0.0079	51.749	
C0FWB11BM	B	C1	2	1	51.829			0.126	16	BGM	0.0079	50.523	
C0FWB11CM	B	C1	2	1	56.392			0.126	16	BGM	0.0079	54.992	
C0FWB215M	B	C2	2	2		5.897	0.321	0.130	16	BGM	0.0081		5.912
C0FWB216M	B	C2	2	2		5.898	0.336	0.130	16	BGM	0.0081		5.898
C0FWB217M	B	C2	2	2		5.832	0.313	0.129	16	BGM	0.0081		5.818
C0FWB218M	B	C2	2	2	49.029			0.130	16	BGM	0.0081	49.123	
C0FWB219M	B	C2	2	2	51.227			0.126	16	BGM	0.0079	49.982	
C0FWB21AM	B	C2	2	2	51.377			0.127	16	BGM	0.0080	50.498	
C0FWC115M	C	C1	3	1		5.893	0.329	0.126	16	BGM	0.0079		5.727
C0FWC116M	C	C1	3	1		5.900	0.325	0.126	16	BGM	0.0079		5.722
C0FWC117M	C	C1	3	1		5.881	0.331	0.127	16	BGM	0.0079		5.756
C0FWC118M	C	C1	3	1		5.866	0.308	0.127	16	BGM	0.0079		5.741
C0FWC119M	C	C1	3	1	56.262			0.124	16	BGM	0.0078	53.831	
C0FWC11AM	C	C1	3	1	54.135			0.126	16	BGM	0.0078	52.423	
C0FWC11BM	C	C1	3	1	54.244			0.126	16	BGM	0.0079	52.654	
C0FWC11CM	C	C1	3	1	50.028			0.126	16	BGM	0.0079	48.619	
C0FWC215M	C	C2	3	2		5.935	0.320	0.126	16	BGM	0.0079		5.755
C0FWC216M	C	C2	3	2		5.892	0.319	0.126	16	BGM	0.0079		5.717
C0FWC217M	C	C2	3	2		5.897	0.308	0.125	16	BGM	0.0078		5.702
C0FWC218M	C	C2	3	2	52.784			0.126	16	BGM	0.0079	51.175	
C0FWC219M	C	C2	3	2	53.449			0.124	16	BGM	0.0078	51.332	
C0FWC21AM	C	C2	3	2	54.280			0.125	16	BGM	0.0078	52.395	

	Strength	Modulus	Poisson's Ratio
Average	52.515	5.853	0.325
Standard Dev.	2.059	0.088	0.009
Coeff. of Var. [%]	3.920	1.499	2.683
Min.	49.029	5.669	0.308
Max.	56.392	5.971	0.339
Number of Spec.	21	21	21

	Avg. t_{ply}	Strength$_{norm}$	Modulus$_{norm}$
Average$_{norm}$	0.0080	51.733	5.840
Standard Dev.$_{norm}$		1.788	0.115
Coeff. of Var. [%]$_{norm}$		3.456	1.976
Min.	0.0078	48.619	5.702
Max.	0.0084	54.992	6.142
Number of Spec.		21	21


Laminate Unnotched Compression Properties (UNC1) -- (ETW)
Normalized Strength
Cytec Cycom 5215 T650 3K70PW Fabric
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
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0.0
10.0
20.0
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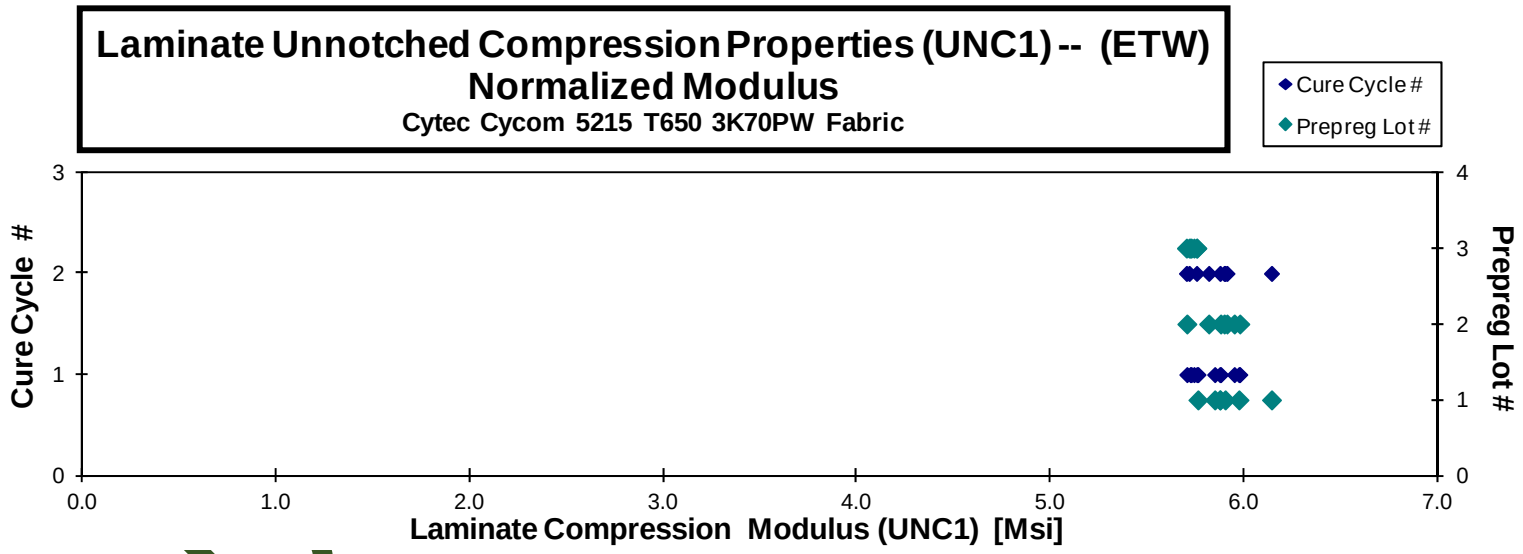
40.0
50.0
60.0
Laminate Compression Strength (UNC1) [ksi]


Laminate Unnotched Compression Properties (UNC1) -- (ETW)
Normalized Modulus
Cytec Cycom 5215 T650 3K70PW Fabric
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
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7.0
Laminate Compression Modulus (UNC1) [Msi]

4.10 "10/80/10" Unnotched Compression 2 Properties (UNC2)

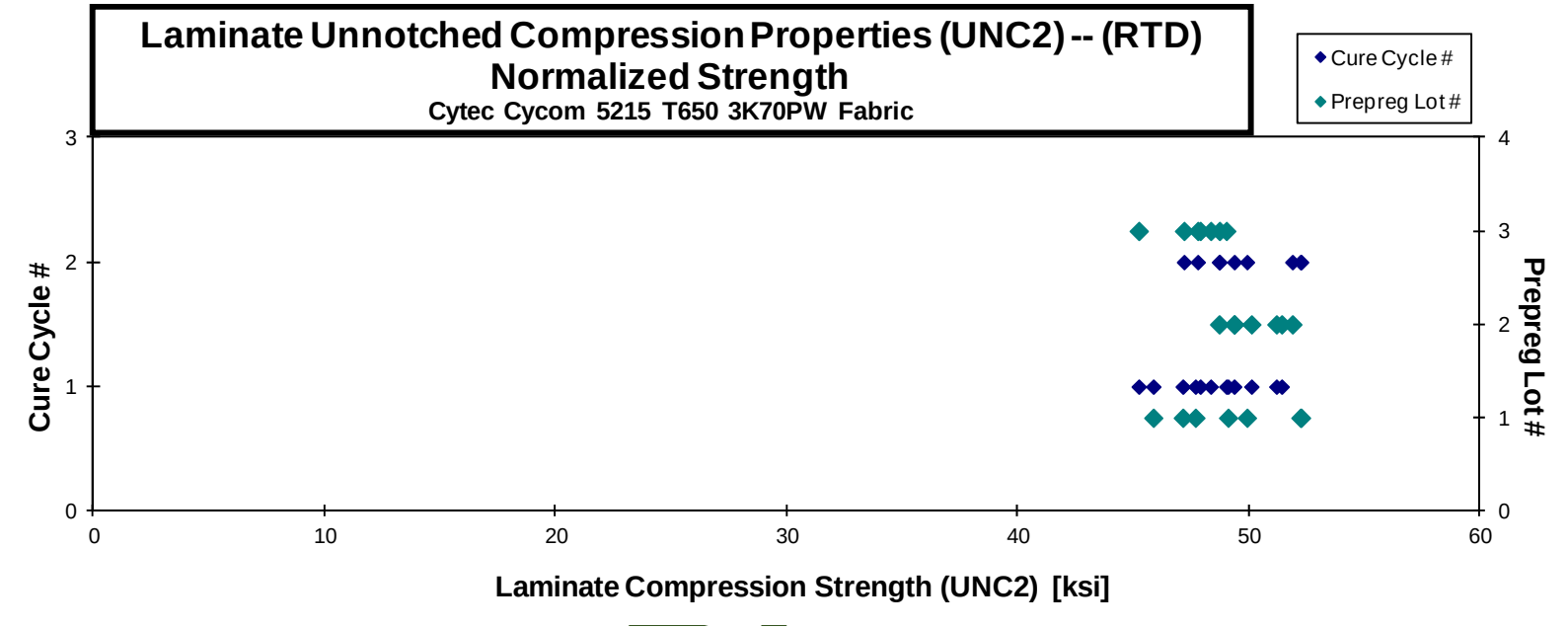
Laminate Unnotched Compression Properties (UNC2) -- (RTD)
Strength & Modulus
Cytec Cycom 5215 T650 3K70PW Fabric

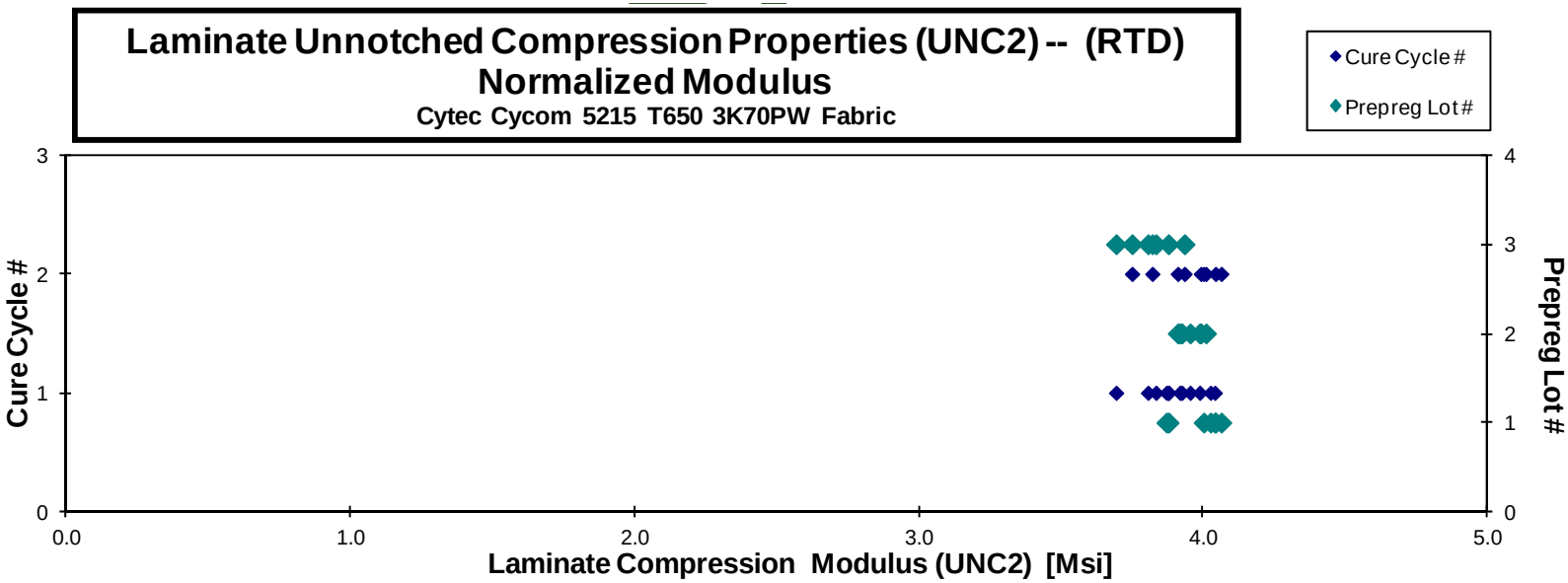
normalizing t_{ply} [in]: 0.0081

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]
C0FXA111A	A	C1	1	1	46.840	3.856	0.545	0.163	20	BGM	0.0082	47.143	3.881
C0FXA112A	A	C1	1	1	47.169	3.831	0.544	0.164	20	BGM	0.0082	47.689	3.874
C0FXA113A	A	C1	1	1	45.325	3.981	0.567	0.164	20	BGM	0.0082	45.866	4.029
C0FXA114A	A	C1	1	1	48.396	3.986	0.572	0.164	20	BGM	0.0082	49.103	4.044
C0FXA211A	A	C2	1	2	50.180	4.026	0.552	0.161	20	BGM	0.0081	49.922	4.005
C0FXA212A	A	C2	1	2	52.194	4.041	0.571	0.162	20	BGM	0.0081	52.264	4.046
C0FXA213A	A	C2	1	2	51.753	4.029	0.569	0.164	20	BGM	0.0082	52.233	4.066
C0FXB111A	B	C1	2	1	49.427	3.962	0.526	0.162	20	BGM	0.0081	49.366	3.957
C0FXB112A	B	C1	2	1	51.000	3.976	0.538	0.163	20	BGM	0.0081	51.194	3.991
C0FXB113A	B	C1	2	1	50.692	3.872	0.527	0.164	20	BGM	0.0082	51.422	3.928
C0FXB114A	B	C1	2	1	49.507	3.874	0.537	0.164	20	BGM	0.0082	50.113	3.921
C0FXB211A	B	C2	2	2	52.273	4.025	0.559	0.161	20	BGM	0.0080	51.886	3.995
C0FXB212A	B	C2	2	2	48.647	3.908	0.545	0.162	20	BGM	0.0081	48.717	3.914
C0FXB213A	B	C2	2	2	49.381	4.013	0.560	0.162	20	BGM	0.0081	49.371	4.012
C0FXC111A	C	C1	3	1	47.581	4.035	0.555	0.154	20	BGM	0.0077	45.236	3.837
C0FXC112A	C	C1	3	1	50.556	4.058	0.561	0.155	20	BGM	0.0077	48.351	3.881
C0FXC113A	C	C1	3	1	49.958	3.973	0.542	0.155	20	BGM	0.0078	47.897	3.809
C0FXC114A	C	C1	3	1	51.257	3.865	0.546	0.155	20	BGM	0.0077	49.026	3.697
C0FXC211A	C	C2	3	2	49.998	3.926	0.540	0.155	20	BGM	0.0077	47.791	3.753
C0FXC212A	C	C2	3	2	48.892	3.961	0.536	0.156	20	BGM	0.0078	47.196	3.824
C0FXC213A	C	C2	3	2	50.358	4.069	0.561	0.157	20	BGM	0.0078	48.731	3.937

Average	**49.590**	**3.965**	**0.550**
Standard Dev.	**1.807**	**0.073**	**0.014**
Coeff. of Var. [%]	**3.645**	**1.836**	**2.510**
Min.	**45.325**	**3.831**	**0.526**
Max.	**52.273**	**4.069**	**0.572**
Number of Spec.	**21**	**21**	**21**

$Average_{norm}$	**0.0080**	**49.072**	**3.924**
Standard $Dev._{norm}$		**1.975**	**0.101**
Coeff. of Var. $[\%]_{norm}$		**4.025**	**2.574**
Min.	**0.0077**	**45.236**	**3.697**
Max.	**0.0082**	**52.264**	**4.066**
Number of Spec.		**21**	**21**


Laminate Unnotched Compression Properties (UNC2) -- (RTD)
Normalized Strength
Cytec Cycom 5215 T650 3K70PW Fabric
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0
10
20
30
40
50
60
Laminate Compression Strength (UNC2) [ksi]


Laminate Unnotched Compression Properties (UNC2) -- (RTD)
Normalized Modulus
Cytec Cycom 5215 T650 3K70PW Fabric
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
Laminate Compression Modulus (UNC2) [Msi]

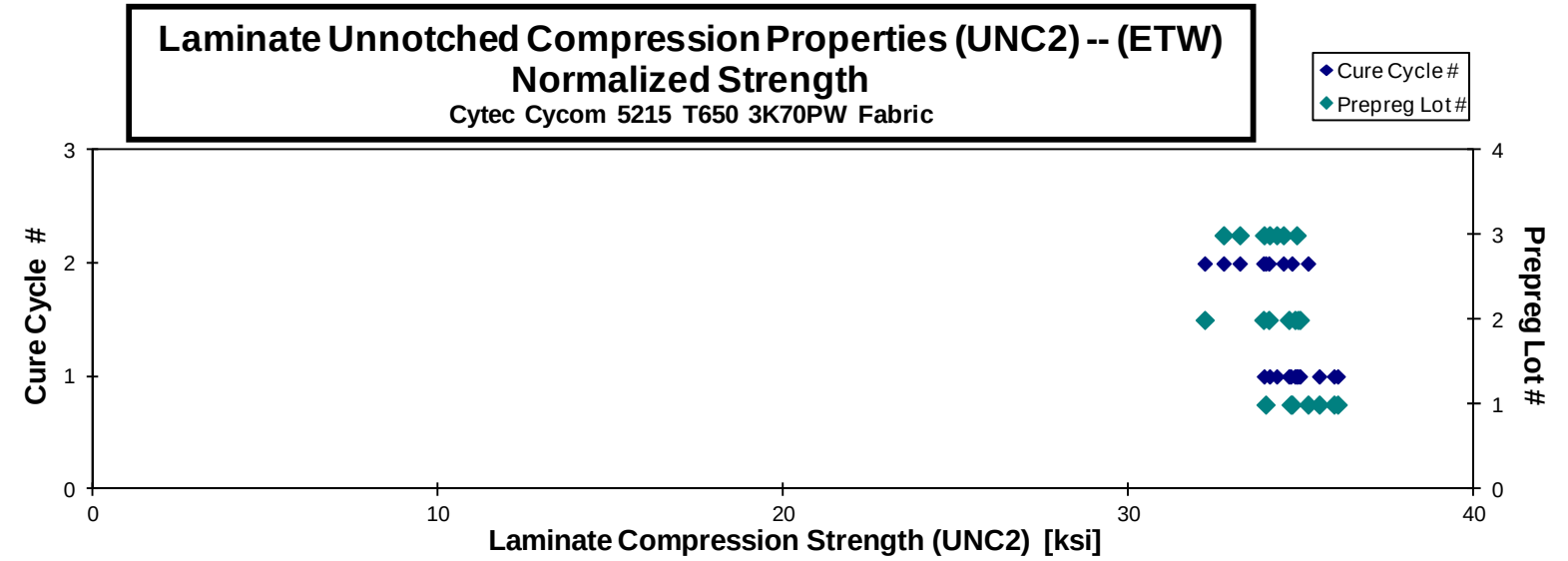
Laminate Unnotched Compression Properties (UNC2) -- (ETW)
Strength & Modulus
Cytec Cycom 5215 T650 3K70PW Fabric

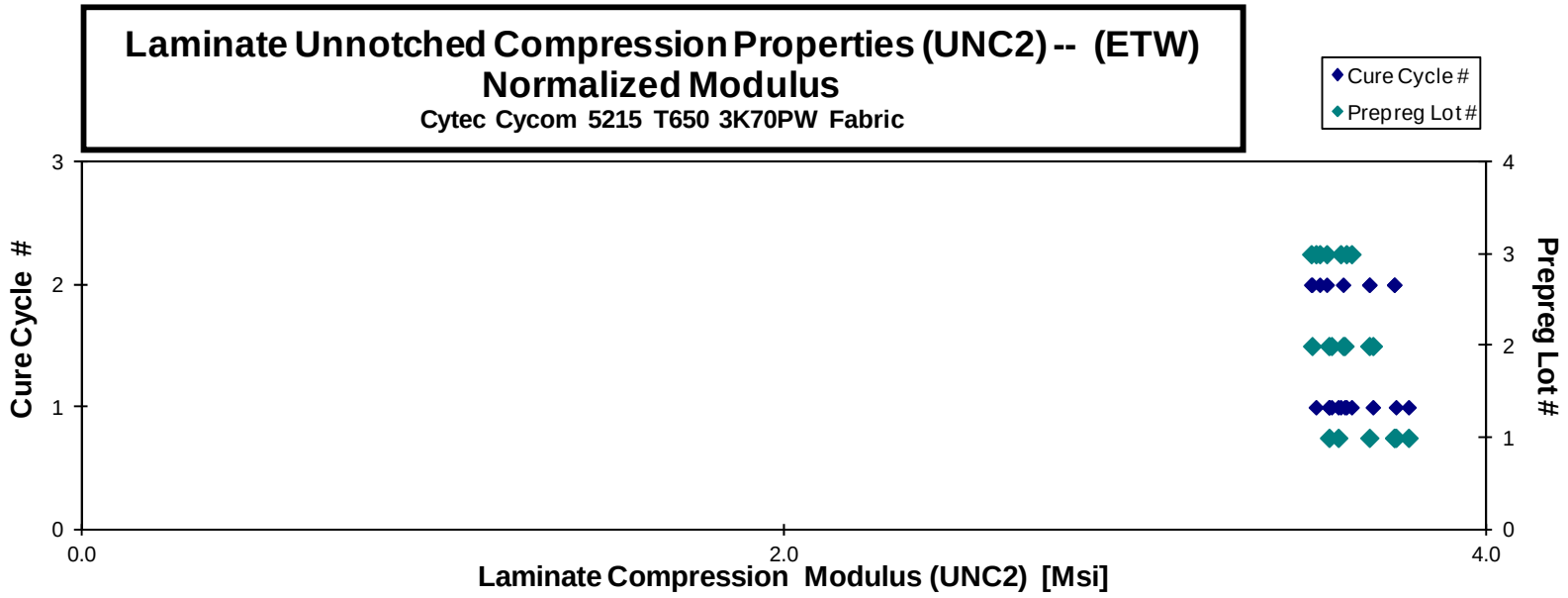
normalizing t_{ply} [in]: 0.0081

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]
C0FXA116M	A	C1	1	1		3.483	0.565	0.165	20	BGM	0.0083		3.554
C0FXA117M	A	C1	1	1		3.496	0.562	0.166	20	BGM	0.0083		3.580
C0FXA118M	A	C1	1	1		3.685	0.591	0.166	20	BGM	0.0083		3.780
C0FXA119M	A	C1	1	1		3.643	0.598	0.167	20	BGM	0.0083		3.744
C0FXA11AM	A	C1	1	1	34.617			0.166	20	BGM	0.0083	35.514	
C0FXA11BM	A	C1	1	1	34.868			0.161	20	BGM	0.0081	34.689	
C0FXA11CM	A	C1	1	1	36.034			0.162	20	BGM	0.0081	36.049	
C0FXA11DM	A	C1	1	1	35.810			0.163	20	BGM	0.0081	35.942	
C0FXA215M	A	C2	1	2		3.692	0.581	0.164	20	BGM	0.0082		3.739
C0FXA216M	A	C2	1	2		3.671	0.569	0.165	20	BGM	0.0083		3.739
C0FXA217M	A	C2	1	2		3.582	0.579	0.166	20	BGM	0.0083		3.668
C0FXA218M	A	C2	1	2	32.892			0.167	20	BGM	0.0084	33.962	
C0FXA219M	A	C2	1	2	35.193			0.162	20	BGM	0.0081	35.190	
C0FXA21AM	A	C2	1	2	34.374			0.164	20	BGM	0.0082	34.724	
C0FXB115M	B	C1	2	1		3.490	0.559	0.165	20	BGM	0.0082		3.553
C0FXB116M	B	C1	2	1		3.525	0.520	0.164	20	BGM	0.0082		3.561
C0FXB117M	B	C1	2	1		3.656	0.567	0.163	20	BAB	0.0081		3.679
C0FXB118M	B	C1	2	1		3.566	0.580	0.163	20	BGM	0.0082		3.598
C0FXB119M	B	C1	2	1	35.596			0.159	20	BGM	0.0079	34.897	
C0FXB11AM	B	C1	2	1	35.175			0.161	20	BGM	0.0080	34.955	
C0FXB11BM	B	C1	2	1	34.940			0.161	20	BGM	0.0081	34.811	
C0FXB11CM	B	C1	2	1	34.794			0.161	20	BGM	0.0081	34.637	
C0FXB215M	B	C2	2	2		3.502	0.561	0.162	20	BGM	0.0081		3.505
C0FXB216M	B	C2	2	2		3.663	0.596	0.162	20	BGM	0.0081		3.668
C0FXB217M	B	C2	2	2		3.566	0.564	0.163	20	BGM	0.0082		3.594
C0FXB218M	B	C2	2	2	31.963			0.163	20	BGM	0.0082	32.197	
C0FXB219M	B	C2	2	2	34.440			0.160	20	BGM	0.0080	34.054	
C0FXB21AM	B	C2	2	2	34.307			0.160	20	BGM	0.0080	33.898	
C0FXC115M	C	C1	3	1		3.750	0.566	0.156	20	BGM	0.0078		3.618
C0FXC116M	C	C1	3	1		3.735	0.568	0.156	20	BGM	0.0078		3.603
C0FXC117M	C	C1	3	1		3.695	0.561	0.157	20	BGM	0.0079		3.587
C0FXC118M	C	C1	3	1		3.648	0.564	0.156	20	BGM	0.0078		3.516
C0FXC119M	C	C1	3	1	35.405			0.155	20	BGM	0.0078	33.915	
C0FXC11AM	C	C1	3	1	35.180			0.157	20	BGM	0.0078	34.076	
C0FXC11BM	C	C1	3	1	35.898			0.157	20	BGM	0.0079	34.860	
C0FXC11CM	C	C1	3	1	35.359			0.157	20	BGM	0.0079	34.282	
C0FXC216M	C	C2	3	2		3.627	0.573	0.158	20	BGM	0.0079		3.527
C0FXC217M	C	C2	3	2		3.605	0.585	0.157	20	BGM	0.0079		3.503
C0FXC218M	C	C2	3	2		3.669	0.605	0.157	20	BGM	0.0078		3.547
C0FXC219M	C	C2	3	2	34.223			0.157	20	BGM	0.0079	33.213	
C0FXC21AM	C	C2	3	2	35.590			0.157	20	BGM	0.0078	34.477	
C0FXC21BM	C	C2	3	2	34.048			0.156	20	BGM	0.0078	32.745	

	Strength	Modulus	Poisson's Ratio
Average	34.796	3.617	0.572
Standard Dev.	0.983	0.082	0.018
Coeff. of Var. [%]	2.825	2.281	3.160
Min.	31.963	3.483	0.520
Max.	36.034	3.750	0.605
Number of Spec.	21	21	21

	t_{ply}	$Strength_{norm}$	$Modulus_{norm}$
$Average_{norm}$	0.0081	34.433	3.613
$Standard\ Dev._{norm}$		0.950	0.085
$Coeff.\ of\ Var.\ [\%]_{norm}$		2.759	2.354
Min.	0.0078	32.197	3.503
Max.	0.0084	36.049	3.780
Number of Spec.		21	21


Laminate Unnotched Compression Properties (UNC2) -- (ETW)
Normalized Strength
Cytec Cycom 5215 T650 3K70PW Fabric
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0
10
20
30
40
Laminate Compression Strength (UNC2) [ksi]


Laminate Unnotched Compression Properties (UNC2) -- (ETW)
Normalized Modulus
Cytec Cycom 5215 T650 3K70PW Fabric
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
2.0
4.0
Laminate Compression Modulus (UNC2) [Msi]

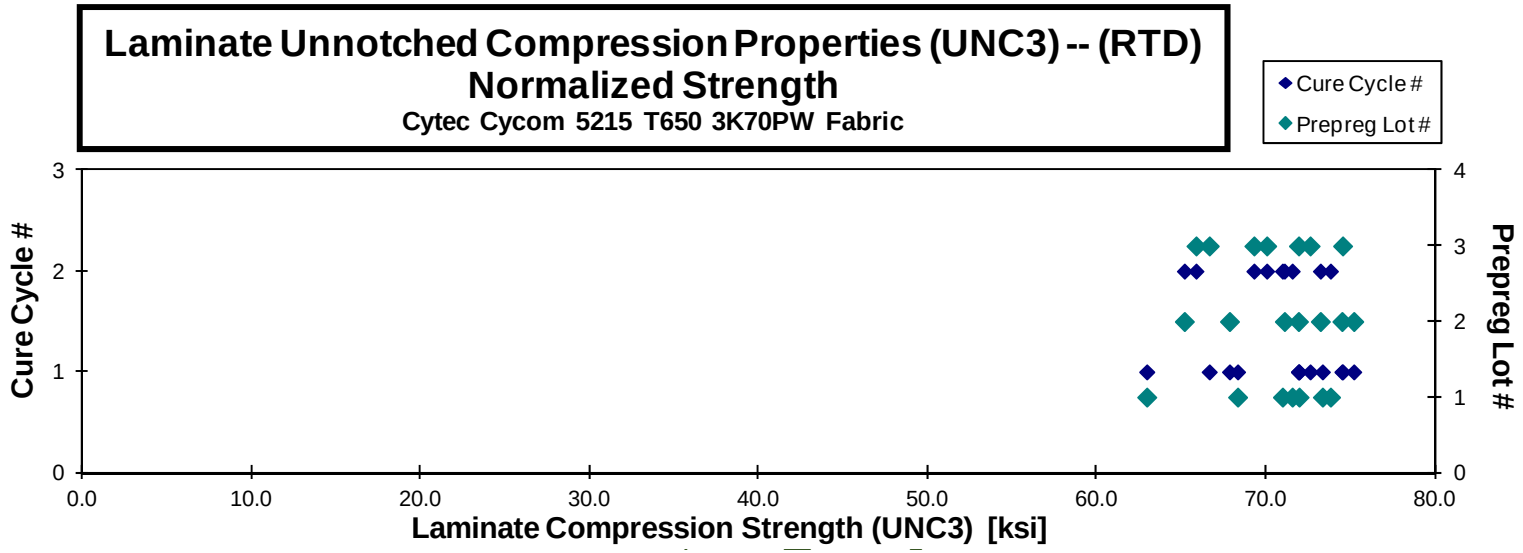
4.11 "40/20/40" Unnotched Compression 3 Properties (UNC3)

Laminate Unnotched Compression Properties (UNC3) -- (RTD)
Strength & Modulus
Cytec Cycom 5215 T650 3K70PW Fabric

normalizing t_{ply} [in]: 0.0081

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]
C0FYA111A	A	C1	1	1	63.891	7.522	0.134	0.160	20	BGM	0.0080	62.945	7.411
C0FYA112A	A	C1	1	1	69.381	7.548	0.146	0.160	20	BGM	0.0080	68.317	7.433
C0FYA113A	A	C1	1	1	72.787	7.564	0.139	0.160	20	BGM	0.0080	71.956	7.478
C0FYA114A	A	C1	1	1	73.658	7.499	0.145	0.161	20	BGM	0.0081	73.332	7.466
C0FYA211A	A	C2	1	2	73.336	7.228	0.147	0.163	20	BGM	0.0082	73.812	7.275
C0FYA212A	A	C2	1	2	70.929	7.295	0.141	0.163	20	BGM	0.0082	71.549	7.359
C0FYA213A	A	C2	1	2	70.127	7.336	0.140	0.164	20	BGM	0.0082	70.971	7.424
C0FYB111A	B	C1	2	1	75.311	7.361	0.145	0.162	20	BGM	0.0081	75.187	7.349
C0FYB112A	B	C1	2	1	74.448	7.855	0.143	0.162	20	BGM	0.0081	74.487	7.859
C0FYB113A	B	C1	2	1	67.582	7.731	0.137	0.163	20	HGM/BGM	0.0081	67.839	7.761
C0FYB114A	B	C1	2	1	71.112	7.413	0.135	0.164	20	HGM	0.0082	71.917	7.497
C0FYB211A	B	C2	2	2	72.436	7.220	0.134	0.159	20	BGM	0.0079	71.087	7.086
C0FYB212A	B	C2	2	2	73.945	7.377	0.142	0.160	20	BGM	0.0080	73.215	7.305
C0FYB213A	B	C2	2	2	65.711	7.339	0.147	0.161	20	BGM/HGM	0.0080	65.170	7.279
C0FYC111A	C	C1	3	1	78.562	7.647	0.135	0.154	20	BGM	0.0077	74.529	7.255
C0FYC112A	C	C1	3	1	68.865	7.679	0.129	0.157	20	BGM	0.0078	66.641	7.431
C0FYC113A	C	C1	3	1	74.571	7.377	0.144	0.158	20	BGM	0.0079	72.607	7.182
C0FYC114A	C	C1	3	1	73.680	7.527	0.153	0.158	20	BGM	0.0079	71.921	7.348
C0FYC211A	C	C2	3	2	67.811	7.686	0.146	0.157	20	BGM	0.0079	65.857	7.465
C0FYC212A	C	C2	3	2	71.795	7.408	0.131	0.156	20	BGM	0.0078	69.283	7.149
C0FYC213A	C	C2	3	2	72.010	7.722	0.138	0.158	20	BGM	0.0079	70.039	7.511

Average	**71.521**	**7.492**	**0.141**	**$Average_{norm}$**	**0.0080**	**70.603**	**7.396**
Standard Dev.	**3.452**	**0.178**	**0.006**	**$Standard\ Dev._{norm}$**		**3.376**	**0.181**
Coeff. of Var. [%]	**4.826**	**2.381**	**4.418**	**$Coeff.\ of\ Var.\ [\%]_{norm}$**		**4.782**	**2.450**
Min.	**63.891**	**7.220**	**0.129**	**Min.**	**0.0077**	**62.945**	**7.086**
Max.	**78.562**	**7.855**	**0.153**	**Max.**	**0.0082**	**75.187**	**7.859**
Number of Spec.	**21**	**21**	**21**	**Number of Spec.**		**21**	**21**


Laminate Unnotched Compression Properties (UNC3) -- (RTD)
Normalized Strength
Cytec Cycom 5215 T650 3K70PW Fabric
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
10.0
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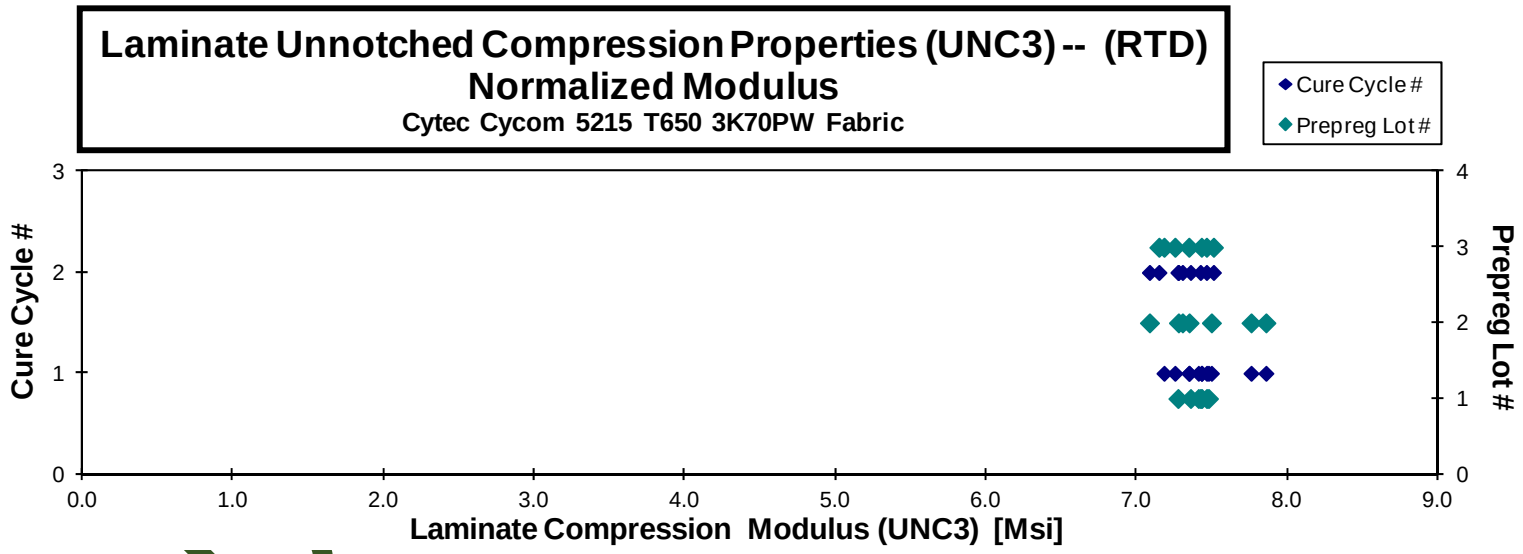
50.0
60.0
70.0
80.0
Laminate Compression Strength (UNC3) [ksi]


Laminate Unnotched Compression Properties (UNC3) -- (RTD)
Normalized Modulus
Cytec Cycom 5215 T650 3K70PW Fabric
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
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7.0
8.0
9.0
Laminate Compression Modulus (UNC3) [Msi]

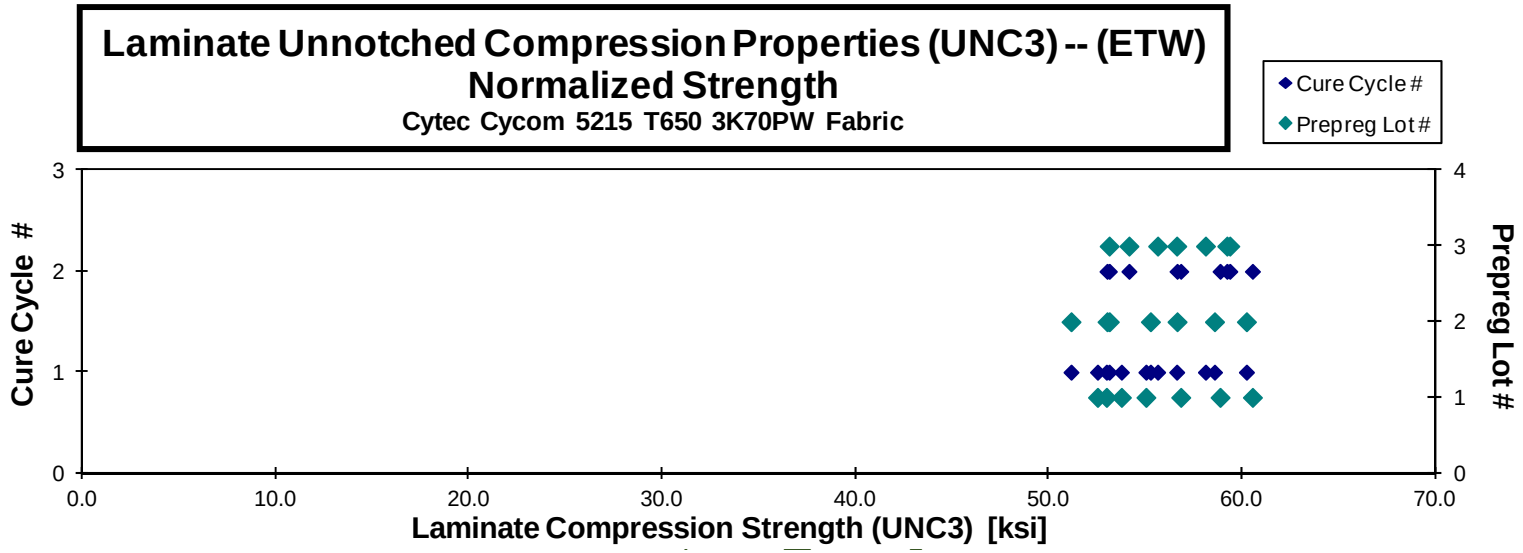
Laminate Unnotched Compression Properties (UNC3) -- (ETW)
Strength & Modulus
Cytec Cycom 5215 T650 3K70PW Fabric

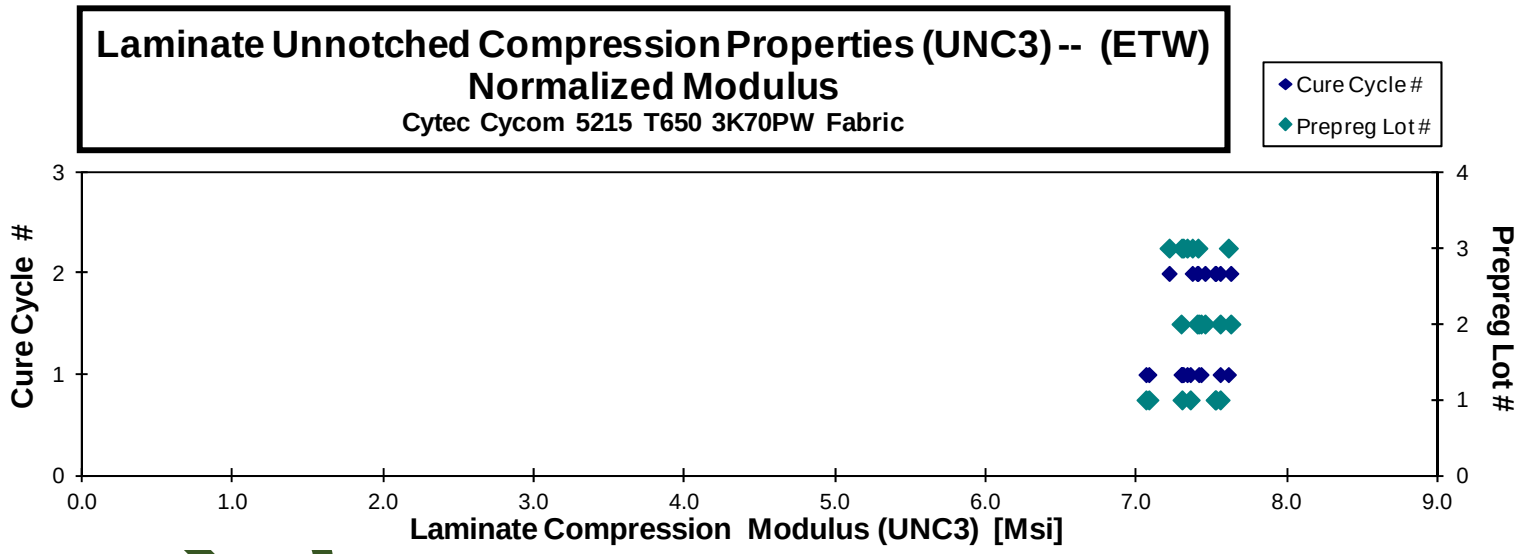
normalizing t_{ply} [in]: 0.0081

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]
C0FYA116M	A	C1	1	1		7.373	0.115	0.160	20	BGM	0.0080		7.302
C0FYA117M	A	C1	1	1		7.123	0.147	0.161	20	BGM	0.0081		7.082
C0FYA118M	A	C1	1	1		7.113	0.122	0.161	20	HGM	0.0080		7.063
C0FYA119M	A	C1	1	1		7.399	0.137	0.161	20	BGM	0.0081		7.357
C0FYA11CM	A	C1	1	1	53.811			0.160	20	HGM	0.0080	52.986	
C0FYA11DM	A	C1	1	1	54.368			0.160	20	BGM	0.0080	53.764	
C0FYA11EM	A	C1	1	1	52.740			0.161	20	HGM	0.0081	52.528	
C0FYA11FM	A	C1	1	1	55.370			0.161	20	HGM	0.0081	55.034	
C0FYA217M	A	C2	1	2		7.418	0.139	0.164	20	BGM	0.0082		7.522
C0FYA218M	A	C2	1	2		7.431	0.136	0.165	20	BGM	0.0082		7.555
C0FYA219M	A	C2	1	2		7.410	0.144	0.165	20	BGM	0.0082		7.526
C0FYA21AM	A	C2	1	2	56.074			0.164	20	BGM	0.0082	56.836	
C0FYA21BM	A	C2	1	2	59.250			0.161	20	BGM	0.0080	58.872	
C0FYA21CM	A	C2	1	2	60.576			0.162	20	BGM	0.0081	60.545	
C0FYB115M	B	C1	2	1		7.438	0.149	0.165	20	BGM	0.0082		7.556
C0FYB116M	B	C1	2	1		7.345	0.154	0.164	20	BGM	0.0082		7.428
C0FYB117M	B	C1	2	1		7.333	0.135	0.164	20	BGM	0.0082		7.413
C0FYB118M	B	C1	2	1		7.238	0.125	0.163	20	BGM	0.0082		7.296
C0FYB119M	B	C1	2	1	59.695			0.159	20	BGM	0.0079	58.583	
C0FYB11AM	B	C1	2	1	60.541			0.161	20	BGM	0.0081	60.236	
C0FYB11BM	B	C1	2	1	55.489			0.161	20	BGM	0.0081	55.266	
C0FYB11CM	B	C1	2	1	51.439			0.161	20	BGM	0.0081	51.158	
C0FYB215M	B	C2	2	2		7.534	0.138	0.160	20	BGM	0.0080		7.455
C0FYB216M	B	C2	2	2		7.449	0.136	0.161	20	BGM	0.0081		7.403
C0FYB217M	B	C2	2	2		7.654	0.150	0.161	20	BGM	0.0081		7.626
C0FYB218M	B	C2	2	2	53.524			0.161	20	BGM	0.0080	53.138	
C0FYB219M	B	C2	2	2	57.835			0.159	20	BGM	0.0079	56.645	
C0FYB21AM	B	C2	2	2	54.097			0.159	20	BGM	0.0079	53.022	
C0FYC115M	C	C1	3	1		7.530	0.139	0.157	20	BGM	0.0079		7.310
C0FYC116M	C	C1	3	1		7.540	0.154	0.157	20	BGM	0.0078		7.300
C0FYC117M	C	C1	3	1		7.536	0.132	0.158	20	HGM	0.0079		7.336
C0FYC118M	C	C1	3	1		7.817	0.132	0.158	20	BGM	0.0079		7.610
C0FYC119M	C	C1	3	1	58.136			0.155	20	BGM	0.0078	55.642	
C0FYC11AM	C	C1	3	1	60.261			0.156	20	HGM	0.0078	58.116	
C0FYC11BM	C	C1	3	1	58.025			0.158	20	HGM	0.0079	56.628	
C0FYC11CM	C	C1	3	1	53.700			0.160	20	HGM	0.0080	53.131	
C0FYC215M	C	C2	3	2		7.303	0.147	0.160	20	BGM	0.0080		7.216
C0FYC216M	C	C2	3	2		7.564	0.140	0.159	20	BGM	0.0079		7.408
C0FYC217M	C	C2	3	2		7.561	0.142	0.158	20	BGM	0.0079		7.370
C0FYC218M	C	C2	3	2	56.011			0.157	20	BGM	0.0078	54.155	
C0FYC219M	C	C2	3	2	61.460			0.156	20	BGM	0.0078	59.221	
C0FYC21AM	C	C2	3	2	62.102			0.155	20	BGM	0.0077	59.374	

