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1. Introduction

1.1 Scope

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

The use of NCAMP material and process specifications 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, Victrex LMPAEK™ UDT AS7-192-34 Qualification Statistical Analysis Report NCP-RP-2025-005. The qualification material was procured to NCAMP Material Specification NMS 125/3 Revision Initial Release dated July 03, 2023. The qualification test panels were consolidated in accordance with NCAMP Process Specification NPS 81253AFP Revision - dated July 03, 2023 with Baseline "C" Consolidation Cycle. The NCAMP Test Plan NTP 1251Q1 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 8.4.1 of CMH-17 Vol 1. 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 8.4.1 of CMH-17 Vol 1 are adequate for the given program.

Aircraft companies should not use the data published in this report without specifying NCAMP Material Specification NMS 125/3. NMS 125/3 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 125/3.* NMS 125/3 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
$\mu\epsilon$	micro-strain
E_1^c	compressive modulus, longitudinal / warp direction
E_1^t	tensile modulus, longitudinal / warp direction
E_2^c	compressive modulus, transverse / fill direction
E_2^t	tensile modulus, transverse / fill direction
F_1^{cu}	ultimate compressive strength, longitudinal / warp direction
F_1^{tu}	ultimate tensile strength, longitudinal / warp direction
F_2^{cu}	ultimate compressive strength, transverse / fill direction
F_2^{tu}	ultimate tensile strength, transverse / fill direction
ν_{12}^c	major Poisson's Ratio, compression
ν_{21}^c	minor Poisson's Ratio, compression
F_{12}^{su}	in-plane shear ultimate peak strength
F_{12}^{smax}	in-plane shear peak strength before 5% strain
$F_{12}^{s5\% \text{ strain}}$	in-plane shear strength at 5% strain
$F_{12}^{s0.2\%}$	in-plane shear strength at 0.2% offset
G_{12}^s	in-plane shear modulus

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
CTA	cold temperature ambient
CPT	consolidated ply thickness
ETA	elevated temperature ambient
ETW	elevated temperature wet
Gr/Ep	graphite/epoxy
norm	normalized
RTA	room temperature ambient
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 Panel and Specimen Identification

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

This Document Number-Prepregger ID-Material Code-Fabricator ID-Intended Test Type-Batch ID-Consolidation Cycle ID-Test Panel ID-Test Condition-Specimen Number.

For example:

NTP1251Q1-V-A2-DA-LT-A-C1-1-RTA-3									
Document Number	Prepregger ID	Material Code	Fabricator ID	Intended Test Type	Prepreg Batch ID	Consolidation Cycle ID	Test Panel ID	Test Condition	Specimen Number

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

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

Prepregger ID	
Vitrex USA: V	

Material Code	Prepreg Name
A2	Vitrex LMPAEK™ UDT AS7-192-34

Fabricator ID (Company that lays up, bags, and consolidations the test panels)	
Daher: DA	

Test Type	
LT: Longitudinal Tension	UNC0, UNC1...: Un-notched Compression Layup 0, Layup 1, etc.
LC: Longitudinal Compression	UNT1, UNT2...: Un-notched Tension Layup 1, Layup 2, etc.
TC: Transverse Compression	OHT1, OHT2...: Open Hole Tension Layup 1, Layup 2, etc.
FLEX: Flex	OHC1, OHC2...: Open Hole Compression Layup 1 etc.

IPS: In Plane Shear	FHT1, FHT2...: Filled Hole Tension Layup 1, Layup 2 etc.
VNS: V-Notched Rail Shear	FHC1, FHC2...: Filled Hole Compression Layup 1, Layup 2 etc.
DNS: Double Notch Shear	SSB1, SSB2...: Single Shear Pin Bearing Layup 1, Layup 2....etc.
DMA: Dynamic Mechanical Analysis	CAI1: Compression After Impact Layup 1, Layup 2, ... etc.
ILT: Interlaminar Tension	DSC: Differential Scanning Calorimetry
QI: Quasi Isotropic	
DNS: Double Notch Shear	
FSS: Fluid Sensitivity Screening	

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

Batch ID: A, B, C, D, E, F, etc. (to be cross referenced with prepreg batch numbers as shown in appendix 3)

Consolidation Cycle ID: C1, C2, C3, etc. Baseline Temp. Consolidation Cycle 1, 2, 3, etc.

Note: Consolidation Cycle numbers 1, 2, 3, etc. in Appendix 2 are for reference only. Actual numbers may vary depending on the actual consolidation cycle runs.

Test Panel ID: 1,2,3,4,5,6,7,8,9,A,B,C..... etc. (restart from 1 for every Consolidation Cycle ID)

Test Condition: CTA, RTA, ETA, ETW (cold temp. ambient moisture, room temp. ambient moisture, etc., see section 6, if testing at more than one elevated temperature use ETA1, ETA2 etc.) and A, W (ambient, wet conditions for DMA)

Specimen Number: 1,2,3,4,5,6,7,8,9,A,B,C, etc.

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 D790-17 – Standard Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials
- ASTM D2344/D2344M-16 – Standard Test Method for Short-Beam Strength of Polymer Matrix Composite Materials and Their Laminates
- ASTM D3039/D3039M-17 – Standard Test Method for Tensile Properties of Polymer Matrix Composite Materials
- ASTM D3418-15 – Standard Test Method for Transition Temperatures and Enthalpies of Fusion and Crystallization of Polymers by Differential Scanning Calorimetry
- ASTM D3846-08 (2015) – Standard Test Method for In-Plane Shear Strength of Reinforced Plastics
- ASTM D3518/D3518M-18 – Standard Test Method for In-Plane Shear Response of Polymer Matrix Composite Materials by Tensile Test of a $\pm 45^\circ$ Laminate In-Plane Shear Strength and Modulus
- ASTM D5528/D5528M-21 – Standard Test Method for Mode 1 Interlaminar Fracture Toughness of Unidirectional Fiber-Reinforced Polymer Matrix Composites
- ASTM D5766/D5766M-11 (2018) – Standard Test Method for Open Hole Tensile Strength of Polymer Matrix Composite Laminates
- ASTM D5961/D5961-17 – Standard Test Method for Bearing Response of Polymer Matrix Composite Laminates
- ASTM D6415/D6415M-06a(2013) – Standard Test Method for Measuring the Curved Beam Strength of a Fiber-Reinforced Polymer-Matrix Composite
- ASTM D6484/D6484M-14 – Standard Test Method for Open-Hole Compressive Strength of Polymer Matrix Composite Laminates
- ASTM D6641/D6641M-16e1 – Standard Test Method for Determining the Compressive Properties of Polymer Matrix Composite Laminates Using a Combined Loading Compression (CLC) Test Fixture
- ASTM D6742/D6742M-17 – Standard Practice for Filled-Hole Tension and Compression Testing of Polymer Matrix Composite Laminates
- ASTM D7042-07(2015) – Standard Test Method for Glass Transition Temperature (DMA Tg) of Polymer Matrix Composites by Dynamic Mechanical Analysis (DMA)
- ASTM D7078/7078M – 12 – Standard Test Method for Shear Properties of Composite Materials by V-Notched Rail Shear Method
- ASTM D7905/7905M -19e1 – Standard Test Method for Determination of Mode II Interlaminar Fracture Toughness of Unidirectional Fiber-Reinforced Polymer Matrix Composites

- ASTM D7136/D7136M-15 – Standard Test Method for Measuring the Damage Resistance of a Fiber-Reinforced Polymer Matrix Composite to a Drop-Weight Impact Event
- ASTM D7137/D7137M-17 – Standard Test Method for Compressive Residual Strength Properties of Damaged Polymer Matrix Composite Plates

1.5 Methodology

1.5.1 Process Definition

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

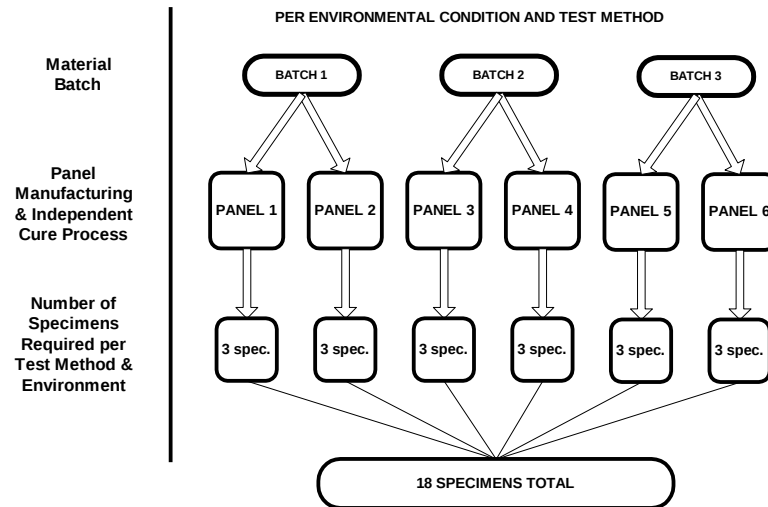


Figure 1-1: Specimen Selection Methodology

All panels were fabricated in accordance with NCAMP Process Specification 81253AFP “C” Consolidation Cycle.

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

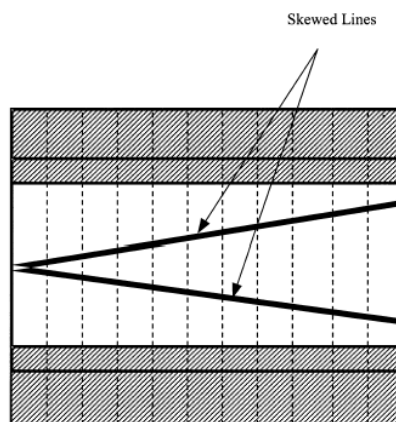


Figure 1-2: Specimen Traceability Line

1.5.2 Specimen & Testing Details

1.5.2.1 Tabbing

Tabs for RTA/ETA and ETW testing were bonded with FM 300-2 and AF163 for CTA testing. Tabs were cured at 275°F for 90 minutes. ± 45 parent material was used and tabs were bonded prior to individual specimen extraction. Tabs were **unbeveled**.

1.5.2.2 Specimen Dimensions & Test Configuration

Caul plate was used.

For filled-hole tension tests, the fasteners were installed to 85 $\pm$ 5 in-lb. For filled-hole compression and bearing tests, the fasteners were installed to 30 $\pm$ 5 in-lb. Fasteners were installed after moisture conditioning.

Unless otherwise specified, a tolerance of $\pm 5^\circ\text{F}$ 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 21297-04004 bolts with NASM 21084 nuts and MS21206 washers for FHT and FHC
- 2) NASM 21297-04016 bolts with MS 21084 nuts and MS21206 washers for SSB

1.5.2.3 Specimen Strain Device Used

Specific strain device details can be found in the test reports.

Uniaxial gages were used on:

All of CTA Tension specimens except Warp Tension specimens.

Two of RTA Tension specimens except Warp Tension for obtaining full stress strain curves.

All conditions of combined loading compression specimens.

Two of RTA Open Hole Compression specimens for detecting buckling.

One of CAI specimen for balancing.

Biaxial gages were used on:

All conditions of IPS specimens.

All of CTA Warp Tension specimens.

Two of RTA Warp Tension specimens for obtaining full stress strain curves.

Uniaxial Extensometers were used on:

All of RTA and ETW Tension specimens except Warp Tension specimens.

Biaxial Extensometers were used on:

All of RTA and ETW Warp Tension specimens.

1.5.3 Test Matrix

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

Layup	Test Type and Direction	Property	Number of Batches x Number of Panels x Number of Test Specimens			
			Test Temperature/Moisture Condition			
			CTA	RTA	ETA	ETW
[0] ₆	ASTM D3039 0° Tension	Strength, Poisson's Ratio, and Modulus	3x2x3	3x2x3 (3)	1x2x3	3x2x3 (3)
[0] ₁₄	ASTM D6641 0° Compression (4,5)	Poisson's Ratio and Modulus	3x2x3	3x2x3 (1,3)	1x2x3	3x2x3 (3)
[90] ₁₂	ASTM D3039 90° Tension	Strength and Modulus	3x2x3	3x2x3	1x2x3	3x2x3
[90°] ₁₄	ASTM D6641 90° Compression	Strength and Modulus	3x2x3	3x2x3 (1)	1x2x3	3x2x3
[90/0] _{4s}	ASTM D6641 0° Compression (5)	Strength and Modulus	3x2x3	3x2x3 (1,3)	1x2x3	3x2x3
[+45/-45°] _{4s}	ASTM D3518 In-Plane Shear (2)	Strength and Modulus	3x2x3	3x2x3 (3)	1x2x3	3x2x3
[0] ₁₆	ASTM D790 Proc. A Flex	Strength	3x2x3	3x2x3	1x2x3	3x2x3
[90] ₁₆	ASTM D790 Proc. A Flex (6)	Strength		3x2x3		
[0] ₂₆	ASTM D3846 In-Plane Shear – Double Notch Shear (7)	Strength	3x2x3	3x2x3	1x2x3	3x2x3
[0] ₂₂ Mode I	ASTM D5528 Mode I Interlaminar Fracture Toughness	G _{IC}		1x2x3		
[0] ₂₂ Mode II	ASTM D7905 Mode II Interlaminar Fracture Toughness	G _{IIc}		1x2x3		

Table 1-1: Lamina Level Test Matrix

Note 1: Back-to-back strain gages were used on the first two specimens of each environment. Remaining modulus specimens was strain gaged on one side of the specimens only.

Note 2: Gripped (tab) length was 1.5±0.5" on each end of the 10" long specimen. Once the samples reached the 5% strain level, the actuator/crosshead displacement rate was increased by four times the initial rate. Testing continued at the higher strain rate until ultimate failure was observed.

Note 3: At least two specimens were gaged to obtain full stress-strain curve to failure. An appropriate extensometer was used in place of the strain gage for the remaining specimens.

Note 4: Strength is not required. Test was stopped after reaching 5000 $\mu\epsilon$.

Note 5: 0° compression strength $F_{0^\circ \text{ plies}}^{cu}$ was derived as follows:

$$F_{0^\circ \text{ plies}}^{cu} = F_{0^\circ/90^\circ}^{cu} \frac{E_1}{E_{0^\circ/90^\circ}},$$

Where:

$F_{0^\circ \text{ plies}}^{cu}$ = 0° ply strength,

$F_{0^\circ/90^\circ}^{cu}$ = 0°/90° or 90°/0° cross-ply laminate strength,

E_1 = 0° modulus,

and $E_{0^\circ/90^\circ}$ = 0°/90° or 90°/0° cross-ply laminate modulus.

Note 6: Specimens were taken from [0]16 ASTM D790 Flex panels.

Note 7: Round notch configuration, radius target of the notch is 0.03".



Table 1-2 below summarizes the laminate level tests carried out. The layup angles 0°, 45°, -45°, and 90° 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/ambient for tension and hot wet for compression and other matrix dominated properties.

(%0°/%±45°/%90°) 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			
			CTA	RTA	ETA	ETW
(25/50/25 - QI) UNT1	ASTM D3039 Un-notched Tension [45/0/-45/90]2S	Strength & modulus	3x2x3	3x2x3 (6)	1x2x3	3x2x3 (6)
(10/80/10) UNT2	ASTM D3039 Un-notched Tension [45/-45/0/45/-45/90/45/-45/45/-45]S	Strength & modulus	3x2x3	3x2x3 (6)		3x2x3 (6)
(50/40/10) UNT3	ASTM D3039 Un-notched Tension [0/45/0/90/0/-45/0/45/0/-45]S	Strength & modulus	3x2x3	3x2x3 (6)		3x2x3 (6)
(25/50/25 - QI) UNC1	ASTM D6641 Un-notched Compression [45/0/-45/90]3S	Strength & modulus		3x2x3 (4,6)	1x2x3	3x2x3
(10/80/10) UNC2	ASTM D6641 Un-notched Compression [45/-45/0/45/-45/90/45/-45/45/-45]S	Strength & modulus		3x2x3 (4,6)		3x2x3
(50/40/10) UNC3	ASTM D6641 Un-notched Compression [0/45/0/90/0/-45/0/45/0/-45]S	Strength & modulus		3x2x3 (4,6)		3x2x3
(25/50/25 - QI) VNS	ASTM D7078 V-Notched Rail Shear [45/0/-45/90]3S (specimens may be taken from panels of similar layup – e.g. UNC1)	Strength & modulus		3x2x3	1x2x3	3x2x3
(25/50/25 - QI) DNS1	ASTM D3846 Double Notch Shear (8) [45/0/-45/90]3S (specimens may be taken from panels of similar layup – e.g. UNC1)	Strength		3x2x3	1x2x3	3x2x3
(25/50/25 - QI) OHT1	ASTM D5766 Open Hole Tension (1) [45/0/-45/90]2S	Strength	3x2x3	3x2x3	1x2x3	3x2x3
(10/80/10) OHT2	ASTM D5766 Open Hole Tension (1) [45/-45/0/45/-45/90/45/-45/45/-45]S	Strength	3x2x3	3x2x3		3x2x3
(50/40/10) OHT3	ASTM D5766 Open Hole Tension (1) [0/45/0/90/0/-45/0/45/0/-45]S	Strength	3x2x3	3x2x3		3x2x3
(25/50/25 - QI) FHT1	ASTM D6742 Filled Hole Tension (2) [45/0/-45/90]2S	Strength	3x2x3	3x2x3	1x2x3	3x2x3
(10/80/10) FHT2	ASTM D6742 Filled Hole Tension (2) [45/-45/0/45/-45/90/45/-45/45/-45]S	Strength	3x2x3	3x2x3		3x2x3
(50/40/10) FHT3	ASTM D6742 Filled Hole Tension (2) [0/45/0/90/0/-45/0/45/0/-45]S	Strength	3x2x3	3x2x3		3x2x3
(25/50/25 - QI) OHC1	ASTM D6484 Open Hole Compression (1) [45/0/-45/90]3S	Strength		3x2x3 (4)	1x2x3	3x2x3
(10/80/10) OHC2	ASTM D6484 Open Hole Compression (1) [45/-45/0/45/-45/90/45/-45/45/-45]S	Strength		3x2x3 (4)		3x2x3
(50/40/10) OHC3	ASTM D6484 Open Hole Compression (1) [0/45/0/90/0/-45/0/45/0/-45]S	Strength		3x2x3 (4)		3x2x3
(25/50/25 - QI) FHC1	ASTM D6742 Filled Hole Compression (2) [45/0/-45/90]3S	Strength		3x2x3	1x2x3	3x2x3
(10/80/10) FHC2	ASTM D6742 Filled Hole Compression (2) [45/-45/0/45/-45/90/45/-45/45/-45]S	Strength		3x2x3		3x2x3
(50/40/10) FHC3	ASTM D6742 Filled Hole Compression (2) [0/45/0/90/0/-45/0/45/0/-45]S	Strength		3x2x3		3x2x3
(25/50/25 - QI) SSB1	ASTM D5961 Single Shear Bearing (3) [45/0/-45/90]2S	Strength & Deformation		3x2x3	1x2x3	3x2x3
(10/80/10) SSB2	ASTM D5961 Single Shear Bearing (3) [45/-45/0/45/-45/90/45/-45/45/-45]S	Strength & Deformation		3x2x3		3x2x3
(50/40/10) SSB3	ASTM D5961 Single Shear Bearing (3) [0/45/0/90/0/-45/0/45/0/-45]S	Strength & Deformation		3x2x3		3x2x3
(25/50/25 - QI) CAI1	ASTM D7136 & D7137 Compression After Impact (1500 in.lb/in) [45/0/-45/90]4S (7)	Strength		1x1x6	1x1x6	1x1x6

Table 1-2: Laminate Level Test Matrix

Note 1: Open-hole test configuration: 0.25" hole diameter, 1.5" width.

Note 2: Filled-hole test configuration: 0.25" hole diameter, see section 1.5.2.2 for fastener callout, 1.5" width.

Note 3: Single-shear bearing test configuration: 0.25" hole diameter, 1.5" width, see section 1.5.2.2 for fastener callout, $e/D=3$, ASTM D5961 Procedure C.

Note 4: Back-to-back strain gages were needed on the first two specimens of each environment. The remaining modulus specimens were gaged on one side of the specimens only.

Note 5: Loading direction is generally along the 0-degree direction

Note 6: At least two specimens was gaged to obtain full stress-strain curve to failure. An appropriate extensometer was used in place of the strain gage for the remaining specimens.

Note 7: Back-to-back strain gages on two locations (a total of four strain gages) were needed on one un-damaged specimen. The specimen was equivalent to the test specimens in terms of material, layup, and geometry, was un-damaged. Alternatively, an instrumented metallic plate, equivalent in thickness to the test specimens to within ± 0.25 mm [± 0.010 in.], may be used.

Note 8: Round notch configuration, radius target of the notch is 0.03". Specimens were taken from panels of similar layup.



1.5.4 Consolidated 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. 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
Consolidated Ply Thickness	ASTM D3171-15	All data from mechanical test specimens
Laminate Density	ASTM D792-17	Per Note 5
Fiber Volume, % by Volume	ASTM D3171-15(Note 2)	3
Resin Content, % by Weight	ASTM D3171-15(Note 2)	3
Void Content, % by Volume	ASTM D3171-15	Per Note 5
Ultrasonic Through Transmission, C-Scan (panels)	ASTM E1316, ASTM E2580 & NAS 410 (Note 3)	1
Differential Scanning Calorimetry (DSC) Glass Transition Temp., Tg Melt Temp. (Peak) Cold Crystallization Temp. Hot Crystallization Temp. (Peak) Crystallinity Percentage	ASTM D3418 or SACMA SRM 25R-94	1 Ambient (Note 4, Dry only)
Dynamic Mechanical Analysis (DMA) Glass Transition Temp., Tg	ASTM D7028	1 Ambient, 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 ambient and 24 wet for each material system.

Note 5: A minimum of 4 panels per batch, 3 specimens per panel.

1.5.5 Environmental Conditioning

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

CTA = -65±5°F, ambient

RTA = 70±10°F, room temperature ambient

ETA = 250±5°F, ambient

ETW = 250±5°F, wet

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

For ambient testing, as-fabricated condition, specimens were kept at ambient laboratory condition, defined as 70°F±10°F. Since moisture absorption and desorption rate is very slow at ambient temperature, there was no requirement to maintain relative humidity levels.

For wet conditioning, specimens were conditioned to equilibrium at 160°F±5°F and 85% ± 5%. Effective moisture equilibrium was achieved when the average moisture content of the traveler specimen changed by less than 0.02% for three 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 two consecutive readings which are 7 ±0.5 days apart, the specimens were kept in the environmental chamber for up to an additional 60 days. Alternatively, the specimens may have been removed from the environmental chamber and placed in a sealed plastic bag along with a moist cotton towel for a maximum of 14 days until mechanical testing. Strain-gaged specimens were removed from the controlled environment for a maximum of 2 hours for application of gages in ambient laboratory conditions.

1.5.6 Non-ambient Testing

The chamber was of adequate size so that all test fixtures and load frame grips were contained within the chamber. For elevated temperature testing, the temperature chamber, test fixture, and grips were preheated to the specified temperature. Each specimen was heated to the required test temperature as verified by a thermocouple in direct contact with and taped to the specimen gage section. The heat-up time of the specimen did not exceed 5 minutes, unless otherwise specified in individual test summary sheets. The test was started 5-6 minutes for ETA and 2-3 minutes for ETW minutes after the specimen reached the test temperature. During the test, the temperature, as measured on the specimen, was within $\pm 5^{\circ}\text{F}$ 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 5-6 minutes after the specimen reached the test temperature. During the test, the temperature, as measured on the specimen, was within $\pm 5^{\circ}\text{F}$ 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 be performed on this material system. This screening was completed on Victrex LMPAEK™ UDT AS4-143-34 through NTP 1250Q1.

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 consolidated ply thickness. Lamina level properties that were not normalized include 90° tensile strength and modulus (unidirectional only), 90° 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 theoretically calculated consolidated ply thickness of 0.0072 inches has been used as the nominal consolidated ply thickness (CPT) for normalization purpose. This has been done at the request of the material supplier. The following normalization formula was used:

$$\text{Normalized Value} = \text{Measured Value} \times \text{Measured CPT} / \text{Nominal CPT}$$

1.5.9 Inspection Verification

The 3-batch qualification panels have been fabricated according to the requirements of the test plan and conformed by an NCAMP AIR. The test specimens and test setup have also been conformed by an NCAMP AIR.

Testing was witnessed by NCAMP. Witnessing was delegated to an AER. Mechanical testing was carried out at the National Institute for Aviation Research, Wichita State University.

1.5.10 Material Pedigree Information

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

2. Test Results

2.1 Lamina Level Test Summary

Prepreg Material: Victrex LMPAEK™ with AS7 UDT at 192 gsm and 34%RC Material Specification: NMS 125 and NMS 125/3 Process Specification: NPS 81253AFP Reinforcement: Hexcel HexTow® AS7 12k unitape Matrix: Victrex LMPAEK™							VICTREX LMPAEK™ UDT AS7-192-34 Lamina Properties Summary	
DMA Tg (ambient): 286.8°F DMA Tg (wet): 269.3°F		DSC Tg (ambient): 290.6°F DSC, Melting Temp. (Peak): 590.1°F DSC, Hot Crystallization Temp. (Peak): 481.6°F		Tg METHOD: DMA (ASTM D7028) & DSC (ASTM D3418)				
Fiber Lot	Lot #1 91M0041084	Lot #2 91M0043679	Lot #3 91M0043679	Date of testing	Aug - Oct 2024, Mar - May 2025			
Resin Lot	V059544	V075424	V075423	Date of data submittal	6/1/2025			
Date of resin manufacture	4/30/2020	7/29/2021	7/28/2021					
Prepreg Lot	F000053	F000077	F000078					
Date of prepreg manufacture	3/1/2022	6/28/2022	7/1/2022					
Date of composite manufacture	Aug 2023 - Dec 2023; Dec 2024							
LAMINA MECHANICAL PROPERTY SUMMARY Data reported as: Normalized & Measured (Normalized by CPT=0.0072 inch)								
Properties	CTA (-65°F) Mean		RTA (70°F) Mean		ETA (250°F) Mean		ETW (250°F) Mean	
	Normalized	Measured	Normalized	Measured	Normalized	Measured	Normalized	Measured
F ₁ ^{tu} [ksi]	379.8	373.9	366.0	362.9	358.1	350.6	331.1	325.9
E ₁ ^t [Msi]	20.77	20.42	20.57	20.39	20.73	20.29	20.96	20.63
ν ₁₂ ^t	--	0.305	--	0.317	--	0.296	--	0.320
F ₂ ^{tu} [ksi]	--	14.30	--	12.79	--	8.549	--	7.218
E ₂ ^t [Msi]	--	1.429	--	1.341	--	1.261	--	1.128
F ₁ ^{cu} [ksi] ¹ from UNC0	233.5	231.7	217.1	215.3	182.4	183.0	160.0	158.6
E ₁ ^c [Msi]	19.17	19.04	18.96	18.80	19.71	19.77	18.99	18.83
ν ₁₂ ^c		0.331		0.325		0.338		0.364
F ₂ ^{cu} [ksi]		39.98		29.67		18.25		18.64
E ₂ ^c [Msi]		1.525		1.446		1.384		1.318
UNC0 Strength [ksi]	122.7	121.2	117.3	115.8	96.32	95.79	87.55	86.51
UNC0 Modulus [Msi]	10.07	9.958	10.18	10.05	10.41	10.35	10.39	10.27
F ₁₂ ^{s0.2%} [ksi]	--	7.430	--	5.891	--	3.466	--	3.022
F ₁₂ ^{s5%strain} [ksi]	--	12.77	--	9.426	--	5.481	--	5.076
F ₁₂ ^{smax} [ksi]	--	26.65	--	24.96	--	20.70	--	18.78
G ₁₂ ^s [Msi]	--	0.667	--	0.577	--	0.375	--	0.310
0FLEX Proc. A Strength [ksi]	246.8	243.8	199.5	197.0	140.6	139.4	131.9	130.5
90FLEX Proc. A Strength [ksi]			18.61	18.39				
DNS Strenath [ksi] ²	--	15.67	--	13.07	--	8.595	--	8.042

¹ Derived from cross-ply using back-out factor.

² ASTM D3846 Double Notched Shear

Table 2-1: Lamina Summary Data

2.2 Laminate Level Test Summary

Prepreg Material: Victrex LMPAEK™ with AS7 UDT at 192 gsm and 34%RC						VICTREX LMPAEK™ UDT AS7-192-34 Lamina Properties Summary	
Material Specification: NMS 125 and NMS 125/3							
Process Specification: NPS 81253AFP							
Reinforcement: Hexcel HexTow® AS7 12k unitape Matrix: Victrex LMPAEK™							
DMA Tg (ambient): 286.8°F		DSC Tg (ambient): 290.6°F		Tg METHOD: DMA (ASTM D7028) &			
DMA Tg (wet): 269.3°F		DSC, Melting Temp. (Peak): 590.1°F		DSC (ASTM D3418)			
DSC, Hot Crystallization Temp. (Peak): 481.6°F							
LAMINATE MECHANICAL PROPERTY SUMMARY							
Data reported as: Normalized & Measured							
(Normalized by CPT=0.0072 inch)							
Layup		25/50/25 (Quasi)		10/80/10 (Soft)		50/40/10 (Hard)	
Properties	Test Condition	Normalized	Measured	Normalized	Measured	Normalized	Measured
UNT Strength [ksi]	CTA (-65°F)	128.5	127.6	74.88	74.16	181.5	180.1
	RTA (70°F)	127.9	126.9	68.41	67.89	186.0	184.8
	ETW (250°F)	116.5	115.5	57.13	56.69	158.7	157.9
UNT Modulus [Msi]	CTA (-65°F)	7.564	7.511	4.888	4.840	11.86	11.77
	RTA (70°F)	7.507	7.452	4.724	4.688	11.69	11.62
	ETW (250°F)	7.247	7.186	4.078	4.048	11.75	11.70
UNC Strength [ksi]	RTA (70°F)	85.70	85.26	58.44	57.94	109.1	108.6
	ETA (250°F)	68.37	67.43	--	--	--	--
	ETW (250°F)	66.05	65.61	41.09	40.72	85.38	85.09
UNC Modulus [Msi]	RTA (70°F)	7.243	7.205	4.668	4.627	11.15	11.09
	ETA (250°F)	7.210	7.111	--	--	--	--
	ETW (250°F)	7.101	7.055	4.131	4.094	10.81	10.75
OHT Strength [ksi]	CTA (-65°F)	65.70	64.29	48.86	47.85	91.87	90.29
	RTA (70°F)	61.52	60.56	45.43	44.49	86.59	84.96
	ETW (250°F)	58.29	56.88	37.65	36.83	86.44	85.11
OHC Strength [ksi]	RTA (70°F)	45.63	45.27	39.24	38.99	56.86	56.21
	ETA (250°F)	35.09	34.51				
	ETW (250°F)	34.29	33.99	30.17	29.93	46.64	46.21
FHT Strength [ksi]	CTA (-65°F)	68.59	67.38	55.66	55.00	89.35	87.82
	RTA (70°F)	63.39	61.89	49.93	49.40	85.11	83.51
	ETW (250°F)	59.94	59.10	40.84	40.42	85.27	83.96
FHC Strength [ksi]	RTA (70°F)	69.11	68.48	53.48	53.34	85.43	84.63
	ETA (250°F)	52.04	50.89				
	ETW (250°F)	50.93	50.40	39.18	39.10	65.96	65.30
F ₁₂ ^{smax} [ksi] ¹	RTA (70°F)	--	47.75				
	ETA (250°F)	--	36.34				
	ETW (250°F)	--	23.49				
G ₁₂ ^s [Msi] ¹	RTA (70°F)	--	2.855				
	ETA (250°F)	--	2.861				
	ETW (250°F)	--	2.747				
Round Notch DNS1 In-Plane (Interlaminar) Shear Strength [ksi]	RTA (70°F)	--	10.81				
	ETA (250°F)	--	7.712				
	ETW (250°F)	--	7.124				
SSB Initial Peak Strength [ksi]	RTA (70°F)	--	107.8	--	--	--	115.8
	ETA (250°F)	--	91.44	--	--	--	--
SSB 2% Offset Strength [ksi]	RTA (70°F)	109.0	107.8	114.8	113.1	114.6	113.9
	ETA (250°F)	92.66	91.13				
	ETW (250°F)	(2)	(2)	90.64	89.46	92.10	91.54
SSB Ultimate Strength [ksi]	RTA (70°F)	124.5	123.1	137.4	135.3	132.1	131.3
	ETA (250°F)	104.7	102.9				
	ETW (250°F)	(2)	(2)	106.8	105.4	102.2	101.6
CAI Strength [ksi] (1500 in.lb/in)	RTA (70°F)	41.60	41.04				
	ETA (250°F)	34.75	34.32				
	ETW (250°F)	32.48	32.00				

¹ ASTM D7078 V-Notched Rail Shear Quasi

² Data for SSB1 (Quasi) is shown for reference only. See Section 9 item b., for additional details.

Table 2-2: Laminate Summary Data

2.3 Individual Test Summaries

2.3.1 Longitudinal Tension Properties (LT)

Material: VICTREX LMPAEK™ UDT AS7-192-34		Tension, 1-axis VICTREX LMPAEK™ UDT AS7-192-34 [0]6							
Resin content:	34.37 %wt	Comp. density: 1.584 g/cc							
Fiber volume:	58.39 %vol								
Ply count:	6								
Test method:	ASTM D3039-17	Modulus calculation: 1000-3000 microstrain							
Normalized by:	0.0072	in. CPT							
		CTA		RTA		ETA		ETW	
Test Temperature [°F]		-65		70		250		250	
Moisture Conditioning		Ambient		Ambient		Ambient		Equilibrium	
Equilibrium at T, RH								160F,85%	
Source code		V-A2-DA-LT-X-X-1-CTA-X		V-A2-DA-LT-X-X-1-RTA-X		V-A2-DA-LT-X-X-1-ETA-X		V-A2-DA-LT-X-X-1-ETW-X	
		Normalized	Measured	Normalized	Measured	Normalized	Measured	Normalized	Measured
F_1^{tu} [ksi]	Mean	379.8	373.9	366.0	362.9	358.1	350.6	331.1	325.9
	Minimum	363.3	355.7	343.9	335.0	347.4	333.0	306.9	304.4
	Maximum	395.8	395.2	381.4	377.0	367.1	365.6	350.8	352.2
	C.V.(%)	2.455	3.827	2.633	3.757	1.991	2.986	3.615	3.509
	No. Specimens	19		18		6		21	
	No. Material Lots	3		3		1		3	
E_1^t [Msi]	Mean	20.77	20.42	20.57	20.39	20.73	20.29	20.96	20.63
	Minimum	20.32	19.29	20.24	19.55	20.50	19.65	20.21	20.02
	Maximum	21.39	21.33	20.97	21.14	21.03	21.06	21.54	21.55
	C.V.(%)	1.508	2.636	0.9547	2.315	1.143	2.814	1.666	2.274
	No. Specimens	18		18		6		21	
	No. Material Lots	3		3		1		3	
ν_{12}^t	Mean	0.3049		0.3174		0.2959		0.3195	
	Minimum	0.2678		0.2453		0.2704		0.2441	
	Maximum	0.3377		0.3666		0.3246		0.3680	
	C.V.(%)	7.237		8.979		6.093		9.947	
	No. Specimens	18		18		6		21	
	No. Material Lots	3		3		1		3	

2.3.2 Transverse Tension Properties (TT)

Material:		VICTREX LMPAEK™ UDT AS7-192-34				Tension, 2-axis VICTREX LMPAEK™ UDT AS7-192-34□ [90]12			
Resin content:	34.28 %wt	Comp. density: 1.586 g/cc							
Fiber volume:	58.56 %vol								
Ply count:	12								
Test method: ASTM D3039-17		Modulus calculation: 1000-3000 microstrain							
Normalized by: NA									
		CTA		RTA		ETA		ETW	
Test Temperature [°F]	-65	70		250		250			
Moisture Conditioning	Ambient	Ambient		Ambient		Equilibrium			
Equilibrium at T, RH		160F,85%							
Source code	V-A2-DA-TT-X-X-X-CTA-X	V-A2-DA-TT-X-X-X-RTA-X		V-A2-DA-TT-X-X-X-ETA-X		V-A2-DA-TT-X-X-X-ETW-X			
	Normalized	Measured	Normalized	Measured	Normalized	Measured	Normalized	Measured	
F ₂ ^u [ksi]	Mean	14.30		12.79		8.549		7.218	
	Minimum	12.52		11.83		8.423		6.865	
	Maximum	15.76		13.43		8.711		7.383	
	C.V.(%)	6.634		4.120		1.330		1.786	
	No. Specimens	18		18		6		18	
	No. Material Lots	3		3		1		3	
E ₂ ^t [Msi]	Mean	1.429		1.341		1.261		1.128	
	Minimum	1.377		1.286		1.206		1.075	
	Maximum	1.478		1.383		1.280		1.160	
	C.V.(%)	1.687		1.989		2.242		2.169	
	No. Specimens	18		18		6		18	
	No. Material Lots	3		3		1		3	

2.3.3 Longitudinal Compression Properties (LC)

Material: VICTREX LMPAEK™ UDT AS7-192-34		Compression, 1-axis VICTREX LMPAEK™ UDT AS7-192-34 [0]14							
Resin content:	34.35 %wt	Comp. density: 1.584 g/cc							
Fiber volume:	58.43 %vol								
Ply count:	14								
Test method:	ASTM D6641-16e1	Modulus calculation: 1000-3000 microstrain							
Normalized by:	0.0072	in. CPT							
		CTA		RTA		ETA		ETW	
Test Temperature [°F]		-65		70		250		250	
Moisture Conditioning		Ambient		Ambient		Ambient		Equilibrium	
Equilibrium at T, RH								160F,85%	
Source code		LC-X-X-X-CTA-X		LC-X-X-X-RTA-X		LC-X-X-X-ETA-X		LC-X-X-X-ETW-X	
		Normalized	Measured	Normalized	Measured	Normalized	Measured	Normalized	Measured
E_1^c [Msi]	Mean	19.17	19.04	18.96	18.80	19.71	19.77	18.99	18.83
	Minimum	18.04	18.13	18.65	18.18	19.51	19.50	18.49	18.45
	Maximum	20.72	20.66	19.48	19.11	20.04	20.09	19.22	19.17
	C.V.(%)	3.388	3.300	1.112	1.448	1.108	1.233	1.096	1.429
	No. Specimens	18		18		6		18	
	No. Material Lots	3		3		1		3	
ν_{12}^c	Mean	0.3306		0.3251		0.3378		0.3638	
	Minimum	0.2489		0.2670		0.3083		0.2771	
	Maximum	0.4082		0.3964		0.3879		0.4490	
	C.V.(%)	12.405		9.402		9.237		12.888	
	No. Specimens	18		18		6		18	
	No. Material Lots	3		3		1		3	

2.3.4 Transverse Compression Properties (TC)

Material:		VICTREX LMPAEB™ UDT AS7-192-34				Compression, 2-axis VICTREX LMPAEB™ UDT AS7-192-34 [0]14			
Resin content:	34.35 %wt	Comp. density:		1.584 g/cc					
Fiber volume:	58.43 %vol								
Ply count:	14								
Test method:	ASTM D6641-16ε1	Modulus calculation:		1000-3000 microstrain					
Normalized by:	NA								
		CTA		RTA		ETA		ETW	
Test Temperature [°F]		-65		70		250		250	
Moisture Conditioning		Ambient		Ambient		Ambient		Equilibrium	
Equilibrium at T, RH								160F,85%	
Source code		TC-X-X-X-CTA-X		TC-X-X-X-RTA-X		TC-X-X-X-ETA-X		TC-X-X-X-ETW-X	
		Normalized	Measured	Normalized	Measured	Normalized	Measured	Normalized	Measured
F ₂ ^{cu} [ksi]	Mean		39.98		29.67		18.25		18.64
	Minimum		37.51		27.97		17.91		18.29
	Maximum		41.57		33.06		18.69		19.24
	C.V.(%)		2.975		4.156		1.446		1.315
	No. Specimens		18		18		6		18
	No. Material Lots		3		3		1		3
E ₂ ^c [Msi]	Mean		1.525		1.446		1.384		1.318
	Minimum		1.479		1.392		1.352		1.230
	Maximum		1.633		1.477		1.461		1.406
	C.V.(%)		2.478		1.600		2.842		3.680
	No. Specimens		18		18		6		18
	No. Material Lots		3		3		1		3

2.3.5 Unnotched Compression Properties (UNC0)

Material: VICTREX LMPAEK™ UDT AS7-192-34		Unnotched Compression 0/90 VICTREX LMPAEK™ UDT AS7-192-34 [90/0]4S							
Resin content:	35.07 (34.45) %wt	Comp. density: 1.576 (1.581) g/cc							
Fiber volume:	57.51 (58.23) %vol								
Ply count:	16								
Test method:	ASTM D6641-16e1	Modulus calculation: 1000-3000 microstrain							
Normalized by:	0.0072	in. CPT							
		CTA		RTA		ETA		ETW	
Test Temperature [°F]		-65		70		250		250	
Moisture Conditioning		Ambient		Ambient		Ambient		Equilibrium	
Equilibrium at T, RH								160F,85%	
Source code		V-A2-DA-UNC0-X-X-1-CTA-X		V-A2-DA-UNC0-X-X-1-RTA-X		V-A2-DA-UNC0-X-X-1-ETA-X		V-A2-DA-UNC0-X-X-1-ETW-X	
		Normalized	Measured	Normalized	Measured	Normalized	Measured	Normalized	Measured
UNC0 Strength [ksi]	Mean	122.7	121.2	116.5	115.1	96.32	95.79	87.55	86.51
	Minimum	105.1	102.4	106.7	104.6	90.42	89.49	72.43	71.97
	Maximum	132.5	131.3	125.4	123.4	102.2	102.0	96.46	95.66
	C.V.(%)	4.937	5.167	4.965	4.852	5.323	5.537	6.236	6.267
	No. Specimens	19		17		6		25	
	No. Material Lots	3		3		1		3	
UNC0 Modulus [Msi]	Mean	10.07	9.958	10.18	10.05	10.41	10.35	10.39	10.27
	Minimum	9.569	9.375	9.777	9.603	10.12	10.09	10.06	9.842
	Maximum	10.70	10.47	10.51	10.39	10.64	10.57	10.76	10.67
	C.V.(%)	2.884	2.582	1.944	2.093	1.831	1.814	2.286	2.662
	No. Specimens	18		18		6		18	
	No. Material Lots	3		3		1		3	

RC, FV and density computed by matrix digestion. Values in parenthesis are computed with Method II.

2.3.6 In-Plane Shear Properties (IPS)

Material: VICTREX LMPAEK™ UDT AS7-192-34		In-Plane Shear VICTREX LMPAEK™ UDT AS7-192-34 [45/-45]4S							
Resin content:	34.85 (34.57) %wt	Comp. density: 1.576 (1.577) g/cc							
Fiber volume:	57.70 (57.99) %vol								
Ply count:	16								
Test method: ASTM D3518-18		Modulus calculation: 2000-6000 microstrain							
Normalized by: NA									
		CTA		RTA		ETA		ETW	
Test Temperature [°F]	-65	-65		70		250		250	
Moisture Conditioning	Ambient	Ambient		Ambient		Ambient		Equilibrium	
Equilibrium at T, RH								160F,85%	
Source code	V-A2-DA-IPS-X-X-1-CTA-X	V-A2-DA-IPS-X-X-1-RTA-X		V-A2-DA-IPS-X-X-1-ETA-X		V-A2-DA-IPS-X-X-1-ETW-X			
		Normalized	Measured	Normalized	Measured	Normalized	Measured	Normalized	Measured
$F_{12}^{s0.2\%}$ [ksi]	Mean		7.430		5.891		3.466		3.022
	Minimum		7.321		5.743		3.301		2.890
	Maximum		7.518		6.021		3.610		3.087
	C.V.(%)		0.799		1.332		2.794		2.039
	No. Specimens		19		21		7		18
	No. Material Lots		3		3		1		3
$F_{12}^{s5\% \text{ strain}}$ [ksi]	Mean		12.77		9.426		5.481		5.076
	Minimum		12.57		9.185		5.310		4.864
	Maximum		13.08		9.607		5.646		5.206
	C.V.(%)		1.137		1.294		2.386		1.933
	No. Specimens		17		17		7		18
	No. Material Lots		3		3		1		3
G_{12}^s [Msi]	Mean		0.667		0.577		0.375		0.310
	Minimum		0.657		0.565		0.349		0.292
	Maximum		0.679		0.590		0.393		0.319
	C.V.(%)		0.883		1.133		3.840		2.549
	No. Specimens		19		21		7		18
	No. Material Lots		3		3		1		3

RC, FV and density computed by matrix digestion. Values in parenthesis are computed with Method II.

2.3.7 Double Notched Shear (DNS)

Material: VICTREX LMPAEK™ UDT AS7-192-34		Double Notched Shear VICTREX LMPAEK™ UDT AS7-192-34 [0]26							
Resin content:	35.03 %wt	Comp. density: 1.585 g/cc							
Fiber volume:	57.87 %vol								
Ply count:	26								
Test method: ASTM D3846-08 (2015)									
Normalized by: NA									
		CTA		RTA		ETA		ETW	
Test Temperature [°F]	-65	-65		70		250		250	
Moisture Conditioning	Ambient	Ambient		Ambient		Ambient		Equilibrium	
Equilibrium at T, RH								160F,85%	
Source code	DNS-X-X-CTA-X	DNS-X-X-CTA-X		DNS-X-X-RTA-X		DNS-X-X-ETA-X		DNS-X-X-ETW-X	
		Normalized	Measured	Normalized	Measured	Normalized	Measured	Normalized	Measured
DNS Strength [ksi]	Mean		15.67		13.07		8.595		8.042
	Minimum		13.06		12.54		8.550		7.394
	Maximum		16.45		13.61		8.655		8.934
	C.V.(%)		6.168		2.464		0.543		4.821
	No. Specimens		18		18		6		18
	No. Material Lots		3		3		1		3

2.3.8 0 Flexural Properties (0 Flex)

Material: VICTREX LMPAEK™ UDT AS7-192-34		Flex VICTREX LMPAEK™ UDT AS7-192-34 [0]16							
Resin content:	34.48 (34.72) %wt	Comp. density: 1.583 (1.587) g/cc							
Fiber volume:	58.29 (58.21) %vol								
Ply count:	16								
Test method: ASTM D790-17									
Normalized by: 0.0072 in. CPT									
		CTA		RTA		ETA		ETW	
Test Temperature [°F]		-65		70		250		250	
Moisture Conditioning		Ambient		Ambient		Ambient		Equilibrium	
Equilibrium at T, RH								160F,85%	
Source code		V-A2-DA-FLEX-X-X-1-CTA-X		V-A2-DA-FLEX-X-X-1-RTA-X		V-A2-DA-FLEX-X-X-1-ETA-X		V-A2-DA-FLEX-X-X-1-ETW-X	
		Normalized	Measured	Normalized	Measured	Normalized	Measured	Normalized	Measured
FLEX Strength [ksi]	Mean	246.8	243.8	199.5	197.0	140.6	139.4	131.9	130.5
	Minimum	236.0	232.0	186.5	185.1	136.3	134.9	128.2	125.9
	Maximum	259.7	256.6	213.2	207.2	142.9	141.3	136.5	133.7
	C.V.(%)	2.900	2.850	3.245	3.052	1.560	1.653	1.571	1.790
	No. Specimens	18		18		7		18	
No. Material Lots		3		3		1		3	

RC, FV and density computed by matrix digestion. Values in parenthesis are computed with Method II.

2.3.9 90 Flexural Properties (90 Flex)

Material:		VICTREX LMPAEK™ UDT AS7-192-34		Flex VICTREX LMPAEK™ UDT AS7-192-34 [90]16	
Resin content:	34.48 (34.72) %wt	Comp. density: 1.583 (1.587) g/cc			
Fiber volume:	58.29 (58.21) %vol				
Ply count:	16				
Test method:		ASTM D790-17			
Normalized by:		0.0072	in. CPT		
RTA					
Test Temperature [°F]		70			
Moisture Conditioning		Ambient			
Equilibrium at T, RH					
Source code		FLEX-X-X-90-RTA-X			
		Normalized	Measured		
FLEX Strength [ksi]	Mean	18.61	18.39		
	Minimum	15.26	14.97		
	Maximum	20.79	20.65		
	C.V.(%)	8.259	8.734		
	No. Specimens	18			
	No. Material Lots	3			

RC, FV, and density computed by matrix digestion. Values in parenthesis are computed with Method II

2.3.10 “25/50/25” Unnotched Tension 1 Properties (UNT1)

Material: VICTREX LMPA EK™ UDT AS7-192-34		Unnotched Tension 1 VICTREX LMPA EK™ UDT AS7-192-34□ [45/0/-45/90]2S					
Resin content:	34.21 %wt	Comp. density: 1.583 g/cc					
Fiber volume:	58.52 %vol						
Ply count:	16						
Test method: ASTM D3039-17		Modulus calculation: 1000-3000 microstrain					
Normalized by: 0.0072		in. CPT					
		CTA		RTA		ETW	
Test Temperature [°F]	-65	70		250			
Moisture Conditioning	Ambient	Ambient		Equilibrium			
Equilibrium at T, RH				160F,85%			
Source code	UNT1-X-X-X-CTA-X	UNT1-X-X-X-RTA-X		UNT1-X-X-X-ETW-X			
		Normalized	Measured	Normalized	Measured	Normalized	Measured
UNT1 Strength [ksi]	Mean	128.5	127.6	127.9	126.9	116.5	115.5
	Minimum	119.4	119.4	122.9	122.5	112.6	111.4
	Maximum	138.8	137.5	131.1	130.5	121.0	119.4
	C.V.(%)	4.417	4.268	1.813	1.896	2.214	2.118
	No. Specimens	18		18		18	
	No. Material Lots	3		3		3	
UNT1 Modulus [Msi]	Mean	7.564	7.511	7.507	7.452	7.247	7.186
	Minimum	7.375	7.318	7.335	7.293	7.045	7.024
	Maximum	7.747	7.664	7.671	7.619	7.412	7.315
	C.V.(%)	1.306	1.391	1.347	1.228	1.189	1.024
	No. Specimens	18		18		18	
	No. Material Lots	3		3		3	

2.3.11 “10/80/10” Unnotched Tension 2 Properties (UNT2)

Material: VICTREX LMPAEK™ UDT AS7-192-34		Unnotched Tension 2 VICTREX LMPAEK™ UDT AS7-192-34 [45/-45/0/45/-45/90/45/-45/45/-45]S					
Resin content:	34.43 %wt						
Fiber volume:	58.20 %vol						
Ply count:	20						
Test method: ASTM D3039-17		Modulus calculation: 1000-3000 microstrain					
Normalized by: 0.0072		in. CPT					
		CTA		RTA		ETW	
Test Temperature [°F]	-65	-65		70		250	
Moisture Conditioning	Ambient	Ambient		Ambient		Equilibrium	
Equilibrium at T, RH						160F,85%	
Source code	UNT2-X-X-X-CTA-X	UNT2-X-X-X-RTA-X		UNT2-X-X-X-ETW-X			
	Normalized	Measured	Normalized	Measured	Normalized	Measured	
UNT2 Strength [ksi]	Mean	74.88	74.16	68.41	67.89	57.13	56.69
	Minimum	67.16	65.74	62.70	62.24	49.98	50.30
	Maximum	78.45	78.34	72.45	72.21	60.38	60.08
	C.V.(%)	4.574	4.916	4.208	4.432	6.150	5.610
	No. Specimens	18		18		18	
	No. Material Lots	3		3		3	
UNT2 Modulus [Msi]	Mean	4.888	4.840	4.724	4.688	4.078	4.048
	Minimum	4.793	4.770	4.586	4.585	3.908	3.854
	Maximum	4.966	4.923	4.931	4.915	4.282	4.224
	C.V.(%)	0.9042	0.9472	1.732	1.965	2.220	2.476
	No. Specimens	18		18		18	
	No. Material Lots	3		3		3	

2.3.12 “50/40/10” Unnotched Tension 3 Properties (UNT3)

Material: VICTREX LMPAEEK™ UDT AS7-192-34		Unnotched Tension 3 VICTREX LMPAEEK™ UDT AS7-192-34 [0/45/0/90/0/-45/0/45/0/-45]S					
Resin content:	34.05 %wt	Comp. density: 1.583 g/cc					
Fiber volume:	58.64 %vol						
Ply count:	20						
Test method: ASTM D3039-17		Modulus calculation: 1000-3000 microstrain					
Normalized by: 0.0072		in. CPT					
		CTA		RTA		ETW	
Test Temperature [°F]	-65	70		250			
Moisture Conditioning	Ambient	Ambient		Equilibrium			
Equilibrium at T, RH				160F,85%			
Source code	UNT3-X-X-X-CTA-X	UNT3-X-X-X-RTA-X		UNT3-X-X-X-ETW-X			
	Normalized	Measured	Normalized	Measured	Normalized	Measured	
UNT3 Strength [ksi]	Mean	181.5	180.1	186.0	184.8	158.7	157.9
	Minimum	171.1	169.9	167.5	168.4	140.1	141.1
	Maximum	188.4	185.8	204.6	202.1	178.8	176.5
	C.V.(%)	2.362	2.211	5.081	4.828	4.952	4.524
	No. Specimens	18		23		24	
	No. Material Lots	3		3		3	
UNT3 Modulus [Msi]	Mean	11.86	11.77	11.69	11.62	11.60	11.55
	Minimum	11.52	11.47	11.40	11.22	11.33	11.22
	Maximum	12.07	12.12	12.24	12.12	11.92	11.99
	C.V.(%)	1.242	1.421	1.682	1.942	1.363	1.659
	No. Specimens	18		23		22	
	No. Material Lots	3		3		3	

2.3.13 “25/50/25” Unnotched Compression 1 Properties (UNC1)

Material: VICTREX LMPAEK™ UDT AS7-192-34		Unnotched Compression 1 VICTREX LMPAEK™ UDT AS7-192-34 [45/0/-45/90]3S					
Resin content:	34.47 (34.18) %wt	Comp. density: 1.580 (1.582) g/cc					
Fiber volume:	58.16 (58.51) %vol						
Ply count:	24						
Test method:	ASTM D6641-16e1	Modulus calculation: 1000-3000 microstrain					
Normalized by:	0.0072	in. CPT					
		RTA		ETA		ETW	
Test Temperature [°F]		70		250		250	
Moisture Conditioning		Ambient		Ambient		Equilibrium	
Equilibrium at T, RH						160F,85%	
Source code		V-A2-DA-UNC1-X-X-1-RTA-X		V-A2-DA-UNC1-X-X-1-ETA-X		V-A2-DA-UNC1-X-X-1-ETW-X	
		Normalized	Measured	Normalized	Measured	Normalized	Measured
UNC1 Strength [ksi]	Mean	85.70	85.26	68.37	67.43	66.05	65.61
	Minimum	78.11	77.75	66.87	66.14	62.50	61.60
	Maximum	92.90	92.22	69.60	68.60	70.26	70.04
	C.V.(%)	4.387	4.620	1.380	1.249	3.279	3.478
	No. Specimens	18		6		18	
	No. Material Lots	3		1		3	
UNC1 Modulus [Msi]	Mean	7.243	7.205	7.210	7.111	7.101	7.055
	Minimum	7.066	6.964	6.978	6.883	6.907	6.812
	Maximum	7.401	7.436	7.340	7.212	7.383	7.352
	C.V.(%)	1.581	1.866	1.700	1.651	2.288	2.711
	No. Specimens	18		6		18	
	No. Material Lots	3		1		3	

RC, FV and density computed by matrix digestion. Values in parenthesis are computed with Method II.

2.3.14 “10/80/10” Unnotched Compression 2 Properties (UNC2)

Material: VICTREX LMPAEEK™ UDT AS7-192-34		Unnotched Compression 2 VICTREX LMPAEEK™ UDT AS7-192-34 [45/-45/0/45/-45/90/45/-45/45/-45]S			
Resin content:	34.43 %wt	Comp. density: 1.580 g/cc			
Fiber volume:	58.20 %vol				
Ply count:	20				
Test method:	ASTM D6641-16ε1	Modulus calculation: 1000-3000 microstrain			
Normalized by:	0.0072	in. CPT			
		RTA		ETW	
Test Temperature [°F]	70	250			
Moisture Conditioning	Ambient	Equilibrium			
Equilibrium at T, RH		160F,85%			
Source code	UNC2-X-X-X-RTA-X	UNC2-X-X-X-ETW-X			
	Normalized	Measured	Normalized	Measured	
UNC2 Strength [ksi]	Mean	58.44	57.94	41.09	40.72
	Minimum	55.47	54.61	38.90	38.33
	Maximum	62.52	63.12	45.62	44.84
	C.V.(%)	3.769	4.398	4.490	4.221
	No. Specimens	18		19	
	No. Material Lots	3		3	
UNC2 Modulus [Msi]	Mean	4.668	4.627	4.131	4.094
	Minimum	4.513	4.533	3.968	3.902
	Maximum	4.819	4.755	4.337	4.248
	C.V.(%)	2.000	1.521	2.188	2.215
	No. Specimens	18		18	
	No. Material Lots	3		3	

2.3.15 “50/40/10” Unnotched Compression 3 Properties (UNC3)

Material: VICTREX LMPAEK™ UDT AS7-192-34		Unnotched Compression 3 VICTREX LMPAEK™ UDT AS7-192-34 [0/45/0/90/0/-45/0/45/0/-45]S			
Resin content:	34.05 %wt	Comp. density: 1.583 g/cc			
Fiber volume:	58.64 %vol				
Ply count:	20				
Test method:	ASTM D6641-16e1	Modulus calculation: 1000-3000 microstrain			
Normalized by:	0.0072	in. CPT			
		RTA		ETW	
Test Temperature [°F]	70	250			
Moisture Conditioning	Ambient	Equilibrium			
Equilibrium at T, RH		160F,85%			
Source code	UNC3-X-X-X-RTA-X	UNC3-X-X-X-ETW-X			
		Normalized	Measured	Normalized	Measured
UNC3 Strength [ksi]	Mean	109.1	108.6	85.38	85.09
	Minimum	102.1	100.8	81.37	81.06
	Maximum	116.7	116.2	93.28	92.06
	C.V.(%)	4.112	4.575	3.297	3.301
	No. Specimens	18		22	
		3		3	
UNC3 Modulus [Msi]	Mean	11.15	11.09	10.81	10.75
	Minimum	10.75	10.75	10.39	10.20
	Maximum	11.50	11.45	11.12	11.12
	C.V.(%)	1.965	2.085	2.297	2.814
	No. Specimens	18		18	
		3		3	

2.3.16 “25/50/25” V-Notched Rail Shear Properties (VNS)

Material:		VICTREX LMPAEK™ UDT AS7-192-34				V-Notched Shear VICTREX LMPAEK™ UDT AS7-192-34□ [45/0/-45/90]3S			
Resin content:	see UNC1	Comp. density: see UNC1							
Fiber volume:	see UNC1								
Ply count:	24								
Test method:		ASTM D7078		Modulus calculation: 2000-6000 microstrain					
Normalized by:		NA							
		RTA		ETA		ETW			
Test Temperature [°F]		70		250		250			
Moisture Conditioning		Ambient		Ambient		Equilibrium			
Equilibrium at T, RH						160F,85%			
Source code		VNS-X-X-X-RTA-X		VNS-X-X-X-ETA-X		VNS-X-X-X-ETW-X			
		Normalized	Measured	Normalized	Measured	Normalized	Measured		
F ₁₂ ^{s0.2%} [ksi]	Mean	52.18							
	Minimum	50.18							
	Maximum	53.71							
	C.V.(%)	2.397							
	No. Specimens	7							
	No. Material Lots	3							
F ₁₂ ^{smax} [ksi]	Mean	48.12		36.34		23.49			
	Minimum	37.74		30.78		15.52			
	Maximum	54.16		42.55		32.36			
	C.V.(%)	12.96		13.62		13.72			
	No. Specimens	18		7		24			
	No. Material Lots	3		1		3			
G ₁₂ ^s [Msi]	Mean	2.855		2.861		2.747			
	Minimum	2.799		2.716		2.359			
	Maximum	2.942		2.921		2.976			
	C.V.(%)	1.519		2.649		4.330			
	No. Specimens	18		7		18			
	No. Material Lots	3		1		3			

2.3.17 “25/50/25” Double Notched Shear Properties (DNS1)

Material: VICTREX LMPAEEK™ UDT AS7-192-34		Double Notched Shear 1 VICTREX LMPAEEK™ UDT AS7-192-34 [45/0/-45/90]3S					
Resin content:	see UNC1						
Fiber volume:	see UNC1						
Ply count:	24						
Test method: ASTM D3846-08 (2015)							
Normalized by: NA							
		RTA		ETA		ETW	
Test Temperature [°F]	70	70		250		250	
Moisture Conditioning	Ambient	Ambient		Ambient		Equilibrium	
Equilibrium at T, RH						160F,85%	
Source code	DNS1-X-X-RTA-X	DNS1-X-X-ETA-X		DNS1-X-X-ETW-X			
	Normalized	Measured	Normalized	Measured	Normalized	Measured	
DNS1 Strength [ksi]	Mean	10.81		7.712		7.124	
	Minimum	9.482		7.535		6.263	
	Maximum	11.85		7.888		7.564	
	C.V.(%)	6.615		1.622		4.884	
	No. Specimens	19		6		18	
No. Material Lots		3		1		3	

2.3.18 “25/50/25” Open-Hole Tension 1 Properties (OHT1)

Material: VICTREX LMPAEEK™ UDT AS7-192-34		Open-Hole Tension 1 VICTREX LMPAEEK™ UDT AS7-192-34 □ [45/0/-45/90]2S					
Resin content:	33.89 (34.10) %wt						
Fiber volume:	58.72 (58.58) %vol						
Ply count:	16						
Test method: ASTM D5766-11(2018)							
Normalized by:	0.0072 in. CPT						
		CTA		RTA		ETW	
Test Temperature [°F]		-65		70		250	
Moisture Conditioning		Ambient		Ambient		Equilibrium	
Equilibrium at T, RH						160F,85%	
Source code		OHT1-X-X-X-CTA-X		OHT1-X-X-X-RTA-X		OHT1-X-X-X-ETW-X	
		Normalized	Measured	Normalized	Measured	Normalized	Measured
OHT1 Strength [ksi]	Mean	65.70	64.29	61.52	60.56	58.29	56.88
	Minimum	63.05	61.92	59.40	58.48	56.03	54.12
	Maximum	67.97	67.32	63.88	62.87	59.97	59.22
	C.V.(%)	2.032	2.107	2.017	1.990	2.152	2.766
	No. Specimens	18		18		19	
No. Material Lots		3		3		3	

RC, FV and density computed by matrix digestion. Values in parenthesis are computed with Method II.

2.3.19 “10/80/10” Open-Hole Tension 2 Properties (OHT2)

Material: VICTREX LMPAEK™ UDT AS7-192-34		Open-Hole Tension 2 VICTREX LMPAEK™ UDT AS7-192-34 [45/-45/0/45/-45/90/45/-45/45/-45]S					
Resin content:	33.95 (34.39) %wt						
Fiber volume:	58.65 (58.24) %vol						
Ply count:	20						
Test method: ASTM D5766-11(2018)							
Normalized by: 0.0072 in. CPT							
		CTA		RTA		ETW	
Test Temperature [°F]	-65	-65		70		250	
Moisture Conditioning	Ambient	Ambient		Ambient		Equilibrium	
Equilibrium at T, RH						160F,85%	
Source code	OHT2-X-X-X-CTA-X	OHT2-X-X-X-RTA-X		OHT2-X-X-X-ETW-X			
		Normalized	Measured	Normalized	Measured	Normalized	Measured
OHT2 Strength [ksi]	Mean	48.86	47.85	45.43	44.49	37.65	36.83
	Minimum	46.61	44.89	43.88	42.66	36.26	35.79
	Maximum	50.98	50.71	46.76	46.40	39.05	37.72
	C.V.(%)	2.456	3.254	1.810	2.487	1.843	1.628
	No. Specimens	18		18		18	
No. Material Lots		3		3		3	

RC, FV and density computed by matrix digestion. Values in parenthesis are computed with Method II.

2.3.20 “50/40/10” Open-Hole Tension 3 Properties (OHT3)

Material: VICTREX LMPAEK™ UDT AS7-192-34		Open-Hole Tension 3 VICTREX LMPAEK™ UDT AS7-192-34 [0/45/0/90/0/-45/0/45/0/-45]S					
Resin content:	34.34 %wt	Comp. density: 1.580 g/cc					
Fiber volume:	58.29 %vol						
Ply count:	20						
Test method: ASTM D5766-11(2018)							
Normalized by: 0.0072 in. CPT							
		CTA		RTA		ETW	
Test Temperature [°F]		-65		70		250	
Moisture Conditioning		Ambient		Ambient		Equilibrium	
Equilibrium at T, RH						160F,85%	
Source code		OHT3-X-X-X-CTA-X		OHT3-X-X-X-RTA-X		OHT3-X-X-X-ETW-X	
		Normalized	Measured	Normalized	Measured	Normalized	Measured
OHT3 Strength [ksi]	Mean	91.87	90.29	86.59	84.96	86.44	85.11
	Minimum	86.40	85.36	81.73	80.28	79.92	79.14
	Maximum	97.68	97.66	90.94	90.92	90.76	89.69
	C.V.(%)	3.865	4.029	3.493	3.770	3.136	3.011
	No. Specimens	18		18		19	
No. Material Lots		3		3		3	

2.3.21 “25/50/25” Filled-Hole Tension 1 Properties (FHT1)

Material: VICTREX LMPAEK™ UDT AS7-192-34				Filled-Hole Tension 1 VICTREX LMPAEK™ UDT AS7-192-34 [45/0/-45/90]2S			
Resin content:	33.89 (34.10) %wt	Comp. density:		1.581 (1.582) g/cc			
Fiber volume:	58.72 (58.58) %vol						
Ply count:	16						
Test method:	ASTM D6742-17						
Normalized by:	0.0072	in. CPT					
	CTA		RTA		ETW		
Test Temperature [°F]	-65		70		250		
Moisture Conditioning	Ambient		Ambient		Equilibrium		
Equilibrium at T, RH					160F,85%		
Source code	FHT1-X-X-X-CTA-X		FHT1-X-X-X-RTA-X		FHT1-X-X-X-ETW-X		
	Normalized	Measured	Normalized	Measured	Normalized	Measured	
FHT1 Strength [ksi]	Mean	68.59	67.38	63.39	61.89	59.94	59.10
	Minimum	65.22	64.61	61.52	60.54	59.07	57.98
	Maximum	72.91	71.11	65.98	62.95	61.67	61.25
	C.V.(%)	2.638	2.169	1.881	1.162	1.171	1.279
	No. Specimens	18		18		18	
No. Material Lots	3		3		3		

RC, FV and density computed by matrix digestion. Values in parenthesis are computed with Method II.

2.3.22 “10/80/10” Filled-Hole Tension 2 Properties (FHT2)

Material: VICTREX LMPAEK™ UDT AS7-192-34		Filled-Hole Tension 2 VICTREX LMPAEK™ UDT AS7-192-34 [45/-45/0/45/-45/90/45/-45/45/-45]S					
Resin content:	33.95 (34.39) %wt						
Fiber volume:	58.65 (58.24) %vol						
Ply count:	20						
Test method: ASTM D6742-17							
Normalized by:	0.0072	in. CPT					
		CTA		RTA		ETW	
Test Temperature [°F]	-65	-65		70		250	
Moisture Conditioning	Ambient	Ambient		Ambient		Equilibrium	
Equilibrium at T, RH						160F,85%	
Source code	FHT2-X-X-X-CTA-X	FHT2-X-X-X-RTA-X		FHT2-X-X-X-ETW-X			
		Normalized	Measured	Normalized	Measured	Normalized	Measured
FHT2 Strength [ksi]	Mean	55.66	55.00	49.93	49.40	40.84	40.42
	Minimum	53.00	52.06	49.04	47.80	39.89	38.72
	Maximum	57.41	57.53	51.43	51.42	41.97	41.78
	C.V.(%)	1.609	2.061	1.508	2.257	1.577	2.163
	No. Specimens	18		18		18	
No. Material Lots		3		3		3	

RC, FV and density computed by matrix digestion. Values in parenthesis are computed with Method II.

2.3.23 “50/40/10” Filled-Hole Tension 3 Properties (FHT3)

Material: VICTREX LMPAEEK™ UDT AS7-192-34		Filled-Hole Tension 3 VICTREX LMPAEEK™ UDT AS7-192-34 [0/45/0/90/0/-45/0/45/0/-45]S					
Resin content:	34.34 %wt						
Fiber volume:	58.29 %vol						
Ply count:	20						
Test method: ASTM D6742-17							
Normalized by:	0.0072	in. CPT					
		CTA		RTA		ETW	
Test Temperature [°F]	-65	-65		70		250	
Moisture Conditioning	Ambient	Ambient		Ambient		Equilibrium	
Equilibrium at T, RH						160F,85%	
Source code	FHT3-X-X-X-CTA-X	FHT3-X-X-X-RTA-X		FHT3-X-X-X-ETW-X			
	Normalized	Measured	Normalized	Measured	Normalized	Measured	
FHT3 Strength [ksi]	Mean	89.35	87.82	85.11	83.51	85.27	83.96
	Minimum	85.73	83.03	80.11	77.76	82.44	79.52
	Maximum	94.50	92.49	92.40	89.48	89.60	87.79
	C.V.(%)	2.807	3.097	4.110	4.131	2.786	2.861
	No. Specimens	19		18		18	
	No. Material Lots	3		3		3	

2.3.24 “25/50/25” Open-Hole Compression 1 Properties (OHC1)

Material: VICTREX LMPAEK™ UDT AS7-192-34		Open-Hole Compression 1 VICTREX LMPAEK™ UDT AS7-192-34 [45/0/-45/90]3S					
Resin content:	35.03 (34.03) %wt						
Fiber volume:	57.57 (58.60) %vol						
Ply count:	24						
Test method: ASTM D6484-14							
Normalized by: 0.0072 in. CPT							
		RTA		ETA		ETW	
Test Temperature [°F]	70	70		250		250	
Moisture Conditioning	Ambient	Ambient		Ambient		Equilibrium	
Equilibrium at T, RH						160F,85%	
Source code	OHC1-X-X-X-RTA-X	OHC1-X-X-X-ETA-X		OHC1-X-X-X-ETW-X			
		Normalized	Measured	Normalized	Measured	Normalized	Measured
OHC1 Strength [ksi]	Mean	45.63	45.27	35.09	34.51	34.29	33.99
	Minimum	44.42	43.60	34.46	33.90	32.91	32.94
	Maximum	47.31	47.54	35.75	35.03	36.21	35.76
	C.V.(%)	1.686	2.338	1.210	1.310	2.581	2.344
	No. Specimens	19		7		18	
	No. Material Lots	3		1		3	

RC, FV and density computed by matrix digestion. Values in parenthesis are computed with Method II.

2.3.25 “10/80/10” Open-Hole Compression 2 Properties (OHC2)

Material: VICTREX LMPAEEK™ UDT AS7-192-34		Open-Hole Compression 2 VICTREX LMPAEEK™ UDT AS7-192-34 [45/-45/0/45/-45/90/45/-45/45/-45]S			
Resin content:	34.42 (34.02) %wt	Comp. density: 1.580 (1.581) g/cc			
Fiber volume:	58.22 (58.62) %vol				
Ply count:	20				
Test method: ASTM D6484-14					
Normalized by: 0.0072 in. CPT					
		RTA		ETW	
Test Temperature [°F]	70	250			
Moisture Conditioning	Ambient	Equilibrium			
Equilibrium at T, RH		160F,85%			
Source code	OHC2-X-X-X-RTA-X	OHC2-X-X-X-ETW-X			
	Normalized	Measured	Normalized	Measured	
OHC2 Strength [ksi]	Mean	39.24	38.99	30.17	29.93
	Minimum	37.06	37.41	28.92	28.84
	Maximum	42.23	41.29	32.28	32.10
	C.V.(%)	2.968	2.800	2.928	2.844
	No. Specimens	18		18	
No. Material Lots		3		3	

RC, FV and density computed by matrix digestion. Values in parenthesis are computed with Method II.

2.3.26 “50/40/10” Open-Hole Compression 3 Properties (OHC3)

Material: VICTREX LMPAEEK™ UDT AS7-192-34		Open-Hole Compression 3 VICTREX LMPAEEK™ UDT AS7-192-34 [0/45/0/90/0/-45/0/45/0/-45]S			
Resin content:	33.66 (34.06) %wt	Comp. density: 1.582 (1.581) g/cc			
Fiber volume:	58.98 (58.58) %vol				
Ply count:	20				
Test method: ASTM D6484-14					
Normalized by: 0.0072 in. CPT					
		RTA		ETW	
Test Temperature [°F]	70	250			
Moisture Conditioning	Ambient	Equilibrium			
Equilibrium at T, RH		160F,85%			
Source code	OHC3-X-X-X-RTA-X	OHC3-X-X-X-ETW-X			
	Normalized	Measured	Normalized	Measured	
OHC3 Strength [ksi]	Mean	56.86	56.21	46.64	46.21
	Minimum	52.46	52.25	39.73	39.84
	Maximum	61.37	60.70	50.82	50.37
	C.V.(%)	4.409	4.286	6.643	6.335
	No. Specimens	18		18	
	No. Material Lots	3		3	

RC, FV and density computed by matrix digestion. Values in parenthesis are computed with Method II.

2.3.27 “25/50/25” Filled-Hole Compression 1 Properties (FHC1)

Material: VICTREX LMPAEK™ UDT AS7-192-34		Filled-Hole Compression 1 VICTREX LMPAEK™ UDT AS7-192-34 [45/0/-45/90]3S					
Resin content:	35.03 (34.03) %wt	Comp. density: 1.577 (1.581) g/cc					
Fiber volume:	57.57 (58.60) %vol						
Ply count:	24						
Test method: ASTM D6742-17							
Normalized by: 0.0072 in. CPT							
		RTA		ETA		ETW	
Test Temperature [°F]		70		250		250	
Moisture Conditioning		Ambient		Ambient		Equilibrium	
Equilibrium at T, RH						160F,85%	
Source code		FHC1-X-X-X-RTA-X		FHC1-X-X-X-ETA-X		FHC1-X-X-X-ETW-X	
		Normalized	Measured	Normalized	Measured	Normalized	Measured
FHC1 Strength [ksi]	Mean	69.11	68.48	52.04	50.89	50.93	50.40
	Minimum	64.38	62.84	48.80	47.65	47.28	45.96
	Maximum	74.20	74.93	54.48	53.07	57.60	57.64
	C.V.(%)	4.050	4.602	4.704	4.588	6.128	6.406
	No. Specimens	18		6		18	
	No. Material Lots	3		1		3	

RC, FV and density computed by matrix digestion. Values in parenthesis are computed with Method II.

2.3.28 “10/80/10” Filled-Hole Compression 2 Properties (FHC2)

Material: VICTREX LMPAEEK™ UDT AS7-192-34		Filled-Hole Compression 2 VICTREX LMPAEEK™ UDT AS7-192-34 [45/-45/0/45/-45/90/45/-45/45/-45]S			
Resin content:	34.42 (34.02) %wt	Comp. density: 1.580 (1.581) g/cc			
Fiber volume:	58.22 (58.62) %vol				
Ply count:	20				
Test method: ASTM D6742-17					
Normalized by: 0.0072 in. CPT					
		RTA		ETW	
Test Temperature [°F]	70	250			
Moisture Conditioning	Ambient	Equilibrium			
Equilibrium at T, RH		160F,85%			
Source code	FHC2-X-X-X-RTA-X	FHC2-X-X-X-ETW-X			
	Normalized	Measured	Normalized	Measured	
FHC2 Strength [ksi]	Mean	53.48	53.34	39.18	39.10
	Minimum	50.96	50.01	36.18	36.16
	Maximum	56.70	56.19	41.87	41.85
	C.V.(%)	3.561	3.471	3.856	4.307
	No. Specimens	17		18	
	No. Material Lots	3		3	

RC, FV and density computed by matrix digestion. Values in parenthesis are computed with Method II.

2.3.29 “50/40/10” Filled-Hole Compression 3 Properties (FHC3)

Material: VICTREX LMPAEEK™ UDT AS7-192-34		Filled-Hole Compression 3 VICTREX LMPAEEK™ UDT AS7-192-34 [0/45/0/90/0/-45/0/45/0/-45]S			
Resin content:	33.66 (34.06) %wt	Comp. density: 1.582 (1.581) g/cc			
Fiber volume:	58.98 (58.58) %vol				
Ply count:	20				
Test method: ASTM D6742-17					
Normalized by: 0.0072 in. CPT					
		RTA		ETW	
Test Temperature [°F]	70	250			
Moisture Conditioning	Ambient	Equilibrium			
Equilibrium at T, RH		160F,85%			
Source code	FHC3-X-X-X-RTA-X	FHC3-X-X-X-ETW-X			
	Normalized	Measured	Normalized	Measured	
FHC3 Strength [ksi]	Mean	85.43	84.63	65.96	65.30
	Minimum	80.37	79.20	60.75	59.16
	Maximum	91.39	90.87	70.38	70.57
	C.V.(%)	3.252	3.517	4.508	4.960
	No. Specimens	18		19	
	No. Material Lots	3		3	

RC, FV and density computed by matrix digestion. Values in parenthesis are computed with Method II.

2.3.30 “25/50/25” Single-Shear Bearing 1 Properties (SSB1) – Reference Only

Material: VICTREX LMPAEK™ UDT AS7-192-34		Single-Shear Bearing 1 VICTREX LMPAEK™ UDT AS7-192-34 [45/0/-45/90]2S	
Resin content:	34.09 (34.29) %wt		
Fiber volume:	58.56 (58.31) %vol		
Ply count:	16		
Test method: ASTM D5961-17			
Normalized by: 0.0072 in. CPT			
	RTA	ETA	
Test Temperature [°F]	70	250	
Moisture Conditioning	Ambient	Ambient	
Equilibrium at T, RH			
Source code	SSB1-X-X-X-RTA-X	SSB1-X-X-X-ETA-X	
	Normalized	Measured	Normalized
SSB1 Initial Peak Strength [ksi]	Mean	107.8	91.44
	Minimum	103.4	86.94
	Maximum	112.2	96.79
	C.V.(%)	3.274	5.448
	No. Specimens	5	3
	No. Material Lots	2	1
SSB1 2% Offset Strength [ksi]	Mean	109.0	92.66
	Minimum	103.2	84.26
	Maximum	118.1	97.98
	C.V.(%)	3.513	5.353
	No. Specimens	18	6
	No. Material Lots	3	1
SSB1 Ultimate Strength [ksi]	Mean	124.5	104.7
	Minimum	120.8	101.5
	Maximum	128.2	108.8
	C.V.(%)	1.951	2.459
	No. Specimens	18	6
	No. Material Lots	3	1

ETW property was not tested

2.3.31 “10/80/10” Single-Shear Bearing 2 Properties (SSB2)

Material: VICTREX LMPAEEK™ UDT AS7-192-34		Single-Shear Bearing 2 VICTREX LMPAEEK™ UDT AS7-192-34 [45/-45/0/45/-45/90/45/-45/45/-45]S			
Resin content:	34.43 %wt	Comp. density: 1.580 g/cc			
Fiber volume:	58.20 %vol				
Ply count:	20				
Test method: ASTM D5961-17					
Normalized by: 0.0072 in. CPT					
		RTA		ETW	
Test Temperature [°F]		70		250	
Moisture Conditioning		Ambient		Equilibrium	
Equilibrium at T, RH				160F,85%	
Source code		SSB2-X-X-X-RTA-X		SSB2-X-X-X-ETW-X	
		Normalized	Measured	Normalized	Measured
SSB2 2% Offset Strength [ksi]	Mean	114.8	113.1	90.64	89.46
	Minimum	111.8	109.1	84.52	82.29
	Maximum	118.3	117.0	94.15	95.70
	C.V.(%)	1.508	1.875	3.197	3.609
	No. Specimens	18		18	
	No. Material Lots	3		3	
SSB2 Ultimate Strength [ksi]	Mean	137.4	135.3	106.8	105.4
	Minimum	132.4	127.6	102.8	100.0
	Maximum	143.1	141.2	111.3	111.1
	C.V.(%)	2.496	2.545	2.423	3.361
	No. Specimens	18		18	
	No. Material Lots	3		3	

2.3.32 “50/40/10” Single-Shear Bearing 3 Properties (SSB3)

Material: VICTREX LMPAEK™ UDT AS7-192-34							
Resin content:	34.05 %wt	Comp. density: 1.583 g/cc					
Fiber volume:	58.64 %vol						
Ply count:	20						
Test method:	ASTM D5961-17						
Normalized by:	0.0072	in. CPT					
		RTA		ETW			
Test Temperature [°F]	70			250			
Moisture Conditioning	Ambient			Equilibrium			
Equilibrium at T, RH				160F,85%			
Source code	SSB3-X-X-X-RTA-X			SSB3-X-X-X-ETW-X			
	Normalized	Measured	Normalized	Measured			
SSB3 Initial Peak Strength [ksi]	Mean	115.8		92.67			
	Minimum	114.8		91.24			
	Maximum	116.7		95.15			
	C.V.(%)	1.178		1.873			
	No. Specimens	2		4			
	No. Material Lots	1		3			
SSB3 2% Offset Strength [ksi]	Mean	114.6	113.9	92.10	91.54		
	Minimum	108.9	107.8	88.84	87.65		
	Maximum	119.4	118.4	97.70	96.67		
	C.V.(%)	2.638	2.476	2.609	2.762		
	No. Specimens	18		18			
	No. Material Lots	3		3			
SSB3 Ultimate Strength [ksi]	Mean	132.1	131.3	102.2	101.6		
	Minimum	126.9	125.3	97.97	96.36		
	Maximum	135.7	135.8	107.4	106.3		
	C.V.(%)	1.683	2.247	2.351	2.435		
	No. Specimens	18		18			
	No. Material Lots	3		3			

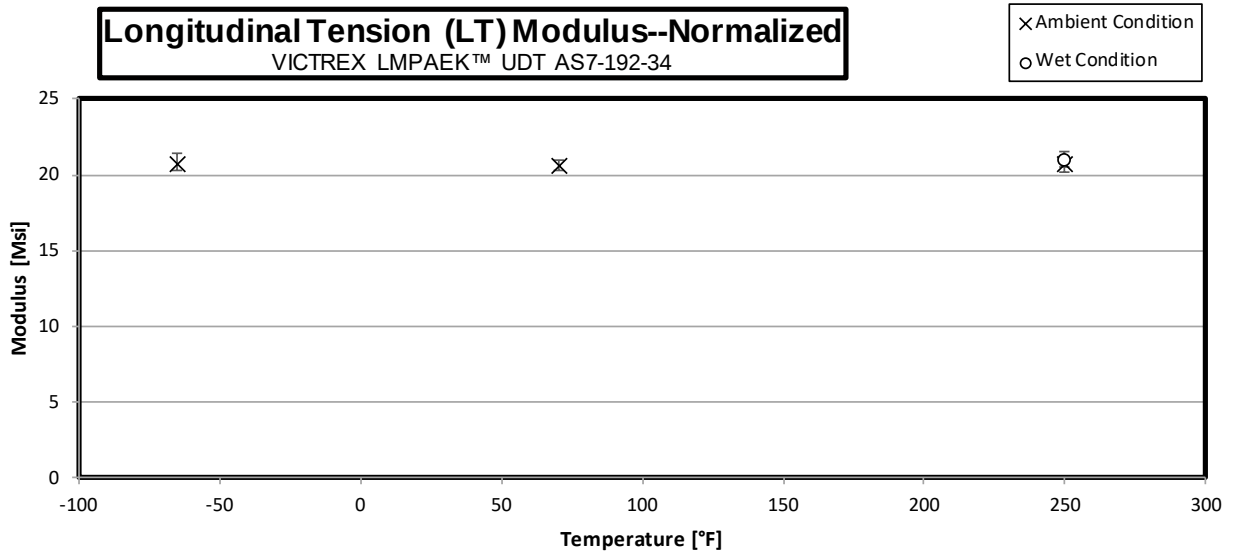
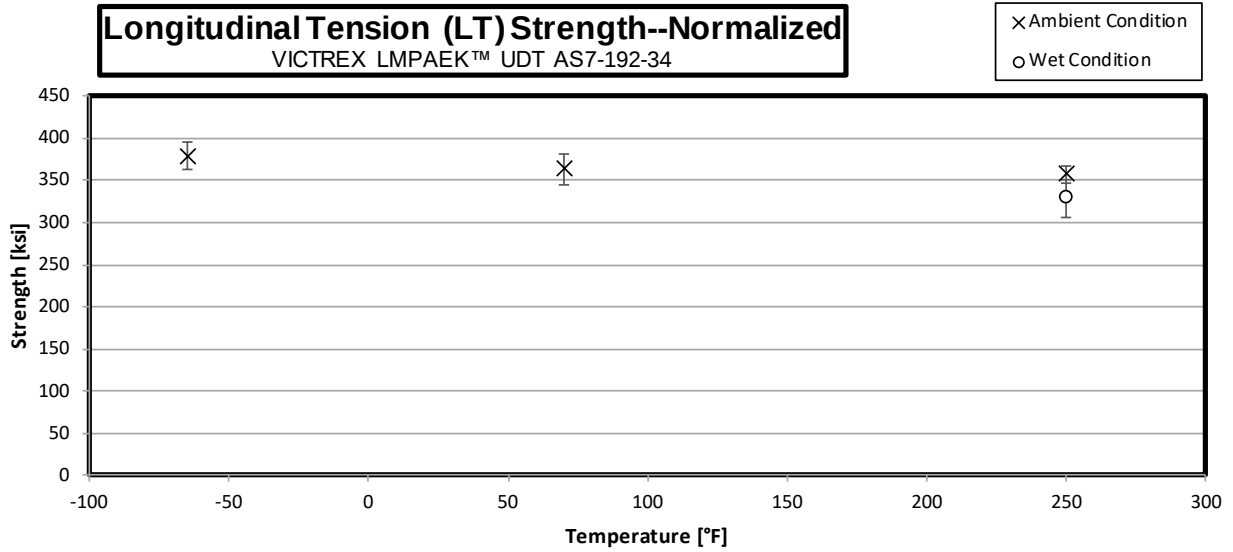
2.3.33 “25/50/25” Compression After Impact 1 Properties (CAI1)

Material: VICTREX LMPAEEK™ UDT AS7-192-34		Compression After Impact 1 VICTREX LMPAEEK™ UDT AS7-192-34 [45/0/-45/90]4S					
Resin content:	34.41 %wt	Comp. density: 1.579 g/cc					
Fiber volume:	58.20 %vol						
Ply count:	32						
Test method: ASTM D7136-15/D7137-17							
Normalized by: 0.0072 in. CPT							
		RTA		ETA		ETW	
Test Temperature [°F]		70		250		250	
Moisture Conditioning		Ambient		Ambient		Equilibrium	
Equilibrium at T, RH						160F,85%	
Source code		V-A2-DA-CAI1-X-X-1-RTA-X		V-A2-DA-CAI1-X-X-1-ETA-X		V-A2-DA-CAI1-X-X-1-ETW-X	
		Normalized	Measured	Normalized	Measured	Normalized	Measured
CAI1 Strength [ksi]	Mean	41.60	41.04	34.75	34.32	32.48	32.00
	Minimum	37.87	37.32	32.92	32.48	30.01	29.50
	Maximum	44.11	43.57	36.48	36.09	35.25	34.79
	C.V.(%)	5.831	5.899	3.368	3.454	6.191	6.356
	No. Specimens	6		6		7	
No. Material Lots		1		1		1	

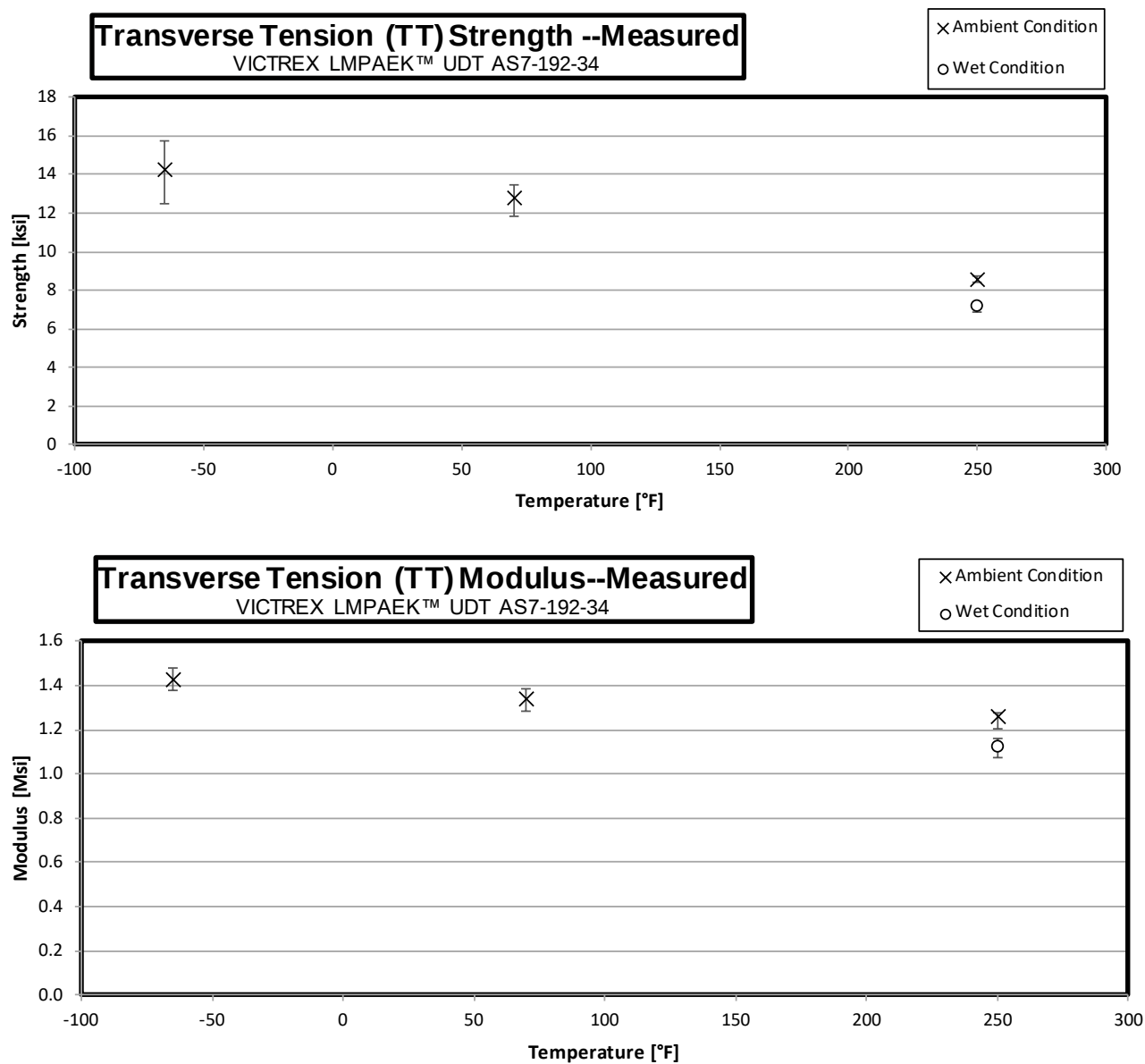
3. Individual Test Charts

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

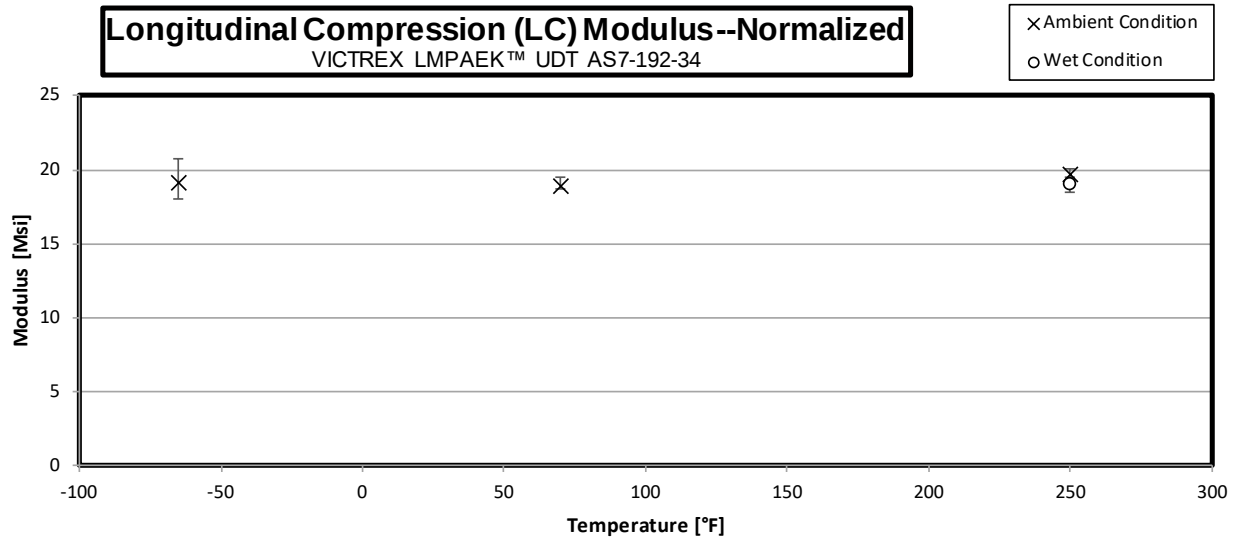
3.1 Longitudinal Tension Properties (LT)



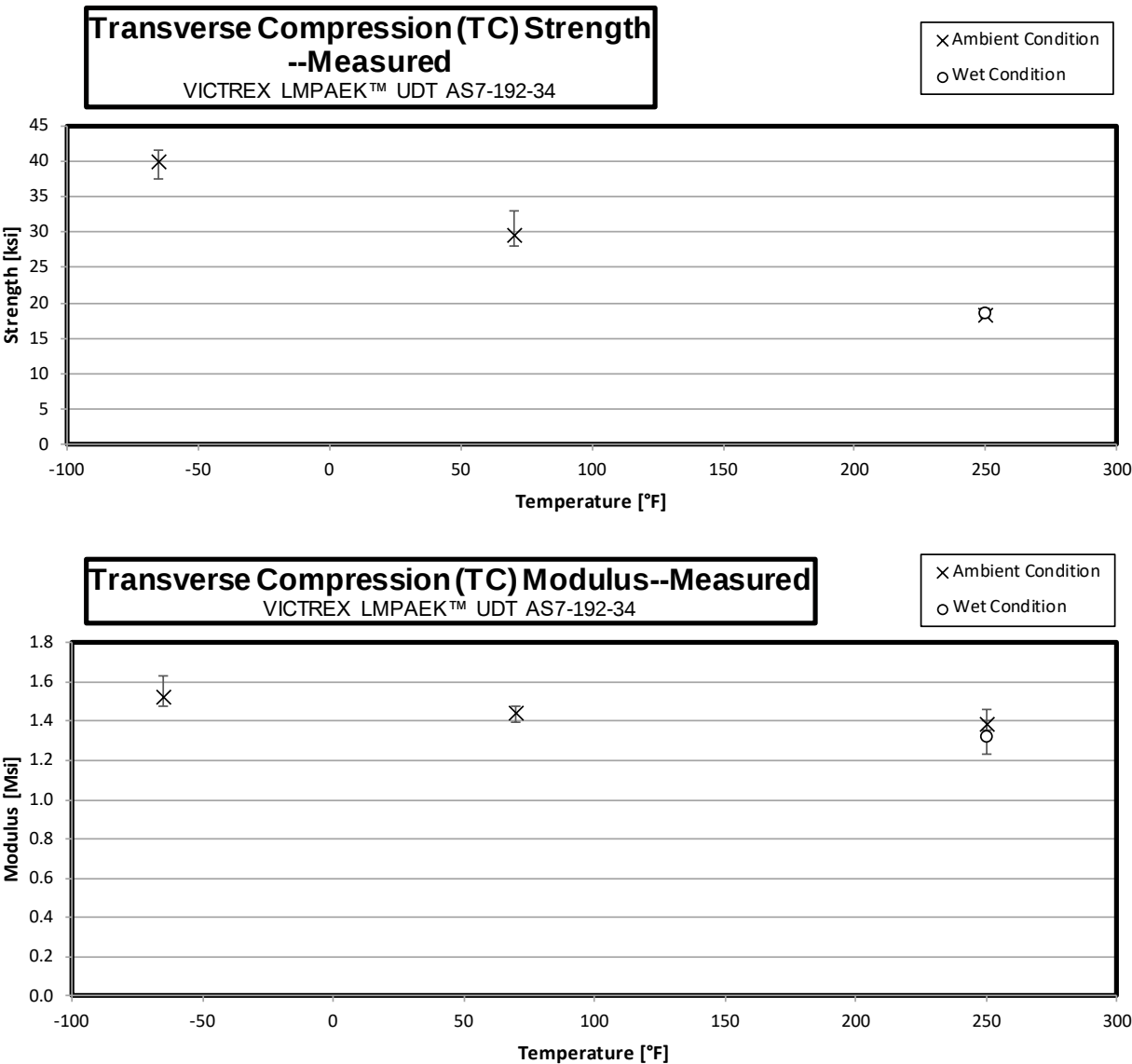
3.2 Transverse Tension Properties (TT)



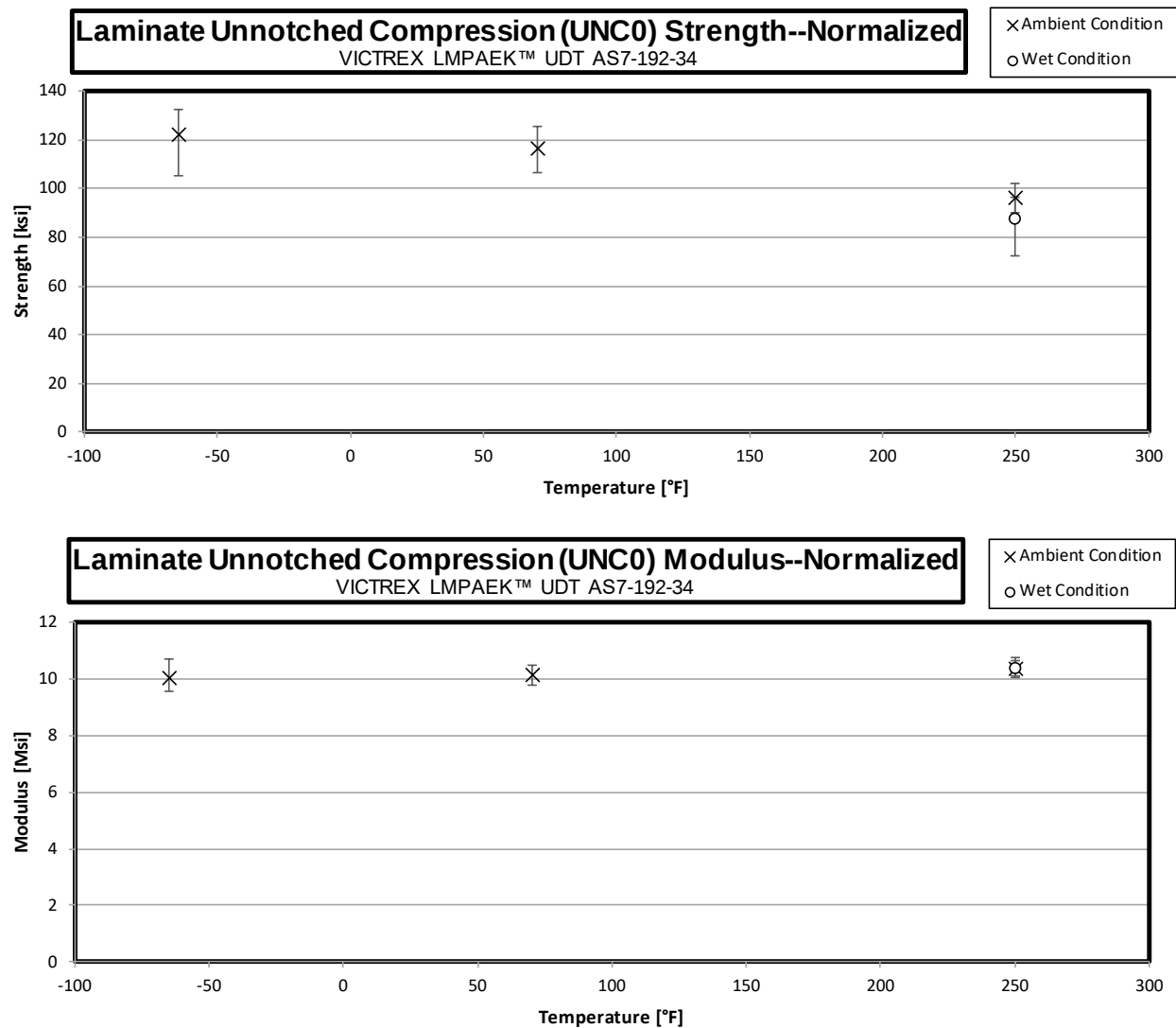
3.3 Longitudinal Compression Properties (LC)



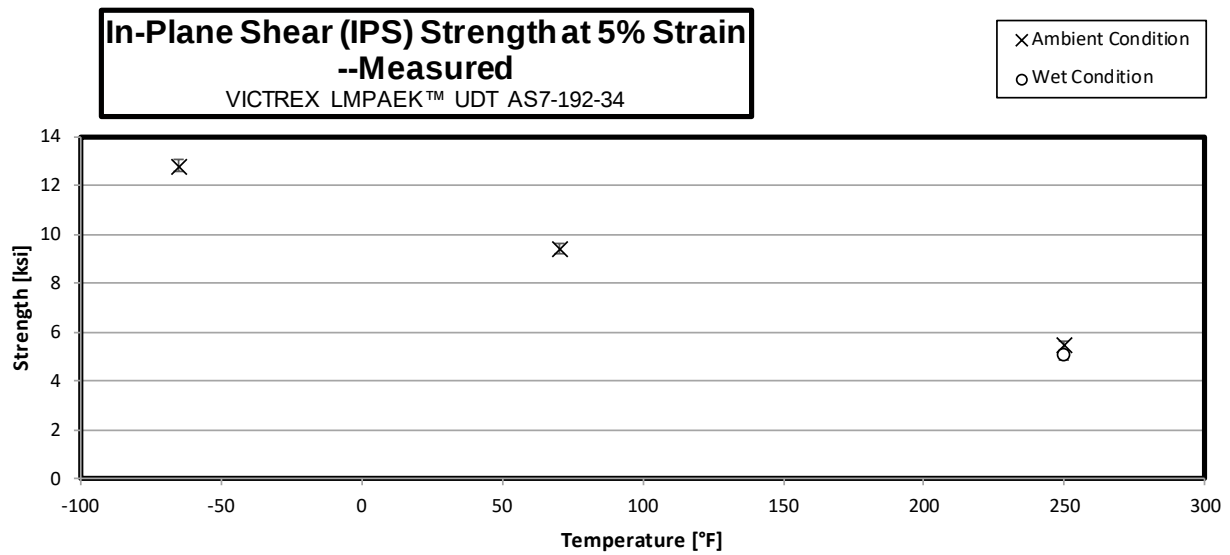
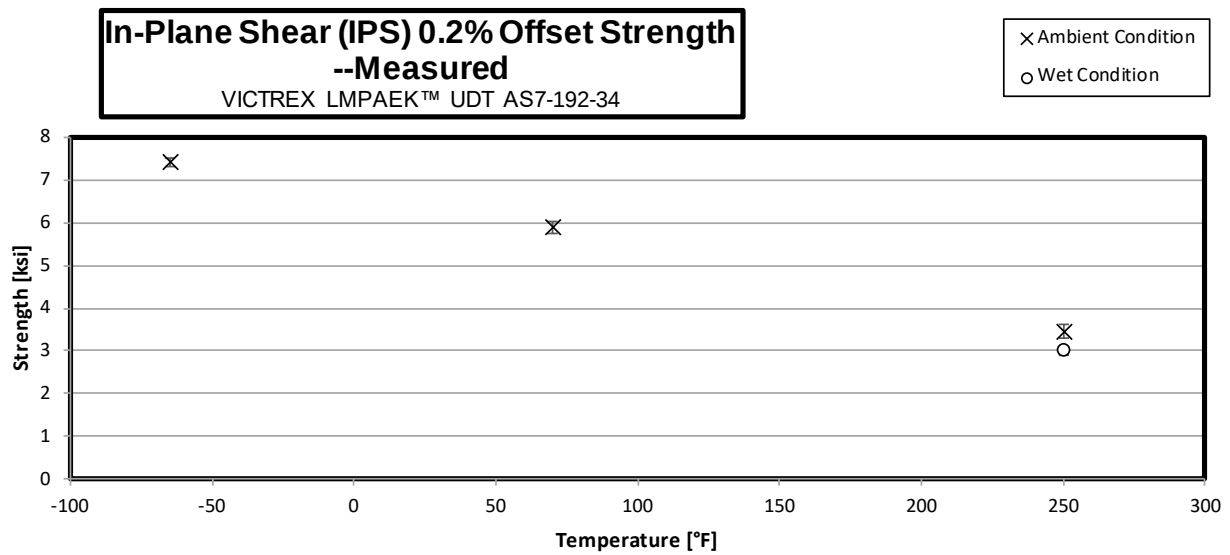
3.4 Transverse Compression Properties (TC)

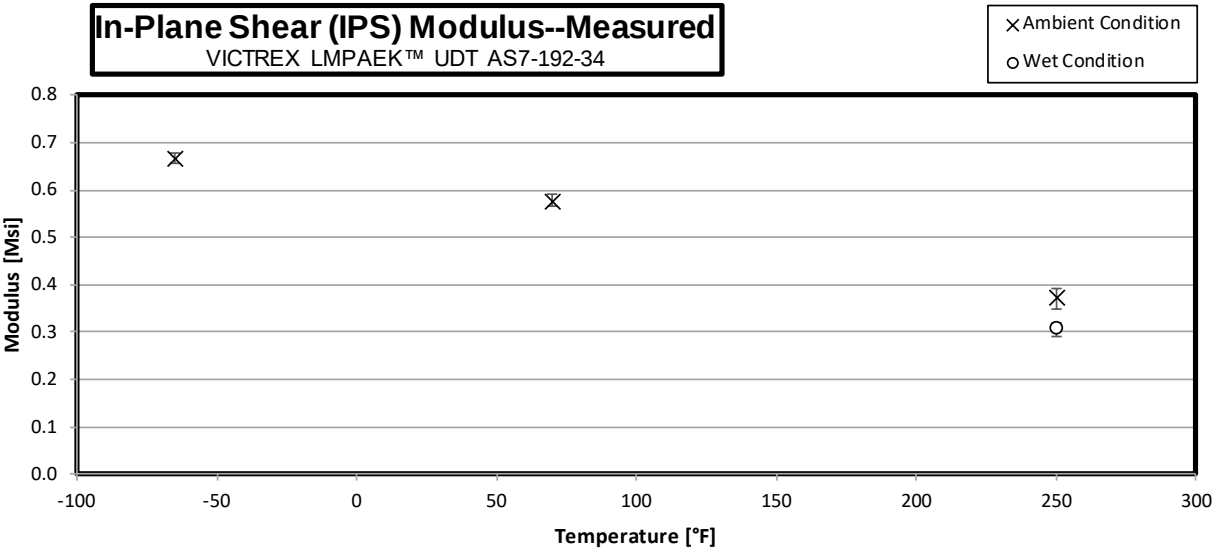


3.5 Unnotched Compression Properties (UNC0)

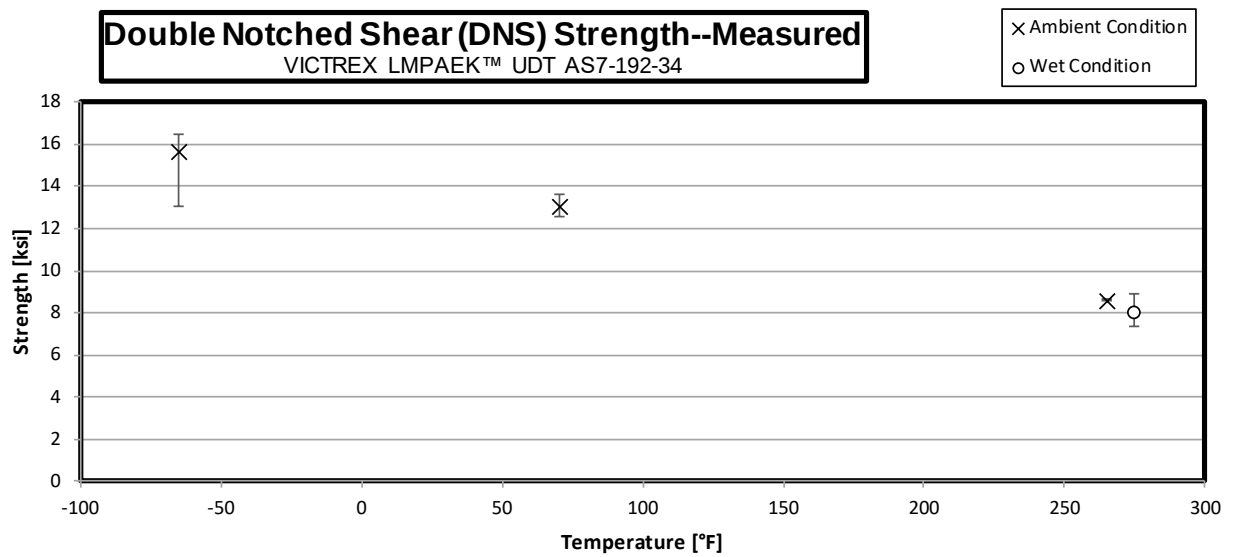


3.6 In-Plane Shear Properties (IPS)

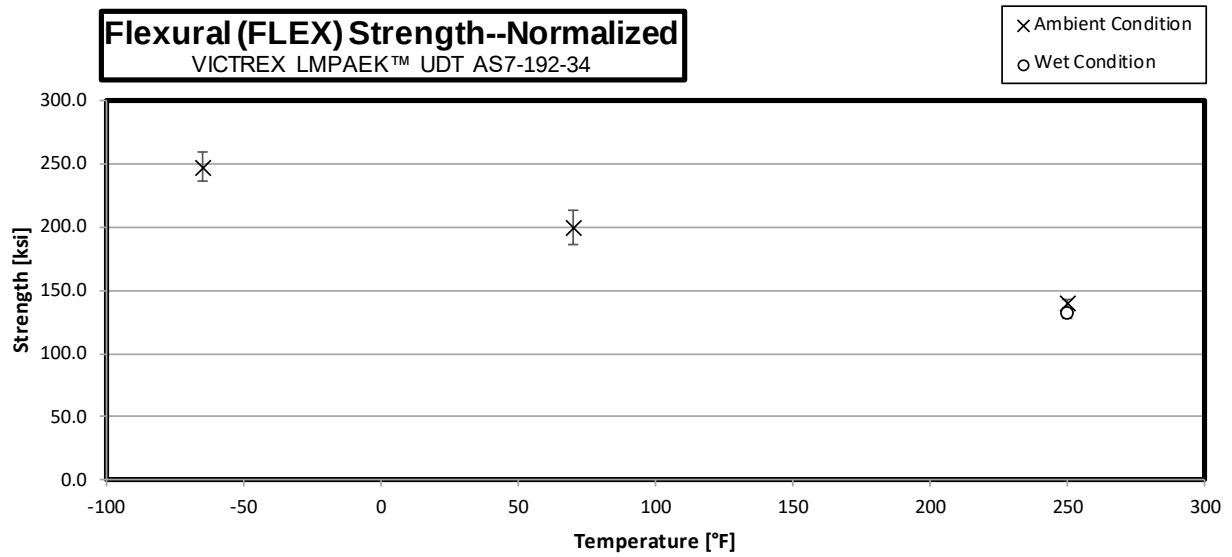




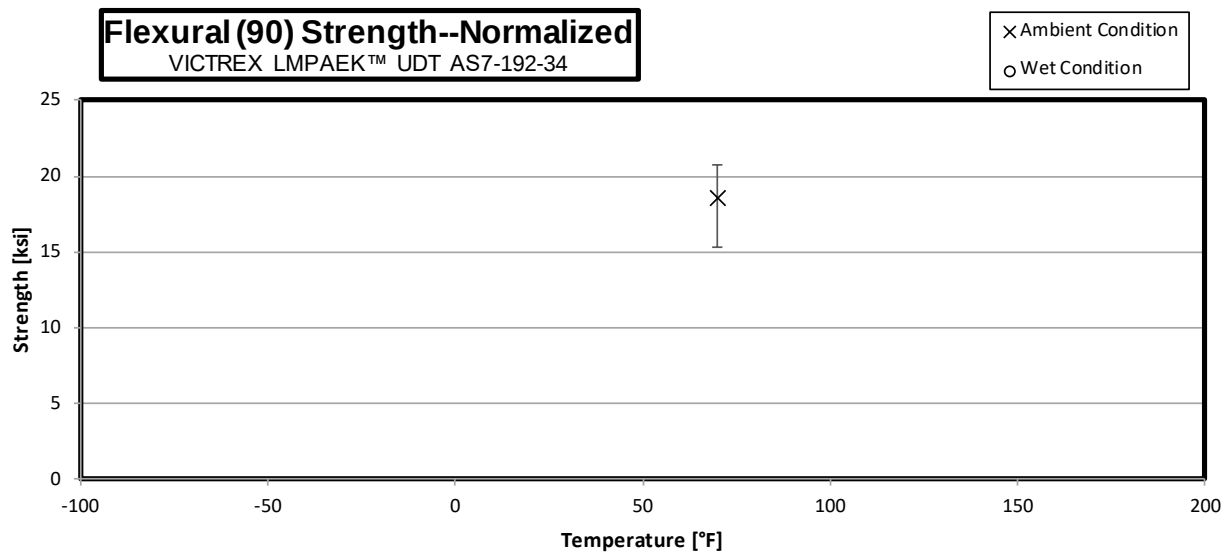
3.7 Double Notched Shear (DNS) Strength--Measured



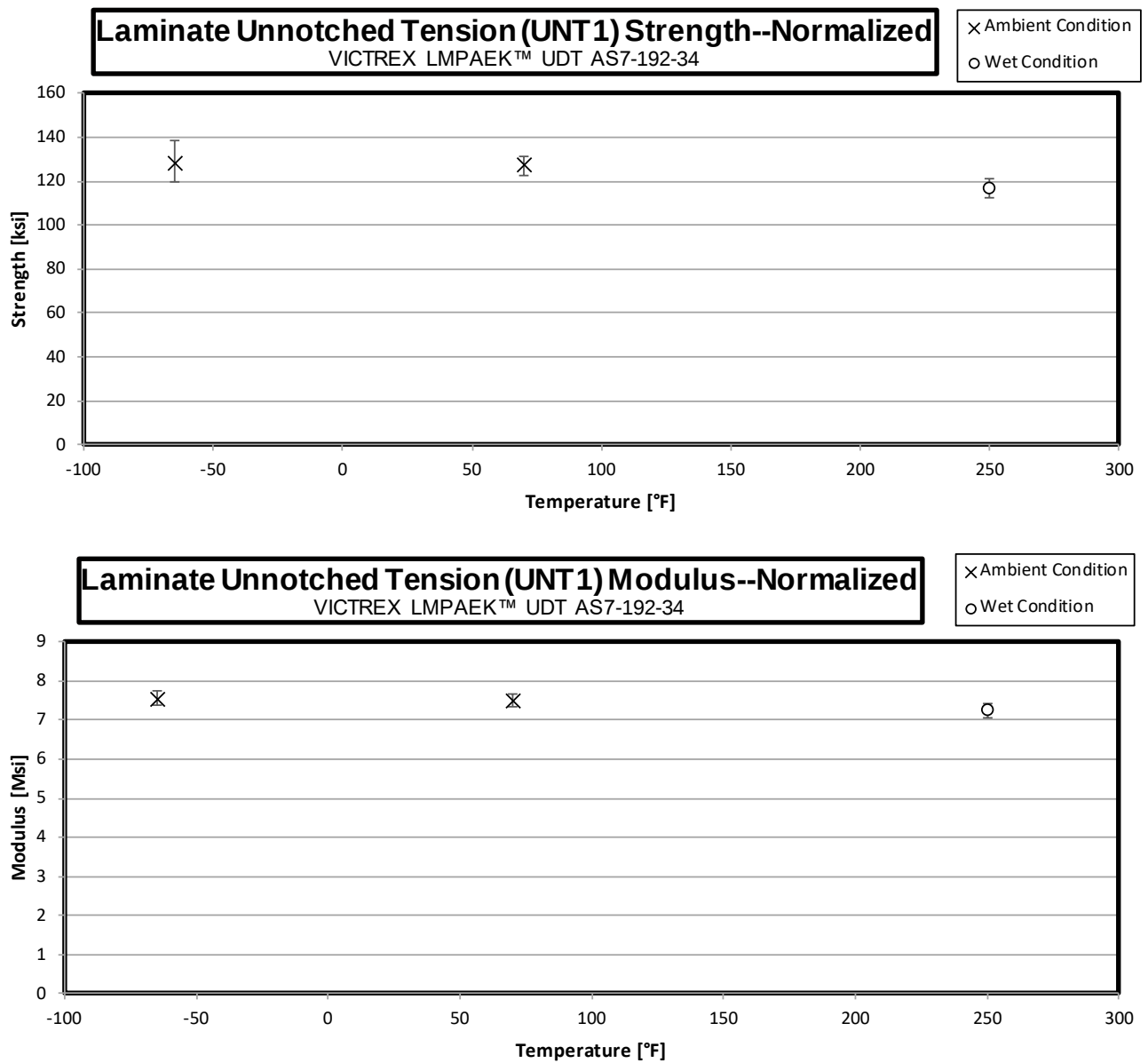
3.8 0 Flexural Properties (0 Flex)



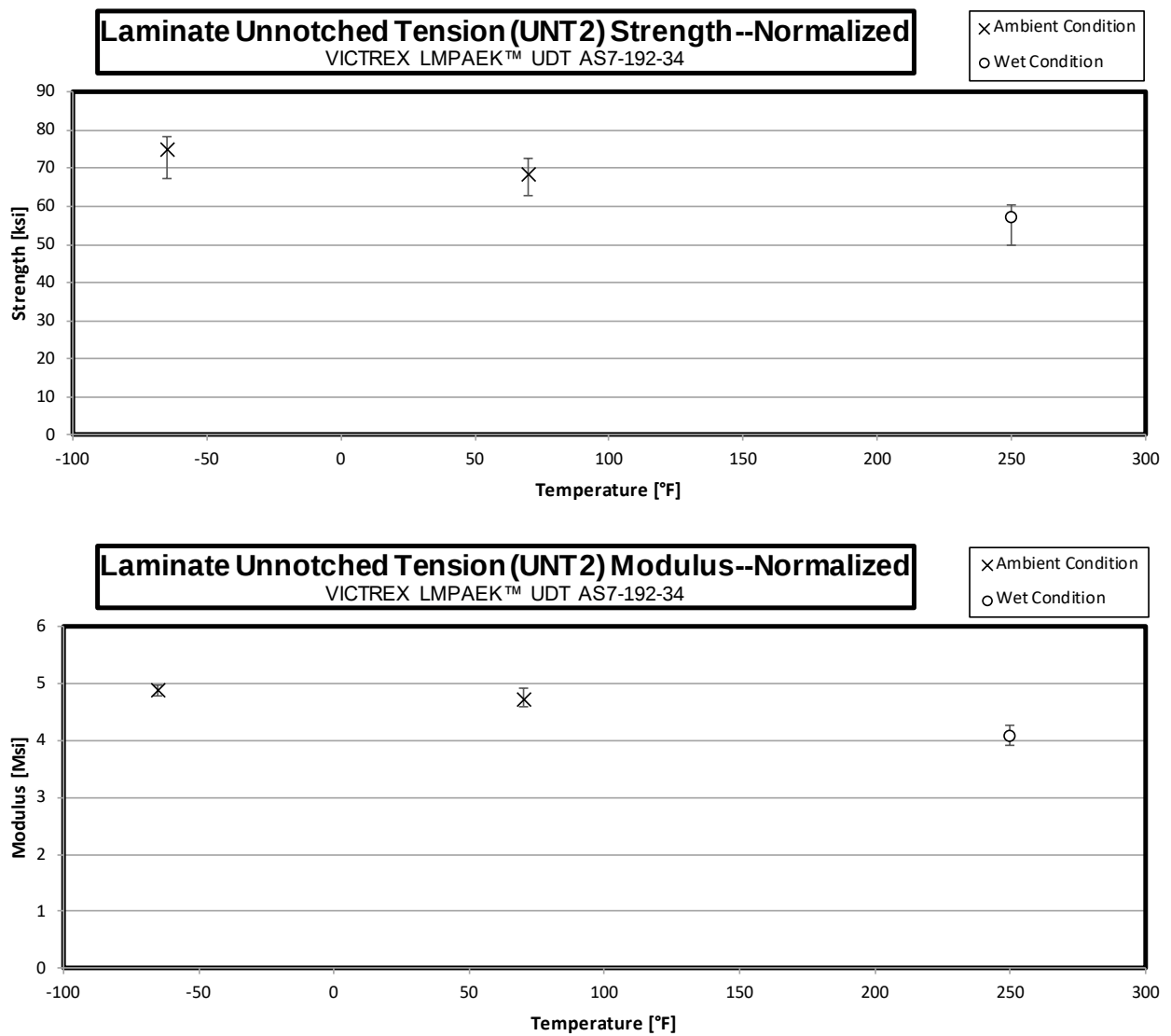
3.9 90 Flexural Properties (90 Flex)



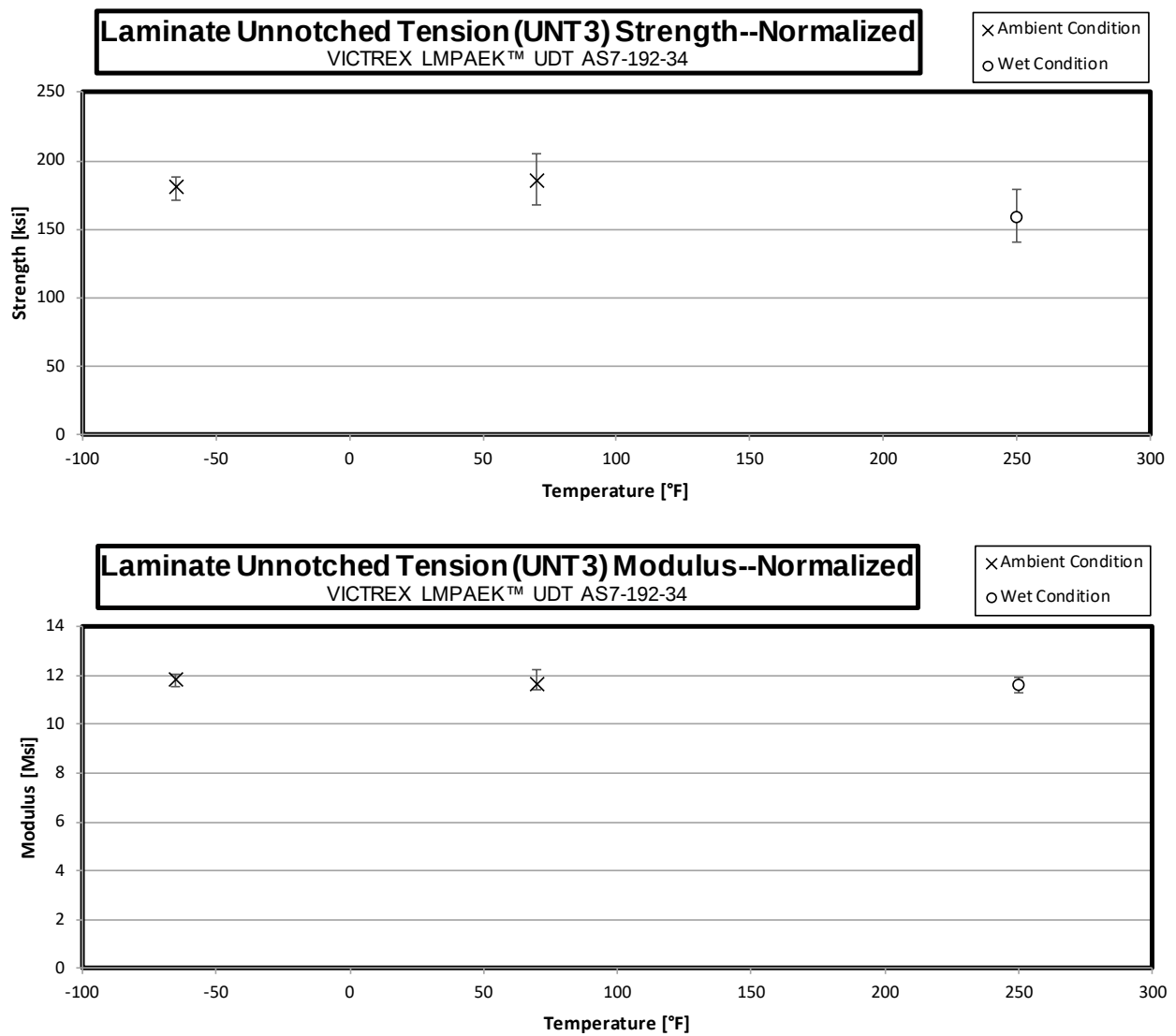
3.10 “25/50/25” Unnotched Tension 1 Properties (UNT1)



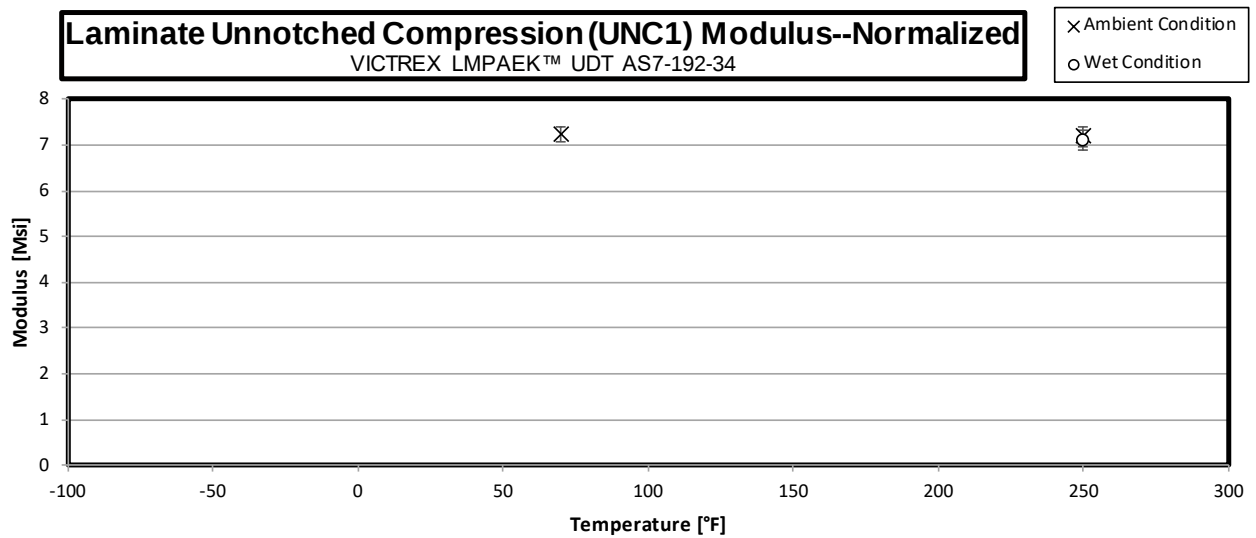
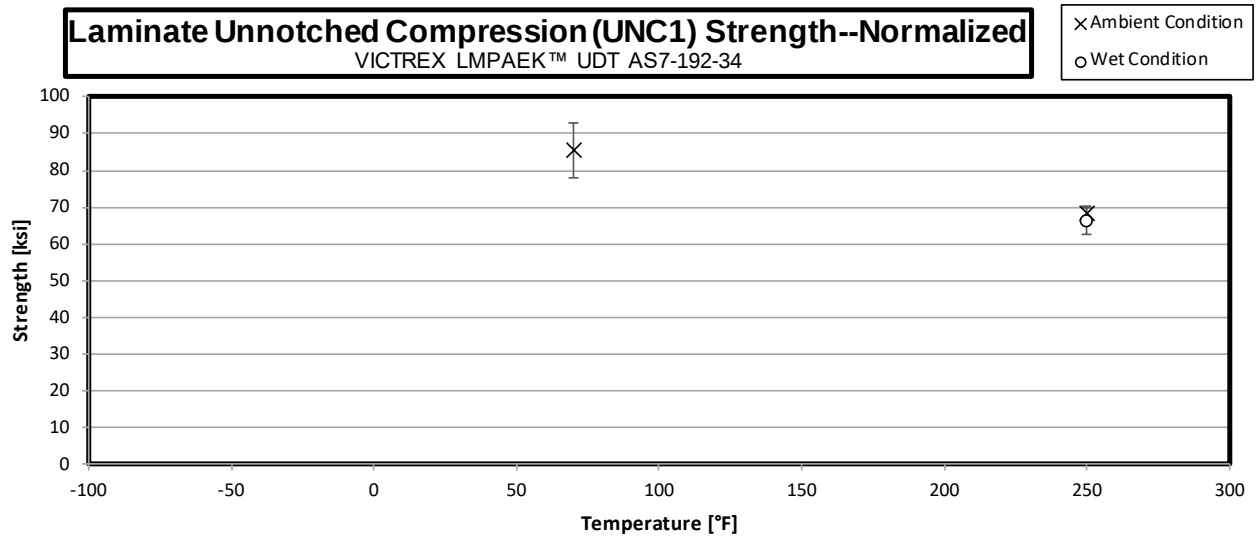
3.11 “10/80/10” Unnotched Tension 2 Properties (UNT2)



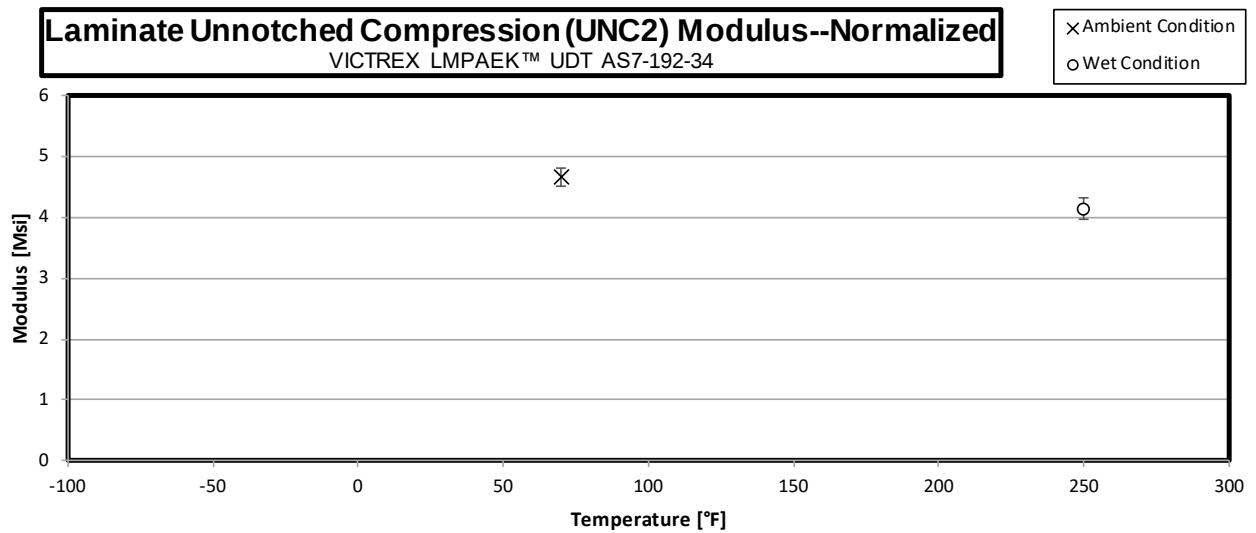
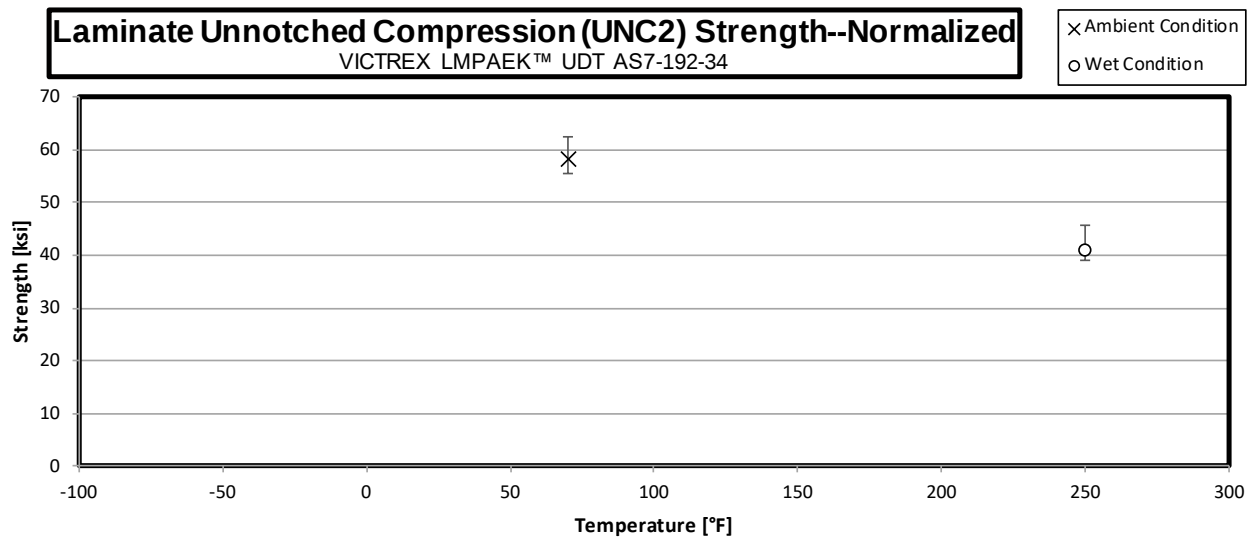
3.12 “50/40/10” Unnotched Tension 3 Properties (UNT3)