	Strength [ksi]	Modulus [Msi]	Poisson's Ratio
Average	**56.881**	**7.434**	**0.139**
Standard Dev.	**3.172**	**0.165**	**0.010**
Coeff. of Var. [%]	**5.577**	**2.226**	**7.202**
Min.	**51.439**	**7.113**	**0.115**
Max.	**62.102**	**7.817**	**0.154**
Number of Spec.	**21**	**21**	**21**

	Avg. t_{ply} [in]	Strength$_{norm}$ [ksi]	Modulus$_{norm}$ [Msi]
Average$_{norm}$	**0.0080**	**55.947**	**7.387**
Standard Dev.$_{norm}$		**2.838**	**0.153**
Coeff. of Var. [%]$_{norm}$		**5.072**	**2.073**
Min.	**0.0077**	**51.158**	**7.063**
Max.	**0.0082**	**60.545**	**7.626**
Number of Spec.		**21**	**21**


Laminate Unnotched Compression Properties (UNC3) -- (ETW)
Normalized Strength
Cytec Cycom 5215 T650 3K70PW Fabric
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 (UNC3) [ksi]

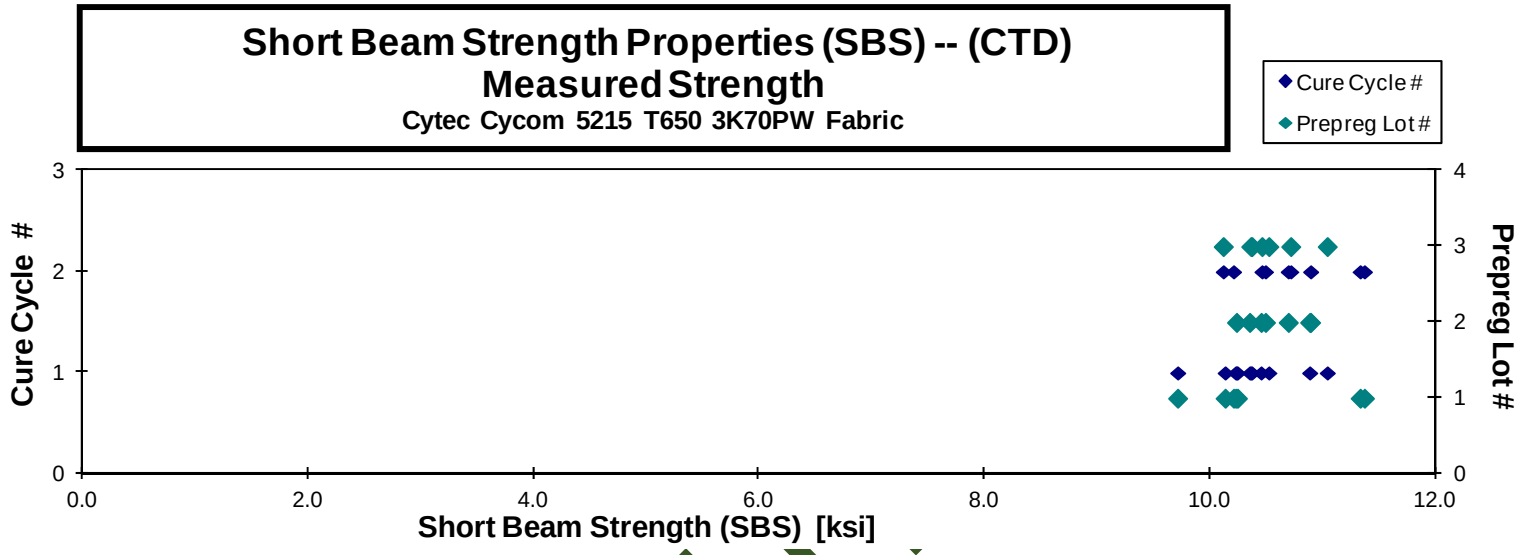

Laminate Unnotched Compression Properties (UNC3) -- (ETW)
Normalized Modulus
Cytec Cycom 5215 T650 3K70PW Fabric
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
Laminate Compression Modulus (UNC3) [Msi]

4.12 Lamina Short-Beam Strength Properties (SBS)

Short Beam Strength Properties (SBS) -- (CTD) Strength
Cytec Cycom 5215 T650 3K70PW Fabric

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
C0FQA116B	A	C1	1	1	10.230	0.261	32	0.0081	INTERLAMINAR SHEAR
C0FQA117B	A	C1	1	1	10.137	0.259	32	0.0081	INTERLAMINAR SHEAR
C0FQA118B	A	C1	1	1	9.716	0.260	32	0.0081	INTERLAMINAR SHEAR
C0FQA119B	A	C1	1	1	10.246	0.260	32	0.0081	INTERLAMINAR SHEAR
C0FQA215B	A	C2	1	2	10.212	0.263	32	0.0082	INTERLAMINAR SHEAR
C0FQA216B	A	C2	1	2	11.373	0.264	32	0.0082	INTERLAMINAR SHEAR/COMPRESSION
C0FQA217B	A	C2	1	2	11.335	0.263	32	0.0082	INTERLAMINAR SHEAR
C0FQB116B	B	C1	2	1	10.355	0.252	32	0.0079	INTERLAMINAR SHEAR
C0FQB117B	B	C1	2	1	10.238	0.251	32	0.0078	INTERLAMINAR SHEAR
C0FQB118B	B	C1	2	1	10.456	0.252	32	0.0079	INTERLAMINAR SHEAR
C0FQB119B	B	C1	2	1	10.888	0.251	32	0.0078	INTERLAMINAR SHEAR
C0FQB215B	B	C2	2	2	10.495	0.251	32	0.0078	INTERLAMINAR SHEAR
C0FQB216B	B	C2	2	2	10.896	0.251	32	0.0078	INTERLAMINAR SHEAR/COMPRESSION
C0FQB217B	B	C2	2	2	10.697	0.251	32	0.0078	INTERLAMINAR SHEAR/COMPRESSION
C0FQC116B	C	C1	3	1	10.374	0.252	32	0.0079	INTERLAMINAR SHEAR
C0FQC117B	C	C1	3	1	11.043	0.251	32	0.0078	INTERLAMINAR SHEAR/COMPRESSSION
C0FQC118B	C	C1	3	1	10.525	0.252	32	0.0079	INTERLAMINAR SHEAR
C0FQC119B	C	C1	3	1	10.365	0.250	32	0.0078	INTERLAMINAR SHEAR/COMPRESSSION
C0FQC215B	C	C2	3	2	10.464	0.248	32	0.0077	INTERLAMINAR SHEAR
C0FQC216B	C	C2	3	2	10.719	0.249	32	0.0078	INTERLAMINAR SHEAR/COMPRESSSION
C0FQC217B	C	C2	3	2	10.121	0.251	32	0.0078	INTERLAMINAR SHEAR/COMPRESSSION

Average	**10.518**	**Average**	**0.0079**
Standard Dev.	**0.411**	**Standard Dev.**	
Coeff. of Var. [%]	**3.908**	**Coeff. of Var. [%]**	
Min.	**9.716**	**Min.**	**0.0077**
Max.	**11.373**	**Max.**	**0.0082**
Number of Spec.	**21**	**Number of Spec.**	**21**

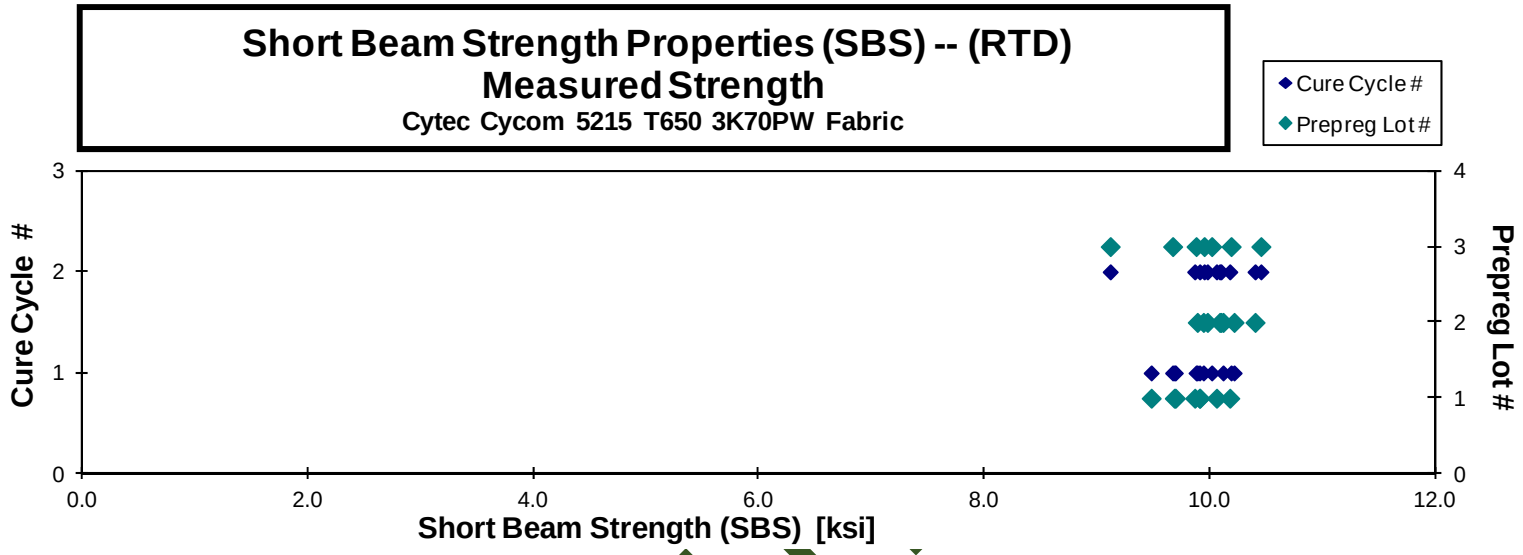

Short Beam Strength Properties (SBS) -- (CTD)
Measured Strength
Cytec Cycom 5215 T650 3K70PW Fabric
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Short Beam Strength (SBS) [ksi]
0
1
2
3
4
0.0
2.0
4.0
6.0
8.0
10.0
12.0

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

Cytec Cycom 5215 T650 3K70PW Fabric

Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle #	Strength [ksi]	Avg. Specimen Thickn. [in]	# Plies in Laminate	Avg. ply [in]	Failure Mode
C0FQA112A	A	C1	1	1	9.686	0.257	32	0.0080	INTERLAMINAR SHEAR / COMPRESSION
C0FQA113A	A	C1	1	1	9.910	0.257	32	0.0080	INTERLAMINAR SHEAR / COMPRESSION
C0FQA114A	A	C1	1	1	9.481	0.260	32	0.0081	INTERLAMINAR SHEAR
C0FQA115A	A	C1	1	1	9.695	0.259	32	0.0081	INTERLAMINAR SHEAR
C0FQA211A	A	C2	1	2	10.061	0.259	32	0.0081	INTERLAMINAR SHEAR
C0FQA212A	A	C2	1	2	9.911	0.260	32	0.0081	INTERLAMINAR SHEAR
C0FQA213A	A	C2	1	2	9.867	0.262	32	0.0082	COMPRESSION
C0FQA214A	A	C2	1	2	10.179	0.263	32	0.0082	INTERLAMINAR SHEAR
C0FQB112A	B	C1	2	1	9.944	0.251	32	0.0079	INTERLAMINAR SHEAR
C0FQB113A	B	C1	2	1	10.216	0.252	32	0.0079	INTERLAMINAR SHEAR
C0FQB114A	B	C1	2	1	9.890	0.252	32	0.0079	INTERLAMINAR SHEAR
C0FQB115A	B	C1	2	1	10.119	0.253	32	0.0079	INTERLAMINAR SHEAR
C0FQB211A	B	C2	2	2	10.101	0.250	32	0.0078	INTERLAMINAR SHEAR
C0FQB212A	B	C2	2	2	9.980	0.250	32	0.0078	INTERLAMINAR SHEAR / COMPRESSION
C0FQB213A	B	C2	2	2	10.403	0.251	32	0.0079	INTERLAMINAR SHEAR / COMPRESSION
C0FQB214A	B	C2	2	2	10.089	0.252	32	0.0079	INTERLAMINAR SHEAR
C0FQC112A	C	C1	3	1	9.879	0.251	32	0.0078	INTERLAMINAR SHEAR
C0FQC113A	C	C1	3	1	9.672	0.251	32	0.0079	INTERLAMINAR SHEAR
C0FQC114A	C	C1	3	1	10.018	0.251	32	0.0079	INTERLAMINAR SHEAR / COMPRESSION
C0FQC115A	C	C1	3	1	10.190	0.252	32	0.0079	INTERLAMINAR SHEAR
C0FQC211A	C	C2	3	2	9.118	0.245	32	0.0077	INTERLAMINAR SHEAR
C0FQC212A	C	C2	3	2	9.951	0.246	32	0.0077	INTERLAMINAR SHEAR
C0FQC213A	C	C2	3	2	10.454	0.248	32	0.0078	INTERLAMINAR SHEAR

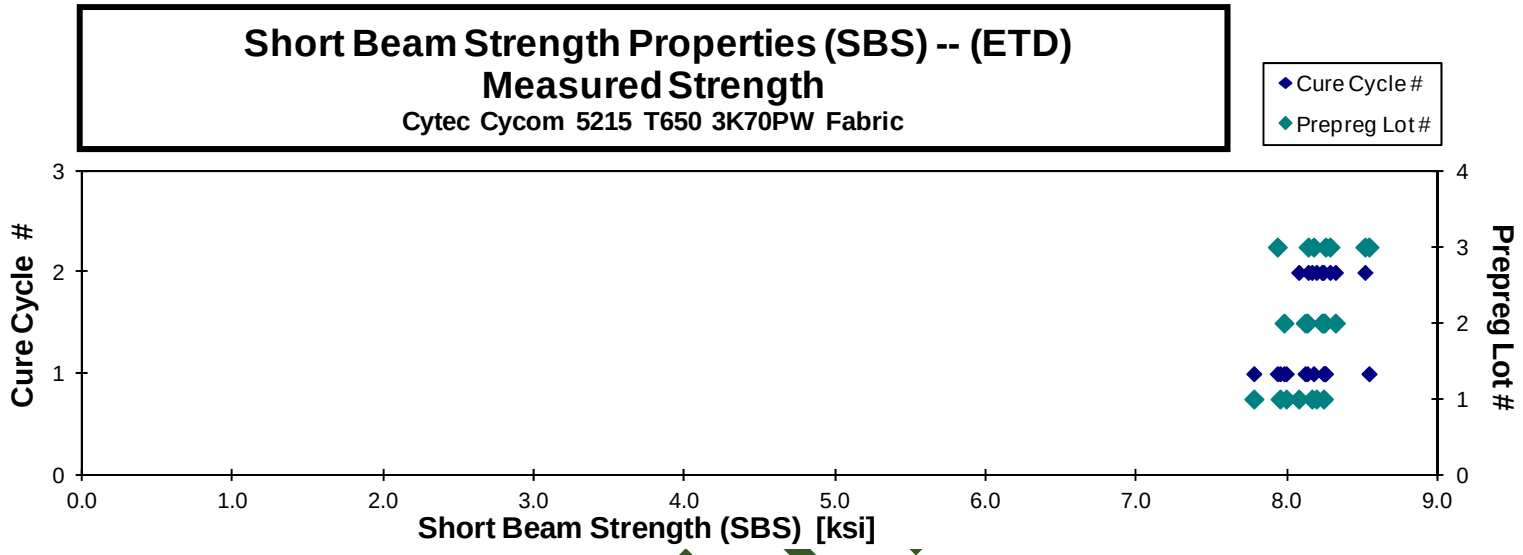
Average	**9.948**	**Average**	**0.0079**
Standard Dev.	**0.292**	**Standard Dev.**	
Coeff. of Var. [%]	**2.932**	**Coeff. of Var. [%]**	
Min.	**9.118**	**Min.**	**0.0077**
Max.	**10.454**	**Max.**	**0.0082**
Number of Spec.	**23**	**Number of Spec.**	**23**


Short Beam Strength Properties (SBS) -- (RTD)
Measured Strength
Cytec Cycom 5215 T650 3K70PW Fabric
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Short Beam Strength (SBS) [ksi]
0
1
2
3
4
0.0
2.0
4.0
6.0
8.0
10.0
12.0

Short Beam Strength Properties (SBS) -- (ETD)
Strength
Cytec Cycom 5215 T650 3K70PW Fabric

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
C0FQA11BL	A	C1	1	1	8.242	0.257	32	0.0080	INTERLAMINAR SHEAR/COMPRESSION
C0FQA11CL	A	C1	1	1	7.953	0.254	32	0.0079	INTERLAMINAR SHEAR/COMPRESSION
C0FQA11DL	A	C1	1	1	7.994	0.259	32	0.0081	INTERLAMINAR SHEAR/COMPRESSION
C0FQA11EL	A	C1	1	1	7.779	0.260	32	0.0081	INTERLAMINAR SHEAR/COMPRESSION
C0FQA21AL	A	C2	1	2	8.078	0.262	32	0.0082	INTERLAMINAR SHEAR/COMPRESSION
C0FQA21BL	A	C2	1	2	8.194	0.261	32	0.0081	INTERLAMINAR SHEAR/COMPRESSION
C0FQA21CL	A	C2	1	2	8.165	0.259	32	0.0081	INTERLAMINAR SHEAR/COMPRESSION
C0FQB11CL	B	C1	2	1	8.120	0.251	32	0.0078	INTERLAMINAR SHEAR/COMPRESSION
C0FQB11DL	B	C1	2	1	8.247	0.254	32	0.0079	INTERLAMINAR SHEAR/COMPRESSION
C0FQB11EL	B	C1	2	1	7.979	0.255	32	0.0080	INTERLAMINAR SHEAR/COMPRESSION
C0FQB11FL	B	C1	2	1	8.134	0.254	32	0.0079	INTERLAMINAR SHEAR/COMPRESSION
C0FQB21AL	B	C2	2	2	8.241	0.251	32	0.0078	INTERLAMINAR SHEAR/COMPRESSION
C0FQB21BL	B	C2	2	2	8.321	0.250	32	0.0078	INTERLAMINAR SHEAR/COMPRESSION
C0FQB21CL	B	C2	2	2	8.232	0.252	32	0.0079	INTERLAMINAR SHEAR/COMPRESSION
C0FQC11BL	C	C1	3	1	8.544	0.248	32	0.0077	INTERLAMINAR SHEAR/COMPRESSION
C0FQC11DL	C	C1	3	1	7.935	0.250	32	0.0078	INTERLAMINAR SHEAR/COMPRESSION
C0FQC11EL	C	C1	3	1	8.255	0.250	32	0.0078	INTERLAMINAR SHEAR/COMPRESSION
C0FQC11FL	C	C1	3	1	8.176	0.250	32	0.0078	INTERLAMINAR SHEAR/COMPRESSION
C0FQC219L	C	C2	3	2	8.140	0.250	32	0.0078	INTERLAMINAR SHEAR/COMPRESSION
C0FQC21AL	C	C2	3	2	8.517	0.249	32	0.0078	INTERLAMINAR SHEAR/COMPRESSION
C0FQC21BL	C	C2	3	2	8.285	0.249	32	0.0078	INTERLAMINAR SHEAR/COMPRESSION

Average	**8.168**	**Average**	**0.0079**
Standard Dev.	**0.182**	**Standard Dev.**	
Coeff. of Var. [%]	**2.223**	**Coeff. of Var. [%]**	
Min.	**7.779**	**Min.**	**0.0077**
Max.	**8.544**	**Max.**	**0.0082**
Number of Spec.	**21**	**Number of Spec.**	**21**

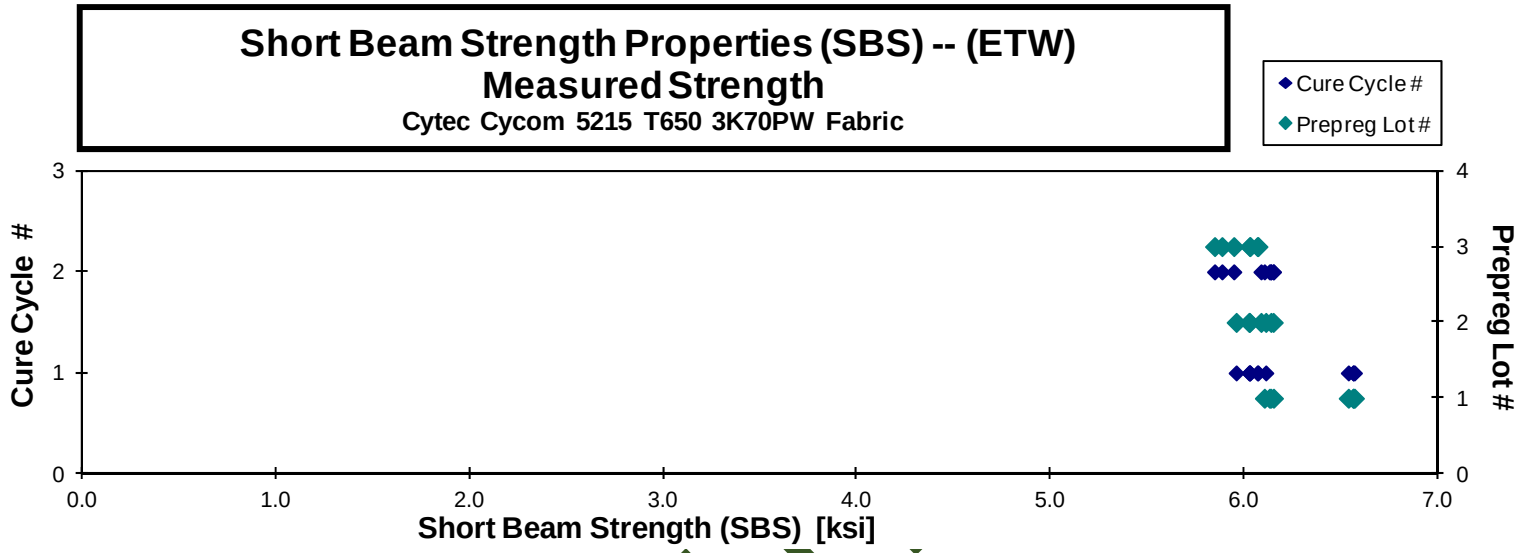

Short Beam Strength Properties (SBS) -- (ETD)
Measured Strength
Cytec Cycom 5215 T650 3K70PW Fabric
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Short Beam Strength (SBS) [ksi]
0
1
2
3
4
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0

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

Cytec Cycom 5215 T650 3K70PW Fabric

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
C0FQA11GM	A	C1	1	1	6.563	0.262	32	0.0082	COMPRESSION / ILS
C0FQA11IM	A	C1	1	1	6.570	0.261	32	0.0082	COMPRESSION / ILS
C0FQA11JM	A	C1	1	1	6.563	0.262	32	0.0082	COMPRESSION / ILS
C0FQA11KM	A	C1	1	1	6.538	0.262	32	0.0082	ILS / COMPRESSION
C0FQA21DM	A	C2	1	2	6.131	0.260	32	0.0081	ILS / COMPRESSION
C0FQA21EM	A	C2	1	2	6.105	0.260	32	0.0081	ILS / COMPRESSION
C0FQA21FM	A	C2	1	2	6.152	0.260	32	0.0081	COMPRESSION / ILS
C0FQA21GM	A	C2	1	2	6.138	0.260	32	0.0081	ILS / COMPRESSION
C0FQB11GM	B	C1	2	1	6.028	0.256	32	0.0080	COMPRESSION / ILS
C0FQB11IM	B	C1	2	1	6.026	0.253	32	0.0079	COMPRESSION / ILS
C0FQB11JM	B	C1	2	1	6.112	0.254	32	0.0079	COMPRESSION / ILS
C0FQB11KM	B	C1	2	1	5.959	0.254	32	0.0079	COMPRESSION / ILS
C0FQB21DM	B	C2	2	2	6.139	0.253	32	0.0079	COMPRESSION / ILS
C0FQB21EM	B	C2	2	2	6.087	0.253	32	0.0079	COMPRESSION / ILS
C0FQB21FM	B	C2	2	2	6.151	0.253	32	0.0079	COMPRESSION / ILS
C0FQC11GM	C	C1	3	1	6.072	0.251	32	0.0078	ILS
C0FQC11HM	C	C1	3	1	6.029	0.251	32	0.0078	COMPRESSION / ILS
C0FQC11IM	C	C1	3	1	6.069	0.250	32	0.0078	COMPRESSION / ILS
C0FQC11JM	C	C1	3	1	6.031	0.251	32	0.0079	COMPRESSION / ILS
C0FQC21EM	C	C2	3	2	5.947	0.250	32	0.0078	COMPRESSION / ILS
C0FQC21FM	C	C2	3	2	5.848	0.250	32	0.0078	COMPRESSION / ILS
C0FQC21GM	C	C2	3	2	5.886	0.251	32	0.0078	ILS

Average	**6.143**	**Average**	**0.0080**
Standard Dev.	**0.217**	**Standard Dev.**	
Coeff. of Var. [%]	**3.529**	**Coeff. of Var. [%]**	
Min.	**5.848**	**Min.**	**0.0078**
Max.	**6.570**	**Max.**	**0.0082**
Number of Spec.	**22**	**Number of Spec.**	**22**

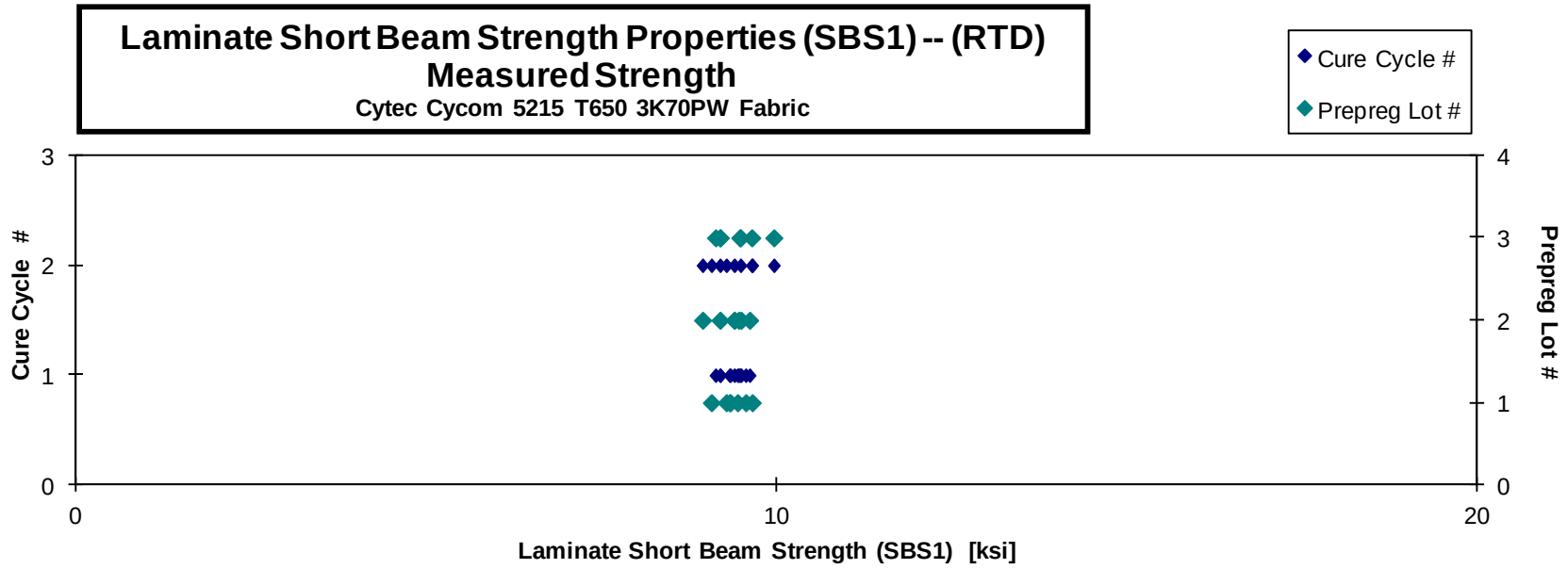


4.13 Laminate Short-Beam Strength Properties (SBS1)

Laminate Short Beam Strength Properties (SBS1) -- (RTD)
Strength
Cytec Cycom 5215 T650 3K70PW Fabric

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
C0FqA1G1A	A	C1	1	1	9.324	0.162	20	0.0081	INTERLAMINAR SHEAR
C0FqA1G2A	A	C1	1	1	9.333	0.164	20	0.0082	INTERLAMINAR SHEAR
C0FqA1G3A	A	C1	1	1	9.554	0.163	20	0.0081	INTERLAMINAR SHEAR
C0FqA1G4A	A	C1	1	1	9.437	0.163	20	0.0082	INTERLAMINAR SHEAR
C0FqA2G1A	A	C2	1	2	9.064	0.165	20	0.0082	INTERLAMINAR SHEAR
C0FqA2G2A	A	C2	1	2	9.647	0.165	20	0.0082	INTERLAMINAR SHEAR
C0FqA2G3A	A	C2	1	2	9.277	0.165	20	0.0082	INTERLAMINAR SHEAR
C0FqB1G1A	B	C1	2	1	9.391	0.159	20	0.0080	INTERLAMINAR SHEAR
C0FqB1G2A	B	C1	2	1	9.454	0.160	20	0.0080	INTERLAMINAR SHEAR
C0FqB1G3A	B	C1	2	1	9.610	0.159	20	0.0080	INTERLAMINAR SHEAR
C0FqB1G4A	B	C1	2	1	9.488	0.160	20	0.0080	INTERLAMINAR SHEAR
C0FqB2G1A	B	C2	2	2	9.391	0.162	20	0.0081	INTERLAMINAR SHEAR
C0FqB2G2A	B	C2	2	2	8.938	0.163	20	0.0081	INTERLAMINAR SHEAR
C0FqB2G3A	B	C2	2	2	9.188	0.162	20	0.0081	INTERLAMINAR SHEAR
C0FqC1G1A	C	C1	3	1	9.470	0.156	20	0.0078	INTERLAMINAR SHEAR
C0FqC1G2A	C	C1	3	1	9.124	0.157	20	0.0079	INTERLAMINAR SHEAR
C0FqC1G3A	C	C1	3	1	9.189	0.157	20	0.0079	INTERLAMINAR SHEAR
C0FqC1G4A	C	C1	3	1	9.188	0.157	20	0.0079	INTERLAMINAR SHEAR
C0FqC2G1A	C	C2	3	2	9.480	0.158	20	0.0079	INTERLAMINAR SHEAR
C0FqC2G2A	C	C2	3	2	9.640	0.157	20	0.0079	INTERLAMINAR SHEAR
C0FqC2G3A	C	C2	3	2	9.956	0.158	20	0.0079	INTERLAMINAR SHEAR

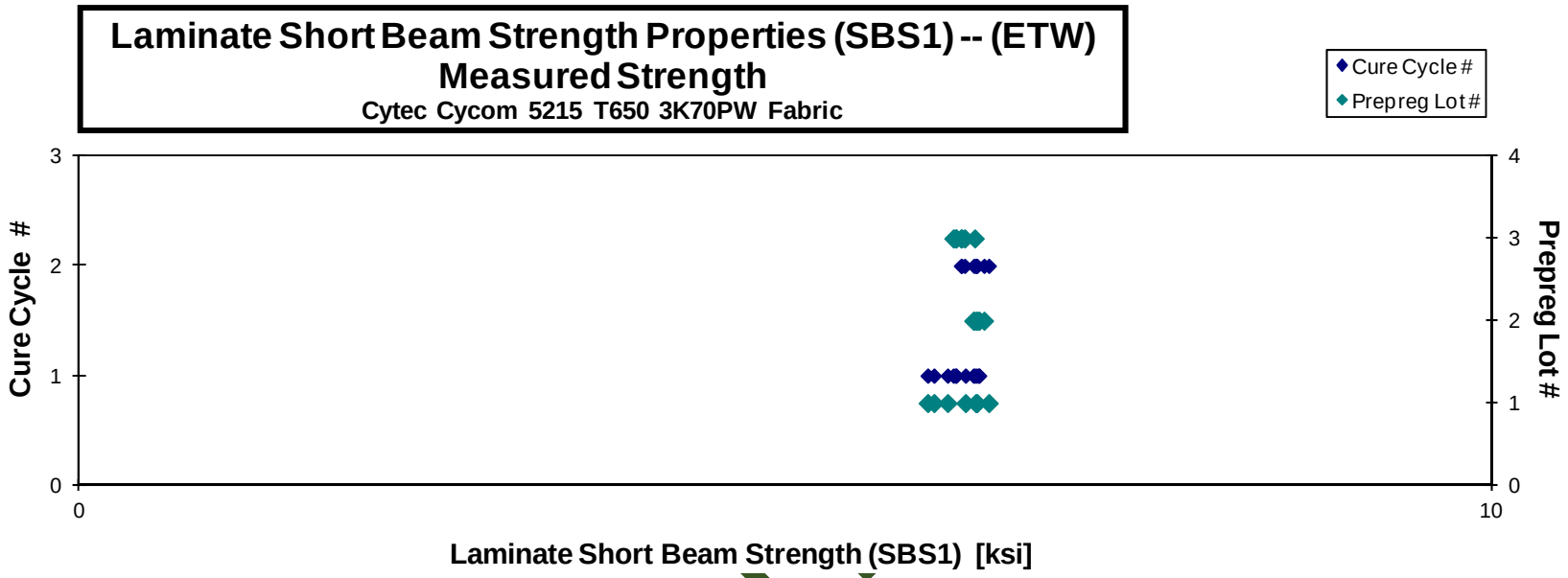
Average	**9.388**	**Average**	**0.0080**
Standard Dev.	**0.232**	**Standard Dev.**	
Coeff. of Var. [%]	**2.473**	**Coeff. of Var. [%]**	
Min.	**8.938**	**Min.**	**0.0078**
Max.	**9.956**	**Max.**	**0.0082**
Number of Spec.	**21**	**Number of Spec.**	**21**


Laminate Short Beam Strength Properties (SBS1) -- (RTD)
Measured Strength
Cytec Cycom 5215 T650 3K70PW Fabric
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0
10
20
Laminate Short Beam Strength (SBS1) [ksi]

Laminate Short Beam Strength Properties (SBS1) -- (ETW)
Strength
Cytec Cycom 5215 T650 3K70PW Fabric

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
C0FqA1G8M	A	C1	1	1	6.006	0.162	20	0.0081	INTERLAMINAR SHEAR
C0FqA1G9M	A	C1	1	1	6.050	0.163	20	0.0081	INTERLAMINAR SHEAR
C0FqA1GAM	A	C1	1	1	6.147	0.163	20	0.0082	INTERLAMINAR SHEAR
C0FqA1GBM	A	C1	1	1	6.273	0.163	20	0.0082	INTERLAMINAR SHEAR
C0FqA2G6M	A	C2	1	2	6.346	0.164	20	0.0082	INTERLAMINAR SHEAR
C0FqA2G8M	A	C2	1	2	6.355	0.164	20	0.0082	INTERLAMINAR SHEAR
C0FqA2GAM	A	C2	1	2	6.439	0.164	20	0.0082	INTERLAMINAR SHEAR
C0FqB1G7M	B	C1	2	1	6.365	0.161	20	0.0080	INTERLAMINAR SHEAR
C0FqB1G8M	B	C1	2	1	6.352	0.161	20	0.0080	INTERLAMINAR SHEAR
C0FqB1G9M	B	C1	2	1	6.370	0.160	20	0.0080	INTERLAMINAR SHEAR
C0FqB1GAM	B	C1	2	1	6.329	0.161	20	0.0080	INTERLAMINAR SHEAR
C0FqB2G7M	B	C2	2	2	6.348	0.162	20	0.0081	INTERLAMINAR SHEAR
C0FqB2G8M	B	C2	2	2	6.405	0.163	20	0.0081	INTERLAMINAR SHEAR
C0FqB2G9M	B	C2	2	2	6.333	0.163	20	0.0081	INTERLAMINAR SHEAR
C0FqC1G7M	C	C1	3	1	6.203	0.158	20	0.0079	INTERLAMINAR SHEAR
C0FqC1G8M	C	C1	3	1	6.339	0.158	20	0.0079	INTERLAMINAR SHEAR
C0FqC1G9M	C	C1	3	1	6.207	0.159	20	0.0079	INTERLAMINAR SHEAR
C0FqC1GAM	C	C1	3	1	6.187	0.158	20	0.0079	INTERLAMINAR SHEAR
C0FqC2G6M	C	C2	3	2	6.242	0.158	20	0.0079	INTERLAMINAR SHEAR
C0FqC2G7M	C	C2	3	2	6.247	0.158	20	0.0079	INTERLAMINAR SHEAR
C0FqC2G8M	C	C2	3	2	6.268	0.157	20	0.0078	INTERLAMINAR SHEAR

Average	**6.277**	**Average**	**0.0080**
Standard Dev.	**0.112**	**Standard Dev.**	
Coeff. of Var. [%]	**1.791**	**Coeff. of Var. [%]**	
Min.	**6.006**	**Min.**	**0.0078**
Max.	**6.439**	**Max.**	**0.0082**
Number of Spec.	**21**	**Number of Spec.**	**21**


Laminate Short Beam Strength Properties (SBS1) -- (ETW)
Measured Strength
Cytec Cycom 5215 T650 3K70PW Fabric
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Short Beam Strength (SBS1) [ksi]
0
1
2
3
4
10

4.14 "25/50/25" Open-Hole Tension 1 Properties (OHT1)

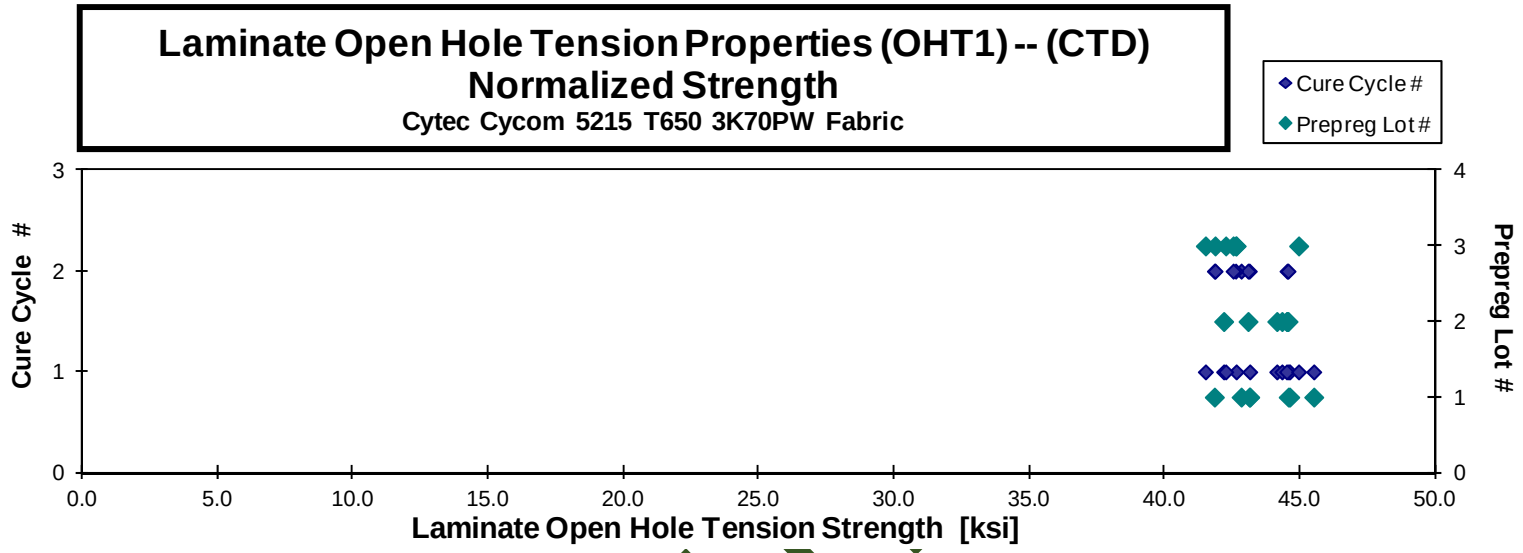
Laminate Open Hole Tension Properties (OHT1) -- (CTD) Strength
Cytec Cycom 5215 T650 3K70PW Fabric

normalizing t_{ply} [in]: 0.0081

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]
C0FDA116B	A	C1	1	1	42.970	0.134	16	LGM	0.0084	44.572
C0FDA117B	A	C1	1	1	41.637	0.134	16	LGM	0.0084	43.147
C0FDA118B	A	C1	1	1	44.267	0.133	16	LGM	0.0083	45.514
C0FDA119B	A	C1	1	1	44.345	0.130	16	LGM	0.0082	44.624
C0FDA215B	A	C2	1	2	41.982	0.132	16	LGM	0.0083	42.829
C0FDA216B	A	C2	1	2	42.033	0.133	16	LGM	0.0083	43.131
C0FDA217B	A	C2	1	2	41.141	0.132	16	LGM	0.0082	41.840
C0FDB116B	B	C1	2	1	42.950	0.133	16	LGM	0.0083	44.149
C0FDB117B	B	C1	2	1	41.193	0.133	16	LGM	0.0083	42.184
C0FDB118B	B	C1	2	1	43.531	0.132	16	LGM	0.0083	44.337
C0FDB119B	B	C1	2	1	44.221	0.130	16	LGM	0.0082	44.511
C0FDB215B	B	C2	2	2	43.646	0.132	16	LGM	0.0083	44.527
C0FDB216B	B	C2	2	2	43.831	0.132	16	LGM	0.0082	44.564
C0FDB217B	B	C2	2	2	42.958	0.130	16	LGM	0.0081	43.086
C0FDC117B	C	C1	3	1	44.978	0.130	16	LGM	0.0081	44.955
C0FDC118B	C	C1	3	1	42.990	0.129	16	LGM	0.0080	42.647
C0FDC119B	C	C1	3	1	42.214	0.127	16	LGM	0.0080	41.508
C0FDC11AB	C	C1	3	1	42.483	0.129	16	LGM	0.0081	42.259
C0FDC215B	C	C2	3	2	43.294	0.128	16	LGM	0.0080	42.626
C0FDC216B	C	C2	3	2	42.523	0.128	16	LGM	0.0080	41.867
C0FDC217B	C	C2	3	2	43.110	0.128	16	LGM	0.0080	42.533