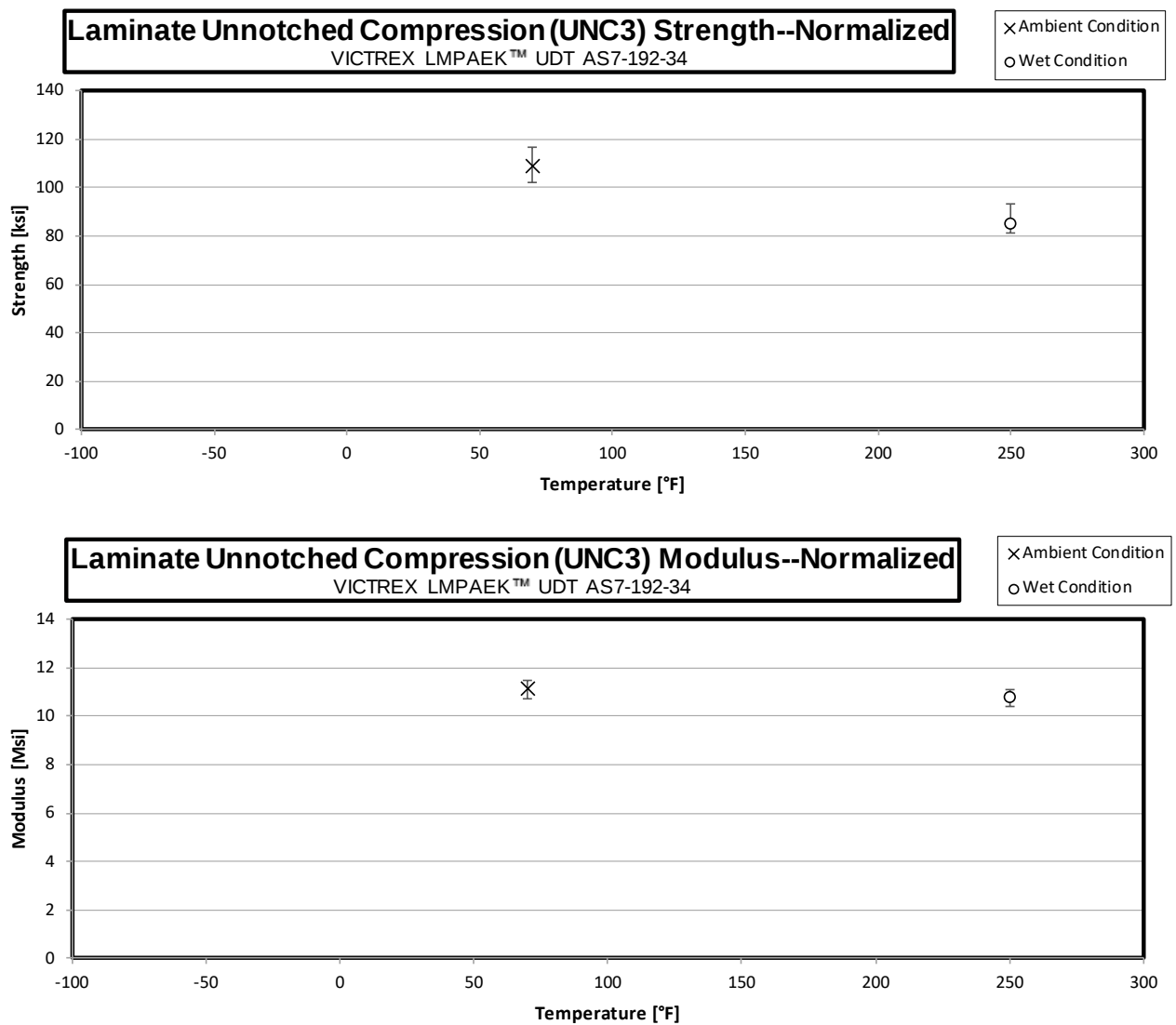
3.13 “25/50/25” Unnotched Compression 1 Properties (UNC1)



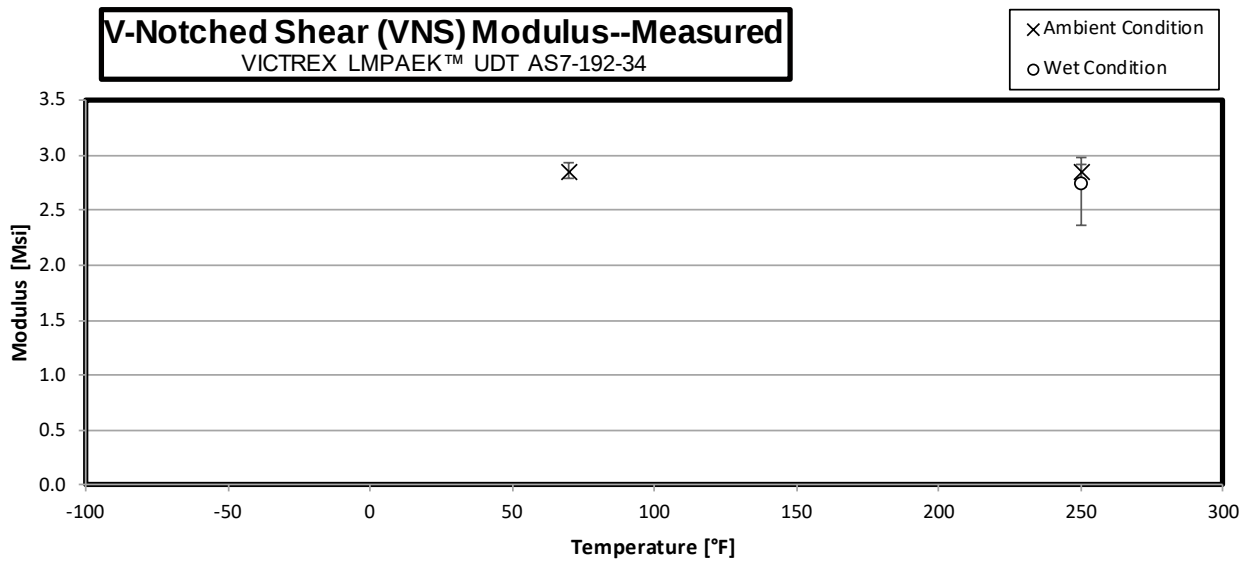
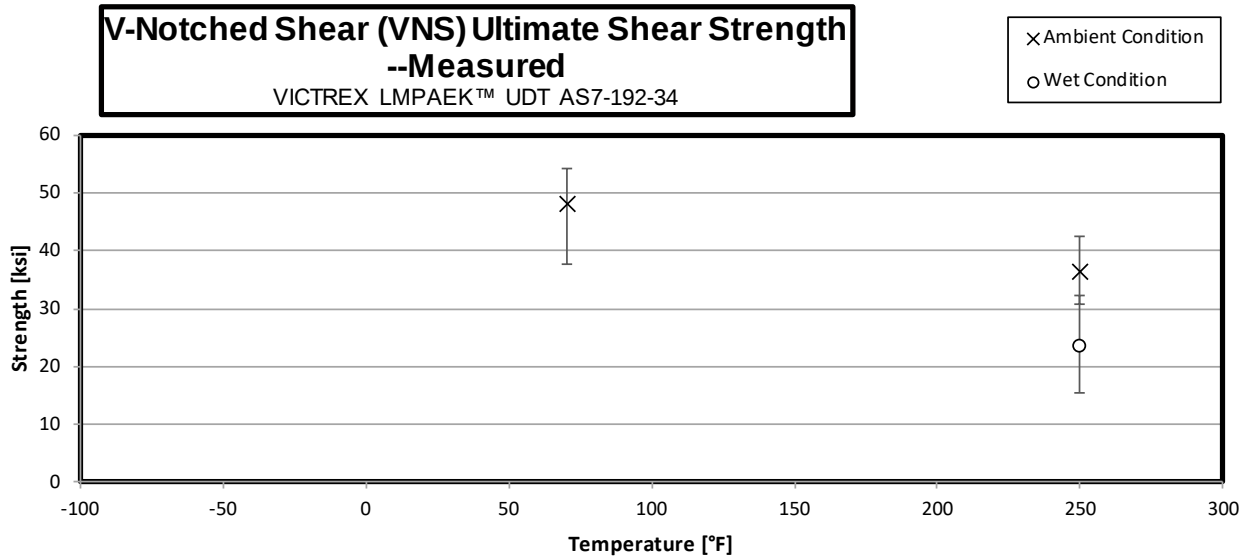
3.14 “10/80/10” Unnotched Compression 2 Properties (UNC2)



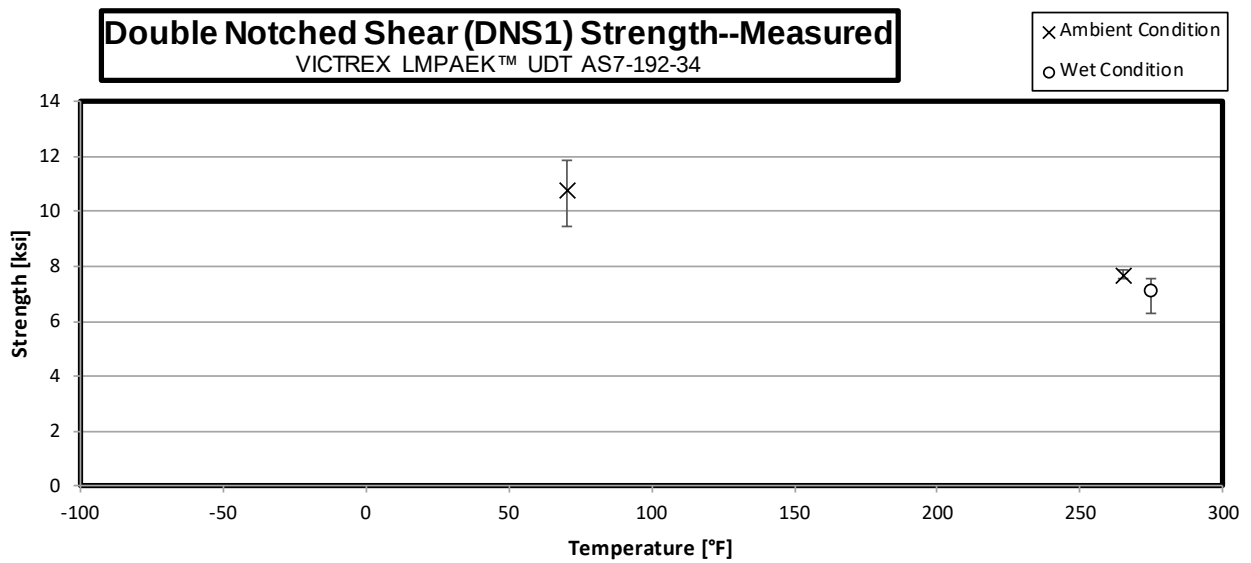
3.15 “50/40/10” Unnotched Compression 3 Properties (UNC3)



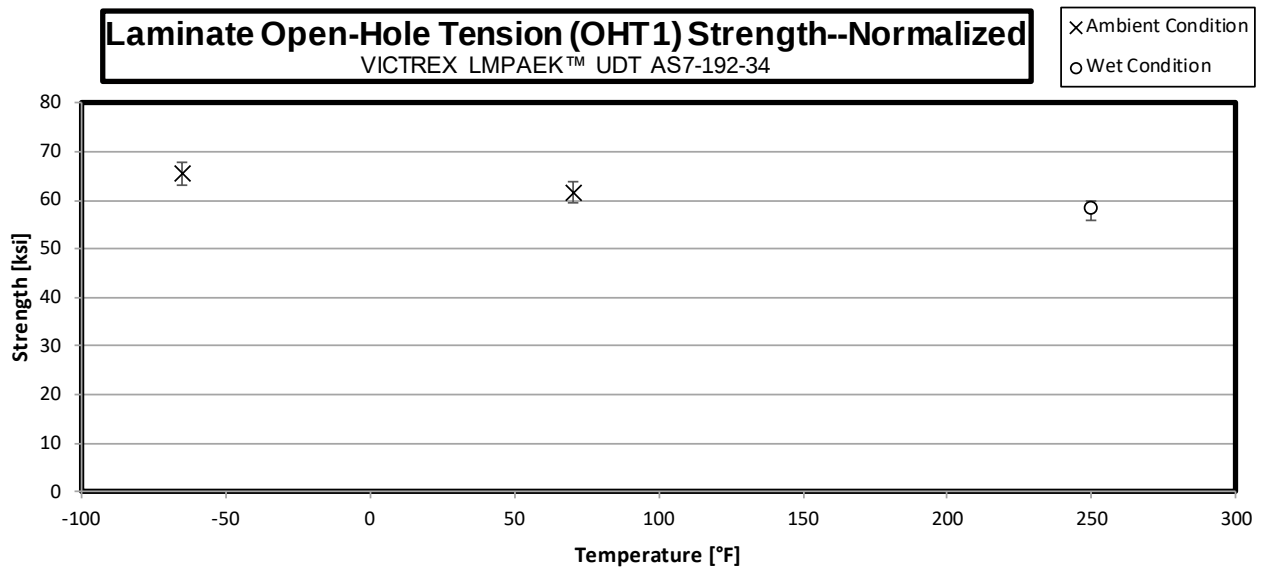
3.16 “25/50/25” V-Notched Rail Shear Properties (VNS)



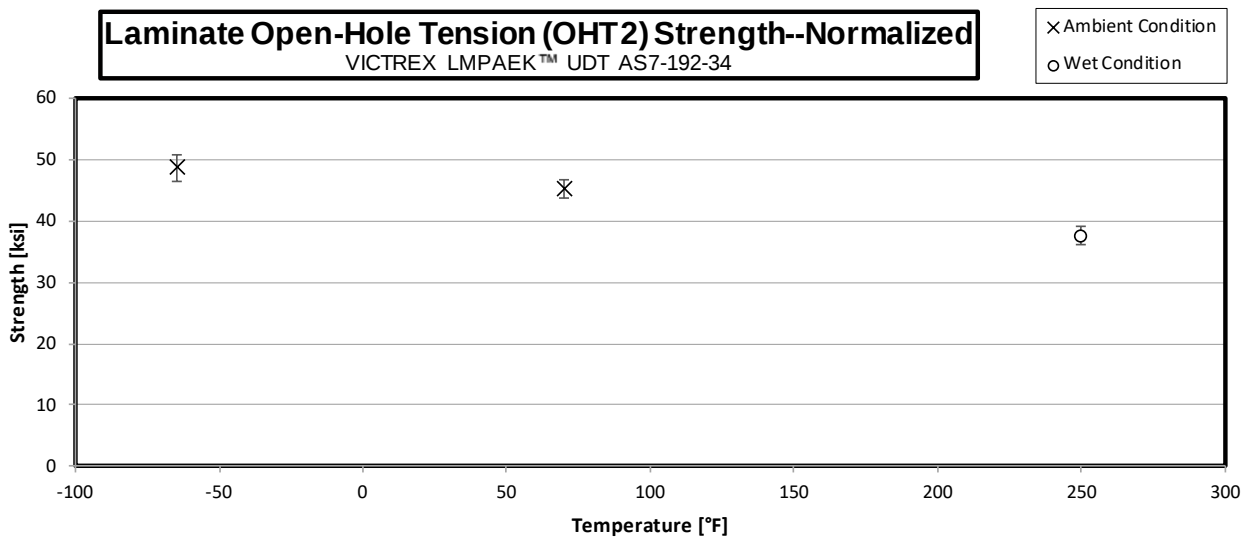
3.17 “25/50/25” Double Notched Shear Properties (DNS1)



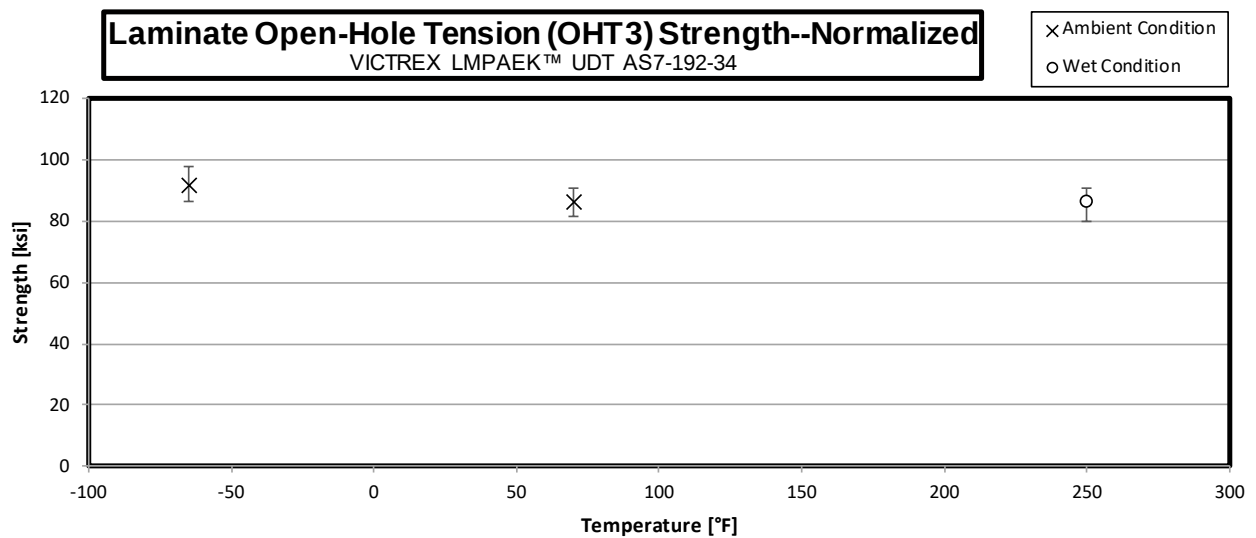
3.18 “25/50/25” Open-Hole Tension 1 Properties (OHT1)



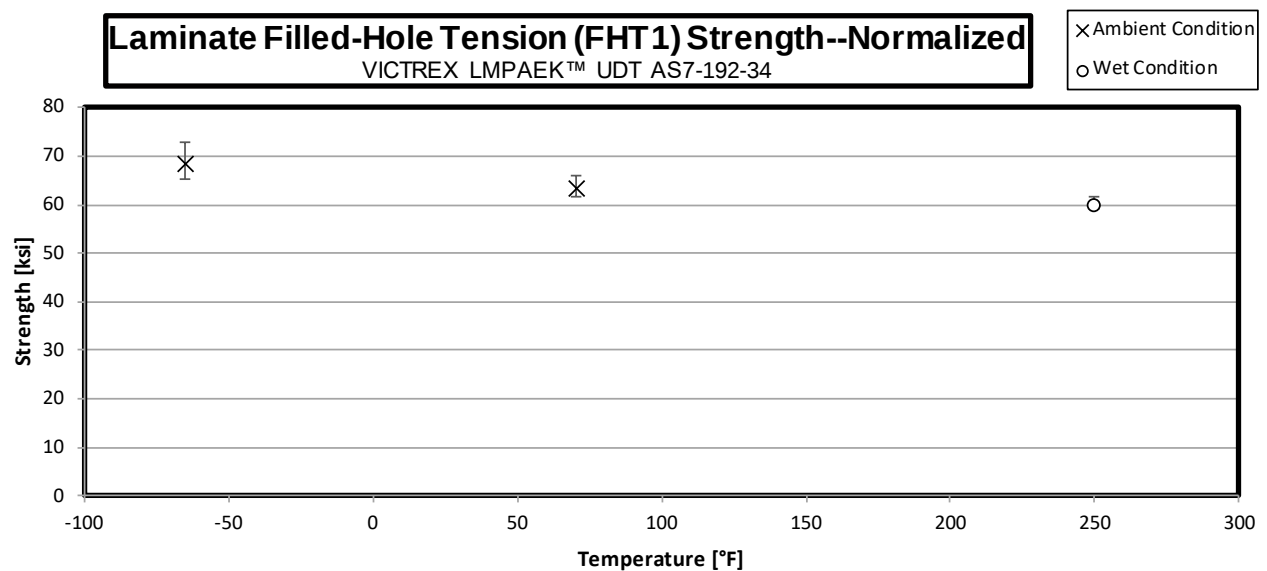
3.19 “10/80/10” Open-Hole Tension 2 Properties (OHT2)



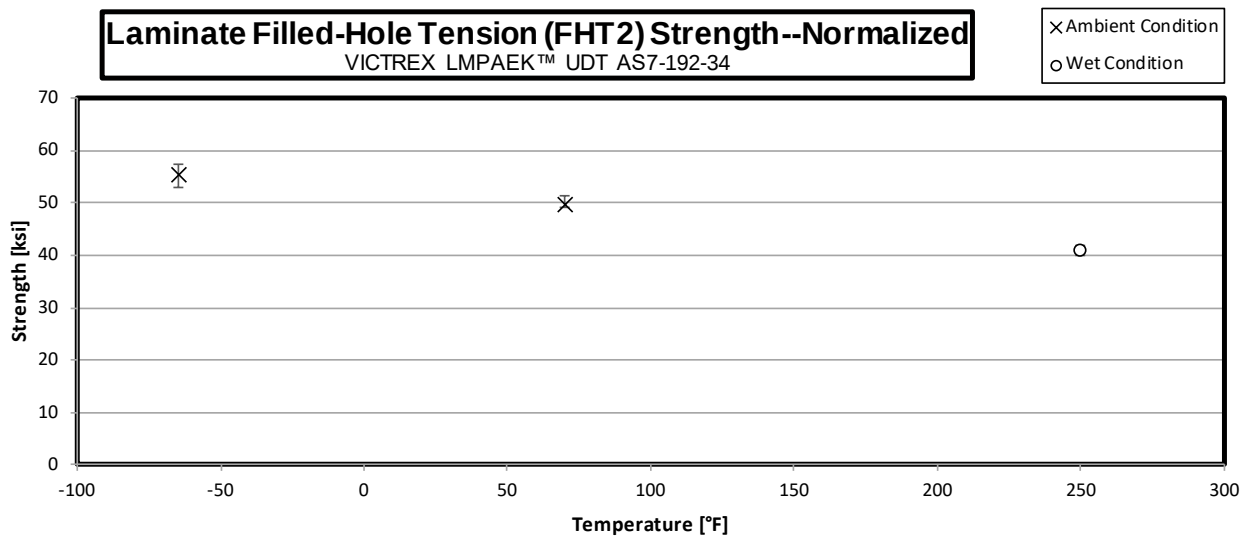
3.20 “50/40/10” Open-Hole Tension 3 Properties (OHT3)



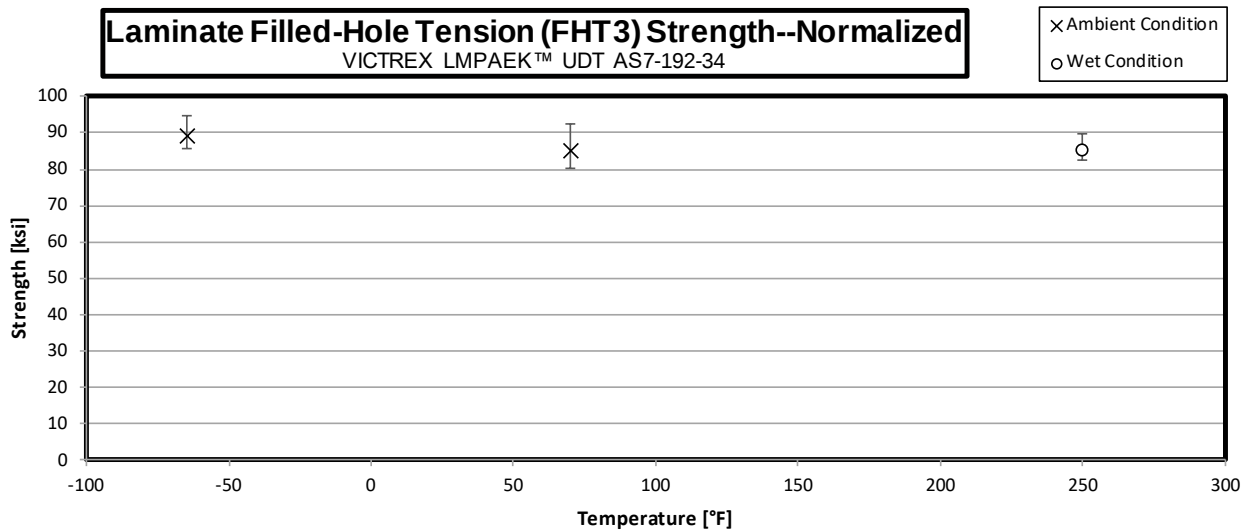
3.21 “25/50/25” Filled-Hole Tension 1 Properties (FHT1)



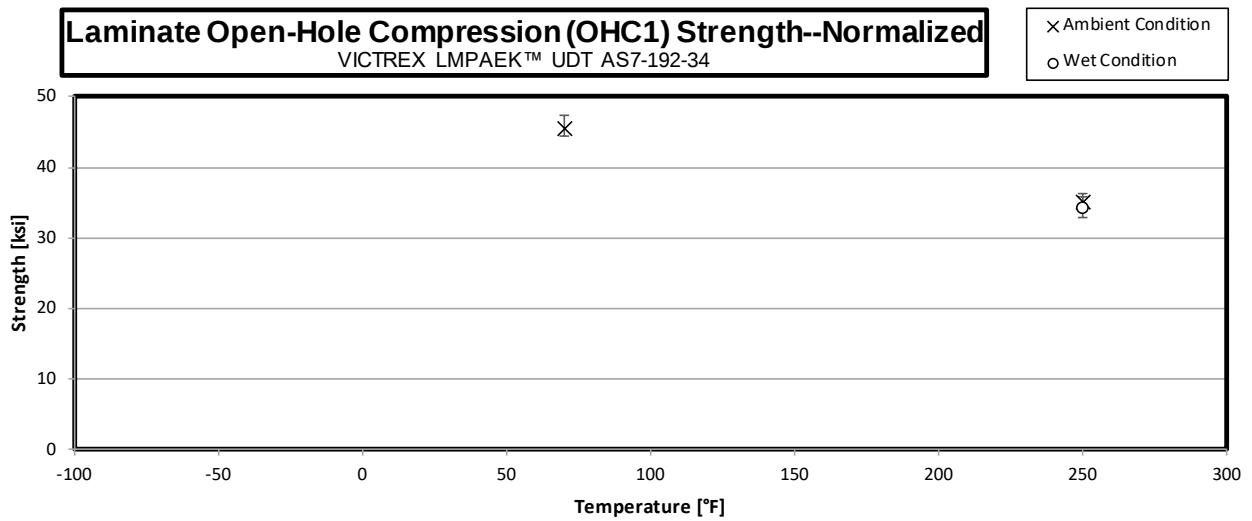
3.22 “10/80/10” Filled-Hole Tension 2 Properties (FHT2)



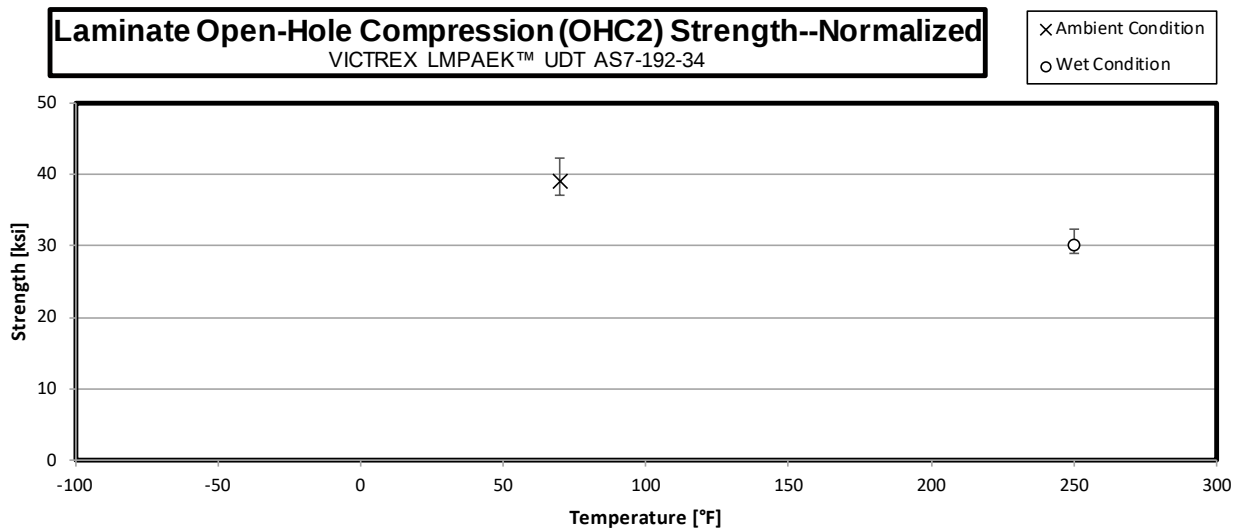
3.23 “50/40/10” Filled-Hole Tension 3 Properties (FHT3)



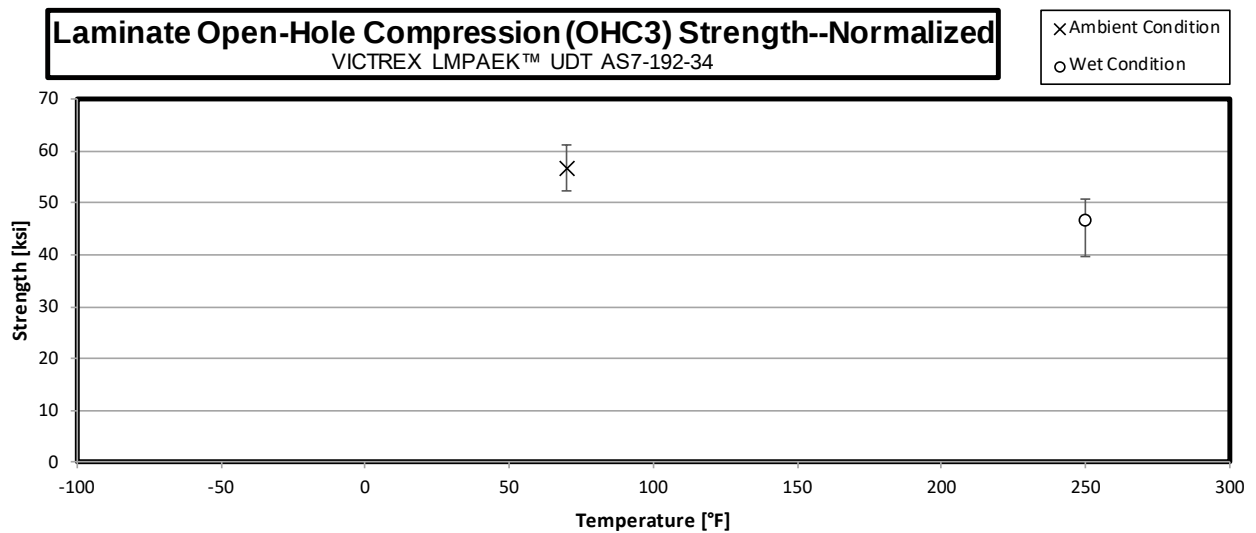
3.24 “25/50/25” Open-Hole Compression 1 Properties (OHC1)



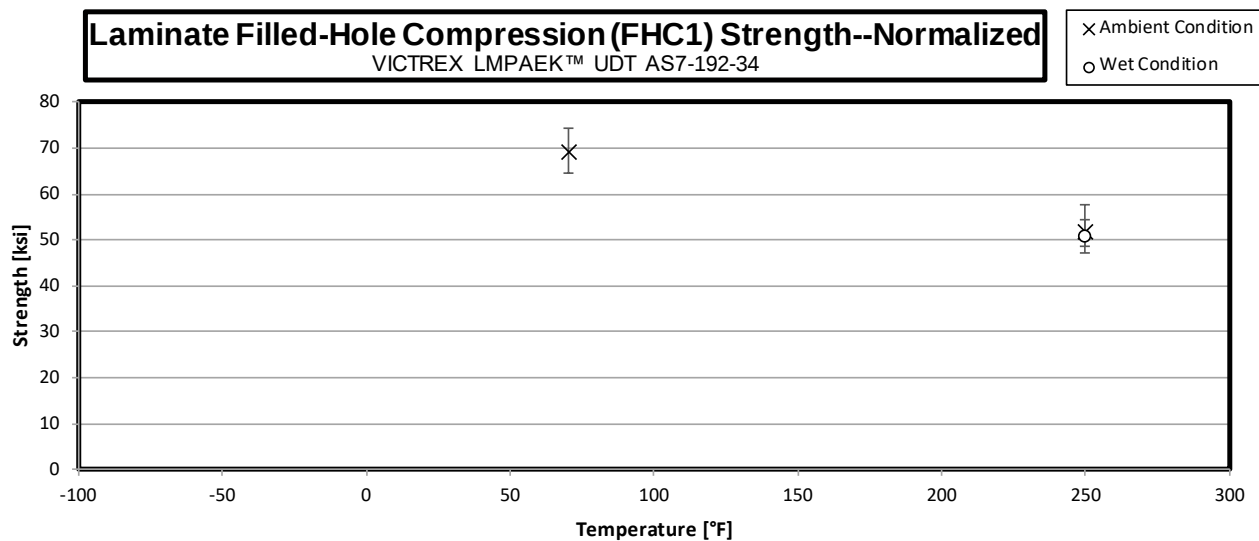
3.25 “10/80/10” Open-Hole Compression 2 Properties (OHC2)



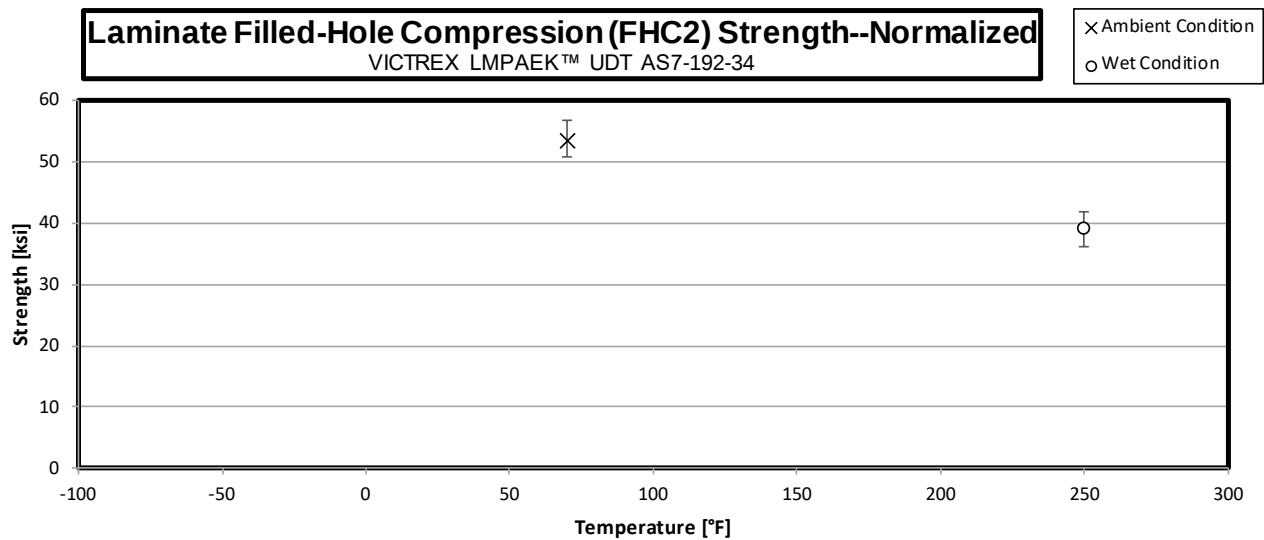
3.26 “50/40/10” Open-Hole Compression 3 Properties (OHC3)



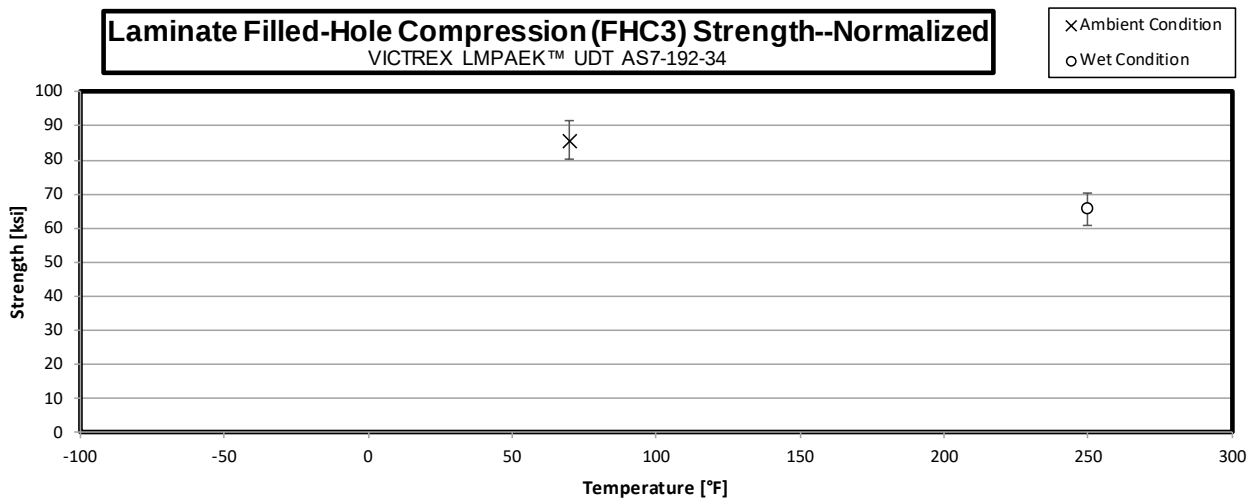
3.27 “25/50/25” Filled-Hole Compression 1 Properties (FHC1)



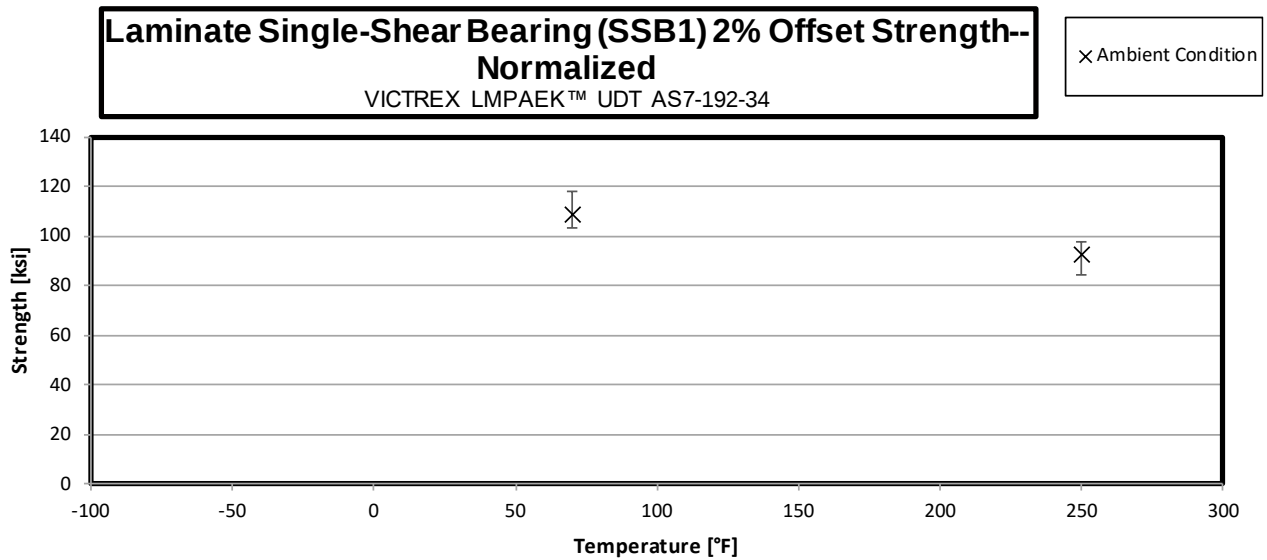
3.28 “10/80/10” Filled-Hole Compression 2 Properties (FHC2)



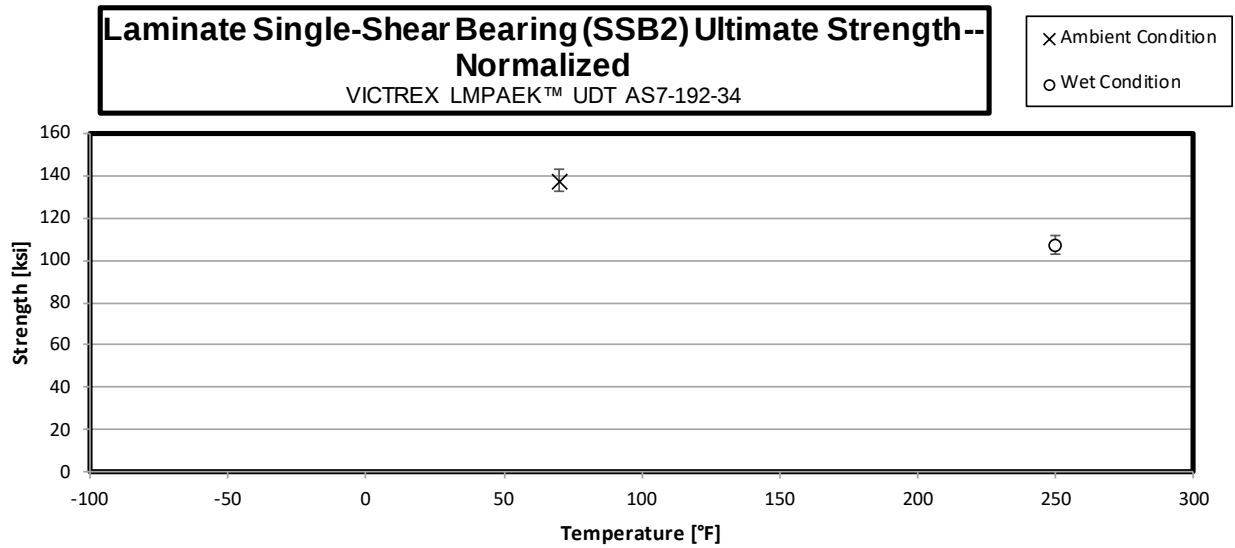
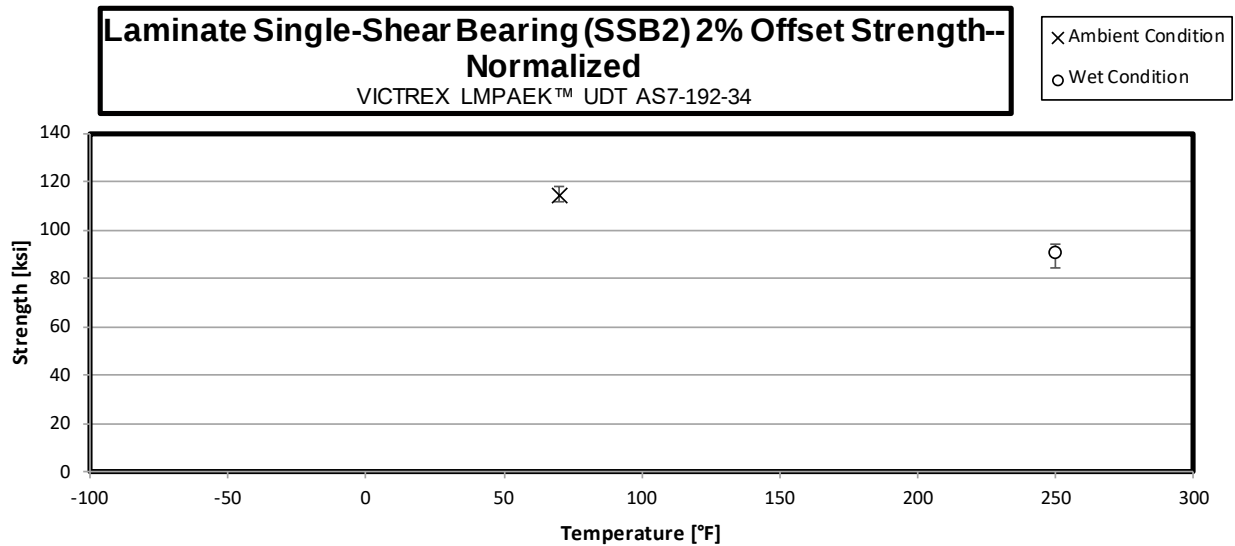
3.29 “50/40/10” Filled-Hole Compression 3 Properties (FHC3)



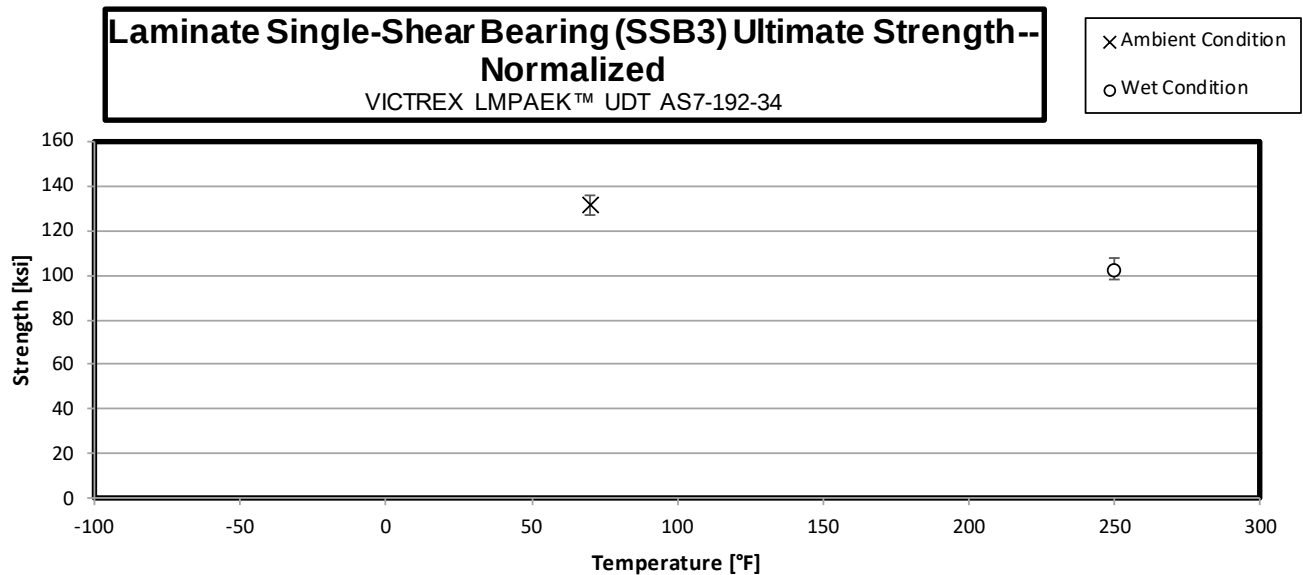
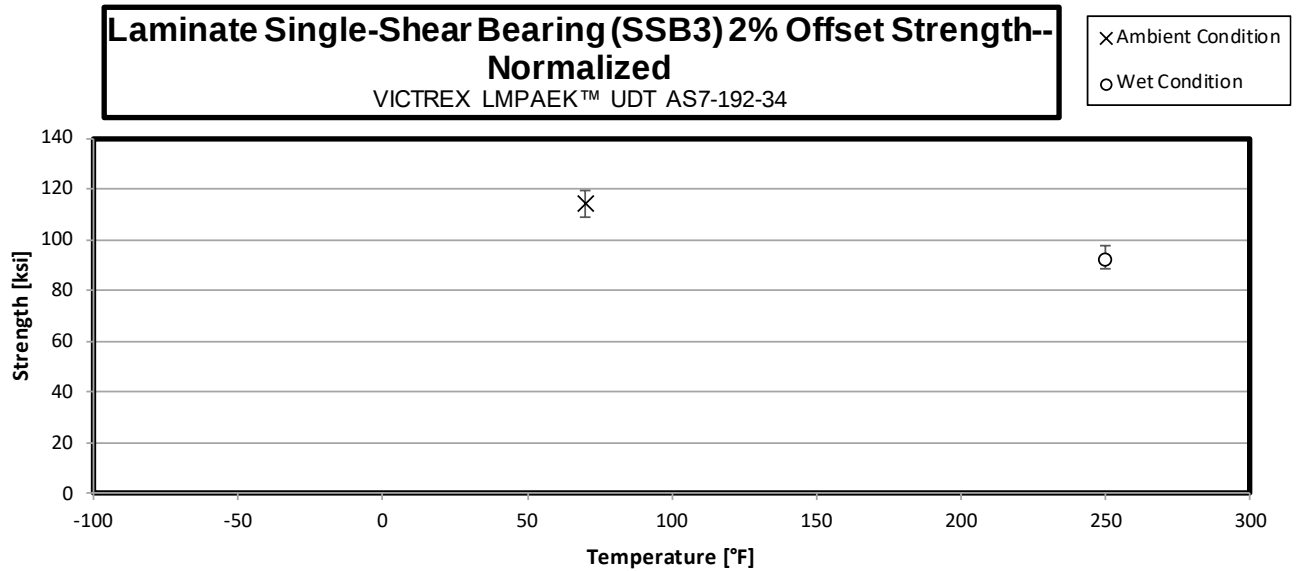
3.30 “25/50/25” Single-Shear Bearing 1 Properties (SSB1) – Reference Only



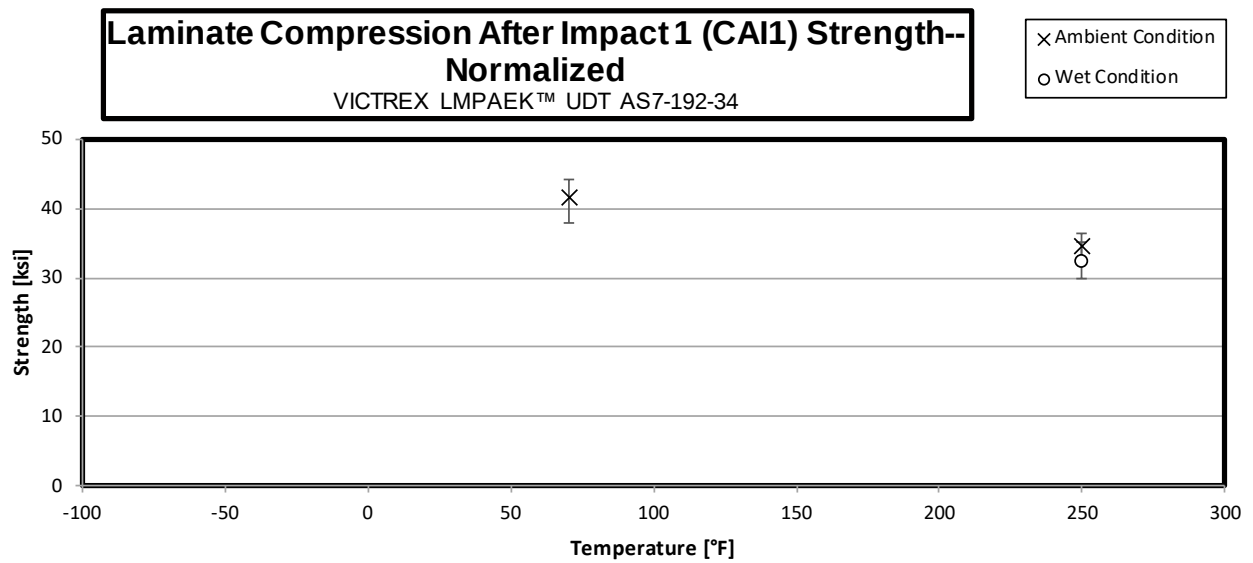
3.31 “10/80/10” Single-Shear Bearing 2 Properties (SSB2)



3.32 “50/40/10” Single-Shear Bearing 3 Properties (SSB3)



3.33 “25/50/25” Compression After Impact 1 Properties (CAI1)



4. Raw Data

4.1 Longitudinal Tension Properties (LT)

Longitudinal Tension Properties (LT)--CTA (-65°F)

Strength & Modulus

VICTREX LMPAEK™ UDT AS7-192-34

normalizing

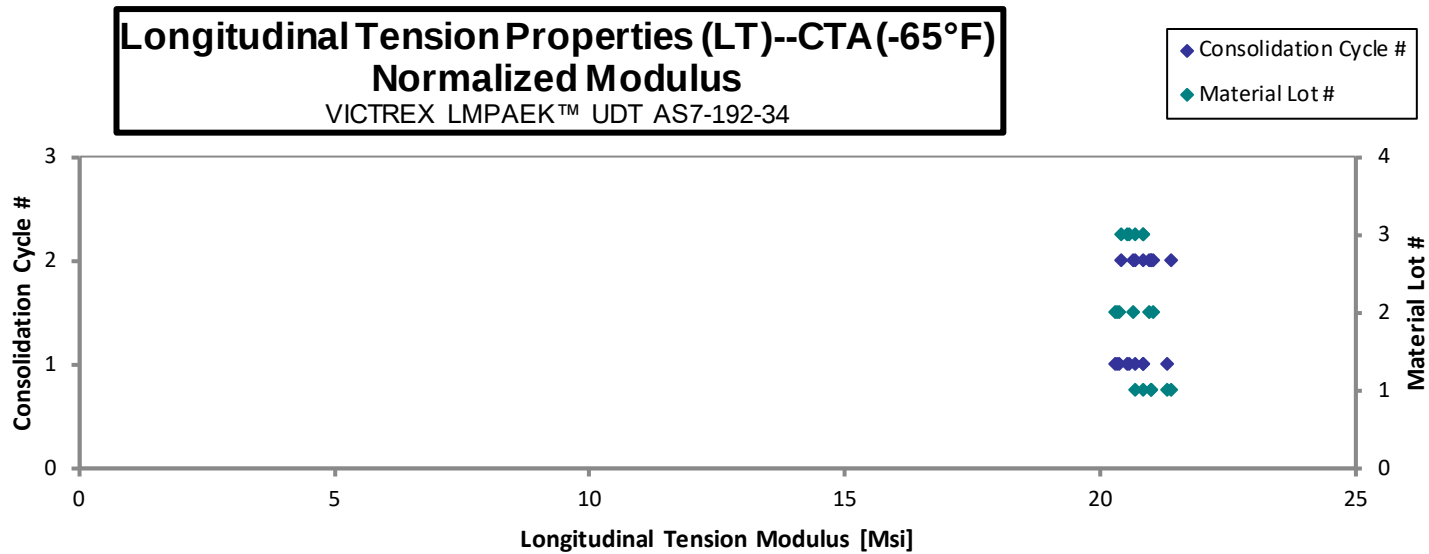
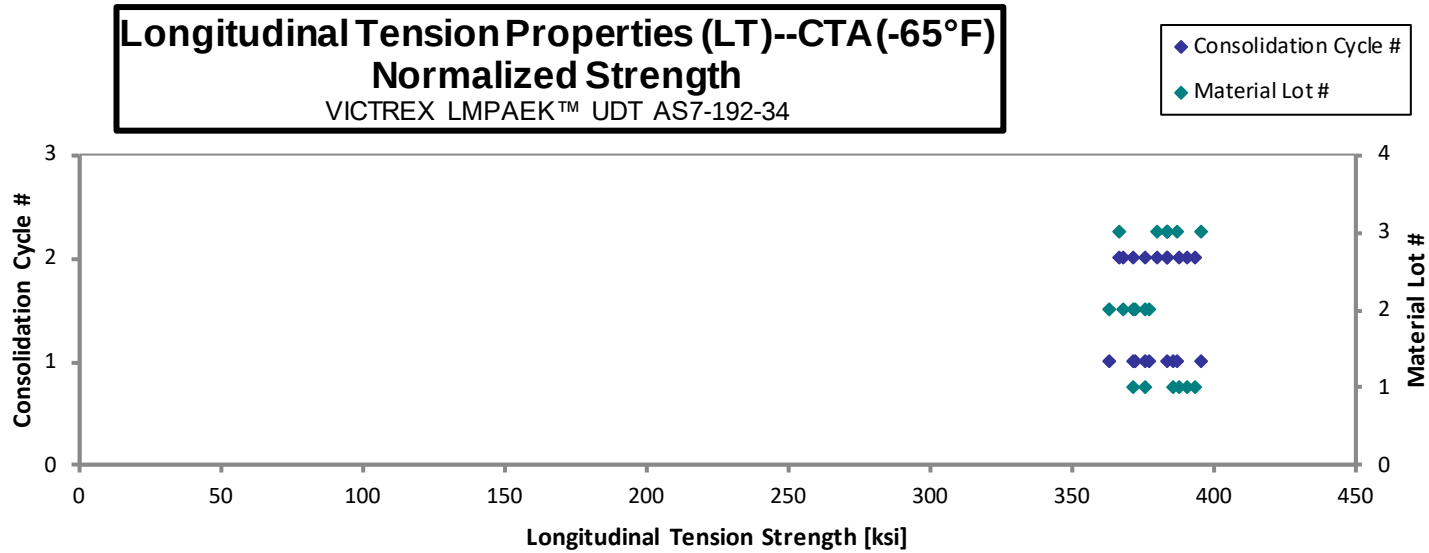
 t_{ply} [in]

0.0072

Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	Strength [ksi]	Modulus [Msi]	Poisson's Ratio	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	Strength _{norm} [ksi]	Modulus _{norm} [Msi]
NTP1251Q1-V-A2-DA-LT-A-C1-1-CTA-1	A	C1	1	1	362.2	20.31	0.2903	0.04432	6	XGM	0.0074	371.6	20.84
NTP1251Q1-V-A2-DA-LT-A-C1-1-CTA-2	A	C1	1	1	380.6	21.04	0.3267	0.04377	6	XGM	0.0073	385.6	21.31
NTP1251Q1-V-A2-DA-LT-A-C1-1-CTA-3	A	C1	1	1	362.4	19.96	0.2899	0.04480	6	XGM	0.0075	375.8	20.70
NTP1251Q1-V-A2-DA-LT-A-C2-1-CTA-1 ¹	A	C2	1	2		20.75	0.3028	0.04375	6	DIB	0.0073		21.01
NTP1251Q1-V-A2-DA-LT-A-C2-1-CTA-2	A	C2	1	2	386.6	21.00	0.3377	0.04400	6	XGM	0.0073	393.7	21.39
NTP1251Q1-V-A2-DA-LT-A-C2-1-CTA-3	A	C2	1	2	382.7	20.58	0.3307	0.04412	6	XGM	0.0074	390.8	21.01
NTP1251Q1-V-A2-DA-LT-A-C2-1-CTA-4 ²	A	C2	1	2	385.0			0.04353	6	XGM	0.0073	388.0	
NTP1251Q1-V-A2-DA-LT-B-C1-1-CTA-1	B	C1	2	1	356.9	19.99	0.3181	0.04398	6	XGM	0.0073	363.3	20.35
NTP1251Q1-V-A2-DA-LT-B-C1-1-CTA-2	B	C1	2	1	357.4	19.55	0.2748	0.04505	6	XGM	0.0075	372.7	20.39
NTP1251Q1-V-A2-DA-LT-B-C1-1-CTA-3	B	C1	2	1	358.5	19.29	0.2852	0.04550	6	XGM	0.0076	377.6	20.32
NTP1251Q1-V-A2-DA-LT-B-C2-1-CTA-1	B	C2	2	2	362.0	20.25	0.3202	0.04487	6	XGM	0.0075	376.0	21.03
NTP1251Q1-V-A2-DA-LT-B-C2-1-CTA-2	B	C2	2	2	355.7	19.96	0.3242	0.04472	6	XGM	0.0075	368.2	20.67
NTP1251Q1-V-A2-DA-LT-B-C2-1-CTA-3	B	C2	2	2	357.4	20.17	0.3090	0.04492	6	XGM	0.0075	371.6	20.97
NTP1251Q1-V-A2-DA-LT-C-C1-1-CTA-1	C	C1	3	1	381.4	20.42	0.2924	0.04345	6	XGM	0.0072	383.6	20.54
NTP1251Q1-V-A2-DA-LT-C-C1-1-CTA-2	C	C1	3	1	386.9	20.83	0.2678	0.04323	6	XGM	0.0072	387.2	20.84
NTP1251Q1-V-A2-DA-LT-C-C1-1-CTA-3	C	C1	3	1	395.2	20.56	0.2855	0.04327	6	XGM	0.0072	395.8	20.59
NTP1251Q1-V-A2-DA-LT-C-C2-1-CTA-1	C	C2	3	2	391.7	20.87	0.2824	0.04228	6	XGM	0.0070	383.4	20.43
NTP1251Q1-V-A2-DA-LT-C-C2-1-CTA-2	C	C2	3	2	392.8	21.33	0.3371	0.04222	6	SGM	0.0070	383.8	20.84
NTP1251Q1-V-A2-DA-LT-C-C2-1-CTA-3	C	C2	3	2	381.5	20.77	0.3129	0.04302	6	SGM	0.0072	379.9	20.68
NTP1251Q1-V-A2-DA-LT-C-C2-1-CTA-4 ²	C	C2	3	2	366.6			0.04323	6	XGM	0.0072	366.9	

¹ Strength not reported because of failure in grip.² Specimen tested was Strength property only. Strain not recorded.

Average	373.9	20.42	0.3049	Average _{norm}	0.0073	379.8	20.77
Standard Dev.	14.31	0.5383	0.02206	Standard Dev. _{norm}		9.324	0.3133
Coeff. of Var. [%]	3.827	2.636	7.237	Coeff. of Var. [%] _{norm}		2.455	1.508
Min.	355.7	19.29	0.2678	Min.	0.0070	363.3	20.32
Max.	395.2	21.33	0.3377	Max.	0.0076	395.8	21.39
Number of Spec.	19	18	18	Number of Spec.	20	19	18



September 15, 2025

CAM-RP-2025-009 Rev -

Longitudinal Tension Properties (LT)--RTA (70°F)

Strength & Modulus

VICTREX LMPAEK™ UDT AS7-192-34

normalizing

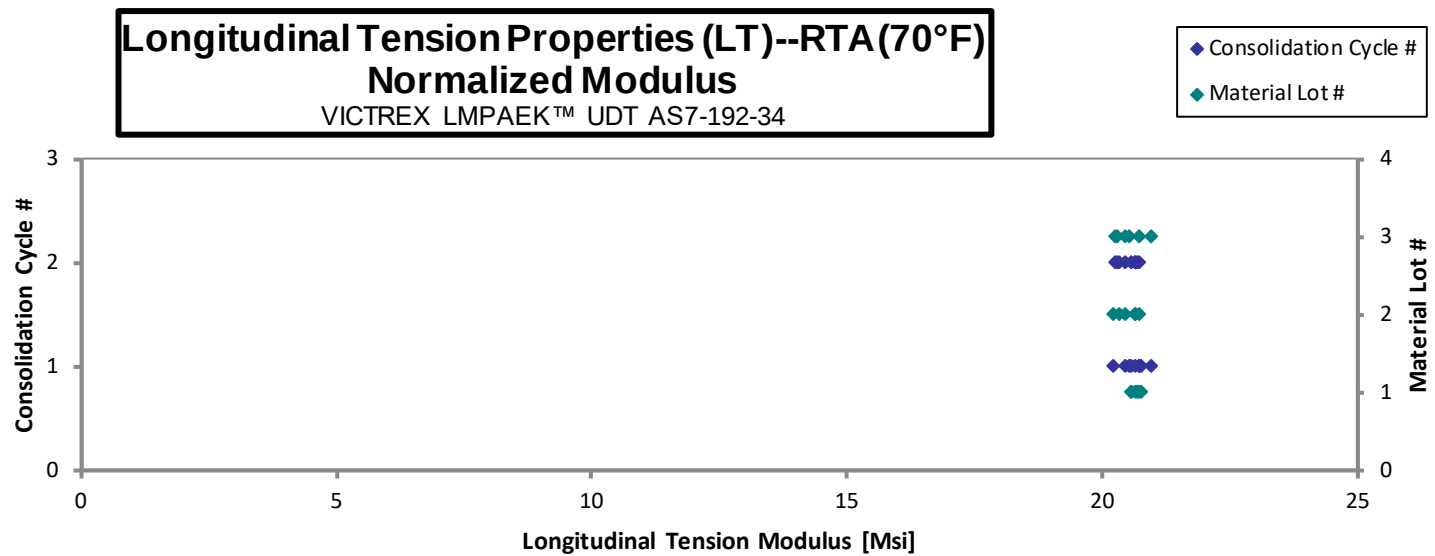
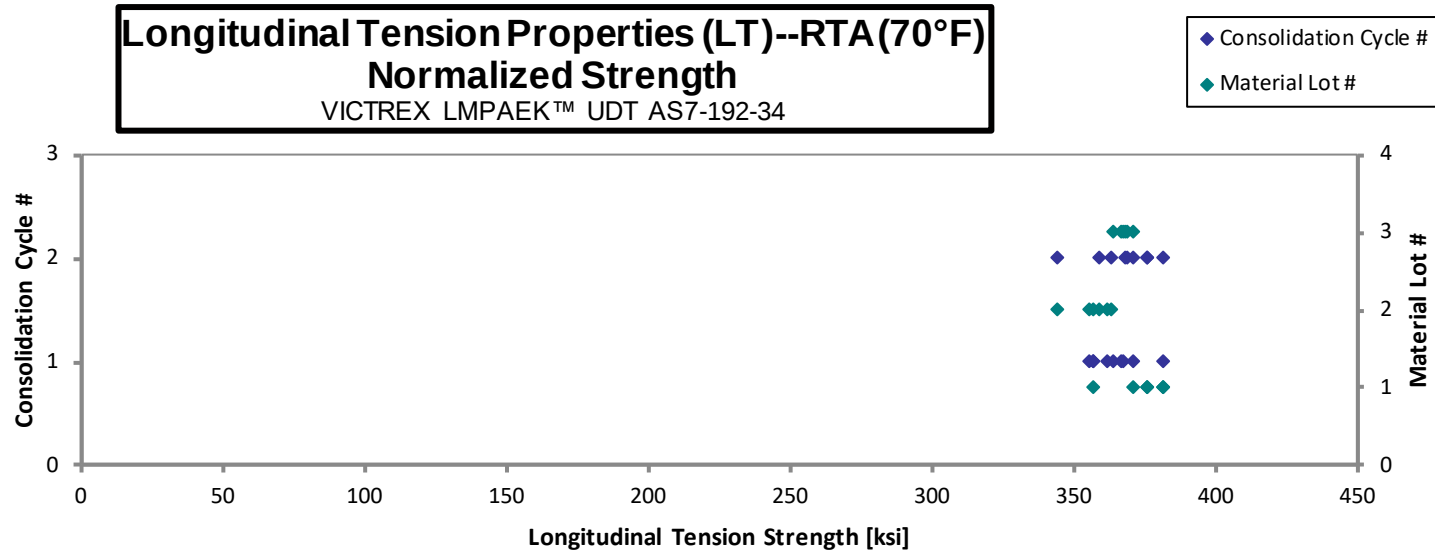
t_{ply} [in]

0.0072

Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	Strength [ksi]	Modulus [Msi]	Poisson's Ratio	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	Strength _{norm} [ksi]	Modulus _{norm} [Msi]
NTP1251Q1-V-A2-DA-LT-A-C1-1-RTA-1	A	C1	1	1	371.8	20.21	0.3019	0.04432	6	XGM	0.0074	381.4	20.73
NTP1251Q1-V-A2-DA-LT-A-C1-1-RTA-2	A	C1	1	1	361.4	20.24	0.3404	0.04433	6	XGM	0.0074	370.9	20.77
NTP1251Q1-V-A2-DA-LT-A-C1-1-RTA-3	A	C1	1	1	353.7	20.38	0.3001	0.04360	6	XGM	0.0073	357.0	20.56
NTP1251Q1-V-A2-DA-LT-A-C2-1-RTA-1	A	C2	1	2	371.9	20.16	0.3082	0.04428	6	XGM	0.0074	381.3	20.66
NTP1251Q1-V-A2-DA-LT-A-C2-1-RTA-2	A	C2	1	2	375.5	20.55	0.3298	0.04323	6	XGM	0.0072	375.8	20.56
NTP1251Q1-V-A2-DA-LT-A-C2-1-RTA-3	A	C2	1	2	376.1	20.69	0.2870	0.04320	6	XGM	0.0072	376.1	20.69
NTP1251Q1-V-A2-DA-LT-B-C1-1-RTA-1	B	C1	2	1	341.2	19.55	0.3211	0.04517	6	XGM	0.0075	356.7	20.44
NTP1251Q1-V-A2-DA-LT-B-C1-1-RTA-2	B	C1	2	1	345.0	19.64	0.3618	0.04450	6	XGM	0.0074	355.4	20.24
NTP1251Q1-V-A2-DA-LT-B-C1-1-RTA-3	B	C1	2	1	359.0	20.50	0.3195	0.04352	6	XGM	0.0073	361.6	20.65
NTP1251Q1-V-A2-DA-LT-B-C2-1-RTA-1	B	C2	2	2	349.4	19.87	0.2826	0.04488	6	XGM	0.0075	363.0	20.64
NTP1251Q1-V-A2-DA-LT-B-C2-1-RTA-2	B	C2	2	2	335.0	19.82	0.2453	0.04435	6	XGM	0.0074	343.9	20.35
NTP1251Q1-V-A2-DA-LT-B-C2-1-RTA-3	B	C2	2	2	351.8	20.29	0.3148	0.04410	6	XGM	0.0074	359.1	20.71
NTP1251Q1-V-A2-DA-LT-C-C1-1-RTA-1	C	C1	3	1	375.5	21.02	0.3666	0.04220	6	XGM	0.0070	366.8	20.54
NTP1251Q1-V-A2-DA-LT-C-C1-1-RTA-2	C	C1	3	1	371.2	21.11	0.3151	0.04238	6	XGM	0.0071	364.1	20.71
NTP1251Q1-V-A2-DA-LT-C-C1-1-RTA-3	C	C1	3	1	370.4	21.14	0.3232	0.04285	6	XGM	0.0071	367.4	20.97
NTP1251Q1-V-A2-DA-LT-C-C2-1-RTA-1	C	C2	3	2	377.0	20.75	0.3355	0.04228	6	XGM	0.0070	369.0	20.31
NTP1251Q1-V-A2-DA-LT-C-C2-1-RTA-2	C	C2	3	2	371.6	20.64	0.3239	0.04283	6	XGM	0.0071	368.4	20.46
NTP1251Q1-V-A2-DA-LT-C-C2-1-RTA-3	C	C2	3	2	374.4	20.44	0.3356	0.04280	6	XGM	0.0071	371.0	20.26

Average 362.9 20.39 0.3174
 Standard Dev. 13.63 0.4720 0.02849
 Coeff. of Var. [%] 3.757 2.315 8.979
 Min. 335.0 19.55 0.2453
 Max. 377.0 21.14 0.3666
 Number of Spec. 18 18 18

Average_{norm} 0.0073 366.0 20.57
 Standard Dev._{norm} 9.637 0.1964
 Coeff. of Var. [%]_{norm} 2.633 0.9547
 Min. 0.0070 343.9 20.24
 Max. 0.0075 381.4 20.97
 Number of Spec. 18 18 18



September 15, 2025

CAM-RP-2025-009 Rev -

Longitudinal Tension Properties (LT)--ETA (250°F)

Strength & Modulus

VICTREX LMPAEK™ UDT AS7-192-34

normalizing

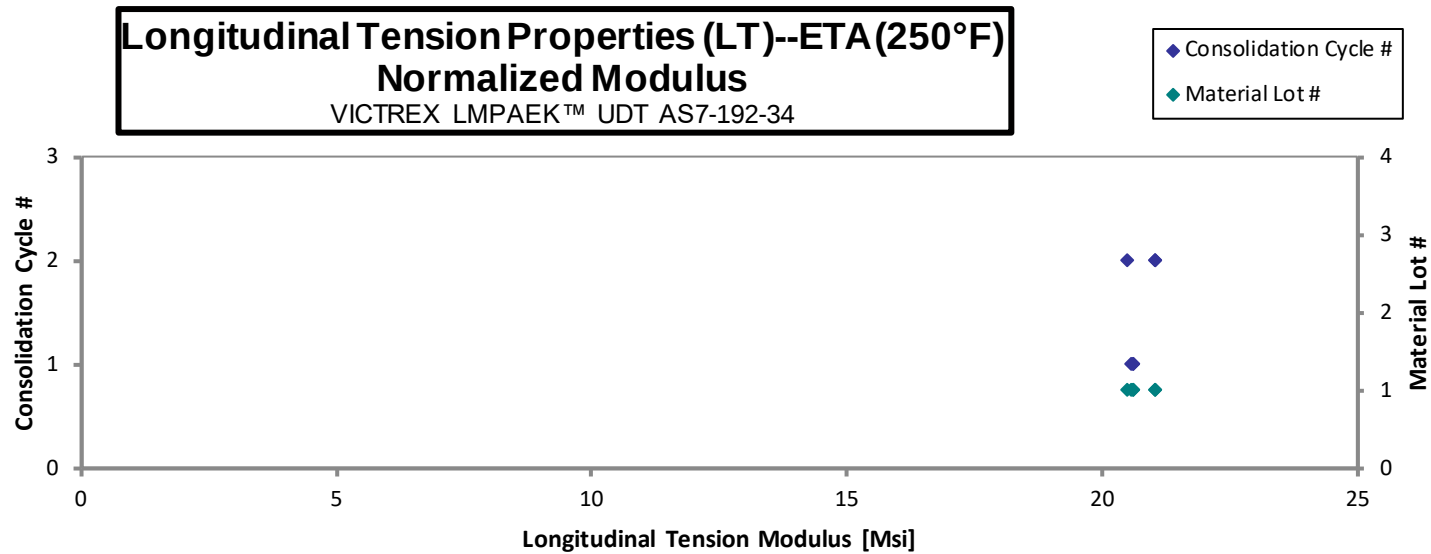
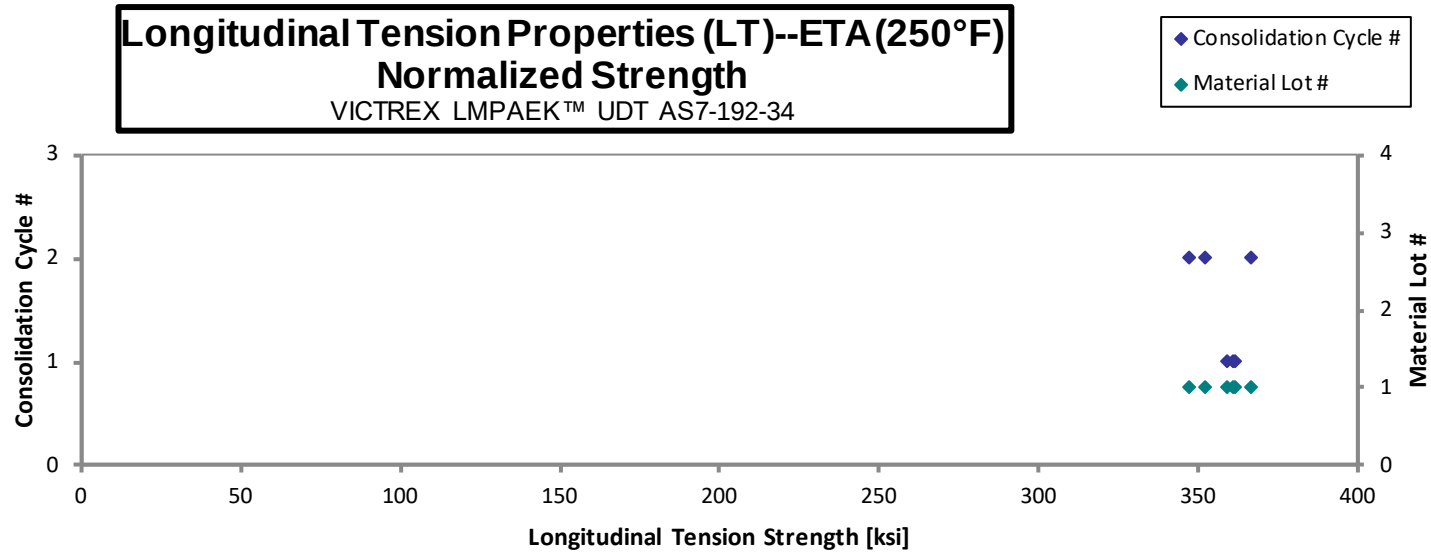
t_{ply} [in]

0.0072

Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	Strength [ksi]	Modulus [Msi]	Poisson's Ratio	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	Strength _{norm} [ksi]	Modulus _{norm} [Msi]
NTP1251Q1-V-A2-DA-LT-A-C1-1-ETA-1	A	C1	1	1	352.8	20.11	0.2931	0.04428	6	XGM	0.0074	361.7	20.61
NTP1251Q1-V-A2-DA-LT-A-C1-1-ETA-2	A	C1	1	1	351.0	20.05	0.2942	0.04443	6	XGM	0.0074	361.0	20.63
NTP1251Q1-V-A2-DA-LT-A-C1-1-ETA-3	A	C1	1	1	348.8	19.96	0.2884	0.04452	6	XGM	0.0074	359.5	20.57
NTP1251Q1-V-A2-DA-LT-A-C2-1-ETA-1	A	C2	1	2	365.6	20.94	0.3246	0.04337	6	XGM	0.0072	367.1	21.03
NTP1251Q1-V-A2-DA-LT-A-C2-1-ETA-2	A	C2	1	2	333.0	19.65	0.2704	0.04507	6	XGM	0.0075	347.4	20.50
NTP1251Q1-V-A2-DA-LT-A-C2-1-ETA-3	A	C2	1	2	352.6	21.06	0.3048	0.04313	6	XGM	0.0072	352.1	21.03

Average 350.6 20.29 0.2959
 Standard Dev. 10.47 0.5711 0.01803
 Coeff. of Var. [%] 2.986 2.814 6.093
 Min. 333.0 19.65 0.2704
 Max. 365.6 21.06 0.3246
 Number of Spec. 6 6 6

Average_{norm} 0.0074 358.1 20.73
 Standard Dev._{norm} 7.129 0.2370
 Coeff. of Var. [%]_{norm} 1.991 1.143
 Min. 0.0072 347.4 20.50
 Max. 0.0075 367.1 21.03
 Number of Spec. 6 6 6



September 15, 2025

CAM-RP-2025-009 Rev -

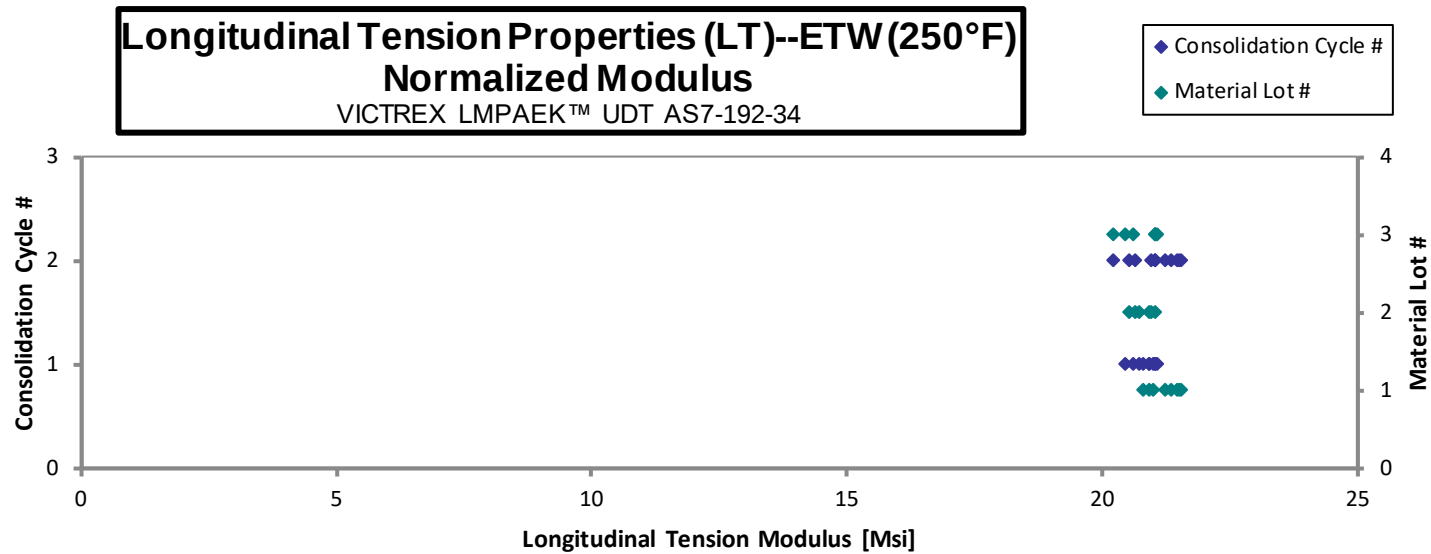
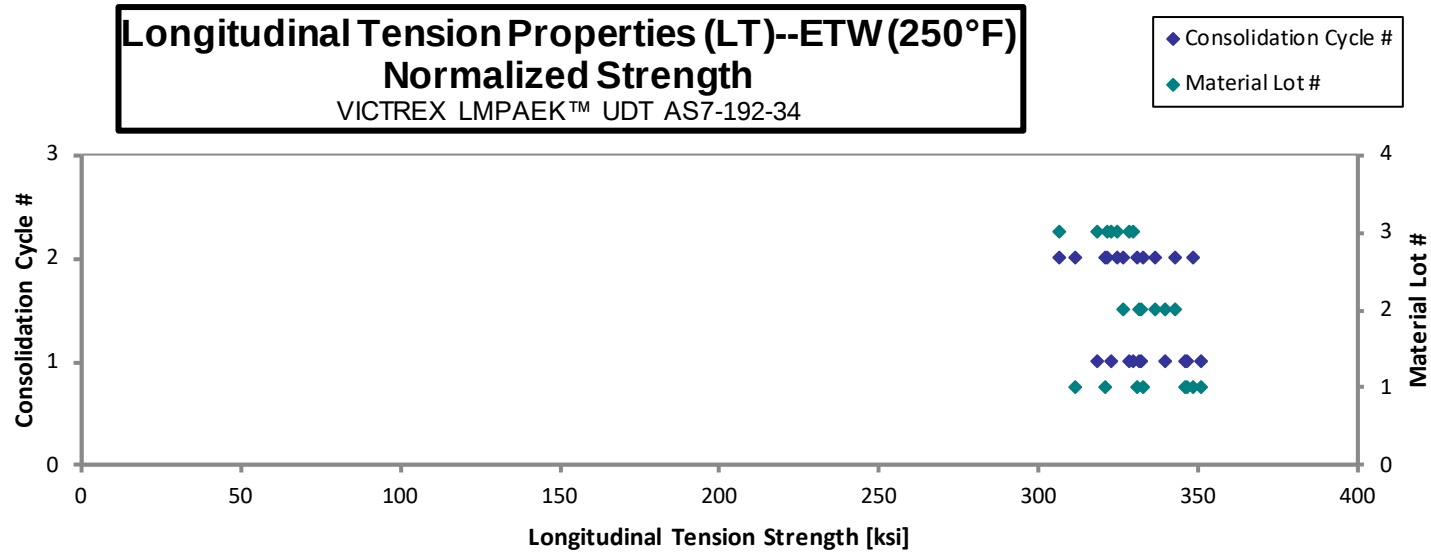
Longitudinal Tension Properties (LT)--ETW (250°F)
Strength & Modulus
VICTREX LMPAEK™ UDT AS7-192-34

normalizing
 t_{ply} [in]
0.0072

Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	Strength [ksi]	Modulus [Msi]	Poisson's Ratio	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	Strength _{norm} [ksi]	Modulus _{norm} [Msi]
NTP1251Q1-V-A2-DA-LT-A-C1-1-ETW-1	A	C1	1	1	341.0	20.59	0.2974	0.04390	6	XGM	0.0073	346.5	20.92
NTP1251Q1-V-A2-DA-LT-A-C1-1-ETW-2	A	C1	1	1	337.3	20.02	0.2873	0.04493	6	XGM	0.0075	350.8	20.82
NTP1251Q1-V-A2-DA-LT-A-C1-1-ETW-3	A	C1	1	1	336.8	20.45	0.3527	0.04440	6	XGM	0.0074	346.1	21.02
NTP1251Q1-V-A2-DA-LT-A-C2-1-ETW-1	A	C2	1	2	352.2	21.55	0.3039	0.04280	6	XGM	0.0071	348.9	21.35
NTP1251Q1-V-A2-DA-LT-A-C2-1-ETW-2	A	C2	1	2	331.0	21.09	0.2720	0.04348	6	AGM, SGB, LAB	0.0072	333.1	21.23
NTP1251Q1-V-A2-DA-LT-A-C2-1-ETW-3	A	C2	1	2	312.5	20.92	0.3495	0.04440	6	M(A,S)GM	0.0074	321.2	21.50
NTP1251Q1-V-A2-DA-LT-A-C2-1-ETW-4	A	C2	1	2	322.7	21.00	0.3135	0.04432	6	XGM	0.0074	331.1	21.54
NTP1251Q1-V-A2-DA-LT-A-C2-1-ETW-5	A	C2	1	2	307.9	21.22	0.3450	0.04372	6	AAB	0.0073	311.6	21.47
NTP1251Q1-V-A2-DA-LT-B-C1-1-ETW-1	B	C1	2	1	328.3	20.19	0.3207	0.04475	6	XGM	0.0075	340.0	20.91
NTP1251Q1-V-A2-DA-LT-B-C1-1-ETW-2	B	C1	2	1	320.9	20.03	0.3253	0.04468	6	XGM	0.0074	332.0	20.72
NTP1251Q1-V-A2-DA-LT-B-C1-1-ETW-3	B	C1	2	1	318.9	20.19	0.2441	0.04502	6	XGM	0.0075	332.3	21.04
NTP1251Q1-V-A2-DA-LT-B-C2-1-ETW-1	B	C2	2	2	317.4	20.08	0.2853	0.04445	6	XGM	0.0074	326.6	20.66
NTP1251Q1-V-A2-DA-LT-B-C2-1-ETW-2	B	C2	2	2	337.7	20.21	0.3111	0.04388	6	XGM	0.0073	343.1	20.53
NTP1251Q1-V-A2-DA-LT-B-C2-1-ETW-3	B	C2	2	2	329.7	20.53	0.3356	0.04413	6	XGM	0.0074	336.8	20.98
NTP1251Q1-V-A2-DA-LT-C-C1-1-ETW-1	C	C1	3	1	316.0	20.42	0.3680	0.04357	6	XGM	0.0073	318.7	20.60
NTP1251Q1-V-A2-DA-LT-C-C1-1-ETW-2	C	C1	3	1	329.1	20.50	0.3134	0.04313	6	XGM	0.0072	328.5	20.47
NTP1251Q1-V-A2-DA-LT-C-C1-1-ETW-3	C	C1	3	1	325.4	21.22	0.3387	0.04290	6	AWB	0.0072	323.2	21.07
NTP1251Q1-V-A2-DA-LT-C-C1-1-ETW-4	C	C1	3	1	329.3	21.01	0.3620	0.04328	6	XGM	0.0072	329.9	21.05
NTP1251Q1-V-A2-DA-LT-C-C2-1-ETW-1	C	C2	3	2	304.4	20.05	0.3593	0.04355	6	XGM	0.0073	306.9	20.21
NTP1251Q1-V-A2-DA-LT-C-C2-1-ETW-2	C	C2	3	2	321.5	21.01	0.3102	0.04325	6	XGM	0.0072	321.8	21.03
NTP1251Q1-V-A2-DA-LT-C-C2-1-ETW-3	C	C2	3	2	323.6	20.96	0.3149	0.04337	6	XGM	0.0072	324.8	21.04

Average 325.9 20.63 0.3195
Standard Dev. 11.44 0.4691 0.03178
Coeff. of Var. [%] 3.509 2.274 9.947
Min. 304.4 20.02 0.2441
Max. 352.2 21.55 0.3680
Number of Spec. 21 21 21

Average_{norm} 0.0073 331.1 20.96
Standard Dev._{norm} 11.97 0.3492
Coeff. of Var. [%]_{norm} 3.615 1.666
Min. 0.0071 306.9 20.21
Max. 0.0075 350.8 21.54
Number of Spec. 21 21 21



4.2 Transverse Tension Properties (TT)

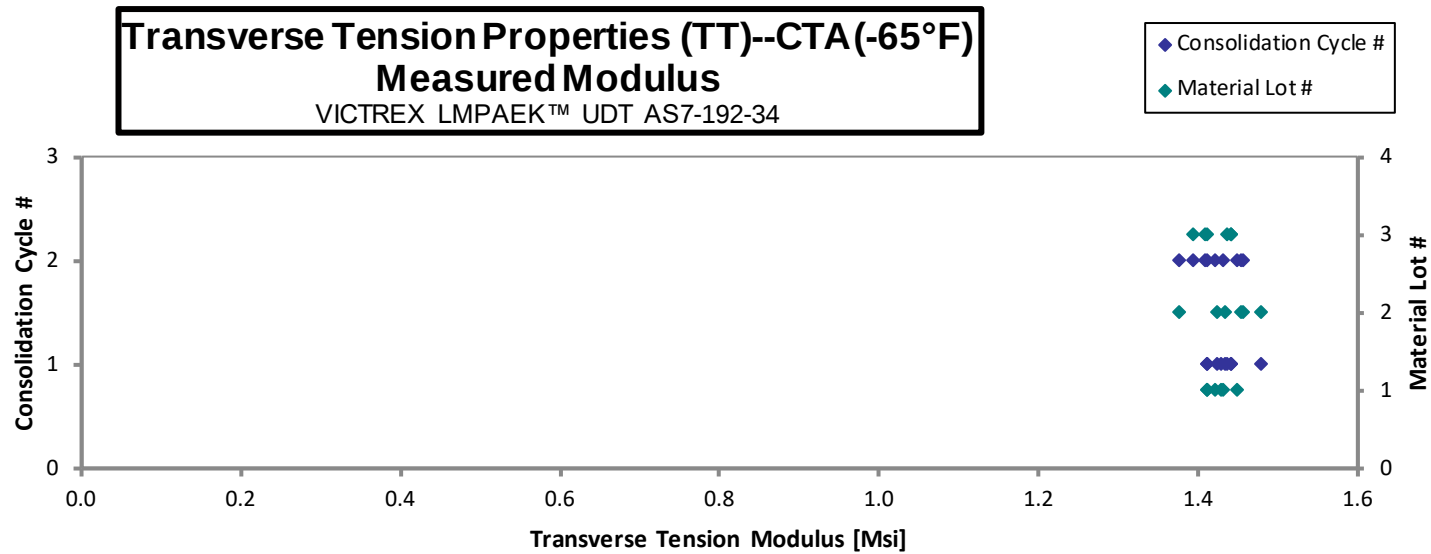
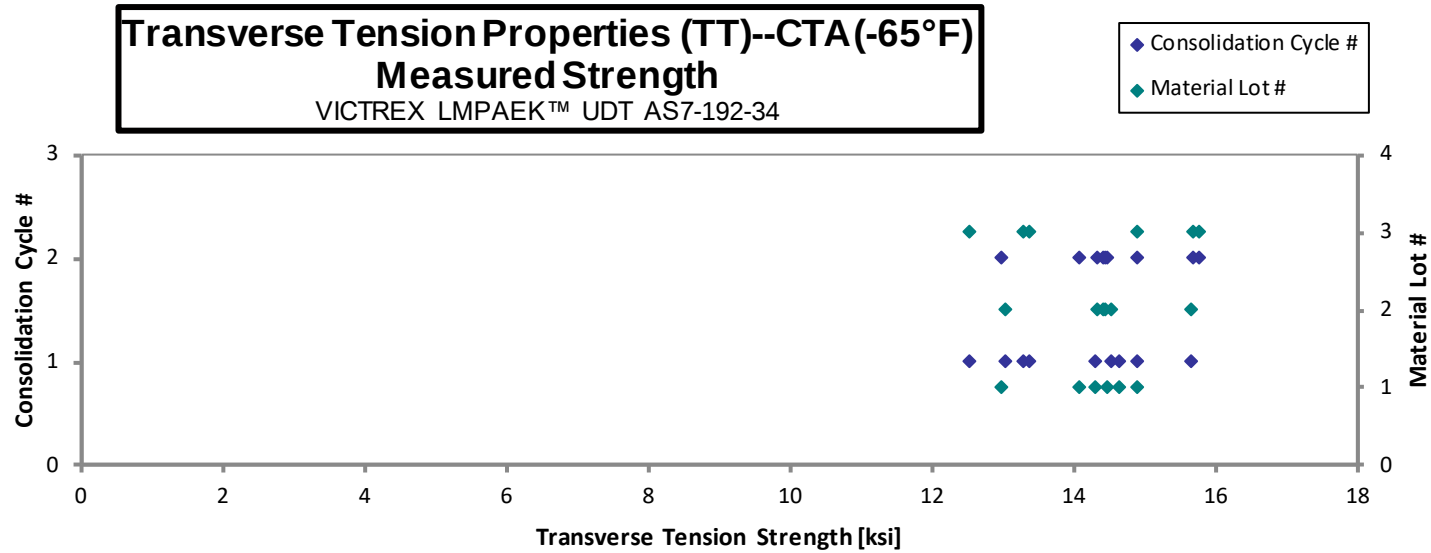
Transverse Tension Properties (TT)--CTA (-65°F)

Strength & Modulus

VICTREX LMPAEK™ UDT AS7-192-34

Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	Strength [ksi]	Modulus [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Avg. t_{ply} [in]	Failure Mode
NTP1251Q1-V-A2-DA-TT-A-C1-R-CTA-1	A	C1	1	1	14.91	1.429	0.0877	12	0.0073	LWB, LGB
NTP1251Q1-V-A2-DA-TT-A-C1-R-CTA-2	A	C1	1	1	14.64	1.413	0.0875	12	0.0073	LGB
NTP1251Q1-V-A2-DA-TT-A-C1-R-CTA-3	A	C1	1	1	14.30	1.411	0.0875	12	0.0073	LAT
NTP1251Q1-V-A2-DA-TT-A-C2-R-CTA-1	A	C2	1	2	12.98	1.448	0.0863	12	0.0072	LAT
NTP1251Q1-V-A2-DA-TT-A-C2-R-CTA-2	A	C2	1	2	14.48	1.422	0.0865	12	0.0072	LAT
NTP1251Q1-V-A2-DA-TT-A-C2-R-CTA-3	A	C2	1	2	14.08	1.431	0.0870	12	0.0073	LWT
NTP1251Q1-V-A2-DA-TT-B-C1-R-CTA-1	B	C1	2	1	15.67	1.424	0.0876	12	0.0073	LGM, LAT
NTP1251Q1-V-A2-DA-TT-B-C1-R-CTA-2	B	C1	2	1	13.05	1.435	0.0877	12	0.0073	LGM
NTP1251Q1-V-A2-DA-TT-B-C1-R-CTA-3	B	C1	2	1	14.52	1.478	0.0876	12	0.0073	LGT
NTP1251Q1-V-A2-DA-TT-B-C2-R-CTA-1	B	C2	2	2	14.41	1.377	0.0881	12	0.0073	LGM
NTP1251Q1-V-A2-DA-TT-B-C2-R-CTA-2	B	C2	2	2	14.33	1.456	0.0884	12	0.0074	LGM, LAT
NTP1251Q1-V-A2-DA-TT-B-C2-R-CTA-3	B	C2	2	2	14.45	1.457	0.0887	12	0.0074	LGM, LAT
NTP1251Q1-V-A2-DA-TT-C-C1-R-CTA-1	C	C1	3	1	13.37	1.442	0.0878	12	0.0073	LGM
NTP1251Q1-V-A2-DA-TT-C-C1-R-CTA-2	C	C1	3	1	12.52	1.441	0.0879	12	0.0073	LGM
NTP1251Q1-V-A2-DA-TT-C-C1-R-CTA-3	C	C1	3	1	13.30	1.437	0.0871	12	0.0073	LGM
NTP1251Q1-V-A2-DA-TT-C-C2-R-CTA-1	C	C2	3	2	15.76	1.409	0.0863	12	0.0072	LWB, LAT
NTP1251Q1-V-A2-DA-TT-C-C2-R-CTA-2	C	C2	3	2	14.91	1.395	0.0873	12	0.0073	LGM, LWT
NTP1251Q1-V-A2-DA-TT-C-C2-R-CTA-3	C	C2	3	2	15.68	1.413	0.0871	12	0.0073	LAB

Average	14.30	1.429	0.0073
Standard Dev.	0.9485	0.02410	
Coeff. of Var. [%]	6.634	1.687	
Min.	12.52	1.377	0.0072
Max.	15.76	1.478	0.0074
Number of Spec.	18	18	18



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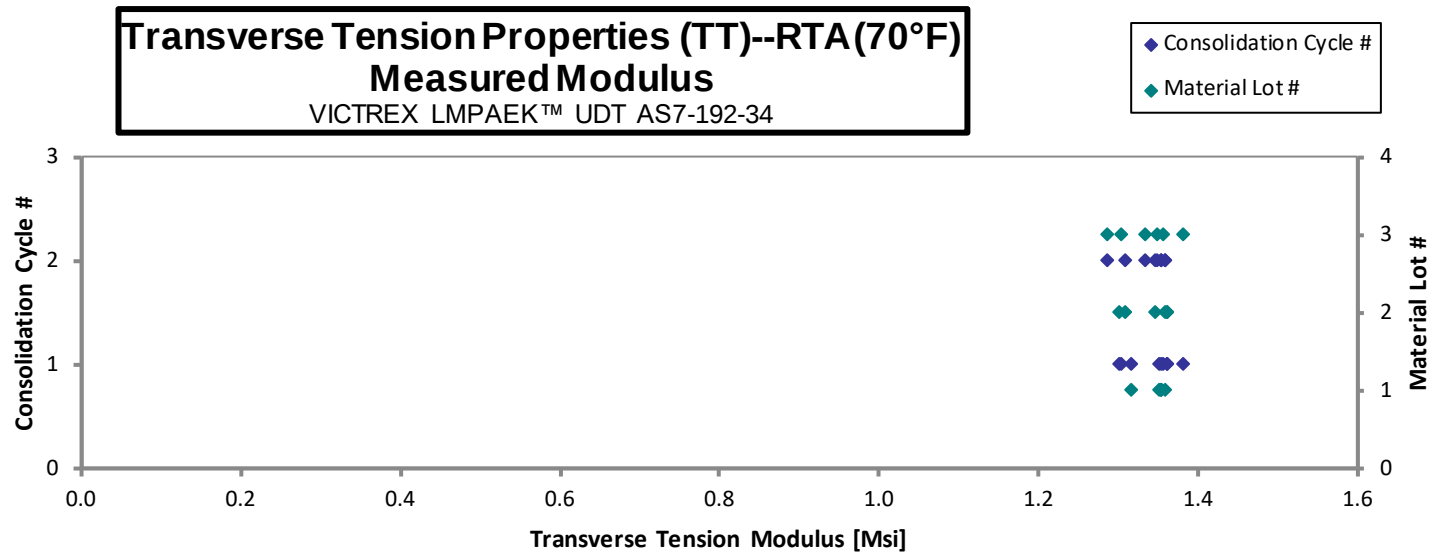
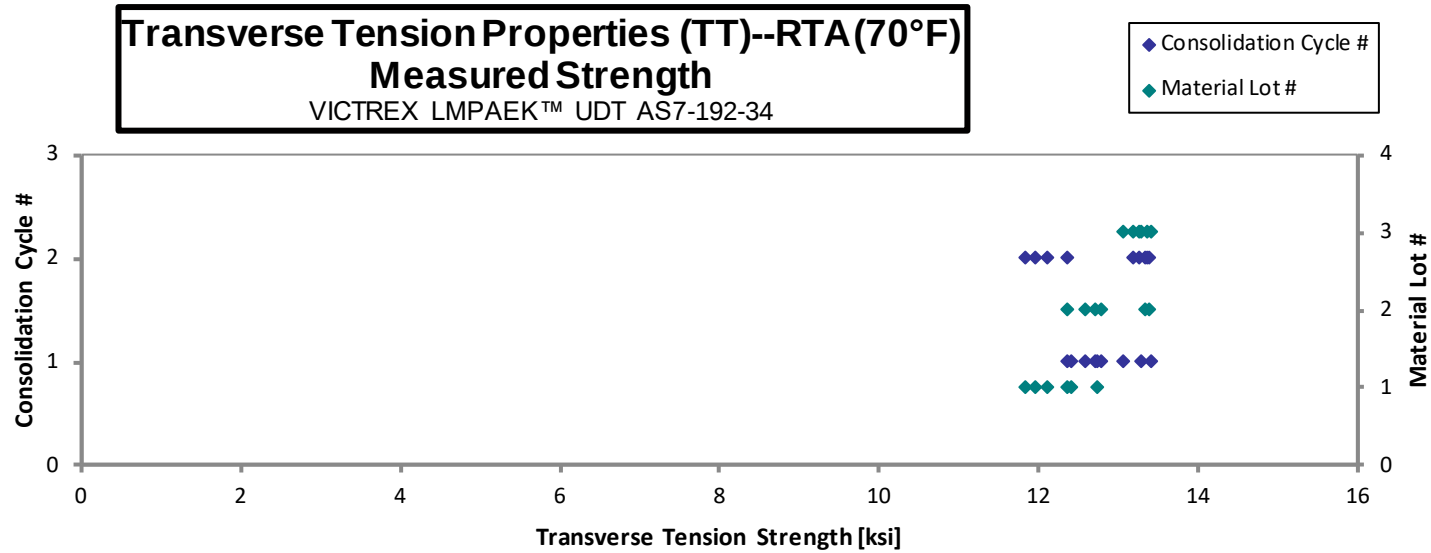
Transverse Tension Properties (TT)--RTA (70°F)

Strength & Modulus

VICTREX LMPAEK™ UDT AS7-192-34

Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	Strength [ksi]	Modulus [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Avg. t_{ply} [in]	Failure Mode
NTP1251Q1-V-A2-DA-TT-A-C1-R-RTA-1	A	C1	1	1	12.37	1.352	0.0875	12	0.0073	LGB
NTP1251Q1-V-A2-DA-TT-A-C1-R-RTA-2	A	C1	1	1	12.74	1.354	0.0874	12	0.0073	LWB
NTP1251Q1-V-A2-DA-TT-A-C1-R-RTA-3	A	C1	1	1	12.42	1.316	0.0878	12	0.0073	LWB
NTP1251Q1-V-A2-DA-TT-A-C2-R-RTA-1	A	C2	1	2	12.11	1.355	0.0869	12	0.0072	LWT
NTP1251Q1-V-A2-DA-TT-A-C2-R-RTA-2	A	C2	1	2	11.95	1.360	0.0872	12	0.0073	LGM
NTP1251Q1-V-A2-DA-TT-A-C2-R-RTA-3	A	C2	1	2	11.83	1.354	0.0862	12	0.0072	LGT
NTP1251Q1-V-A2-DA-TT-B-C1-R-RTA-1	B	C1	2	1	12.79	1.362	0.0876	12	0.0073	LWT
NTP1251Q1-V-A2-DA-TT-B-C1-R-RTA-2	B	C1	2	1	12.71	1.362	0.0878	12	0.0073	LGM
NTP1251Q1-V-A2-DA-TT-B-C1-R-RTA-3	B	C1	2	1	12.60	1.301	0.0875	12	0.0073	LAT
NTP1251Q1-V-A2-DA-TT-B-C2-R-RTA-1	B	C2	2	2	13.35	1.347	0.0883	12	0.0074	LWB
NTP1251Q1-V-A2-DA-TT-B-C2-R-RTA-2	B	C2	2	2	13.38	1.359	0.0879	12	0.0073	LGT
NTP1251Q1-V-A2-DA-TT-B-C2-R-RTA-3	B	C2	2	2	12.38	1.309	0.0881	12	0.0073	LWB
NTP1251Q1-V-A2-DA-TT-C-C1-R-RTA-1	C	C1	3	1	13.30	1.356	0.0875	12	0.0073	LGB
NTP1251Q1-V-A2-DA-TT-C-C1-R-RTA-2	C	C1	3	1	13.07	1.383	0.0870	12	0.0072	LGM
NTP1251Q1-V-A2-DA-TT-C-C1-R-RTA-3	C	C1	3	1	13.43	1.304	0.0876	12	0.0073	LGT
NTP1251Q1-V-A2-DA-TT-C-C2-R-RTA-1	C	C2	3	2	13.36	1.349	0.0870	12	0.0073	LAB
NTP1251Q1-V-A2-DA-TT-C-C2-R-RTA-2	C	C2	3	2	13.18	1.335	0.0877	12	0.0073	LAB
NTP1251Q1-V-A2-DA-TT-C-C2-R-RTA-3	C	C2	3	2	13.26	1.286	0.0867	12	0.0072	LGB

Average	12.79	1.341	0.0073
Standard Dev.	0.5270	0.0267	
Coeff. of Var. [%]	4.120	1.989	
Min.	11.83	1.286	0.0072
Max.	13.43	1.383	0.0074
Number of Spec.	18	18	18

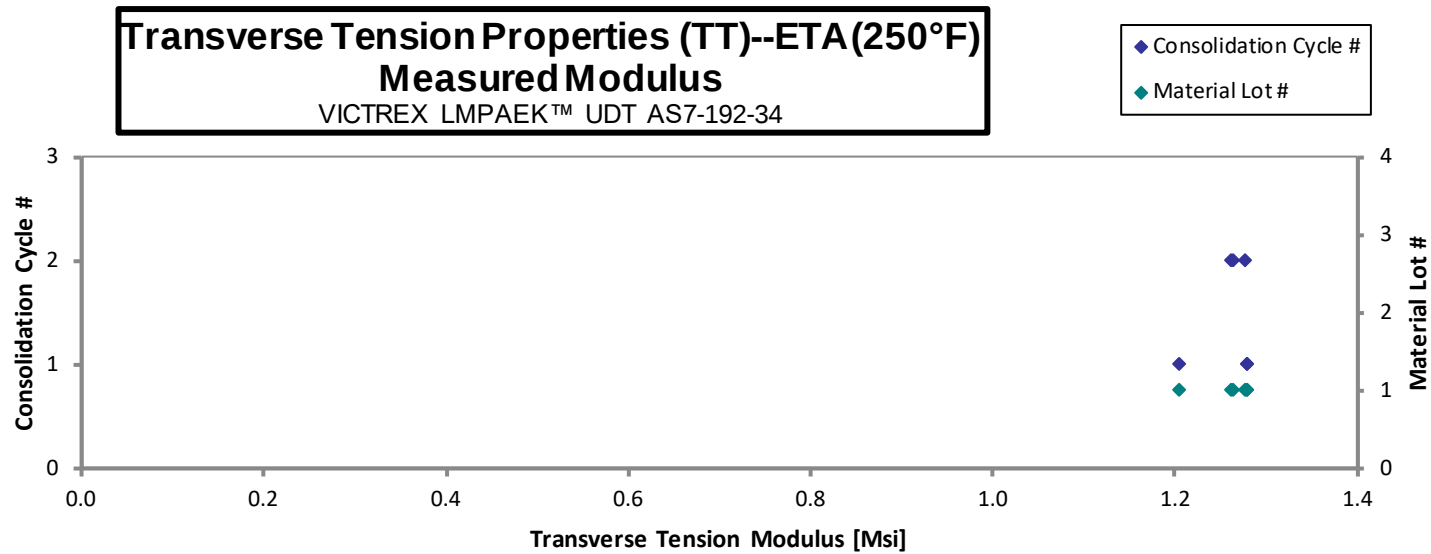
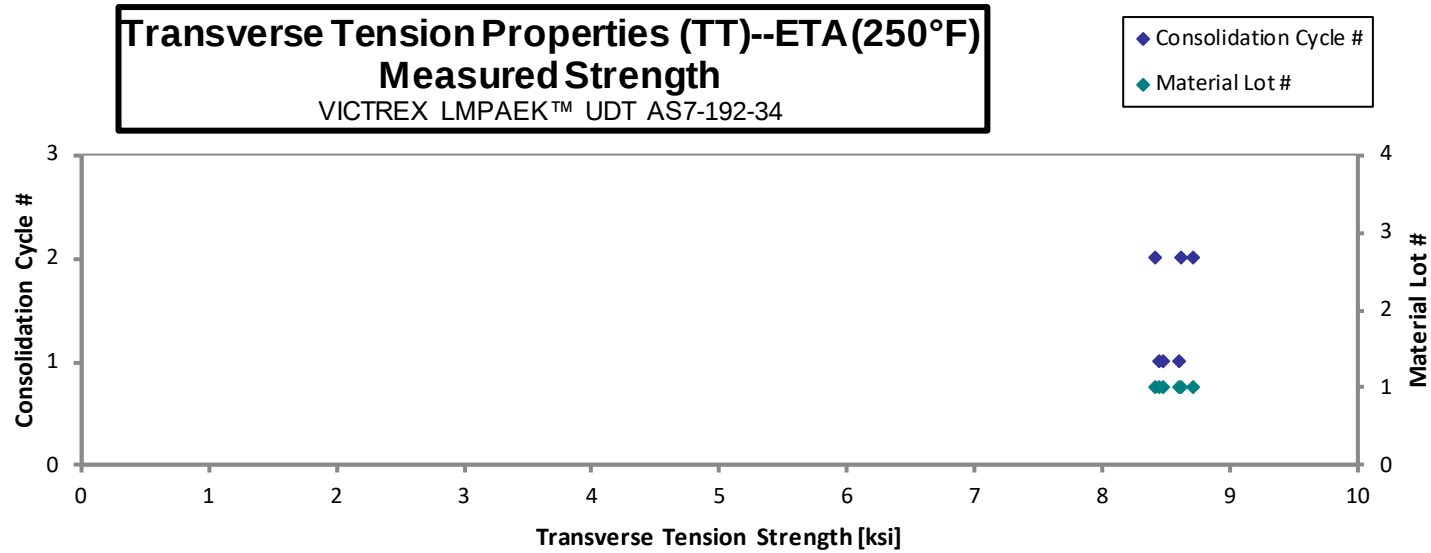


Transverse Tension Properties (TT)--ETA (250°F)**Strength & Modulus**

VICTREX LMPAEK™ UDT AS7-192-34

Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	Strength [ksi]	Modulus [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Avg. t_{ply} [in]	Failure Mode
NTP1251Q1-V-A2-DA-TT-A-C1-R-ETA-1	A	C1	1	1	8.610	1.279	0.0873	12	0.0073	LGM
NTP1251Q1-V-A2-DA-TT-A-C1-R-ETA-2	A	C1	1	1	8.449	1.280	0.0874	12	0.0073	LGT
NTP1251Q1-V-A2-DA-TT-A-C1-R-ETA-3	A	C1	1	1	8.482	1.206	0.0877	12	0.0073	LGT
NTP1251Q1-V-A2-DA-TT-A-C2-R-ETA-1	A	C2	1	2	8.616	1.265	0.0870	12	0.0073	LGM
NTP1251Q1-V-A2-DA-TT-A-C2-R-ETA-2	A	C2	1	2	8.711	1.277	0.0864	12	0.0072	LGM
NTP1251Q1-V-A2-DA-TT-A-C2-R-ETA-3	A	C2	1	2	8.423	1.262	0.0866	12	0.0072	LGM

Average	8.549	1.261	0.0073
Standard Dev.	0.1137	0.0283	
Coeff. of Var. [%]	1.330	2.242	
Min.	8.423	1.206	0.0072
Max.	8.711	1.280	0.0073
Number of Spec.	6	6	6

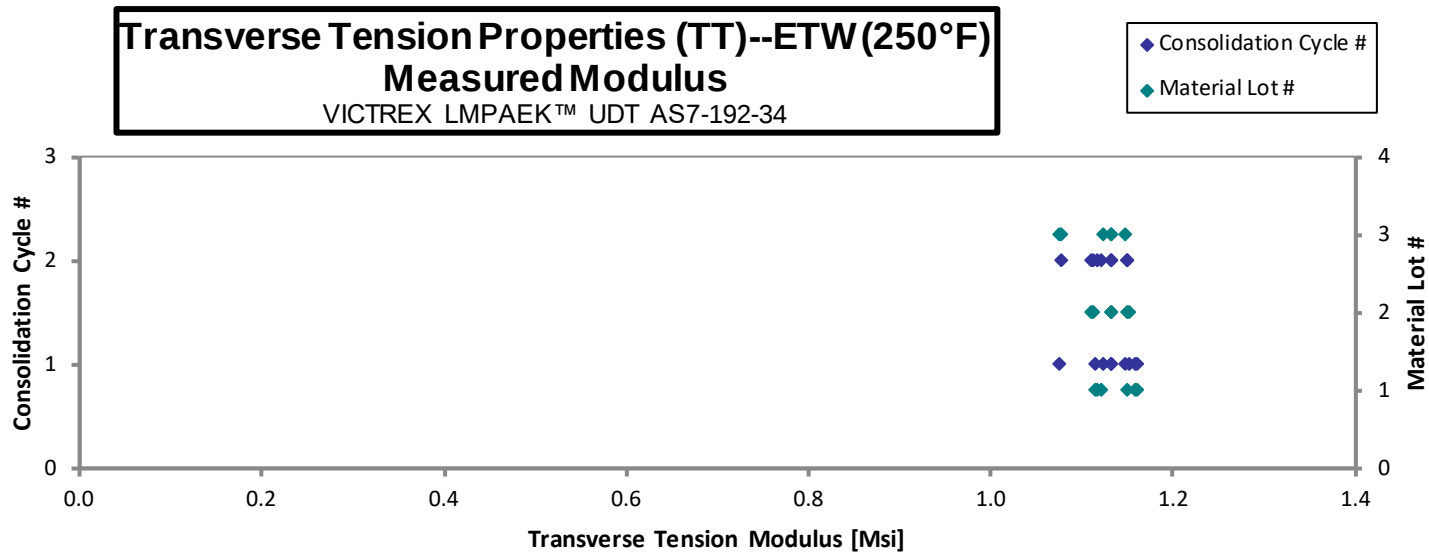
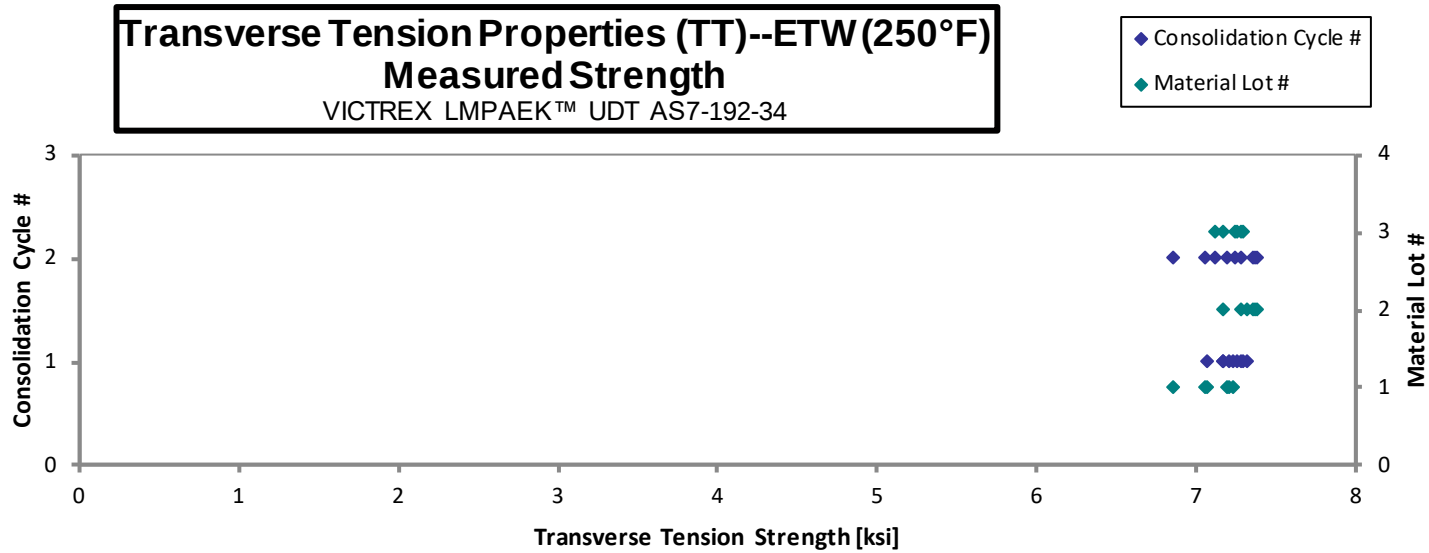


Transverse Tension Properties (TT)--ETW (250°F)**Strength & Modulus**

VICTREX LMPAEK™ UDT AS7-192-34

Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	Strength [ksi]	Modulus [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Avg. t_{ply} [in]	Failure Mode
NTP1251Q1-V-A2-DA-TT-A-C1-R-ETW-1	A	C1	1	1	7.073	1.158	0.0876	12	0.0073	LGB
NTP1251Q1-V-A2-DA-TT-A-C1-R-ETW-2	A	C1	1	1	7.214	1.160	0.0873	12	0.0073	LGT
NTP1251Q1-V-A2-DA-TT-A-C1-R-ETW-3	A	C1	1	1	7.232	1.114	0.0877	12	0.0073	LGT
NTP1251Q1-V-A2-DA-TT-A-C2-R-ETW-1	A	C2	1	2	6.865	1.122	0.0874	12	0.0073	LGT
NTP1251Q1-V-A2-DA-TT-A-C2-R-ETW-2	A	C2	1	2	7.054	1.149	0.0868	12	0.0072	LGM
NTP1251Q1-V-A2-DA-TT-A-C2-R-ETW-3	A	C2	1	2	7.203	1.116	0.0869	12	0.0072	LGM
NTP1251Q1-V-A2-DA-TT-B-C1-R-ETW-1	B	C1	2	1	7.176	1.132	0.0879	12	0.0073	LWT
NTP1251Q1-V-A2-DA-TT-B-C1-R-ETW-2	B	C1	2	1	7.286	1.152	0.0877	12	0.0073	LGT
NTP1251Q1-V-A2-DA-TT-B-C1-R-ETW-3	B	C1	2	1	7.324	1.132	0.0872	12	0.0073	LWT
NTP1251Q1-V-A2-DA-TT-B-C2-R-ETW-1	B	C2	2	2	7.356	1.149	0.0880	12	0.0073	LGT
NTP1251Q1-V-A2-DA-TT-B-C2-R-ETW-2	B	C2	2	2	7.368	1.111	0.0892	12	0.0074	LGT
NTP1251Q1-V-A2-DA-TT-B-C2-R-ETW-3	B	C2	2	2	7.383	1.113	0.0880	12	0.0073	LGT
NTP1251Q1-V-A2-DA-TT-C-C1-R-ETW-1	C	C1	3	1	7.296	1.147	0.0871	12	0.0073	LWT
NTP1251Q1-V-A2-DA-TT-C-C1-R-ETW-2	C	C1	3	1	7.264	1.124	0.0872	12	0.0073	LWT
NTP1251Q1-V-A2-DA-TT-C-C1-R-ETW-3	C	C1	3	1	7.175	1.075	0.0873	12	0.0073	LGT
NTP1251Q1-V-A2-DA-TT-C-C2-R-ETW-1	C	C2	3	2	7.284	1.132	0.0873	12	0.0073	LGT
NTP1251Q1-V-A2-DA-TT-C-C2-R-ETW-2	C	C2	3	2	7.128	1.132	0.0877	12	0.0073	LGT
NTP1251Q1-V-A2-DA-TT-C-C2-R-ETW-3	C	C2	3	2	7.242	1.078	0.0867	12	0.0072	LGM

Average	7.218	1.128	0.0073
Standard Dev.	0.1289	0.0245	
Coeff. of Var. [%]	1.786	2.169	
Min.	6.865	1.075	0.0072
Max.	7.383	1.160	0.0074
Number of Spec.	18	18	18



4.3 Longitudinal Compression Properties (LC)

Longitudinal Compression Properties (LC)--CTA (-65°F)
Modulus
 VICTREX LMPAEK™ UDT AS7-192-34

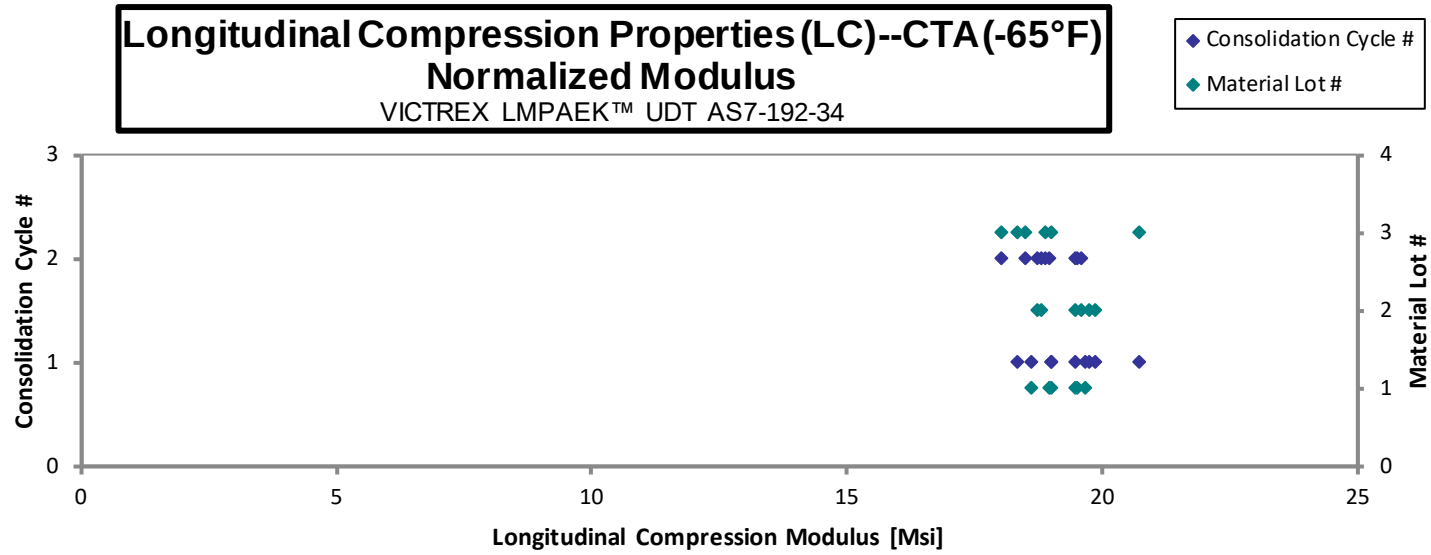
normalizing
 t_{ply} [in]
 0.0072

Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	Modulus [Msi]	Poisson's Ratio	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode*	Avg. t_{ply} [in]	Modulus _{norm} [Msi]
LC-A-C1-1-CTA-1	A	C1	1	1	19.16	0.3596	0.0999	14		0.0071	19.00
LC-A-C1-1-CTA-2	A	C1	1	1	19.69	0.3728	0.1008	14		0.0072	19.68
LC-A-C1-1-CTA-3	A	C1	1	1	18.71	0.2894	0.1004	14		0.0072	18.63
LC-A-C2-1-CTA-1	A	C2	1	2	19.57	0.3358	0.1006	14		0.0072	19.53
LC-A-C2-1-CTA-2	A	C2	1	2	18.98	0.3310	0.1008	14		0.0072	18.98
LC-A-C2-1-CTA-3	A	C2	1	2	19.67	0.3541	0.0999	14		0.0071	19.50
LC-B-C1-1-CTA-1	B	C1	2	1	19.39	0.3347	0.1033	14		0.0074	19.86
LC-B-C1-1-CTA-2	B	C1	2	1	19.24	0.3324	0.1034	14		0.0074	19.74
LC-B-C1-1-CTA-3	B	C1	2	1	18.93	0.3787	0.1037	14		0.0074	19.48
LC-B-C2-1-CTA-1	B	C2	2	2	18.31	0.2881	0.1031	14		0.0074	18.74
LC-B-C2-1-CTA-2	B	C2	2	2	19.10	0.2489	0.1034	14		0.0074	19.60
LC-B-C2-1-CTA-3	B	C2	2	2	18.23	0.4082	0.1041	14		0.0074	18.83
LC-C-C1-1-CTA-1	C	C1	3	1	18.96	0.3156	0.1010	14		0.0072	18.99
LC-C-C1-1-CTA-2	C	C1	3	1	20.66	0.2791	0.1011	14		0.0072	20.72
LC-C-C1-1-CTA-3	C	C1	3	1	18.35	0.3011	0.1008	14		0.0072	18.34
LC-C-C2-1-CTA-1	C	C2	3	2	18.97	0.3309	0.1004	14		0.0072	18.89
LC-C-C2-1-CTA-2	C	C2	3	2	18.63	0.3086	0.1001	14		0.0072	18.50
LC-C-C2-1-CTA-3	C	C2	3	2	18.13	0.3819	0.1003	14		0.0072	18.04

*Specimens were tested for modulus only and not taken to failure.

Average 19.04 0.3306
 Standard Dev. 0.6283 0.0410
 Coeff. of Var. [%] 3.300 12.41
 Min. 18.13 0.2489
 Max. 20.66 0.4082
 Number of Spec. 18 18

Average_{norm} 0.0072 19.17
 Standard Dev._{norm} 0.6494
 Coeff. of Var. [%]_{norm} 3.388
 Min. 0.0071 18.04
 Max. 0.0074 20.72
 Number of Spec. 18 18



September 15, 2025

CAM-RP-2025-009 Rev -

Longitudinal Compression Properties (LC)--RTA (70°F)

Modulus

VICTREX LMPAEK™ UDT AS7-192-34

normalizing

t_{ply} [in]

0.0072

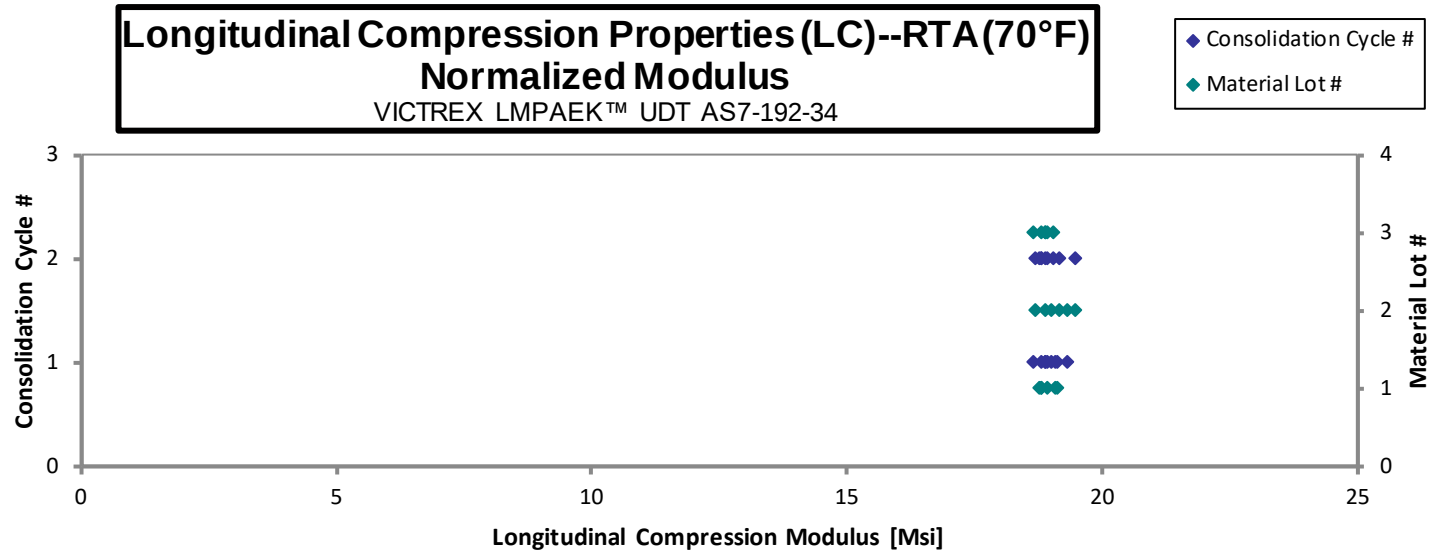
Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	Modulus [Msi]	Poisson's Ratio	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode*
LC-A-C1-1-RTA-1	A	C1	1	1	19.05	0.3276	0.1010	14	
LC-A-C1-1-RTA-2	A	C1	1	1	18.86	0.3337	0.1006	14	
LC-A-C1-1-RTA-3	A	C1	1	1	19.11	0.2850	0.1008	14	
LC-A-C2-1-RTA-1	A	C2	1	2	18.72	0.2909	0.1014	14	
LC-A-C2-1-RTA-2	A	C2	1	2	18.92	0.2929	0.1001	14	
LC-A-C2-1-RTA-3	A	C2	1	2	18.94	0.3092	0.1008	14	
LC-B-C1-1-RTA-1	B	C1	2	1	18.77	0.3309	0.1037	14	
LC-B-C1-1-RTA-2	B	C1	2	1	18.31	0.3573	0.1046	14	
LC-B-C1-1-RTA-3	B	C1	2	1	18.35	0.3159	0.1037	14	
LC-B-C2-1-RTA-1	B	C2	2	2	18.97	0.3964	0.1035	14	
LC-B-C2-1-RTA-2	B	C2	2	2	18.65	0.3291	0.1035	14	
LC-B-C2-1-RTA-3	B	C2	2	2	18.18	0.3251	0.1037	14	
LC-C-C1-1-RTA-1	C	C1	3	1	18.88	0.3499	0.1009	14	
LC-C-C1-1-RTA-2	C	C1	3	1	18.98	0.2670	0.1006	14	
LC-C-C1-1-RTA-3	C	C1	3	1	18.70	0.3450	0.1005	14	
LC-C-C2-1-RTA-1	C	C2	3	2	19.10	0.3081	0.1005	14	
LC-C-C2-1-RTA-2	C	C2	3	2	18.95	0.3358	0.1004	14	
LC-C-C2-1-RTA-3	C	C2	3	2	18.92	0.3514	0.1002	14	

Avg. t_{ply} [in]	Modulus _{norm} [Msi]
0.0072	19.09
0.0072	18.82
0.0072	19.12
0.0072	18.83
0.0071	18.78
0.0072	18.94
0.0074	19.31
0.0075	18.99
0.0074	18.87
0.0074	19.48
0.0074	19.15
0.0074	18.70
0.0072	18.89
0.0072	18.94
0.0072	18.65
0.0072	19.04
0.0072	18.88
0.0072	18.81

*Specimens were tested for modulus only and not taken to failure.