Average	**42.967**	
Standard Dev.	**1.048**	
Coeff. of Var. [%]	**2.438**	
Min.	**41.141**	
Max.	**44.978**	
Number of Spec.	**21**	

$Average_{norm}$	**0.0082**	**43.400**
$Standard\ Dev._{norm}$		**1.198**
$Coeff.\ of\ Var.\ [\%]_{norm}$		**2.759**
Min.	**0.0080**	**41.508**
Max.	**0.0084**	**45.514**
Number of Spec.		**21**


Laminate Open Hole Tension Properties (OHT1) -- (CTD)
Normalized Strength
Cytec Cycom 5215 T650 3K70PW Fabric
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 (OHT1) -- (RTD) Strength

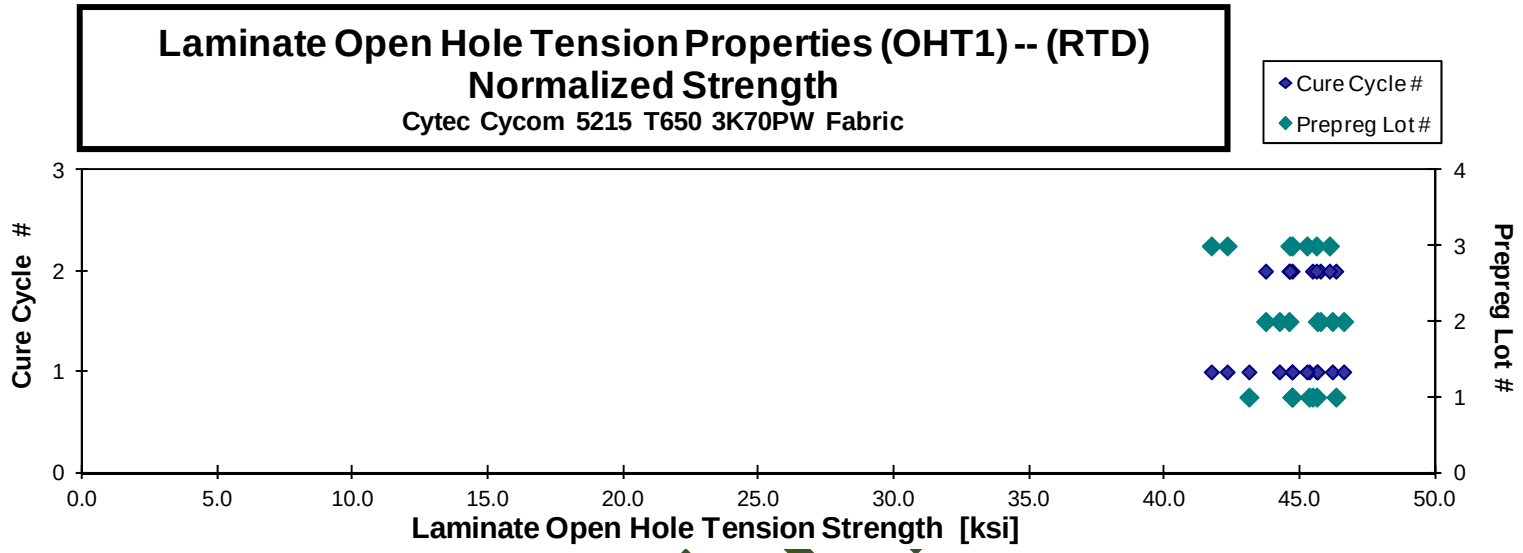
Cytec Cycom 5215 T650 3K70PW Fabric

normalizing t_{ply} [in]: 0.0081

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]
C0FDA111A	A	C1	1	1	43.834	0.134	16	LGM	0.0084	45.345
C0FDA112A	A	C1	1	1	40.977	0.136	16	LGM	0.0085	43.116
C0FDA113A	A	C1	1	1	43.692	0.135	16	LGM	0.0085	45.619
C0FDA114A	A	C1	1	1	42.758	0.136	16	LGM	0.0085	44.705
C0FDA211A	A	C2	1	2	45.823	0.131	16	LGM	0.0082	46.330
C0FDA212A	A	C2	1	2	44.247	0.131	16	LGM	0.0082	44.714
C0FDA213A	A	C2	1	2	44.755	0.132	16	LGM	0.0082	45.468
C0FDB111A	B	C1	2	1	45.737	0.131	16	LGM	0.0082	46.202
C0FDB112A	B	C1	2	1	45.589	0.133	16	LGM	0.0083	46.620
C0FDB113A	B	C1	2	1	44.564	0.133	16	LGM	0.0083	45.647
C0FDB114A	B	C1	2	1	42.981	0.133	16	LGM	0.0083	44.242
C0FDB211A	B	C2	2	2	43.321	0.131	16	LGM	0.0082	43.733
C0FDB212A	B	C2	2	2	45.527	0.130	16	LGM	0.0081	45.756
C0FDB213A	B	C2	2	2	44.044	0.131	16	LGM	0.0082	44.599
C0FDC111A	C	C1	3	1	41.964	0.129	16	LGM	0.0081	41.727
C0FDC112A	C	C1	3	1	44.387	0.131	16	LGM	0.0082	44.718
C0FDC113A	C	C1	3	1	42.437	0.129	16	LGM	0.0081	42.312
C0FDC114A	C	C1	3	1	45.024	0.130	16	LGM	0.0081	45.261
C0FDC211A	C	C2	3	2	46.003	0.126	16	LGM	0.0079	44.630
C0FDC212A	C	C2	3	2	47.224	0.127	16	LGM	0.0079	46.095
C0FDC213A	C	C2	3	2	46.369	0.127	16	LGM	0.0080	45.611

Average	44.346	
Standard Dev.	1.577	
Coeff. of Var. [%]	3.556	
Min.	40.977	
Max.	47.224	
Number of Spec.	21	

$Average_{norm}$	0.00820	44.879
$Standard\ Dev._{norm}$		1.286
$Coeff.\ of\ Var.\ [\%]_{norm}$		2.866
Min.	0.0079	41.727
Max.	0.0085	46.620
Number of Spec.		21


Laminate Open Hole Tension Properties (OHT1) -- (RTD)
Normalized Strength
Cytec Cycom 5215 T650 3K70PW Fabric
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]

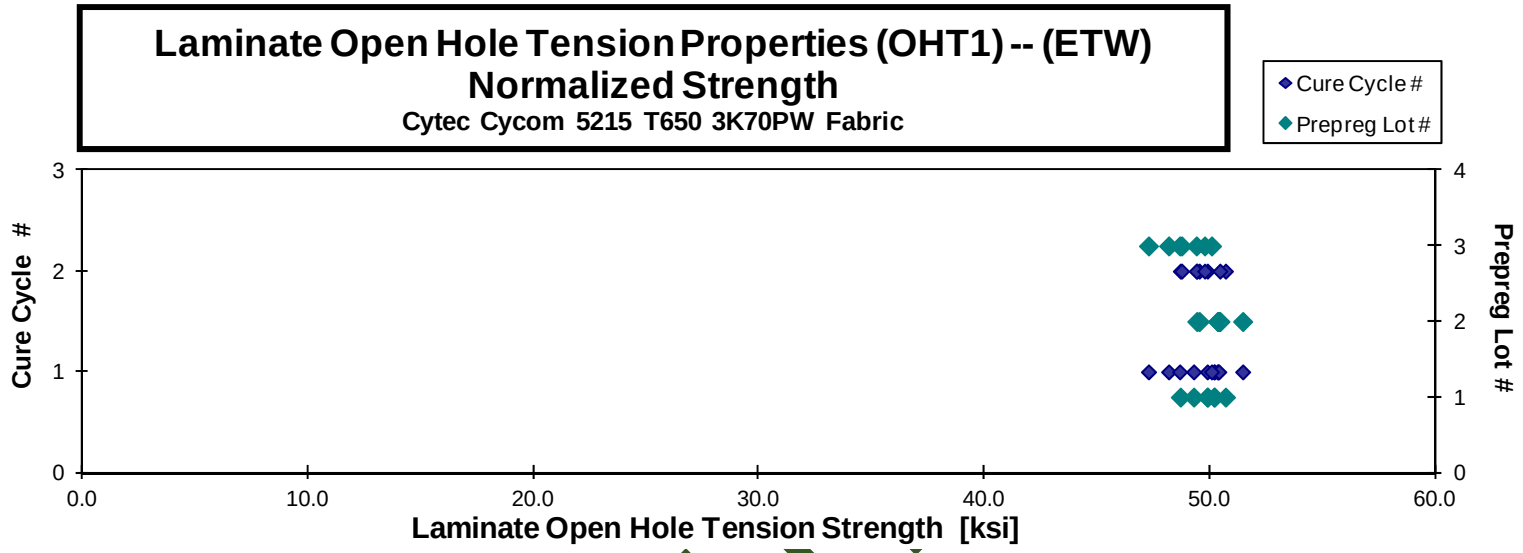
Laminate Open Hole Tension Properties (OHT1) -- (ETW)
Strength
Cytec Cycom 5215 T650 3K70PW Fabric

normalizing t_{ply} [in]: 0.0081

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]
C0FDA11BM	A	C1	1	1	48.962	0.133	16	MGM	0.0083	50.208
C0FDA11CM	A	C1	1	1	48.406	0.134	16	LGM	0.0083	49.893
C0FDA11DM	A	C1	1	1	48.921	0.133	16	LGM	0.0083	50.185
C0FDA11EM	A	C1	1	1	47.311	0.135	16	MGM	0.0084	49.289
C0FDA219M	A	C2	1	2	48.801	0.133	16	LGM	0.0083	49.900
C0FDA21AM	A	C2	1	2	49.354	0.133	16	LGM	0.0083	50.700
C0FDA21BM	A	C2	1	2	47.460	0.133	16	MGM	0.0083	48.699
C0FDB11BM	B	C1	2	1	48.826	0.134	16	AGM	0.0084	50.352
C0FDB11CM	B	C1	2	1	50.548	0.132	16	LGM	0.0082	51.464
C0FDB11DM	B	C1	2	1	49.442	0.132	16	LGM	0.0083	50.357
C0FDB11EM	B	C1	2	1	49.365	0.132	16	LGM	0.0083	50.406
C0FDB219M	B	C2	2	2	50.010	0.131	16	LGM	0.0082	50.454
C0FDB21AM	B	C2	2	2	48.636	0.132	16	MGM	0.0082	49.430
C0FDB21BM	B	C2	2	2	49.141	0.131	16	MGM	0.0082	49.539
C0FDC11BM	C	C1	3	1	47.482	0.129	16	LGM	0.0081	47.287
C0FDC11CM	C	C1	3	1	50.216	0.129	16	LGM	0.0081	50.081
C0FDC11DM	C	C1	3	1	48.562	0.129	16	LGM	0.0080	48.181
C0FDC11EM	C	C1	3	1	49.130	0.128	16	LGM	0.0080	48.669
C0FDC219M	C	C2	3	2	50.465	0.127	16	LGM	0.0079	49.407
C0FDC21AM	C	C2	3	2	49.501	0.128	16	LGM	0.0080	48.757
C0FDC21BM	C	C2	3	2	50.416	0.128	16	LGM	0.0080	49.774

Average	**49.093**	
Standard Dev.	**0.946**	
Coeff. of Var. [%]	**1.926**	
Min.	**47.311**	
Max.	**50.548**	
Number of Spec.	**21**	

$Average_{norm}$	**0.00820**	**49.668**
$Standard\ Dev._{norm}$		**0.953**
$Coeff.\ of\ Var.\ [\%]_{norm}$		**1.919**
Min.	**0.0079**	**47.287**
Max.	**0.0084**	**51.464**
Number of Spec.		**21**


Laminate Open Hole Tension Properties (OHT1) -- (ETW)
Normalized Strength
Cytec Cycom 5215 T650 3K70PW Fabric
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 Open Hole Tension Strength [ksi]

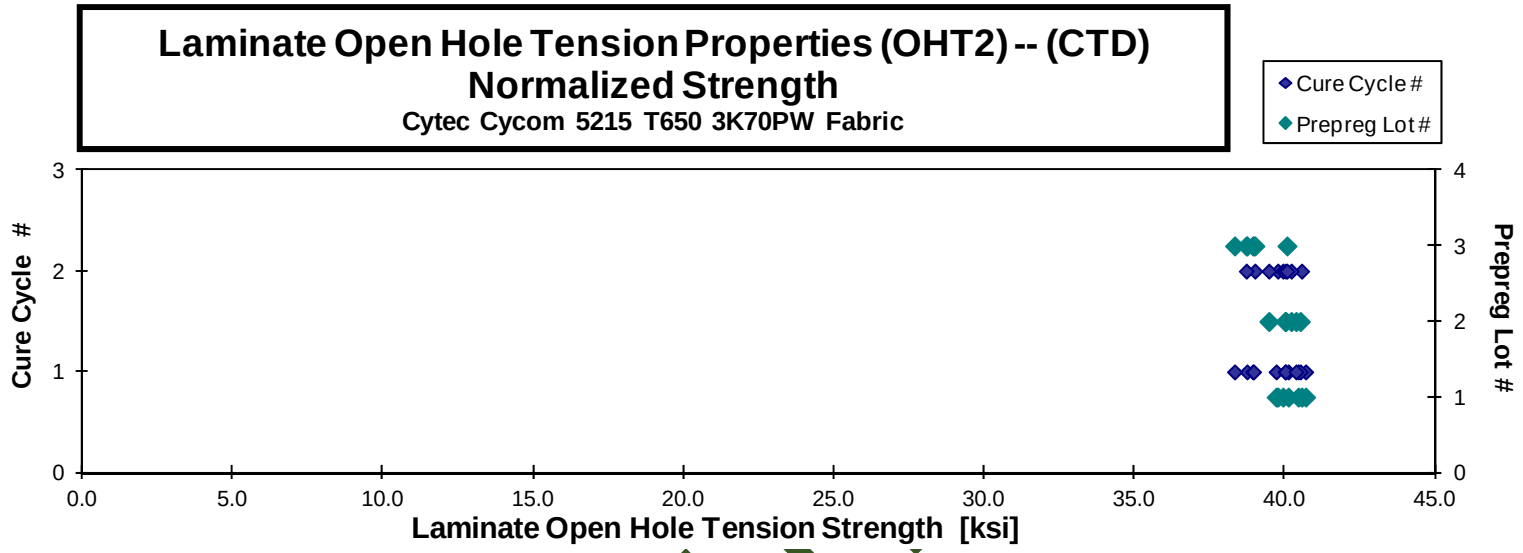
4.15 "10/80/10" Open-Hole Tension 2 Properties (OHT2)

Laminate Open Hole Tension Properties (OHT2) -- (CTD) Strength
Cytec Cycom 5215 T650 3K70PW Fabric

normalizing t_{ply} [in]: 0.0081

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]
C0FEA116B	A	C1	1	1	39.646	0.164	20	AGM	0.0082	40.115
C0FEA117B	A	C1	1	1	40.371	0.162	20	AGM	0.0081	40.445
C0FEA118B	A	C1	1	1	39.799	0.162	20	AGM	0.0081	39.713
C0FEA119B	A	C1	1	1	40.319	0.164	20	AGM	0.0082	40.693
C0FEA215B	A	C2	1	2	39.322	0.167	20	AGM	0.0084	40.560
C0FEA216B	A	C2	1	2	39.009	0.165	20	AGM	0.0083	39.764
C0FEA217B	A	C2	1	2	39.311	0.165	20	AGM	0.0082	39.938
C0FEB115B	B	C1	2	1	40.070	0.162	20	AGM	0.0081	40.012
C0FEB116B	B	C1	2	1	40.171	0.161	20	AGM	0.0081	40.022
C0FEB117B	B	C1	2	1	40.444	0.162	20	AGM	0.0081	40.515
C0FEB118B	B	C1	2	1	40.747	0.161	20	AGM	0.0080	40.374
C0FEB215B	B	C2	2	2	39.959	0.163	20	AGM	0.0082	40.213
C0FEB216B	B	C2	2	2	39.084	0.164	20	AGM	0.0082	39.470
C0FEB217B	B	C2	2	2	39.848	0.163	20	AGM	0.0081	40.024
C0FEC115B	C	C1	3	1	39.456	0.159	20	AGM	0.0080	38.741
C0FEC116B	C	C1	3	1	40.029	0.158	20	AGM	0.0079	38.933
C0FEC117B	C	C1	3	1	40.209	0.157	20	AGM	0.0078	38.959
C0FEC118B	C	C1	3	1	38.868	0.160	20	AGM	0.0080	38.328
C0FEC215B	C	C2	3	2	40.208	0.157	20	AGM	0.0079	39.004
C0FEC216B	C	C2	3	2	40.122	0.156	20	AGM	0.0078	38.718
C0FEC217B	C	C2	3	2	41.362	0.157	20	AGM	0.0078	40.072

Average	**39.921**	**$Average_{norm}$**	**0.0081**	**39.744**
Standard Dev.	**0.607**	**$Standard\ Dev._{norm}$**		**0.698**
Coeff. of Var. [%]	**1.521**	**Coeff. of Var. $[\%]_{norm}$**		**1.756**
Min.	**38.868**	**Min.**	**0.0078**	**38.328**
Max.	**41.362**	**Max.**	**0.0084**	**40.693**
Number of Spec.	**21**	**Number of Spec.**		**21**


Laminate Open Hole Tension Properties (OHT2) -- (CTD)
Normalized Strength
Cytec Cycom 5215 T650 3K70PW Fabric
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]

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

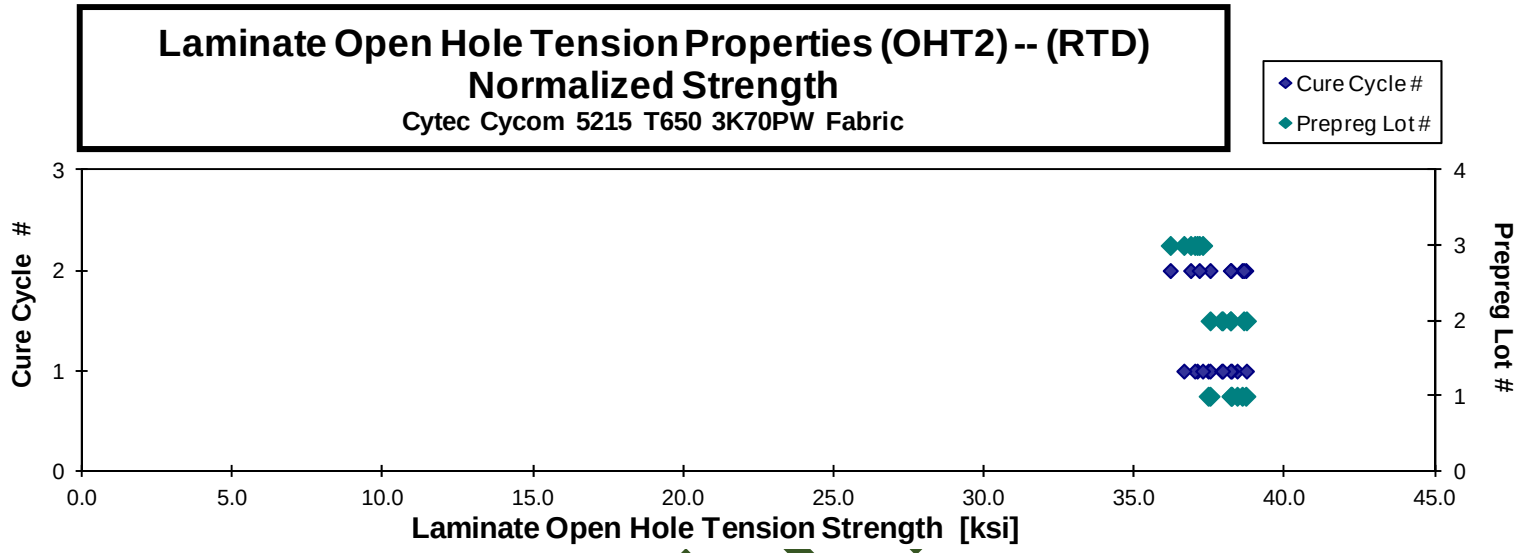
Cytec Cycom 5215 T650 3K70PW Fabric

normalizing t_{ply} [in]: 0.0081

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]
C0FEA111A	A	C1	1	1	37.453	0.162	20	AGM	0.0081	37.449
C0FEA112A	A	C1	1	1	37.373	0.163	20	AGM	0.0081	37.511
C0FEA113A	A	C1	1	1	38.482	0.162	20	AGM	0.0081	38.411
C0FEA114A	A	C1	1	1	38.057	0.163	20	AGM	0.0081	38.225
C0FEA211A	A	C2	1	2	38.231	0.163	20	AGM	0.0082	38.581
C0FEA212A	A	C2	1	2	38.258	0.164	20	AGM	0.0082	38.703
C0FEA213A	A	C2	1	2	37.089	0.167	20	AGM	0.0083	38.207
C0FEB111A	B	C1	2	1	38.739	0.158	20	AGM	0.0079	37.898
C0FEB112A	B	C1	2	1	38.474	0.161	20	AGM	0.0080	38.193
C0FEB113A	B	C1	2	1	38.612	0.162	20	AGM	0.0081	38.724
C0FEB114A	B	C1	2	1	38.091	0.161	20	AGM	0.0081	37.930
C0FEB211A	B	C2	2	2	38.592	0.160	20	AGM	0.0080	38.187
C0FEB212A	B	C2	2	2	38.623	0.162	20	AGM	0.0081	38.631
C0FEB213A	B	C2	2	2	37.176	0.163	20	AGM	0.0082	37.513
C0FEC111A	C	C1	3	1	38.529	0.156	20	AGM	0.0078	37.082
C0FEC112A	C	C1	3	1	38.279	0.157	20	AGM	0.0078	37.003
C0FEC113A	C	C1	3	1	38.477	0.157	20	AGM	0.0078	37.266
C0FEC114A	C	C1	3	1	37.684	0.158	20	AGM	0.0079	36.641
C0FEC211A	C	C2	3	2	37.677	0.156	20	AGM	0.0078	36.188
C0FEC212A	C	C2	3	2	38.081	0.157	20	AGM	0.0078	36.867
C0FEC213A	C	C2	3	2	38.340	0.157	20	AGM	0.0078	37.153

Average	38.110	
Standard Dev.	0.505	
Coeff. of Var. [%]	1.326	
Min.	37.089	
Max.	38.739	
Number of Spec.	21	

$Average_{norm}$	0.0080	37.732
$Standard\ Dev._{norm}$		0.737
$Coeff.\ of\ Var.\ [\%]_{norm}$		1.955
Min.	0.0078	36.188
Max.	0.0083	38.724
Number of Spec.		21


Laminate Open Hole Tension Properties (OHT2) -- (RTD)
Normalized Strength
Cytec Cycom 5215 T650 3K70PW Fabric
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]

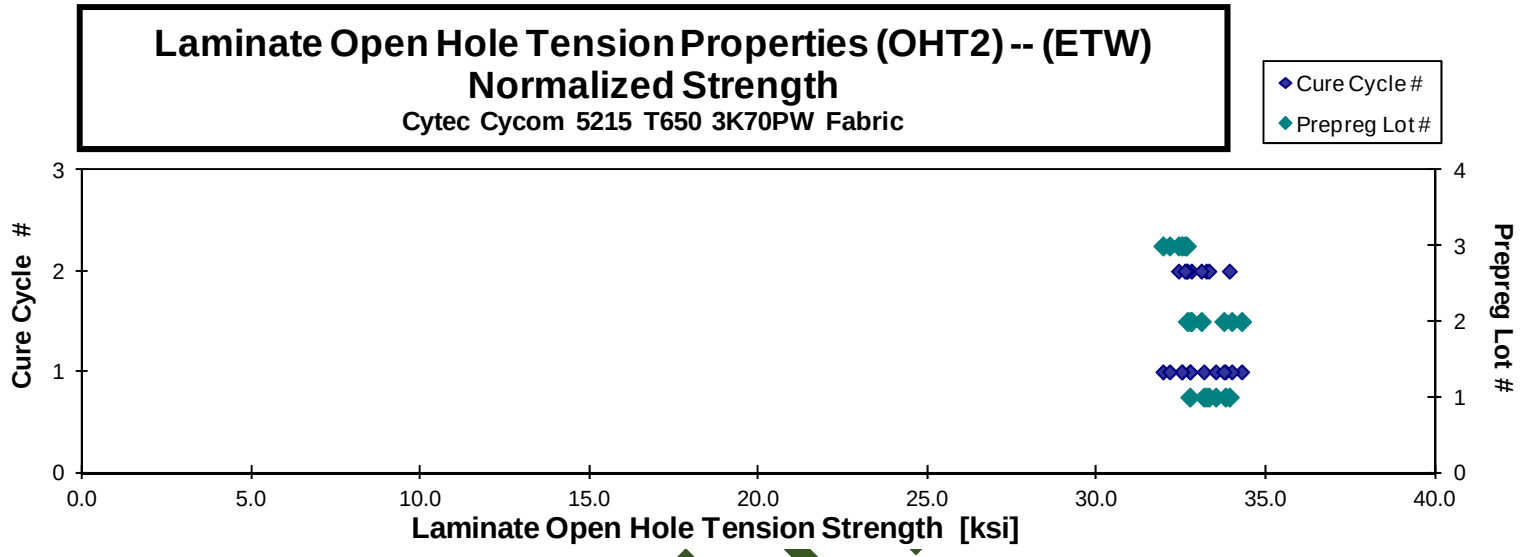
Laminate Open Hole Tension Properties (OHT2) -- (ETW)
Strength
Cytec Cycom 5215 T650 3K70PW Fabric

normalizing t_{ply} [in]: 0.0081

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]
C0FEA11BM	A	C1	1	1	32.196	0.165	20	AGM	0.0082	32.746
C0FEA11CM	A	C1	1	1	32.632	0.165	20	AGM	0.0082	33.159
C0FEA11DM	A	C1	1	1	32.862	0.165	20	AGM	0.0083	33.511
C0FEA11EM	A	C1	1	1	33.324	0.164	20	AGM	0.0082	33.797
C0FEA219M	A	C2	1	2	32.606	0.165	20	AGM	0.0083	33.233
C0FEA21AM	A	C2	1	2	32.517	0.166	20	AGM	0.0083	33.309
C0FEA21BM	A	C2	1	2	33.141	0.166	20	AGM	0.0083	33.915
C0FEB119M	B	C1	2	1	34.148	0.163	20	AGM	0.0081	34.278
C0FEB11AM	B	C1	2	1	33.985	0.162	20	AGM	0.0081	33.985
C0FEB11BM	B	C1	2	1	34.274	0.160	20	AGM	0.0080	33.752
C0FEB11CM	B	C1	2	1	32.982	0.161	20	AGM	0.0080	32.755
C0FEB219M	B	C2	2	2	32.657	0.163	20	AGM	0.0081	32.791
C0FEB21AM	B	C2	2	2	33.317	0.161	20	AGM	0.0080	33.084
C0FEB21BM	B	C2	2	2	32.774	0.162	20	AGM	0.0081	32.673
C0FEC119M	C	C1	3	1	33.476	0.157	20	AGM	0.0079	32.515
C0FEC11AM	C	C1	3	1	32.602	0.159	20	AGM	0.0079	31.952
C0FEC11BM	C	C1	3	1	33.493	0.157	20	AGM	0.0079	32.501
C0FEC11CM	C	C1	3	1	33.536	0.155	20	AGM	0.0078	32.149
C0FEC219M	C	C2	3	2	33.479	0.158	20	AGM	0.0079	32.645
C0FEC21AM	C	C2	3	2	33.152	0.158	20	AGM	0.0079	32.412
C0FEC21BM	C	C2	3	2	33.756	0.156	20	AGM	0.0078	32.599

Average	**33.186**	
Standard Dev.	**0.570**	
Coeff. of Var. [%]	**1.719**	
Min.	**32.196**	
Max.	**34.274**	
Number of Spec.	**21**	

$Average_{norm}$	**0.00806**	**33.036**
$Standard\ Dev._{norm}$		**0.643**
$Coeff.\ of\ Var.\ [\%]_{norm}$		**1.947**
Min.	**0.0078**	**31.952**
Max.	**0.0083**	**34.278**
Number of Spec.		**21**


Laminate Open Hole Tension Properties (OHT2) -- (ETW)
Normalized Strength
Cytec Cycom 5215 T650 3K70PW Fabric
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 Tension Strength [ksi]

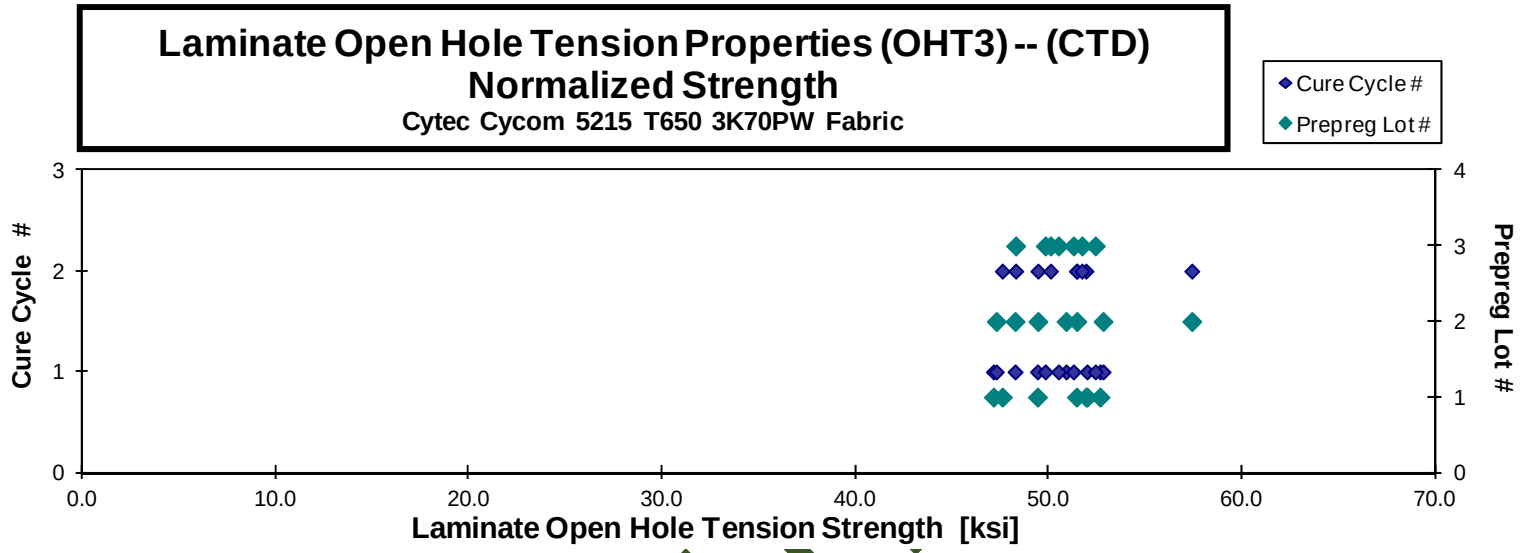
4.16 "40/20/40" Open-Hole Tension 3 Properties (OHT3)

Laminate Open Hole Tension Properties (OHT3) -- (CTD) Strength
Cytec Cycom 5215 T650 3K70PW Fabric

normalizing t_{ply} [in]: 0.0081

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]
C0FFA117B	A	C1	1	1	45.368	0.126	15	LGM	0.0084	47.142
C0FFA118B	A	C1	1	1	51.329	0.125	15	LGM	0.0083	52.660
C0FFA119B	A	C1	1	1	47.996	0.125	15	LGM	0.0083	49.418
C0FFA11AB	A	C1	1	1	50.947	0.124	15	LGM	0.0083	51.989
C0FFA215B	A	C2	1	2	50.897	0.124	15	LGM	0.0083	51.930
C0FFA216B	A	C2	1	2	47.054	0.123	15	LGM	0.0082	47.602
C0FFA217B	A	C2	1	2	51.718	0.121	15	LGM	0.0081	51.442
C0FFB115B	B	C1	2	1	48.362	0.121	15	LGM	0.0081	48.262
C0FFB116B	B	C1	2	1	51.184	0.121	15	LGM	0.0081	50.904
C0FFB117B	B	C1	2	1	47.467	0.121	15	LGM	0.0081	47.291
C0FFB118B	B	C1	2	1	52.744	0.122	15	LGM	0.0081	52.817
C0FFB215B	B	C2	2	2	57.489	0.121	15	LGM	0.0081	57.410
C0FFB216B	B	C2	2	2	49.181	0.122	15	LGM	0.0081	49.445
C0FFB217B	B	C2	2	2	51.925	0.120	15	LGM	0.0080	51.455
C0FFC115B	C	C1	3	1	49.989	0.121	15	LGM	0.0081	49.825
C0FFC116B	C	C1	3	1	51.368	0.119	15	LGM	0.0080	50.508
C0FFC117B	C	C1	3	1	52.707	0.118	15	LGM	0.0079	51.282
C0FFC118B	C	C1	3	1	53.410	0.119	15	LGM	0.0079	52.414
C0FFC215B	C	C2	3	2	47.934	0.122	15	LGM	0.0082	48.295
C0FFC216B	C	C2	3	2	51.257	0.123	15	LGM	0.0082	51.722
C0FFC217B	C	C2	3	2	50.886	0.120	15	LGM	0.0080	50.097

	Strength [ksi]		$Strength_{norm}$ [ksi]
Average	50.534	$Average_{norm}$	50.662
Standard Dev.	2.651	$Standard\ Dev._{norm}$	2.366
Coeff. of Var. [%]	5.246	$Coeff.\ of\ Var.\ [\%]_{norm}$	4.670
Min.	45.368	Min.	47.142
Max.	57.489	Max.	57.410
Number of Spec.	21	Number of Spec.	21


Laminate Open Hole Tension Properties (OHT3) -- (CTD)
Normalized Strength
Cytec Cycom 5215 T650 3K70PW Fabric
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 Tension Strength [ksi]

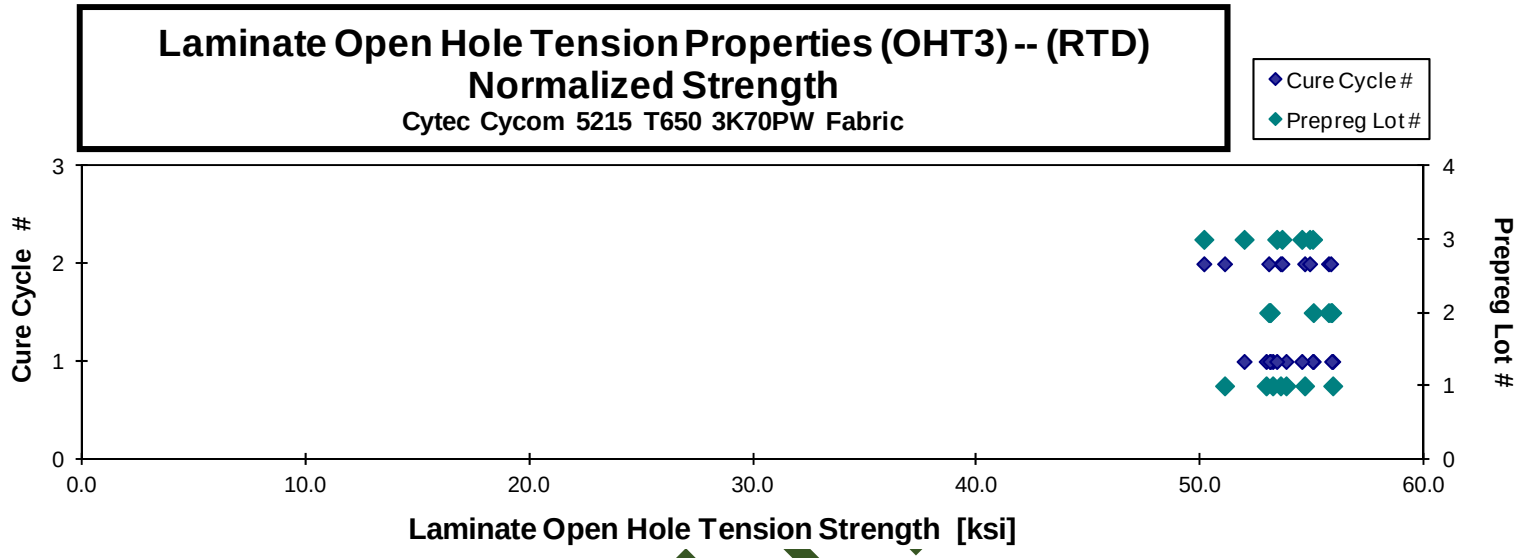
Laminate Open Hole Tension Properties (OHT3) -- (RTD) Strength

Cytec Cycom 5215 T650 3K70PW Fabric

normalizing t_{ply} [in]: 0.0081

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]
C0FFA111A	A	C1	1	1	52.906	0.122	15	LGM	0.0081	52.935
C0FFA112A	A	C1	1	1	52.610	0.124	15	LGM	0.0083	53.823
C0FFA113A	A	C1	1	1	53.950	0.126	15	LGM	0.0084	55.911
C0FFA115A	A	C1	1	1	51.672	0.125	15	LGM	0.0083	53.224
C0FFA211A	A	C2	1	2	53.686	0.121	15	LGM	0.0081	53.576
C0FFA212A	A	C2	1	2	50.576	0.123	15	LGM	0.0082	51.076
C0FFA213A	A	C2	1	2	54.349	0.122	15	LGM	0.0081	54.654
C0FFB111A	B	C1	2	1	55.434	0.121	15	LGM	0.0080	55.039
C0FFB112A	B	C1	2	1	53.330	0.121	15	LGM	0.0081	53.117
C0FFB113A	B	C1	2	1	53.512	0.121	15	LGM	0.0080	53.094
C0FFB114A	B	C1	2	1	55.629	0.122	15	LGM	0.0081	55.865
C0FFB211A	B	C2	2	2	53.786	0.120	15	LGM	0.0080	53.049
C0FFB212A	B	C2	2	2	56.324	0.120	15	LGM	0.0080	55.721
C0FFB213A	B	C2	2	2	55.545	0.122	15	LGM	0.0081	55.819
C0FFC111A	C	C1	3	1	52.796	0.120	15	LGM	0.0080	51.949
C0FFC112A	C	C1	3	1	55.473	0.120	15	LGM	0.0080	55.009
C0FFC113A	C	C1	3	1	55.702	0.119	15	LGM	0.0079	54.525
C0FFC114A	C	C1	3	1	54.285	0.120	15	LGM	0.0080	53.407
C0FFC211A	C	C2	3	2	50.177	0.121	15	LGM	0.0081	50.150
C0FFC212A	C	C2	3	2	54.616	0.122	15	LGM	0.0081	54.879
C0FFC213A	C	C2	3	2	53.226	0.122	15	LGM	0.0082	53.642

	Strength		$Strength_{norm}$
Average	53.790	$Average_{norm}$	53.832
Standard Dev.	1.658	$Standard\ Dev._{norm}$	1.564
Coeff. of Var. [%]	3.082	$Coeff.\ of\ Var.\ [\%]_{norm}$	2.905
Min.	50.177	Min.	50.150
Max.	56.324	Max.	55.911
Number of Spec.	21	Number of Spec.	21


Laminate Open Hole Tension Properties (OHT3) -- (RTD)
Normalized Strength
Cytec Cycom 5215 T650 3K70PW Fabric
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 Open Hole Tension Strength [ksi]

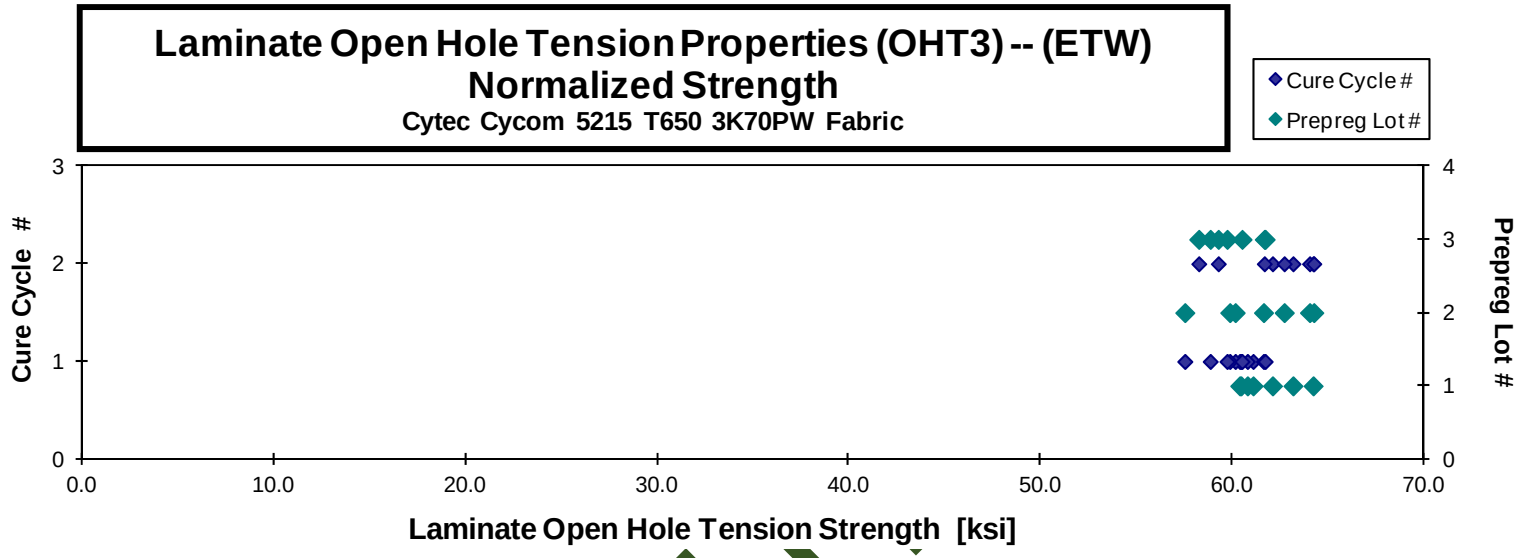
Laminate Open Hole Tension Properties (OHT3) -- (ETW)
Strength
Cytec Cycom 5215 T650 3K70PW Fabric

normalizing t_{ply} [in]: 0.0081

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]
C0FFA11CM	A	C1	1	1	58.583	0.127	15	LGM	0.0084	61.074
C0FFA11DM	A	C1	1	1	58.713	0.126	15	LGM	0.0084	60.775
C0FFA11EM	A	C1	1	1	58.198	0.126	15	LGM	0.0084	60.441
C0FFA11FM	A	C1	1	1	58.869	0.125	15	LGM	0.0083	60.379
C0FFA219M	A	C2	1	2	61.488	0.123	15	LGM	0.0082	62.087
C0FFA21AM	A	C2	1	2	62.293	0.123	15	LGM	0.0082	63.156
C0FFA21BM	A	C2	1	2	63.226	0.123	15	LGM	0.0082	64.206
C0FFB119M	B	C1	2	1	60.116	0.122	15	LGM	0.0081	60.141
C0FFB11AM	B	C1	2	1	57.657	0.121	15	LGM	0.0081	57.514
C0FFB11BM	B	C1	2	1	62.138	0.120	15	LGM	0.0080	61.618
C0FFB11CM	B	C1	2	1	60.195	0.121	15	LGM	0.0081	59.857
C0FFB219M	B	C2	2	2	61.760	0.123	15	LGM	0.0082	62.700
C0FFB21AM	B	C2	2	2	63.793	0.122	15	LGM	0.0081	64.020
C0FFB21BM	B	C2	2	2	63.797	0.122	15	LGM	0.0082	64.243
C0FFC119M	C	C1	3	1	61.873	0.119	15	LGM	0.0079	60.498
C0FFC11AM	C	C1	3	1	62.182	0.121	15	LGM	0.0080	61.704
C0FFC11BM	C	C1	3	1	59.090	0.121	15	LGM	0.0081	58.839
C0FFC11CM	C	C1	3	1	60.406	0.120	15	LGM	0.0080	59.719
C0FFC219M	C	C2	3	2	61.932	0.121	15	LGM	0.0081	61.660
C0FFC21AM	C	C2	3	2	58.613	0.121	15	LGM	0.0080	58.243
C0FFC21BM	C	C2	3	2	59.252	0.122	15	LGM	0.0081	59.261