Average 18.80 0.3251
 Standard Dev. 0.2721 0.0306
 Coeff. of Var. [%] 1.448 9.402
 Min. 18.18 0.2670
 Max. 19.11 0.3964
 Number of Spec. 18 18

Average_{norm} 0.0073 18.96
 Standard Dev._{norm} 0.2109
 Coeff. of Var. [%]_{norm} 1.112
 Min. 0.0071 18.65
 Max. 0.0075 19.48
 Number of Spec. 18 18



September 15, 2025

CAM-RP-2025-009 Rev -

Longitudinal Compression Properties (LC)--ETA (250°F)

Modulus

VICTREX LMPAEK™ UDT AS7-192-34

normalizing

t_{ply} [in]

0.0072

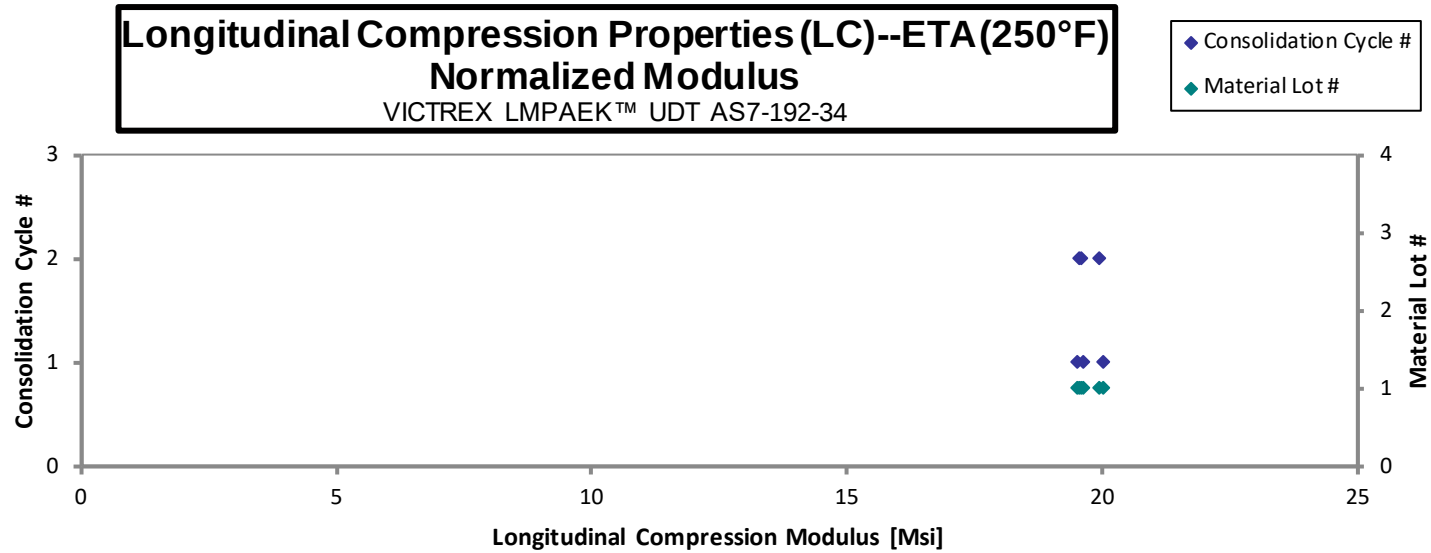
Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	Modulus [Msi]	Poisson's Ratio	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode
LC-A-C1-1-ETA-1	A	C1	1	1	19.59	0.3083	0.1004	14	
LC-A-C1-1-ETA-2	A	C1	1	1	20.09	0.3646	0.1006	14	
LC-A-C1-1-ETA-3	A	C1	1	1	19.71	0.3189	0.1005	14	
LC-A-C2-1-ETA-1	A	C2	1	2	20.05	0.3248	0.1002	14	
LC-A-C2-1-ETA-2	A	C2	1	2	19.70	0.3222	0.1003	14	
LC-A-C2-1-ETA-3	A	C2	1	2	19.50	0.3879	0.1011	14	

Avg. t_{ply} [in]	Modulus _{norm} [Msi]
0.0072	19.51
0.0072	20.04
0.0072	19.65
0.0072	19.94
0.0072	19.60
0.0072	19.55

*Specimens were tested for modulus only and not taken to failure.

Average	19.77	0.3378
Standard Dev.	0.2438	0.0312
Coeff. of Var. [%]	1.233	9.237
Min.	19.50	0.3083
Max.	20.09	0.3879
Number of Spec.	6	6

Average _{norm}	0.0072	19.71
Standard Dev. _{norm}		0.2185
Coeff. of Var. [%] _{norm}		1.108
Min.	0.0072	19.51
Max.	0.0072	20.04
Number of Spec.	6	6



September 15, 2025

CAM-RP-2025-009 Rev -

Longitudinal Compression Properties (LC)--ETW (250°F)

Modulus

VICTREX LMPAEK™ UDT AS7-192-34

normalizing

t_{ply} [in]

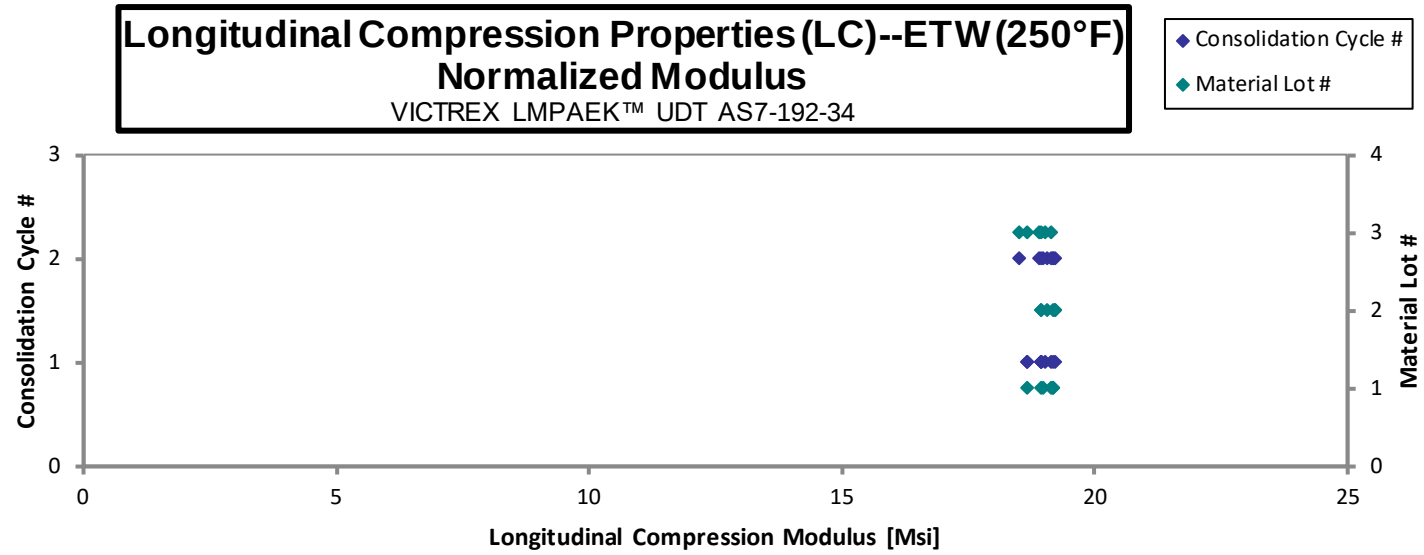
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Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	Modulus [Msi]	Poisson's Ratio	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode*	Avg. t_{ply} [in]	Modulus _{norm} [Msi]
LC-A-C1-1-ETW-1	A	C1	1	1	19.17	0.3241	0.1007	14		0.0072	19.15
LC-A-C1-1-ETW-2	A	C1	1	1	18.99	0.3421	0.1005	14		0.0072	18.93
LC-A-C1-1-ETW-3	A	C1	1	1	18.72	0.2771	0.1004	14		0.0072	18.65
LC-A-C2-1-ETW-1	A	C2	1	2	19.15	0.3383	0.1009	14		0.0072	19.17
LC-A-C2-1-ETW-2	A	C2	1	2	19.15	0.3743	0.1009	14		0.0072	19.17
LC-A-C2-1-ETW-3	A	C2	1	2	18.84	0.4081	0.1017	14		0.0073	19.00
LC-B-C1-1-ETW-1	B	C1	2	1	18.66	0.3836	0.1036	14		0.0074	19.17
LC-B-C1-1-ETW-2	B	C1	2	1	18.75	0.3387	0.1034	14		0.0074	19.22
LC-B-C1-1-ETW-3	B	C1	2	1	18.46	0.3866	0.1035	14		0.0074	18.95
LC-B-C2-1-ETW-1	B	C2	2	2	18.45	0.4118	0.1035	14		0.0074	18.95
LC-B-C2-1-ETW-2	B	C2	2	2	18.51	0.2940	0.1046	14		0.0075	19.21
LC-B-C2-1-ETW-3	B	C2	2	2	18.49	0.4318	0.1039	14		0.0074	19.06
LC-C-C1-1-ETW-1	C	C1	3	1	18.70	0.3916	0.1007	14		0.0072	18.67
LC-C-C1-1-ETW-2	C	C1	3	1	18.97	0.3144	0.1006	14		0.0072	18.93
LC-C-C1-1-ETW-3	C	C1	3	1	19.10	0.3351	0.1003	14		0.0072	19.02
LC-C-C2-1-ETW-1	C	C2	3	2	19.03	0.3629	0.1002	14		0.0072	18.91
LC-C-C2-1-ETW-2	C	C2	3	2	18.57	0.4490	0.1004	14		0.0072	18.49
LC-C-C2-1-ETW-3	C	C2	3	2	19.16	0.3844	0.1007	14		0.0072	19.14

*Specimens were tested for modulus only and not taken to failure.

Average 18.83 0.3638
 Standard Dev. 0.2690 0.0469
 Coeff. of Var. [%] 1.429 12.888
 Min. 18.45 0.2771
 Max. 19.17 0.4490
 Number of Spec. 18 18

Average_{norm} 0.0073 18.99
 Standard Dev._{norm} 0.2081
 Coeff. of Var. [%]_{norm} 1.096
 Min. 0.0072 18.49
 Max. 0.0075 19.22
 Number of Spec. 18 18



4.4 Transverse Compression Properties (TC)

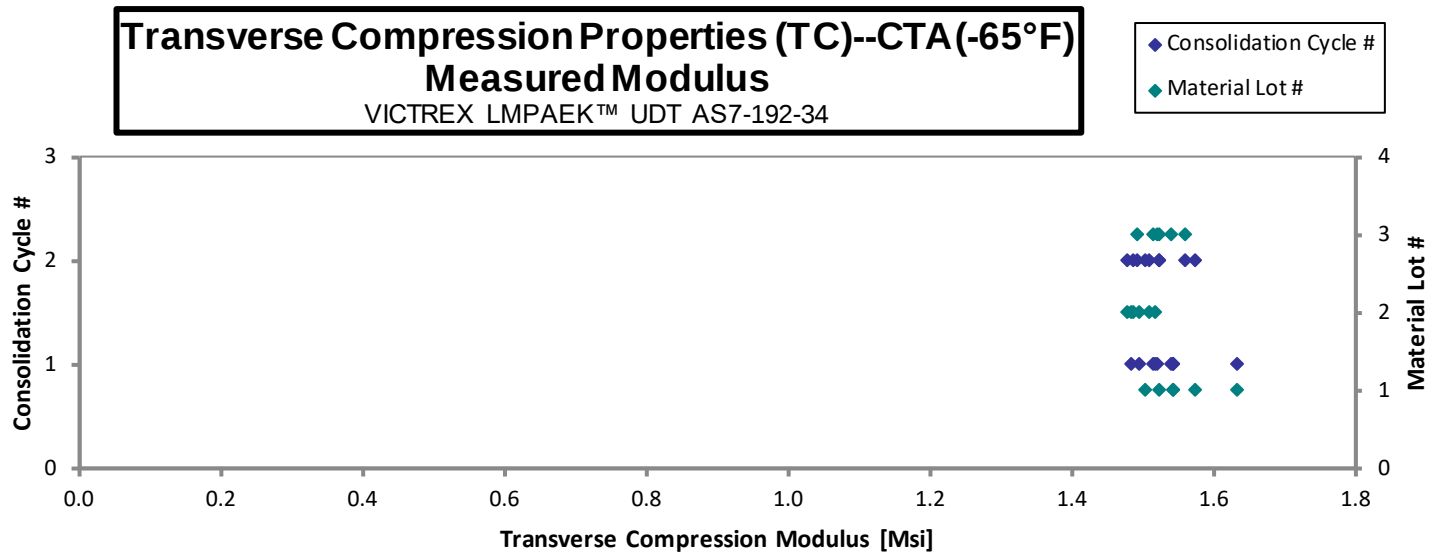
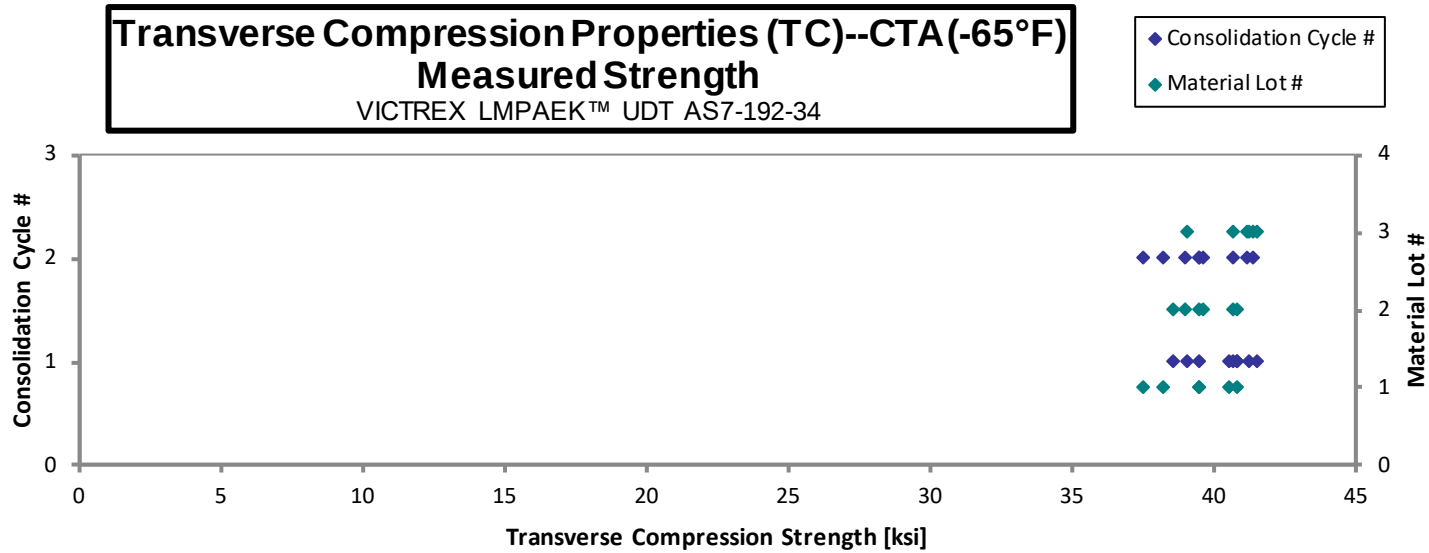
Transverse Compression Properties (TC)--CTA (-65°F)

Strength & Modulus

VICTREX LMPAEK™ UDT AS7-192-34

Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	Strength [ksi]	Modulus [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Avg. t_{ply} [in]	Failure Mode
TC-A-C1-A-CTA-1	A	C1	1	1	40.86	1.542	0.1006	14	0.0072	HGM
TC-A-C1-A-CTA-2	A	C1	1	1	40.58	1.544	0.1010	14	0.0072	HGM
TC-A-C1-A-CTA-3	A	C1	1	1	39.47	1.633	0.1006	14	0.0072	HGM
TC-A-C2-A-CTA-1	A	C2	1	2	39.53	1.503	0.1011	14	0.0072	HAB, HAT
TC-A-C2-A-CTA-2	A	C2	1	2	37.51	1.574	0.1006	14	0.0072	HAB, HAT
TC-A-C2-A-CTA-3	A	C2	1	2	38.24	1.523	0.1017	14	0.0073	HGM
TC-B-C1-A-CTA-1	B	C1	2	1	40.86	1.485	0.1044	14	0.0075	HAB, HAT
TC-B-C1-A-CTA-2	B	C1	2	1	40.69	1.518	0.1038	14	0.0074	HGM
TC-B-C1-A-CTA-3	B	C1	2	1	38.60	1.494	0.1036	14	0.0074	HGM
TC-B-C2-A-CTA-1	B	C2	2	2	39.67	1.488	0.1036	14	0.0074	HGM
TC-B-C2-A-CTA-2	B	C2	2	2	39.51	1.479	0.1033	14	0.0074	HAT, HAB
TC-B-C2-A-CTA-3	B	C2	2	2	39.01	1.509	0.1035	14	0.0074	HGM
TC-C-C1-A-CTA-1	C	C1	3	1	41.57	1.516	0.0999	14	0.0071	HAT, HAB
TC-C-C1-A-CTA-2	C	C1	3	1	39.08	1.541	0.0997	14	0.0071	HAT, HAB
TC-C-C1-A-CTA-3	C	C1	3	1	41.27	1.520	0.1004	14	0.0072	HAT, HAB
TC-C-C2-A-CTA-1	C	C2	3	2	41.39	1.491	0.1003	14	0.0072	HAB, HAT
TC-C-C2-A-CTA-2	C	C2	3	2	41.16	1.559	0.1002	14	0.0072	HGM
TC-C-C2-A-CTA-3	C	C2	3	2	40.68	1.524	0.0995	14	0.0071	HGM

Average	39.98	1.525	0.0073
Standard Dev.	1.190	0.03778	
Coeff. of Var. [%]	2.975	2.478	
Min.	37.51	1.479	0.0071
Max.	41.57	1.633	0.0075
Number of Spec.	18	18	18

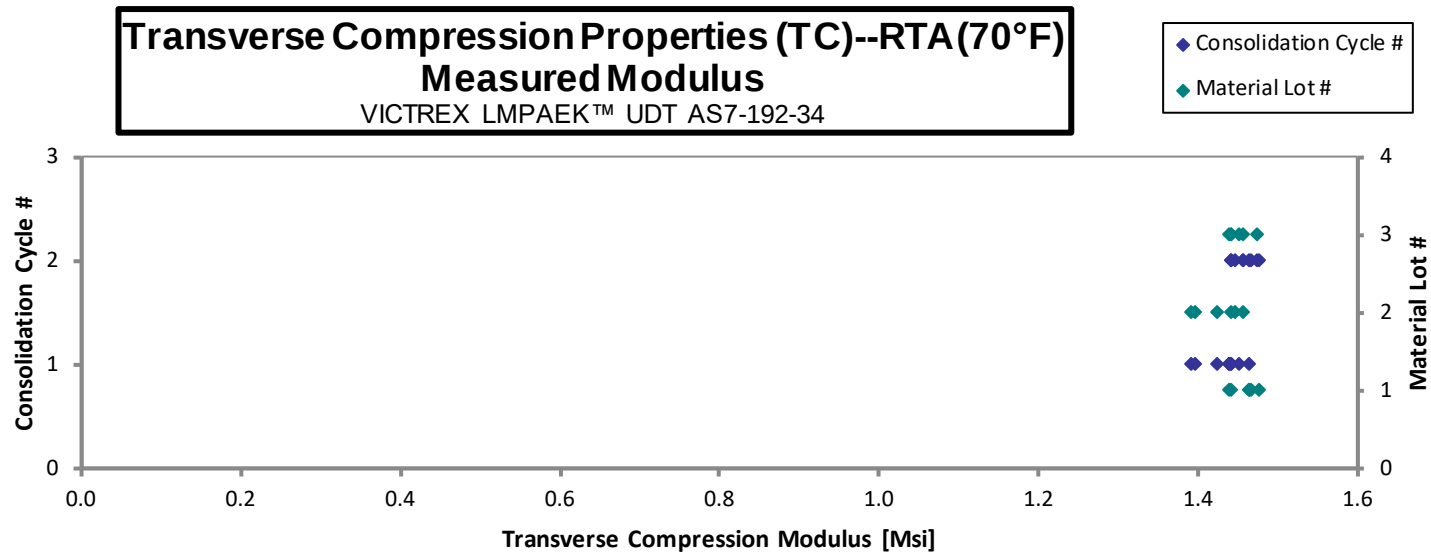
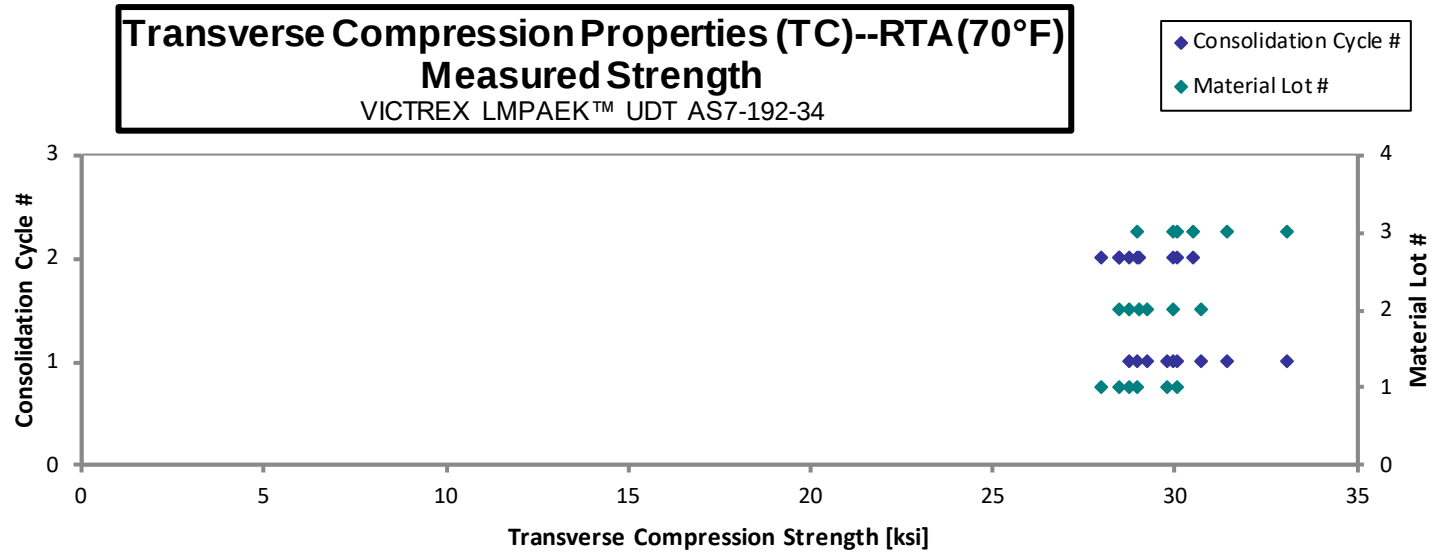


Transverse Compression Properties (TC)--RTA (70°F)**Strength & Modulus**

VICTREX LMPAEK™ UDT AS7-192-34

Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	Strength [ksi]	Modulus [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Avg. t_{ply} [in]	Failure Mode
TC-A-C1-A-RTA-1	A	C1	1	1	29.77	1.439	0.1015	14	0.0072	HGM
TC-A-C1-A-RTA-2	A	C1	1	1	30.04	1.443	0.1007	14	0.0072	HGM
TC-A-C1-A-RTA-3	A	C1	1	1	28.75	1.464	0.1010	14	0.0072	HGM
TC-A-C2-A-RTA-1	A	C2	1	2	27.97	1.464	0.1014	14	0.0072	HGM
TC-A-C2-A-RTA-2	A	C2	1	2	28.98	1.467	0.1007	14	0.0072	HGM
TC-A-C2-A-RTA-3	A	C2	1	2	28.47	1.477	0.1012	14	0.0072	HAT, HAB
TC-B-C1-A-RTA-1	B	C1	2	1	30.71	1.392	0.1039	14	0.0074	HAB, HAT
TC-B-C1-A-RTA-2	B	C1	2	1	29.93	1.397	0.1042	14	0.0074	BGM
TC-B-C1-A-RTA-3	B	C1	2	1	29.25	1.425	0.1042	14	0.0074	HGM
TC-B-C2-A-RTA-1	B	C2	2	2	28.48	1.456	0.1034	14	0.0074	HAB, HAT
TC-B-C2-A-RTA-2	B	C2	2	2	29.01	1.443	0.1033	14	0.0074	HAB, HAT
TC-B-C2-A-RTA-3	B	C2	2	2	28.73	1.447	0.1037	14	0.0074	HGM
TC-C-C1-A-RTA-1	C	C1	3	1	33.06	1.442	0.1000	14	0.0071	BGM
TC-C-C1-A-RTA-2	C	C1	3	1	31.43	1.439	0.0999	14	0.0071	HGM
TC-C-C1-A-RTA-3	C	C1	3	1	28.98	1.453	0.1000	14	0.0071	HGM
TC-C-C2-A-RTA-1	C	C2	3	2	30.04	1.458	0.1002	14	0.0072	HGM
TC-C-C2-A-RTA-2	C	C2	3	2	30.52	1.441	0.1003	14	0.0072	HAB, HAT
TC-C-C2-A-RTA-3	C	C2	3	2	29.94	1.475	0.0993	14	0.0071	HAB, HAT

Average	29.67	1.446	0.0073
Standard Dev.	1.233	0.02314	
Coeff. of Var. [%]	4.156	1.600	
Min.	27.97	1.392	0.0071
Max.	33.06	1.477	0.0074
Number of Spec.	18	18	18

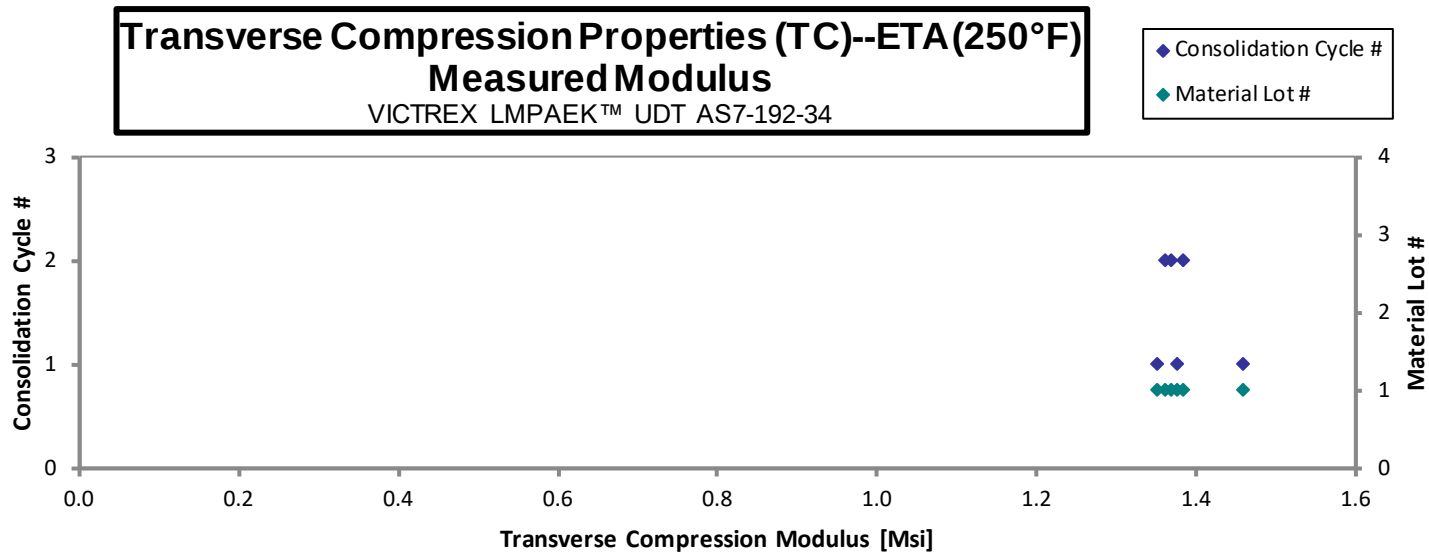
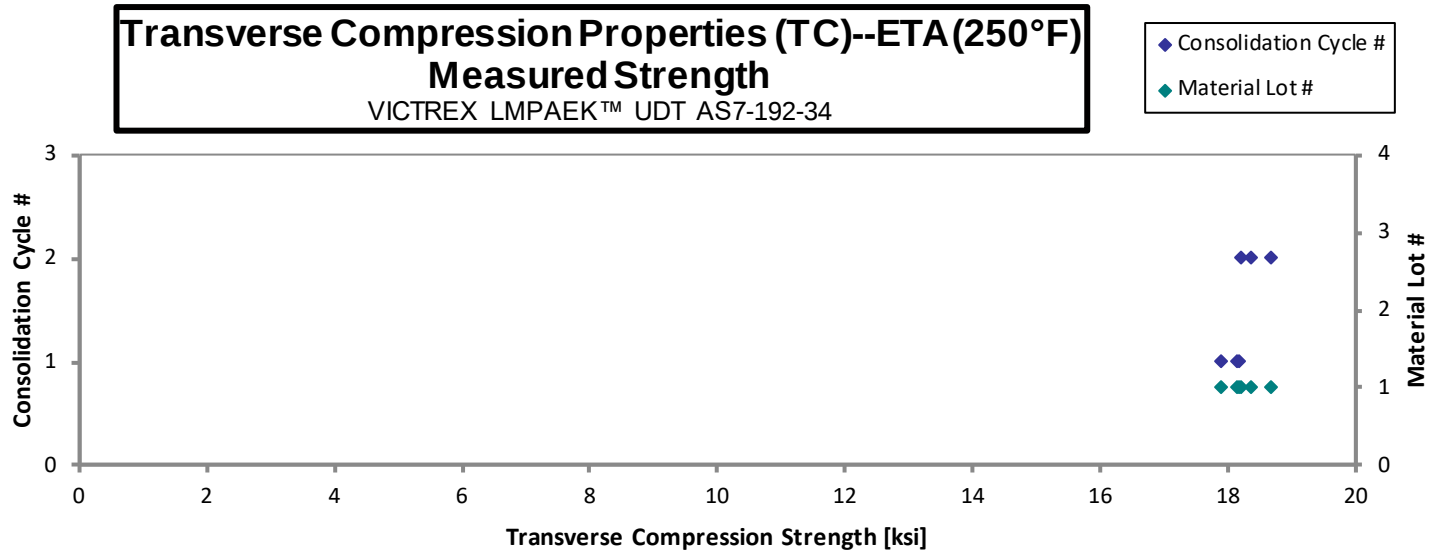


Transverse Compression Properties (TC)--ETA (250°F)**Strength & Modulus**

VICTREX LMPAEK™ UDT AS7-192-34

Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	Strength [ksi]	Modulus [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Avg. t_{ply} [in]	Failure Mode
TC-A-C1-A-ETA-1	A	C1	1	1	17.91	1.352	0.1012	14	0.0072	HGM
TC-A-C1-A-ETA-2	A	C1	1	1	18.17	1.376	0.1010	14	0.0072	HGM
TC-A-C1-A-ETA-3	A	C1	1	1	18.14	1.461	0.1011	14	0.0072	HGM
TC-A-C2-A-ETA-1	A	C2	1	2	18.23	1.384	0.1008	14	0.0072	HGM
TC-A-C2-A-ETA-2	A	C2	1	2	18.69	1.361	0.1014	14	0.0072	HGM
TC-A-C2-A-ETA-3	A	C2	1	2	18.38	1.368	0.1011	14	0.0072	HGM

Average	18.25	1.384	0.0072
Standard Dev.	0.2639	0.03933	
Coeff. of Var. [%]	1.446	2.842	
Min.	17.91	1.352	0.0072
Max.	18.69	1.461	0.0072
Number of Spec.	6	6	6



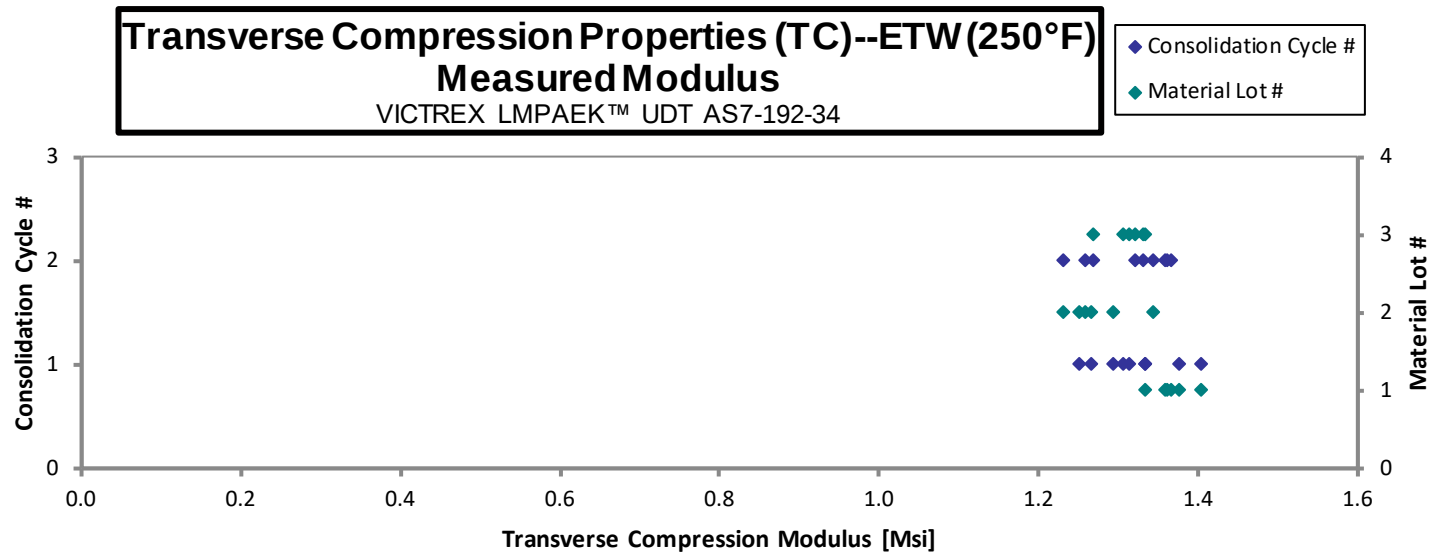
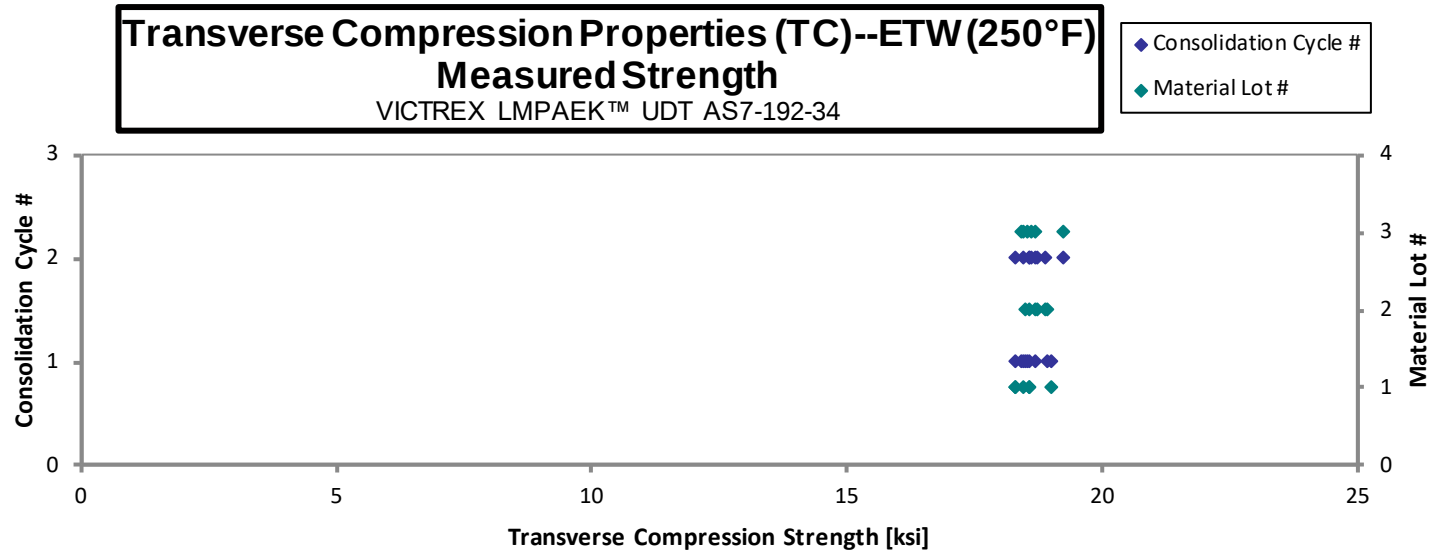
September 15, 2025

CAM-RP-2025-009 Rev -

Transverse Compression Properties (TC)--ETW (250°F) Strength & Modulus VICTREX LMPAEK™ UDT AS7-192-34
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Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	Strength [ksi]	Modulus [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Avg. t_{ply} [in]	Failure Mode
TC-A-C1-A-ETW-1	A	C1	1	1	18.31	1.376	0.1005	14	0.0072	HGM
TC-A-C1-A-ETW-2	A	C1	1	1	19.01	1.406	0.1001	14	0.0071	HGM
TC-A-C1-A-ETW-3	A	C1	1	1	18.59	1.335	0.1000	14	0.0071	HGM
TC-A-C2-A-ETW-1	A	C2	1	2	18.29	1.362	0.1012	14	0.0072	HGM
TC-A-C2-A-ETW-2	A	C2	1	2	18.58	1.367	0.1010	14	0.0072	HGM
TC-A-C2-A-ETW-3	A	C2	1	2	18.47	1.360	0.1010	14	0.0072	HGM
TC-B-C1-A-ETW-1	B	C1	2	1	18.93	1.295	0.1036	14	0.0074	HGM
TC-B-C1-A-ETW-2	B	C1	2	1	18.70	1.251	0.1042	14	0.0074	HGM
TC-B-C1-A-ETW-3	B	C1	2	1	18.51	1.266	0.1038	14	0.0074	HGM
TC-B-C2-A-ETW-1	B	C2	2	2	18.89	1.230	0.1041	14	0.0074	HGM
TC-B-C2-A-ETW-2	B	C2	2	2	18.57	1.259	0.1038	14	0.0074	HGM
TC-B-C2-A-ETW-3	B	C2	2	2	18.73	1.344	0.1035	14	0.0074	HGM
TC-C-C1-A-ETW-1	C	C1	3	1	18.56	1.334	0.1002	14	0.0072	HGM
TC-C-C1-A-ETW-2	C	C1	3	1	18.46	1.308	0.1001	14	0.0072	HGM
TC-C-C1-A-ETW-3	C	C1	3	1	18.43	1.314	0.1004	14	0.0072	HGM
TC-C-C2-A-ETW-1	C	C2	3	2	18.68	1.321	0.1007	14	0.0072	HGM
TC-C-C2-A-ETW-2	C	C2	3	2	18.61	1.270	0.1010	14	0.0072	HGM
TC-C-C2-A-ETW-3	C	C2	3	2	19.24	1.332	0.1006	14	0.0072	HGM

Average	18.64	1.318	0.0073
Standard Dev.	0.2451	0.04852	
Coeff. of Var. [%]	1.315	3.680	
Min.	18.29	1.230	0.0071
Max.	19.24	1.406	0.0074
Number of Spec.	18	18	18



4.5 Unnotched Compression Properties (UNC0)

Laminate Unnotched Compression Properties (UNC0)--CTA (-65°F)

Strength & Modulus

VICTREX LMPAEK™ UDT AS7-192-34

normalizing

t_{ply} [in]

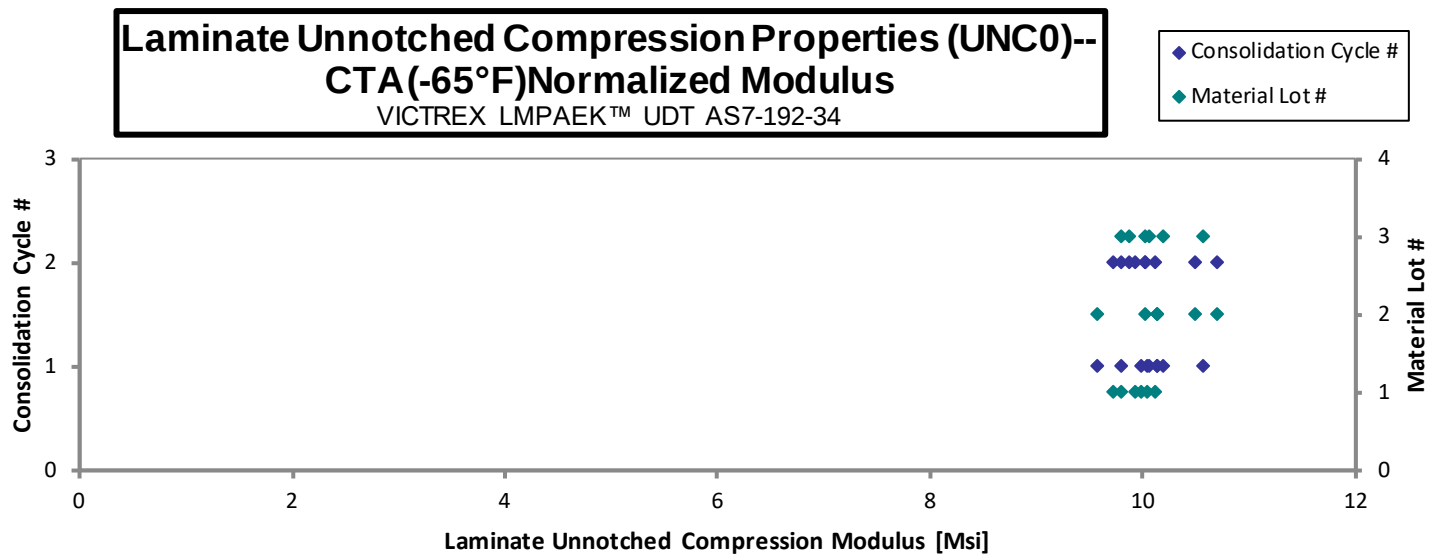
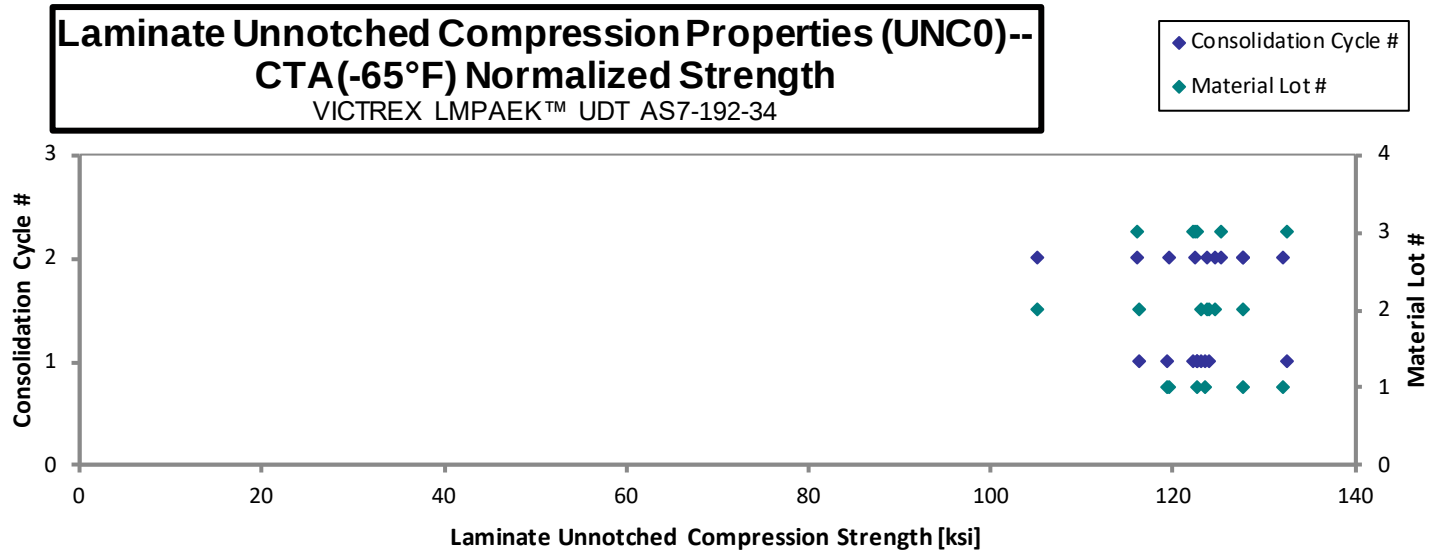
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Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	Strength [ksi]	Modulus [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t _{ply} [in]	Strength _{norm} [ksi]	Modulus _{norm} [Msi]
NTP1251Q1-V-A2-DA-UNC0-A-C1-1-CTA-1	A	C1	1	1	122.9	9.835	0.1149	16	M(B,H)AT	0.0072	122.6	9.808
NTP1251Q1-V-A2-DA-UNC0-A-C1-1-CTA-2	A	C1	1	1	119.1	9.965	0.1156	16	BGM	0.0072	119.4	9.996
NTP1251Q1-V-A2-DA-UNC0-A-C1-1-CTA-3	A	C1	1	1	123.2	10.00	0.1157	16	BAB	0.0072	123.7	10.04
NTP1251Q1-V-A2-DA-UNC0-A-C2-1-CTA-1	A	C2	1	2	118.8	9.671	0.1159	16	M(B,H)AB	0.0072	119.5	9.727
NTP1251Q1-V-A2-DA-UNC0-A-C2-1-CTA-2	A	C2	1	2	127.0	9.877	0.1158	16	M(B,H)AB, HIB	0.0072	127.6	9.925
NTP1251Q1-V-A2-DA-UNC0-A-C2-1-CTA-3	A	C2	1	2	131.3	10.07	0.1159	16	HAB	0.0072	132.0	10.13
NTP1251Q1-V-A2-DA-UNC0-B-C1-1-CTA-1	B	C1	2	1	121.8	9.968	0.1173	16	BGM	0.0073	124.0	10.15
NTP1251Q1-V-A2-DA-UNC0-B-C1-1-CTA-2	B	C1	2	1	114.2	9.955	0.1173	16	BAB	0.0073	116.3	10.14
NTP1251Q1-V-A2-DA-UNC0-B-C1-1-CTA-3	B	C1	2	1	120.6	9.375	0.1176	16	BAB	0.0073	123.1	9.569
NTP1251Q1-V-A2-DA-UNC0-B-C2-1-CTA-1	B	C2	2	2	121.6	9.854	0.1172	16	M(B,H)AT	0.0073	123.7	10.02
NTP1251Q1-V-A2-DA-UNC0-B-C2-1-CTA-2	B	C2	2	2	124.8	10.26	0.1178	16	M(B,H)AT	0.0074	127.6	10.49
NTP1251Q1-V-A2-DA-UNC0-B-C2-1-CTA-3	B	C2	2	2	102.4	10.42	0.1183	16	BAB	0.0074	105.1	10.70
NTP1251Q1-V-A2-DA-UNC0-B-C2-1-CTA-4 ¹	B	C2	2	2	120.6		0.1190	16	BAT	0.0074	124.6	
NTP1251Q1-V-A2-DA-UNC0-C-C1-1-CTA-1	C	C1	3	1	121.4	9.957	0.1164	16	BGM	0.0073	122.6	10.06
NTP1251Q1-V-A2-DA-UNC0-C-C1-1-CTA-2	C	C1	3	1	121.2	10.47	0.1163	16	BGM	0.0073	122.3	10.57
NTP1251Q1-V-A2-DA-UNC0-C-C1-1-CTA-3	C	C1	3	1	130.8	10.07	0.1167	16	BAB	0.0073	132.5	10.20
NTP1251Q1-V-A2-DA-UNC0-C-C2-1-CTA-1	C	C2	3	2	115.5	9.754	0.1158	16	BGM	0.0072	116.1	9.806
NTP1251Q1-V-A2-DA-UNC0-C-C2-1-CTA-2	C	C2	3	2	121.4	9.786	0.1163	16	BAB	0.0073	122.5	9.877
NTP1251Q1-V-A2-DA-UNC0-C-C2-1-CTA-3	C	C2	3	2	124.4	9.955	0.1161	16	M(B,H)AT	0.0073	125.4	10.03

¹ Specimen tested was Strength property only. Strain not recorded.

Average 121.2 9.958
 Standard Dev. 6.262 0.2571
 Coeff. of Var. [%] 5.167 2.582
 Min. 102.4 9.375
 Max. 131.3 10.47
 Number of Spec. 19 18

Average_{norm} 0.0073 122.7 10.07
 Standard Dev._{norm} 6.055 0.2903
 Coeff. of Var. [%]_{norm} 4.937 2.884
 Min. 0.0072 105.1 9.569
 Max. 0.0074 132.5 10.70
 Number of Spec. 19 19 18



September 15, 2025

CAM-RP-2025-009 Rev -

Laminate Unnotched Compression Properties (UNC0)--RTA (70°F)

Strength & Modulus

VICTREX LMPAEK™ UDT AS7-192-34

normalizing

t_{ply} [in]

0.0072

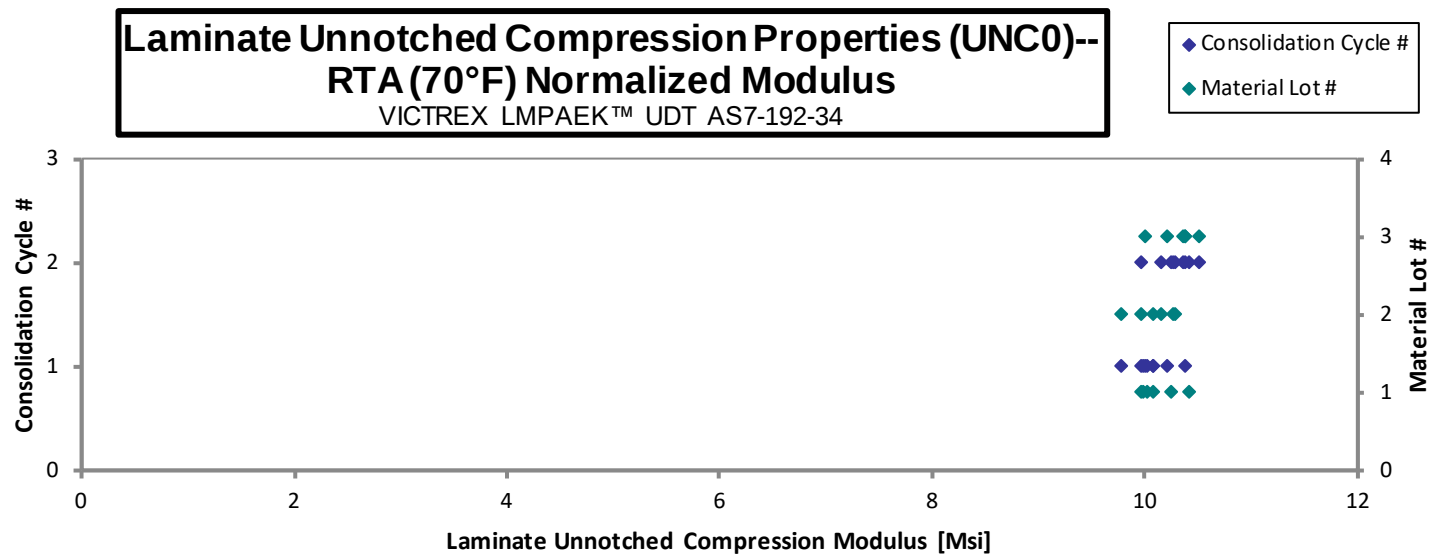
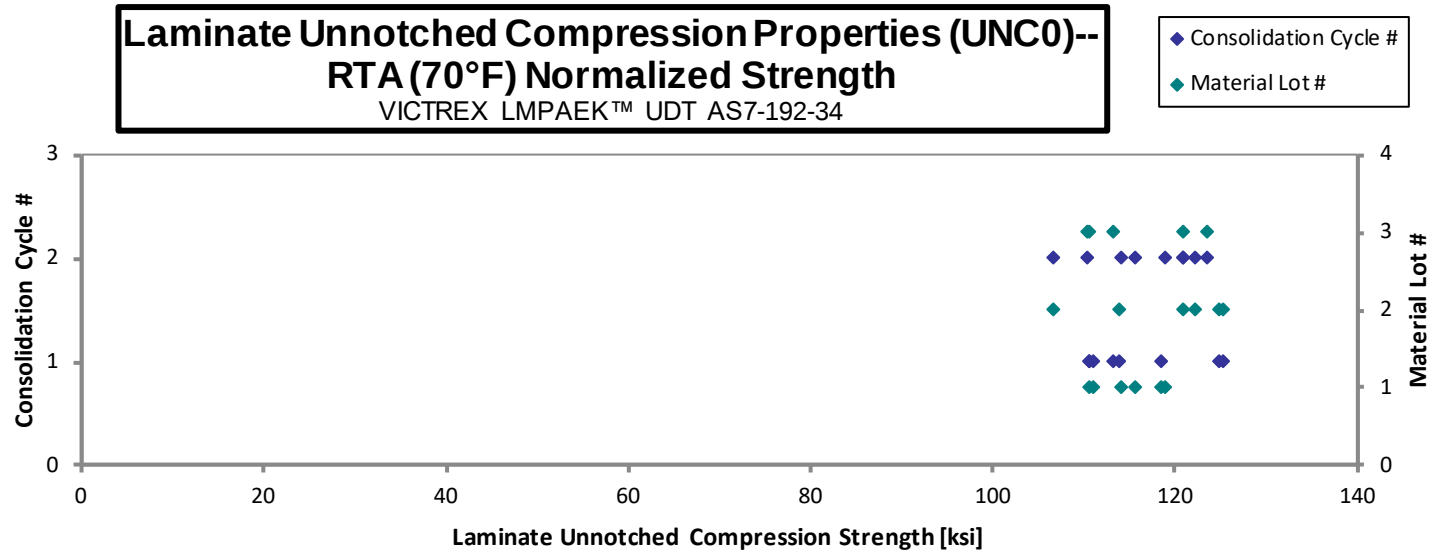
Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	Strength [ksi]	Modulus [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	Strength _{norm} [ksi]	Modulus _{norm} [Msi]
NTP1251Q1-V-A2-DA-UNC0-A-C1-1-RTA-1	A	C1	1	1	110.7	9.958	0.1156	16	M(B,H)AT	0.0072	111.0	9.989
NTP1251Q1-V-A2-DA-UNC0-A-C1-1-RTA-2	A	C1	1	1	110.0	10.04	0.1158	16	M(B,H)AT	0.0072	110.5	10.09
NTP1251Q1-V-A2-DA-UNC0-A-C1-1-RTA-3 ¹	A	C1	1	1		10.04	0.1151	16	HIB	0.0072		10.03
NTP1251Q1-V-A2-DA-UNC0-A-C1-1-RTA-4 ²	A	C1	1	1	118.2		0.1156	16	BAT	0.0072	118.6	
NTP1251Q1-V-A2-DA-UNC0-A-C2-1-RTA-1	A	C2	1	2	115.7	10.26	0.1151	16	M(B,H)AB	0.0072	115.7	10.26
NTP1251Q1-V-A2-DA-UNC0-A-C2-1-RTA-2	A	C2	1	2	112.3	9.814	0.1170	16	BGM	0.0073	114.0	9.965
NTP1251Q1-V-A2-DA-UNC0-A-C2-1-RTA-3	A	C2	1	2	117.7	10.31	0.1163	16	BGM	0.0073	118.8	10.41
NTP1251Q1-V-A2-DA-UNC0-B-C1-1-RTA-1	B	C1	2	1	123.4	9.968	0.1165	16	M(B,H)AT	0.0073	124.8	10.08
NTP1251Q1-V-A2-DA-UNC0-B-C1-1-RTA-2	B	C1	2	1	111.6	9.783	0.1174	16	BGM	0.0073	113.8	9.973
NTP1251Q1-V-A2-DA-UNC0-B-C1-1-RTA-3	B	C1	2	1	123.1	9.603	0.1173	16	BAB	0.0073	125.4	9.777
NTP1251Q1-V-A2-DA-UNC0-B-C2-1-RTA-1	B	C2	2	2	117.5	9.985	0.1186	16	BAT	0.0074	120.9	10.28
NTP1251Q1-V-A2-DA-UNC0-B-C2-1-RTA-2	B	C2	2	2	119.2	10.05	0.1180	16	M(B,H)AB	0.0074	122.1	10.29
NTP1251Q1-V-A2-DA-UNC0-B-C2-1-RTA-3	B	C2	2	2	104.6	9.951	0.1175	16	BGM	0.0073	106.7	10.15
NTP1251Q1-V-A2-DA-UNC0-C-C1-1-RTA-1 ¹	C	C1	3	1		10.03	0.1174	16	HIT	0.0073		10.22
NTP1251Q1-V-A2-DA-UNC0-C-C1-1-RTA-2 ¹	C	C1	3	1		9.910	0.1164	16	HIB	0.0073		10.01
NTP1251Q1-V-A2-DA-UNC0-C-C1-1-RTA-3	C	C1	3	1	109.8	10.30	0.1161	16	HAB	0.0073	110.6	10.38
NTP1251Q1-V-A2-DA-UNC0-C-C1-1-RTA-4 ²	C	C1	3	1	112.6		0.1160	16	BAB	0.0072	113.3	
NTP1251Q1-V-A2-DA-UNC0-C-C2-1-RTA-1	C	C2	3	2	108.4	10.19	0.1174	16	BGM	0.0073	110.4	10.38
NTP1251Q1-V-A2-DA-UNC0-C-C2-1-RTA-2 ¹	C	C2	3	2		10.30	0.1159	16	HIT	0.0072		10.36
NTP1251Q1-V-A2-DA-UNC0-C-C2-1-RTA-3	C	C2	3	2	119.5	10.39	0.1165	16	M(B,H)AB, HIB	0.0073	120.9	10.51
NTP1251Q1-V-A2-DA-UNC0-C-C2-1-RTA-4 ²	C	C2	3	2	122.3		0.1165	16	BAB	0.0073	123.6	

¹ Strength not reported because of unacceptable failure mode.

² Specimen tested was Strength property only. Strain not recorded.

Average	115.1	10.05
Standard Dev.	5.585	0.2104
Coeff. of Var. [%]	4.852	2.093
Min.	104.6	9.603
Max.	123.4	10.39
Number of Spec.	17	18

Average _{norm}	0.0073	116.5	10.18
Standard Dev. _{norm}		5.787	0.1978
Coeff. of Var. [%] _{norm}		4.965	1.944
Min.	0.0072	106.7	9.777
Max.	0.0074	125.4	10.51
Number of Spec.	21	17	18



September 15, 2025

CAM-RP-2025-009 Rev -

Laminate Unnotched Compression Properties (UNC0)--ETA (250°F)
Strength & Modulus

VICTREX LMPAEK™ UDT AS7-192-34

normalizing

t_{ply} [in]

0.0072

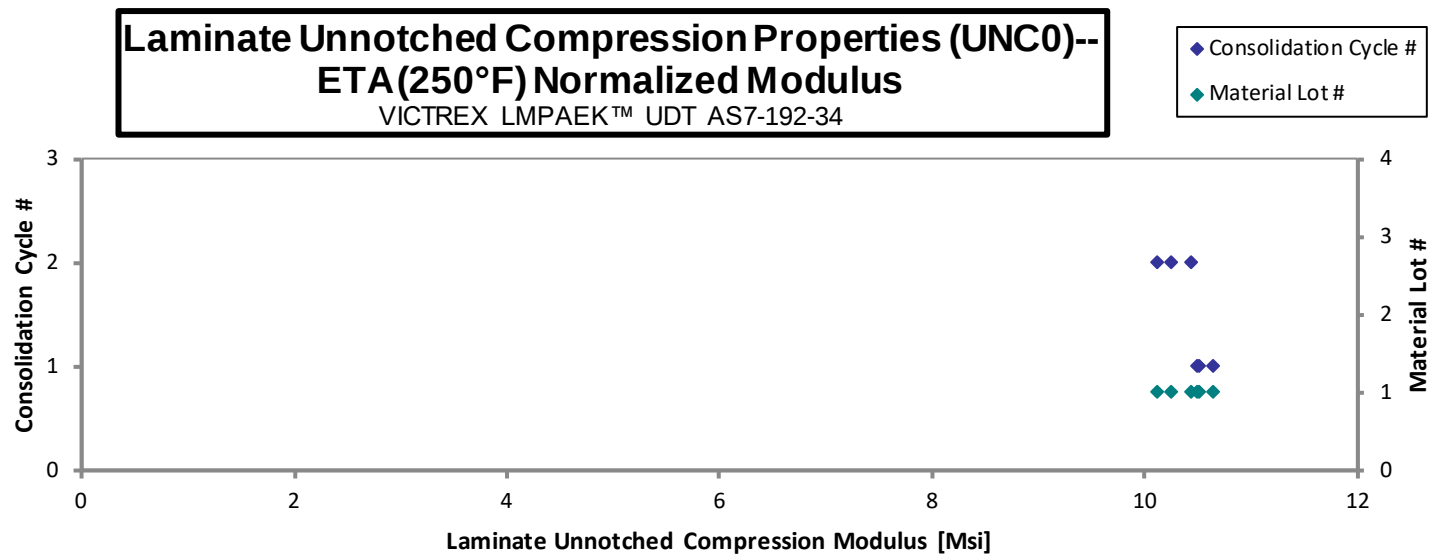
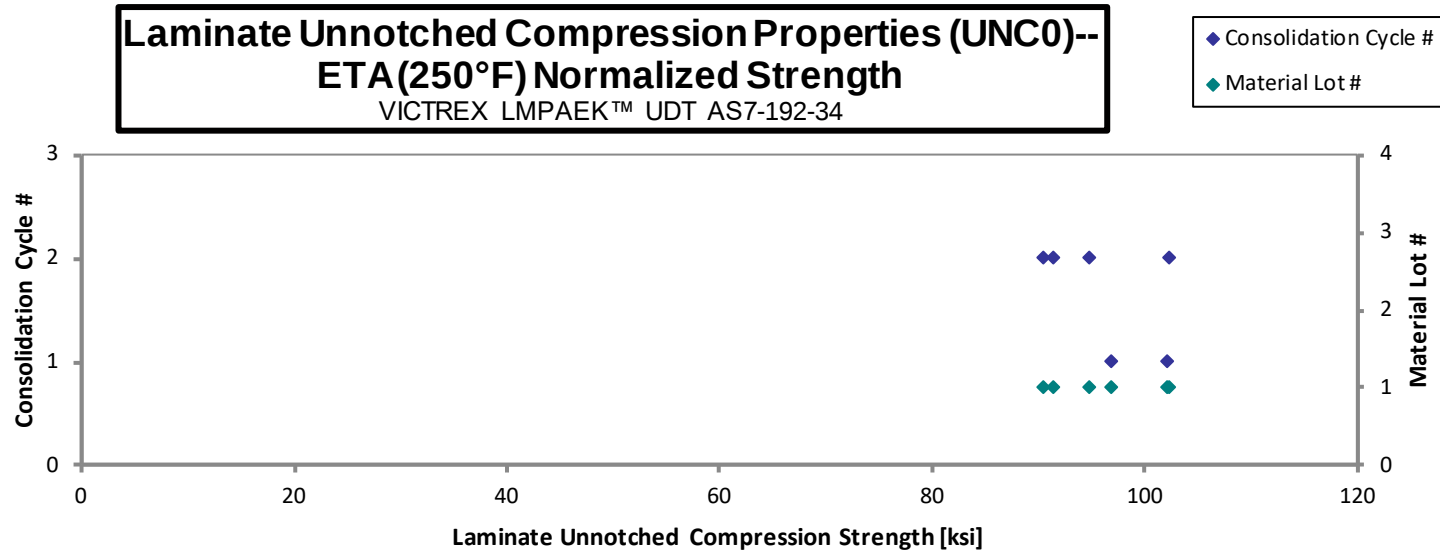
Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	Strength [ksi]	Modulus [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	Strength _{norm} [ksi]	Modulus _{norm} [Msi]
NTP1251Q1-V-A2-DA-UNC0-A-C1-1-ETA-1 ¹	A	C1	1	1		10.57	0.1160	16	CIB, CIT	0.0072		10.64
NTP1251Q1-V-A2-DA-UNC0-A-C1-1-ETA-2	A	C1	1	1	101.5	10.46	0.1159	16	BAB, HIB	0.0072	102.2	10.52
NTP1251Q1-V-A2-DA-UNC0-A-C1-1-ETA-3	A	C1	1	1	96.73	10.46	0.1155	16	M(B,H)AT, HIT	0.0072	96.95	10.49
NTP1251Q1-V-A2-DA-UNC0-A-C2-1-ETA-1	A	C2	1	2	102.0	10.09	0.1154	16	BAT	0.0072	102.2	10.12
NTP1251Q1-V-A2-DA-UNC0-A-C2-1-ETA-2	A	C2	1	2	94.24	10.38	0.1158	16	BAB	0.0072	94.74	10.43
NTP1251Q1-V-A2-DA-UNC0-A-C2-1-ETA-3	A	C2	1	2	89.49	10.15	0.1164	16	BAT	0.0073	90.42	10.26
NTP1251Q1-V-A2-DA-UNC0-A-C2-1-ETA-4 ²	A	C2	1	2	90.73		0.1161	16	BAB	0.0073	91.40	

¹ Strength not reported because of unacceptable failure mode.

² Specimen tested was Strength property only. Strain not recorded.