Average	**60.675**	
Standard Dev.	**1.923**	
Coeff. of Var. [%]	**3.170**	
Min.	**57.657**	
Max.	**63.797**	
Number of Spec.	**21**	

$Average_{norm}$	**0.00815**	**61.054**
$Standard\ Dev._{norm}$		**1.898**
$Coeff.\ of\ Var.\ [\%]_{norm}$		**3.108**
Min.	**0.0079**	**57.514**
Max.	**0.0084**	**64.243**
Number of Spec.		**21**


Laminate Open Hole Tension Properties (OHT3) -- (ETW)
Normalized Strength
Cytec Cycom 5215 T650 3K70PW Fabric
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 Tension Strength [ksi]

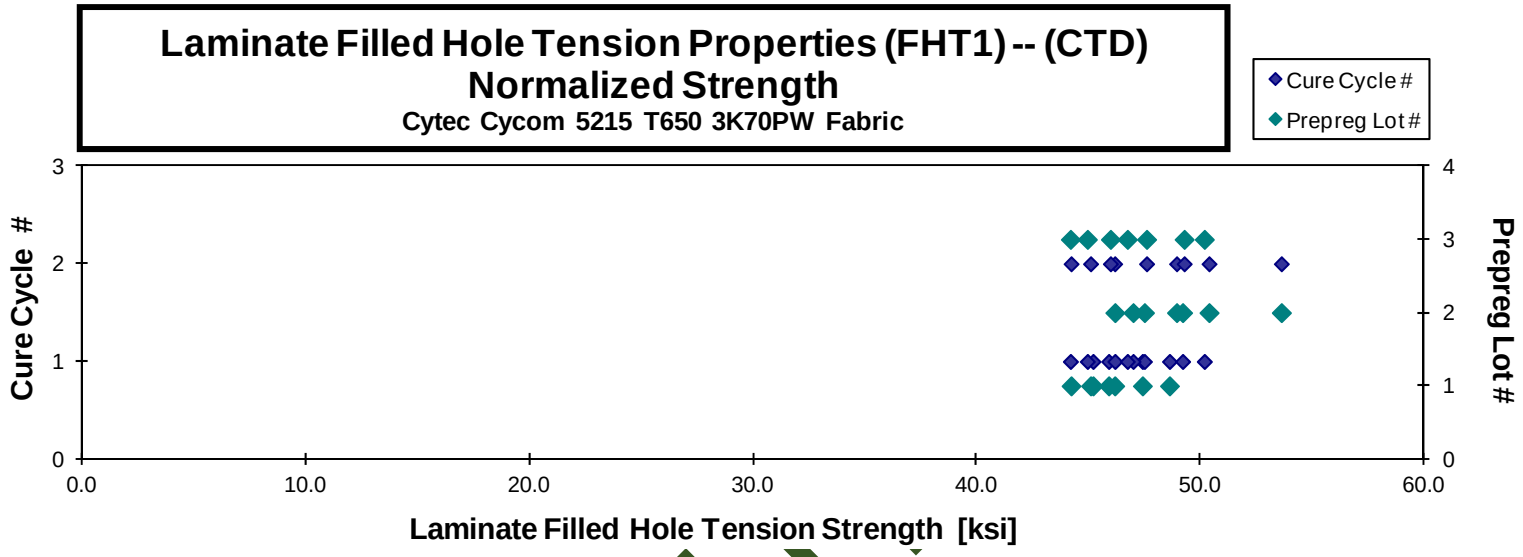
4.17 "25/50/25" Filled-Hole Tension 1 Properties (FHT1)

Laminate Filled Hole Tension Properties (FHT1) -- (CTD)
Strength
Cytec Cycom 5215 T650 3K70PW Fabric

normalizing t_{ply} [in]: 0.0081

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]
C0F4A117B	A	C1	1	1	46.640	0.132	16	LGM	0.0082	47.402
C0F4A118B	A	C1	1	1	45.157	0.132	16	LGM	0.0082	45.895
C0F4A119B	A	C1	1	1	44.440	0.132	16	LGM	0.0082	45.195
C0F4A11AB	A	C1	1	1	47.621	0.132	16	LGM	0.0083	48.613
C0F4A215B	A	C2	1	2	44.300	0.132	16	LGM	0.0082	45.086
C0F4A216B	A	C2	1	2	45.329	0.132	16	LGM	0.0082	46.163
C0F4A217B	A	C2	1	2	43.769	0.131	16	LGM	0.0082	44.214
C0F4B115B	B	C1	2	1	47.553	0.129	16	LGM	0.0081	47.492
C0F4B116B	B	C1	2	1	49.589	0.129	16	LGM	0.0080	49.200
C0F4B117B	B	C1	2	1	47.721	0.128	16	LGM	0.0080	46.985
C0F4B118B	B	C1	2	1	46.484	0.129	16	LGM	0.0080	46.173
C0F4B215B	B	C2	2	2	53.856	0.129	16	LGM	0.0081	53.614
C0F4B216B	B	C2	2	2	49.132	0.129	16	LGM	0.0081	48.930
C0F4B217B	B	C2	2	2	51.164	0.128	16	LGM	0.0080	50.381
C0F4C115B	C	C1	3	1	44.498	0.129	16	LGM	0.0080	44.183
C0F4C116B	C	C1	3	1	47.238	0.128	16	LGM	0.0080	46.728
C0F4C117B	C	C1	3	1	45.668	0.128	16	LGM	0.0080	44.939
C0F4C118B	C	C1	3	1	50.711	0.128	16	LGM	0.0080	50.170
C0F4C215B	C	C2	3	2	46.889	0.127	16	LGM	0.0079	45.973
C0F4C216B	C	C2	3	2	48.429	0.127	16	LGM	0.0080	47.588
C0F4C217B	C	C2	3	2	50.383	0.127	16	LGM	0.0079	49.269

Average	**47.456**	**$Average_{norm}$**	**0.0081**	**47.342**
Standard Dev.	**2.633**	**$Standard\ Dev._{norm}$**		**2.350**
Coeff. of Var. [%]	**5.549**	**$Coeff.\ of\ Var.\ [\%]_{norm}$**		**4.963**
Min.	**43.769**	**Min.**	**0.0079**	**44.183**
Max.	**53.856**	**Max.**	**0.0083**	**53.614**
Number of Spec.	**21**	**Number of Spec.**		**21**



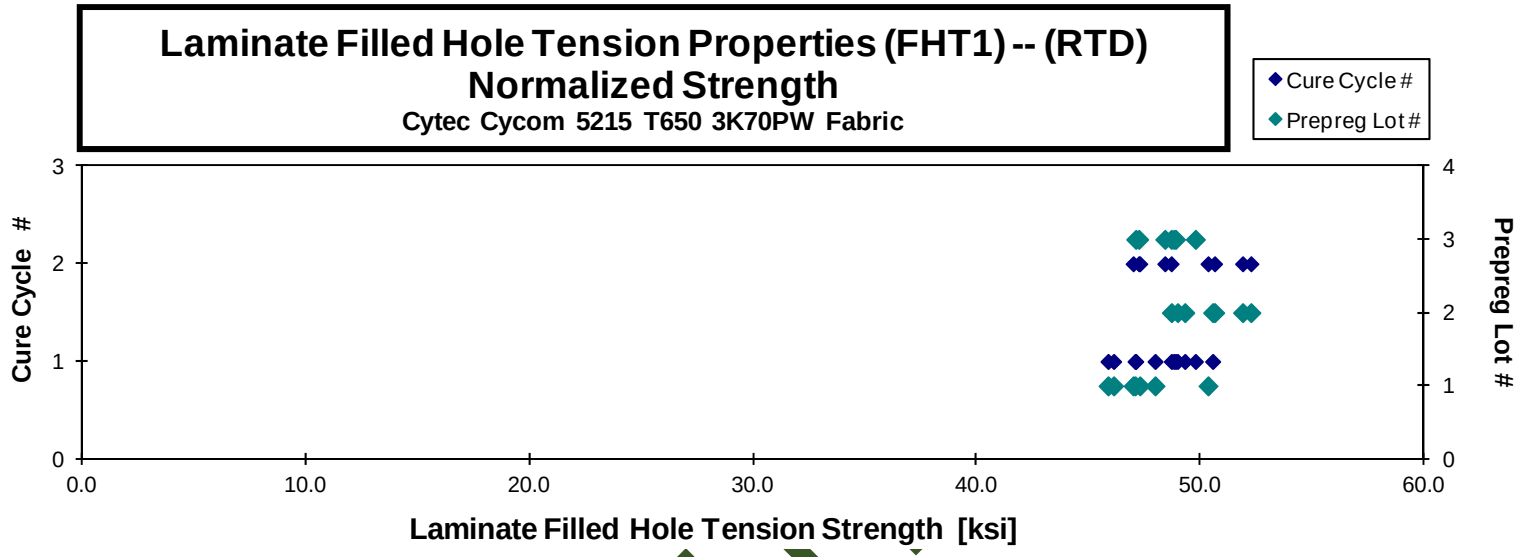
Laminate Filled Hole Tension Properties (FHT1) -- (RTD)
Strength
Cytec Cycom 5215 T650 3K70PW Fabric

normalizing t_{ply} [in]: 0.0081

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]
C0F4A111A	A	C1	1	1	45.391	0.132	16	LGM	0.0082	46.114
C0F4A112A	A	C1	1	1	47.008	0.132	16	LGM	0.0083	47.969
C0F4A113A	A	C1	1	1	44.981	0.132	16	LGM	0.0083	45.866
C0F4A116A	A	C1	1	1	45.784	0.133	16	LGM	0.0083	47.073
C0F4A211A	A	C2	1	2	46.413	0.132	16	LGM	0.0083	47.285
C0F4A212A	A	C2	1	2	49.345	0.132	16	LGM	0.0083	50.335
C0F4A213A	A	C2	1	2	45.569	0.134	16	LGM	0.0084	46.987
C0F4B111A	B	C1	2	1	48.899	0.129	16	LGM	0.0081	48.698
C0F4B112A	B	C1	2	1	49.835	0.128	16	LGM	0.0080	49.297
C0F4B113A	B	C1	2	1	50.988	0.128	16	LGM	0.0080	50.543
C0F4B114A	B	C1	2	1	49.124	0.129	16	LGM	0.0081	48.973
C0F4B212A	B	C2	2	2	50.887	0.129	16	LGM	0.0081	50.631
C0F4B213A	B	C2	2	2	52.559	0.129	16	LGM	0.0081	52.254
C0F4B214A	B	C2	2	2	52.257	0.129	16	LGM	0.0080	51.880
C0F4C111A	C	C1	3	1	50.784	0.127	16	LGM	0.0079	49.772
C0F4C112A	C	C1	3	1	47.748	0.128	16	LGM	0.0080	47.103
C0F4C113A	C	C1	3	1	49.418	0.128	16	LGM	0.0080	48.884
C0F4C114A	C	C1	3	1	49.321	0.128	16	LGM	0.0080	48.801
C0F4C211A	C	C2	3	2	49.669	0.126	16	LGM	0.0079	48.404
C0F4C212A	C	C2	3	2	47.995	0.128	16	LGM	0.0080	47.236
C0F4C214A	C	C2	3	2	49.136	0.128	16	LGM	0.0080	48.688

Average	48.720	
Standard Dev.	2.219	
Coeff. of Var. [%]	4.554	
Min.	44.981	
Max.	52.559	
Number of Spec.	21	

$Average_{norm}$	0.0081	48.704
$Standard\ Dev._{norm}$		1.758
$Coeff.\ of\ Var.\ [\%]_{norm}$		3.609
Min.	0.0079	45.866
Max.	0.0084	52.254
Number of Spec.		21


Laminate Filled Hole Tension Properties (FHT1) -- (RTD)
Normalized Strength
Cytec Cycom 5215 T650 3K70PW Fabric
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]

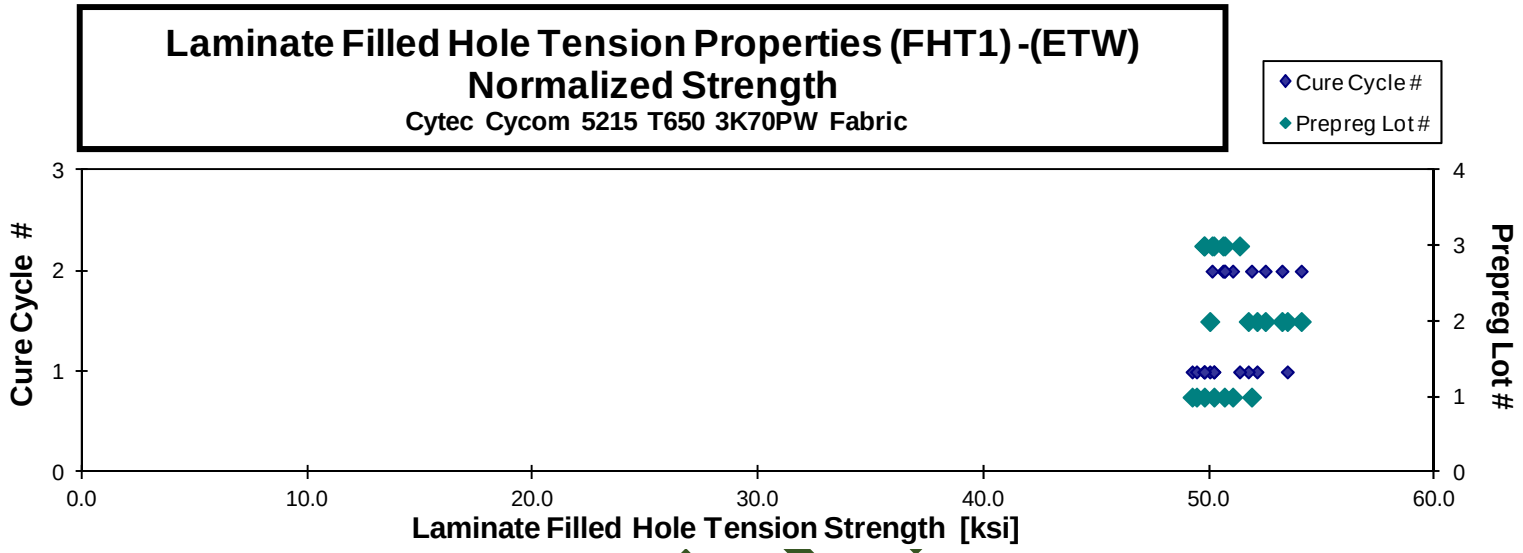
Laminate Filled Hole Tension Properties (FHT1) -- (ETW)
Strength
Cytec Cycom 5215 T650 3K70PW Fabric

normalizing t_{ply} [in]: 0.0081

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]
C0F4A11CM	A	C1	1	1	48.313	0.132	16	MGM	0.0083	49.220
C0F4A11DM	A	C1	1	1	48.257	0.133	16	MGM	0.0083	49.418
C0F4A11EM	A	C1	1	1	48.814	0.132	16	LGM	0.0083	49.762
C0F4A11FM	A	C1	1	1	49.047	0.133	16	LGM	0.0083	50.189
C0F4A21AM	A	C2	1	2	50.321	0.134	16	LGM	0.0083	51.855
C0F4A21BM	A	C2	1	2	49.916	0.132	16	LGM	0.0083	51.020
C0F4A21CM	A	C2	1	2	49.044	0.134	16	LGM	0.0084	50.653
C0F4B119M	B	C1	2	1	50.471	0.128	16	LGM	0.0080	50.004
C0F4B11AM	B	C1	2	1	52.503	0.129	16	LGM	0.0080	52.098
C0F4B11BM	B	C1	2	1	53.964	0.128	16	LGM	0.0080	53.444
C0F4B11CM	B	C1	2	1	52.101	0.129	16	LGM	0.0080	51.712
C0F4B219M	B	C2	2	2	53.469	0.129	16	LGM	0.0081	53.208
C0F4B21AM	B	C2	2	2	54.243	0.129	16	LGM	0.0081	54.061
C0F4B21BM	B	C2	2	2	52.546	0.129	16	LGM	0.0081	52.465
C0F4C119M	C	C1	3	1	52.187	0.127	16	LGM	0.0080	51.327
C0F4C11AM	C	C1	3	1	50.721	0.128	16	AGM	0.0080	50.179
C0F4C11BM	C	C1	3	1	50.937	0.127	16	AGM	0.0079	49.739
C0F4C11CM	C	C1	3	1	50.236	0.128	16	LGM	0.0080	49.764
C0F4C219M	C	C2	3	2	51.794	0.127	16	MGM	0.0079	50.589
C0F4C21AM	C	C2	3	2	51.558	0.127	16	LGM	0.0080	50.663
C0F4C21BM	C	C2	3	2	50.737	0.128	16	LGM	0.0080	50.104

Average	51.009	
Standard Dev.	1.781	
Coeff. of Var. [%]	3.491	
Min.	48.257	
Max.	54.243	
Number of Spec.	21	

$Average_{norm}$	0.0081	51.023
$Standard\ Dev._{norm}$		1.392
$Coeff.\ of\ Var.\ [\%]_{norm}$		2.728
Min.	0.0079	49.220
Max.	0.0084	54.061
Number of Spec.		21


Laminate Filled Hole Tension Properties (FHT1) -(ETW)
Normalized Strength
Cytec Cycom 5215 T650 3K70PW Fabric
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]

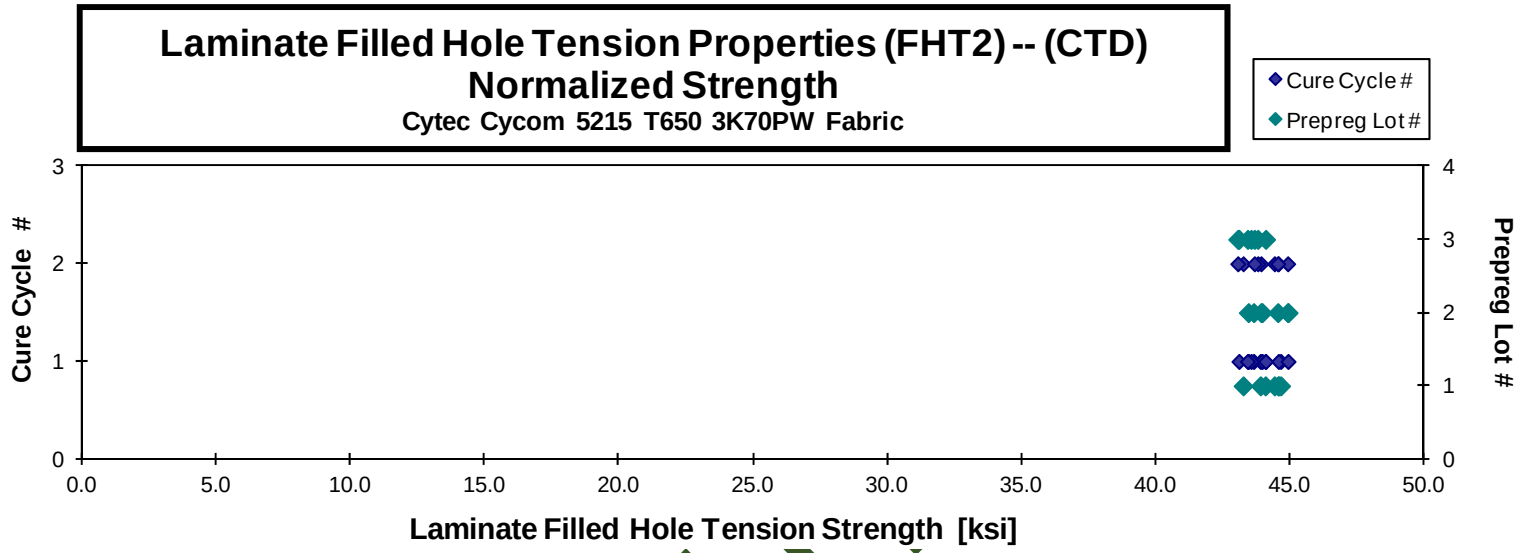
4.18 "10/80/10" Filled-Hole Tension 2 Properties (FHT2)

Laminate Filled Hole Tension Properties (FHT2) -- (CTD) Strength
Cytec Cycom 5215 T650 3K70PW Fabric

normalizing t_{ply} [in]: 0.0081

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]
C0F5A116B	A	C1	1	1	44.017	0.164	20	AGM	0.0082	44.651
C0F5A117B	A	C1	1	1	43.457	0.166	20	AGM	0.0083	44.571
C0F5A118B	A	C1	1	1	43.070	0.166	20	AGM	0.0083	44.080
C0F5A119B	A	C1	1	1	43.229	0.165	20	AGM	0.0082	43.896
C0F5A215B	A	C2	1	2	42.946	0.168	20	AGM	0.0084	44.422
C0F5A216B	A	C2	1	2	42.170	0.166	20	AGM	0.0083	43.255
C0F5A217B	A	C2	1	2	43.691	0.165	20	AGM	0.0083	44.563
C0F5B115B	B	C1	2	1	43.362	0.162	20	AGM	0.0081	43.447
C0F5B116B	B	C1	2	1	43.629	0.162	20	AGM	0.0081	43.643
C0F5B117B	B	C1	2	1	43.460	0.164	20	AGM	0.0082	43.961
C0F5B118B	B	C1	2	1	45.107	0.161	20	AGM	0.0081	44.926
C0F5B215B	B	C2	2	2	44.250	0.164	20	AGM	0.0082	44.915
C0F5B216B	B	C2	2	2	43.716	0.163	20	AGM	0.0081	43.919
C0F5B217B	B	C2	2	2	44.536	0.162	20	AGM	0.0081	44.546
C0F5C115B	C	C1	3	1	44.763	0.160	20	AGM	0.0080	44.091
C0F5C116B	C	C1	3	1	44.615	0.158	20	AGM	0.0079	43.550
C0F5C117B	C	C1	3	1	44.622	0.156	20	AGM	0.0078	43.098
C0F5C118B	C	C1	3	1	44.717	0.157	20	AGM	0.0079	43.419
C0F5C215B	C	C2	3	2	44.261	0.158	20	AGM	0.0079	43.054
C0F5C216B	C	C2	3	2	44.920	0.158	20	AGM	0.0079	43.802
C0F5C217B	C	C2	3	2	45.073	0.157	20	AGM	0.0078	43.672

Average	**43.982**		**Average$_{norm}$**	**0.0081**	**43.975**
Standard Dev.	**0.798**		**Standard Dev.$_{norm}$**		**0.576**
Coeff. of Var. [%]	**1.813**		**Coeff. of Var. [%]$_{norm}$**		**1.311**
Min.	**42.170**		**Min.**	**0.0078**	**43.054**
Max.	**45.107**		**Max.**	**0.0084**	**44.926**
Number of Spec.	**21**		**Number of Spec.**		**21**


Laminate Filled Hole Tension Properties (FHT2) -- (CTD)
Normalized Strength
Cytec Cycom 5215 T650 3K70PW Fabric
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]

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

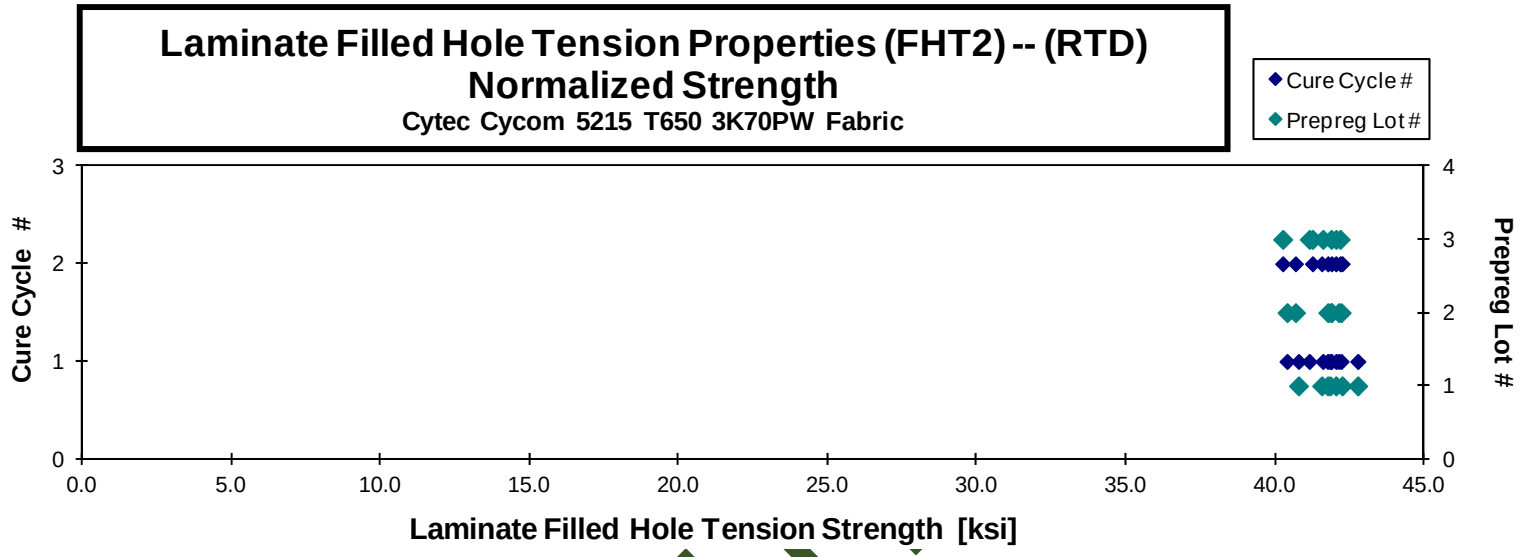
Cytec Cycom 5215 T650 3K70PW Fabric

normalizing t_{ply} [in]: 0.0081

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]
C0F5A111A	A	C1	1	1	41.950	0.161	20	AGM	0.0081	41.764
C0F5A112A	A	C1	1	1	42.566	0.163	20	AGM	0.0081	42.772
C0F5A113A	A	C1	1	1	41.624	0.163	20	AGM	0.0081	41.843
C0F5A114A	A	C1	1	1	39.955	0.165	20	AGM	0.0083	40.786
C0F5A212A	A	C2	1	2	41.555	0.164	20	AGM	0.0082	42.039
C0F5A213A	A	C2	1	2	40.619	0.166	20	AGM	0.0083	41.563
C0F5A214A	A	C2	1	2	41.288	0.166	20	AGM	0.0083	42.248
C0F5B111A	B	C1	2	1	42.630	0.160	20	AGM	0.0080	42.135
C0F5B112A	B	C1	2	1	41.267	0.164	20	AGM	0.0082	41.865
C0F5B113A	B	C1	2	1	40.194	0.163	20	AGM	0.0081	40.401
C0F5B114A	B	C1	2	1	41.684	0.164	20	AGM	0.0082	42.216
C0F5B211A	B	C2	2	2	42.072	0.161	20	AGM	0.0080	41.769
C0F5B212A	B	C2	2	2	41.318	0.164	20	AGM	0.0082	41.892
C0F5B213A	B	C2	2	2	40.479	0.163	20	AGM	0.0081	40.683
C0F5C111A	C	C1	3	1	43.352	0.157	20	AGM	0.0078	41.880
C0F5C112A	C	C1	3	1	43.218	0.158	20	AGM	0.0079	42.044
C0F5C113A	C	C1	3	1	42.112	0.158	20	AGM	0.0079	41.146
C0F5C114A	C	C1	3	1	42.867	0.157	20	AGM	0.0079	41.601
C0F5C211A	C	C2	3	2	44.145	0.155	20	AGM	0.0077	42.183
C0F5C212A	C	C2	3	2	42.356	0.158	20	AGM	0.0079	41.254
C0F5C213A	C	C2	3	2	41.427	0.157	20	AGM	0.0079	40.255

Average	41.842	
Standard Dev.	1.071	
Coeff. of Var. [%]	2.560	
Min.	39.955	
Max.	44.145	
Number of Spec.	21	

$Average_{norm}$	0.0081	41.635
$Standard\ Dev._{norm}$		0.655
$Coeff.\ of\ Var.\ [\%]_{norm}$		1.574
Min.	0.0077	40.255
Max.	0.0083	42.772
Number of Spec.		21



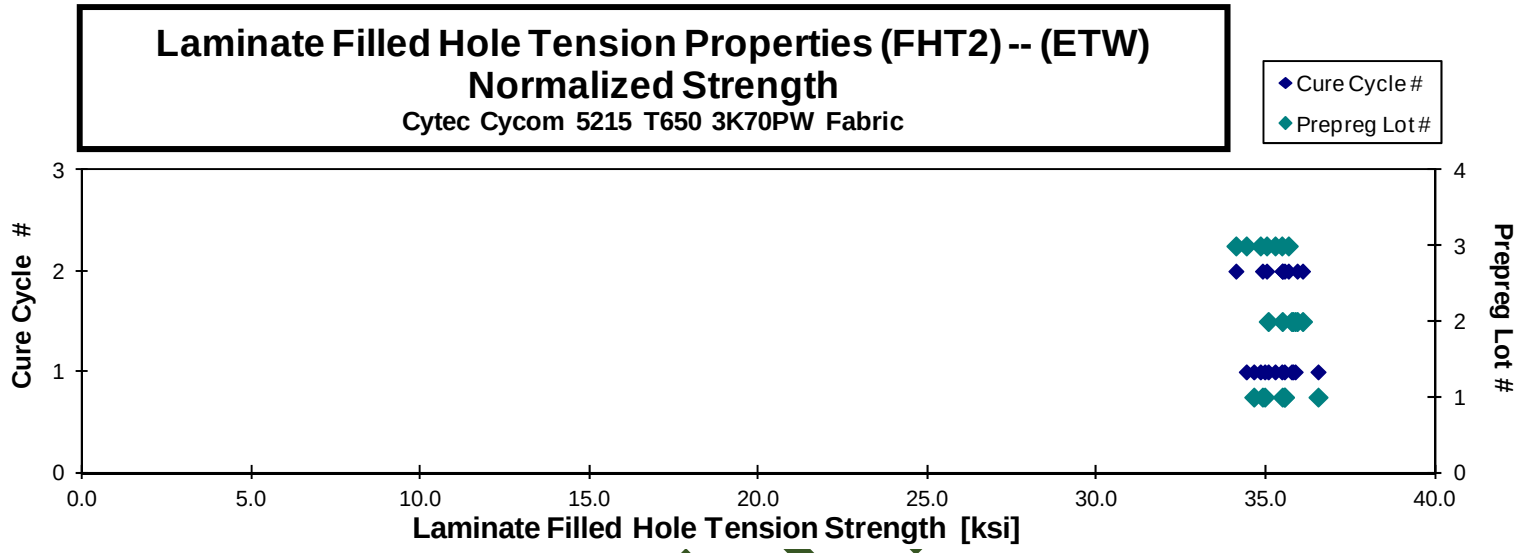
Laminate Filled Hole Tension Properties (FHT2) -- (ETW)
Strength
Cytec Cycom 5215 T650 3K70PW Fabric

normalizing t_{ply} [in]: 0.0081

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]
C0F5A11BM	A	C1	1	1	35.714	0.166	20	AGM	0.0083	36.537
C0F5A11CM	A	C1	1	1	34.617	0.166	20	AGM	0.0083	35.543
C0F5A11DM	A	C1	1	1	34.148	0.166	20	AGM	0.0083	34.960
C0F5A11EM	A	C1	1	1	33.895	0.166	20	AGM	0.0083	34.638
C0F5A219M	A	C2	1	2	34.665	0.166	20	AGM	0.0083	35.546
C0F5A21AM	A	C2	1	2	34.793	0.165	20	AGM	0.0083	35.480
C0F5A21BM	A	C2	1	2	33.595	0.168	20	AGM	0.0084	34.894
C0F5B119M	B	C1	2	1	35.444	0.160	20	AGM	0.0080	35.065
C0F5B11AM	B	C1	2	1	35.513	0.163	20	AGM	0.0082	35.798
C0F5B11BM	B	C1	2	1	35.904	0.161	20	AGM	0.0081	35.753
C0F5B11CM	B	C1	2	1	35.739	0.163	20	AGM	0.0081	35.861
C0F5B219M	B	C2	2	2	35.485	0.165	20	AGM	0.0082	36.080
C0F5B21AM	B	C2	2	2	35.636	0.163	20	AGM	0.0082	35.918
C0F5B21BM	B	C2	2	2	35.342	0.163	20	AGM	0.0081	35.480
C0F5C119M	C	C1	3	1	36.132	0.159	20	AGM	0.0080	35.467
C0F5C11AM	C	C1	3	1	36.332	0.157	20	AGM	0.0079	35.267
C0F5C11BM	C	C1	3	1	35.366	0.158	20	AGM	0.0079	34.416
C0F5C11CM	C	C1	3	1	35.646	0.158	20	AGM	0.0079	34.832
C0F5C219M	C	C2	3	2	36.526	0.158	20	AGM	0.0079	35.658
C0F5C21AM	C	C2	3	2	35.657	0.155	20	AGM	0.0077	34.109
C0F5C21BM	C	C2	3	2	36.662	0.155	20	AGM	0.0077	35.017

Average	35.372	
Standard Dev.	0.823	
Coeff. of Var. [%]	2.326	
Min.	33.595	
Max.	36.662	
Number of Spec.	21	

$Average_{norm}$	0.0081	35.348
$Standard\ Dev._{norm}$		0.585
$Coeff.\ of\ Var.\ [\%]_{norm}$		1.656
Min.	0.0077	34.109
Max.	0.0084	36.537
Number of Spec.		21


Laminate Filled Hole Tension Properties (FHT2) -- (ETW)
Normalized Strength
Cytec Cycom 5215 T650 3K70PW Fabric
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 Filled Hole Tension Strength [ksi]

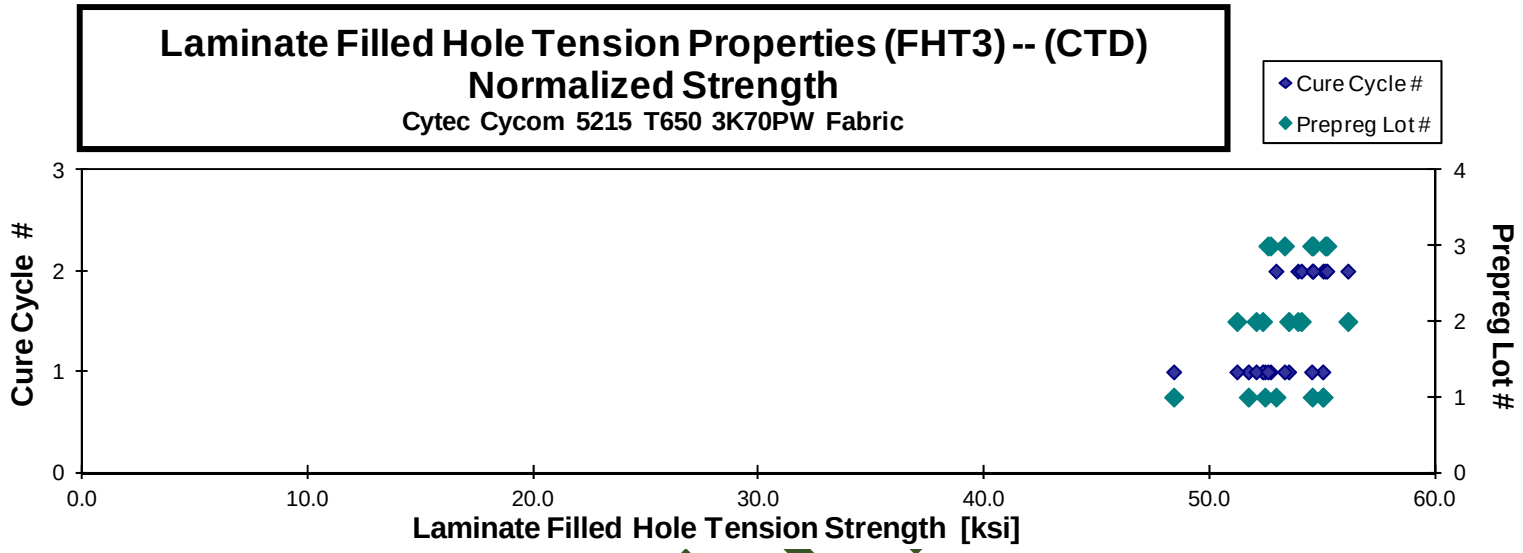
4.19 "40/20/40" Filled-Hole Tension 3 Properties (FHT3)

Laminate Filled Hole Tension Properties (FHT3) -- (CTD) Strength
Cytec Cycom 5215 T650 3K70PW Fabric

normalizing t_{ply} [in]: 0.0081

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]
C0F6A116B	A	C1	1	1	51.008	0.125	15	LGM	0.0083	52.450
C0F6A117B	A	C1	1	1	54.212	0.123	15	LGM	0.0082	55.015
C0F6A118B	A	C1	1	1	51.438	0.122	15	LGM	0.0081	51.714
C0F6A119B	A	C1	1	1	48.444	0.121	15	LGM	0.0081	48.404
C0F6A215B	A	C2	1	2	51.553	0.125	15	LGM	0.0083	52.939
C0F6A216B	A	C2	1	2	53.468	0.124	15	LGM	0.0083	54.546
C0F6A217B	A	C2	1	2	54.455	0.123	15	LGM	0.0082	55.030
C0F6B115B	B	C1	2	1	52.913	0.120	15	LGM	0.0080	52.346
C0F6B116B	B	C1	2	1	53.539	0.121	15	LGM	0.0081	53.502
C0F6B117B	B	C1	2	1	53.445	0.118	15	LGM	0.0079	52.059
C0F6B118B	B	C1	2	1	51.848	0.120	15	LGM	0.0080	51.208
C0F6B214B	B	C2	2	2	55.693	0.122	15	LGM	0.0082	56.128
C0F6B215B	B	C2	2	2	53.603	0.122	15	LGM	0.0081	53.912
C0F6B216B	B	C2	2	2	54.567	0.120	15	LGM	0.0080	54.065
C0F6C115B	C	C1	3	1	55.795	0.119	15	LGM	0.0079	54.525
C0F6C116B	C	C1	3	1	55.396	0.116	15	LGM	0.0077	52.699
C0F6C117B	C	C1	3	1	54.783	0.118	15	LGM	0.0079	53.318
C0F6C118B	C	C1	3	1	53.800	0.119	15	LGM	0.0079	52.583
C0F6C215B	C	C2	3	2	57.713	0.116	15	LGM	0.0077	55.124
C0F6C216B	C	C2	3	2	56.627	0.117	15	LGM	0.0078	54.584
C0F6C217B	C	C2	3	2	57.551	0.117	15	LGM	0.0078	55.199

Average	53.898	$Average_{norm}$	0.0080	53.398
Standard Dev.	2.253	$Standard\ Dev._{norm}$		1.752
Coeff. of Var. [%]	4.179	Coeff. of Var. $[\%]_{norm}$		3.282
Min.	48.444	Min.	0.0077	48.404
Max.	57.713	Max.	0.0083	56.128
Number of Spec.	21	Number of Spec.		21


Laminate Filled Hole Tension Properties (FHT3) -- (CTD)
Normalized Strength
Cytec Cycom 5215 T650 3K70PW Fabric
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 (FHT3) -- (RTD) Strength

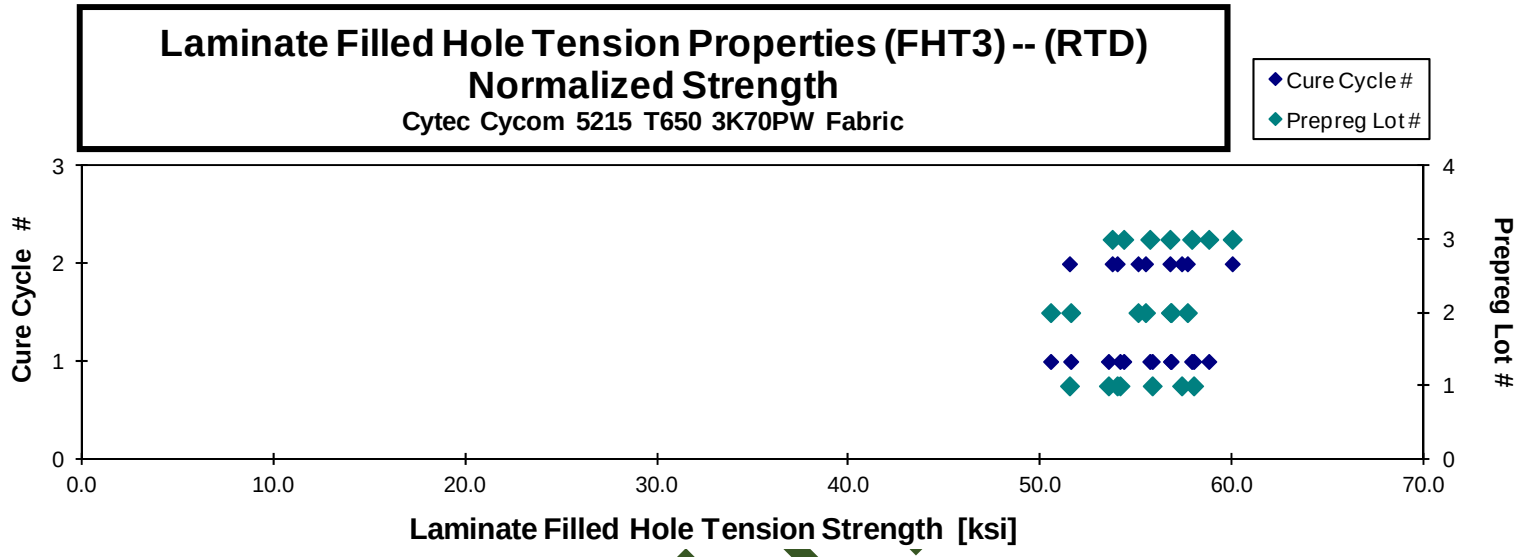
Cytec Cycom 5215 T650 3K70PW Fabric

normalizing t_{ply} [in]: 0.0081

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]
C0F6A111A	A	C1	1	1	55.215	0.123	15	LGM	0.0082	55.814
C0F6A112A	A	C1	1	1	56.798	0.124	15	LGM	0.0083	57.974
C0F6A113A	A	C1	1	1	52.493	0.124	15	LGM	0.0083	53.530
C0F6A114A	A	C1	1	1	53.427	0.123	15	LGM	0.0082	54.131
C0F6A211A	A	C2	1	2	57.536	0.121	15	LGM	0.0081	57.347
C0F6A212A	A	C2	1	2	53.277	0.123	15	LGM	0.0082	53.986
C0F6A213A	A	C2	1	2	50.692	0.123	15	LGM	0.0082	51.499
C0F6B111A	B	C1	2	1	58.043	0.119	15	LGM	0.0079	56.769
C0F6B112A	B	C1	2	1	57.716	0.120	15	LGM	0.0080	56.797
C0F6B113A	B	C1	2	1	51.548	0.122	15	LGM	0.0081	51.562
C0F6B114A	B	C1	2	1	50.336	0.122	15	LGM	0.0081	50.515
C0F6B211A	B	C2	2	2	55.028	0.122	15	LGM	0.0081	55.073
C0F6B212A	B	C2	2	2	54.758	0.123	15	LGM	0.0082	55.464
C0F6B213A	B	C2	2	2	57.386	0.122	15	LGM	0.0081	57.646
C0F6C111A	C	C1	3	1	56.586	0.117	15	LGM	0.0078	54.328
C0F6C112A	C	C1	3	1	60.521	0.116	15	LGM	0.0077	57.873
C0F6C113A	C	C1	3	1	57.325	0.118	15	LGM	0.0079	55.689
C0F6C114A	C	C1	3	1	61.092	0.117	15	LGM	0.0078	58.762
C0F6C211A	C	C2	3	2	62.196	0.117	15	LGM	0.0078	59.987
C0F6C212A	C	C2	3	2	54.670	0.119	15	LGM	0.0080	53.725
C0F6C213A	C	C2	3	2	59.037	0.117	15	LGM	0.0078	56.737

Average	55.985	
Standard Dev.	3.312	
Coeff. of Var. [%]	5.916	
Min.	50.336	
Max.	62.196	
Number of Spec.	21	

$Average_{norm}$	0.0080	55.486
$Standard\ Dev._{norm}$		2.496
$Coeff.\ of\ Var.\ [\%]_{norm}$		4.499
Min.	0.0077	50.515
Max.	0.0083	59.987
Number of Spec.		21


Laminate Filled Hole Tension Properties (FHT3) -- (RTD)
Normalized Strength
Cytec Cycom 5215 T650 3K70PW Fabric
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 Tension Strength [ksi]

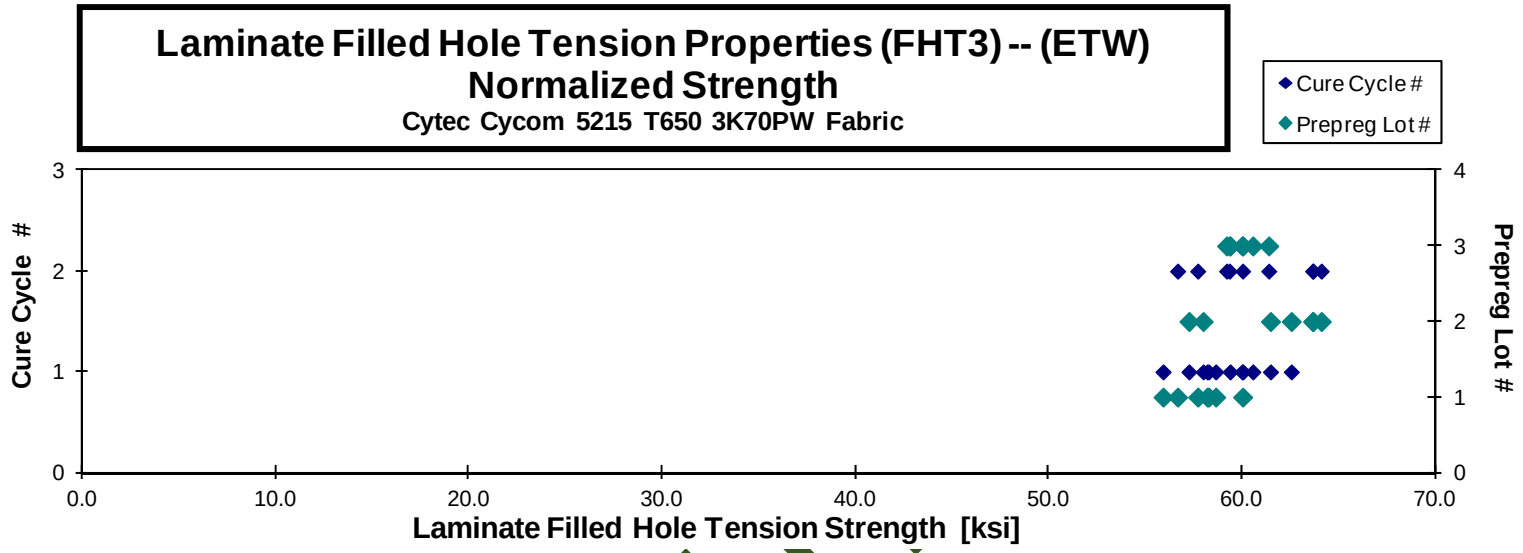
Laminate Filled Hole Tension Properties (FHT3) -- (ETW)
Strength
Cytec Cycom 5215 T650 3K70PW Fabric

normalizing t_{ply} [in]: 0.0081

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]
C0F6A11BM	A	C1	1	1	57.890	0.123	15	LGM	0.0082	58.645
C0F6A11CM	A	C1	1	1	55.593	0.122	15	LGM	0.0081	55.921
C0F6A11DM	A	C1	1	1	57.296	0.124	15	LGM	0.0082	58.279
C0F6A11EM	A	C1	1	1	57.075	0.124	15	LGM	0.0083	58.202
C0F6A219M	A	C2	1	2	57.298	0.122	15	LGM	0.0082	57.715
C0F6A21AM	A	C2	1	2	59.501	0.123	15	LGM	0.0082	60.040
C0F6A21BM	A	C2	1	2	55.553	0.124	15	LGM	0.0083	56.673
C0F6B119M	B	C1	2	1	57.362	0.121	15	LGM	0.0081	57.260
C0F6B11AM	B	C1	2	1	57.813	0.122	15	LGM	0.0081	57.996
C0F6B11BM	B	C1	2	1	62.189	0.120	15	LGM	0.0080	61.481
C0F6B11CM	B	C1	2	1	62.738	0.121	15	LGM	0.0081	62.558
C0F6B218M	B	C2	2	2	63.180	0.122	15	LGM	0.0082	63.665
C0F6B219M	B	C2	2	2	63.322	0.122	15	LGM	0.0081	63.679
C0F6B21AM	B	C2	2	2	63.784	0.122	15	LGM	0.0081	64.108
C0F6C119M	C	C1	3	1	60.920	0.120	15	LGM	0.0080	60.051
C0F6C11AM	C	C1	3	1	61.090	0.119	15	LGM	0.0080	60.009
C0F6C11BM	C	C1	3	1	60.925	0.118	15	LGM	0.0079	59.387
C0F6C11CM	C	C1	3	1	61.411	0.120	15	LGM	0.0080	60.568
C0F6C219M	C	C2	3	2	60.727	0.118	15	LGM	0.0079	59.211
C0F6C21AM	C	C2	3	2	61.525	0.117	15	LGM	0.0078	59.356
C0F6C21BM	C	C2	3	2	62.998	0.118	15	LGM	0.0079	61.391

Average	60.009	
Standard Dev.	2.677	
Coeff. of Var. [%]	4.460	
Min.	55.553	
Max.	63.784	
Number of Spec.	21	

$Average_{norm}$	0.0081	59.819
$Standard\ Dev._{norm}$		2.324
$Coeff.\ of\ Var.\ [\%]_{norm}$		3.885
Min.	0.0078	55.921
Max.	0.0083	64.108
Number of Spec.		21



4.20 "25/50/25" Open-Hole Compression 1 Properties (OHC1)

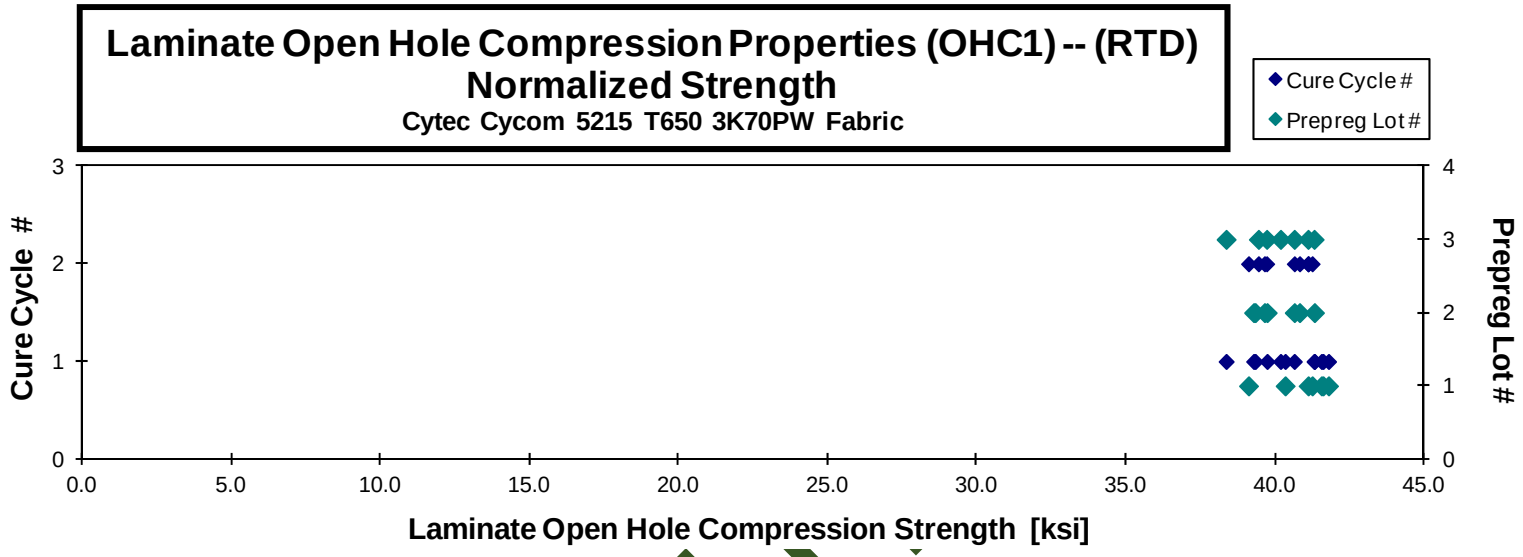
Laminate Open Hole Compression Properties (OHC1) -- (RTD)
Strength
Cytec Cycom 5215 T650 3K70PW Fabric

normalizing t_{ply} [in]
0.0081

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]
C0FGA111A	A	C1	1	1	41.619	0.162	20	LGM	0.0081	41.555
C0FGA112A	A	C1	1	1	41.205	0.164	20	MGM	0.0082	41.607
C0FGA113A	A	C1	1	1	41.629	0.163	20	MGM	0.0081	41.792
C0FGA114A	A	C1	1	1	39.564	0.165	20	MGM	0.0083	40.338
C0FGA211A	A	C2	1	2	38.676	0.164	20	MGM	0.0082	39.110
C0FGA212A	A	C2	1	2	40.301	0.165	20	LGM / AGM	0.0083	41.109
C0FGA213A	A	C2	1	2	40.546	0.165	20	AGM	0.0082	41.243
C0FGB111A	B	C1	2	1	40.065	0.159	20	MGM	0.0080	39.335
C0FGB112A	B	C1	2	1	40.288	0.160	20	MGM	0.0080	39.733
C0FGB113A	B	C1	2	1	41.698	0.161	20	MGM	0.0080	41.320
C0FGB114A	B	C1	2	1	39.596	0.161	20	MGM	0.0080	39.282
C0FGB211A	B	C2	2	2	39.928	0.161	20	MGM	0.0080	39.644
C0FGB212A	B	C2	2	2	40.339	0.163	20	MGM	0.0082	40.646
C0FGB213A	B	C2	2	2	40.438	0.164	20	MGM	0.0082	40.821
C0FGC111A	C	C1	3	1	41.383	0.159	20	MGM	0.0080	40.642
C0FGC112A	C	C1	3	1	40.673	0.160	20	MGM	0.0080	40.183
C0FGC113A	C	C1	3	1	42.083	0.159	20	MGM	0.0080	41.308
C0FGC114A	C	C1	3	1	38.697	0.161	20	MGM	0.0080	38.359
C0FGC211A	C	C2	3	2	42.403	0.157	20	MGM	0.0079	41.103
C0FGC212A	C	C2	3	2	40.728	0.158	20	LGM / AGM	0.0079	39.718
C0FGC213A	C	C2	3	2	40.485	0.158	20	LGM / AGM	0.0079	39.440

Average	**40.588**	
Standard Dev.	**1.005**	
Coeff. of Var. [%]	**2.475**	
Min.	**38.676**	
Max.	**42.403**	
Number of Spec.	**21**	

$Average_{norm}$	**0.0081**	**40.395**
$Standard\ Dev._{norm}$		**0.976**
$Coeff.\ of\ Var.\ [\%]_{norm}$		**2.417**
Min.	**0.0079**	**38.359**
Max.	**0.0083**	**41.792**
Number of Spec.		**21**

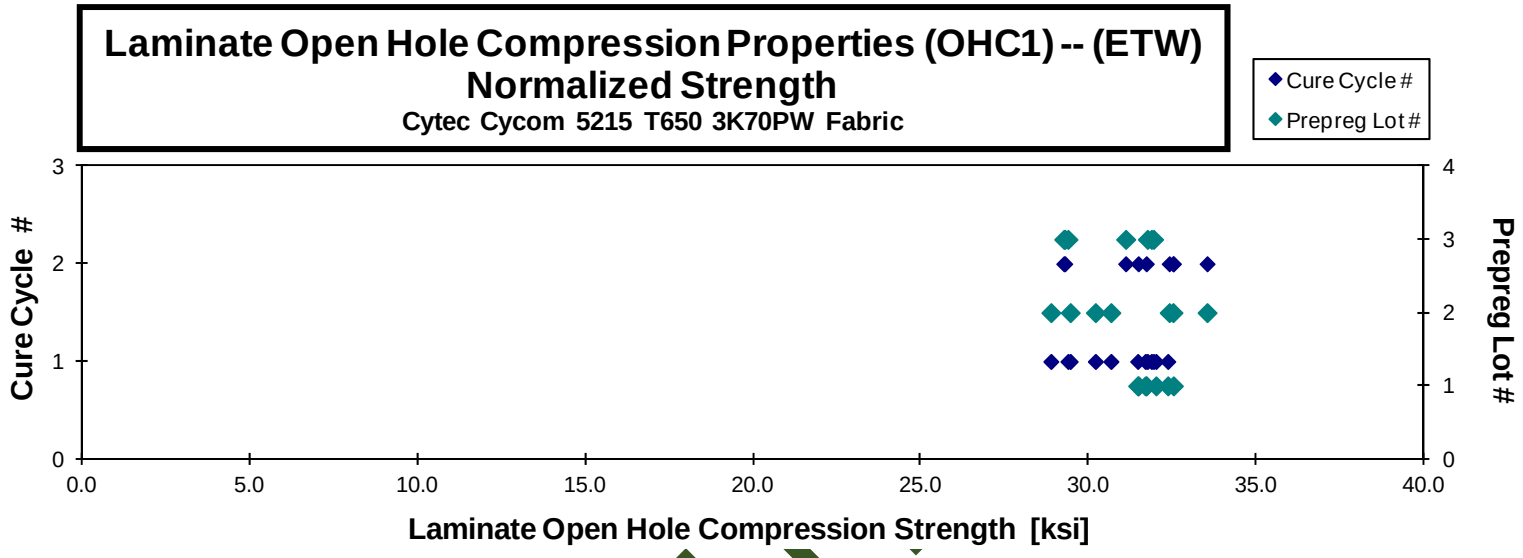

Laminate Open Hole Compression Properties (OHC1) -- (RTD)
Normalized Strength
Cytec Cycom 5215 T650 3K70PW Fabric
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
0
1
2
3
4
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0
45.0
Laminate Open Hole Compression Strength [ksi]

Laminate Open Hole Compression Properties (OHC1) -- (ETW)
Strength
Cytec Cycom 5215 T650 3K70PW Fabric

normalizing t_{ply} [in]: 0.0081

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]
C0FGA117M	A	C1	1	1	31.897	0.163	20	LGM	0.0081	32.005
C0FGA118M	A	C1	1	1	32.228	0.163	20	MGM	0.0081	32.358
C0FGA119M	A	C1	1	1	31.439	0.163	20	MGM	0.0082	31.688
C0FGA11AM	A	C1	1	1	30.914	0.165	20	LGM	0.0082	31.461
C0FGA216M	A	C2	1	2	31.172	0.165	20	MGM	0.0082	31.717
C0FGA217M	A	C2	1	2	31.215	0.163	20	MGM	0.0082	31.478
C0FGA218M	A	C2	1	2	32.082	0.164	20	MGM	0.0082	32.525
C0FGB117M	B	C1	2	1	29.286	0.160	20	MGM	0.0080	28.873
C0FGB118M	B	C1	2	1	30.486	0.160	20	MGM	0.0080	30.200
C0FGB119M	B	C1	2	1	29.608	0.161	20	MGM	0.0081	29.450
C0FGB11AM	B	C1	2	1	31.087	0.160	20	MGM	0.0080	30.662
C0FGB217M	B	C2	2	2	32.564	0.162	20	MGM	0.0081	32.514
C0FGB218M	B	C2	2	2	33.482	0.162	20	LGM	0.0081	33.530
C0FGB219M	B	C2	2	2	32.057	0.164	20	MGM	0.0082	32.400
C0FGC117M	C	C1	3	1	30.154	0.158	20	LGM	0.0079	29.382
C0FGC118M	C	C1	3	1	32.631	0.159	20	MGM	0.0079	31.933
C0FGC119M	C	C1	3	1	32.434	0.159	20	LGM	0.0079	31.750
C0FGC11AM	C	C1	3	1	32.303	0.160	20	LGM	0.0080	31.868
C0FGC217M	C	C2	3	2	32.389	0.156	20	LGM	0.0078	31.103
C0FGC218M	C	C2	3	2	30.005	0.158	20	LGM / AGM	0.0079	29.258
C0FGC219M	C	C2	3	2	29.865	0.159	20	MGM	0.0079	29.287

	Strength		$Strength_{norm}$
Average	31.395	$Average_{norm}$	31.212
Standard Dev.	1.155	$Standard\ Dev._{norm}$	1.319
Coeff. of Var. [%]	3.680	$Coeff.\ of\ Var.\ [\%]_{norm}$	4.225
Min.	29.286	Min.	28.873
Max.	33.482	Max.	33.530
Number of Spec.	21	Number of Spec.	21


Laminate Open Hole Compression Properties (OHC1) -- (ETW)
Normalized Strength
Cytec Cycom 5215 T650 3K70PW Fabric
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]

4.21 "10/80/10" Open-Hole Compression 2 Properties (OHC2)

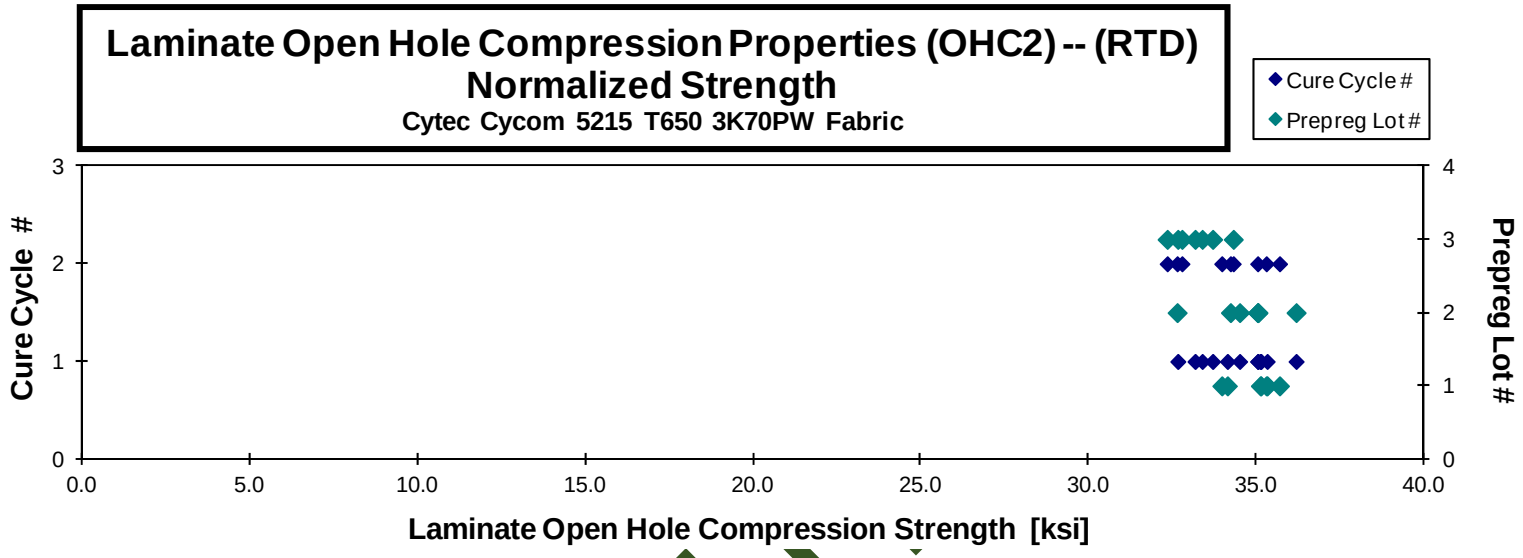
Laminate Open Hole Compression Properties (OHC2) -- (RTD)
Strength
Cytec Cycom 5215 T650 3K70PW Fabric

normalizing t_{ply} [in]
0.0081

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]
C0FHA111A	A	C1	1	1	35.053	0.162	20	MGM	0.0081	35.118
C0FHA112A	A	C1	1	1	34.898	0.163	20	AGM	0.0082	35.131
C0FHA113A	A	C1	1	1	35.109	0.163	20	AGM	0.0081	35.319
C0FHA114A	A	C1	1	1	33.698	0.164	20	AGM	0.0082	34.135
C0FHA211A	A	C2	1	2	33.557	0.164	20	AGM/LGM	0.0082	33.968
C0FHA212A	A	C2	1	2	34.640	0.167	20	AGM/LGM	0.0083	35.688
C0FHA213A	A	C2	1	2	34.262	0.167	20	AGM/LGM	0.0083	35.295
C0FHB111A	B	C1	2	1	34.499	0.162	20	LGM / AGM	0.0081	34.499
C0FHB112A	B	C1	2	1	35.777	0.164	20	MGM	0.0082	36.182
C0FHB113A	B	C1	2	1	34.433	0.165	20	LGM / AGM	0.0082	35.042
C0FHB114A	B	C1	2	1	34.615	0.164	20	AGM	0.0082	35.038
C0FHB211A	B	C2	2	2	33.003	0.160	20	MGM	0.0080	32.636
C0FHB212A	B	C2	2	2	35.000	0.162	20	AGM / LGM	0.0081	35.036
C0FHB213A	B	C2	2	2	34.176	0.162	20	AGM	0.0081	34.225
C0FHC111A	C	C1	3	1	35.348	0.154	20	MGM	0.0077	33.693
C0FHC112A	C	C1	3	1	35.060	0.154	20	LGM / AGM	0.0077	33.383
C0FHC113A	C	C1	3	1	34.209	0.155	20	MGM	0.0077	32.657
C0FHC114A	C	C1	3	1	34.304	0.157	20	LGM / AGM	0.0078	33.171
C0FHC211A	C	C2	3	2	35.801	0.155	20	MGM	0.0078	34.309
C0FHC212A	C	C2	3	2	33.655	0.156	20	LGM / AGM	0.0078	32.339
C0FHC213A	C	C2	3	2	33.849	0.157	20	LGM / AGM	0.0078	32.780

Average	**34.521**	
Standard Dev.	**0.730**	
Coeff. of Var. [%]	**2.115**	
Min.	**33.003**	
Max.	**35.801**	
Number of Spec.	**21**	

$Average_{norm}$	**0.0080**	**34.269**
$Standard\ Dev._{norm}$		**1.113**
$Coeff.\ of\ Var.\ [\%]_{norm}$		**3.247**
Min.	**0.0077**	**32.339**
Max.	**0.0083**	**36.182**
Number of Spec.		**21**


Laminate Open Hole Compression Properties (OHC2) -- (RTD)
Normalized Strength
Cytec Cycom 5215 T650 3K70PW Fabric
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]

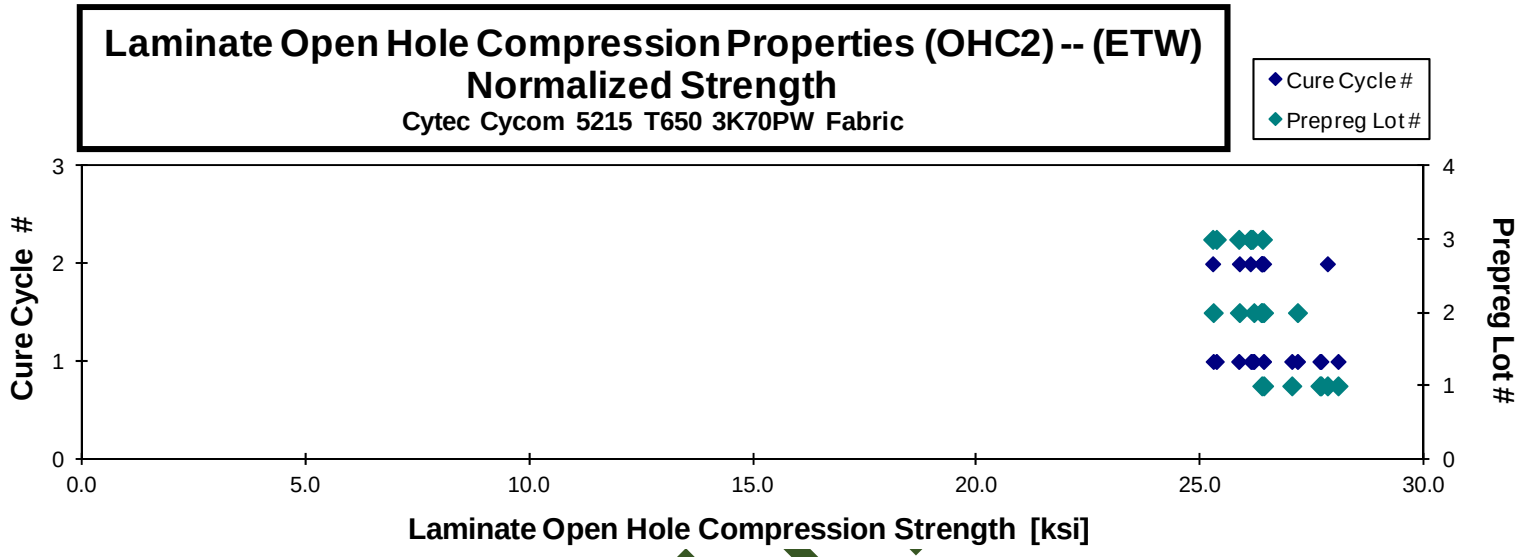
Laminate Open Hole Compression Properties (OHC2) -- (ETW)
Strength
Cytec Cycom 5215 T650 3K70PW Fabric

normalizing t_{ply} [in]: 0.0081

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]
C0FHA116M	A	C1	1	1	26.575	0.165	20	MGM	0.0082	27.040
C0FHA117M	A	C1	1	1	26.962	0.166	20	MGM	0.0083	27.691
C0FHA118M	A	C1	1	1	27.255	0.167	20	AGM	0.0083	28.073
C0FHA119M	A	C1	1	1	26.993	0.166	20	AGM	0.0083	27.668
C0FHA216M	A	C2	1	2	25.947	0.165	20	AGM	0.0082	26.411
C0FHA217M	A	C2	1	2	27.258	0.165	20	MGM	0.0083	27.835
C0FHA218M	A	C2	1	2	25.903	0.165	20	MGM	0.0082	26.370
C0FHB115M	B	C1	2	1	26.645	0.161	20	MGM	0.0080	26.409
C0FHB116M	B	C1	2	1	26.144	0.162	20	LGM/AGM	0.0081	26.192
C0FHB117M	B	C1	2	1	25.375	0.161	20	LGM/AGM	0.0081	25.284
C0FHB118M	B	C1	2	1	27.458	0.160	20	MGM	0.0080	27.167
C0FHB215M	B	C2	2	2	26.986	0.158	20	MGM	0.0079	26.353
C0FHB216M	B	C2	2	2	26.734	0.160	20	LGM/AGM	0.0080	26.373
C0FHB217M	B	C2	2	2	26.317	0.159	20	LGM / AGM	0.0080	25.868
C0FHC115M	C	C1	3	1	27.364	0.155	20	MGM	0.0077	26.125
C0FHC116M	C	C1	3	1	26.099	0.157	20	MGM	0.0079	25.352
C0FHC117M	C	C1	3	1	27.327	0.155	20	MGM	0.0078	26.163
C0FHC118M	C	C1	3	1	26.976	0.155	20	MGM	0.0078	25.854
C0FHC215M	C	C2	3	2	26.539	0.154	20	MGM	0.0077	25.272
C0FHC216M	C	C2	3	2	27.638	0.155	20	MGM	0.0077	26.384
C0FHC217M	C	C2	3	2	27.178	0.156	20	AGM	0.0078	26.112

Average	26.746	
Standard Dev.	0.601	
Coeff. of Var. [%]	2.247	
Min.	25.375	
Max.	27.638	
Number of Spec.	21	

$Average_{norm}$	0.0080	26.476
$Standard\ Dev._{norm}$		0.821
$Coeff.\ of\ Var.\ [\%]_{norm}$		3.100
Min.	0.0077	25.272
Max.	0.0083	28.073
Number of Spec.		21


Laminate Open Hole Compression Properties (OHC2) -- (ETW)
Normalized Strength
Cytec Cycom 5215 T650 3K70PW Fabric
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
Laminate Open Hole Compression Strength [ksi]

4.22 "40/20/40" Open-Hole Compression 3 Properties (OHC3)

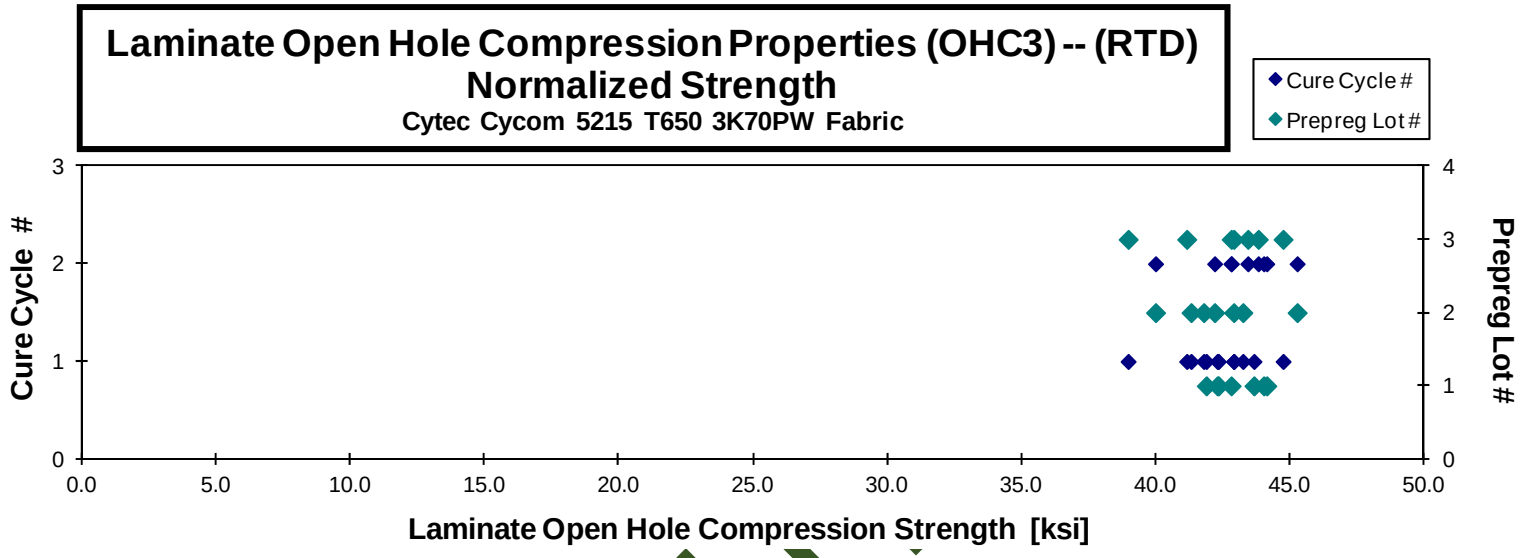
Laminate Open Hole Compression Properties (OHC3) -- (RTD)
Strength
Cytec Cycom 5215 T650 3K70PW Fabric

normalizing t_{ply} [in]
0.0081

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]
C0FIA111A	A	C1	1	1	42.123	0.163	20	MGM	0.0081	42.331
C0FIA112A	A	C1	1	1	41.765	0.164	20	MGM	0.0082	42.294
C0FIA113A	A	C1	1	1	43.135	0.164	20	MGM	0.0082	43.658
C0FIA114A	A	C1	1	1	41.452	0.164	20	MGM	0.0082	41.879
C0FIA211A	A	C2	1	2	43.558	0.164	20	MGM	0.0082	44.020
C0FIA212A	A	C2	1	2	43.203	0.166	20	MGM	0.0083	44.136
C0FIA213A	A	C2	1	2	41.426	0.167	20	MGM	0.0084	42.807
C0FIB111A	B	C1	2	1	41.953	0.161	20	MGM	0.0081	41.785
C0FIB112A	B	C1	2	1	42.938	0.162	20	MGM	0.0081	42.903
C0FIB113A	B	C1	2	1	43.142	0.162	20	MGM	0.0081	43.244
C0FIB114A	B	C1	2	1	41.120	0.163	20	MGM	0.0081	41.315
C0FIB211A	B	C2	2	2	45.099	0.163	20	MGM	0.0081	45.266
C0FIB212A	B	C2	2	2	39.605	0.164	20	LGM	0.0082	39.992
C0FIB213A	B	C2	2	2	41.704	0.164	20	LGM	0.0082	42.193
C0FIC111A	C	C1	3	1	44.205	0.157	20	MGM	0.0079	42.905
C0FIC112A	C	C1	3	1	45.769	0.158	20	LGM / AGM	0.0079	44.743
C0FIC113A	C	C1	3	1	41.995	0.159	20	MGM	0.0079	41.153
C0FIC114A	C	C1	3	1	39.855	0.158	20	MGM	0.0079	38.970
C0FIC211A	C	C2	3	2	44.898	0.158	20	LGM / AGM	0.0079	43.817
C0FIC212A	C	C2	3	2	44.216	0.157	20	MGM	0.0078	42.810
C0FIC213A	C	C2	3	2	44.069	0.160	20	MGM	0.0080	43.430

Average	**42.725**	
Standard Dev.	**1.650**	
Coeff. of Var. [%]	**3.862**	
Min.	**39.605**	
Max.	**45.769**	
Number of Spec.	**21**	

$Average_{norm}$	**0.0081**	**42.650**
$Standard\ Dev._{norm}$		**1.504**
$Coeff.\ of\ Var.\ [\%]_{norm}$		**3.526**
Min.	**0.0078**	**38.970**
Max.	**0.0084**	**45.266**
Number of Spec.		**21**


Laminate Open Hole Compression Properties (OHC3) -- (RTD)
Normalized Strength
Cytec Cycom 5215 T650 3K70PW Fabric
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]

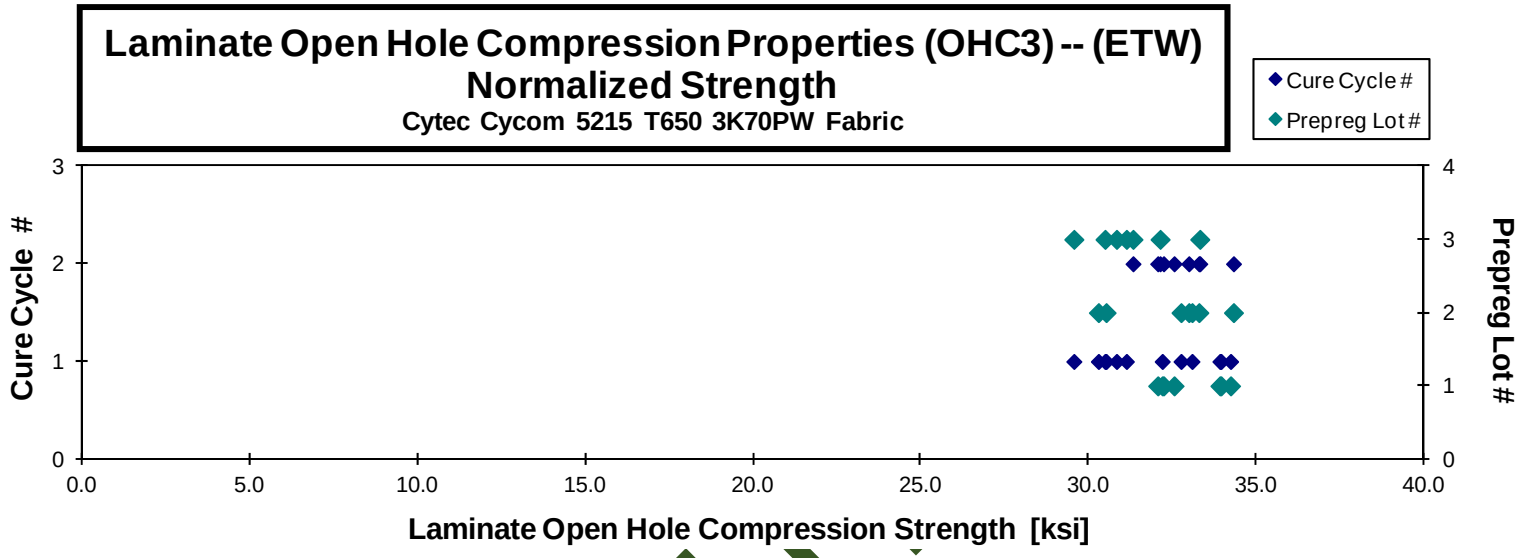
Laminate Open Hole Compression Properties (OHC3) -- (ETW)
Strength
Cytec Cycom 5215 T650 3K70PW Fabric

normalizing t_{ply} [in]: 0.0081

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]
C0FIA116M	A	C1	1	1	33.392	0.165	20	LGM	0.0082	33.911
C0FIA117M	A	C1	1	1	33.400	0.165	20	LGM	0.0082	33.943
C0FIA118M	A	C1	1	1	31.559	0.165	20	MGM	0.0083	32.192
C0FIA119M	A	C1	1	1	33.692	0.165	20	MGM	0.0082	34.229
C0FIA216M	A	C2	1	2	31.587	0.167	20	MGM	0.0083	32.546
C0FIA217M	A	C2	1	2	31.033	0.167	20	MGM	0.0084	32.058
C0FIA218M	A	C2	1	2	31.365	0.166	20	MGM	0.0083	32.233
C0FIB115M	B	C1	2	1	30.355	0.162	20	LGM	0.0081	30.290
C0FIB116M	B	C1	2	1	30.454	0.162	20	LGM	0.0081	30.520
C0FIB117M	B	C1	2	1	33.065	0.162	20	MGM	0.0081	33.079
C0FIB118M	B	C1	2	1	32.494	0.163	20	MGM	0.0082	32.752
C0FIB215M	B	C2	2	2	32.932	0.164	20	LGM	0.0082	33.284
C0FIB216M	B	C2	2	2	33.960	0.164	20	MGM	0.0082	34.316
C0FIB217M	B	C2	2	2	32.613	0.164	20	MGM	0.0082	32.985
C0FIC115M	C	C1	3	1	31.575	0.156	20	MGM	0.0078	30.487
C0FIC116M	C	C1	3	1	32.911	0.153	20	LGM	0.0077	31.123
C0FIC117M	C	C1	3	1	30.484	0.157	20	MGM	0.0079	29.558
C0FIC118M	C	C1	3	1	31.737	0.157	20	MGM	0.0079	30.829
C0FIC215M	C	C2	3	2	32.275	0.157	20	LGM	0.0079	31.322
C0FIC216M	C	C2	3	2	33.884	0.159	20	LGM	0.0080	33.312
C0FIC217M	C	C2	3	2	33.081	0.157	20	LGM	0.0079	32.128

Average	32.278	
Standard Dev.	1.153	
Coeff. of Var. [%]	3.571	
Min.	30.355	
Max.	33.960	
Number of Spec.	21	

$Average_{norm}$	0.0081	32.243
$Standard\ Dev._{norm}$		1.396
$Coeff.\ of\ Var.\ [\%]_{norm}$		4.329
Min.	0.0077	29.558
Max.	0.0084	34.316
Number of Spec.		21


Laminate Open Hole Compression Properties (OHC3) -- (ETW)
Normalized Strength
Cytec Cycom 5215 T650 3K70PW Fabric
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 "25/50/25" Filled-Hole Compression 1 Properties (FHC1)