Average 95.79 10.35
Standard Dev. 5.304 0.1878
Coeff. of Var. [%] 5.537 1.814
Min. 89.49 10.09
Max. 102.0 10.57
Number of Spec. 6 6

Average_{norm} 0.0072 96.32 10.41
Standard Dev_{norm} 5.127 0.1906
Coeff. of Var. [%]_{norm} 5.323 1.831
Min. 0.0072 90.42 10.12
Max. 0.0073 102.2 10.64
Number of Spec. 7 6 6



September 15, 2025

CAM-RP-2025-009 Rev -

Laminate Unnotched Compression Properties (UNC0)--ETW (250°F)

Strength & Modulus

VICTREX LMPAEK™ UDT AS7-192-34

normalizing

t_{ply} [in]

0.0072

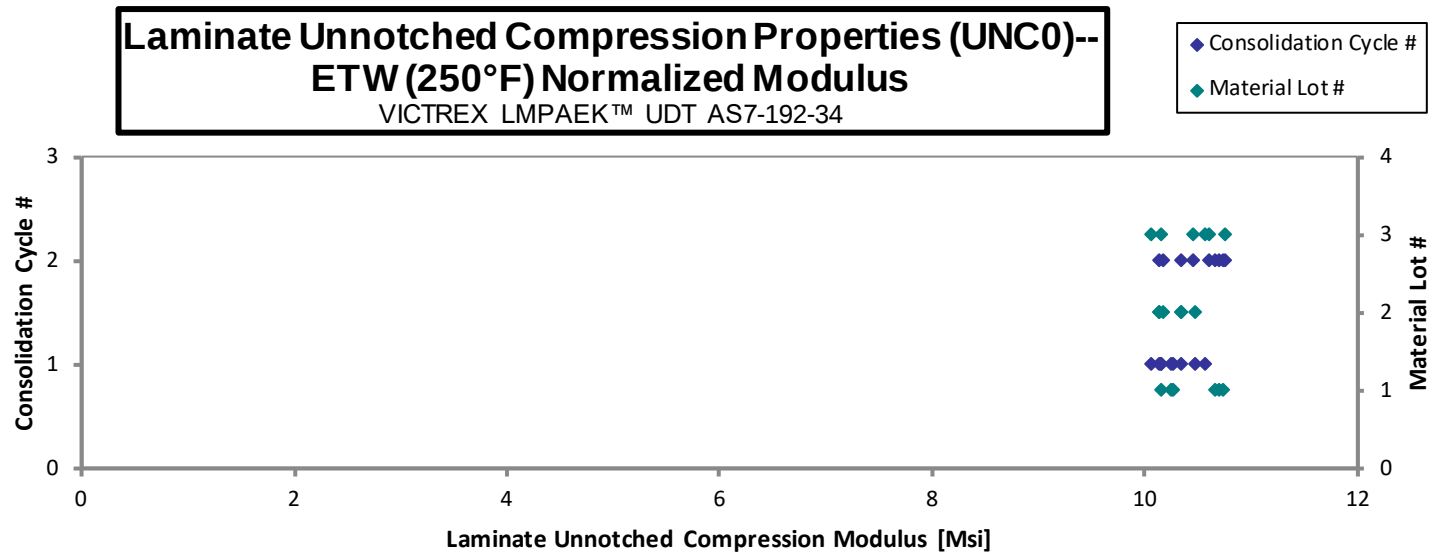
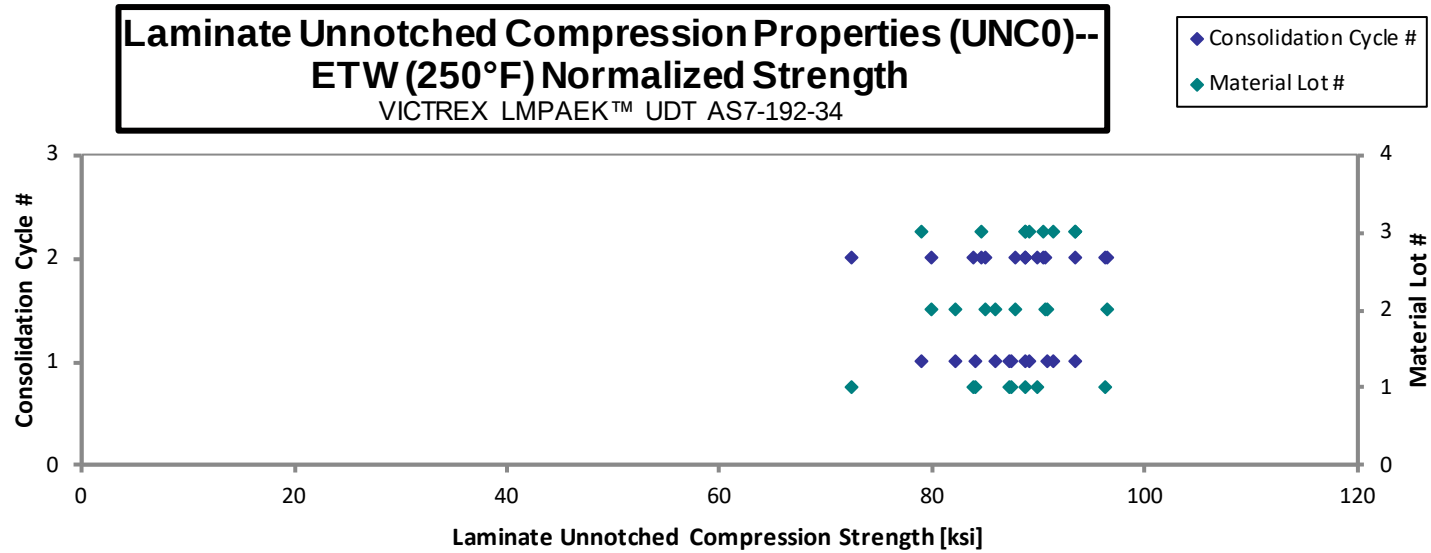
Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	Strength [ksi]	Modulus [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	Strength _{norm} [ksi]	Modulus _{norm} [Msi]
NTP1251Q1-V-A2-DA-UNC0-A-C1-1-ETW-1	A	C1	1	1	87.15	10.13	0.1155	16	BAT, CIT	0.0072	87.37	10.16
NTP1251Q1-V-A2-DA-UNC0-A-C1-1-ETW-2	A	C1	1	1	88.33	10.20	0.1159	16	BAT, CIT	0.0072	88.88	10.27
NTP1251Q1-V-A2-DA-UNC0-A-C1-1-ETW-3	A	C1	1	1	87.36	10.23	0.1154	16	HAT/HIT	0.0072	87.53	10.25
NTP1251Q1-V-A2-DA-UNC0-A-C1-1-ETW-4 ²	A	C1	1	1	84.27		0.1150	16	BAT	0.0072	84.12	
NTP1251Q1-V-A2-DA-UNC0-A-C2-1-ETW-1	A	C2	1	2	71.97	10.67	0.1160	16	BGM	0.0072	72.43	10.74
NTP1251Q1-V-A2-DA-UNC0-A-C2-1-ETW-2	A	C2	1	2	83.32	10.59	0.1160	16	BAB	0.0073	83.91	10.67
NTP1251Q1-V-A2-DA-UNC0-A-C2-1-ETW-3	A	C2	1	2	95.66	10.65	0.1159	16	BAB	0.0072	96.23	10.71
NTP1251Q1-V-A2-DA-UNC0-A-C2-1-ETW-5 ²	A	C2	1	2	89.06		0.1164	16	BAB	0.0073	89.96	
NTP1251Q1-V-A2-DA-UNC0-B-C1-1-ETW-1	B	C1	2	1	84.81	10.33	0.1169	16	HAB	0.0073	86.03	10.48
NTP1251Q1-V-A2-DA-UNC0-B-C1-1-ETW-2	B	C1	2	1	89.71	10.21	0.1167	16	BAT	0.0073	90.85	10.34
NTP1251Q1-V-A2-DA-UNC0-B-C1-1-ETW-3	B	C1	2	1	80.65	9.956	0.1174	16	BGM	0.0073	82.19	10.15
NTP1251Q1-V-A2-DA-UNC0-B-C2-1-ETW-1	B	C2	2	2	85.36	9.842	0.1186	16	BAB, HAB/HIB	0.0074	87.87	10.13
NTP1251Q1-V-A2-DA-UNC0-B-C2-1-ETW-2	B	C2	2	2	78.31	10.14	0.1175	16	BGM	0.0073	79.88	10.34
NTP1251Q1-V-A2-DA-UNC0-B-C2-1-ETW-3	B	C2	2	2	83.59	9.997	0.1172	16	BAB, HAB/HIB	0.0073	85.02	10.17
NTP1251Q1-V-A2-DA-UNC0-B-C2-1-ETW-4 ²	B	C2	2	2	88.73		0.1178	16	M(B,H)AB	0.0074	90.71	
NTP1251Q1-V-A2-DA-UNC0-B-C2-1-ETW-5 ²	B	C2	2	2	94.22		0.1180	16	BGM	0.0074	96.46	
NTP1251Q1-V-A2-DA-UNC0-C-C1-1-ETW-1	C	C1	3	1	87.73	9.903	0.1170	16	BGM, CIT	0.0073	89.08	10.06
NTP1251Q1-V-A2-DA-UNC0-C-C1-1-ETW-2 ¹	C	C1	3	1		9.991	0.1172	16	HAT/HIT, CIB	0.0073		10.16
NTP1251Q1-V-A2-DA-UNC0-C-C1-1-ETW-3	C	C1	3	1	92.15	10.43	0.1168	16	BAT, HAT/HIT	0.0073	93.43	10.57
NTP1251Q1-V-A2-DA-UNC0-C-C1-1-ETW-4 ²	C	C1	3	1	77.29		0.1177	16	BAB	0.0074	78.94	
NTP1251Q1-V-A2-DA-UNC0-C-C1-1-ETW-5 ²	C	C1	3	1	90.09		0.1170	16	BAB	0.0073	91.51	
NTP1251Q1-V-A2-DA-UNC0-C-C2-1-ETW-1	C	C2	3	2	84.38	10.43	0.1156	16	HAT	0.0072	84.67	10.46
NTP1251Q1-V-A2-DA-UNC0-C-C2-1-ETW-2	C	C2	3	2	87.97	10.66	0.1163	16	HAB/HIB	0.0073	88.77	10.76
NTP1251Q1-V-A2-DA-UNC0-C-C2-1-ETW-3	C	C2	3	2	87.74	10.48	0.1165	16	HAT	0.0073	88.72	10.60
NTP1251Q1-V-A2-DA-UNC0-C-C2-1-ETW-4 ²	C	C2	3	2	89.71		0.1163	16	HAB/HIB	0.0073	90.56	
NTP1251Q1-V-A2-DA-UNC0-C-C2-1-ETW-5 ²	C	C2	3	2	93.27		0.1155	16	HAB	0.0072	93.50	

¹ Strength not reported because of unacceptable failure mode.

² Specimen tested was Strength property only. Strain not recorded.

Average	86.51	10.27
Standard Dev.	5.421	0.2734
Coeff. of Var. [%]	6.267	2.662
Min.	71.97	9.842
Max.	95.66	10.67
Number of Spec.	25	18

Average _{norm}	0.0073	87.55	10.39
Standard Dev. _{norm}		5.460	0.2375
Coeff. of Var. [%] _{norm}		6.236	2.286
Min.	0.0072	72.43	10.06
Max.	0.0074	96.46	10.76
Number of Spec.	26	25	18



4.6 In-Plane Shear Properties (IPS)

In-Plane Shear Properties (IPS)--CTA (-65°F)

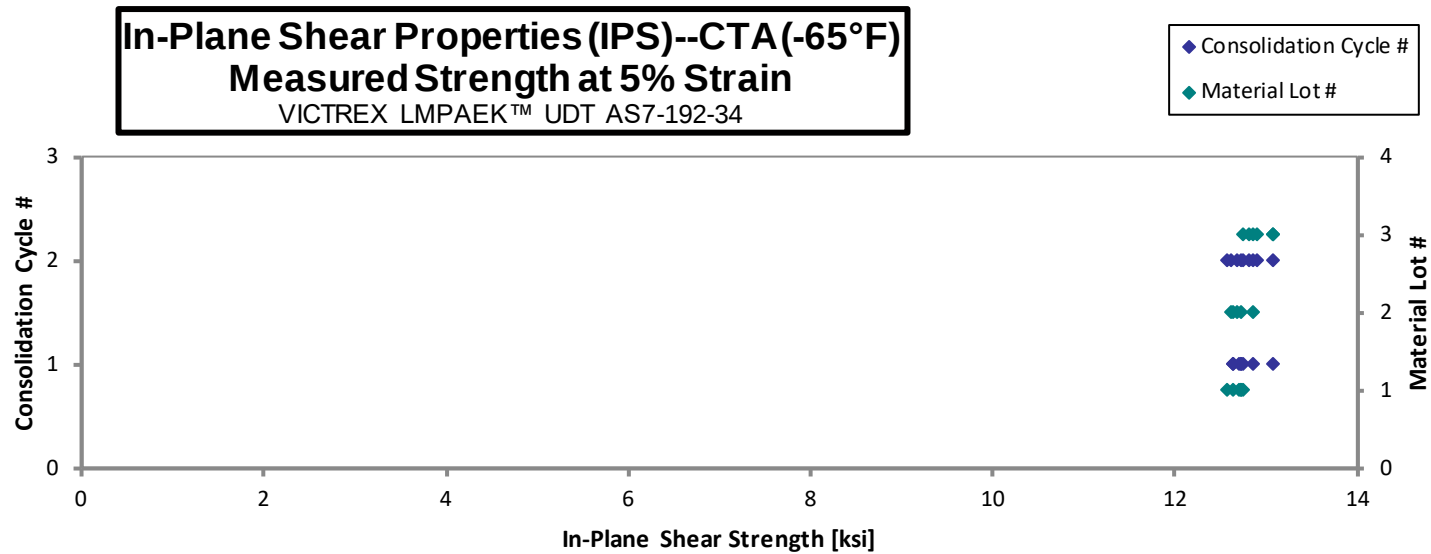
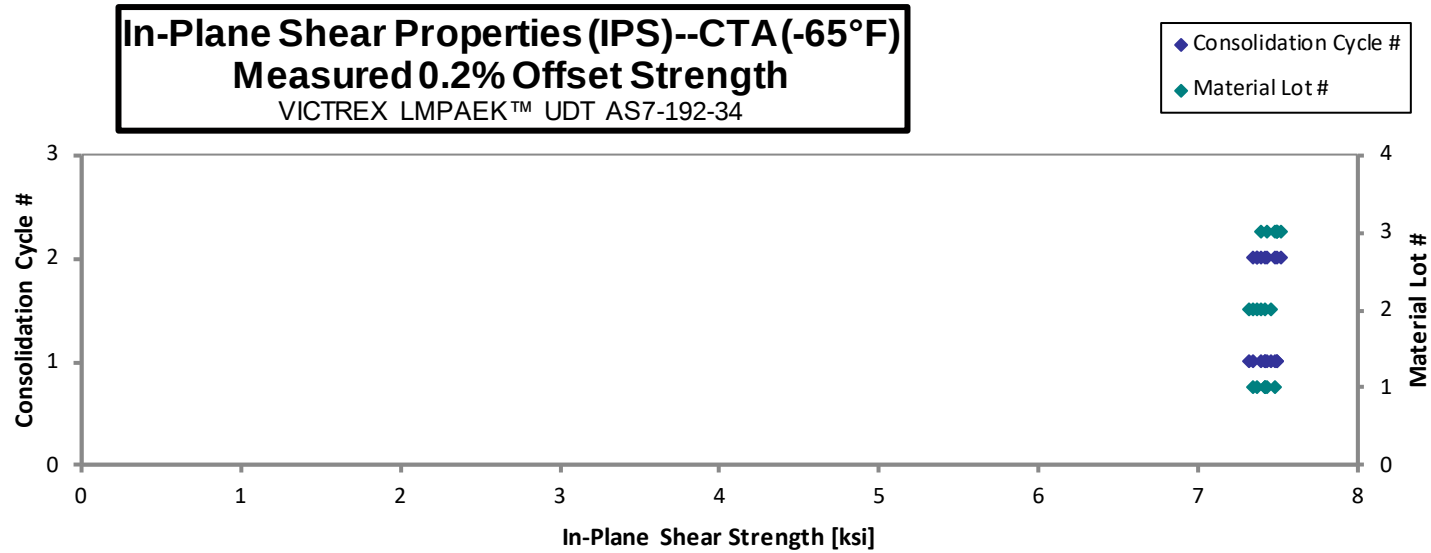
Strength & Modulus

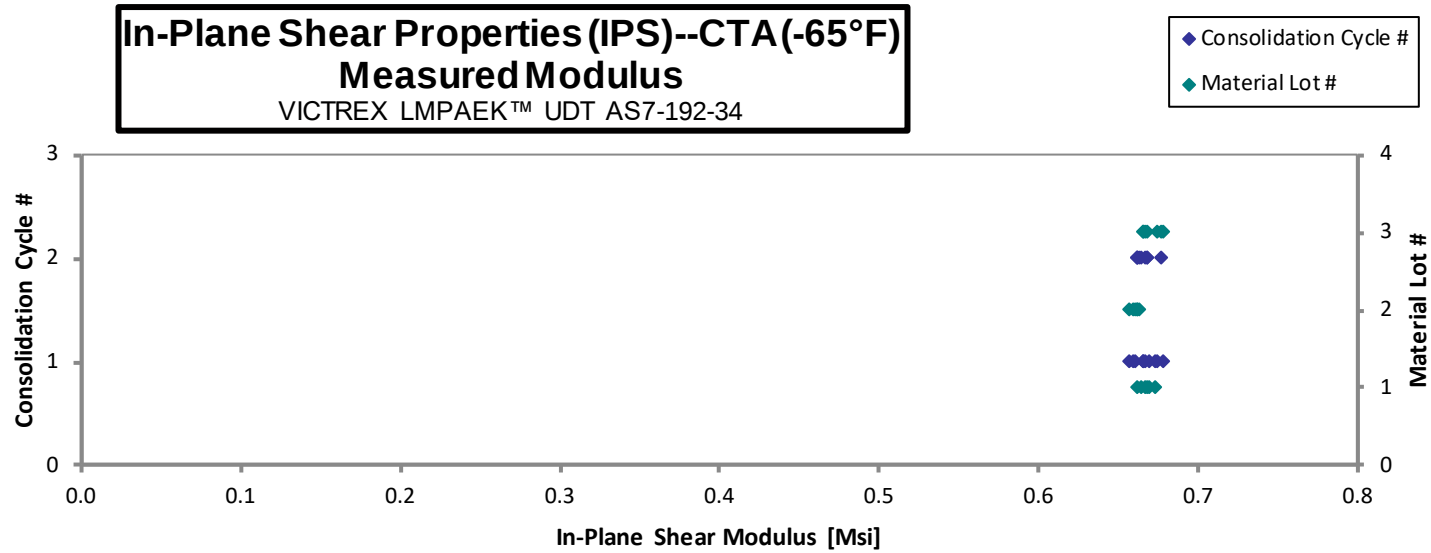
VICTREX LMPAEK™ UDT AS7-192-34

Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	0.2% Offset Strength [ksi]	Strength at 5% Strain [ksi]	Modulus [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Avg. t_{ply} [in]	Failure Mode
NTP1251Q1-V-A2-DA-IPS-A-C1-1-CTA-1	A	C1	1	1	7.429	12.71	0.6738	0.1167	16	0.0073	AGT
NTP1251Q1-V-A2-DA-IPS-A-C1-1-CTA-2	A	C1	1	1	7.428	12.73	0.6673	0.1160	16	0.0072	AGT
NTP1251Q1-V-A2-DA-IPS-A-C1-1-CTA-3	A	C1	1	1	7.439	12.63	0.6692	0.1161	16	0.0073	AGT
NTP1251Q1-V-A2-DA-IPS-A-C2-1-CTA-1	A	C2	1	2	7.343	12.57	0.6620	0.1173	16	0.0073	AGT
NTP1251Q1-V-A2-DA-IPS-A-C2-1-CTA-2	A	C2	1	2	7.377	12.74	0.6682	0.1166	16	0.0073	AGB
NTP1251Q1-V-A2-DA-IPS-A-C2-1-CTA-3	A	C2	1	2	7.490	12.72	0.6645	0.1162	16	0.0073	AGB
NTP1251Q1-V-A2-DA-IPS-B-C1-1-CTA-1	B	C1	2	1	7.321	12.65	0.6608	0.1181	16	0.0074	AGT
NTP1251Q1-V-A2-DA-IPS-B-C1-1-CTA-2	B	C1	2	1	7.464	12.73	0.6572	0.1175	16	0.0073	AGB
NTP1251Q1-V-A2-DA-IPS-B-C1-1-CTA-3 ¹	B	C1	2	1	7.352		0.6597	0.1176	16	0.0074	AGT
NTP1251Q1-V-A2-DA-IPS-B-C2-1-CTA-1	B	C2	2	2	7.371	12.63	0.6617	0.1177	16	0.0074	AGB
NTP1251Q1-V-A2-DA-IPS-B-C2-1-CTA-2	B	C2	2	2	7.401	12.69	0.6632	0.1187	16	0.0074	AGM
NTP1251Q1-V-A2-DA-IPS-B-C2-1-CTA-3	B	C2	2	2	7.424	12.85	0.6625	0.1171	16	0.0073	AGB
NTP1251Q1-V-A2-DA-IPS-C-C1-1-CTA-1	C	C1	3	1	7.397	12.75	0.6662	0.1173	16	0.0073	AGB
NTP1251Q1-V-A2-DA-IPS-C-C1-1-CTA-2 ¹	C	C1	3	1	7.496		0.6743	0.1166	16	0.0073	AGT
NTP1251Q1-V-A2-DA-IPS-C-C1-1-CTA-3	C	C1	3	1	7.490	12.87	0.6661	0.1167	16	0.0073	AGB
NTP1251Q1-V-A2-DA-IPS-C-C1-1-CTA-4	C	C1	3	1	7.500	13.08	0.6788	0.1161	16	0.0073	AGT
NTP1251Q1-V-A2-DA-IPS-C-C2-1-CTA-1	C	C2	3	2	7.518	12.91	0.6672	0.1159	16	0.0072	AGB
NTP1251Q1-V-A2-DA-IPS-C-C2-1-CTA-2	C	C2	3	2	7.494	13.08	0.6767	0.1165	16	0.0073	AGB
NTP1251Q1-V-A2-DA-IPS-C-C2-1-CTA-3	C	C2	3	2	7.437	12.80	0.6689	0.1167	16	0.0073	AGB

¹ Strain gage failed prior to reaching 5% Strain

Average	7.430	12.77	0.6667	0.0073
Standard Dev.	0.05940	0.1452	0.005886	
Coeff. of Var. [%]	0.7994	1.137	0.8828	
Min.	7.321	12.57	0.6572	0.0072
Max.	7.518	13.08	0.6788	0.0074
Number of Spec.	19	17	19	19





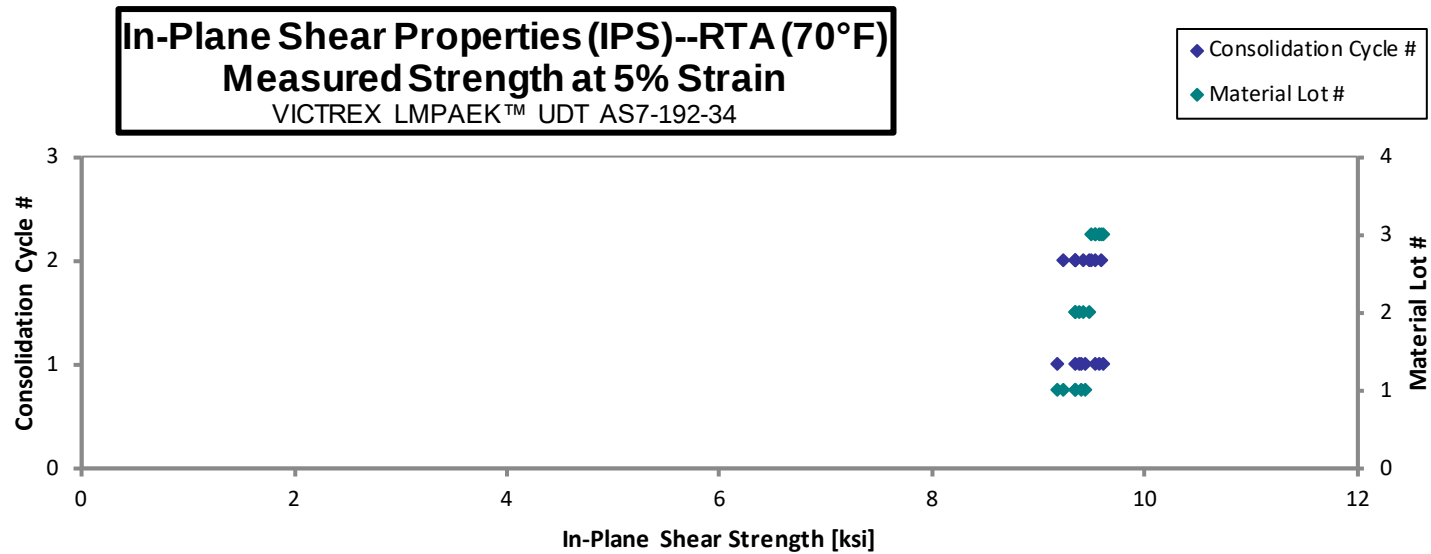
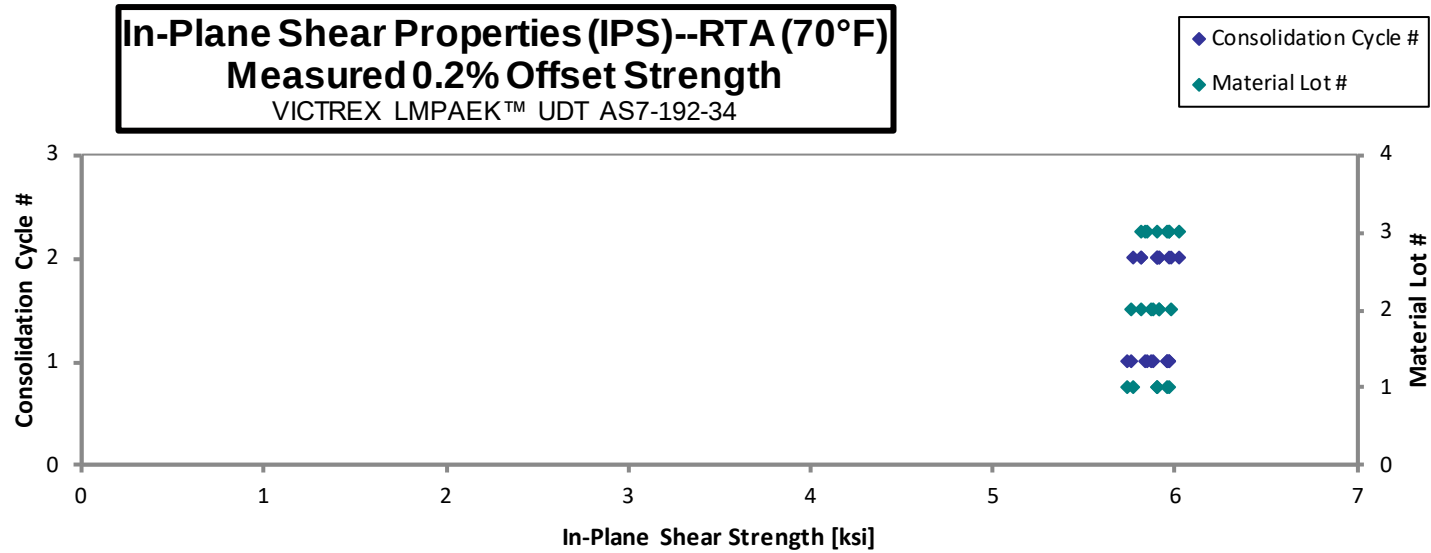
**In-Plane Shear Properties (IPS)--RTA (70°F)
Strength & Modulus**

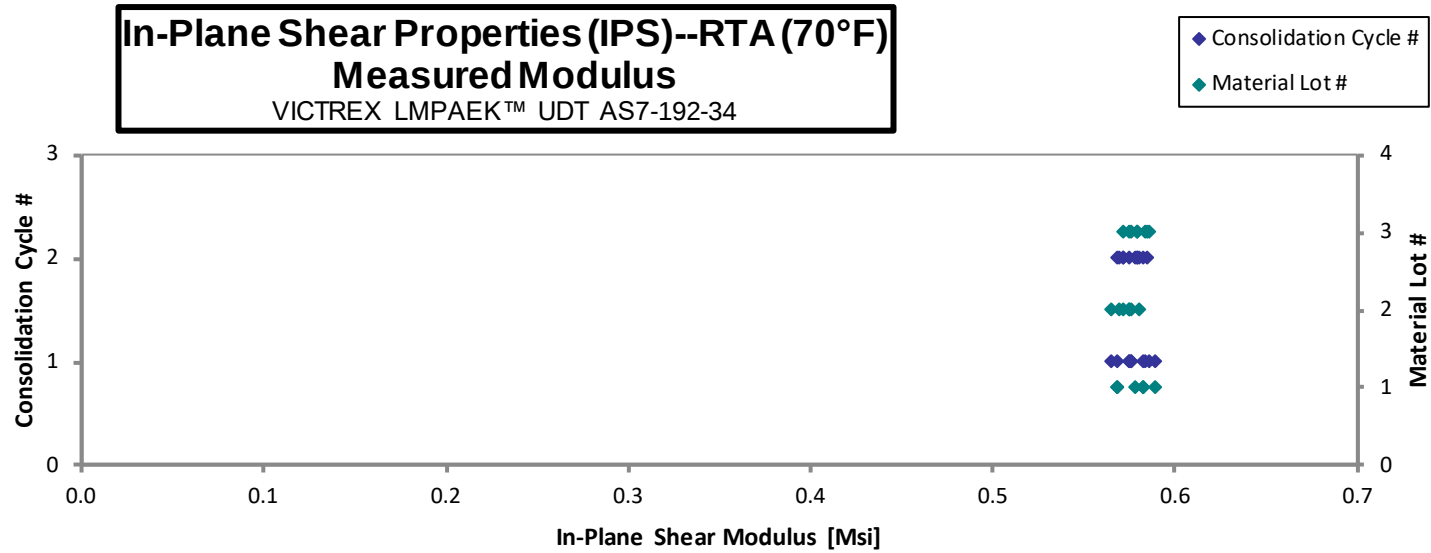
VICTREX LMPAEK™ UDT AS7-192-34

Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	0.2% Offset Strength [ksi]	Strength at 5% Strain [ksi]	Modulus [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Avg. t_{ply} [in]	Failure Mode
NTP1251Q1-V-A2-DA-IPS-A-C1-1-RTA-1	A	C1	1	1	5.953	9.451	0.5827	0.1167	16	0.0073	AGT
NTP1251Q1-V-A2-DA-IPS-A-C1-1-RTA-2	A	C1	1	1	5.969	9.397	0.5897	0.1159	16	0.0072	AGT
NTP1251Q1-V-A2-DA-IPS-A-C1-1-RTA-3	A	C1	1	1	5.743	9.185	0.5679	0.1171	16	0.0073	AGB
NTP1251Q1-V-A2-DA-IPS-A-C2-1-RTA-1	A	C2	1	2	5.907	9.350	0.5827	0.1170	16	0.0073	AGB
NTP1251Q1-V-A2-DA-IPS-A-C2-1-RTA-2	A	C2	1	2	5.906	9.343	0.5785	0.1176	16	0.0073	AGB
NTP1251Q1-V-A2-DA-IPS-A-C2-1-RTA-3	A	C2	1	2	5.769	9.229	0.5688	0.1166	16	0.0073	AGT
NTP1251Q1-V-A2-DA-IPS-B-C1-1-RTA-1	B	C1	2	1	5.875		0.5755	0.1181	16	0.0074	AGT
NTP1251Q1-V-A2-DA-IPS-B-C1-1-RTA-2	B	C1	2	1	5.878	9.380	0.5764	0.1177	16	0.0074	AGT
NTP1251Q1-V-A2-DA-IPS-B-C1-1-RTA-3	B	C1	2	1	5.757	9.342	0.5648	0.1178	16	0.0074	AGT
NTP1251Q1-V-A2-DA-IPS-B-C2-1-RTA-1	B	C2	2	2	5.975	9.473	0.5800	0.1177	16	0.0074	AGB
NTP1251Q1-V-A2-DA-IPS-B-C2-1-RTA-2	B	C2	2	2	5.913	9.422	0.5749	0.1176	16	0.0074	AWT
NTP1251Q1-V-A2-DA-IPS-B-C2-1-RTA-3	B	C2	2	2	5.916		0.5696	0.1178	16	0.0074	AGB
NTP1251Q1-V-A2-DA-IPS-B-C2-1-RTA-4	B	C2	2	2	5.816	9.349	0.5715	0.1171	16	0.0073	AGM
NTP1251Q1-V-A2-DA-IPS-C-C1-1-RTA-1	C	C1	3	1	5.971	9.607	0.5834	0.1169	16	0.0073	AGT
NTP1251Q1-V-A2-DA-IPS-C-C1-1-RTA-2	C	C1	3	1	5.957	9.570	0.5855	0.1161	16	0.0073	AGM
NTP1251Q1-V-A2-DA-IPS-C-C1-1-RTA-3	C	C1	3	1	5.849		0.5756	0.1164	16	0.0073	AGT
NTP1251Q1-V-A2-DA-IPS-C-C1-1-RTA-4	C	C1	3	1	5.839	9.529	0.5755	0.1166	16	0.0073	AGB
NTP1251Q1-V-A2-DA-IPS-C-C2-1-RTA-1	C	C2	3	2	5.970	9.531	0.5853	0.1160	16	0.0072	AGM
NTP1251Q1-V-A2-DA-IPS-C-C2-1-RTA-2	C	C2	3	2	5.905	9.493	0.5798	0.1168	16	0.0073	AGB
NTP1251Q1-V-A2-DA-IPS-C-C2-1-RTA-3	C	C2	3	2	5.819		0.5715	0.1164	16	0.0073	AGM
NTP1251Q1-V-A2-DA-IPS-C-C2-1-RTA-4	C	C2	3	2	6.021	9.600	0.5789	0.1158	16	0.0072	AGM

¹ Extensometer slipped prior to reaching 5% Strain

Average	5.891	9.426	0.5771	0.0073
Standard Dev.	0.07849	0.1220	0.006538	
Coeff. of Var. [%]	1.332	1.294	1.133	
Min.	5.743	9.185	0.5648	0.0072
Max.	6.021	9.607	0.5897	0.0074
Number of Spec.	21	17	21	21





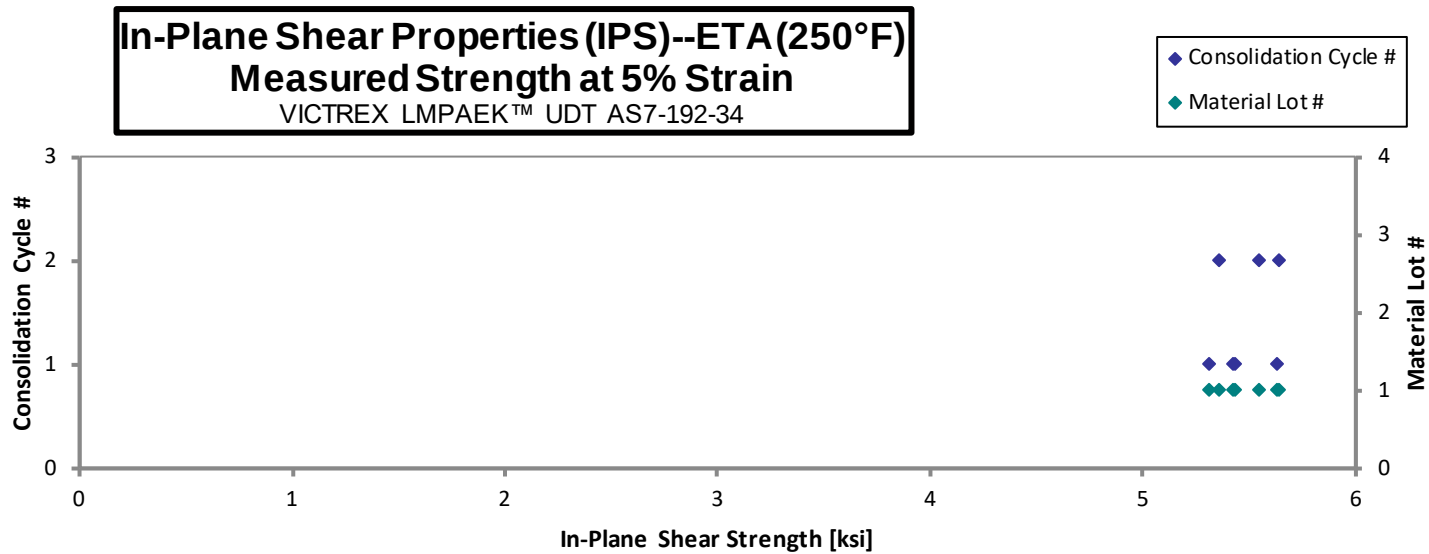
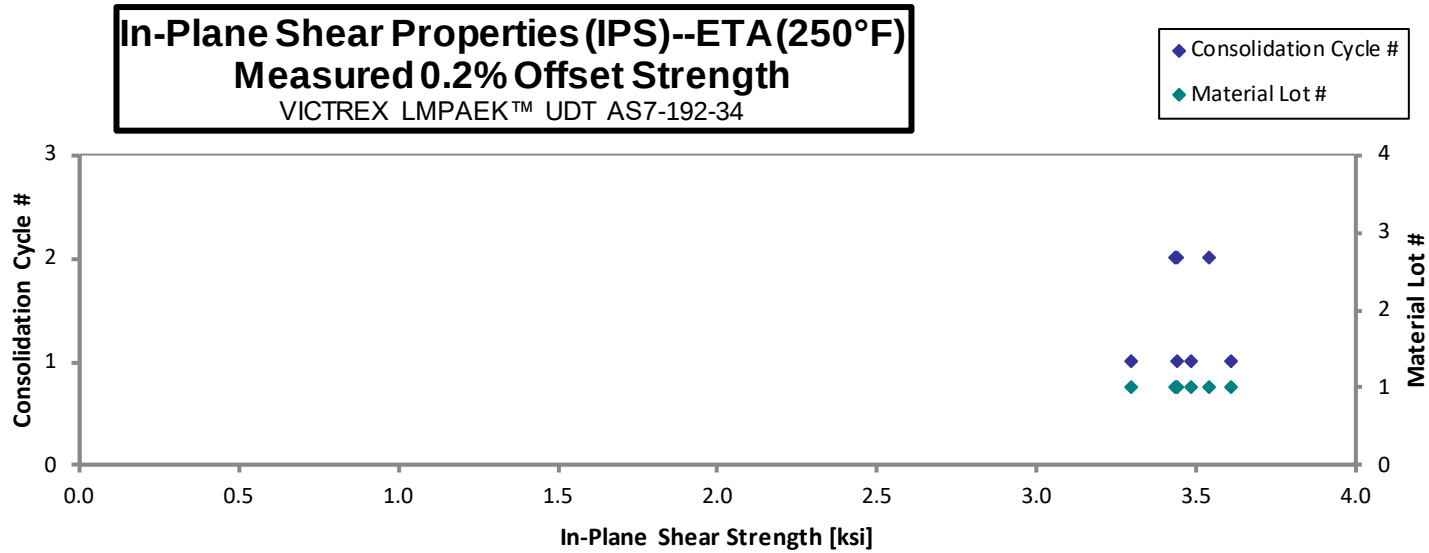
September 15, 2025

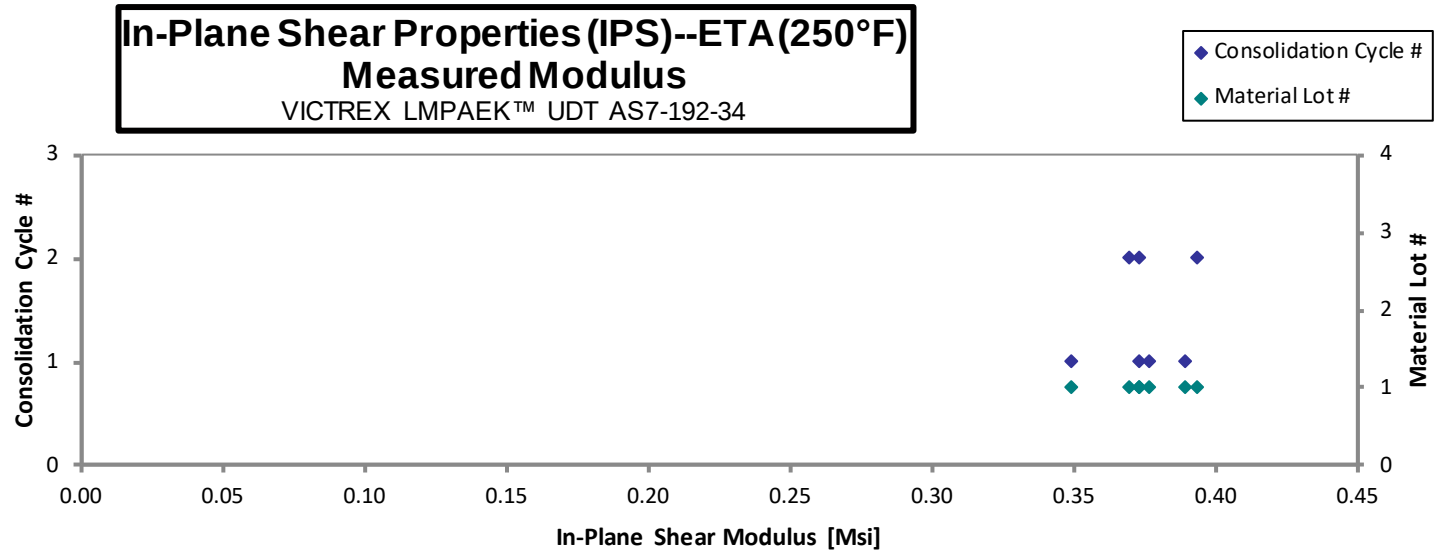
CAM-RP-2025-009 Rev -

In-Plane Shear Properties (IPS)--ETA (250°F)
Strength & Modulus
VICTREX LMPAEK™ UDT AS7-192-34

Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	0.2% Offset Strength [ksi]	Strength at 5% Strain [ksi]	Modulus [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Avg. t_{ply} [in]	Failure Mode
NTP1251Q1-V-A2-DA-IPS-A-C1-1-ETA-1	A	C1	1	1	3.443	5.429	0.3730	0.1167	16	0.0073	AGM
NTP1251Q1-V-A2-DA-IPS-A-C1-1-ETA-2	A	C1	1	1	3.486	5.435	0.3765	0.1168	16	0.0073	AGM
NTP1251Q1-V-A2-DA-IPS-A-C1-1-ETA-3	A	C1	1	1	3.301	5.310	0.3492	0.1156	16	0.0072	AGM
NTP1251Q1-V-A2-DA-IPS-A-C1-1-ETA-4	A	C1	1	1	3.610	5.631	0.3894	0.1170	16	0.0073	AGM
NTP1251Q1-V-A2-DA-IPS-A-C2-1-ETA-1	A	C2	1	2	3.434	5.363	0.3698	0.1165	16	0.0073	AGM
NTP1251Q1-V-A2-DA-IPS-A-C2-1-ETA-2	A	C2	1	2	3.444	5.550	0.3729	0.1167	16	0.0073	AGM
NTP1251Q1-V-A2-DA-IPS-A-C2-1-ETA-3	A	C2	1	2	3.542	5.646	0.3933	0.1166	16	0.0073	AGM

Average	3.466	5.481	0.3749	0.0073
Standard Dev.	0.09683	0.1308	0.01439	
Coeff. of Var. [%]	2.794	2.386	3.840	
Min.	3.301	5.310	0.3492	0.0072
Max.	3.610	5.646	0.3933	0.0073
Number of Spec.	7	7	7	7





September 15, 2025

CAM-RP-2025-009 Rev -

In-Plane Shear Properties (IPS)--ETW (250°F)

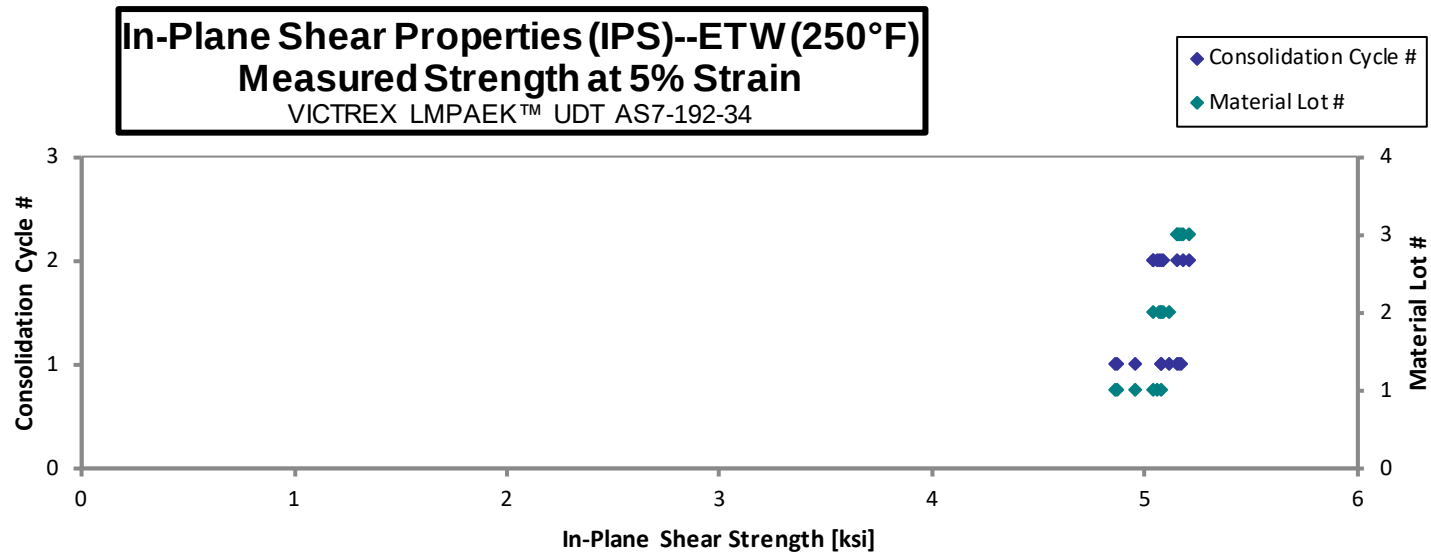
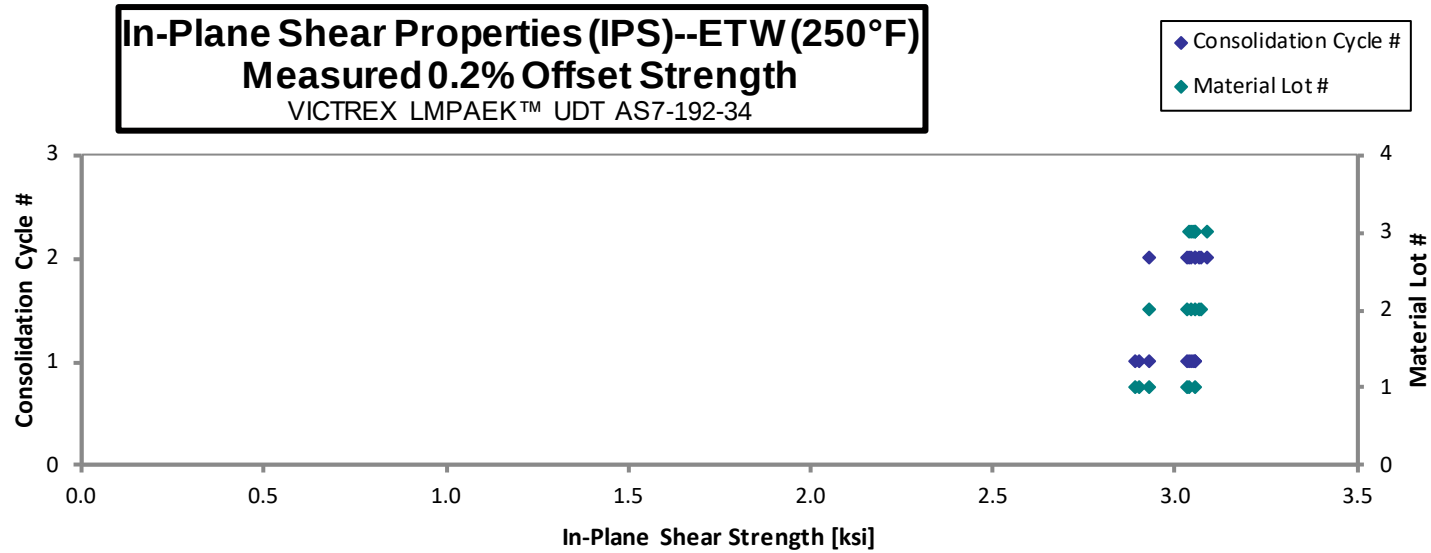
Strength & Modulus

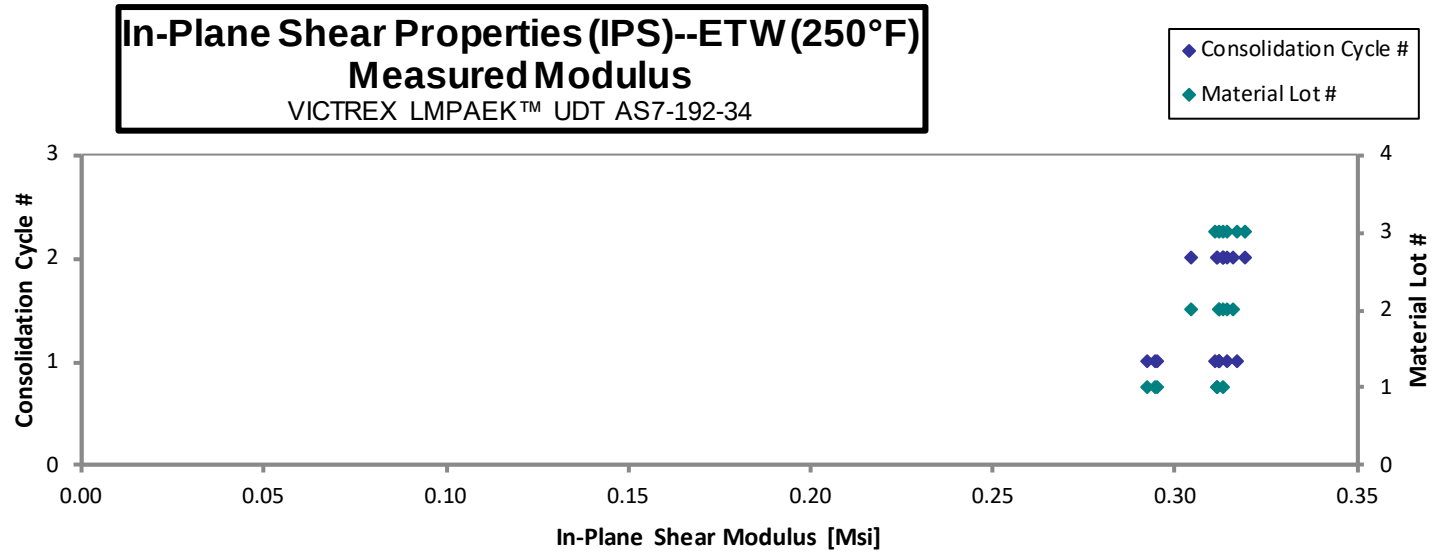
VICTREX LMPAEK™ UDT AS7-192-34

Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	0.2% Offset Strength [ksi]	Strength at 5% Strain [ksi]	Modulus [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Avg. t_{ply} [in]	Failure Mode
NTP1251Q1-V-A2-DA-IPS-A-C1-1-ETW-1	A	C1	1	1	2.930	4.953	0.2949	0.1160	16	0.0073	AGM
NTP1251Q1-V-A2-DA-IPS-A-C1-1-ETW-2	A	C1	1	1	2.902	4.871	0.2950	0.1168	16	0.0073	AGM
NTP1251Q1-V-A2-DA-IPS-A-C1-1-ETW-3	A	C1	1	1	2.890	4.864	0.2924	0.1167	16	0.0073	AGM
NTP1251Q1-V-A2-DA-IPS-A-C2-1-ETW-1	A	C2	1	2	3.040	5.043	0.3119	0.1164	16	0.0073	AGT
NTP1251Q1-V-A2-DA-IPS-A-C2-1-ETW-2	A	C2	1	2	3.054	5.079	0.3132	0.1166	16	0.0073	AGM
NTP1251Q1-V-A2-DA-IPS-A-C2-1-ETW-3	A	C2	1	2	3.034	5.056	0.3115	0.1160	16	0.0072	AGM
NTP1251Q1-V-A2-DA-IPS-B-C1-1-ETW-1	B	C1	2	1	3.033	5.082	0.3124	0.1187	16	0.0074	AGM
NTP1251Q1-V-A2-DA-IPS-B-C1-1-ETW-2	B	C1	2	1	3.055	5.118	0.3124	0.1182	16	0.0074	AGM
NTP1251Q1-V-A2-DA-IPS-B-C1-1-ETW-3	B	C1	2	1	3.045	5.081	0.3142	0.1175	16	0.0073	AGM
NTP1251Q1-V-A2-DA-IPS-B-C2-1-ETW-1*	B	C2	2	2	2.931	5.066	0.3045	0.1170	16	0.0073	
NTP1251Q1-V-A2-DA-IPS-B-C2-1-ETW-2	B	C2	2	2	3.067	5.089	0.3131	0.1177	16	0.0074	AGM
NTP1251Q1-V-A2-DA-IPS-B-C2-1-ETW-3	B	C2	2	2	3.070	5.037	0.3161	0.1180	16	0.0074	AGT
NTP1251Q1-V-A2-DA-IPS-C-C1-1-ETW-1	C	C1	3	1	3.058	5.173	0.3170	0.1166	16	0.0073	AGT
NTP1251Q1-V-A2-DA-IPS-C-C1-1-ETW-2	C	C1	3	1	3.039	5.155	0.3110	0.1166	16	0.0073	AGT
NTP1251Q1-V-A2-DA-IPS-C-C1-1-ETW-3	C	C1	3	1	3.052	5.162	0.3122	0.1159	16	0.0072	AGB
NTP1251Q1-V-A2-DA-IPS-C-C2-1-ETW-1	C	C2	3	2	3.087	5.179	0.3194	0.1169	16	0.0073	AGT
NTP1251Q1-V-A2-DA-IPS-C-C2-1-ETW-2	C	C2	3	2	3.047	5.155	0.3134	0.1165	16	0.0073	AGM
NTP1251Q1-V-A2-DA-IPS-C-C2-1-ETW-3	C	C2	3	2	3.054	5.206	0.3142	0.1162	16	0.0073	AGB

*Ultimate failure did not occur as the maximum actuator travel was reached

Average	3.022	5.076	0.3099	0.0073
Standard Dev.	0.06162	0.09812	0.007899	
Coeff. of Var. [%]	2.039	1.933	2.549	
Min.	2.890	4.864	0.2924	0.0072
Max.	3.087	5.206	0.3194	0.0074
Number of Spec.	18	18	18	18



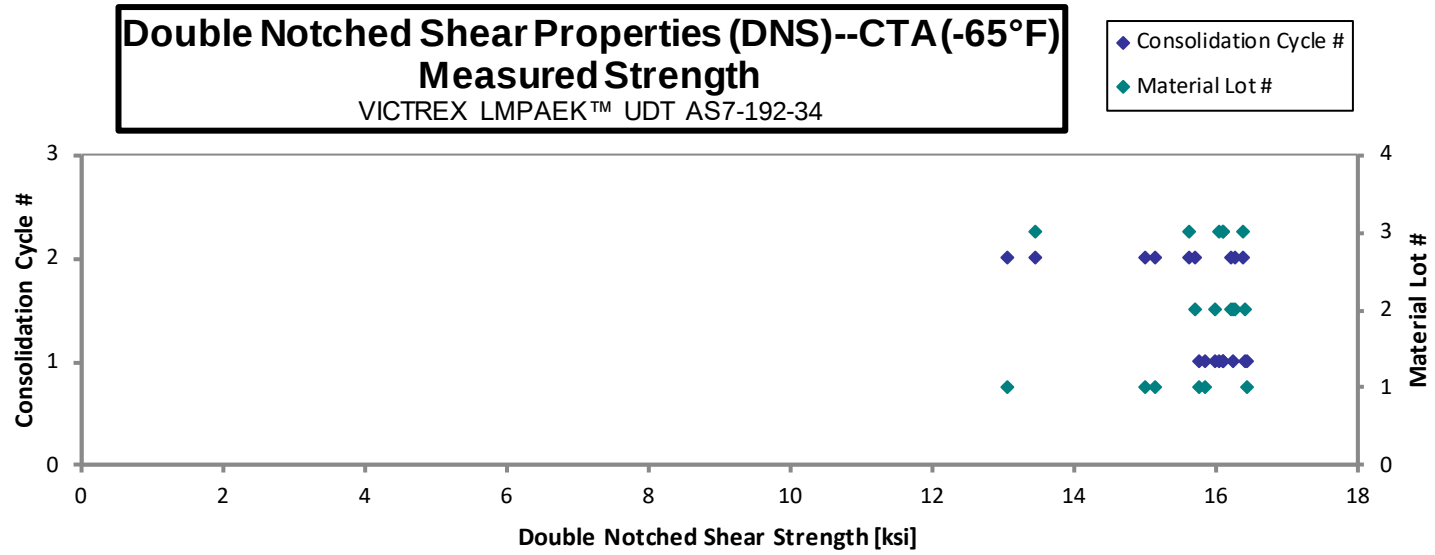


4.7 Double Notched Shear (DNS)

Double Notched Shear Properties (DNS)--CTA (-65°F)	
Strength	
VICTREX LMPAEK™ UDT AS7-192-34	

Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Avg. t_{ply} [in]	Failure Mode
NTP1251Q1-V-A2-DA-DNS-A-C1-1-CTA-1	A	C1	1	1	15.78	0.1921	26	0.0074	GAGE SECTION SHEAR
NTP1251Q1-V-A2-DA-DNS-A-C1-1-CTA-2	A	C1	1	1	15.86	0.1929	26	0.0074	GAGE SECTION SHEAR
NTP1251Q1-V-A2-DA-DNS-A-C1-1-CTA-3	A	C1	1	1	16.45	0.1927	26	0.0074	GAGE SECTION SHEAR
NTP1251Q1-V-A2-DA-DNS-A-C2-1-CTA-1	A	C2	1	2	13.06	0.1924	26	0.0074	GAGE SECTION SHEAR
NTP1251Q1-V-A2-DA-DNS-A-C2-1-CTA-2	A	C2	1	2	15.01	0.1913	26	0.0074	GAGE SECTION SHEAR
NTP1251Q1-V-A2-DA-DNS-A-C2-1-CTA-3	A	C2	1	2	15.16	0.1909	26	0.0073	GAGE SECTION SHEAR
NTP1251Q1-V-A2-DA-DNS-B-C1-1-CTA-1	B	C1	2	1	16.01	0.1889	26	0.0073	GAGE SECTION SHEAR
NTP1251Q1-V-A2-DA-DNS-B-C1-1-CTA-2	B	C1	2	1	16.43	0.1911	26	0.0073	GAGE SECTION SHEAR
NTP1251Q1-V-A2-DA-DNS-B-C1-1-CTA-3	B	C1	2	1	16.27	0.1908	26	0.0073	GAGE SECTION SHEAR
NTP1251Q1-V-A2-DA-DNS-B-C2-1-CTA-1	B	C2	2	2	15.70	0.1908	26	0.0073	GAGE SECTION SHEAR
NTP1251Q1-V-A2-DA-DNS-B-C2-1-CTA-2	B	C2	2	2	16.27	0.1908	26	0.0073	GAGE SECTION SHEAR
NTP1251Q1-V-A2-DA-DNS-B-C2-1-CTA-3	B	C2	2	2	16.22	0.1915	26	0.0074	GAGE SECTION SHEAR
NTP1251Q1-V-A2-DA-DNS-C-C1-1-CTA-1	C	C1	3	1	16.12	0.1894	26	0.0073	GAGE SECTION SHEAR
NTP1251Q1-V-A2-DA-DNS-C-C1-1-CTA-2	C	C1	3	1	16.05	0.1893	26	0.0073	GAGE SECTION SHEAR
NTP1251Q1-V-A2-DA-DNS-C-C1-1-CTA-3	C	C1	3	1	16.12	0.1897	26	0.0073	GAGE SECTION SHEAR
NTP1251Q1-V-A2-DA-DNS-C-C2-1-CTA-1	C	C2	3	2	15.62	0.1896	26	0.0073	GAGE SECTION SHEAR
NTP1251Q1-V-A2-DA-DNS-C-C2-1-CTA-2	C	C2	3	2	16.40	0.1885	26	0.0073	GAGE SECTION SHEAR
NTP1251Q1-V-A2-DA-DNS-C-C2-1-CTA-3	C	C2	3	2	13.45	0.1886	26	0.0073	GAGE SECTION SHEAR

Average	15.67	0.0073
Standard Dev.	0.9662	
Coeff. of Var. [%]	6.168	
Min.	13.06	0.0073
Max.	16.45	0.0074
Number of Spec.	18	18



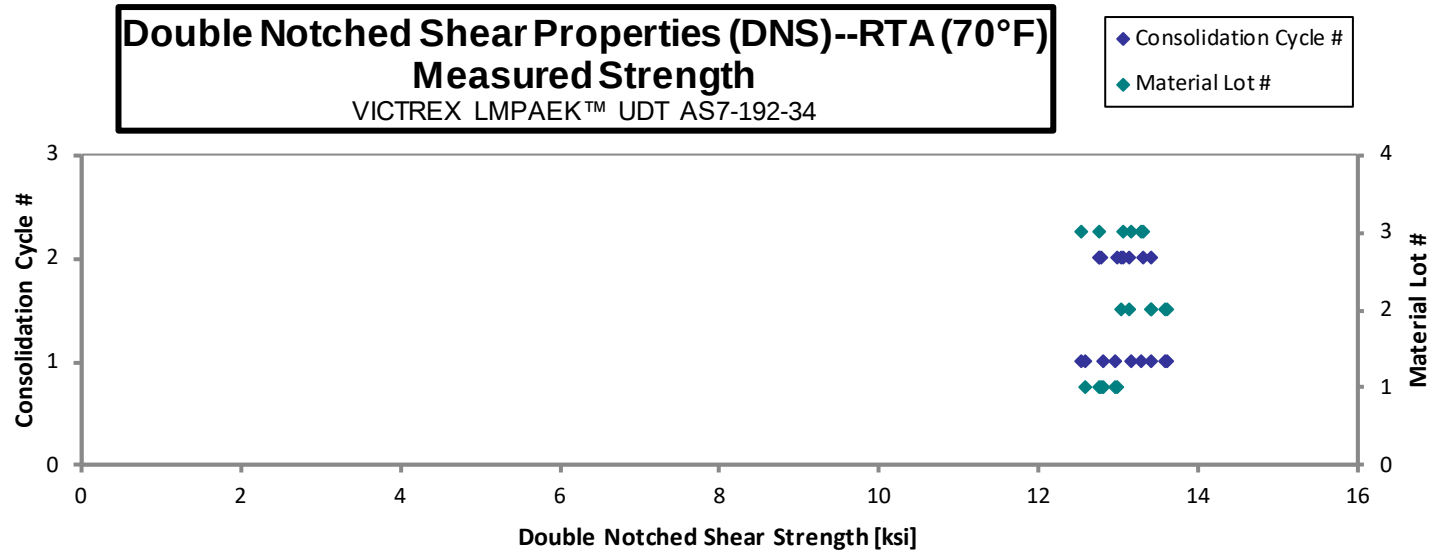
September 15, 2025

CAM-RP-2025-009 Rev -

Double Notched Shear Properties (DNS)--RTA (70°F) Strength VICTREX LMPAEK™ UDT AS7-192-34

Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Avg. t _{ply} [in]	Failure Mode
NTP1251Q1-V-A2-DA-DNS-A-C1-1-RTA-1	A	C1	1	1	12.81	0.1927	26	0.0074	GAGE SECTION SHEAR
NTP1251Q1-V-A2-DA-DNS-A-C1-1-RTA-2	A	C1	1	1	12.97	0.1927	26	0.0074	GAGE SECTION SHEAR
NTP1251Q1-V-A2-DA-DNS-A-C1-1-RTA-3	A	C1	1	1	12.59	0.1915	26	0.0074	GAGE SECTION SHEAR
NTP1251Q1-V-A2-DA-DNS-A-C2-1-RTA-1	A	C2	1	2	12.77	0.1916	26	0.0074	GAGE SECTION SHEAR
NTP1251Q1-V-A2-DA-DNS-A-C2-1-RTA-2	A	C2	1	2	12.99	0.1918	26	0.0074	GAGE SECTION SHEAR
NTP1251Q1-V-A2-DA-DNS-A-C2-1-RTA-3	A	C2	1	2	12.80	0.1919	26	0.0074	GAGE SECTION SHEAR
NTP1251Q1-V-A2-DA-DNS-B-C1-1-RTA-1	B	C1	2	1	13.59	0.1906	26	0.0073	GAGE SECTION SHEAR
NTP1251Q1-V-A2-DA-DNS-B-C1-1-RTA-2	B	C1	2	1	13.61	0.1902	26	0.0073	GAGE SECTION SHEAR
NTP1251Q1-V-A2-DA-DNS-B-C1-1-RTA-3	B	C1	2	1	13.41	0.1908	26	0.0073	GAGE SECTION SHEAR
NTP1251Q1-V-A2-DA-DNS-B-C2-1-RTA-1	B	C2	2	2	13.41	0.1916	26	0.0074	GAGE SECTION SHEAR
NTP1251Q1-V-A2-DA-DNS-B-C2-1-RTA-2	B	C2	2	2	13.15	0.1907	26	0.0073	GAGE SECTION SHEAR
NTP1251Q1-V-A2-DA-DNS-B-C2-1-RTA-3	B	C2	2	2	13.05	0.1906	26	0.0073	GAGE SECTION SHEAR
NTP1251Q1-V-A2-DA-DNS-C-C1-1-RTA-1	C	C1	3	1	13.17	0.1898	26	0.0073	GAGE SECTION SHEAR
NTP1251Q1-V-A2-DA-DNS-C-C1-1-RTA-2	C	C1	3	1	13.29	0.1898	26	0.0073	GAGE SECTION SHEAR
NTP1251Q1-V-A2-DA-DNS-C-C1-1-RTA-3	C	C1	3	1	12.54	0.1891	26	0.0073	GAGE SECTION SHEAR
NTP1251Q1-V-A2-DA-DNS-C-C2-1-RTA-1	C	C2	3	2	13.07	0.1896	26	0.0073	GAGE SECTION SHEAR
NTP1251Q1-V-A2-DA-DNS-C-C2-1-RTA-2	C	C2	3	2	12.76	0.1894	26	0.0073	GAGE SECTION SHEAR
NTP1251Q1-V-A2-DA-DNS-C-C2-1-RTA-3	C	C2	3	2	13.31	0.1892	26	0.0073	GAGE SECTION SHEAR

Average	13.07	0.0073
Standard Dev.	0.3221	
Coeff. of Var. [%]	2.464	
Min.	12.54	0.0073
Max.	13.61	0.0074
Number of Spec.	18	18