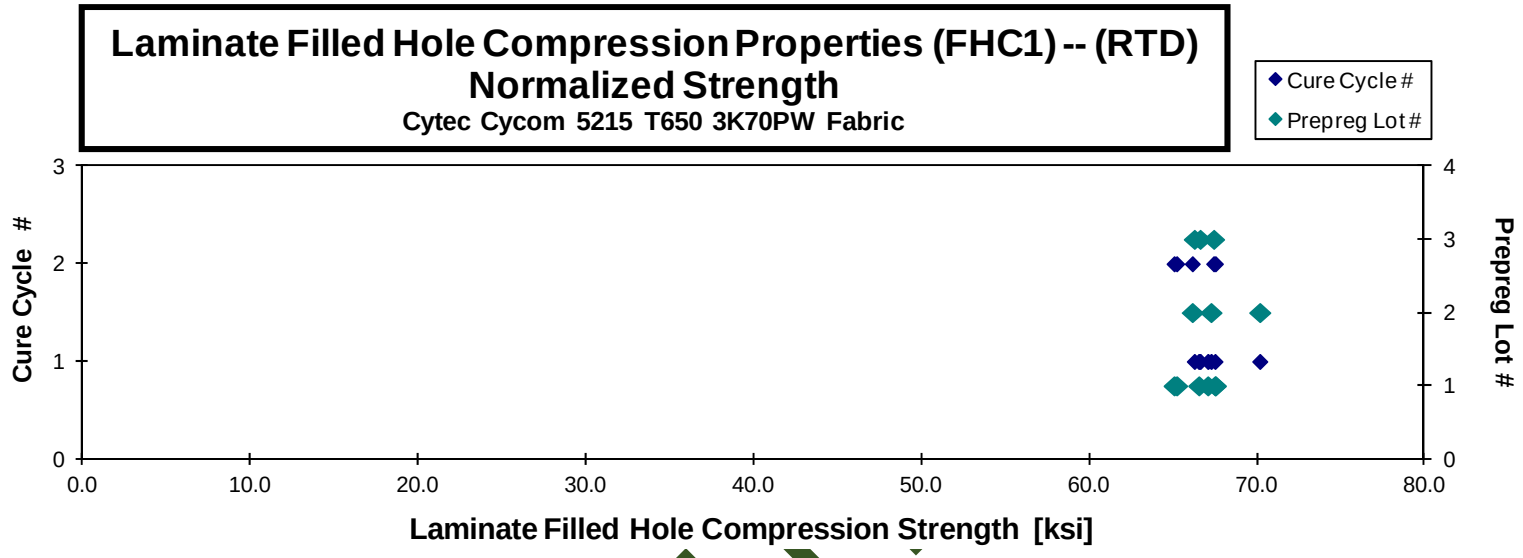
Laminate Filled Hole Compression Properties (FHC1) -- (RTD) Strength
Cytec Cycom 5215 T650 3K70PW Fabric

normalizing t_{ply} [in]: 0.0081

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]
C0F7A113A	A	C1	1	1	66.255	0.164	20	LGF	0.0082	67.100
C0F7A114A	A	C1	1	1	66.421	0.165	20	LGF	0.0082	67.528
C0F7A115A	A	C1	1	1	65.578	0.164	20	LGF	0.0082	66.563
C0F7A211A	A	C2	1	2	64.247	0.164	20	MGF	0.0082	65.093
C0F7A212A	A	C2	1	2	63.866	0.166	20	LGF	0.0083	65.246
C0F7A214A	A	C2	1	2	65.674	0.167	20	LGF	0.0083	67.552
C0F7B113A	B	C1	2	1	69.393	0.164	20	LGF	0.0082	70.200
C0F7B114A	B	C1	2	1	66.303	0.164	20	MGF	0.0082	67.292
C0F7B212A	B	C2	2	2	66.892	0.160	20	LGF	0.0080	66.177
C0F7C111A	C	C1	3	1	69.300	0.155	20	LGF	0.0077	66.299
C0F7C113A	C	C1	3	1	68.750	0.157	20	LGF	0.0079	66.643
C0F7C213A	C	C2	3	2	69.347	0.158	20	LGF	0.0079	67.450

Average	66.836	
Standard Dev.	1.950	
Coeff. of Var. [%]	2.918	
Min.	63.866	
Max.	69.393	
Number of Spec.	12	

$Average_{norm}$	0.0081	66.928
$Standard\ Dev._{norm}$		1.323
$Coeff.\ of\ Var.\ [\%]_{norm}$		1.977
Min.	0.0077	65.093
Max.	0.0083	70.200
Number of Spec.		12


Laminate Filled Hole Compression Properties (FHC1) -- (RTD)
Normalized Strength
Cytec Cycom 5215 T650 3K70PW Fabric
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]

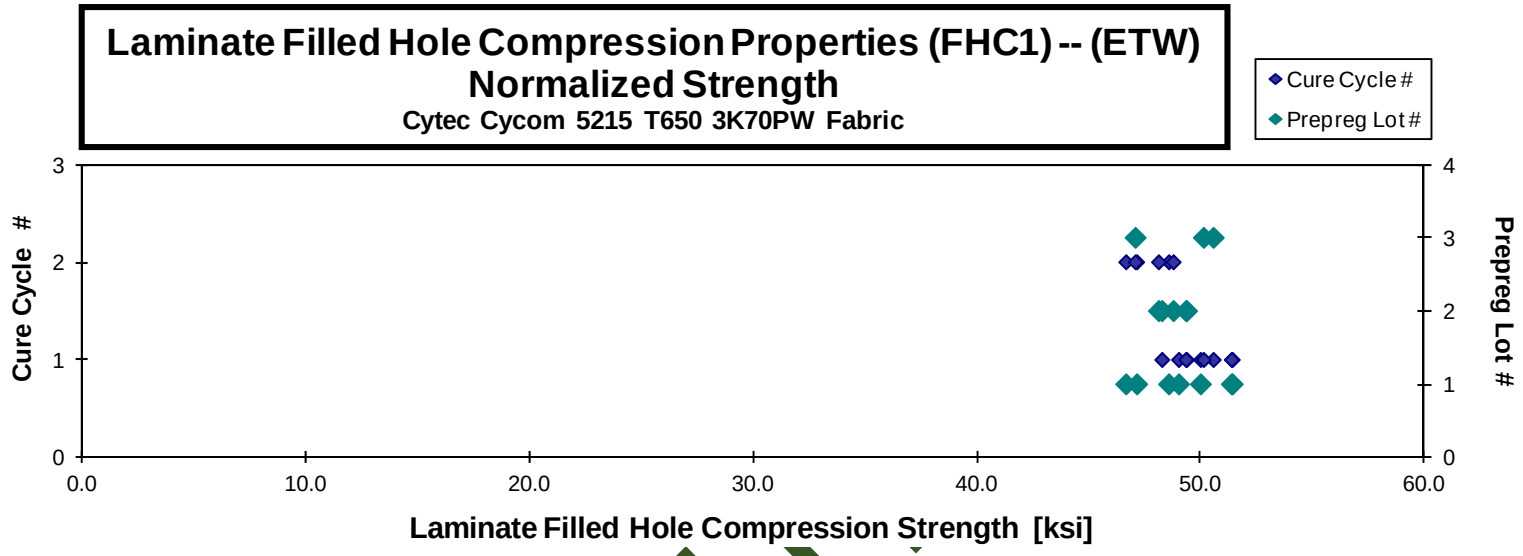
Laminate Filled Hole Compression Properties (FHC1) -- (ETW)
Strength
Cytec Cycom 5215 T650 3K70PW Fabric

normalizing t_{ply} [in]: 0.0081

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]
C0F7A117M	A	C1	1	1	49.716	0.168	20	MGF	0.0084	51.419
C0F7A118M	A	C1	1	1	46.992	0.169	20	MGF	0.0084	49.017
C0F7A119M	A	C1	1	1	49.508	0.168	20	MGF	0.0084	51.378
C0F7A11AM	A	C1	1	1	48.504	0.167	20	LGF	0.0083	49.996
C0F7A215M	A	C2	1	2	48.414	0.163	20	LGF	0.0081	48.574
C0F7A216M	A	C2	1	2	46.253	0.163	20	MGF	0.0082	46.658
C0F7A217M	A	C2	1	2	46.748	0.163	20	LGF	0.0082	47.147
C0F7B115M	B	C1	2	1	49.633	0.161	20	MGF	0.0081	49.373
C0F7B116M	B	C1	2	1	48.034	0.163	20	MGF	0.0081	48.271
C0F7B117M	B	C1	2	1	49.031	0.163	20	MGF	0.0082	49.344
C0F7B216M	B	C2	2	2	49.301	0.160	20	LGF	0.0080	48.779
C0F7B217M	B	C2	2	2	48.665	0.160	20	MGF	0.0080	48.120
C0F7C115M	C	C1	3	1	52.787	0.155	20	LGF	0.0078	50.565
C0F7C117M	C	C1	3	1	51.416	0.158	20	LGF	0.0079	50.130
C0F7C216M	C	C2	3	2	48.716	0.157	20	LGF	0.0078	47.077

Average	48.915	
Standard Dev.	1.684	
Coeff. of Var. [%]	3.442	
Min.	46.253	
Max.	52.787	
Number of Spec.	15	

$Average_{norm}$	0.0081	49.056
$Standard\ Dev._{norm}$		1.478
$Coeff.\ of\ Var.\ [\%]_{norm}$		3.013
Min.	0.0078	46.658
Max.	0.0084	51.419
Number of Spec.		15


Laminate Filled Hole Compression Properties (FHC1) -- (ETW)
Normalized Strength
Cytec Cycom 5215 T650 3K70PW Fabric
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]

4.24 "10/80/10" Filled-Hole Compression 2 Properties (FHC2)

Laminate Filled Hole Compression Properties (FHC2) -- (RTD) Strength

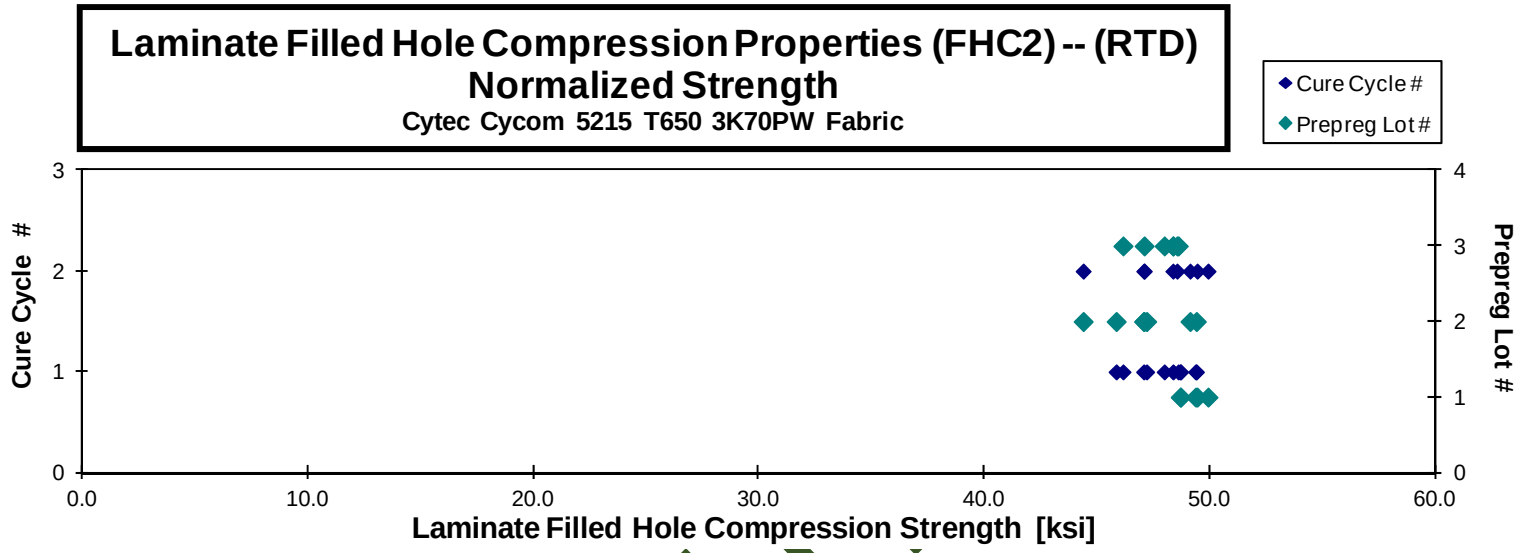
Cytec Cycom 5215 T650 3K70PW Fabric

normalizing t_{ply} [in]: 0.0081

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]
C0F8A112A	A	C1	1	1	47.591	0.166	20	AGF	0.0083	48.697
C0F8A113A	A	C1	1	1	47.842	0.165	20	MGF	0.0082	48.708
C0F8A114A	A	C1	1	1	47.998	0.167	20	AGF	0.0083	49.376
C0F8A211A	A	C2	1	2	48.934	0.165	20	AGF	0.0083	49.926
C0F8A212A	A	C2	1	2	48.011	0.167	20	AGF	0.0083	49.443
C0F8B111A	B	C1	2	1	47.651	0.160	20	MGF	0.0080	47.073
C0F8B112A	B	C1	2	1	47.116	0.162	20	MGF	0.0081	47.204
C0F8B113A	B	C1	2	1	46.431	0.160	20	AGF	0.0080	45.853
C0F8B114A	B	C1	2	1	49.443	0.162	20	AGF	0.0081	49.407
C0F8B211A	B	C2	2	2	47.238	0.161	20	AGF	0.0081	47.083
C0F8B213A	B	C2	2	2	43.529	0.165	20	MGF	0.0083	44.389
C0F8B214A	B	C2	2	2	48.588	0.164	20	AGF	0.0082	49.128
C0F8C111A	C	C1	3	1	47.342	0.158	20	MGF	0.0079	46.154
C0F8C112A	C	C1	3	1	49.350	0.159	20	MGF	0.0079	48.375
C0F8C113A	C	C1	3	1	49.063	0.161	20	MGF	0.0080	48.609
C0F8C114A	C	C1	3	1	48.666	0.160	20	MGF	0.0080	47.985
C0F8C211A	C	C2	3	2	50.320	0.156	20	MGF	0.0078	48.368
C0F8C212A	C	C2	3	2	50.306	0.156	20	AGF	0.0078	48.552
C0F8C213A	C	C2	3	2	48.657	0.157	20	MGF	0.0078	47.095

	Strength [ksi]		$Strength_{norm}$ [ksi]
Average	48.109	$Average_{norm}$	47.970
Standard Dev.	1.531	$Standard\ Dev._{norm}$	1.435
Coeff. of Var. [%]	3.181	$Coeff.\ of\ Var.\ [\%]_{norm}$	2.992
Min.	43.529	Min.	44.389
Max.	50.320	Max.	49.926
Number of Spec.	19	Number of Spec.	19

	t_{ply} [in]
Average	0.0081
Min.	0.0078
Max.	0.0083


Laminate Filled Hole Compression Properties (FHC2) -- (RTD)
Normalized Strength
Cytec Cycom 5215 T650 3K70PW Fabric
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]

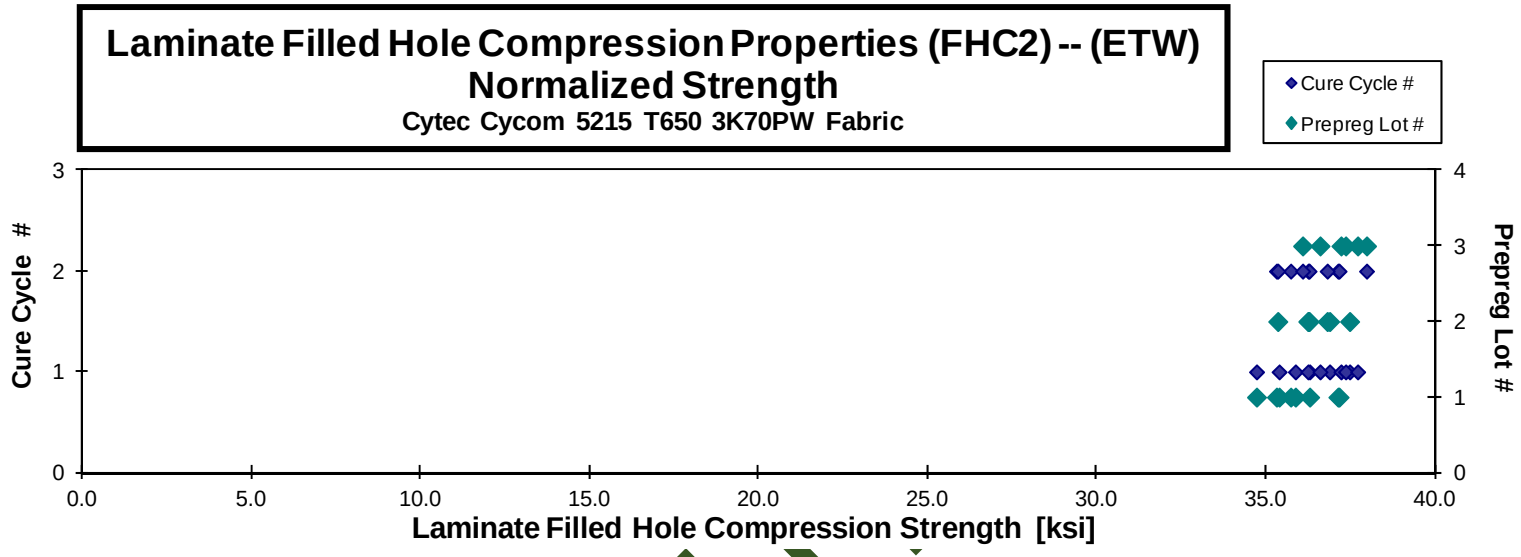
Laminate Filled Hole Compression Properties (FHC2) -- (ETW)
Strength
Cytec Cycom 5215 T650 3K70PW Fabric

normalizing t_{ply} [in]: 0.0081

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]
C0F8A116M	A	C1	1	1	34.300	0.164	20	LGF	0.0082	34.720
C0F8A118M	A	C1	1	1	34.175	0.168	20	MGF	0.0084	35.388
C0F8A119M	A	C1	1	1	34.685	0.168	20	MGF	0.0084	35.870
C0F8A11AM	A	C1	1	1	35.441	0.166	20	LGF	0.0083	36.290
C0F8A215M	A	C2	1	2	36.805	0.163	20	LGF / AGF	0.0082	37.126
C0F8A216M	A	C2	1	2	34.864	0.166	20	MGF	0.0083	35.728
C0F8A217M	A	C2	1	2	35.893	0.168	20	MGF	0.0084	37.160
C0F8A218M	A	C2	1	2	34.166	0.167	20	MGF	0.0084	35.309
C0F8B116M	B	C1	2	1	36.746	0.160	20	LGF	0.0080	36.239
C0F8B117M	B	C1	2	1	37.112	0.161	20	MGF	0.0080	36.879
C0F8B118M	B	C1	2	1	37.395	0.162	20	MGF	0.0081	37.472
C0F8B215M	B	C2	2	2	36.527	0.163	20	MGF	0.0082	36.809
C0F8B216M	B	C2	2	2	35.708	0.164	20	MGF	0.0082	36.248
C0F8B217M	B	C2	2	2	35.690	0.165	20	MGF	0.0082	36.274
C0F8B218M	B	C2	2	2	34.554	0.166	20	MGF	0.0083	35.347
C0F8C115M	C	C1	3	1	38.385	0.157	20	MGF	0.0079	37.216
C0F8C116M	C	C1	3	1	38.099	0.159	20	MGF	0.0079	37.354
C0F8C117M	C	C1	3	1	38.160	0.160	20	MGF	0.0080	37.708
C0F8C118M	C	C1	3	1	36.720	0.161	20	MGF	0.0081	36.595
C0F8C215M	C	C2	3	2	37.047	0.158	20	MGF	0.0079	36.083
C0F8C218M	C	C2	3	2	38.458	0.160	20	MGF	0.0080	37.972

Average	36.235	
Standard Dev.	1.434	
Coeff. of Var. [%]	3.957	
Min.	34.166	
Max.	38.458	
Number of Spec.	21	

$Average_{norm}$	0.0082	36.466
$Standard\ Dev._{norm}$		0.878
$Coeff.\ of\ Var.\ [\%]_{norm}$		2.407
Min.	0.0079	34.720
Max.	0.0084	37.972
Number of Spec.		21


Laminate Filled Hole Compression Properties (FHC2) -- (ETW)
Normalized Strength
Cytec Cycom 5215 T650 3K70PW Fabric
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 Filled Hole Compression Strength [ksi]

4.25 "40/20/40" Filled-Hole Compression 3 Properties (FHC3)

Laminate Filled Hole Compression Properties (FHC3) -- (RTD) Strength

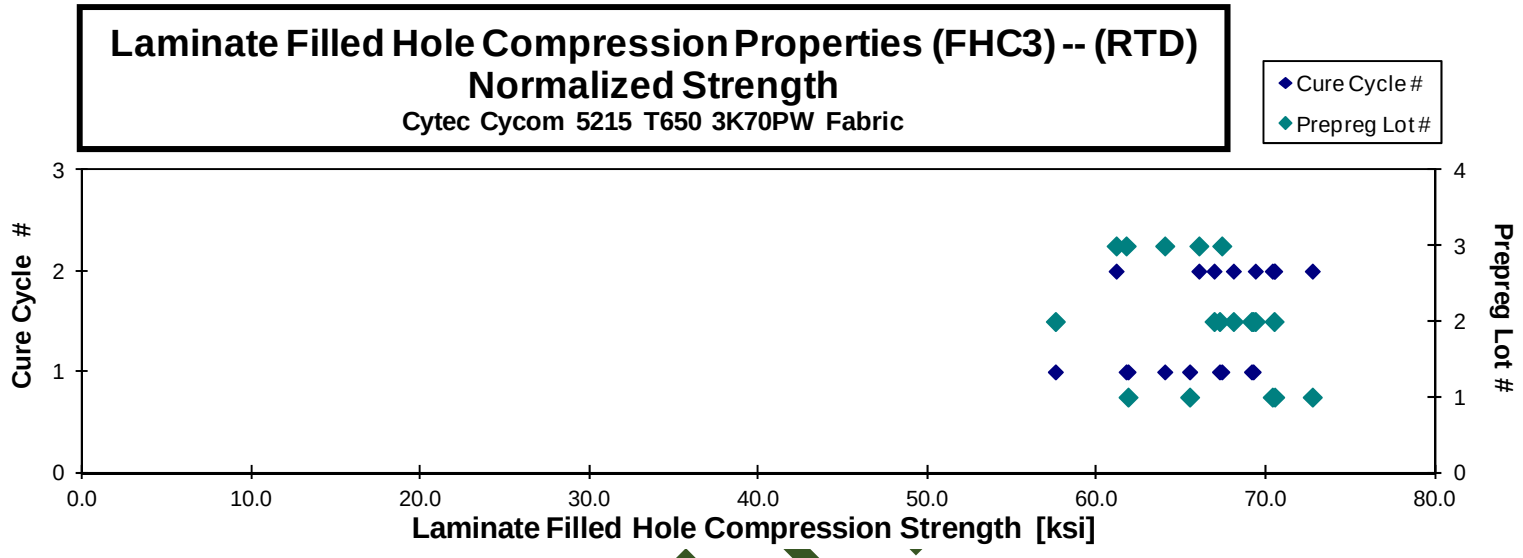
Cytec Cycom 5215 T650 3K70PW Fabric

normalizing t_{ply} [in]: 0.0081

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]
C0F9A112A	A	C1	1	1	62.062	0.161	20	MGF	0.0081	61.839
C0F9A114A	A	C1	1	1	65.334	0.162	20	MGF	0.0081	65.482
C0F9A211A	A	C2	1	2	70.268	0.162	20	MGF	0.0081	70.369
C0F9A212A	A	C2	1	2	71.870	0.164	20	MGF	0.0082	72.735
C0F9A213A	A	C2	1	2	69.270	0.165	20	MGF	0.0082	70.510
C0F9B111A	B	C1	2	1	58.380	0.160	20	MGF	0.0080	57.539
C0F9B112A	B	C1	2	1	67.506	0.161	20	MGF	0.0081	67.249
C0F9B113A	B	C1	2	1	69.225	0.162	20	MGF	0.0081	69.239
C0F9B114A	B	C1	2	1	69.385	0.161	20	MGF	0.0081	69.142
C0F9B211A	B	C2	2	2	71.316	0.160	20	MGF	0.0080	70.479
C0F9B212A	B	C2	2	2	67.202	0.161	20	LGF	0.0081	66.925
C0F9B213A	B	C2	2	2	69.702	0.161	20	MGF	0.0081	69.365
C0F9B214A	B	C2	2	2	67.852	0.163	20	MGF	0.0081	68.069
C0F9C111A	C	C1	3	1	63.585	0.157	20	MGF	0.0079	61.727
C0F9C112A	C	C1	3	1	68.935	0.158	20	MGF	0.0079	67.382
C0F9C113A	C	C1	3	1	64.924	0.160	20	MGF	0.0080	64.009
C0F9C211A	C	C2	3	2	68.435	0.156	20	MGF	0.0078	66.027
C0F9C212A	C	C2	3	2	63.028	0.157	20	MGF	0.0079	61.135

Average	67.127	
Standard Dev.	3.563	
Coeff. of Var. [%]	5.309	
Min.	58.380	
Max.	71.870	
Number of Spec.	18	

$Average_{norm}$	0.0080	66.623
$Standard\ Dev._{norm}$		4.009
$Coeff.\ of\ Var.\ [\%]_{norm}$		6.017
Min.	0.0078	57.539
Max.	0.0082	72.735
Number of Spec.		18


Laminate Filled Hole Compression Properties (FHC3) -- (RTD)
Normalized Strength
Cytec Cycom 5215 T650 3K70PW Fabric
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

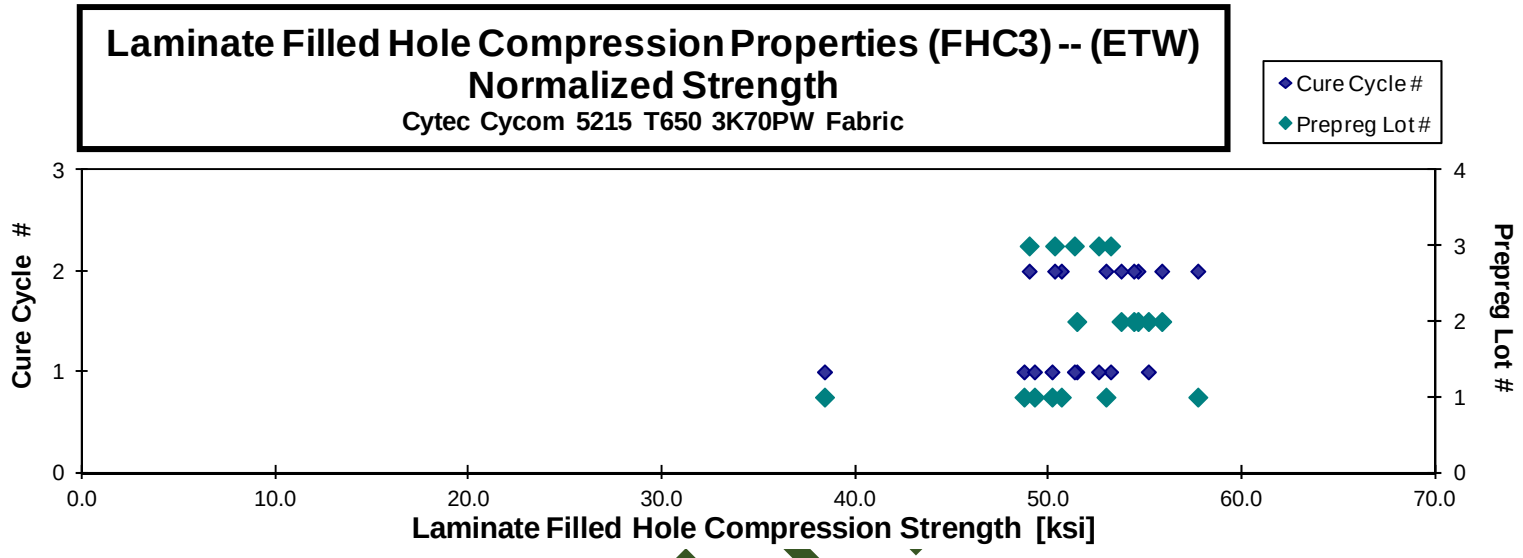
Cytec Cycom 5215 T650 3K70PW Fabric

normalizing t_{ply} [in]: 0.0081

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]
C0F9A116M	A	C1	1	1	48.837	0.162	20	MGF	0.008	48.726
C0F9A117M	A	C1	1	1	50.301	0.162	20	MGF	0.008	50.171
C0F9A118M	A	C1	1	1	38.379	0.162	20	MGF	0.008	38.399
C0F9A119M	A	C1	1	1	48.705	0.164	20	MGF	0.008	49.266
C0F9A215M	A	C2	1	2	57.690	0.162	20	MGF	0.008	57.720
C0F9A216M	A	C2	1	2	51.981	0.165	20	MGF	0.008	52.965
C0F9A217M	A	C2	1	2	49.815	0.165	20	LGF / LGM	0.008	50.656
C0F9B115M	B	C1	2	1	51.631	0.161	20	LGF	0.008	51.455
C0F9B118M	B	C1	2	1	54.681	0.163	20	LGF	0.008	55.159
C0F9B215M	B	C2	2	2	56.164	0.161	20	LGF	0.008	55.852
C0F9B216M	B	C2	2	2	54.439	0.163	20	MGF	0.008	54.623
C0F9B217M	B	C2	2	2	54.257	0.162	20	MGF	0.008	54.402
C0F9B218M	B	C2	2	2	53.642	0.162	20	MGF	0.008	53.747
C0F9C116M	C	C1	3	1	53.713	0.160	20	MGF	0.008	53.205
C0F9C117M	C	C1	3	1	53.308	0.160	20	LGF	0.008	52.584
C0F9C118M	C	C1	3	1	52.289	0.159	20	LGF	0.008	51.332
C0F9C215M	C	C2	3	2	51.425	0.158	20	MGF	0.008	50.309
C0F9C216M	C	C2	3	2	50.580	0.157	20	LGF	0.008	48.992

Average		51.769
Standard Dev.		4.137
Coeff. of Var. [%]		7.991
Min.		38.379
Max.		57.690
Number of Spec.		18

$Average_{norm}$	0.0081	51.642
$Standard\ Dev._{norm}$		4.163
$Coeff.\ of\ Var.\ [\%]_{norm}$		8.062
Min.	0.0078	38.399
Max.	0.0083	57.720
Number of Spec.		18


Laminate Filled Hole Compression Properties (FHC3) -- (ETW)
Normalized Strength
Cytec Cycom 5215 T650 3K70PW Fabric
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]

4.26 "25/50/25" Single-Shear Bearing 1 Properties (SSB1)

Laminate Single Shear Bearing Properties (SSB1) -- (RTD) Strength
Cytec Cycom 5215 T650 3K70PW Fabric

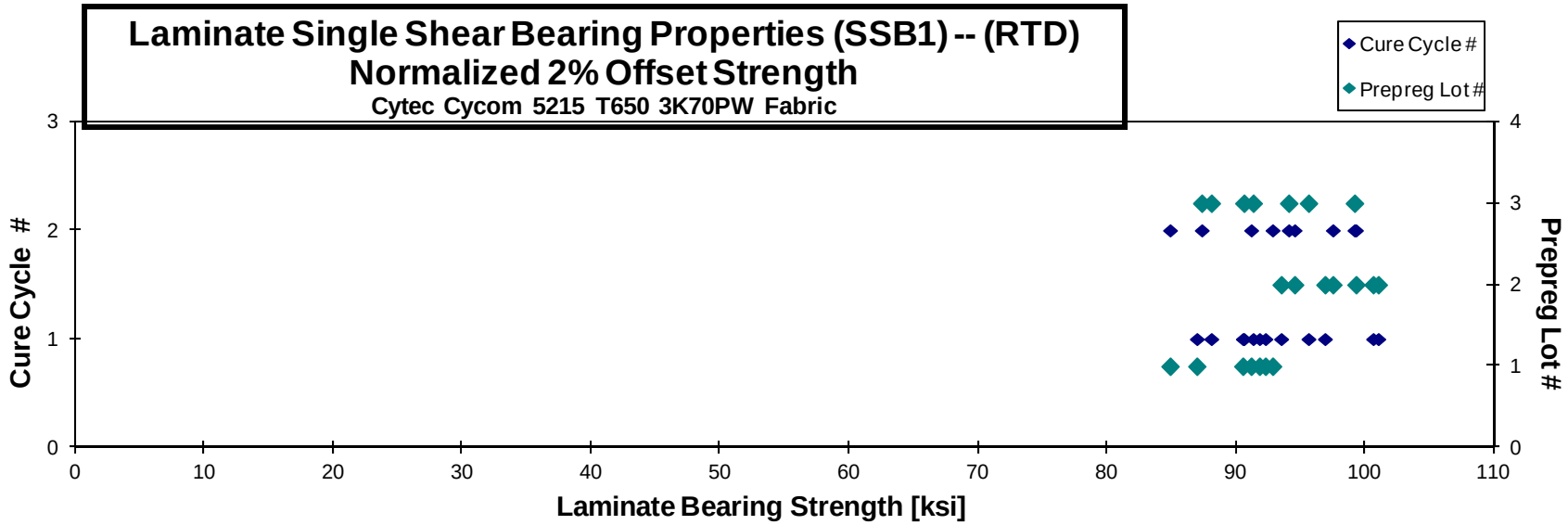
normalizing t_{ply} [in]: 0.0081

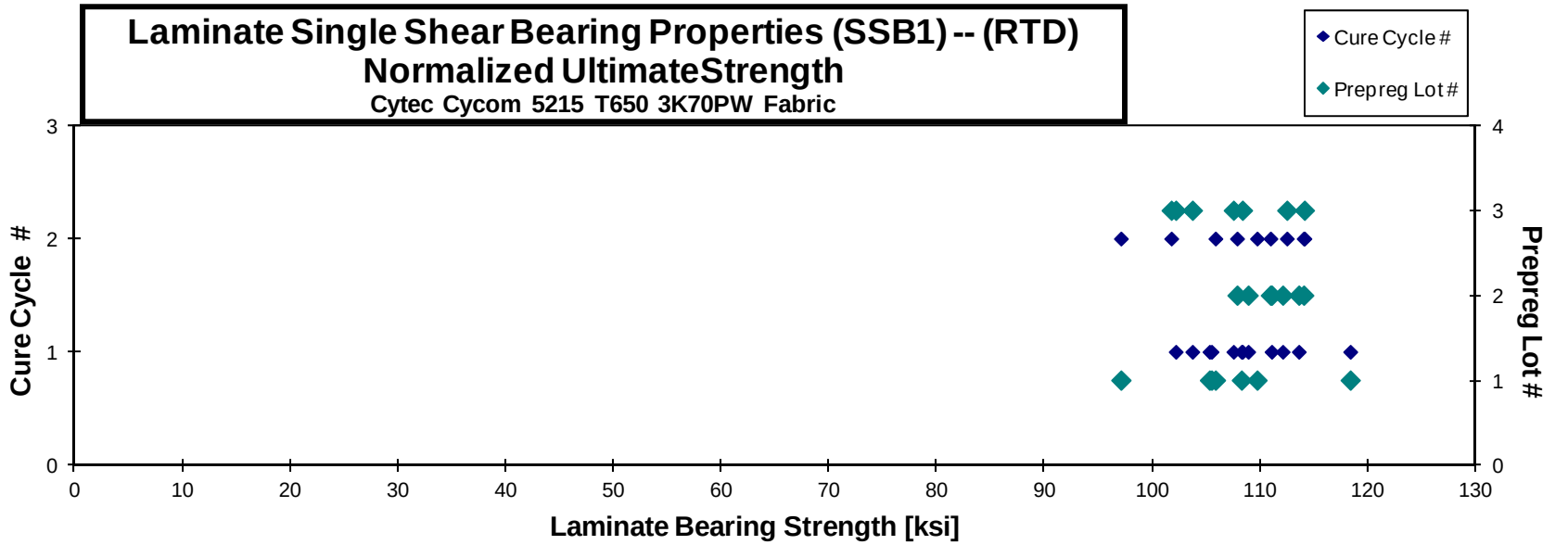
Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle #	2% Offset Strength [ksi]	Ultimate Strength [ksi]	Avg. Specimen Thickn. [in]	# Plies in Laminate	Comments	Avg. t_{ply} [in]	2% Offset Strength$_{norm}$ [ksi]	Ultimate Strength$_{norm}$ [ksi]
C0F1A111A	A	C1	1	1	88.245	106.875	0.064	8	B1I	0.0080	86.997	105.363
C0F1A112A	A	C1	1	1	91.602	119.779	0.064	8	B1I	0.0080	90.566	118.423
C0F1A113A	A	C1	1	1	91.195	107.550	0.065	8	B1I	0.0082	91.851	108.325
C0F1A114A	A	C1	1	1	93.808	107.260	0.064	8	B1I	0.0080	92.312	105.550
C0F1A211A	A	C2	1	2	86.159	107.461	0.064	8	B1I	0.0080	84.918	105.913
C0F1A212A	A	C2	1	2	92.680	96.942	0.065	8	B1I	0.0081	92.871	97.142
C0F1A213A	A	C2	1	2	90.719	109.183	0.065	8	B1I	0.0081	91.209	109.772
C0F1B111A	B	C1	2	1	99.862	115.540	0.063	8	B1I	0.0079	96.934	112.152
C0F1B112A	B	C1	2	1	98.425	114.642	0.062	8	B1I	0.0077	93.539	108.951
C0F1B113A	B	C1	2	1	103.957	114.298	0.063	8	B1I	0.0079	101.069	111.123
C0F1B114A	B	C1	2	1	101.823	114.951	0.064	8	B1I	0.0080	100.671	113.650
C0F1B211A	B	C2	2	2	102.666	111.536	0.063	8	B1I	0.0078	99.339	107.921
C0F1B212A	B	C2	2	2	98.843	115.622	0.064	8	B1I	0.0080	97.546	114.105
C0F1B213A	B	C2	2	2	96.137	112.848	0.064	8	B1I	0.0080	94.580	111.019
C0F1C111A	C	C1	3	1	95.569	106.931	0.062	8	B1I	0.0077	91.366	102.228
C0F1C112A	C	C1	3	1	93.091	106.566	0.063	8	B1I	0.0079	90.648	103.771
C0F1C113A	C	C1	3	1	90.276	111.076	0.063	8	B1I	0.0079	88.117	108.420
C0F1C114A	C	C1	3	1	98.259	110.509	0.063	8	B1I	0.0079	95.656	107.582
C0F1C211A	C	C2	3	2	104.546	120.297	0.062	8	B1I	0.0077	99.222	114.170
C0F1C212A	C	C2	3	2	97.197	116.218	0.063	8	B1I	0.0078	94.122	112.542
C0F1C213A	C	C2	3	2	91.249	106.325	0.062	8	B1I	0.0078	87.376	101.813

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

Average	95.539	111.067	
Standard Dev.	5.257	5.435	
Coeff. of Var. [%]	5.503	4.893	
Min.	86.159	96.942	
Max.	104.546	120.297	
Number of Spec.	21	21	

Average$_{norm}$	0.0079	93.377	108.568
Standard Dev.$_{norm}$		4.599	4.975
Coeff. of Var. [%]$_{norm}$		4.926	4.583
Min.	0.0077	84.918	97.142
Max.	0.0082	101.069	118.423
Number of Spec.		21	21


Laminate Single Shear Bearing Properties (SSB1) -- (RTD)
Normalized 2% Offset Strength
Cytec Cycom 5215 T650 3K70PW Fabric
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) -- (RTD)
Normalized UltimateStrength
Cytec Cycom 5215 T650 3K70PW Fabric
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
0
1
2
3
4

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

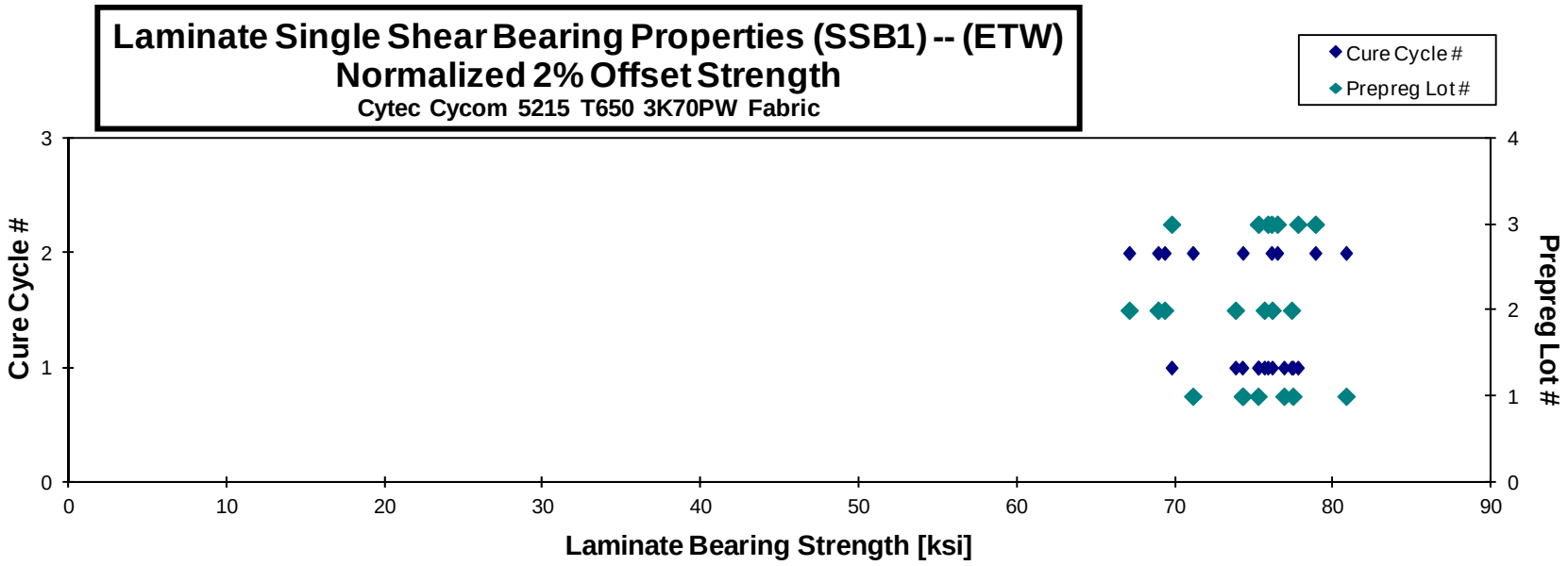
Cytec Cycom 5215 T650 3K70PW Fabric

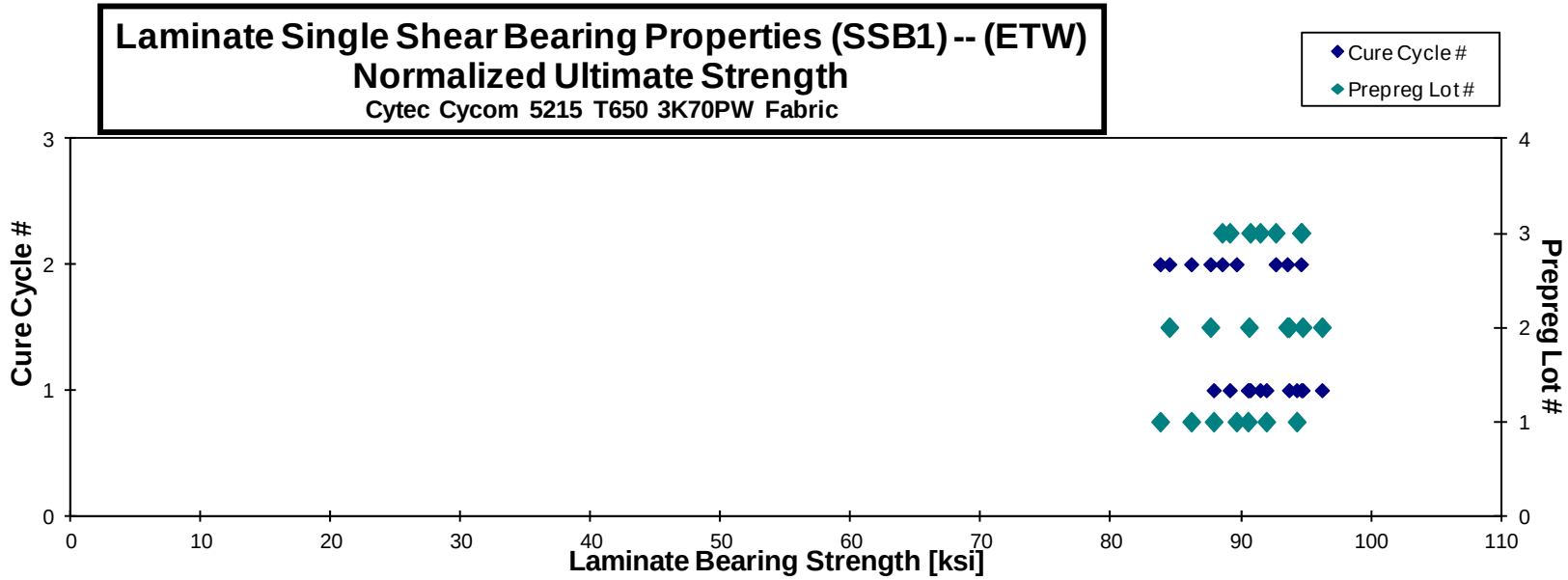
normalizing t_{ply} [in]: 0.0081

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]
C0F1A116M	A	C1	1	1	72.829	86.204	0.066	8	B1I	0.0083	74.234	87.867
C0F1A117M	A	C1	1	1	74.141	90.590	0.066	8	B1I	0.0082	75.228	91.918
C0F1A118M	A	C1	1	1	74.345	91.156	0.067	8	B1I	0.0084	76.869	94.251
C0F1A119M	A	C1	1	1	76.583	89.508	0.066	8	B1I	0.0082	77.430	90.498
C0F1A216M	A	C2	1	2	73.321	88.489	0.066	8	B1I	0.0082	74.264	89.627
C0F1A217M	A	C2	1	2	69.805	84.574	0.066	8	B1I	0.0083	71.098	86.140
C0F1A218M	A	C2	1	2	79.553	82.459	0.066	8	B1I	0.0082	80.802	83.753
C0F1B116M	B	C1	2	1	79.328	92.899	0.063	8	B1I	0.0079	77.349	90.581
C0F1B117M	B	C1	2	1	75.963	93.472	0.065	8	B1I	0.0081	76.119	93.664
C0F1B118M	B	C1	2	1	76.190	96.921	0.064	8	B1I	0.0080	75.622	96.198
C0F1B119M	B	C1	2	1	74.778	95.968	0.064	8	B1I	0.0080	73.798	94.710
C0F1B216M	B	C2	2	2	70.808	95.543	0.063	8	B1I	0.0079	69.314	93.528
C0F1B217M	B	C2	2	2	70.093	89.131	0.064	8	B1I	0.0080	68.903	87.618
C0F1B218M	B	C2	2	2	66.596	83.852	0.065	8	B1I	0.0082	67.075	84.456
C0F1C116M	C	C1	3	1	79.060	95.315	0.062	8	B1I	0.0078	75.847	91.442
C0F1C117M	C	C1	3	1	71.600	93.074	0.063	8	B1I	0.0079	69.759	90.680
C0F1C118M	C	C1	3	1	78.989	90.522	0.064	8	B1I	0.0080	77.750	89.102
C0F1C119M	C	C1	3	1	77.037	96.854	0.063	8	B1I	0.0079	75.254	94.612
C0F1C216M	C	C2	3	2	78.816	95.513	0.063	8	B1I	0.0079	76.444	92.639
C0F1C217M	C	C2	3	2	79.162	94.951	0.065	8	B1I	0.0081	78.856	94.584
C0F1C218M	C	C2	3	2	78.543	91.383	0.063	8	B1I	0.0078	76.078	88.516

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

Average	75.121	91.351	Average$_{norm}$	0.0081	74.671	90.780
Standard Dev.	3.772	4.368	Standard Dev.$_{norm}$		3.550	3.506
Coeff. of Var. [%]	5.021	4.782	Coeff. of Var. [%]$_{norm}$		4.754	3.862
Min.	66.596	82.459	Min.	0.0078	67.075	83.753
Max.	79.553	96.921	Max.	0.0084	80.802	96.198
Number of Spec.	21	21	Number of Spec.		21	21


Laminate Single Shear Bearing Properties (SSB1) -- (ETW)
Normalized 2% Offset Strength
Cytec Cycom 5215 T650 3K70PW Fabric
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Bearing Strength [ksi]
0
10
20
30
40
50
60
70
80
90
0
1
2
3
4


Laminate Single Shear Bearing Properties (SSB1) -- (ETW)
Normalized Ultimate Strength
Cytec Cycom 5215 T650 3K70PW Fabric
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

4.27 "10/80/10" Single-Shear Bearing 2 Properties (SSB2)

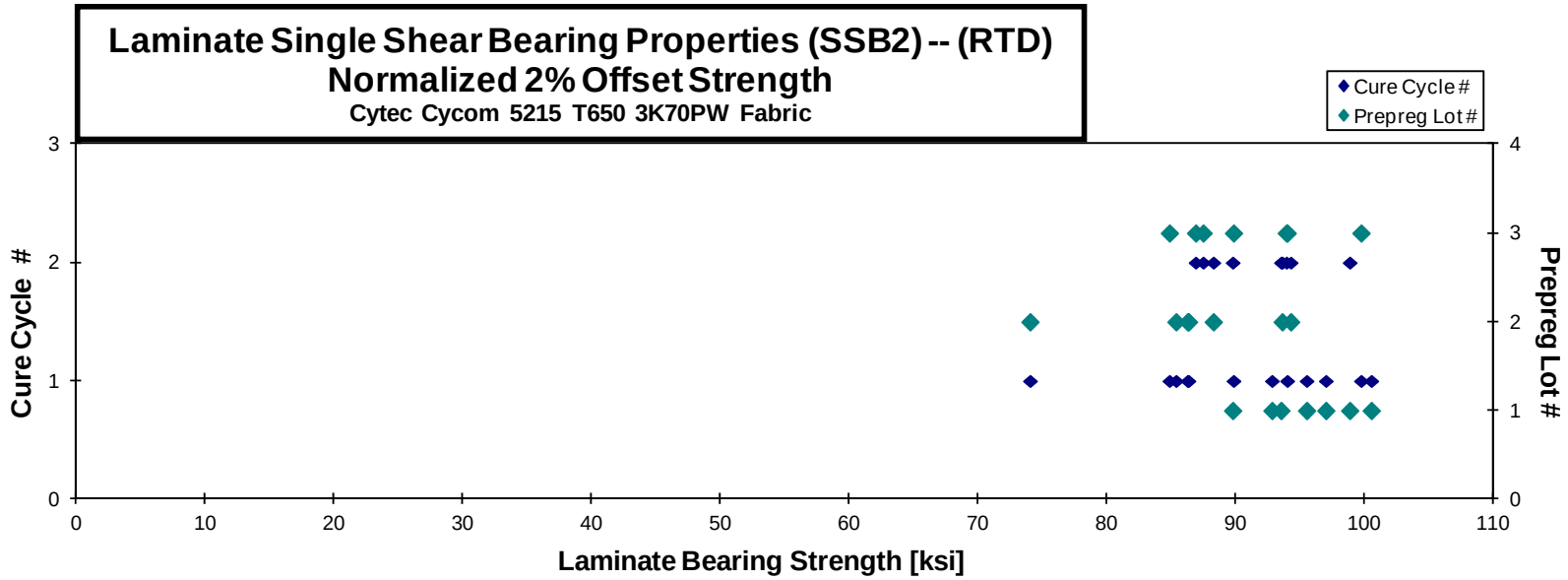
Laminate Single Shear Bearing Properties (SSB2) -- (RTD) Strength
Cytec Cycom 5215 T650 3K70PW Fabric

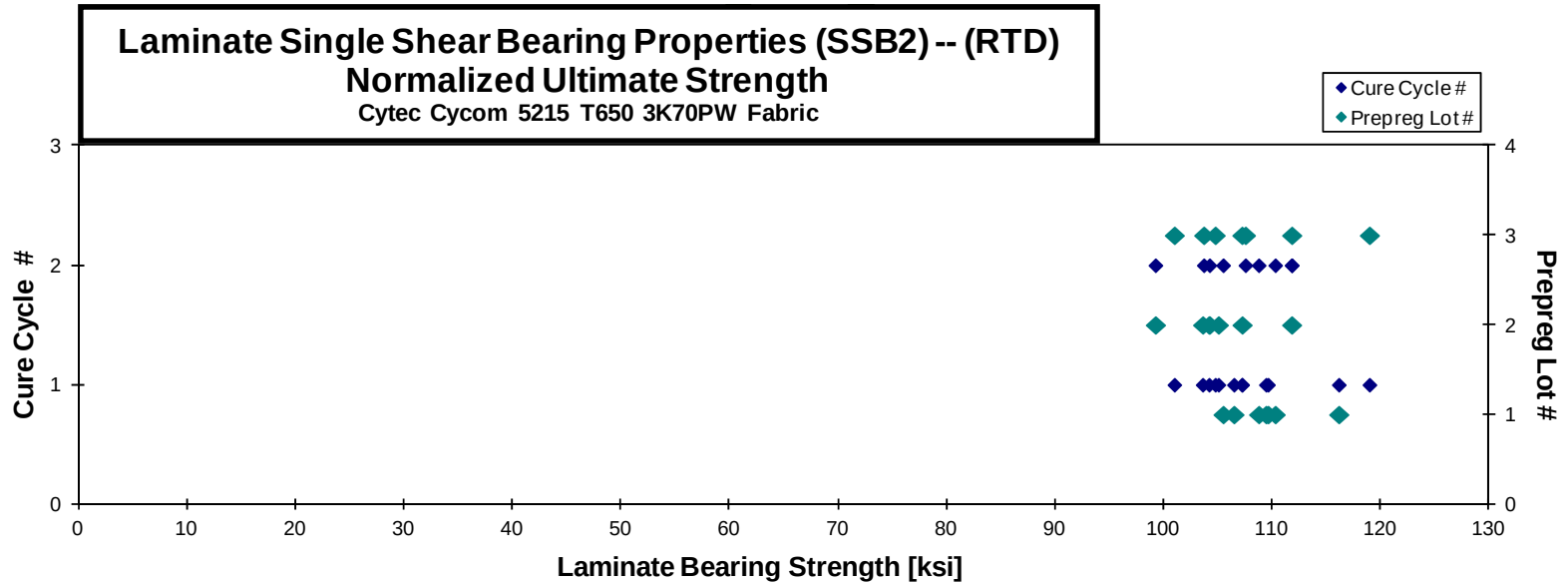
normalizing t_{ply} [in]: 0.0081

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]
C0F2A111A	A	C1	1	1	97.114	108.331	0.080	10	B1I	0.0080	95.515	106.547
C0F2A112A	A	C1	1	1	97.009	116.210	0.081	10	B1I	0.0081	97.009	116.210
C0F2A113A	A	C1	1	1	91.524	108.151	0.082	10	B1I	0.0082	92.823	109.687
C0F2A114A	A	C1	1	1	99.551	108.425	0.082	10	B1I	0.0082	100.534	109.496
C0F2A211A	A	C2	1	2	98.517	109.965	0.081	10	B1I	0.0081	98.862	110.350
C0F2A212A	A	C2	1	2	90.148	104.900	0.084	10	B1I	0.0084	93.524	108.829
C0F2A213A	A	C2	1	2	87.488	102.863	0.083	10	B1I	0.0083	89.774	105.551
C0F2B111A	B	C1	2	1	88.248	107.530	0.079	10	B1I	0.0079	86.269	105.118
C0F2B112A	B	C1	2	1	73.583	106.641	0.082	10	B1I	0.0082	74.037	107.299
C0F2B113A	B	C1	2	1	86.488	103.838	0.081	10	B1I	0.0081	86.345	103.667
C0F2B114A	B	C1	2	1	84.333	102.979	0.082	10	B1I	0.0082	85.374	104.250
C0F2B211A	B	C2	2	2	95.464	106.352	0.079	10	B1I	0.0079	93.618	104.295
C0F2B212A	B	C2	2	2	94.437	112.051	0.081	10	B1I	0.0081	94.282	111.866
C0F2B213A	B	C2	2	2	89.544	100.742	0.080	10	B1I	0.0080	88.272	99.312
C0F2C111A	C	C1	3	1	90.525	111.817	0.076	10	B1I	0.0076	84.862	104.823
C0F2C112A	C	C1	3	1	97.682	111.482	0.078	10	B1I	0.0078	94.004	107.284
C0F2C113A	C	C1	3	1	93.755	105.465	0.078	10	B1I	0.0078	89.839	101.060
C0F2C114A	C	C1	3	1	104.626	124.865	0.077	10	B1I	0.0077	99.740	119.033
C0F2C211A	C	C2	3	2	92.404	113.653	0.077	10	B1I	0.0077	87.479	107.606
C0F2C212A	C	C2	3	2	97.330	115.905	0.078	10	B1I	0.0078	93.945	111.875
C0F2C213A	C	C2	3	2	90.491	108.059	0.078	10	B1I	0.0078	86.897	103.768

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

Average	92.393	109.059	Average$_{norm}$	0.0080	91.095	107.520
Standard Dev.	6.579	5.534	Standard Dev.$_{norm}$		6.209	4.698
Coeff. of Var. [%]	7.121	5.075	Coeff. of Var. [%]$_{norm}$		6.816	4.369
Min.	73.583	100.742	Min.	0.0076	74.037	99.312
Max.	104.626	124.865	Max.	0.0084	100.534	119.033
Number of Spec.	21	21	Number of Spec.		21	21


Laminate Single Shear Bearing Properties (SSB2) -- (RTD)
Normalized 2% Offset Strength
Cytec Cycom 5215 T650 3K70PW Fabric
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 (SSB2) -- (RTD)
Normalized Ultimate Strength
Cytec Cycom 5215 T650 3K70PW Fabric
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
0
1
2
3
4

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

Cytec Cycom 5215 T650 3K70PW Fabric

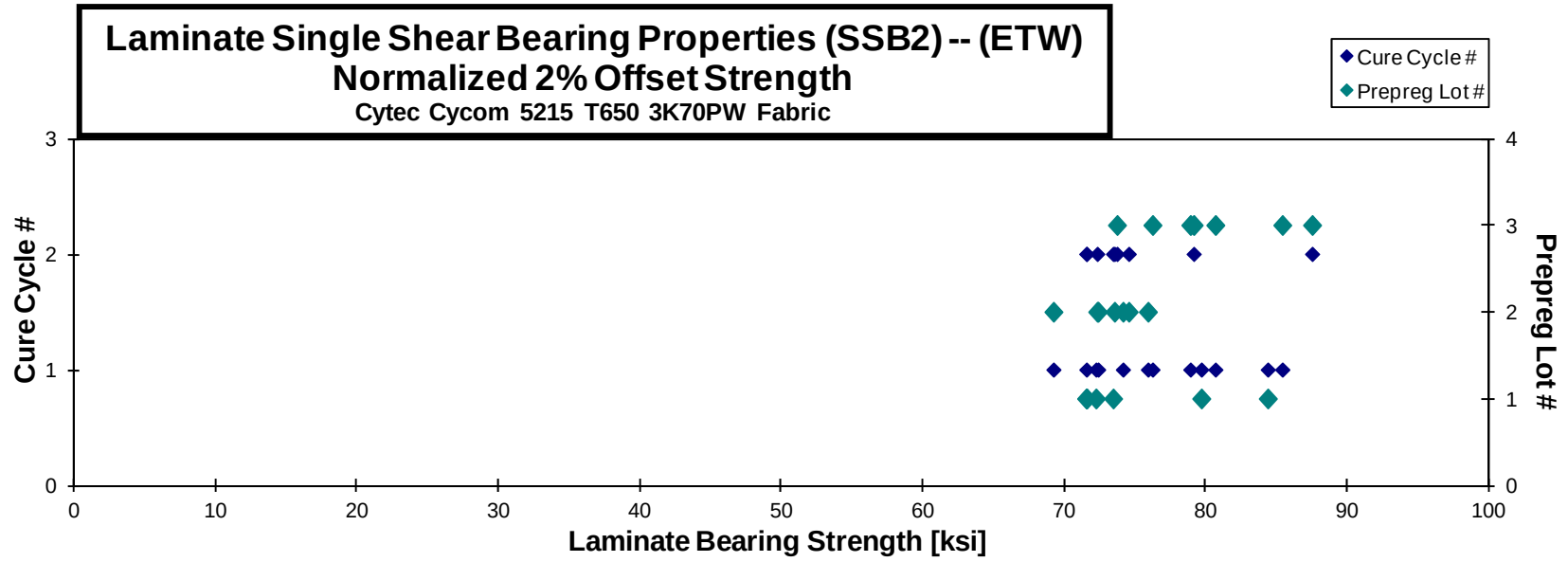
normalizing t_{ply} [in]: 0.0081

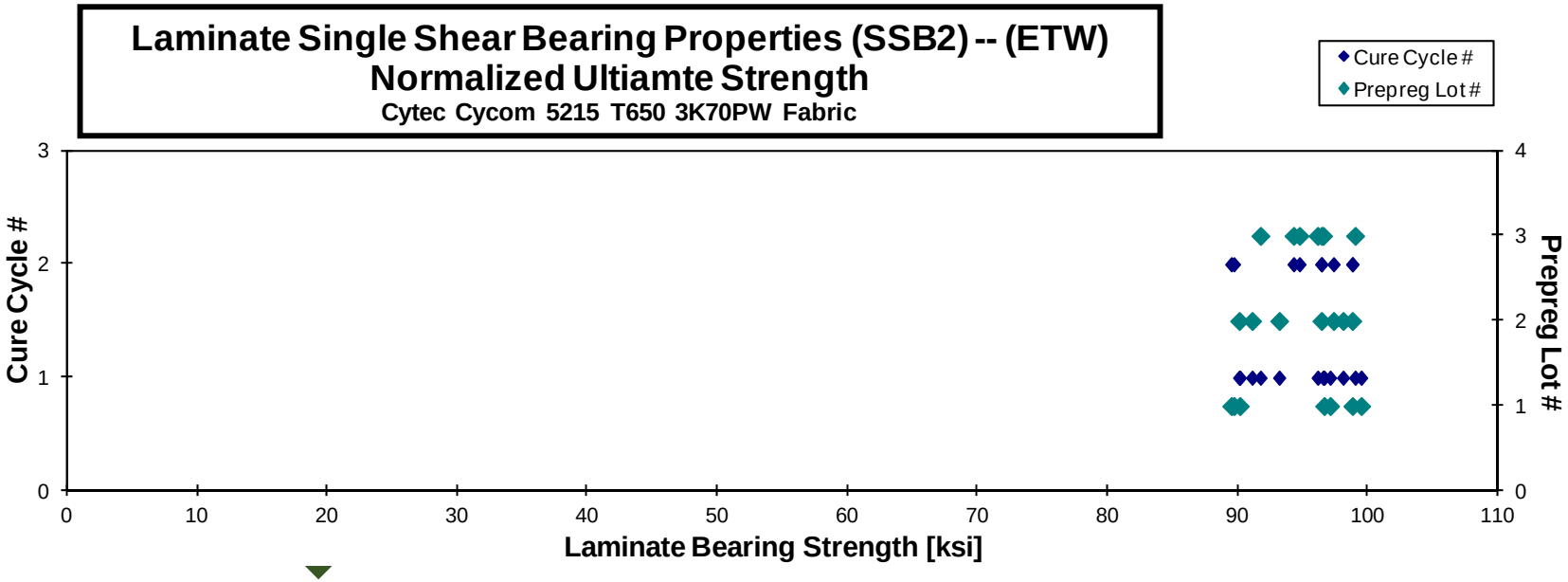
Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle #	2% Offset Strength [ksi]	Ultimate Strength [ksi]	Avg. Specimen Thickn. [in]	# Plies in Laminate	Comments	Avg. t_{ply} [in]	2% Offset Strength$_{norm}$ [ksi]	Ultimate Strength$_{norm}$ [ksi]
C0F2A116M	A	C1	1	1	70.459	94.179	0.083	10	B1I	0.0083	72.256	96.582
C0F2A117M	A	C1	1	1	70.029	88.143	0.083	10	B1I	0.0083	71.585	90.102
C0F2A118M	A	C1	1	1	76.618	93.284	0.084	10	B1I	0.0084	79.708	97.046
C0F2A119M	A	C1	1	1	81.927	96.513	0.083	10	B1I	0.0083	84.405	99.432
C0F2A216M	A	C2	1	2	74.221	90.561	0.080	10	B1I	0.0080	73.473	89.647
C0F2A217M	A	C2	1	2	71.303	98.372	0.081	10	B1I	0.0081	71.582	98.756
C0F2A218M	A	C2	1	2	71.016	88.717	0.082	10	B1I	0.0082	71.600	89.447
C0F2B116M	B	C1	2	1	74.591	93.790	0.079	10	B1I	0.0079	72.412	91.049
C0F2B117M	B	C1	2	1	75.532	97.519	0.081	10	B1I	0.0081	75.936	98.041
C0F2B118M	B	C1	2	1	74.213	90.109	0.081	10	B1I	0.0081	74.167	90.053
C0F2B119M	B	C1	2	1	70.206	94.412	0.080	10	B1I	0.0080	69.253	93.130
C0F2B216M	B	C2	2	2	70.892	94.429	0.083	10	B1I	0.0083	72.351	96.372
C0F2B217M	B	C2	2	2	75.634	100.150	0.080	10	B1I	0.0080	74.576	98.749
C0F2B218M	B	C2	2	2	72.142	95.420	0.083	10	B1I	0.0083	73.567	97.305
C0F2C116M	C	C1	3	1	81.934	102.728	0.078	10	B1I	0.0078	78.933	98.965
C0F2C117M	C	C1	3	1	79.325	95.378	0.078	10	B1I	0.0078	76.257	91.689
C0F2C118M	C	C1	3	1	82.779	98.987	0.079	10	B1I	0.0079	80.701	96.502
C0F2C119M	C	C1	3	1	86.339	97.105	0.080	10	B1I	0.0080	85.433	96.086
C0F2C216M	C	C2	3	2	90.138	97.030	0.079	10	B1I	0.0079	87.541	94.235
C0F2C217M	C	C2	3	2	81.225	97.148	0.079	10	B1I	0.0079	79.169	94.689
C0F2C218M	C	C2	3	2	76.210	99.595	0.078	10	B1I	0.0078	73.748	96.378

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

Average	76.511	95.408	
Standard Dev.	5.713	3.802	
Coeff. of Var. [%]	7.468	3.985	
Min.	70.029	88.143	
Max.	90.138	102.728	
Number of Spec.	21	21	

Average$_{norm}$	0.0081	76.126	94.965
Standard Dev.$_{norm}$		5.069	3.396
Coeff. of Var. [%]$_{norm}$		6.659	3.576
Min.	0.0078	69.253	89.447
Max.	0.0084	87.541	99.432
Number of Spec.		21	21


Laminate Single Shear Bearing Properties (SSB2) -- (ETW)
Normalized 2% Offset Strength
Cytec Cycom 5215 T650 3K70PW Fabric
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Bearing Strength [ksi]
0
10
20
30
40
50
60
70
80
90
100
0
1
2
3
4


Laminate Single Shear Bearing Properties (SSB2) -- (ETW)
Normalized Ultiamte Strength
Cytec Cycom 5215 T650 3K70PW Fabric
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

4.28 "40/20/40" Single-Shear Bearing 3 Properties (SSB3)

Laminate Single Shear Bearing Properties (SSB3) -- (RTD) Strength
Cytec Cycom 5215 T650 3K70PW Fabric

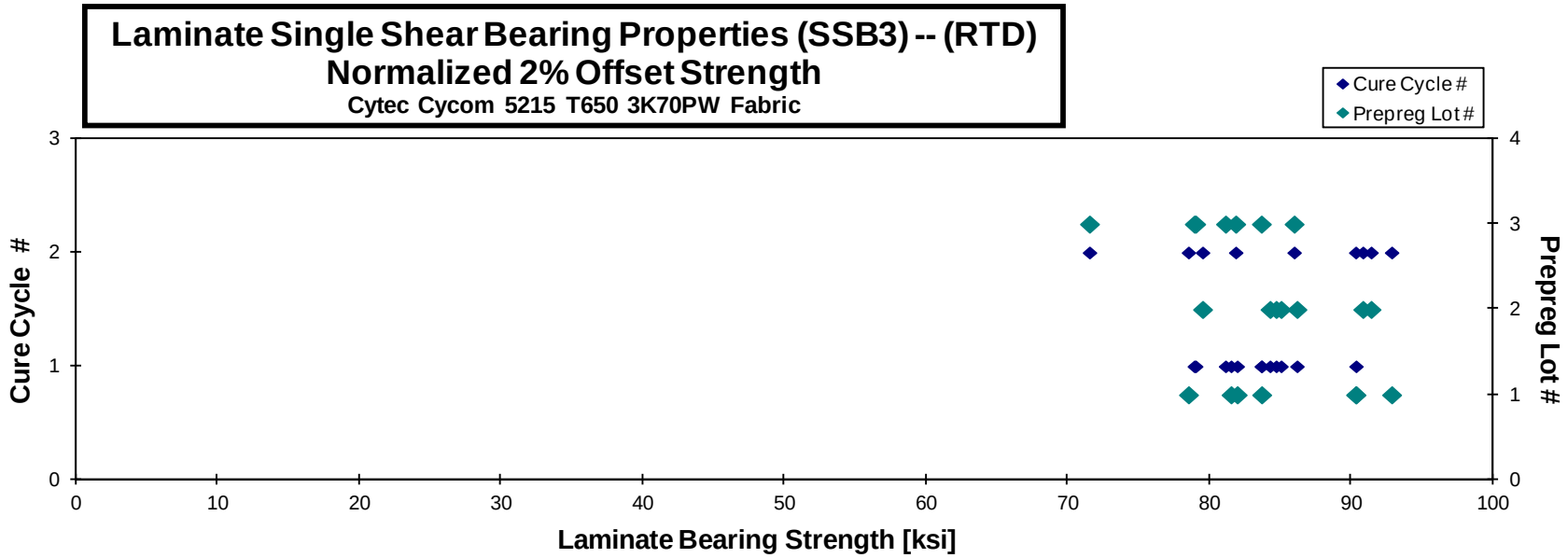
normalizing t_{ply} [in]: 0.0081

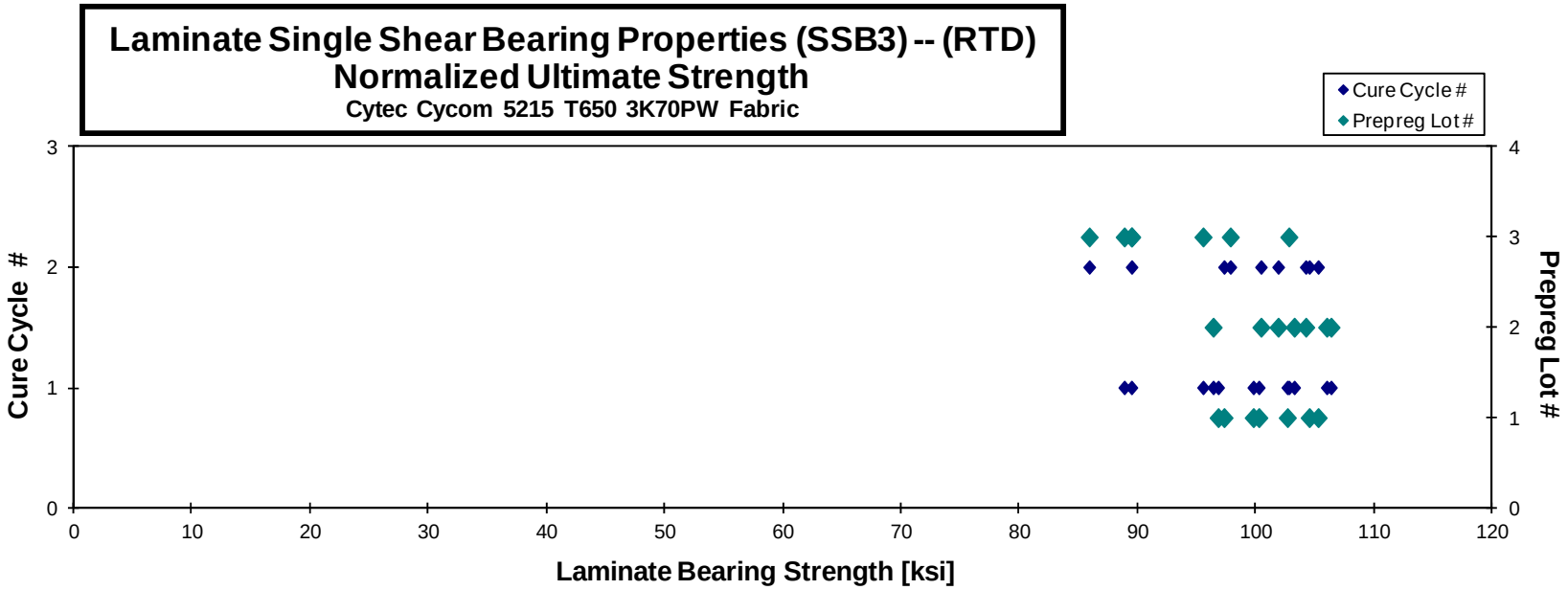
Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle #	2% Offset Strength [ksi]	Ultimate Strength [ksi]	Avg. Specimen Thickn. [in]	# Plies in Laminate	Comments	Avg. t_{ply} [in]	2% Offset Strength$_{norm}$ [ksi]	Ultimate Strength$_{norm}$ [ksi]
C0F3A111A	A	C1	1	1	81.938	100.622	0.081	10	B1I	0.0081	81.584	100.187
C0F3A113A	A	C1	1	1	84.197	103.156	0.081	10	B1I	0.0081	83.746	102.604
C0F3A114A	A	C1	1	1	81.168	95.742	0.082	10	B1I	0.0082	82.020	96.746
C0F3A115A	A	C1	1	1	89.302	98.504	0.082	10	B1I	0.0082	90.404	99.720
C0F3A211A	A	C2	1	2	80.231	106.651	0.079	10	B1I	0.0079	78.580	104.457
C0F3A212A	A	C2	1	2	92.106	99.104	0.079	10	B1I	0.0079	90.382	97.249
C0F3A213A	A	C2	1	2	92.274	104.474	0.082	10	B1I	0.0082	92.920	105.205
C0F3B111A	B	C1	2	1	87.097	108.844	0.079	10	B1I	0.0079	84.768	105.933
C0F3B112A	B	C1	2	1	86.648	103.674	0.081	10	B1I	0.0081	86.238	103.183
C0F3B113A	B	C1	2	1	85.389	107.618	0.080	10	B1I	0.0080	84.335	106.289
C0F3B114A	B	C1	2	1	87.212	98.705	0.079	10	B1I	0.0079	85.112	96.329
C0F3B211A	B	C2	2	2	94.562	105.946	0.078	10	B1I	0.0078	90.885	101.826
C0F3B212A	B	C2	2	2	92.999	105.904	0.080	10	B1I	0.0080	91.468	104.161
C0F3B213A	B	C2	2	2	80.772	101.877	0.080	10	B1I	0.0080	79.575	100.368
C0F3C111A	C	C1	3	1	85.655	94.324	0.077	10	B1I	0.0077	81.196	89.413
C0F3C112A	C	C1	3	1	80.958	91.015	0.079	10	B1I	0.0079	78.993	88.806
C0F3C113A	C	C1	3	1	87.806	100.125	0.077	10	B1I	0.0077	83.723	95.469
C0F3C114A	C	C1	3	1	83.505	108.468	0.077	10	B1I	0.0077	79.089	102.732
C0F3C211A	C	C2	3	2	91.179	103.621	0.076	10	B1I	0.0076	86.039	97.779
C0F3C212A	C	C2	3	2	75.072	93.770	0.077	10	B1I	0.0077	71.596	89.429
C0F3C213A	C	C2	3	2	85.211	89.297	0.078	10	B1I	0.0078	81.915	85.842

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

Average	85.966	101.021
Standard Dev.	4.995	5.702
Coeff. of Var. [%]	5.810	5.644
Min.	75.072	89.297
Max.	94.562	108.844
Number of Spec.	21	21

Average$_{norm}$	0.0079	84.027	98.749
Standard Dev.$_{norm}$		5.242	6.086
Coeff. of Var. [%]$_{norm}$		6.239	6.163
Min.	0.0076	71.596	85.842
Max.	0.0082	92.920	106.289
Number of Spec.		21	21


Laminate Single Shear Bearing Properties (SSB3) -- (RTD)
Normalized 2% Offset Strength
Cytec Cycom 5215 T650 3K70PW Fabric
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Bearing Strength [ksi]
0
10
20
30
40
50
60
70
80
90
100
0
1
2
3
4


Laminate Single Shear Bearing Properties (SSB3) -- (RTD)
Normalized Ultimate Strength
Cytec Cycom 5215 T650 3K70PW Fabric
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 (SSB3) -- (ETW) Strength

Cytec Cycom 5215 T650 3K70PW Fabric

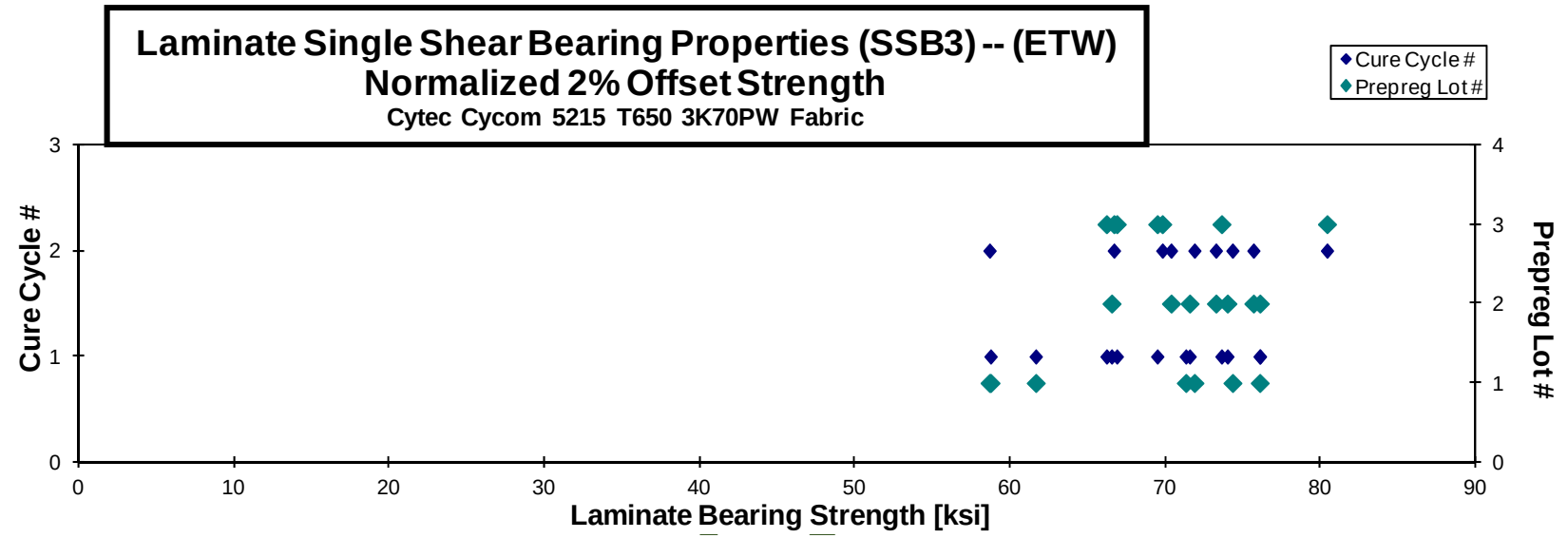
normalizing t_{ply} [in]: 0.0081

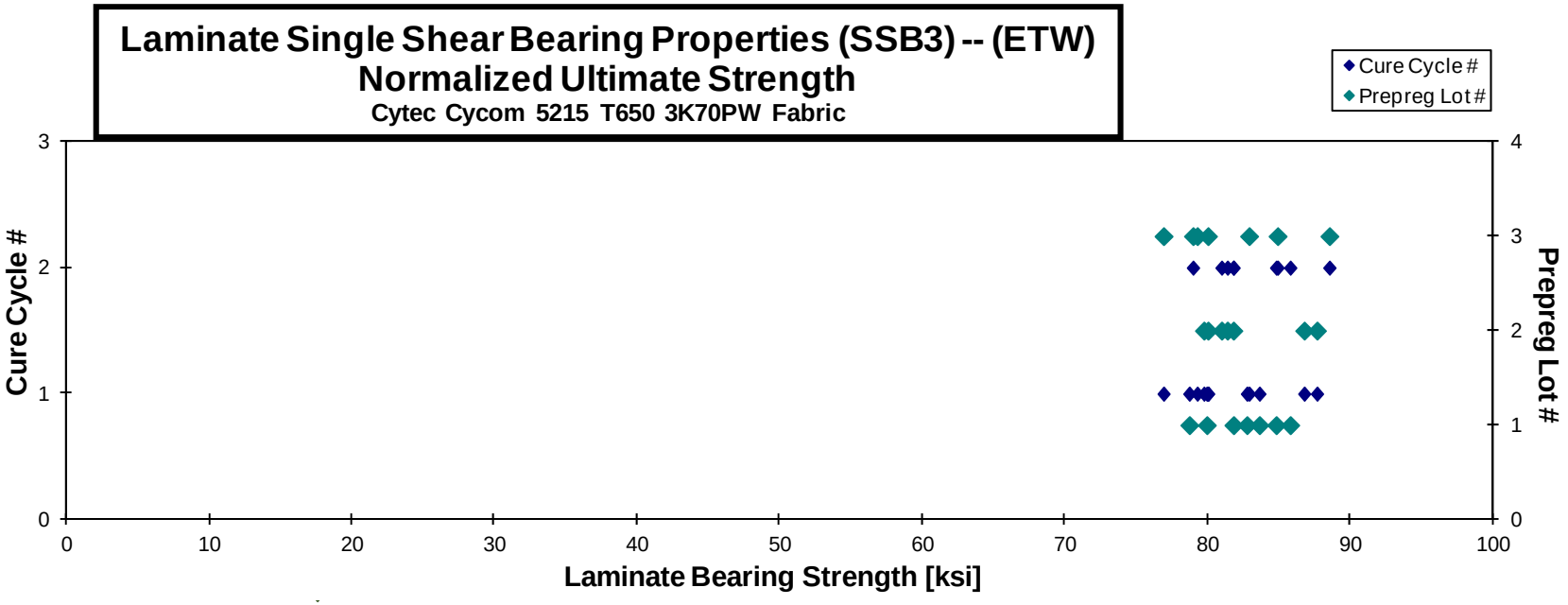
Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle #	2% Offset Strength [ksi]	Ultimate Strength [ksi]	Avg. Specimen Thickn. [in]	# Plies in Laminate	Comments	Avg. t_{ply} [in]	2% Offset $Strength_{norm}$ [ksi]	Ultimate $Strength_{norm}$ [ksi]
C0F3A116M	A	C1	1	1	58.619	83.519	0.081	10	B1I	0.0081	58.679	83.605
C0F3A117M	A	C1	1	1	69.055	80.171	0.084	10	B1I	0.0084	71.257	82.728
C0F3A118M	A	C1	1	1	74.145	77.946	0.083	10	B1I	0.0083	76.022	79.919
C0F3A119M	A	C1	1	1	60.081	76.764	0.083	10	B1I	0.0083	61.590	78.691
C0F3A216M	A	C2	1	2	74.264	81.786	0.081	10	B1I	0.0081	74.264	81.786
C0F3A217M	A	C2	1	2	57.841	83.659	0.082	10	B1I	0.0082	58.615	84.778
C0F3A218M	A	C2	1	2	70.110	83.733	0.083	10	B1I	0.0083	71.812	85.766
C0F3B116M	B	C1	2	1	67.616	81.082	0.080	10	B1I	0.0080	66.475	79.714
C0F3B117M	B	C1	2	1	74.273	87.140	0.081	10	B1I	0.0081	73.937	86.746
C0F3B118M	B	C1	2	1	69.171	84.783	0.084	10	B1I	0.0084	71.505	87.644
C0F3B119M	B	C1	2	1	76.426	80.416	0.081	10	B1I	0.0081	76.033	80.002
C0F3B216M	B	C2	2	2	73.972	82.647	0.080	10	B1I	0.0080	73.196	81.780
C0F3B217M	B	C2	2	2	70.118	81.141	0.081	10	B1I	0.0081	70.306	81.358
C0F3B218M	B	C2	2	2	75.150	80.455	0.082	10	B1I	0.0082	75.614	80.952
C0F3C116M	C	C1	3	1	68.868	85.430	0.079	10	B1I	0.0079	66.813	82.881
C0F3C117M	C	C1	3	1	73.907	80.382	0.081	10	B1I	0.0081	73.558	80.001
C0F3C118M	C	C1	3	1	69.834	77.347	0.081	10	B1I	0.0081	69.417	76.885
C0F3C119M	C	C1	3	1	67.229	80.538	0.080	10	B1I	0.0080	66.150	79.246
C0F3C216M	C	C2	3	2	73.129	92.809	0.077	10	B1I	0.0077	69.743	88.513
C0F3C217M	C	C2	3	2	83.090	87.769	0.078	10	B1I	0.0078	80.355	84.880
C0F3C218M	C	C2	3	2	68.341	80.982	0.079	10	B1I	0.0079	66.625	78.949

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

Average	70.249	82.405	
Standard Dev.	6.030	3.757	
Coeff. of Var. [%]	8.583	4.559	
Min.	57.841	76.764	
Max.	83.090	92.809	
Number of Spec.	21	21	

$Average_{norm}$	0.0081	70.094	82.230
$Standard\ Dev._{norm}$		5.713	3.185
$Coeff.\ of\ Var.\ [\%]_{norm}$		8.150	3.874
Min.	0.0077	58.615	76.885
Max.	0.0084	80.355	88.513
Number of Spec.		21	21


Laminate Single Shear Bearing Properties (SSB3) -- (ETW)
Normalized 2% Offset Strength
Cytec Cycom 5215 T650 3K70PW Fabric
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Bearing Strength [ksi]
0
10
20
30
40
50
60
70
80
90
0
1
2
3
4


Laminate Single Shear Bearing Properties (SSB3) -- (ETW)
Normalized Ultimate Strength
Cytec Cycom 5215 T650 3K70PW Fabric
Cure Cycle #
Prepreg Lot #
Cure Cycle #
Prepreg Lot #
Laminate Bearing Strength [ksi]
0
10
20
30
40
50
60
70
80
90
100
0
1
2
3
4

4.29 Compression After Impact 1 Properties (CAI1)

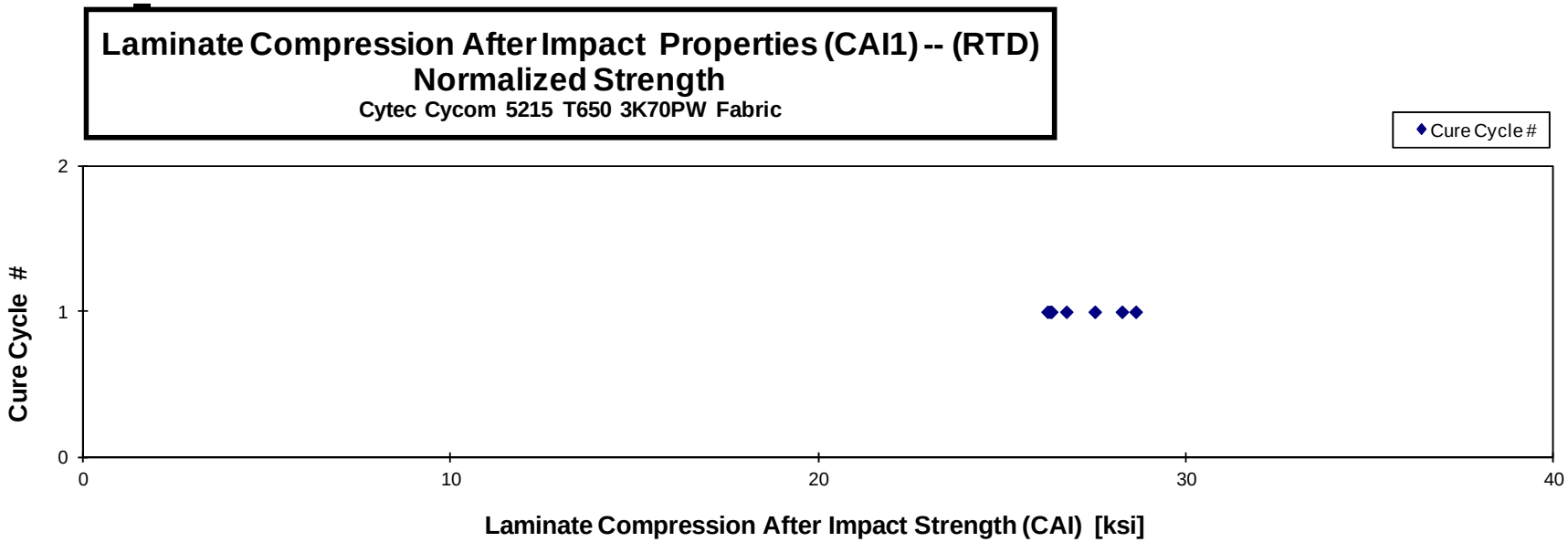
Laminate Compression After Impact Properties (CAI1) -- (RTD)
Strength
Cytec Cycom 5215 T650 3K70PW Fabric

normalizing t_{ply} [in]
0.0081

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]
C0FKA111A	A	C1	1	1	301.72	27.990	0.199	24	LDM	0.0083	28.626
C0FKA112A	A	C1	1	1	302.40	25.439	0.200	24	LDM	0.0084	26.228
C0FKA113A	A	C1	1	1	290.32	27.091	0.197	24	LDM	0.0082	27.514
C0FKA114A	A	C1	1	1	297.64	25.675	0.199	24	LDM	0.0083	26.289
C0FKA115A	A	C1	1	1	296.16	26.247	0.198	24	LDM	0.0083	26.740
C0FKA116A	A	C1	1	1	299.83	25.686	0.199	24	LDM	0.0083	26.329
C0FKA117A	A	C1	1	1	297.02	27.801	0.198	24	LDM	0.0082	28.252