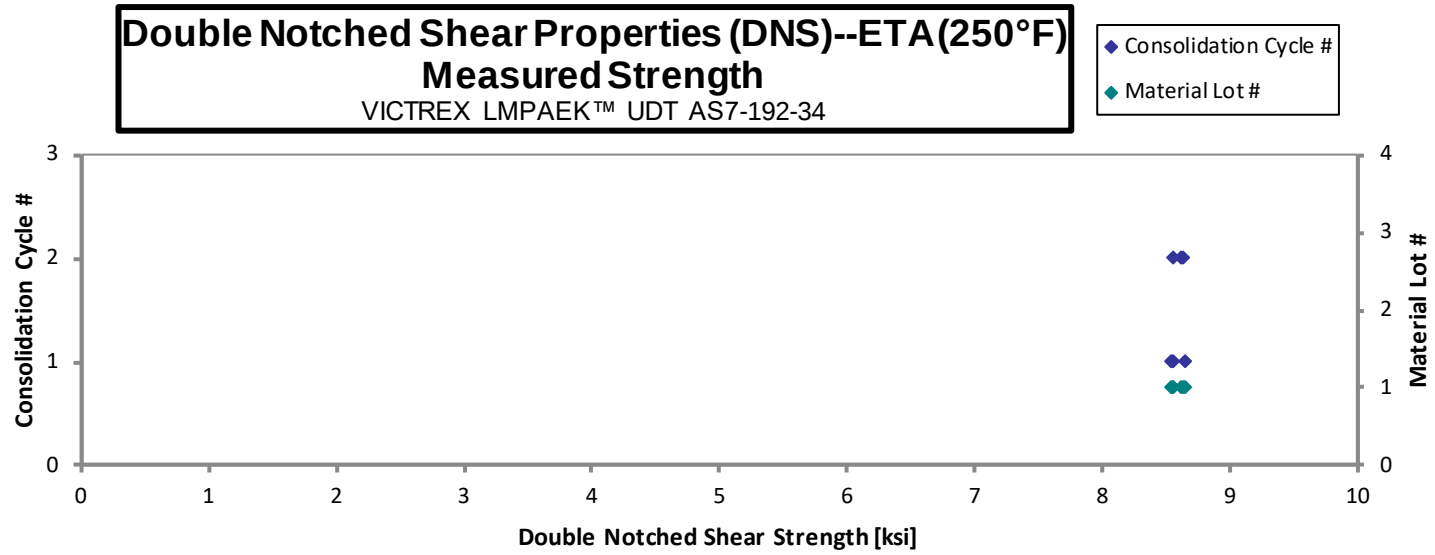
September 15, 2025

CAM-RP-2025-009 Rev -

Double Notched Shear Properties (DNS)--ETA (250°F) Strength VICTREX LMPAEK™ UDT AS7-192-34
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Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Avg. t_{ply} [in]	Failure Mode
NTP1251Q1-V-A2-DA-DNS-A-C1-1-ETA-1	A	C1	1	1	8.550	0.1914	26	0.0074	GAGE SECTION SHEAR
NTP1251Q1-V-A2-DA-DNS-A-C1-1-ETA-2	A	C1	1	1	8.554	0.1922	26	0.0074	GAGE SECTION SHEAR
NTP1251Q1-V-A2-DA-DNS-A-C1-1-ETA-3	A	C1	1	1	8.655	0.1923	26	0.0074	GAGE SECTION SHEAR
NTP1251Q1-V-A2-DA-DNS-A-C2-1-ETA-1	A	C2	1	2	8.622	0.1908	26	0.0073	GAGE SECTION SHEAR
NTP1251Q1-V-A2-DA-DNS-A-C2-1-ETA-2	A	C2	1	2	8.556	0.1912	26	0.0074	GAGE SECTION SHEAR
NTP1251Q1-V-A2-DA-DNS-A-C2-1-ETA-3	A	C2	1	2	8.631	0.1912	26	0.0074	GAGE SECTION SHEAR

Average	8.595	0.0074
Standard Dev.	0.0467	
Coeff. of Var. [%]	0.543	
Min.	8.550	0.0073
Max.	8.655	0.0074
Number of Spec.	6	6



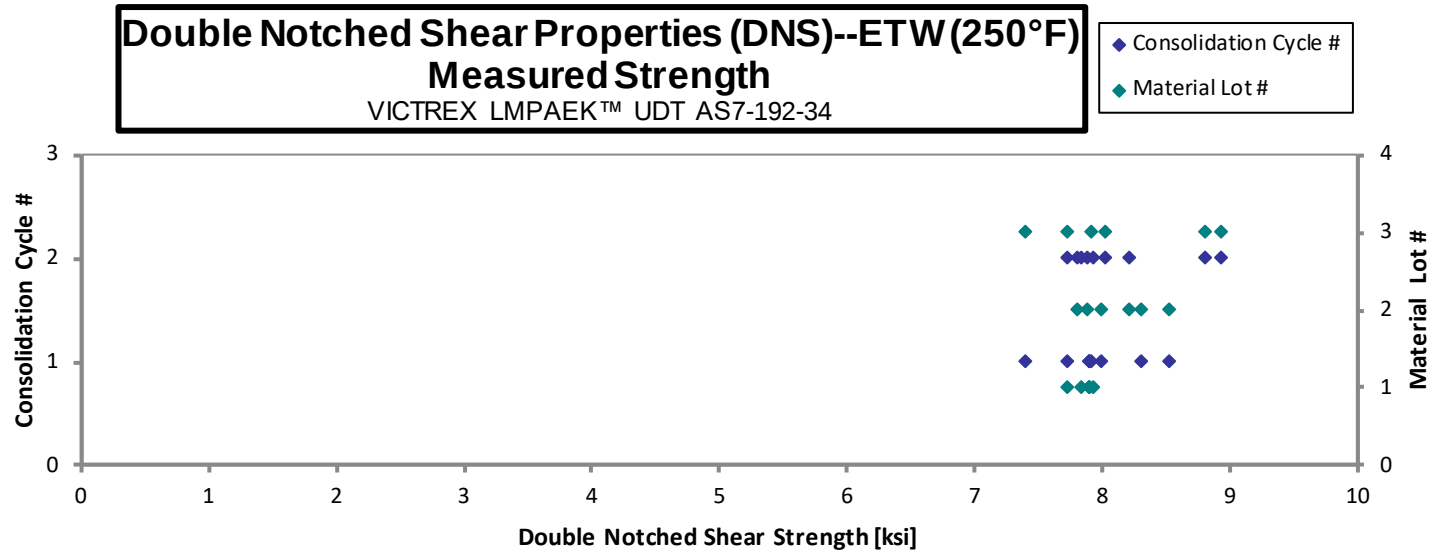
September 15, 2025

CAM-RP-2025-009 Rev -

Double Notched Shear Properties (DNS)--ETW (250°F) Strength VICTREX LMPAEK™ UDT AS7-192-34
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Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Avg. t_{ply} [in]	Failure Mode
NTP1251Q1-V-A2-DA-DNS-A-C1-1-ETW-1	A	C1	1	1	7.908	0.1932	26	0.0074	GAGE SECTION SHEAR
NTP1251Q1-V-A2-DA-DNS-A-C1-1-ETW-2	A	C1	1	1	7.894	0.1928	26	0.0074	GAGE SECTION SHEAR
NTP1251Q1-V-A2-DA-DNS-A-C1-1-ETW-3	A	C1	1	1	7.906	0.1920	26	0.0074	GAGE SECTION SHEAR
NTP1251Q1-V-A2-DA-DNS-A-C2-1-ETW-1	A	C2	1	2	7.932	0.1927	26	0.0074	GAGE SECTION SHEAR
NTP1251Q1-V-A2-DA-DNS-A-C2-1-ETW-2	A	C2	1	2	7.727	0.1912	26	0.0074	GAGE SECTION SHEAR
NTP1251Q1-V-A2-DA-DNS-A-C2-1-ETW-3	A	C2	1	2	7.836	0.1904	26	0.0073	GAGE SECTION SHEAR
NTP1251Q1-V-A2-DA-DNS-B-C1-1-ETW-1	B	C1	2	1	7.999	0.1901	26	0.0073	GAGE SECTION SHEAR
NTP1251Q1-V-A2-DA-DNS-B-C1-1-ETW-2	B	C1	2	1	8.534	0.1900	26	0.0073	GAGE SECTION SHEAR
NTP1251Q1-V-A2-DA-DNS-B-C1-1-ETW-3	B	C1	2	1	8.306	0.1895	26	0.0073	GAGE SECTION SHEAR
NTP1251Q1-V-A2-DA-DNS-B-C2-1-ETW-1	B	C2	2	2	7.885	0.1909	26	0.0073	GAGE SECTION SHEAR
NTP1251Q1-V-A2-DA-DNS-B-C2-1-ETW-2	B	C2	2	2	7.801	0.1909	26	0.0073	GAGE SECTION SHEAR
NTP1251Q1-V-A2-DA-DNS-B-C2-1-ETW-3	B	C2	2	2	8.209	0.1900	26	0.0073	GAGE SECTION SHEAR
NTP1251Q1-V-A2-DA-DNS-C-C1-1-ETW-1	C	C1	3	1	7.736	0.1891	26	0.0073	GAGE SECTION SHEAR
NTP1251Q1-V-A2-DA-DNS-C-C1-1-ETW-2	C	C1	3	1	7.910	0.1894	26	0.0073	GAGE SECTION SHEAR
NTP1251Q1-V-A2-DA-DNS-C-C1-1-ETW-3	C	C1	3	1	7.394	0.1888	26	0.0073	GAGE SECTION SHEAR
NTP1251Q1-V-A2-DA-DNS-C-C2-1-ETW-1	C	C2	3	2	8.934	0.1888	26	0.0073	GAGE SECTION SHEAR
NTP1251Q1-V-A2-DA-DNS-C-C2-1-ETW-2	C	C2	3	2	8.812	0.1891	26	0.0073	GAGE SECTION SHEAR
NTP1251Q1-V-A2-DA-DNS-C-C2-1-ETW-3	C	C2	3	2	8.024	0.1889	26	0.0073	GAGE SECTION SHEAR

Average	8.042	0.0073
Standard Dev.	0.3876	
Coeff. of Var. [%]	4.821	
Min.	7.394	0.0073
Max.	8.934	0.0074
Number of Spec.	18	18



4.8 0 Flexural Properties (0 Flex)

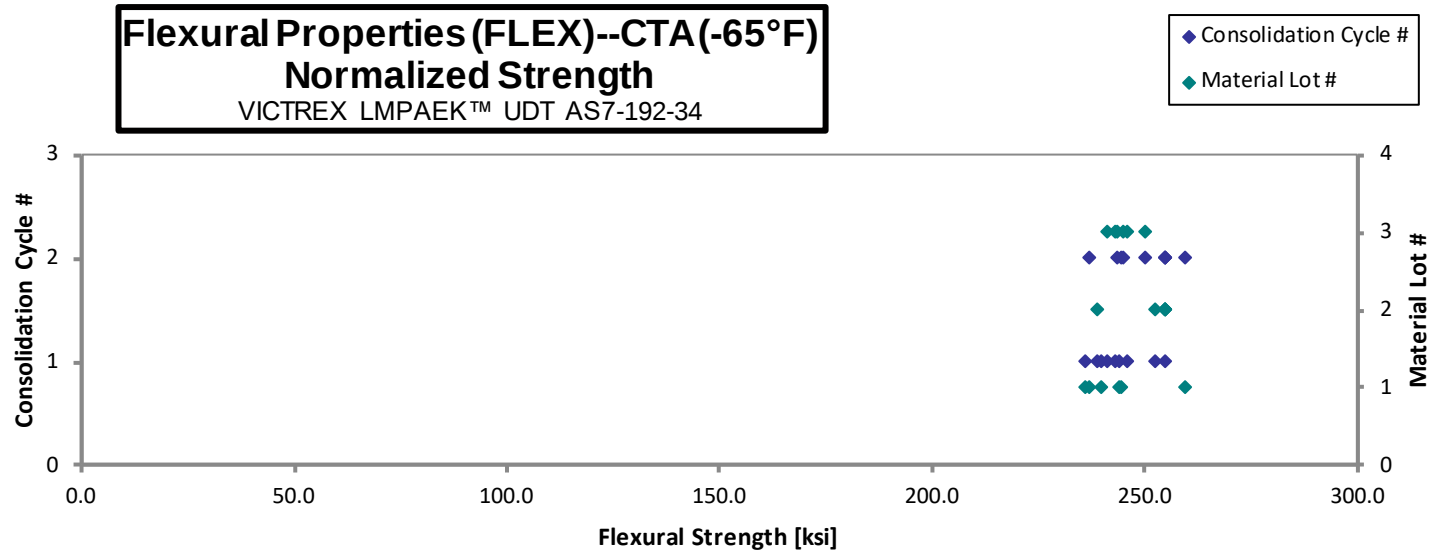
Flexural Properties (FLEX)--CTA (-65°F)
Strength
VICTREX LMPAEK™ UDT AS7-192-34

normalizing
 t_{ply} [in]
0.0072

Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	Strength _{norm} [ksi]
NTP1251Q1-V-A2-DA-FLEX-A-C1-1-CTA-1	A	C1	1	1	237.3	0.1165	16	CAT, TAB	0.0073	239.9
NTP1251Q1-V-A2-DA-FLEX-A-C1-1-CTA-2	A	C1	1	1	240.3	0.1171	16	CAT, TAB	0.0073	244.3
NTP1251Q1-V-A2-DA-FLEX-A-C1-1-CTA-3	A	C1	1	1	232.0	0.1172	16	CAT, TAB	0.0073	236.0
NTP1251Q1-V-A2-DA-FLEX-A-C2-1-CTA-1	A	C2	1	2	256.6	0.1166	16	CAT, TAB	0.0073	259.7
NTP1251Q1-V-A2-DA-FLEX-A-C2-1-CTA-2	A	C2	1	2	241.1	0.1168	16	CAT, TAB	0.0073	244.5
NTP1251Q1-V-A2-DA-FLEX-A-C2-1-CTA-3	A	C2	1	2	232.9	0.1172	16	CAT, TAB	0.0073	237.0
NTP1251Q1-V-A2-DA-FLEX-B-C1-1-CTA-1	B	C1	2	1	232.5	0.1185	16	CAT, TAB	0.0074	239.1
NTP1251Q1-V-A2-DA-FLEX-B-C1-1-CTA-2	B	C1	2	1	247.4	0.1177	16	CAT, TAB	0.0074	252.7
NTP1251Q1-V-A2-DA-FLEX-B-C1-1-CTA-3	B	C1	2	1	248.3	0.1183	16	CAT, TAB	0.0074	255.0
NTP1251Q1-V-A2-DA-FLEX-B-C2-1-CTA-1	B	C2	2	2	248.3	0.1183	16	CAT	0.0074	255.0
NTP1251Q1-V-A2-DA-FLEX-B-C2-1-CTA-2	B	C2	2	2	248.3	0.1183	16	CAT	0.0074	255.0
NTP1251Q1-V-A2-DA-FLEX-B-C2-1-CTA-3	B	C2	2	2	248.3	0.1183	16	CAT	0.0074	255.0
NTP1251Q1-V-A2-DA-FLEX-C-C1-1-CTA-1	C	C1	3	1	242.1	0.1158	16	CAT	0.0072	243.2
NTP1251Q1-V-A2-DA-FLEX-C-C1-1-CTA-2	C	C1	3	1	245.2	0.1156	16	CAT	0.0072	246.0
NTP1251Q1-V-A2-DA-FLEX-C-C1-1-CTA-3	C	C1	3	1	241.0	0.1153	16	CAT	0.0072	241.3
NTP1251Q1-V-A2-DA-FLEX-C-C2-1-CTA-1	C	C2	3	2	247.4	0.1136	16	CAT	0.0071	243.8
NTP1251Q1-V-A2-DA-FLEX-C-C2-1-CTA-2	C	C2	3	2	247.2	0.1142	16	CAT	0.0071	245.0
NTP1251Q1-V-A2-DA-FLEX-C-C2-1-CTA-3	C	C2	3	2	252.8	0.1140	16	CAT	0.0071	250.2

Average 243.8
Standard Dev. 6.948
Coeff. of Var. [%] 2.850
Min. 232.0
Max. 256.6
Number of Spec. 18

Average_{norm} 0.0073 246.8
Standard Dev._{norm} 7.158
Coeff. of Var. [%]_{norm} 2.900
Min. 0.0071 236.0
Max. 0.0074 259.7
Number of Spec. 18 18



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Flexural Properties (FLEX)--RTA (70°F)

Strength

VICTREX LMPAEK™ UDT AS7-192-34

normalizing

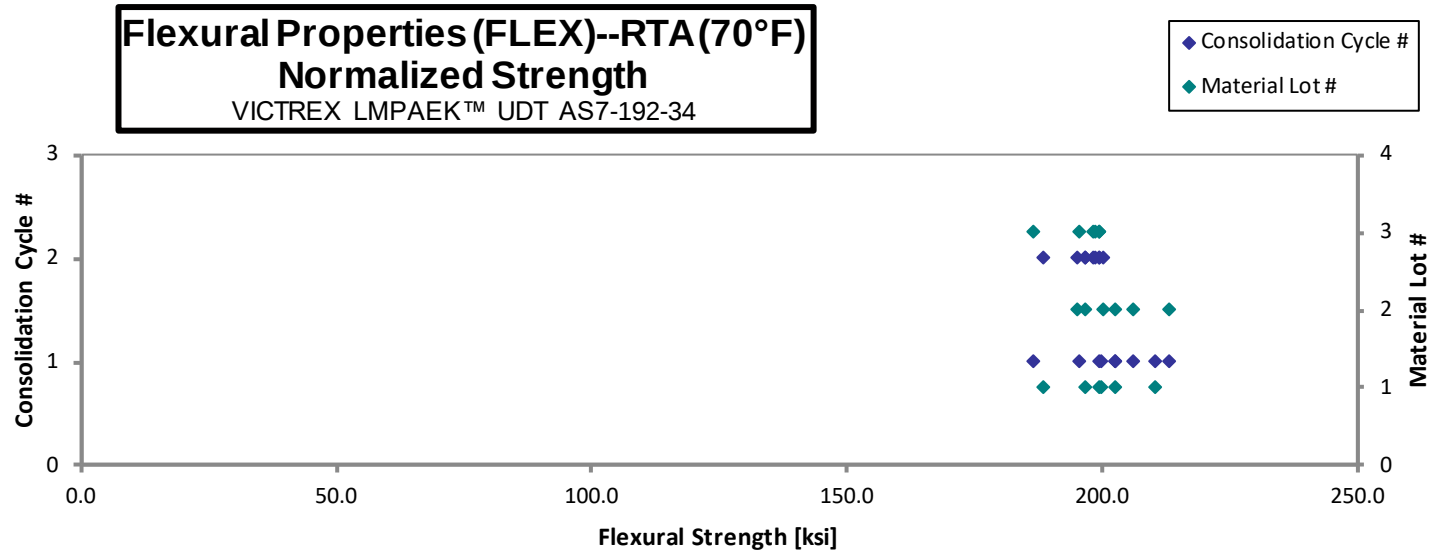
t_{ply} [in]

0.0072

Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	Strength _{norm} [ksi]
NTP1251Q1-V-A2-DA-FLEX-A-C1-1-RTA-1	A	C1	1	1	197.9	0.1164	16	CAT, TAB	0.0073	200.0
NTP1251Q1-V-A2-DA-FLEX-A-C1-1-RTA-2	A	C1	1	1	200.3	0.1165	16	CAT, TAB	0.0073	202.6
NTP1251Q1-V-A2-DA-FLEX-A-C1-1-RTA-3	A	C1	1	1	206.9	0.1171	16	CAT, TAB	0.0073	210.4
NTP1251Q1-V-A2-DA-FLEX-A-C2-1-RTA-1	A	C2	1	2	192.9	0.1176	16	CAT	0.0073	196.8
NTP1251Q1-V-A2-DA-FLEX-A-C2-1-RTA-2	A	C2	1	2	194.9	0.1178	16	CAT	0.0074	199.4
NTP1251Q1-V-A2-DA-FLEX-A-C2-1-RTA-3	A	C2	1	2	185.1	0.1174	16	CAT	0.0073	188.6
NTP1251Q1-V-A2-DA-FLEX-B-C1-1-RTA-1	B	C1	2	1	197.3	0.1184	16	CAT	0.0074	202.7
NTP1251Q1-V-A2-DA-FLEX-B-C1-1-RTA-2	B	C1	2	1	200.5	0.1185	16	CAT	0.0074	206.3
NTP1251Q1-V-A2-DA-FLEX-B-C1-1-RTA-3	B	C1	2	1	207.2	0.1185	16	CAT	0.0074	213.2
NTP1251Q1-V-A2-DA-FLEX-B-C2-1-RTA-1	B	C2	2	2	192.7	0.1175	16	CAT	0.0073	196.6
NTP1251Q1-V-A2-DA-FLEX-B-C2-1-RTA-2	B	C2	2	2	192.1	0.1171	16	CAT	0.0073	195.3
NTP1251Q1-V-A2-DA-FLEX-B-C2-1-RTA-3	B	C2	2	2	197.1	0.1171	16	CAT	0.0073	200.4
NTP1251Q1-V-A2-DA-FLEX-C-C1-1-RTA-1	C	C1	3	1	194.9	0.1156	16	CAT	0.0072	195.5
NTP1251Q1-V-A2-DA-FLEX-C-C1-1-RTA-2	C	C1	3	1	185.7	0.1157	16	CAT	0.0072	186.5
NTP1251Q1-V-A2-DA-FLEX-C-C1-1-RTA-3	C	C1	3	1	197.9	0.1161	16	CAT	0.0073	199.4
NTP1251Q1-V-A2-DA-FLEX-C-C2-1-RTA-1	C	C2	3	2	200.3	0.1143	16	CAT	0.0071	198.8
NTP1251Q1-V-A2-DA-FLEX-C-C2-1-RTA-2	C	C2	3	2	201.3	0.1135	16	CAT	0.0071	198.3
NTP1251Q1-V-A2-DA-FLEX-C-C2-1-RTA-3	C	C2	3	2	201.4	0.1142	16	CAT	0.0071	199.6

Average 197.0
Standard Dev. 6.012
Coeff. of Var. [%] 3.052
Min. 185.1
Max. 207.2
Number of Spec. 18

Average_{norm} 0.0073 199.5
Standard Dev._{norm} 6.472
Coeff. of Var. [%]_{norm} 3.245
Min. 0.0071 186.5
Max. 0.0074 213.2
Number of Spec. 18 18



September 15, 2025

CAM-RP-2025-009 Rev -

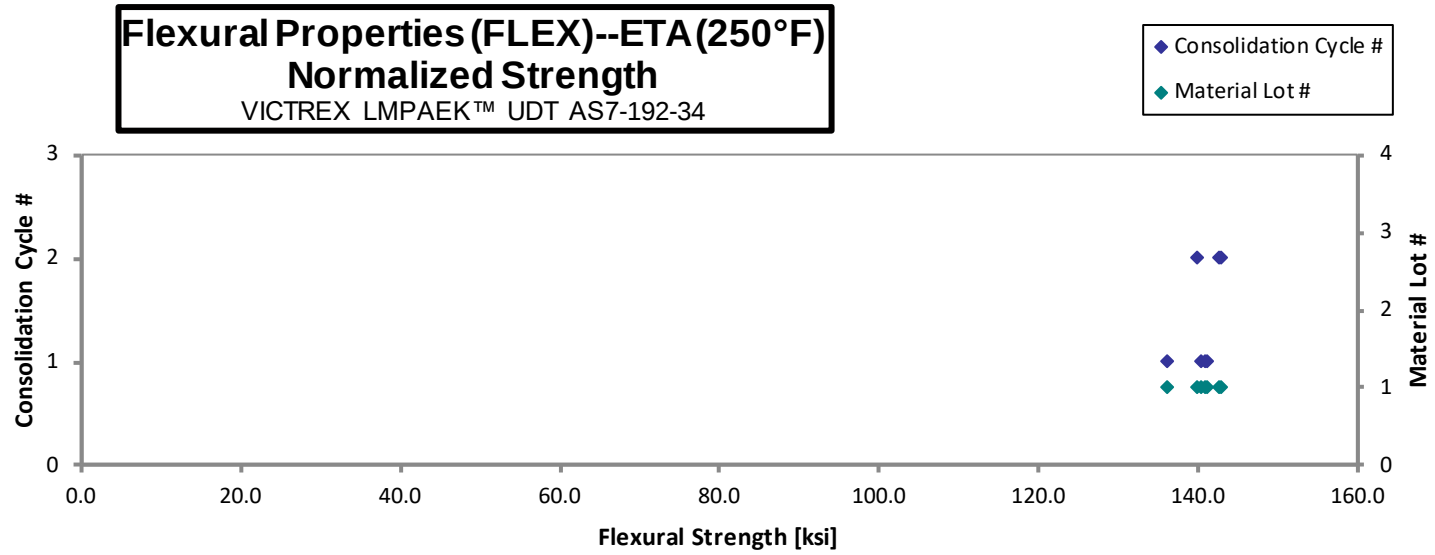
Flexural Properties (FLEX)--ETA (250°F)
Strength
VICTREX LMPAEK™ UDT AS7-192-34

normalizing
 t_{ply} [in]
0.0072

Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	Strength _{norm} [ksi]
NTP1251Q1-V-A2-DA-FLEX-A-C1-1-ETA-1	A	C1	1	1	140.9	0.1155	16	CAT	0.0072	141.3
NTP1251Q1-V-A2-DA-FLEX-A-C1-1-ETA-2	A	C1	1	1	141.3	0.1149	16	CAT	0.0072	140.9
NTP1251Q1-V-A2-DA-FLEX-A-C1-1-ETA-3	A	C1	1	1	139.1	0.1163	16	CAT	0.0073	140.3
NTP1251Q1-V-A2-DA-FLEX-A-C1-1-ETA-4	A	C1	1	1	134.9	0.1164	16	CAT	0.0073	136.3
NTP1251Q1-V-A2-DA-FLEX-A-C2-1-ETA-1	A	C2	1	2	140.6	0.1169	16	CAT	0.0073	142.6
NTP1251Q1-V-A2-DA-FLEX-A-C2-1-ETA-2	A	C2	1	2	138.1	0.1168	16	CAT	0.0073	140.0
NTP1251Q1-V-A2-DA-FLEX-A-C2-1-ETA-3	A	C2	1	2	140.8	0.1169	16	CAT	0.0073	142.9

Average 139.4
Standard Dev. 2.304
Coeff. of Var. [%] 1.653
Min. 134.9
Max. 141.3
Number of Spec. 7

Average_{norm} 0.0073 140.6
Standard Dev._{norm} 2.193
Coeff. of Var. [%]_{norm} 1.560
Min. 0.0072 136.3
Max. 0.0073 142.9
Number of Spec. 7 7



September 15, 2025

CAM-RP-2025-009 Rev -

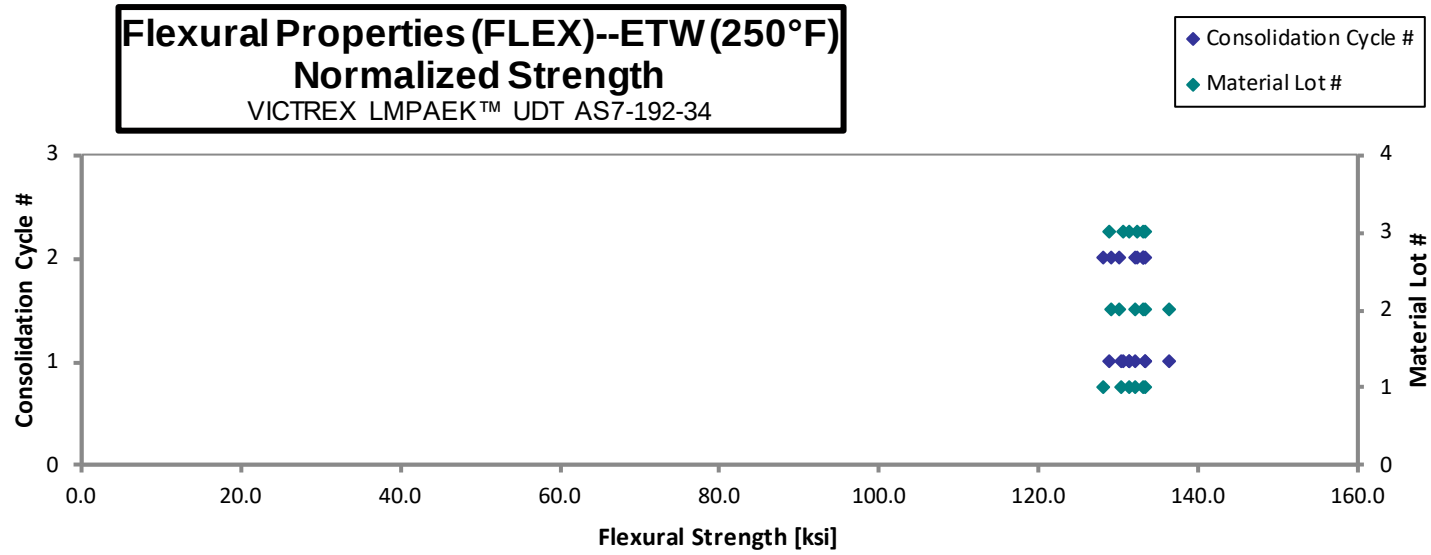
Flexural Properties (FLEX)--ETW (250°F)
Strength
VICTREX LMPAEK™ UDT AS7-192-34

normalizing
 t_{ply} [in]
0.0072

Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	Strength _{norm} [ksi]
NTP1251Q1-V-A2-DA-FLEX-A-C1-1-ETW-1	A	C1	1	1	132.9	0.1158	16	CAT	0.0072	133.6
NTP1251Q1-V-A2-DA-FLEX-A-C1-1-ETW-2	A	C1	1	1	131.0	0.1155	16	CAT	0.0072	131.3
NTP1251Q1-V-A2-DA-FLEX-A-C1-1-ETW-3	A	C1	1	1	128.9	0.1165	16	CAT	0.0073	130.4
NTP1251Q1-V-A2-DA-FLEX-A-C2-1-ETW-1	A	C2	1	2	131.9	0.1163	16	CAT	0.0073	133.2
NTP1251Q1-V-A2-DA-FLEX-A-C2-1-ETW-2	A	C2	1	2	131.3	0.1161	16	CAT	0.0073	132.3
NTP1251Q1-V-A2-DA-FLEX-A-C2-1-ETW-3	A	C2	1	2	125.9	0.1173	16	CAT	0.0073	128.2
NTP1251Q1-V-A2-DA-FLEX-B-C1-1-ETW-1	B	C1	2	1	128.8	0.1182	16	CAT	0.0074	132.1
NTP1251Q1-V-A2-DA-FLEX-B-C1-1-ETW-2	B	C1	2	1	133.1	0.1182	16	CAT	0.0074	136.5
NTP1251Q1-V-A2-DA-FLEX-B-C1-1-ETW-3	B	C1	2	1	130.3	0.1179	16	CAT	0.0074	133.4
NTP1251Q1-V-A2-DA-FLEX-B-C2-1-ETW-1	B	C2	2	2	132.0	0.1163	16	CAT	0.0073	133.2
NTP1251Q1-V-A2-DA-FLEX-B-C2-1-ETW-2	B	C2	2	2	127.7	0.1173	16	CAT	0.0073	130.1
NTP1251Q1-V-A2-DA-FLEX-B-C2-1-ETW-3	B	C2	2	2	127.6	0.1166	16	CAT	0.0073	129.1
NTP1251Q1-V-A2-DA-FLEX-C-C1-1-ETW-1	C	C1	3	1	130.6	0.1159	16	CAT	0.0072	131.4
NTP1251Q1-V-A2-DA-FLEX-C-C1-1-ETW-2	C	C1	3	1	127.9	0.1162	16	CAT	0.0073	128.9
NTP1251Q1-V-A2-DA-FLEX-C-C1-1-ETW-3	C	C1	3	1	129.6	0.1161	16	CAT	0.0073	130.7
NTP1251Q1-V-A2-DA-FLEX-C-C2-1-ETW-1	C	C2	3	2	133.4	0.1152	16	CAT	0.0072	133.4
NTP1251Q1-V-A2-DA-FLEX-C-C2-1-ETW-2	C	C2	3	2	132.8	0.1149	16	CAT	0.0072	132.5
NTP1251Q1-V-A2-DA-FLEX-C-C2-1-ETW-3	C	C2	3	2	133.7	0.1148	16	CAT	0.0072	133.3

Average 130.5
Standard Dev. 2.337
Coeff. of Var. [%] 1.790
Min. 125.9
Max. 133.7
Number of Spec. 18

Average_{norm} 0.0073 131.9
Standard Dev._{norm} 2.071
Coeff. of Var. [%]_{norm} 1.571
Min. 0.0072 128.2
Max. 0.0074 136.5
Number of Spec. 18 18



4.9 90 Flexural Properties (90 Flex)

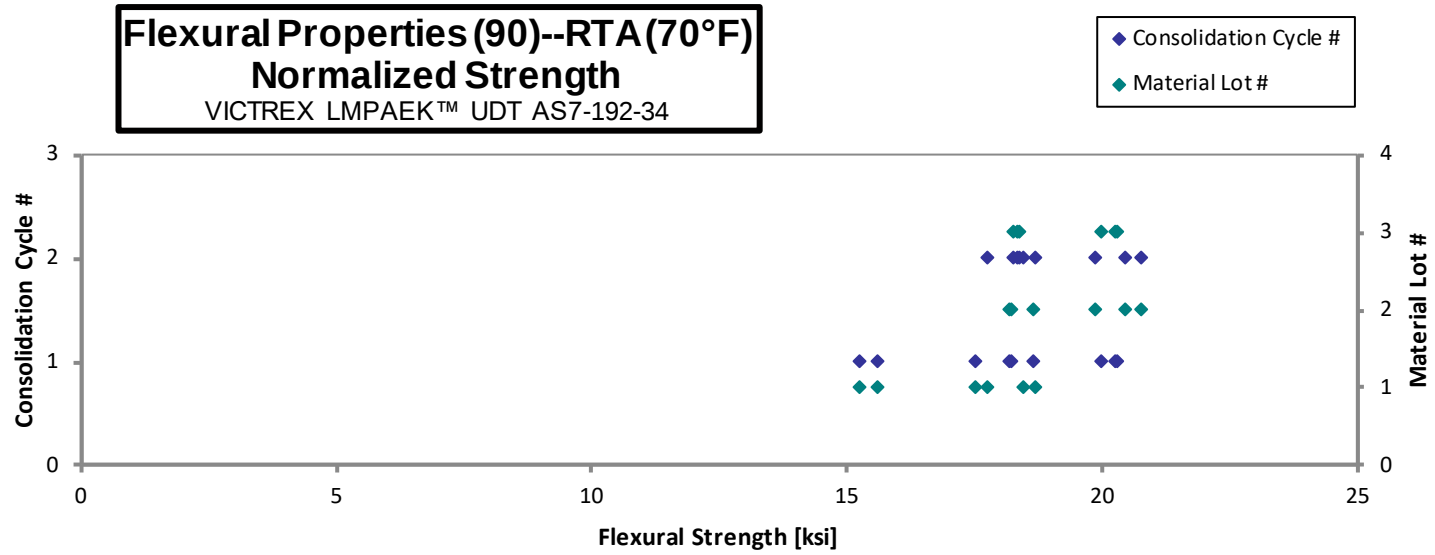
Flexural Properties (90)--RTA (70°F)
Strength
VICTREX LMPAEK™ UDT AS7-192-34

normalizing
 t_{ply} [in]
0.0072

Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	Strength _{norm} [ksi]
NTP1251Q1-V-A2-DA-FLEX-A-C1-1-90-RTA-1	A	C1	1	1	17.19	0.1175	16	CAT, TAB	0.0073	17.53
NTP1251Q1-V-A2-DA-FLEX-A-C1-1-90-RTA-2	A	C1	1	1	15.31	0.1174	16	CAT, TAB	0.0073	15.59
NTP1251Q1-V-A2-DA-FLEX-A-C1-1-90-RTA-3	A	C1	1	1	14.97	0.1175	16	CAT, TAB	0.0073	15.26
NTP1251Q1-V-A2-DA-FLEX-A-C2-1-90-RTA-1	A	C2	1	2	18.20	0.1184	16	CAT, TAB	0.0074	18.70
NTP1251Q1-V-A2-DA-FLEX-A-C2-1-90-RTA-2	A	C2	1	2	17.32	0.1180	16	CAT, TAB	0.0074	17.74
NTP1251Q1-V-A2-DA-FLEX-A-C2-1-90-RTA-3	A	C2	1	2	18.09	0.1174	16	CAT, TAB	0.0073	18.44
NTP1251Q1-V-A2-DA-FLEX-B-C1-1-90-RTA-1	B	C1	2	1	17.64	0.1188	16	CAT, TAB	0.0074	18.18
NTP1251Q1-V-A2-DA-FLEX-B-C1-1-90-RTA-2	B	C1	2	1	17.77	0.1182	16	CAT, TAB	0.0074	18.23
NTP1251Q1-V-A2-DA-FLEX-B-C1-1-90-RTA-3	B	C1	2	1	18.15	0.1183	16	CAT, TAB	0.0074	18.64
NTP1251Q1-V-A2-DA-FLEX-B-C2-1-90-RTA-1	B	C2	2	2	20.28	0.1163	16	CAT, TAB	0.0073	20.46
NTP1251Q1-V-A2-DA-FLEX-B-C2-1-90-RTA-2	B	C2	2	2	20.65	0.1160	16	CAT, TAB	0.0072	20.79
NTP1251Q1-V-A2-DA-FLEX-B-C2-1-90-RTA-3	B	C2	2	2	19.66	0.1165	16	CAT, TAB	0.0073	19.88
NTP1251Q1-V-A2-DA-FLEX-C-C1-1-90-RTA-1	C	C1	3	1	20.16	0.1159	16	CAT, TAB	0.0072	20.29
NTP1251Q1-V-A2-DA-FLEX-C-C1-1-90-RTA-2	C	C1	3	1	19.92	0.1156	16	CAT, TAB	0.0072	20.00
NTP1251Q1-V-A2-DA-FLEX-C-C1-1-90-RTA-3	C	C1	3	1	20.15	0.1159	16	CAT, TAB	0.0072	20.27
NTP1251Q1-V-A2-DA-FLEX-C-C2-1-90-RTA-1	C	C2	3	2	18.43	0.1141	16	CAT, TAB	0.0071	18.25
NTP1251Q1-V-A2-DA-FLEX-C-C2-1-90-RTA-2	C	C2	3	2	18.59	0.1137	16	CAT, TAB	0.0071	18.35
NTP1251Q1-V-A2-DA-FLEX-C-C2-1-90-RTA-3	C	C2	3	2	18.51	0.1144	16	CAT, TAB	0.0072	18.38

Average 18.39
Standard Dev. 1.606
Coeff. of Var. [%] 8.734
Min. 14.97
Max. 20.65
Number of Spec. 18

Average_{norm} 0.0073 18.61
Standard Dev._{norm} 1.537
Coeff. of Var. [%]_{norm} 8.259
Min. 0.0071 15.26
Max. 0.0074 20.79
Number of Spec. 18 18



4.10 “25/50/25” Unnotched Tension 1 Properties (UNT1)

Laminate Unnotched Tension Properties (UNT1)--CTA (-65°F)

Strength & Modulus

VICTREX LMPAEK™ UDT AS7-192-34

normalizing

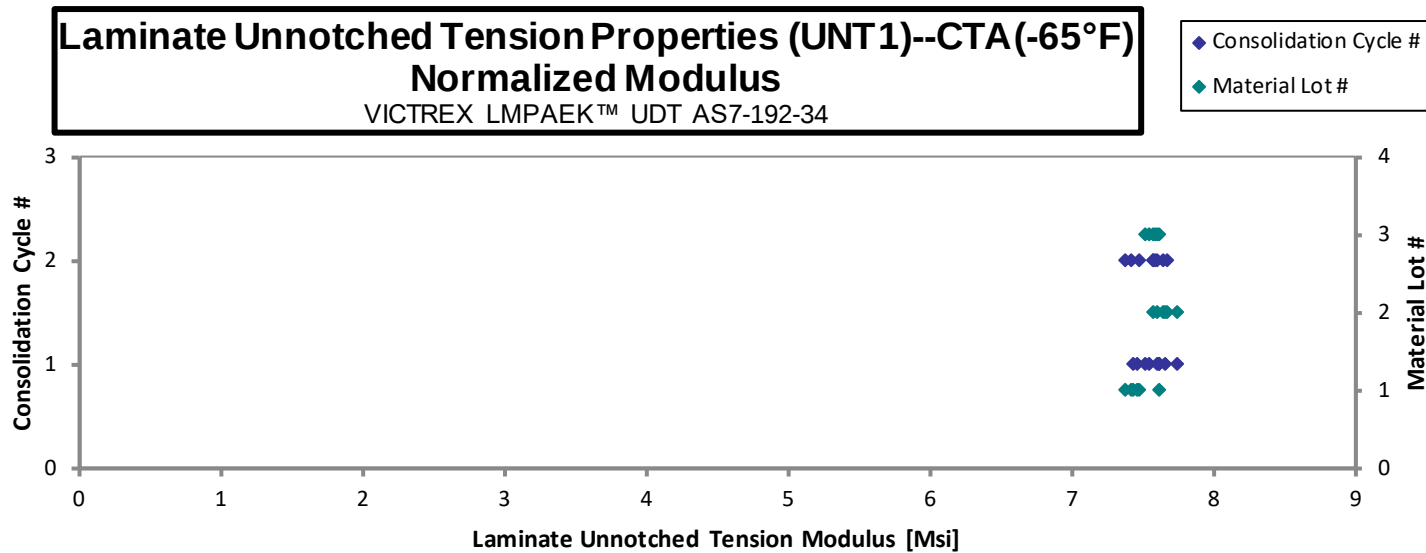
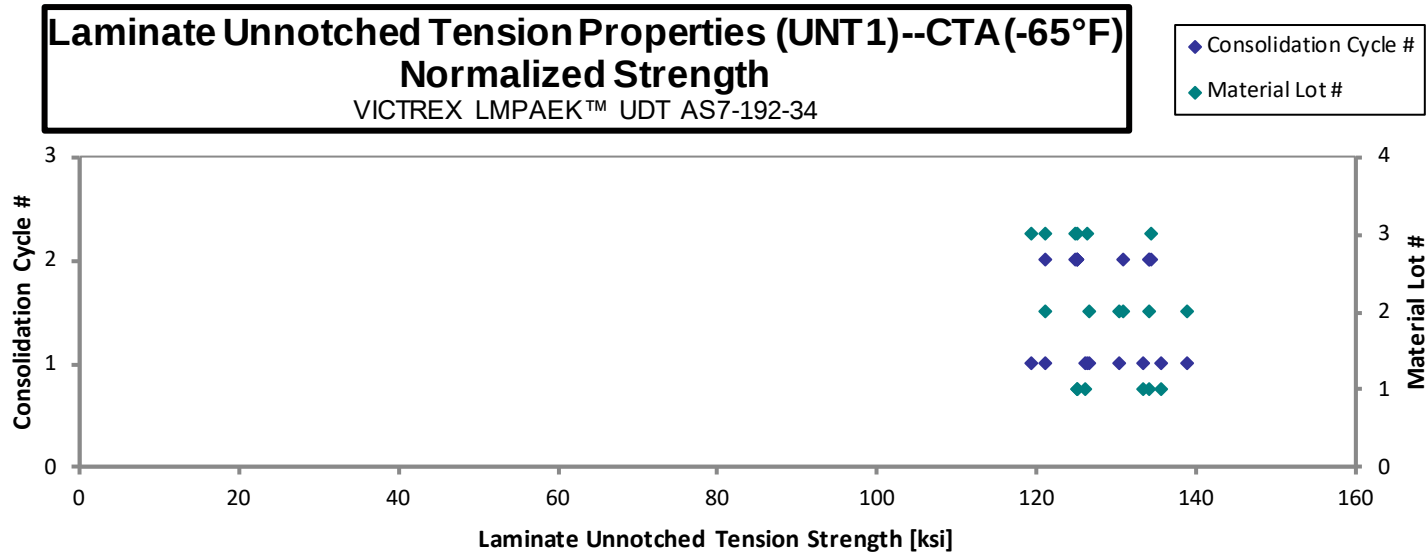
t_{ply} [in]

0.0072

Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	Strength [ksi]	Modulus [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t _{ply} [in]	Strength _{norm} [ksi]	Modulus _{norm} [Msi]
UNT1-A-C1-R-CTA-1	A	C1	1	1	135.1	7.394	0.1158	16	LWB, AWT	0.0072	135.8	7.430
UNT1-A-C1-R-CTA-2	A	C1	1	1	132.1	7.543	0.1164	16	AWB	0.0073	133.5	7.623
UNT1-A-C1-R-CTA-3	A	C1	1	1	124.4	7.364	0.1168	16	LWB, AWT	0.0073	126.1	7.467
UNT1-A-C2-R-CTA-1	A	C2	1	2	123.6	7.324	0.1167	16	M(A,L)WT, AWB	0.0073	125.2	7.421
UNT1-A-C2-R-CTA-2	A	C2	1	2	124.2	7.318	0.1161	16	AGB	0.0073	125.2	7.375
UNT1-A-C2-R-CTA-3	A	C2	1	2	133.2	7.421	0.1160	16	AWT, LWB	0.0073	134.2	7.474
UNT1-B-C1-R-CTA-1	B	C1	2	1	128.9	7.664	0.1165	16	AGM	0.0073	130.3	7.747
UNT1-B-C1-R-CTA-2	B	C1	2	1	125.0	7.509	0.1167	16	LWT, AWB	0.0073	126.6	7.608
UNT1-B-C1-R-CTA-3	B	C1	2	1	137.5	7.592	0.1163	16	AGM ,AGT	0.0073	138.8	7.666
UNT1-B-C2-R-CTA-1	B	C2	2	2	129.2	7.559	0.1169	16	AWB	0.0073	131.0	7.668
UNT1-B-C2-R-CTA-2	B	C2	2	2	132.6	7.484	0.1166	16	LWT, AWB	0.0073	134.2	7.576
UNT1-B-C2-R-CTA-3	B	C2	2	2	119.4	7.542	0.1169	16	AWB	0.0073	121.1	7.651
UNT1-C-C1-R-CTA-1	C	C1	3	1	119.5	7.631	0.1151	16	AWB, M(A,L)GB	0.0072	119.4	7.621
UNT1-C-C1-R-CTA-2	C	C1	3	1	127.3	7.573	0.1144	16	AGB	0.0072	126.4	7.522
UNT1-C-C1-R-CTA-3	C	C1	3	1	122.0	7.612	0.1143	16	AGM	0.0071	121.0	7.551
UNT1-C-C2-R-CTA-1	C	C2	3	2	124.6	7.555	0.1157	16	AGB	0.0072	125.1	7.584
UNT1-C-C2-R-CTA-2	C	C2	3	2	133.9	7.572	0.1156	16	AWB	0.0072	134.4	7.598
UNT1-C-C2-R-CTA-3	C	C2	3	2	124.3	7.538	0.1158	16	AGB, LWT	0.0072	124.9	7.574

Average 127.6 7.511
 Standard Dev. 5.446 0.1045
 Coeff. of Var. [%] 4.268 1.391
 Min. 119.4 7.318
 Max. 137.5 7.664
 Number of Spec. 18 18

Average_{norm} 0.0073 128.5 7.564
 Standard Dev._{norm} 5.676 0.0988
 Coeff. of Var. [%]_{norm} 4.417 1.306
 Min. 0.0071 119.4 7.375
 Max. 0.0073 138.8 7.747
 Number of Spec. 18 18



September 15, 2025

CAM-RP-2025-009 Rev -

Laminate Unnotched Tension Properties (UNT1)--RTA (70°F)
Strength & Modulus
VICTREX LMPAEK™ UDT AS7-192-34

normalizing

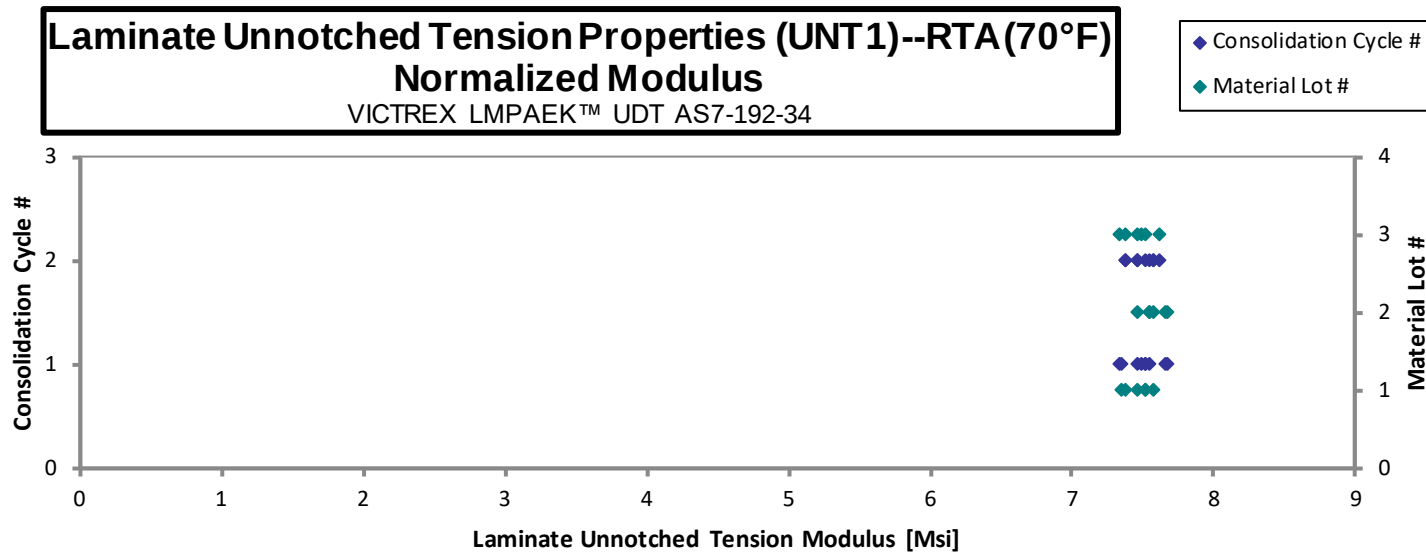
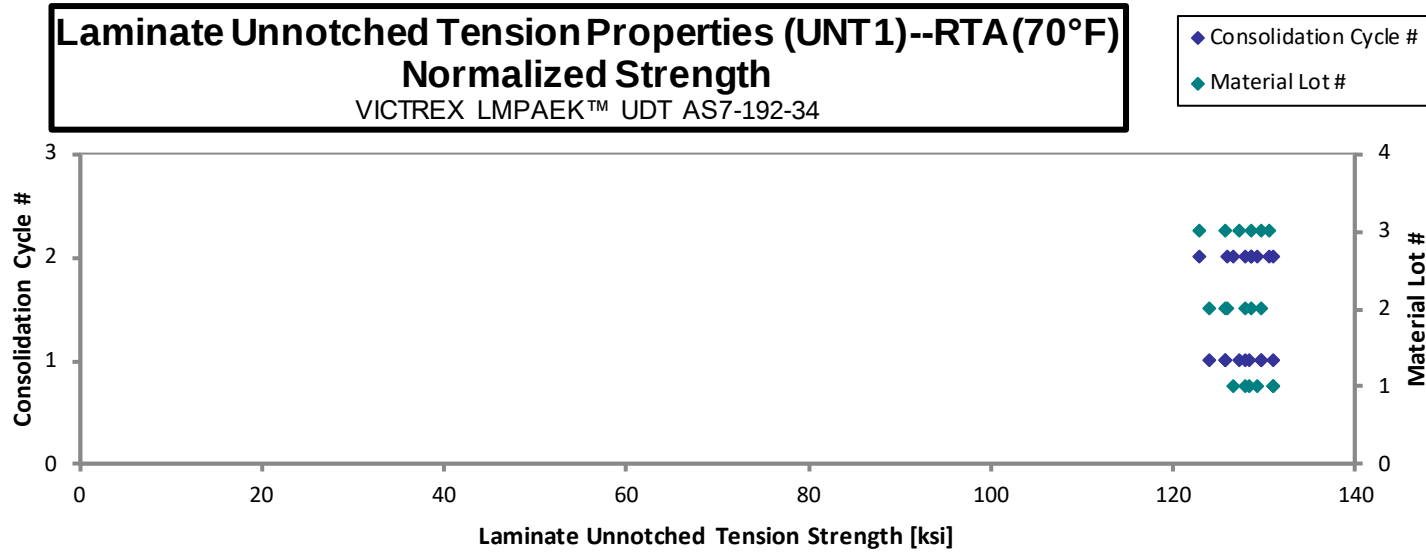
t_{ply} [in]

0.0072

Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	Strength [ksi]	Modulus [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t _{ply} [in]	Strength _{norm} [ksi]	Modulus _{norm} [Msi]
UNT1-A-C1-R-RTA-1	A	C1	1	1	126.7	7.447	0.1163	16	AGB	0.0073	127.9	7.520
UNT1-A-C1-R-RTA-2	A	C1	1	1	127.4	7.463	0.1162	16	AGB	0.0073	128.4	7.525
UNT1-A-C1-R-RTA-3	A	C1	1	1	130.0	7.293	0.1161	16	AWB	0.0073	131.0	7.349
UNT1-A-C2-R-RTA-1	A	C2	1	2	128.0	7.388	0.1164	16	AGT	0.0073	129.4	7.465
UNT1-A-C2-R-RTA-2	A	C2	1	2	126.0	7.344	0.1157	16	AWB	0.0072	126.6	7.375
UNT1-A-C2-R-RTA-3	A	C2	1	2	130.5	7.547	0.1158	16	AGB	0.0072	131.1	7.584
UNT1-B-C1-R-RTA-1	B	C1	2	1	129.0	7.619	0.1160	16	LAB, AWT	0.0072	129.8	7.670
UNT1-B-C1-R-RTA-2	B	C1	2	1	124.0	7.554	0.1170	16	LWB, AGT	0.0073	125.9	7.671
UNT1-B-C1-R-RTA-3	B	C1	2	1	123.1	7.493	0.1161	16	AWT	0.0073	124.1	7.552
UNT1-B-C2-R-RTA-1	B	C2	2	2	126.2	7.461	0.1169	16	LWB, AWT	0.0073	128.1	7.573
UNT1-B-C2-R-RTA-2	B	C2	2	2	124.4	7.450	0.1167	16	AWT	0.0073	126.0	7.546
UNT1-B-C2-R-RTA-3	B	C2	2	2	127.2	7.385	0.1165	16	AGT	0.0073	128.7	7.471
UNT1-C-C1-R-RTA-1	C	C1	3	1	127.1	7.464	0.1153	16	AWB	0.0072	127.3	7.472
UNT1-C-C1-R-RTA-2	C	C1	3	1	130.1	7.526	0.1148	16	AGM	0.0072	129.7	7.501
UNT1-C-C1-R-RTA-3	C	C1	3	1	125.3	7.307	0.1156	16	AGM	0.0072	125.8	7.335
UNT1-C-C2-R-RTA-1	C	C2	3	2	129.2	7.542	0.1164	16	AWT	0.0073	130.5	7.618
UNT1-C-C2-R-RTA-2	C	C2	3	2	128.3	7.507	0.1154	16	AGB	0.0072	128.5	7.520
UNT1-C-C2-R-RTA-3	C	C2	3	2	122.5	7.352	0.1156	16	AGM	0.0072	122.9	7.375

Average 126.9 7.452
Standard Dev. 2.407 0.091
Coeff. of Var. [%] 1.896 1.228
Min. 122.5 7.293
Max. 130.5 7.619
Number of Spec. 18 18

Average_{norm} 0.0073 127.9 7.507
Standard Dev._{norm} 2.318 0.101
Coeff. of Var. [%]_{norm} 1.813 1.347
Min. 0.0072 122.9 7.335
Max. 0.0073 131.1 7.671
Number of Spec. 18 18 18



September 15, 2025

CAM-RP-2025-009 Rev -

Laminate Unnotched Tension Properties (UNT1)--ETW (250°F)
Strength & Modulus
 VICTREX LMPAEK™ UDT AS7-192-34

normalizing

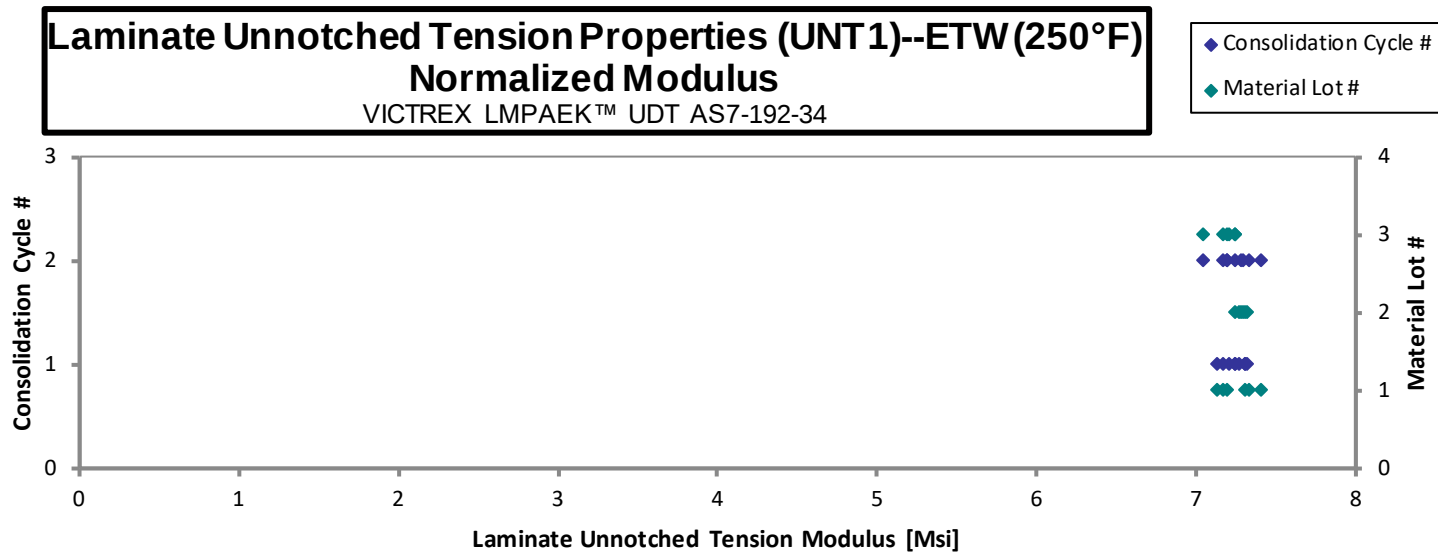
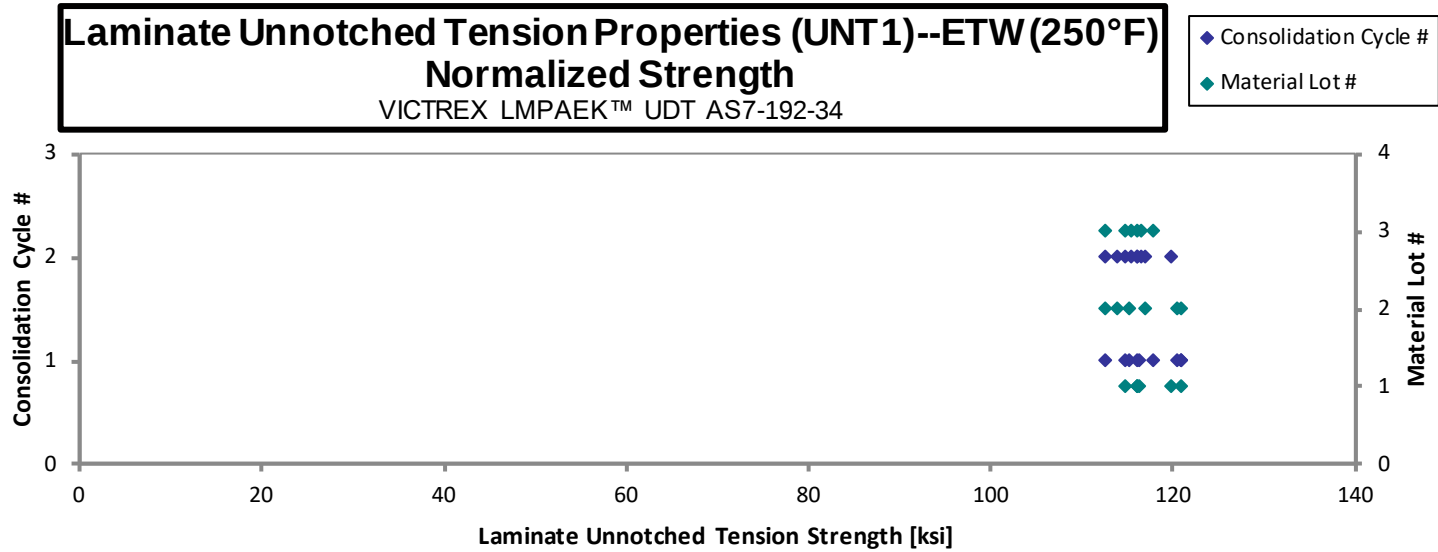
t_{ply} [in]

0.0072

Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	Strength [ksi]	Modulus [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	Strength _{norm} [ksi]	Modulus _{norm} [Msi]
UNT1-A-C1-R-ETW-1	A	C1	1	1	119.4	7.086	0.1167	16	M(A,D)GB	0.0073	120.9	7.178
UNT1-A-C1-R-ETW-2	A	C1	1	1	114.7	7.215	0.1167	16	M(A,D)GB, DWT	0.0073	116.2	7.310
UNT1-A-C1-R-ETW-3	A	C1	1	1	115.2	7.076	0.1162	16	M(A,L)GM	0.0073	116.2	7.140
UNT1-A-C2-R-ETW-1	A	C2	1	2	118.7	7.278	0.1162	16	AWT, LWB	0.0073	119.7	7.341
UNT1-A-C2-R-ETW-2	A	C2	1	2	113.2	7.315	0.1167	16	AGT, AWB, LWT	0.0073	114.7	7.412
UNT1-A-C2-R-ETW-3	A	C2	1	2	115.0	7.141	0.1162	16	M(A,D)WT	0.0073	116.0	7.203
UNT1-B-C1-R-ETW-1	B	C1	2	1	119.2	7.221	0.1169	16	M(A,L)GT	0.0073	121.0	7.328
UNT1-B-C1-R-ETW-2	B	C1	2	1	113.9	7.193	0.1166	16	M(A,L)WB	0.0073	115.2	7.277
UNT1-B-C1-R-ETW-3	B	C1	2	1	119.0	7.228	0.1166	16	M(A,L)GM	0.0073	120.4	7.316
UNT1-B-C2-R-ETW-1	B	C2	2	2	112.5	7.155	0.1167	16	AWB, LWT	0.0073	113.9	7.248
UNT1-B-C2-R-ETW-2	B	C2	2	2	115.4	7.198	0.1168	16	AWB, LWT	0.0073	116.9	7.295
UNT1-B-C2-R-ETW-3	B	C2	2	2	111.4	7.204	0.1165	16	AWB, LWT	0.0073	112.6	7.285
UNT1-C-C1-R-ETW-1	C	C1	3	1	118.0	7.257	0.1151	16	AWT, LWB	0.0072	117.9	7.253
UNT1-C-C1-R-ETW-2	C	C1	3	1	114.9	7.205	0.1152	16	M(A,D)GM	0.0072	114.9	7.204
UNT1-C-C1-R-ETW-3	C	C1	3	1	112.6	7.246	0.1153	16	M(A,D)GM	0.0072	112.7	7.252
UNT1-C-C2-R-ETW-1	C	C2	3	2	115.1	7.024	0.1156	16	M(A,D)GM	0.0072	115.4	7.045
UNT1-C-C2-R-ETW-2	C	C2	3	2	116.1	7.168	0.1156	16	M(A,D)GM	0.0072	116.5	7.192
UNT1-C-C2-R-ETW-3	C	C2	3	2	115.7	7.145	0.1156	16	M(A,L)GB	0.0072	116.1	7.167

Average 115.5 7.186
Standard Dev. 2.447 0.074
Coeff. of Var. [%] 2.118 1.024
Min. 111.4 7.024
Max. 119.4 7.315
Number of Spec. 18 18

Average_{norm} 0.0073 116.5 7.247
Standard Dev._{norm} 2.579 0.086
Coeff. of Var. [%]_{norm} 2.214 1.189
Min. 0.0072 112.6 7.045
Max. 0.0073 121.0 7.412
Number of Spec. 18 18 18



4.11 “10/80/10” Unnotched Tension 2 Properties (UNT2)

Laminate Unnotched Tension Properties (UNT2)--CTA (-65°F)

Strength & Modulus

VICTREX LMPAEK™ UDT AS7-192-34

normalizing

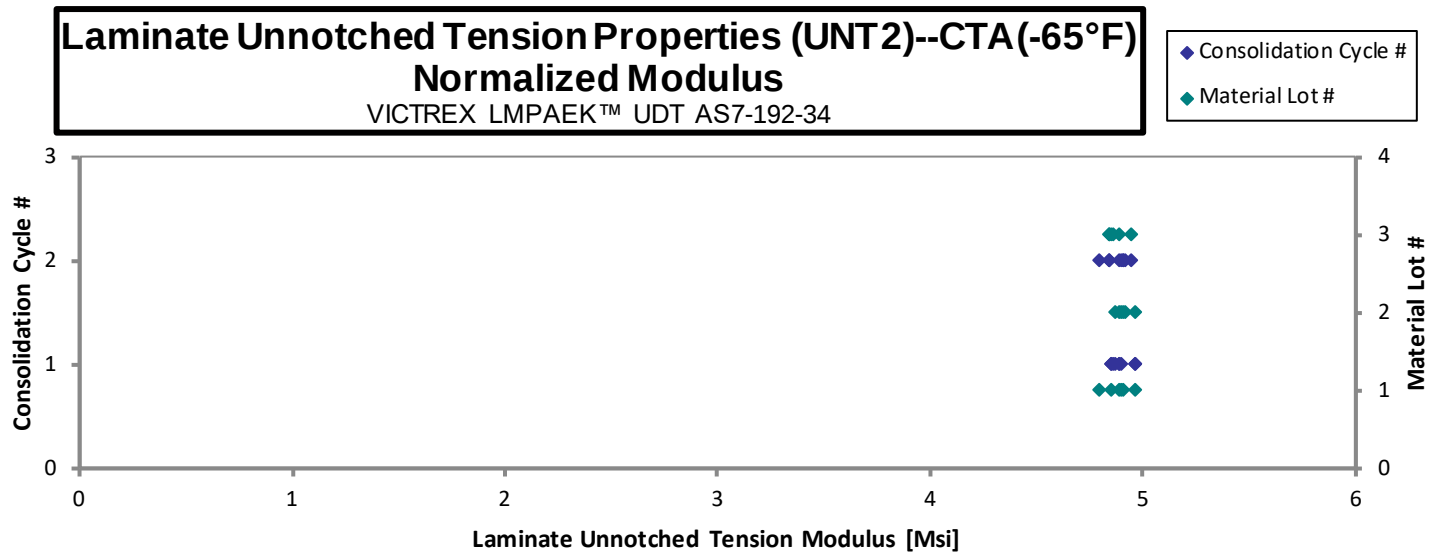
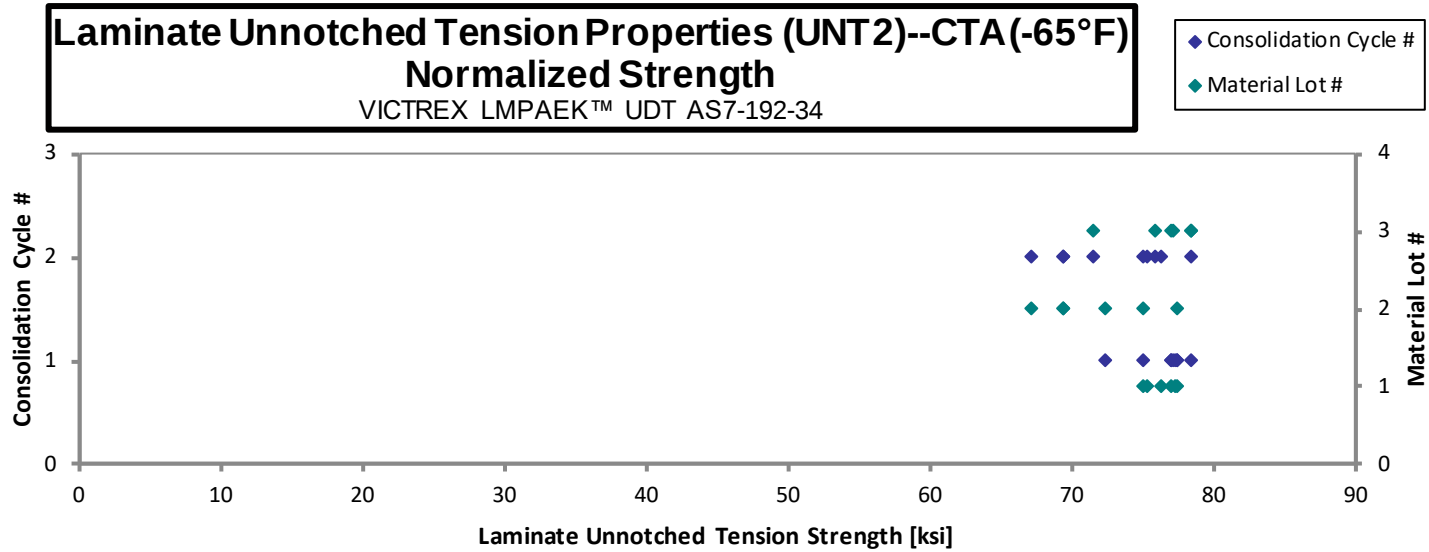
t_{ply} [in]