Average	26.561	
Standard Dev.	1.062	
Coeff. of Var. [%]	3.999	
Min.	25.439	
Max.	27.990	
Number of Spec.	7	

$Average_{norm}$	0.00828	27.140
$Standard\ Dev._{norm}$		0.996
$Coeff.\ of\ Var.\ [\%]_{norm}$		3.672
Min.	0.0082	26.228
Max.	0.0084	28.626
Number of Spec.		7


Laminate Compression After Impact Properties (CAI1) -- (RTD)
Normalized Strength
Cytec Cycom 5215 T650 3K70PW Fabric
Cure Cycle #
Cure Cycle #
2
1
0
0
10
20
30
40
Laminate Compression After Impact Strength (CAI) [ksi]

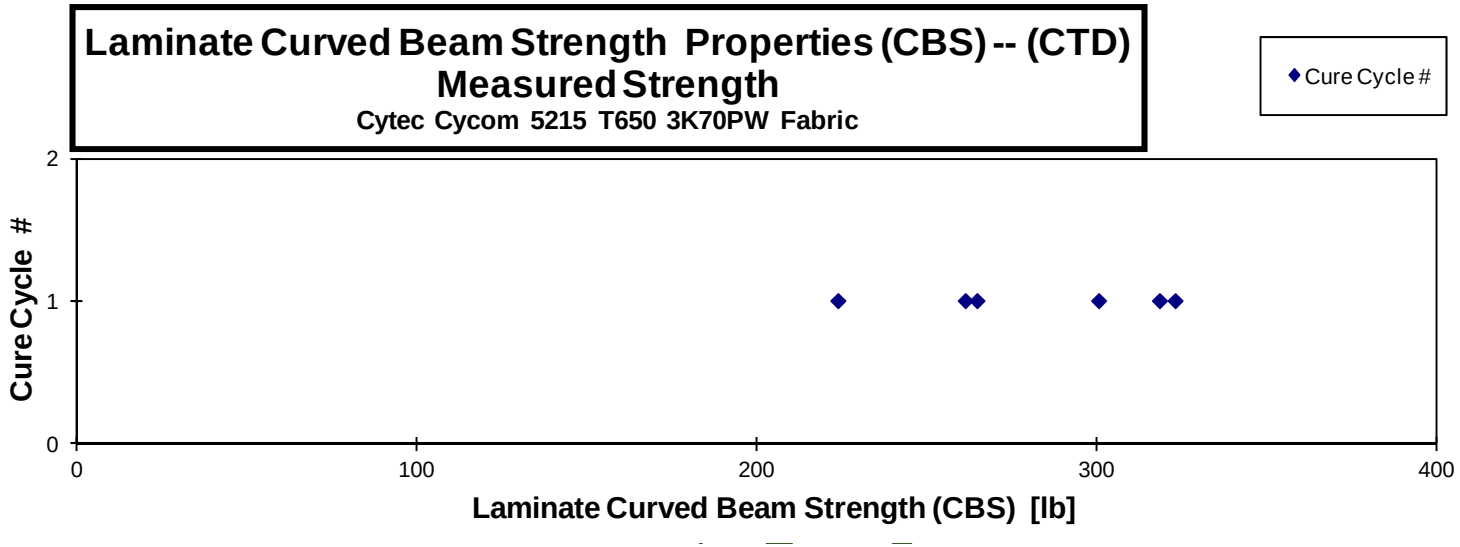
4.30 Interlaminar Tension Properties (ILT)

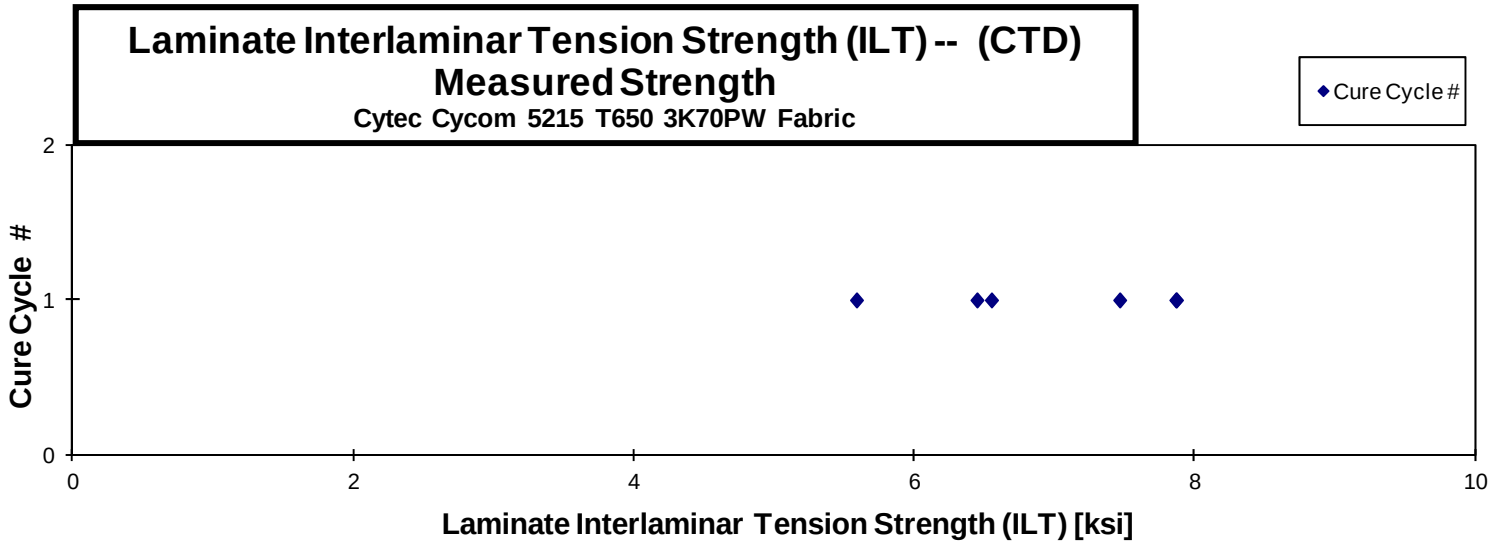
Laminate Curved Beam Strength Properties (ILT) -- (CTD) Strength
Cytec Cycom 5215 T650 3K70PW Fabric

Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle #	Curved Beam Strength [lb]	Interlaminar Tension Strength [ksi]	Avg. Specimen Thickn. [in]	# Plies in Laminate	Avg. t_{ply} [in]	Failure Mode
C0FMA117B	A	C1	1	1	264.948	6.543	0.184	21	0.0088	INTERLAMINAR TENSION
C0FMA118B	A	C1	1	1	323.230	7.858	0.187	21	0.0089	INTERLAMINAR TENSION
C0FMA119B	A	C1	1	1	318.623	7.862	0.184	21	0.0088	INTERLAMINAR TENSION
C0FMA11AB	A	C1	1	1	224.027	5.581	0.183	21	0.0087	INTERLAMINAR TENSION
C0FMA11BB	A	C1	1	1	300.732	7.458	0.184	21	0.0087	INTERLAMINAR TENSION
C0FMA11CB	A	C1	1	1	261.512	6.440	0.185	21	0.0088	INTERLAMINAR TENSION

Basis values are not calcuated on ILT/CBS due to variation in processing

Average	**282.179**	**6.957**	**Average**	**0.009**
Standard Dev.	**38.635**	**0.918**	**Standard Dev.**	
Coeff. of Var. [%]	**13.692**	**13.195**	**Coeff. of Var. [%]**	
Min.	**224.027**	**5.581**	**Min.**	**0.009**
Max.	**323.230**	**7.862**	**Max.**	**0.009**
Number of Spec.	**6**	**6**	**Number of Spec.**	**6**


Laminate Curved Beam Strength Properties (CBS) -- (CTD)
Measured Strength
Cytec Cycom 5215 T650 3K70PW Fabric
Cure Cycle #
Cure Cycle #
0
1
2
0
100
200
300
400
Laminate Curved Beam Strength (CBS) [lb]


Laminate Interlaminar Tension Strength (ILT) -- (CTD)
Measured Strength
Cytec Cycom 5215 T650 3K70PW Fabric
Cure Cycle #
Cure Cycle #
0
1
2
0
2
4
6
8
10
Laminate Interlaminar Tension Strength (ILT) [ksi]

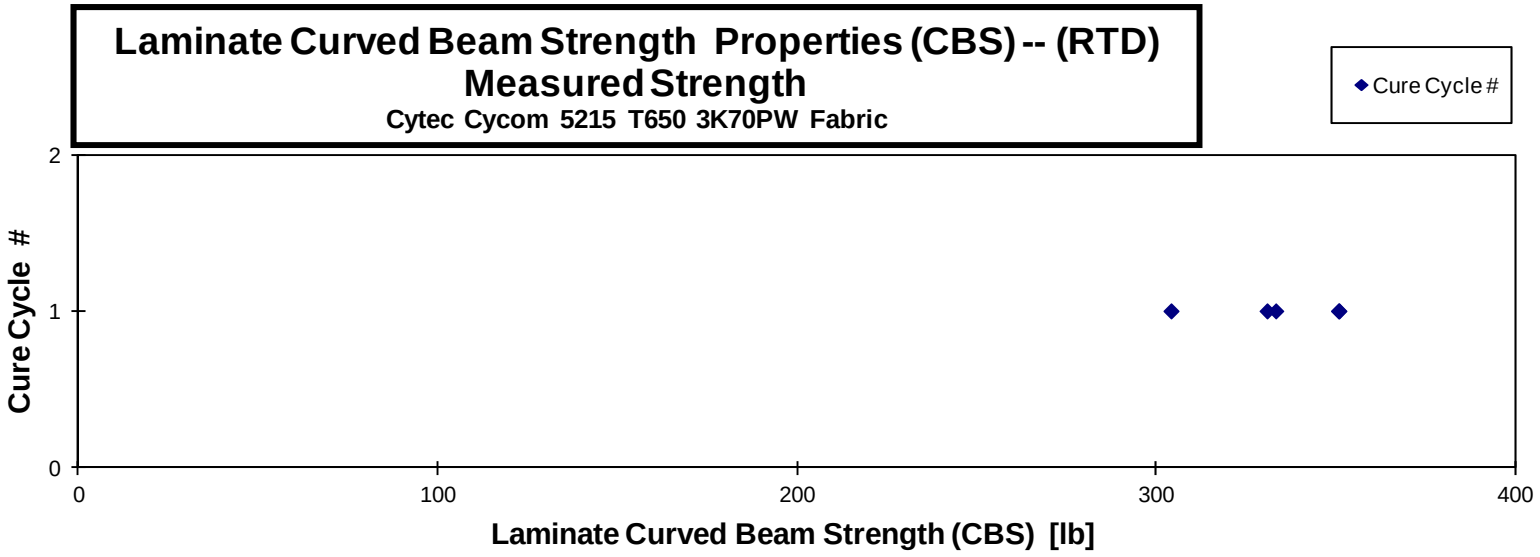
Laminate Curved Beam Strength Properties (ILT) -- (RTD) Strength

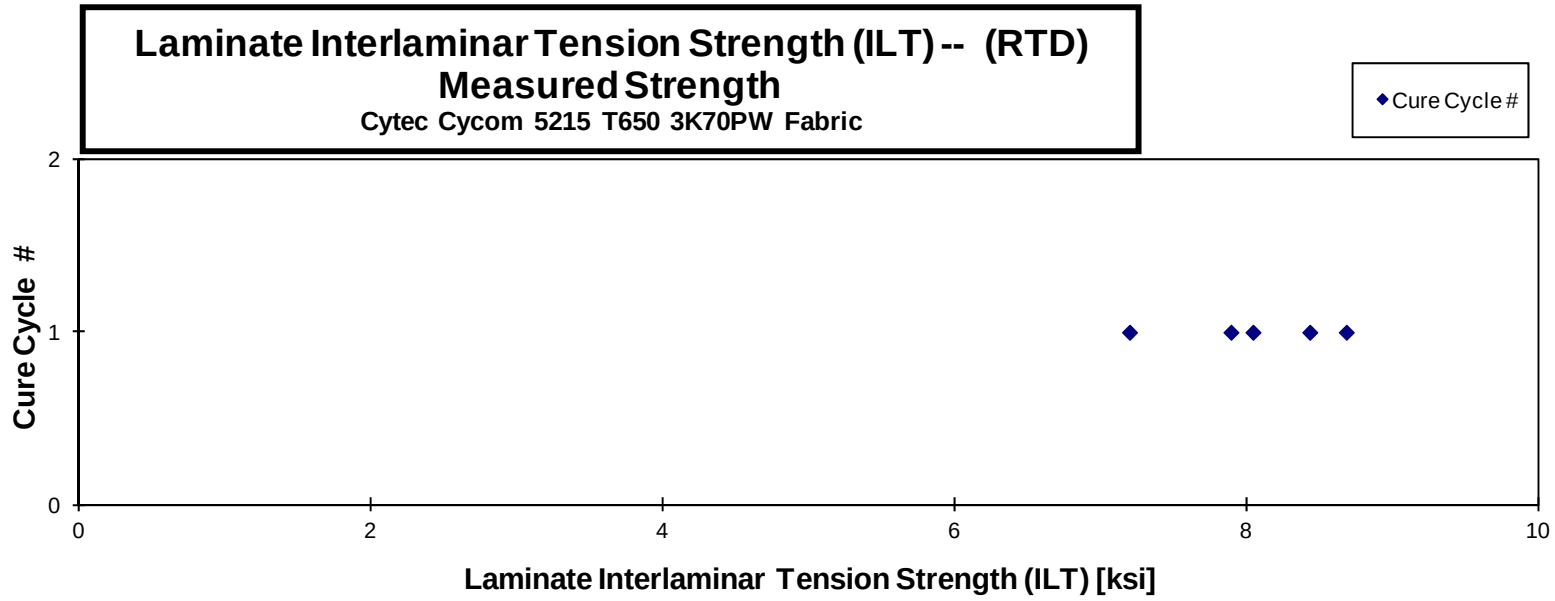
Cytec Cycom 5215 T650 3K70PW Fabric

Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle #	Curved Beam Strength [lb]	Interlaminar Tension Strength [ksi]	Avg. Specimen Thickn. [in]	# Plies in Laminate	Avg. t_{ply} [in]	Failure Mode
C0FMA112A	A	C1	1	1	304.324	7.198	0.191	21	0.0091	INTERLAMINAR TENSION
C0FMA113A	A	C1	1	1	333.486	7.893	0.191	21	0.0091	INTERLAMINAR TENSION
C0FMA114A	A	C1	1	1	351.095	8.433	0.189	21	0.0090	INTERLAMINAR TENSION
C0FMA115A	A	C1	1	1	331.077	8.044	0.187	21	0.0089	INTERLAMINAR TENSION
C0FMA116A	A	C1	1	1	350.958	8.683	0.184	21	0.0088	INTERLAMINAR TENSION

Basis values are not calcuated on ILT/CBS due to variation in processing

Average	**334.188**	**8.050**	**Average**	**0.009**	
Standard Dev.	**19.165**	**0.570**	**Standard Dev.**		
Coeff. of Var. [%]	**5.735**	**7.077**	**Coeff. of Var. [%]**		
Min.	**304.324**	**7.198**	**Min.**	**0.009**	
Max.	**351.095**	**8.683**	**Max.**	**0.009**	
Number of Spec.	**5**	**5**	**Number of Spec.**	**5**	


Laminate Curved Beam Strength Properties (CBS) -- (RTD)
Measured Strength
Cytec Cycom 5215 T650 3K70PW Fabric
Cure Cycle #
Cure Cycle #
0
1
2
0
100
200
300
400
Laminate Curved Beam Strength (CBS) [lb]


Laminate Interlaminar Tension Strength (ILT) -- (RTD)
Measured Strength
Cytec Cycom 5215 T650 3K70PW Fabric
Cure Cycle #
Cure Cycle #
0
1
2
0
2
4
6
8
10
Laminate Interlaminar Tension Strength (ILT) [ksi]

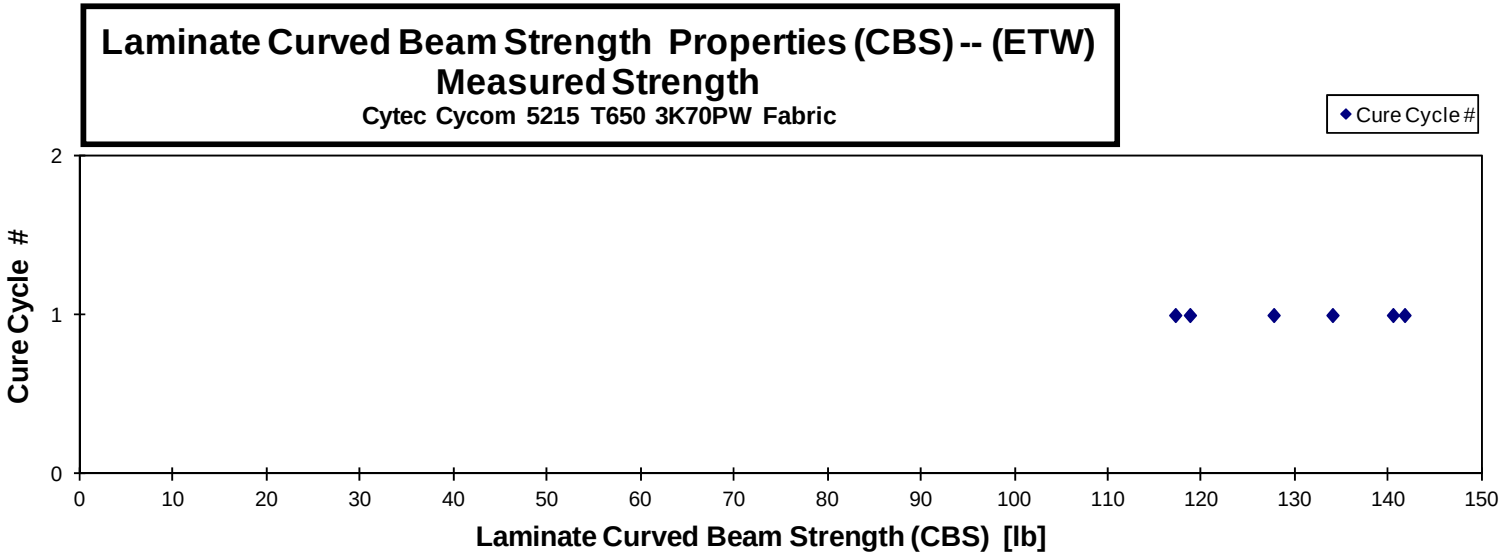
Laminate Curved Beam Strength Properties (ILT) -- (ETW) Strength

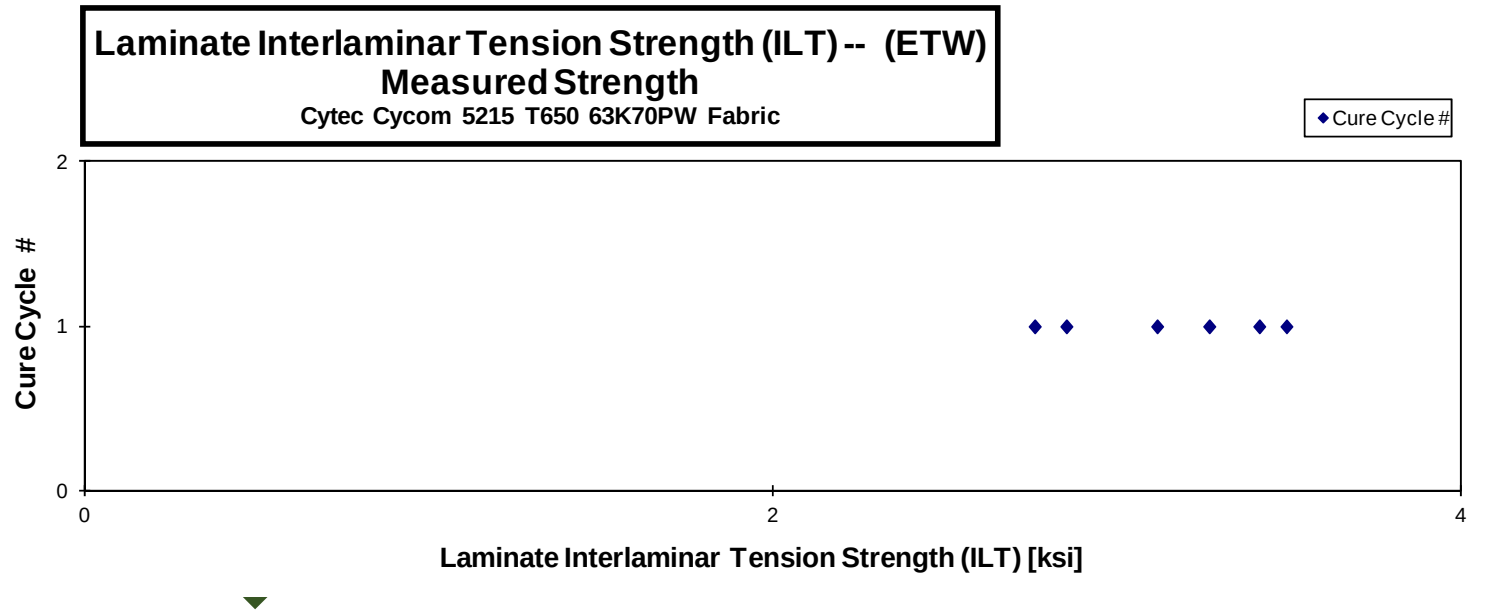
Cytec Cycom 5215 T650 3K70PW Fabric

Specimen Number	Cytec Batch #	Cytec Cure Cycle	Prepreg Lot #	Cure Cycle #	Curved Beam Strength [lb]	Interlaminar Tension Strength [ksi]	Avg. Specimen Thickn. [in]	# Plies in Laminate	Avg. t_{ply} [in]	Failure Mode
C0FMA11DM	A	C1	1	1	140.392	3.410	0.187	21	0.0089	INTERLAMINAR TENSION
C0FMA11EM	A	C1	1	1	141.641	3.489	0.185	21	0.0088	INTERLAMINAR TENSION
C0FMA11FM	A	C1	1	1	133.928	3.265	0.186	21	0.0089	INTERLAMINAR TENSION
C0FMA11GM	A	C1	1	1	117.106	2.850	0.187	21	0.0089	INTERLAMINAR TENSION
C0FMA11HM	A	C1	1	1	127.631	3.114	0.186	21	0.0089	INTERLAMINAR TENSION
C0FMA11IM	A	C1	1	1	118.676	2.758	0.194	21	0.0092	INTERLAMINAR TENSION

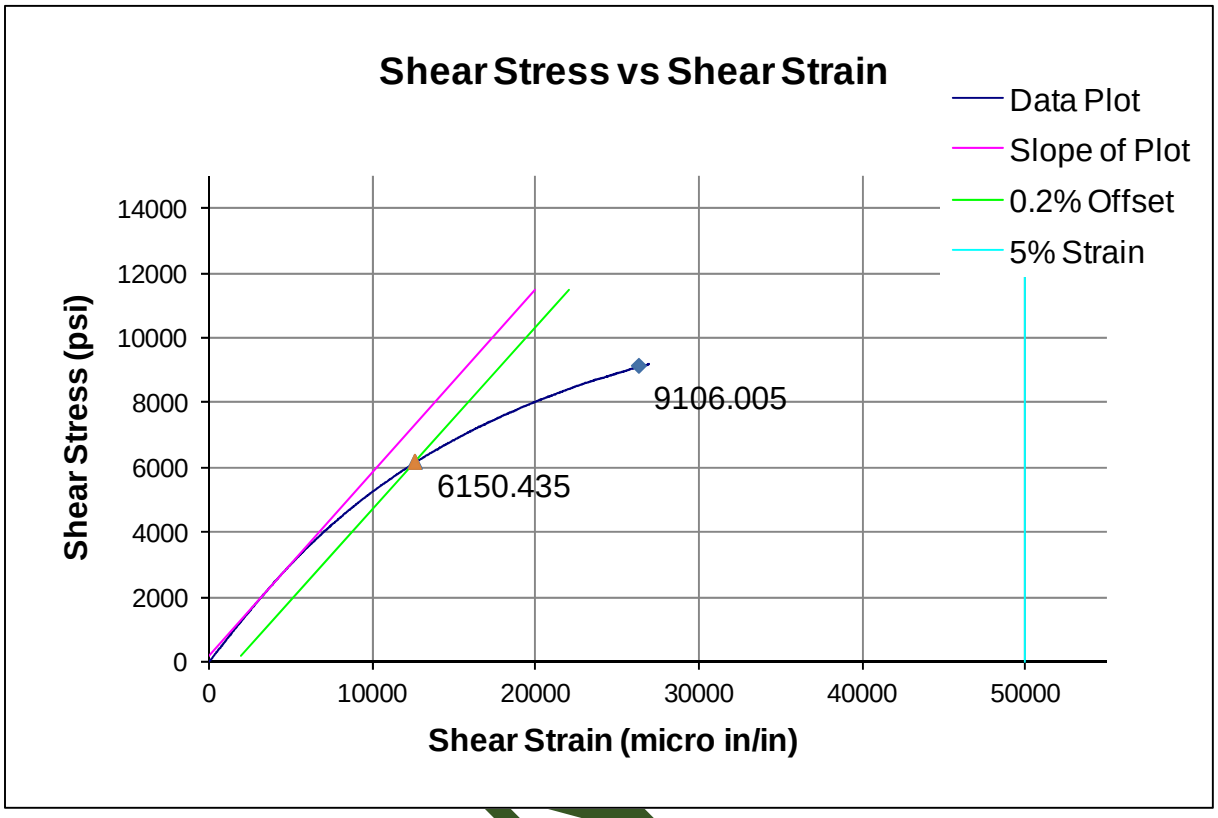
Basis values are not calcuated on ILT/CBS due to variation in processing

Average	**129.896**	**3.148**	**Average**	**0.009**	
Standard Dev.	**10.573**	**0.297**	**Standard Dev.**		
Coeff. of Var. [%]	**8.140**	**9.441**	**Coeff. of Var. [%]**		
Min.	**117.106**	**2.758**	**Min.**	**0.009**	
Max.	**141.641**	**3.489**	**Max.**	**0.009**	
Number of Spec.	**6**	**6**	**Number of Spec.**	**6**	


Laminate Curved Beam Strength Properties (CBS) -- (ETW)
Measured Strength
Cytec Cycom 5215 T650 3K70PW Fabric
Cure Cycle #
Cure Cycle #
0
1
2
0
10
20
30
40
50
60
70
80
90
100
110
120
130
140
150
Laminate Curved Beam Strength (CBS) [lb]


Laminate Interlaminar Tension Strength (ILT) -- (ETW)
Measured Strength
Cytec Cycom 5215 T650 63K70PW Fabric
Cure Cycle #
Cure Cycle #
0
1
2
0
2
4
Laminate Interlaminar Tension Strength (ILT) [ksi]

5. Shear Stress vs. Shear Strain, RTD



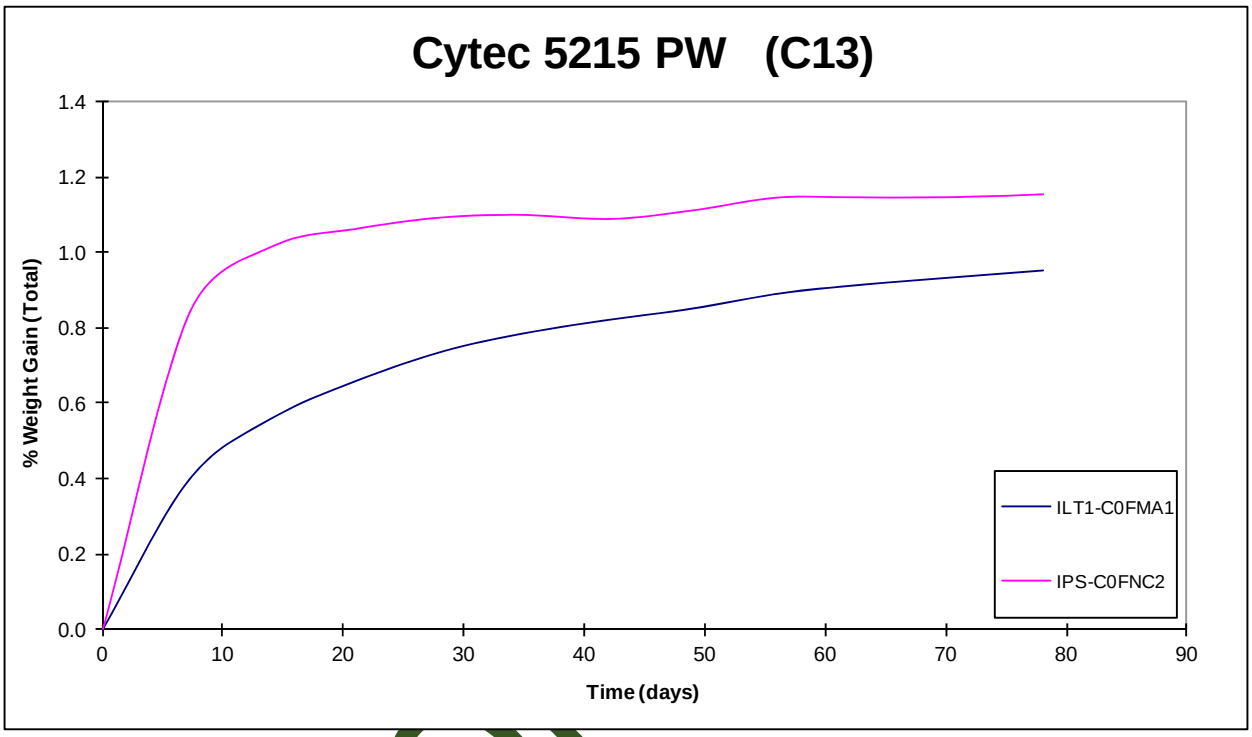
Data up to 5% strain is not available because strain measurement device used was an extensometer, which was removed prior to 5% strain.

6. Fluid Sensitivity Comparison

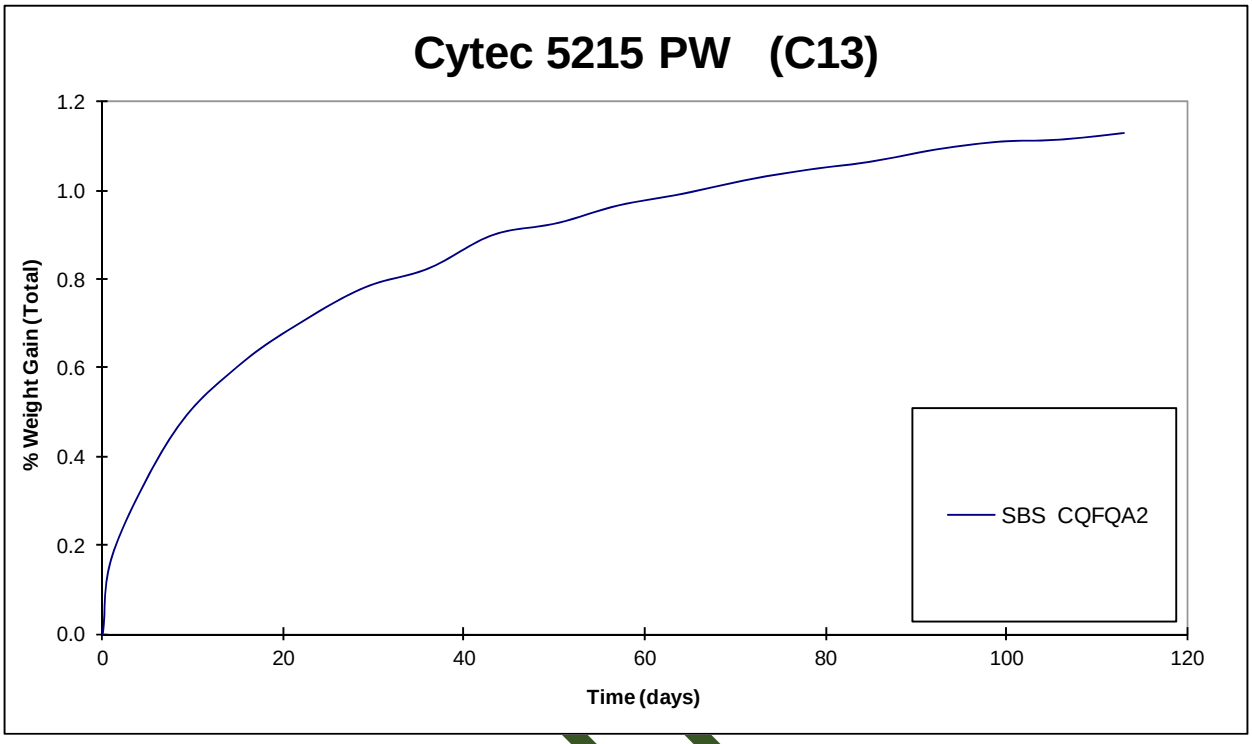
Fluid sensitivity screening was not performed on this material. It was performed on Cytec 5215 T40-800 Unitape and Cytec 5215 T650 6K-135-5HS fabric.

7. Moisture Conditioning Charts

7.1 In-Plane Shear - Thinnest Panel



7.2 Short-Beam Strength - Thickest Panel



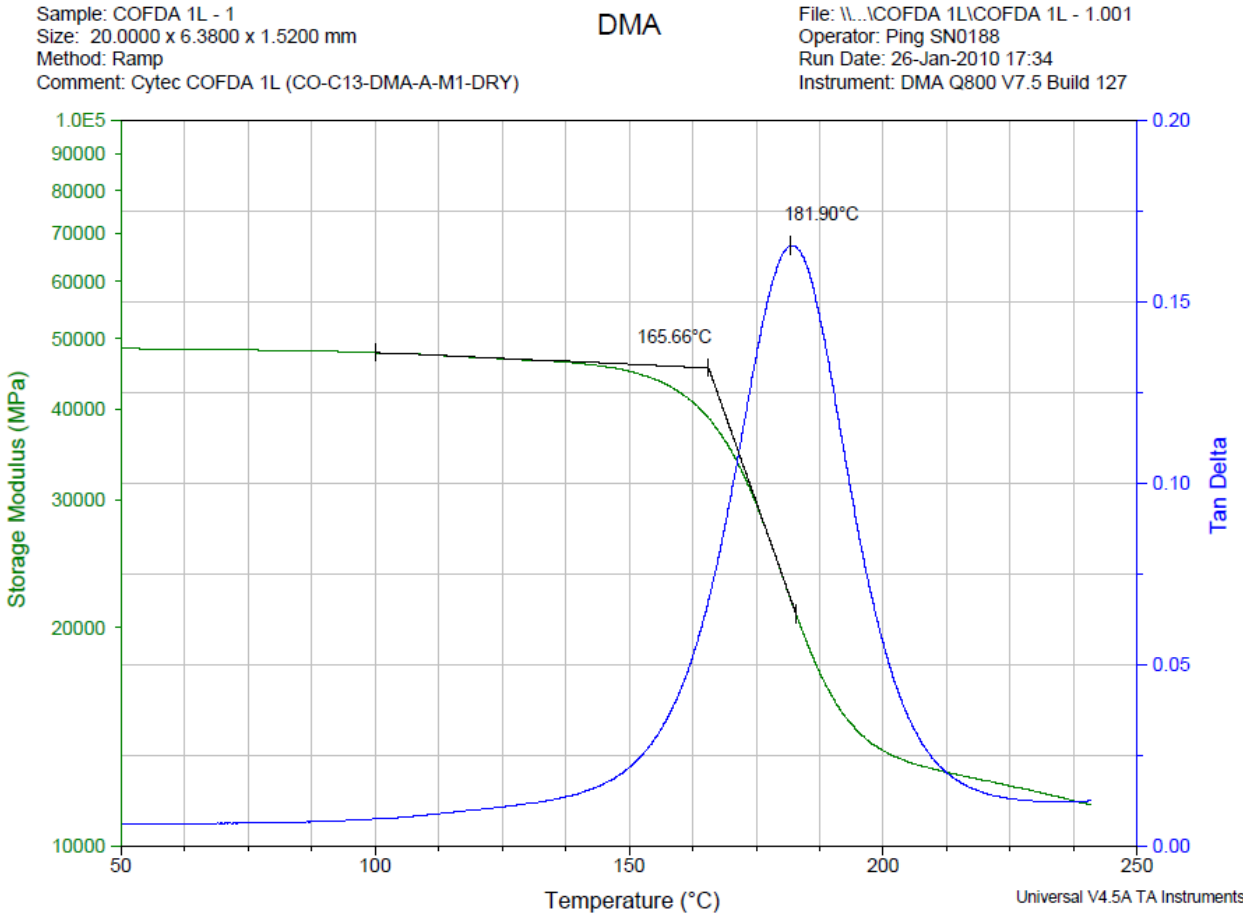
The rest of the curves can be found on the CD that accompanies this report.

8. DMA Results

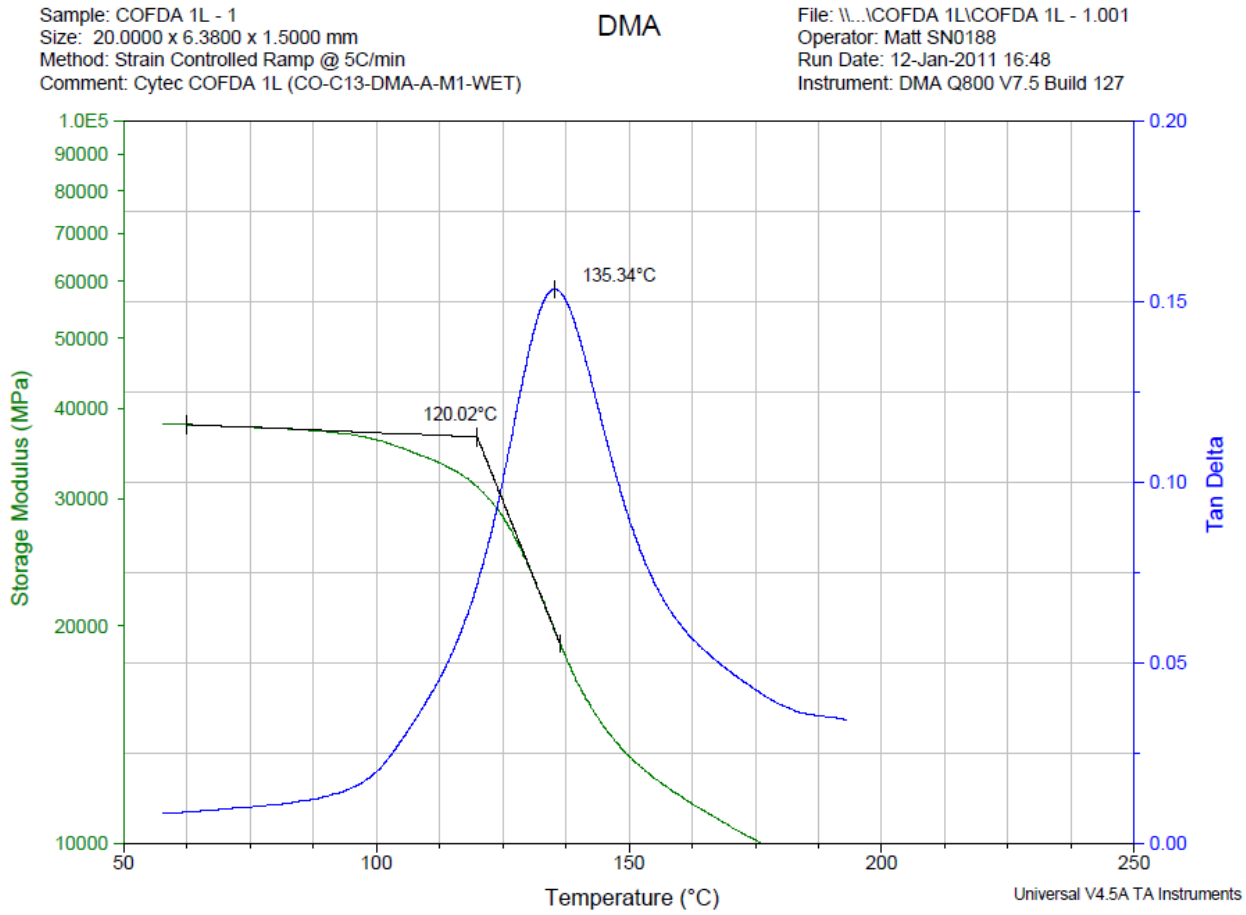
DMA Results Summary				
Cytec 5215 PW COFDX XX Dry (Qualification)				
Sample #	**Onset Storage Modulus**		**Peak of Tangent Delta**	
	Average		**Average**	
	Tg [°C]	**Tg [°F]**	**Tg [°C]**	**Tg [°F]**
COFDA 1L	166.07	330.92	182.32	360.17
COFDA 2L	164.20	327.55	179.97	355.95
COFDB 1L	165.09	329.16	180.79	357.42
COFDB 2L	166.82	332.28	182.84	361.10
COFDC 1L	162.50	324.50	179.14	354.44
COFDC 2L	166.41	331.54	183.30	361.93
COFDA 1Z	167.55	333.58	183.55	362.39
COFDA 2Z	168.55	335.38	185.13	365.23
COFDB 1Z	166.07	330.92	182.43	360.37
COFDB 2Z	165.39	329.69	180.04	356.06
COFDC 1Z	169.07	336.33	185.25	365.45
COFDC 2Z	164.46	328.02	180.83	357.49
AVERAGE		**330.82**		

DMA Results Summary				
Cytec 5215 PW COFDX XX Wet (Qualification)				
Sample #	**Onset Storage Modulus**		**Peak of Tangent Delta**	
	Average		**Average**	
	Tg [°C]	**Tg [°F]**	**Tg [°C]**	**Tg [°F]**
COFDA 1L	119.63	247.33	135.19	275.33
COFDA 2L	118.77	245.78	133.54	272.37
COFDB 1L	119.26	246.66	134.05	273.28
COFDB 2L	121.48	250.66	136.46	277.62
COFDC 1L	118.62	245.52	133.74	272.72
COFDC 2L	120.80	249.43	135.38	275.68
COFDA 1Z	123.60	254.47	138.64	281.54
COFDA 2Z	123.66	254.59	140.09	284.16
COFDB 1Z	124.00	255.19	138.92	282.06
COFDB 2Z	121.34	250.41	137.41	279.34
COFDC 1Z	124.57	256.22	141.56	286.81
COFDC 2Z	122.21	251.98	138.68	281.62
AVERAGE		**250.69**		

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. SBS1 sampling were taken from OHC1 panel instead of CAI1 panel to fulfill batch requirements