0.0072

Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	Strength [ksi]	Modulus [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t _{ply} [in]	Strength _{norm} [ksi]	Modulus _{norm} [Msi]
UNT2-A-C1-1-CTA-1	A	C1	1	1	75.69	4.875	0.1466	20	M(A,D)GT	0.0073	77.06	4.963
UNT2-A-C1-1-CTA-2	A	C1	1	1	75.69	4.784	0.1474	20	M(A,D)GB	0.0074	77.49	4.898
UNT2-A-C1-1-CTA-3	A	C1	1	1	75.97	4.770	0.1466	20	M(A,D)GB	0.0073	77.31	4.854
UNT2-A-C2-1-CTA-1	A	C2	1	2	74.41	4.828	0.1458	20	M(A,D)GB	0.0073	75.33	4.888
UNT2-A-C2-1-CTA-2	A	C2	1	2	74.82	4.779	0.1444	20	M(A,D)GM	0.0072	75.03	4.793
UNT2-A-C2-1-CTA-3	A	C2	1	2	75.80	4.871	0.1451	20	M(A,D)GM	0.0073	76.37	4.907
UNT2-B-C1-1-CTA-1	B	C1	2	1	71.38	4.808	0.1459	20	M(A,D)GB	0.0073	72.31	4.870
UNT2-B-C1-1-CTA-2	B	C1	2	1	74.11	4.901	0.1459	20	M(A,D)GM	0.0073	75.10	4.966
UNT2-B-C1-1-CTA-3	B	C1	2	1	76.06	4.807	0.1466	20	M(A,D)GB	0.0073	77.41	4.892
UNT2-B-C2-1-CTA-1	B	C2	2	2	68.07	4.801	0.1469	20	M(A,D)GB	0.0073	69.45	4.898
UNT2-B-C2-1-CTA-2	B	C2	2	2	68.10	4.834	0.1467	20	AGT	0.0073	69.36	4.923
UNT2-B-C2-1-CTA-3	B	C2	2	2	65.74	4.802	0.1471	20	M(A,D)GT	0.0074	67.16	4.905
UNT2-C-C1-1-CTA-1	C	C1	3	1	78.34	4.854	0.1442	20	M(A,D)GM	0.0072	78.44	4.860
UNT2-C-C1-1-CTA-2	C	C1	3	1	76.97	4.845	0.1443	20	M(A,D)GT	0.0072	77.10	4.853
UNT2-C-C1-1-CTA-3	C	C1	3	1	77.01	4.893	0.1439	20	M(A,D)GM	0.0072	76.96	4.890
UNT2-C-C2-1-CTA-1	C	C2	3	2	76.46	4.880	0.1430	20	M(A,D)GT	0.0072	75.93	4.846
UNT2-C-C2-1-CTA-2	C	C2	3	2	78.13	4.923	0.1446	20	M(A,D)GB	0.0072	78.45	4.943
UNT2-C-C2-1-CTA-3	C	C2	3	2	72.06	4.875	0.1430	20	M(A,D)GM	0.0072	71.56	4.842

Average 74.16 4.840
 Standard Dev. 3.646 0.04585
 Coeff. of Var. [%] 4.916 0.9472
 Min. 65.74 4.770
 Max. 78.34 4.923
 Number of Spec. 18 18

Average_{norm} 0.0073 74.88 4.888
 Standard Dev._{norm} 3.425 0.04420
 Coeff. of Var. [%]_{norm} 4.574 0.9042
 Min. 0.0072 67.16 4.793
 Max. 0.0074 78.45 4.966
 Number of Spec. 18 18 18



September 15, 2025

CAM-RP-2025-009 Rev -

Laminate Unnotched Tension Properties (UNT2)--RTA (70°F)
Strength & Modulus
VICTREX LMPAEK™ UDT AS7-192-34

normalizing

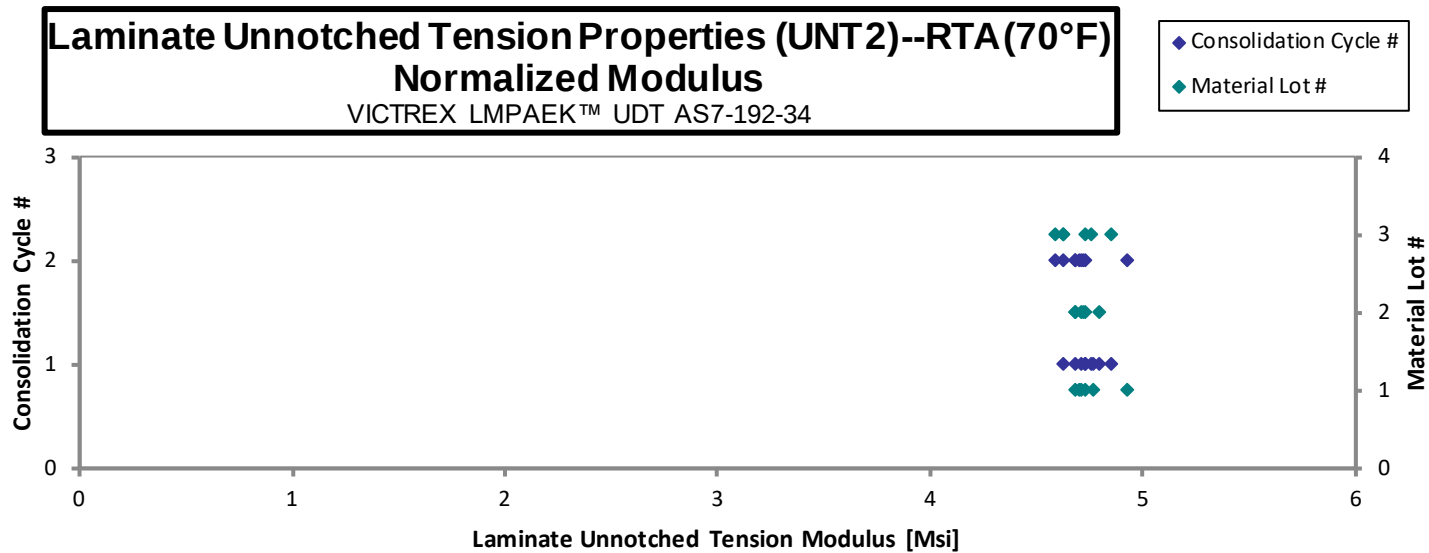
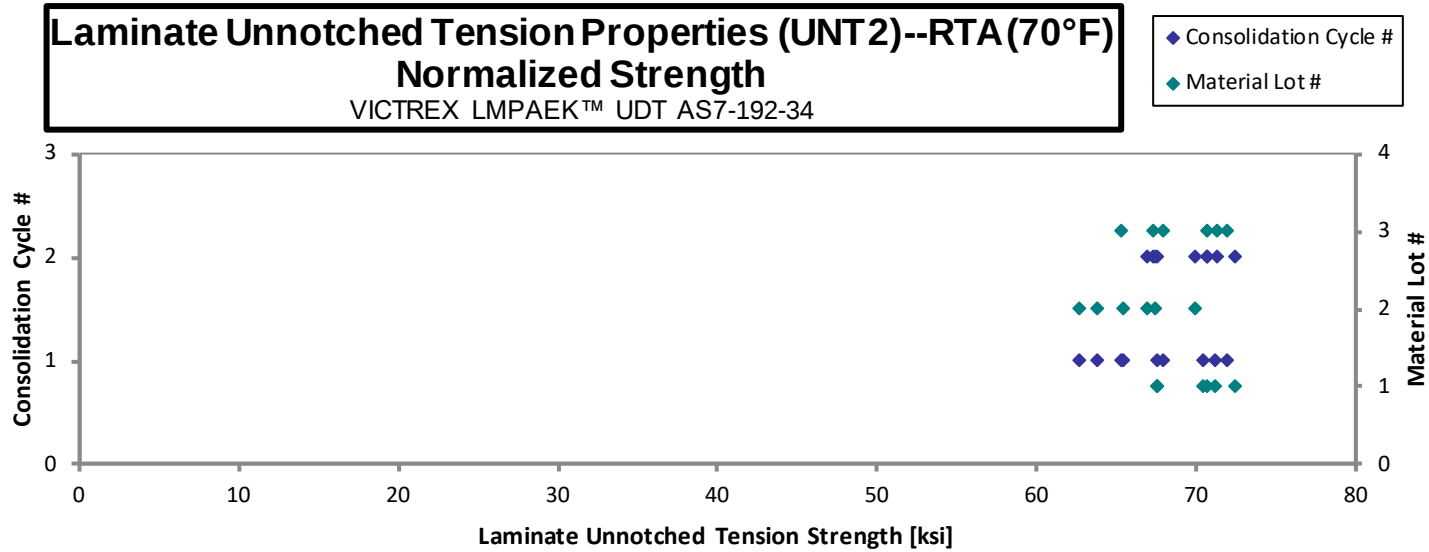
t_{ply} [in]

0.0072

Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	Strength [ksi]	Modulus [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	Strength _{norm} [ksi]	Modulus _{norm} [Msi]
UNT2-A-C1-1-RTA-1	A	C1	1	1	69.88	4.637	0.1468	20	AGB	0.0073	71.22	4.726
UNT2-A-C1-1-RTA-2	A	C1	1	1	69.64	4.624	0.1458	20	AGT	0.0073	70.53	4.683
UNT2-A-C1-1-RTA-3	A	C1	1	1	66.21	4.670	0.1471	20	AGM	0.0074	67.64	4.771
UNT2-A-C2-1-RTA-1	A	C2	1	2	69.63	4.624	0.1463	20	AGB	0.0073	70.75	4.698
UNT2-A-C2-1-RTA-2	A	C2	1	2	67.10	4.677	0.1451	20	AGB	0.0073	67.63	4.714
UNT2-A-C2-1-RTA-3	A	C2	1	2	72.21	4.915	0.1445	20	AGT	0.0072	72.45	4.931
UNT2-B-C1-1-RTA-1	B	C1	2	1	62.73	4.633	0.1464	20	M(A,D)GB	0.0073	63.79	4.712
UNT2-B-C1-1-RTA-2	B	C1	2	1	64.86	4.684	0.1454	20	AGB	0.0073	65.50	4.730
UNT2-B-C1-1-RTA-3	B	C1	2	1	62.24	4.762	0.1451	20	M(A,D)GM	0.0073	62.70	4.797
UNT2-B-C2-1-RTA-1	B	C2	2	2	66.39	4.613	0.1463	20	M(A,D)GT	0.0073	67.46	4.687
UNT2-B-C2-1-RTA-2	B	C2	2	2	68.77	4.639	0.1465	20	M(A,D)GB	0.0073	69.98	4.721
UNT2-B-C2-1-RTA-3	B	C2	2	2	65.61	4.585	0.1471	20	M(A,D)GB	0.0074	67.00	4.683
UNT2-C-C1-1-RTA-1	C	C1	3	1	65.80	4.657	0.1430	20	M(A,D)GB	0.0072	65.35	4.625
UNT2-C-C1-1-RTA-2	C	C1	3	1	72.10	4.770	0.1437	20	M(A,D)GB	0.0072	71.94	4.760
UNT2-C-C1-1-RTA-3	C	C1	3	1	68.29	4.885	0.1432	20	M(A,D)GT	0.0072	67.91	4.858
UNT2-C-C2-1-RTA-1	C	C2	3	2	71.76	4.648	0.1433	20	M(A,D)GT	0.0072	71.41	4.626
UNT2-C-C2-1-RTA-2	C	C2	3	2	70.81	4.739	0.1438	20	M(A,D)WT	0.0072	70.73	4.733
UNT2-C-C2-1-RTA-3	C	C2	3	2	67.96	4.629	0.1427	20	M(A,D)GB	0.0071	67.32	4.586

Average 67.89 4.688
Standard Dev. 3.009 0.09213
Coeff. of Var. [%] 4.432 1.965
Min. 62.24 4.585
Max. 72.21 4.915
Number of Spec. 18 18

Average_{norm} 0.0073 68.41 4.724
Standard Dev._{norm} 2.878 0.08184
Coeff. of Var. [%]_{norm} 4.208 1.732
Min. 0.0071 62.70 4.586
Max. 0.0074 72.45 4.931
Number of Spec. 18 18 18



September 15, 2025

CAM-RP-2025-009 Rev -

Laminate Unnotched Tension Properties (UNT2)--ETW (250°F)
Strength & Modulus
VICTREX LMPAEK™ UDT AS7-192-34

normalizing

t_{ply} [in]

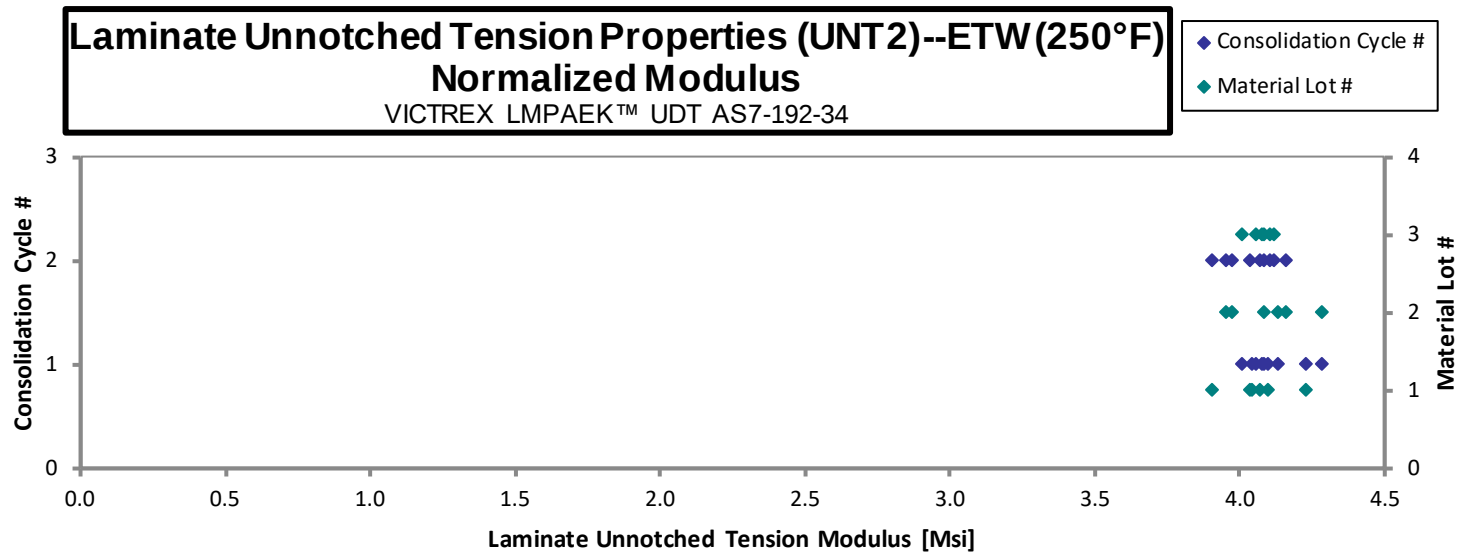
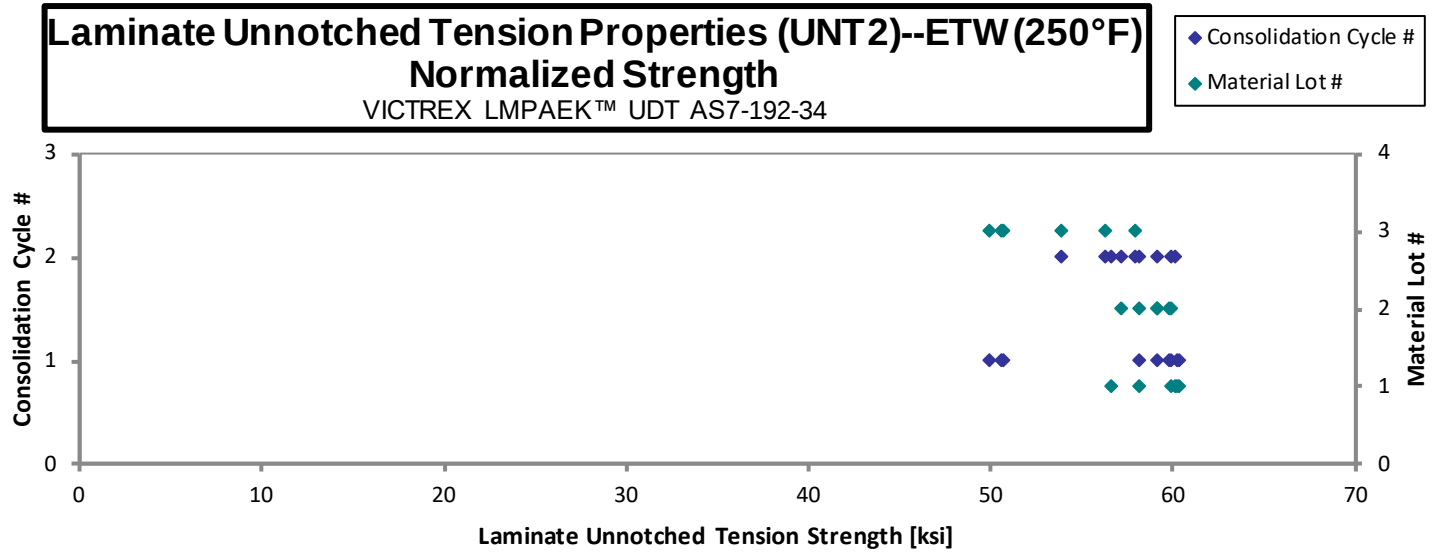
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Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	Strength [ksi]	Modulus [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode
UNT2-A-C1-1-ETW-1	A	C1	1	1	59.33	3.981	0.1462	20	DGM
UNT2-A-C1-1-ETW-2	A	C1	1	1	57.32	4.167	0.1460	20	M(A,D)GT
UNT2-A-C1-1-ETW-3	A	C1	1	1	59.70	4.050	0.1457	20	DGM
UNT2-A-C2-1-ETW-1	A	C2	1	2	60.08	4.068	0.1441	20	DGT
UNT2-A-C2-1-ETW-2	A	C2	1	2	59.60	4.013	0.1448	20	DGM
UNT2-A-C2-1-ETW-3	A	C2	1	2	56.09	3.873	0.1453	20	DGT
UNT2-B-C1-1-ETW-1	B	C1	2	1	58.90	4.020	0.1463	20	DGM
UNT2-B-C1-1-ETW-2	B	C1	2	1	59.31	4.086	0.1455	20	DGM
UNT2-B-C1-1-ETW-3	B	C1	2	1	58.38	4.224	0.1460	20	DGB
UNT2-B-C2-1-ETW-1	B	C2	2	2	55.91	3.888	0.1473	20	DGM
UNT2-B-C2-1-ETW-2	B	C2	2	2	57.74	3.854	0.1476	20	DGM
UNT2-B-C2-1-ETW-3	B	C2	2	2	57.16	4.086	0.1465	20	DGT
UNT2-C-C1-1-ETW-1	C	C1	3	1	50.30	4.084	0.1431	20	DGT
UNT2-C-C1-1-ETW-2	C	C1	3	1	50.94	4.090	0.1434	20	DGT
UNT2-C-C1-1-ETW-3	C	C1	3	1	50.75	4.024	0.1435	20	DGT
UNT2-C-C2-1-ETW-1	C	C2	3	2	56.32	4.083	0.1441	20	DGM
UNT2-C-C2-1-ETW-2	C	C2	3	2	58.39	4.152	0.1428	20	DGT
UNT2-C-C2-1-ETW-3	C	C2	3	2	54.16	4.124	0.1433	20	DGT

Avg. t_{ply} [in]	Strength _{norm} [ksi]	Modulus _{norm} [Msi]
0.0073	60.24	4.042
0.0073	58.13	4.226
0.0073	60.38	4.096
0.0072	60.12	4.070
0.0072	59.92	4.035
0.0073	56.59	3.908
0.0073	59.84	4.084
0.0073	59.94	4.129
0.0073	59.18	4.282
0.0074	57.18	3.976
0.0074	59.18	3.950
0.0073	58.16	4.157
0.0072	49.98	4.058
0.0072	50.73	4.074
0.0072	50.56	4.009
0.0072	56.34	4.085
0.0071	57.90	4.117
0.0072	53.90	4.105

Average 56.69 4.048
Standard Dev. 3.180 0.1003
Coeff. of Var. [%] 5.610 2.476
Min. 50.30 3.854
Max. 60.08 4.224
Number of Spec. 18 18

Average_{norm} 0.0073 57.13 4.078
Standard Dev._{norm} 3.513 0.09053
Coeff. of Var. [%]_{norm} 6.150 2.220
Min. 0.0071 49.98 3.908
Max. 0.0074 60.38 4.282
Number of Spec. 18 18 18



September 15, 2025

CAM-RP-2025-009 Rev -

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

Laminate Unnotched Tension Properties (UNT3)--CTA (-65°F) Strength & Modulus

VICTREX LMPAEK™ UDT AS7-192-34

normalizing

t_{ply} [in]

0.0072

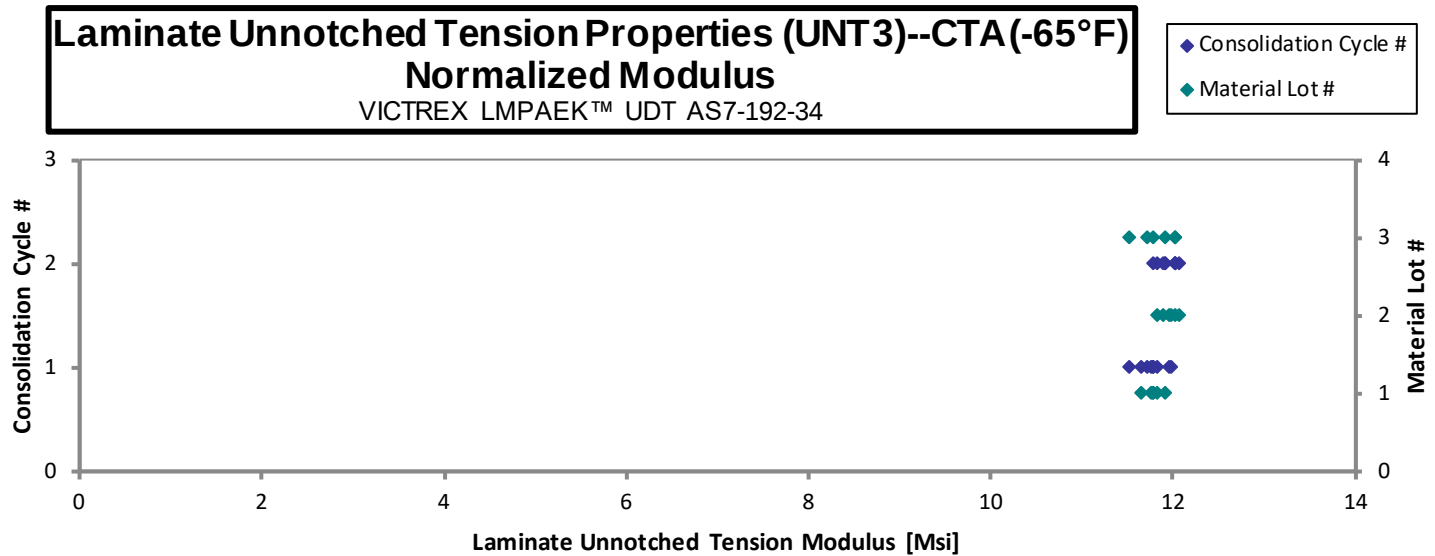
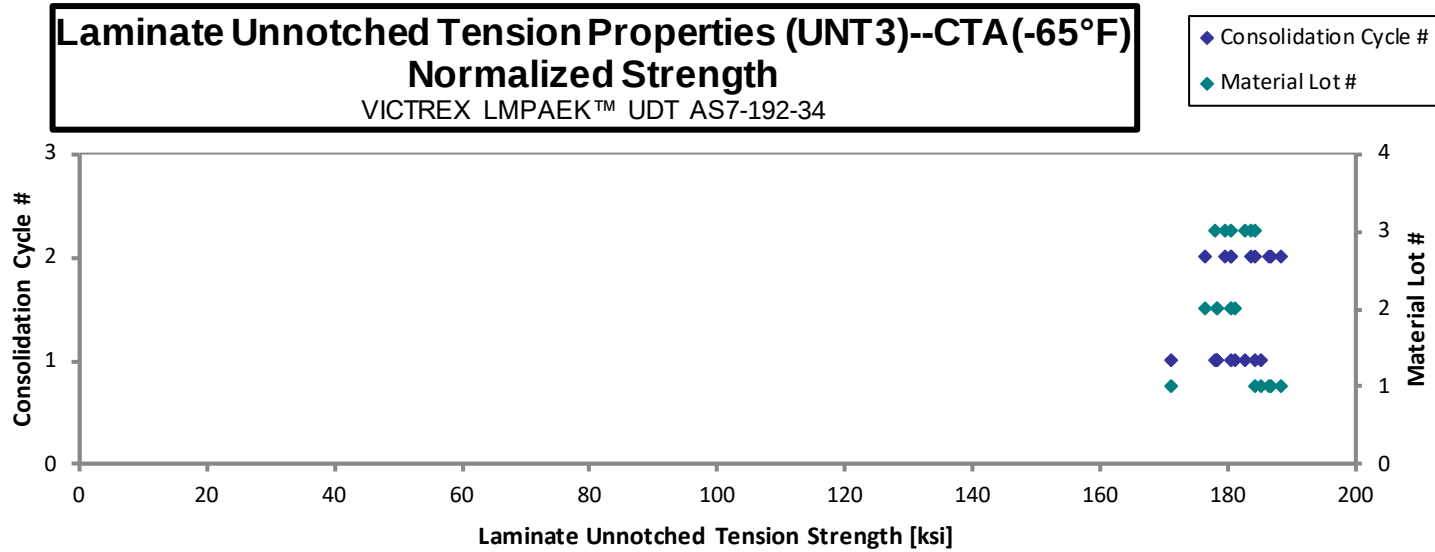
Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	Strength [ksi]	Modulus [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	Strength _{norm} [ksi]	Modulus _{norm} [Msi]
UNT3-A-C1-1-CTA-1	A	C1	1	1	169.9	11.67	0.1451	20	DGM, M(A,D)WT, M(A,D)WB	0.0073	171.1	11.76
UNT3-A-C1-1-CTA-2	A	C1	1	1	182.4	11.47	0.1464	20	DGM, M(D,L)WT, M(A,D)WB	0.0073	185.4	11.66
UNT3-A-C1-1-CTA-3	A	C1	1	1	183.0	11.68	0.1452	20	DGM, M(A,D)WT, M(A,D)WB	0.0073	184.4	11.77
UNT3-A-C2-1-CTA-1 ¹	A	C2	1	2		11.69	0.1451	20	AIB	0.0073		11.77
UNT3-A-C2-1-CTA-2	A	C2	1	2	184.5	11.69	0.1456	20	DWB, AIB	0.0073	186.6	11.82
UNT3-A-C2-1-CTA-3	A	C2	1	2	183.6	11.71	0.1466	20	DGM, M(D,L)AT, M(A,D)WB	0.0073	187.0	11.93
UNT3-A-C2-1-CTA-4 ²	A	C2	1	2	185.8		0.1460	20	DGM, M(D,A,L)WB	0.0073	188.4	
UNT3-B-C1-1-CTA-1	B	C1	2	1	175.8	11.66	0.1460	20	DGM, M(A,D)WT	0.0073	178.3	11.83
UNT3-B-C1-1-CTA-2	B	C1	2	1	175.7	11.78	0.1464	20	DGM, M(D,L)WT	0.0073	178.5	11.97
UNT3-B-C1-1-CTA-3	B	C1	2	1	178.3	11.76	0.1465	20	DGM, M(A,D)WT	0.0073	181.3	11.96
UNT3-B-C2-1-CTA-1	B	C2	2	2	181.3	12.12	0.1434	20	DGM, M(A,D)WT, M(A,D)WB	0.0072	180.6	12.07
UNT3-B-C2-1-CTA-2	B	C2	2	2	181.5	11.96	0.1432	20	DGM, M(A,D)WT, M(D,L)WB	0.0072	180.5	11.89
UNT3-B-C2-1-CTA-3	B	C2	2	2	177.0	12.07	0.1435	20	DGM, M(A,D)GT	0.0072	176.4	12.03
UNT3-C-C1-1-CTA-1	C	C1	3	1	183.6	11.83	0.1434	20	DGM, M(D,A,L)WB	0.0072	182.8	11.78
UNT3-C-C1-1-CTA-2	C	C1	3	1	177.9	11.51	0.1442	20	DGM, M(A,D)WT, M(D,A,L)WB	0.0072	178.1	11.52
UNT3-C-C1-1-CTA-3	C	C1	3	1	180.5	11.71	0.1440	20	DGM, M(D,A,L)WT	0.0072	180.5	11.71
UNT3-C-C2-1-CTA-1	C	C2	3	2	177.2	11.85	0.1461	20	M(A,D)GM, M(A,D)WT	0.0073	179.7	12.02
UNT3-C-C2-1-CTA-2	C	C2	3	2	181.2	11.76	0.1459	20	DGM, M(A,D)WT, M(A,D)WB	0.0073	183.6	11.92
UNT3-C-C2-1-CTA-3	C	C2	3	2	182.3	11.88	0.1457	20	DGM, M(A,D)GB	0.0073	184.5	12.02

¹ Strength not reported because of failure in grip.

² Specimen tested was Strength property only. Strain not recorded.

Average	180.1	11.77
Standard Dev.	3.981	0.1673
Coeff. of Var. [%]	2.211	1.421
Min.	169.9	11.47
Max.	185.8	12.12
Number of Spec.	18	18

Average _{norm}	0.0073	181.5	11.86
Standard Dev. _{norm}		4.288	0.1473
Coeff. of Var. [%] _{norm}		2.362	1.242
Min.	0.0072	171.1	11.52
Max.	0.0073	188.4	12.07
Number of Spec.	19	18	18



September 15, 2025

CAM-RP-2025-009 Rev -

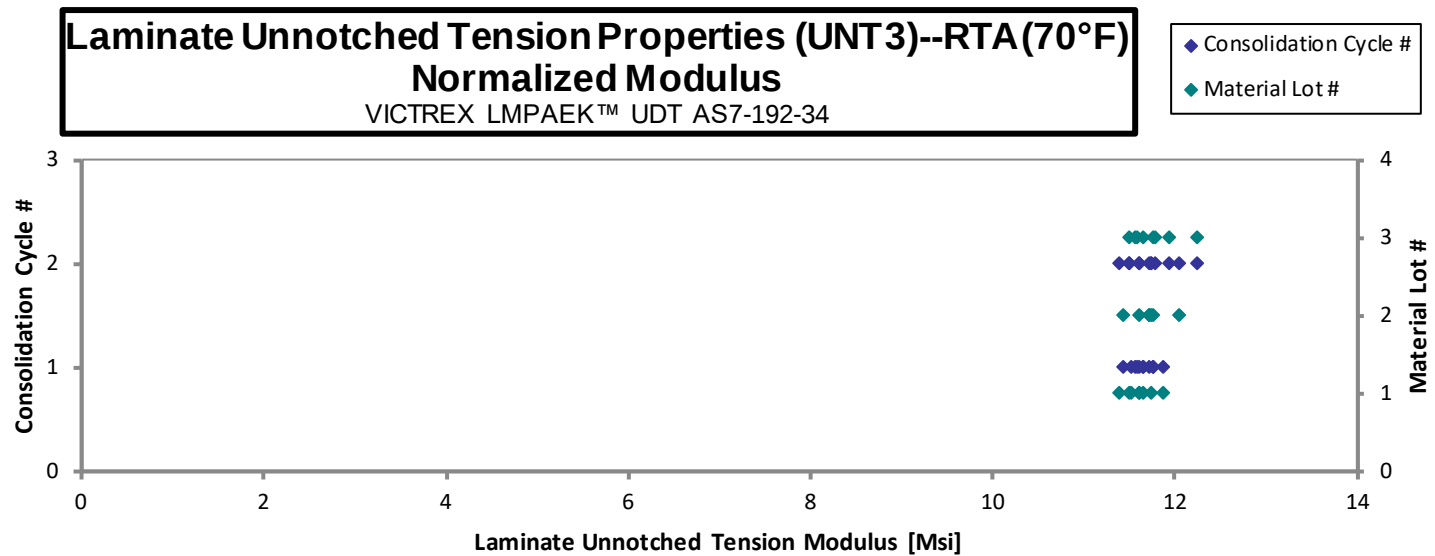
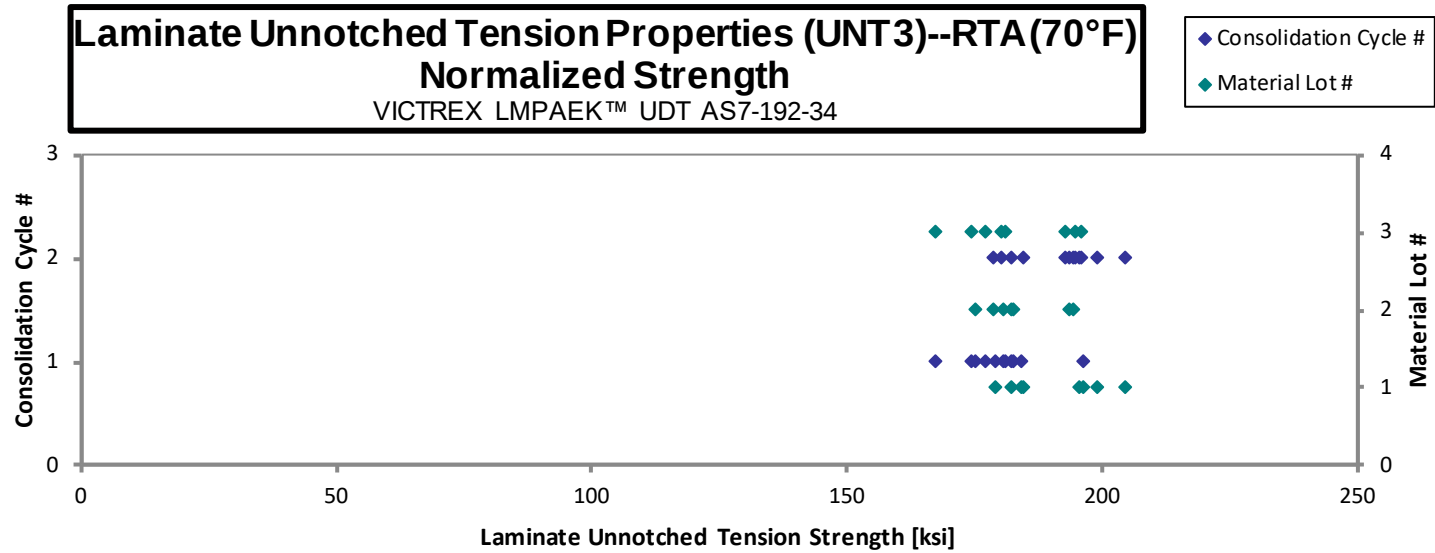
Laminate Unnotched Tension Properties (UNT3)--RTA (70°F)
Strength & Modulus
VICTREX LMPAEK™ UDT AS7-192-34

normalizing
 t_{ply} [in]
0.0072

Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	Strength [ksi]	Modulus [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	Strength _{norm} [ksi]	Modulus _{norm} [Msi]
UNT3-A-C1-1-RTA-1	A	C1	1	1	182.3	11.48	0.1454	20	DGM, M(A,L)GT	0.0073	184.1	11.60
UNT3-A-C1-1-RTA-2	A	C1	1	1	181.2	11.58	0.1450	20	DGM, AWT	0.0072	182.4	11.66
UNT3-A-C1-1-RTA-3	A	C1	1	1	195.6	11.81	0.1447	20	DGM, AWT	0.0072	196.5	11.87
UNT3-A-C1-1-RTA-4	A	C1	1	1	178.1	11.46	0.1448	20	DGM, M(A,L)WT	0.0072	179.1	11.52
UNT3-A-C2-1-RTA-1	A	C2	1	2	202.1	11.59	0.1458	20	M(A,D)GM	0.0073	204.6	11.74
UNT3-A-C2-1-RTA-2	A	C2	1	2	195.5	11.39	0.1468	20	DGM, LWT	0.0073	199.2	11.60
UNT3-A-C2-1-RTA-3	A	C2	1	2	193.3	11.38	0.1456	20	DGM, AWT	0.0073	195.5	11.51
UNT3-A-C2-1-RTA-4	A	C2	1	2	181.8	11.22	0.1463	20	DGM, M(A,L)WB	0.0073	184.7	11.40
UNT3-B-C1-1-RTA-1	B	C1	2	1	178.0	11.53	0.1463	20	DGM, AGT	0.0073	180.8	11.71
UNT3-B-C1-1-RTA-2	B	C1	2	1	171.3	11.49	0.1473	20	DGM, AGT	0.0074	175.2	11.76
UNT3-B-C1-1-RTA-3	B	C1	2	1	180.7	11.33	0.1454	20	DGM, LWT	0.0073	182.4	11.44
UNT3-B-C2-1-RTA-1	B	C2	2	2	179.2	11.78	0.1436	20	DGM, AWB	0.0072	178.7	11.75
UNT3-B-C2-1-RTA-2	B	C2	2	2	193.5	11.72	0.1441	20	M(A,D)GM	0.0072	193.6	11.72
UNT3-B-C2-1-RTA-3	B	C2	2	2	194.8	11.62	0.1437	20	DGM, M(A,L)WB	0.0072	194.4	11.60
UNT3-B-C2-1-RTA-4	B	C2	2	2	183.5	12.12	0.1431	20	DGM, M(A,L)WT	0.0072	182.4	12.05
UNT3-C-C1-1-RTA-1	C	C1	3	1	168.4	11.83	0.1432	20	DGM, LWT	0.0072	167.5	11.76
UNT3-C-C1-1-RTA-2	C	C1	3	1	175.6	11.64	0.1432	20	DGM, AWT	0.0072	174.6	11.57
UNT3-C-C1-1-RTA-3	C	C1	3	1	182.0	11.72	0.1433	20	DGM, M(A,L)WT	0.0072	181.1	11.66
UNT3-C-C1-1-RTA-4	C	C1	3	1	178.4	11.67	0.1429	20	DGM, AGB	0.0071	177.0	11.59
UNT3-C-C2-1-RTA-1	C	C2	3	2	194.7	11.87	0.1449	20	DGM, M(A,L)GT	0.0072	195.9	11.95
UNT3-C-C2-1-RTA-2	C	C2	3	2	191.0	11.67	0.1454	20	M(A,D)GM	0.0073	192.8	11.78
UNT3-C-C2-1-RTA-3	C	C2	3	2	191.7	12.06	0.1462	20	DGM, AGT	0.0073	194.6	12.24
UNT3-C-C2-1-RTA-4	C	C2	3	2	178.6	11.38	0.1455	20	DGM, M(A,L)GB	0.0073	180.4	11.50

Average 184.8 11.62
Standard Dev. 8.924 0.2258
Coeff. of Var. [%] 4.828 1.942
Min. 168.4 11.22
Max. 202.1 12.12
Number of Spec. 23 23

Average_{norm} 0.0072 186.0 11.69
Standard Dev._{norm} 9.449 0.1967
Coeff. of Var. [%]_{norm} 5.081 1.682
Min. 0.0071 167.5 11.40
Max. 0.0074 204.6 12.24
Number of Spec. 23 23 23



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Laminate Unnotched Tension Properties (UNT3)--ETW (250°F)
Strength & Modulus
VICTREX LMPAEK™ UDT AS7-192-34

normalizing

t_{ply} [in]

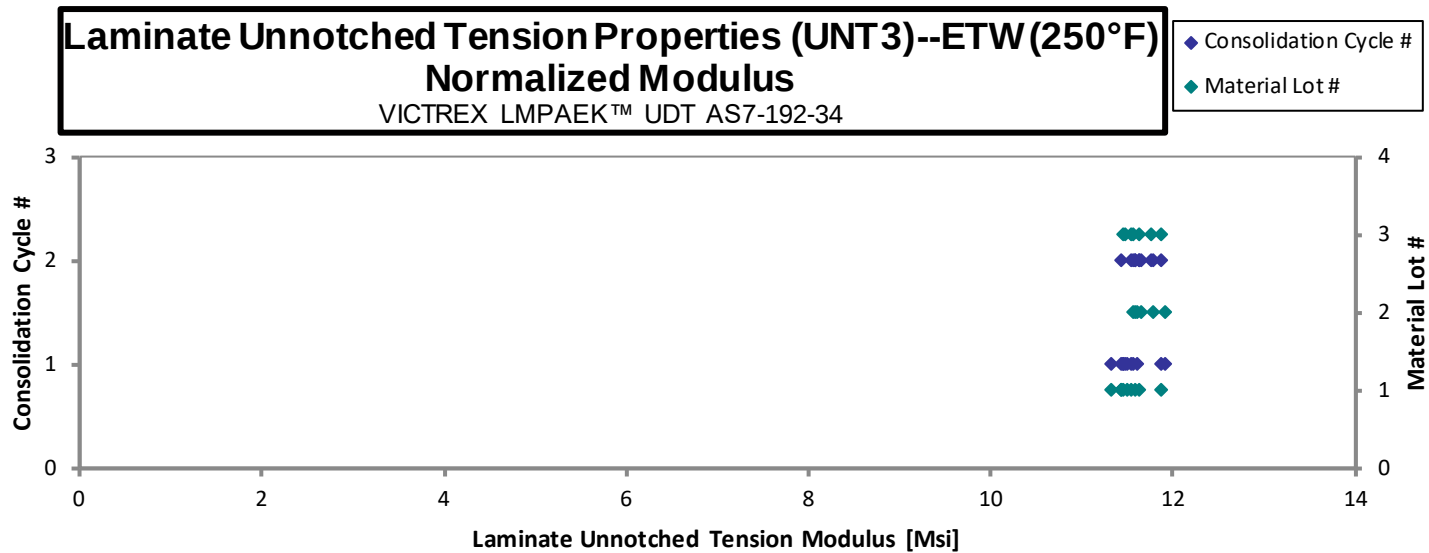
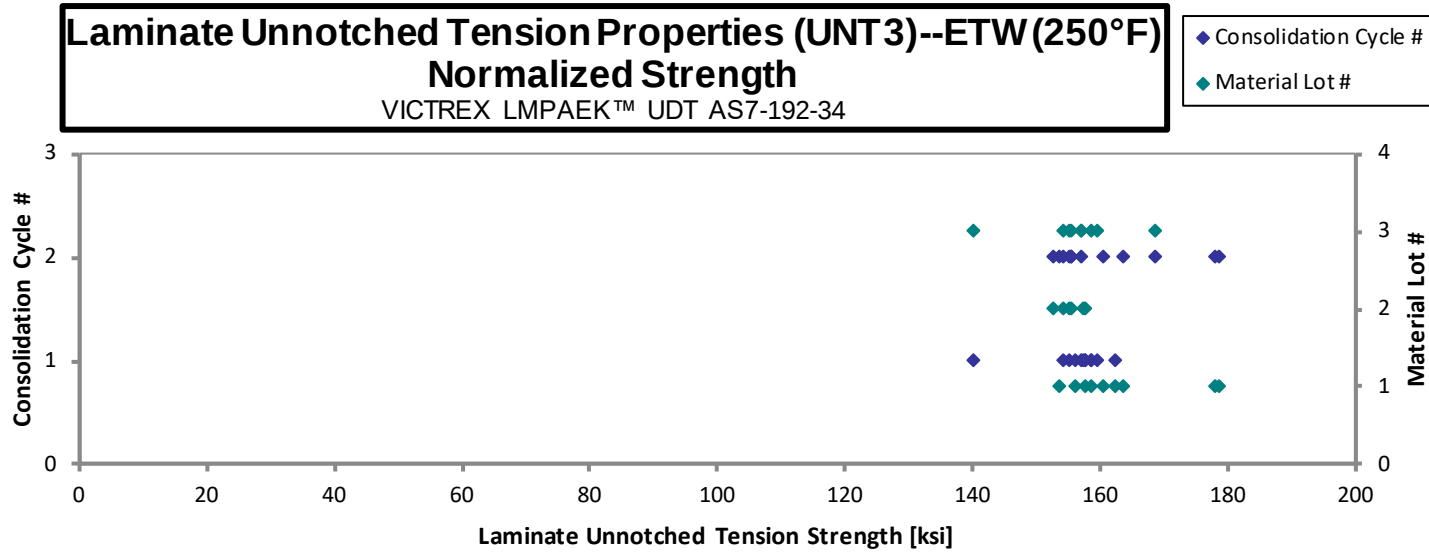
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Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	Strength [ksi]	Modulus [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	Strength _{norm} [ksi]	Modulus _{norm} [Msi]
UNT3-A-C1-1-ETW-1	A	C1	1	1	162.1	11.47	0.1443	20	DGM	0.0072	162.4	11.49
UNT3-A-C1-1-ETW-2	A	C1	1	1	155.7	11.41	0.1444	20	DGM	0.0072	156.1	11.44
UNT3-A-C1-1-ETW-3	A	C1	1	1	157.3	11.43	0.1443	20	DGM	0.0072	157.7	11.45
UNT3-A-C1-1-ETW-4	A	C1	1	1	157.1	11.22	0.1454	20	DGM	0.0073	158.7	11.33
UNT3-A-C2-1-ETW-1	A	C2	1	2	174.2	11.35	0.1471	20	M(D,A,L)GT	0.0074	177.9	11.59
UNT3-A-C2-1-ETW-2	A	C2	1	2	176.5	11.40	0.1459	20	DGM, AGB	0.0073	178.8	11.55
UNT3-A-C2-1-ETW-3	A	C2	1	2	151.6	11.72	0.1459	20	M(D,L)GM	0.0073	153.5	11.87
UNT3-A-C2-1-ETW-4	A	C2	1	2	161.1	11.27	0.1462	20	DGM ,AWT	0.0073	163.6	11.44
UNT3-A-C2-1-ETW-5	A	C2	1	2	158.6	11.49	0.1456	20	DGM	0.0073	160.4	11.62
UNT3-B-C1-1-ETW-1	B	C1	2	1	155.6	11.41	0.1460	20	DGM	0.0073	157.8	11.57
UNT3-B-C1-1-ETW-2	B	C1	2	1	152.7	11.49	0.1455	20	LWB	0.0073	154.3	11.61
UNT3-B-C1-1-ETW-3	B	C1	2	1	155.9	11.80	0.1455	20	DGM	0.0073	157.5	11.92
UNT3-B-C2-1-ETW-1	B	C2	2	2	156.6	11.72	0.1431	20	DGM	0.0072	155.6	11.65
UNT3-B-C2-1-ETW-2	B	C2	2	2	153.7	11.64	0.1432	20	DGT, LWB	0.0072	152.8	11.58
UNT3-B-C2-1-ETW-3	B	C2	2	2	156.1	11.86	0.1431	20	DGM ,AWT	0.0072	155.1	11.79
UNT3-C-C1-1-ETW-1 ¹	C	C1	3	1	156.1		0.1432	20	DGM	0.0072	155.2	
UNT3-C-C1-1-ETW-2	C	C1	3	1	158.0	11.55	0.1432	20	DGM ,AGB	0.0072	157.1	11.48
UNT3-C-C1-1-ETW-3	C	C1	3	1	141.1	11.62	0.1430	20	DGT, AIT	0.0072	140.1	11.55
UNT3-C-C1-1-ETW-4	C	C1	3	1	161.0	11.55	0.1428	20	DGM ,LWB	0.0071	159.6	11.45
UNT3-C-C1-1-ETW-5	C	C1	3	1	160.1	11.99	0.1426	20	DGM	0.0071	158.6	11.88
UNT3-C-C2-1-ETW-1	C	C2	3	2	166.6	11.44	0.1457	20	DGM	0.0073	168.6	11.57
UNT3-C-C2-1-ETW-2 ¹	C	C2	3	2	155.3		0.1456	20	DGM	0.0073	157.0	
UNT3-C-C2-1-ETW-3	C	C2	3	2	152.6	11.64	0.1456	20	DGM ,AWT	0.0073	154.3	11.77
UNT3-C-C2-1-ETW-4	C	C2	3	2	153.9	11.52	0.1454	20	M(A,D)GM	0.0073	155.5	11.63

¹Modulus not reported due to anomalous strain measurement.

Average 157.9 11.55
Standard Dev. 7.144 0.1915
Coeff. of Var. [%] 4.524 1.659
Min. 141.1 11.22
Max. 176.5 11.99
Number of Spec. 24 22

Average_{norm} 0.0072 158.7 11.60
Standard Dev._{norm} 7.857 0.1582
Coeff. of Var. [%]_{norm} 4.952 1.363
Min. 0.0071 140.1 11.33
Max. 0.0074 178.8 11.92
Number of Spec. 24 24 22



September 15, 2025

CAM-RP-2025-009 Rev -

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

Laminate Unnotched Compression Properties (UNC1)--RTA (70°F)

Strength & Modulus

VICTREX LMPAEK™ UDT AS7-192-34

normalizing

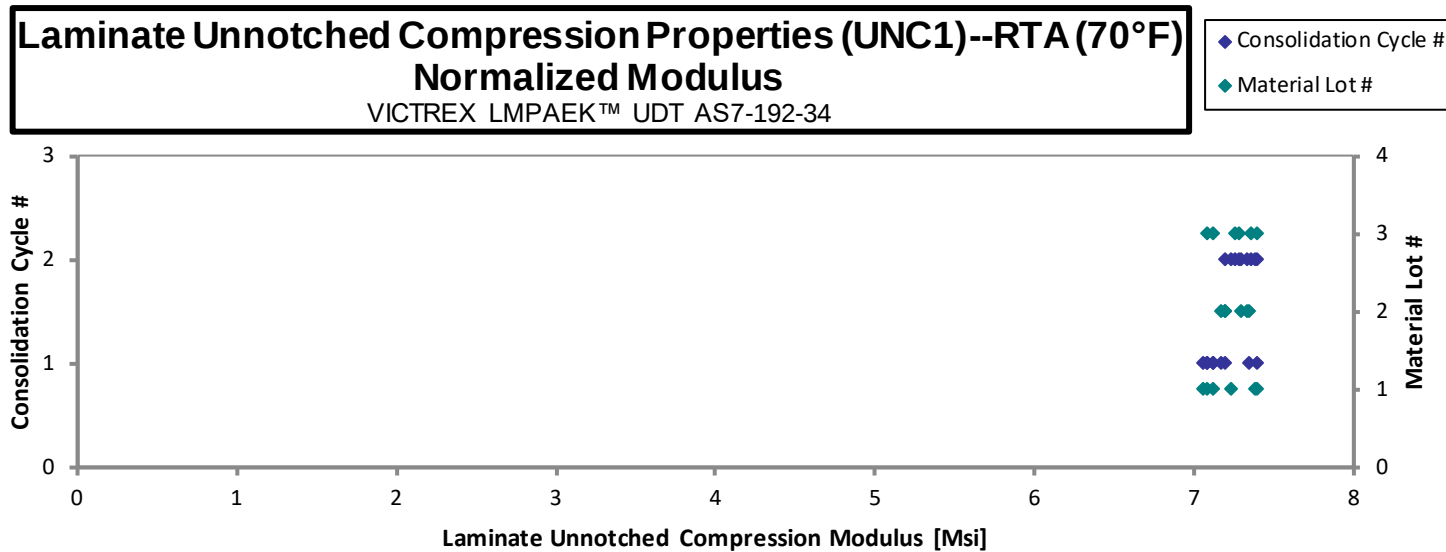
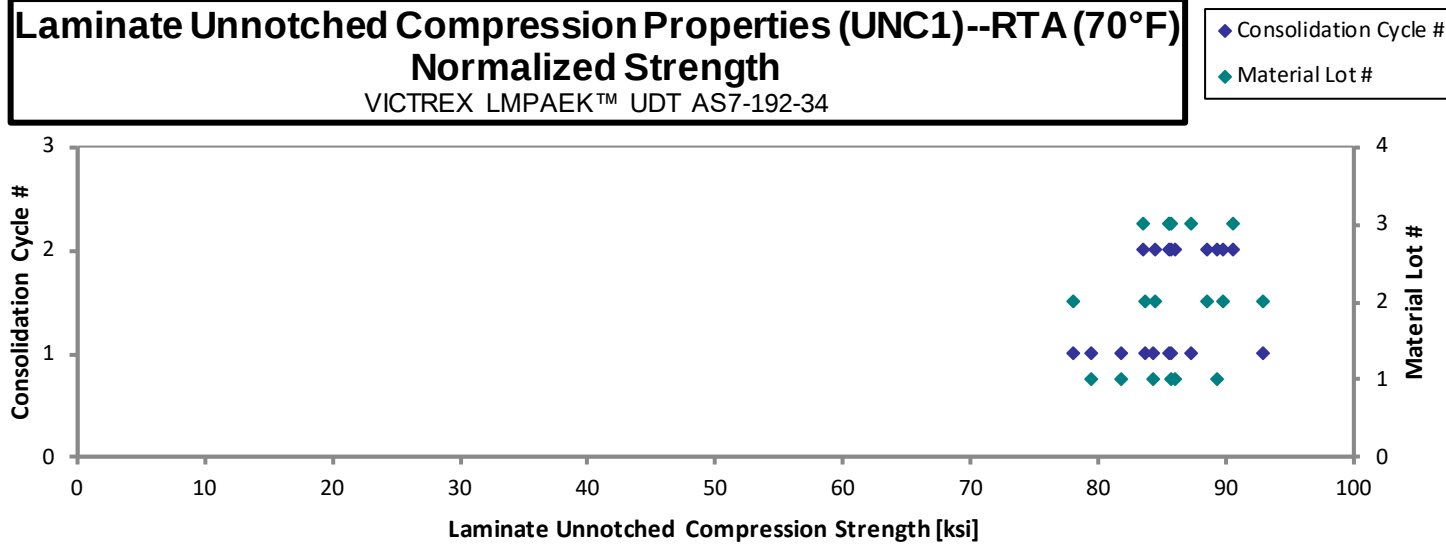
t_{ply} [in]

0.0072

Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	Strength [ksi]	Modulus [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	Strength _{norm} [ksi]	Modulus _{norm} [Msi]
NTP1251Q1-V-A2-DA-UNC1-A-C1-1-RTA-1	A	C1	1	1	82.98	7.011	0.1756	24	BGM	0.0073	84.31	7.123
NTP1251Q1-V-A2-DA-UNC1-A-C1-1-RTA-2	A	C1	1	1	80.61	6.964	0.1753	24	BGM	0.0073	81.80	7.066
NTP1251Q1-V-A2-DA-UNC1-A-C1-1-RTA-3	A	C1	1	1	78.11	6.966	0.1758	24	BGM	0.0073	79.47	7.087
NTP1251Q1-V-A2-DA-UNC1-A-C2-1-RTA-1	A	C2	1	2	84.51	7.141	0.1752	24	BGM	0.0073	85.66	7.238
NTP1251Q1-V-A2-DA-UNC1-A-C2-1-RTA-2	A	C2	1	2	88.13	7.301	0.1751	24	BAT	0.0073	89.30	7.398
NTP1251Q1-V-A2-DA-UNC1-A-C2-1-RTA-3	A	C2	1	2	85.06	7.295	0.1748	24	M(B,H)AB	0.0073	86.05	7.380
NTP1251Q1-V-A2-DA-UNC1-B-C1-1-RTA-1	B	C1	2	1	77.75	7.140	0.1736	24	BGM	0.0072	78.11	7.172
NTP1251Q1-V-A2-DA-UNC1-B-C1-1-RTA-2	B	C1	2	1	92.22	7.150	0.1741	24	HAB, HIB	0.0073	92.90	7.203
NTP1251Q1-V-A2-DA-UNC1-B-C1-1-RTA-3	B	C1	2	1	83.33	7.316	0.1735	24	BGM	0.0072	83.67	7.345
NTP1251Q1-V-A2-DA-UNC1-B-C2-1-RTA-1	B	C2	2	2	89.86	7.342	0.1727	24	BGM	0.0072	89.79	7.337
NTP1251Q1-V-A2-DA-UNC1-B-C2-1-RTA-2	B	C2	2	2	84.48	7.289	0.1729	24	BGM	0.0072	84.53	7.293
NTP1251Q1-V-A2-DA-UNC1-B-C2-1-RTA-3	B	C2	2	2	88.35	7.179	0.1732	24	BGM	0.0072	88.55	7.195
NTP1251Q1-V-A2-DA-UNC1-C-C1-1-RTA-1	C	C1	3	1	86.24	7.175	0.1717	24	BAT	0.0072	85.68	7.129
NTP1251Q1-V-A2-DA-UNC1-C-C1-1-RTA-2	C	C1	3	1	87.69	7.121	0.1720	24	BAB	0.0072	87.30	7.089
NTP1251Q1-V-A2-DA-UNC1-C-C1-1-RTA-3	C	C1	3	1	86.05	7.436	0.1720	24	BGM	0.0072	85.66	7.401
NTP1251Q1-V-A2-DA-UNC1-C-C2-1-RTA-1	C	C2	3	2	85.68	7.271	0.1725	24	BAB	0.0072	85.53	7.258
NTP1251Q1-V-A2-DA-UNC1-C-C2-1-RTA-2	C	C2	3	2	90.31	7.340	0.1734	24	BGM	0.0072	90.64	7.366
NTP1251Q1-V-A2-DA-UNC1-C-C2-1-RTA-3	C	C2	3	2	83.26	7.259	0.1735	24	BGM	0.0072	83.59	7.289

Average 85.26 7.205
 Standard Dev. 3.939 0.1345
 Coeff. of Var. [%] 4.620 1.866
 Min. 77.75 6.964
 Max. 92.22 7.436
 Number of Spec. 18 18

Average_{norm} 0.0072 85.70 7.243
 Standard Dev._{norm} 3.760 0.1145
 Coeff. of Var. [%]_{norm} 4.387 1.581
 Min. 0.0072 78.11 7.066
 Max. 0.0073 92.90 7.401
 Number of Spec. 18 18 18



September 15, 2025

CAM-RP-2025-009 Rev -

Laminate Unnotched Compression Properties (UNC1)--ETA (250°F)

Strength & Modulus
VICTREX LMPAEK™ UDT AS7-192-34

normalizing

t_{ply} [in]

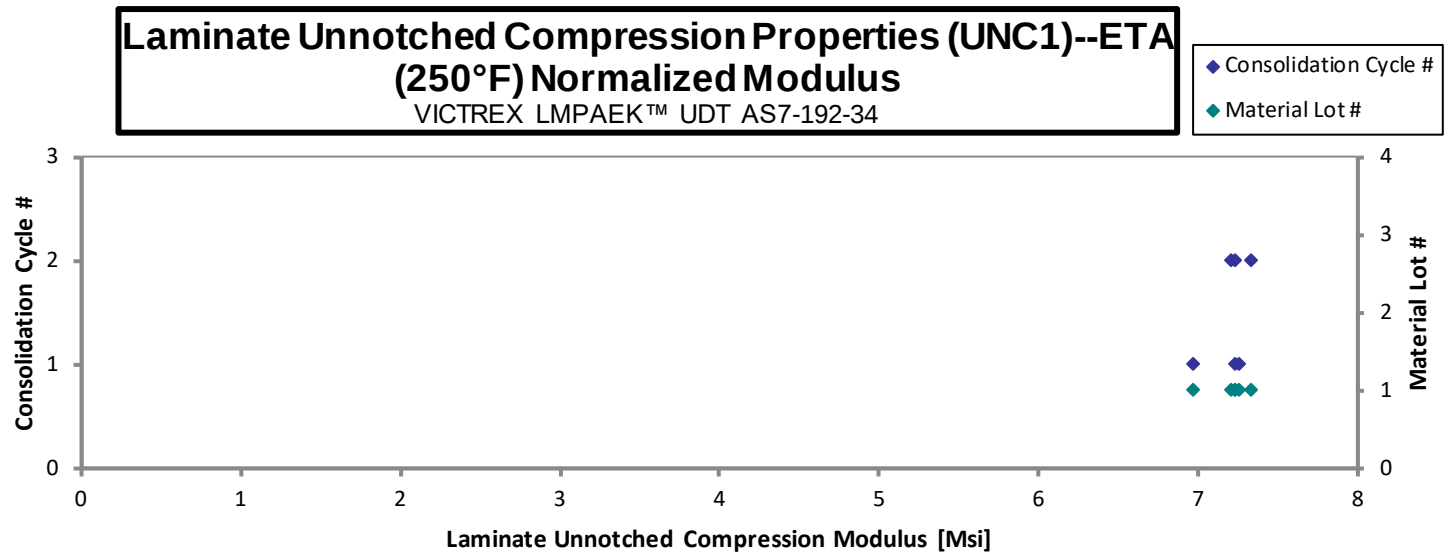
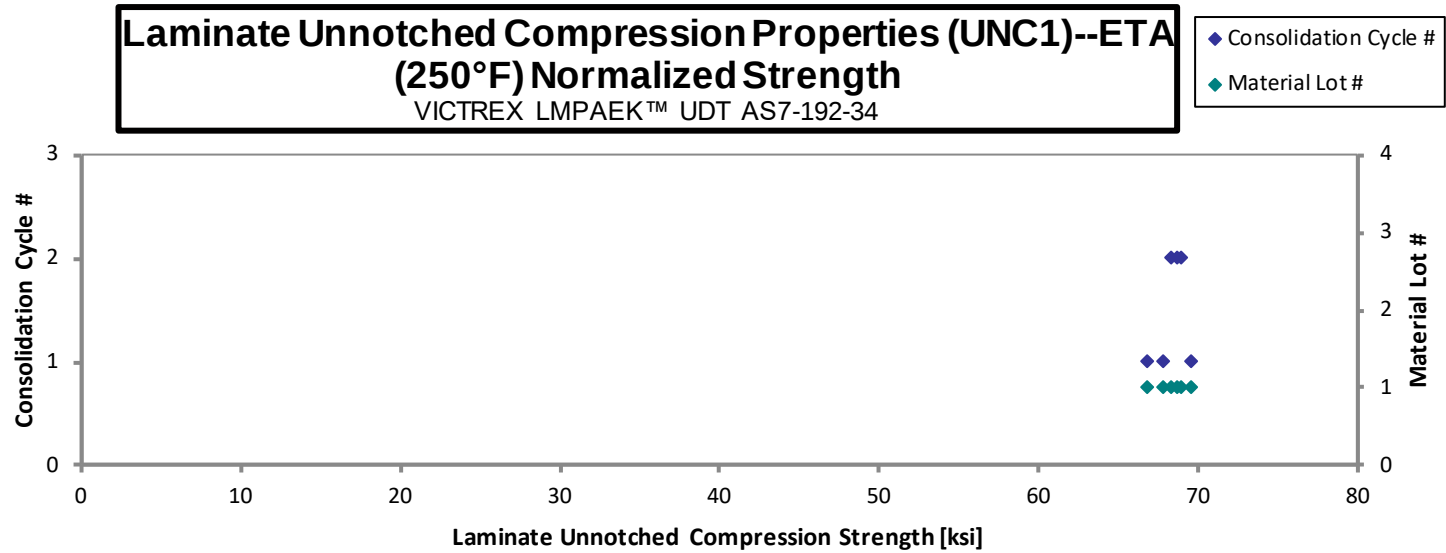
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Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	Strength [ksi]	Modulus [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode
NTP1251Q1-V-A2-DA-UNC1-A-C1-1-ETA-1	A	C1	1	1	66.89	6.883	0.1752	24	HAT
NTP1251Q1-V-A2-DA-UNC1-A-C1-1-ETA-2	A	C1	1	1	68.60	7.130	0.1753	24	M(B,H)AB
NTP1251Q1-V-A2-DA-UNC1-A-C1-1-ETA-3	A	C1	1	1	66.14	7.186	0.1747	24	BGM
NTP1251Q1-V-A2-DA-UNC1-A-C2-1-ETA-1	A	C2	1	2	67.71	7.212	0.1759	24	BAT
NTP1251Q1-V-A2-DA-UNC1-A-C2-1-ETA-2	A	C2	1	2	67.79	7.112	0.1751	24	BGM
NTP1251Q1-V-A2-DA-UNC1-A-C2-1-ETA-3	A	C2	1	2	67.47	7.144	0.1751	24	HAB, HIB

Avg. t_{ply} [in]	Strength _{norm} [ksi]	Modulus _{norm} [Msi]
0.0073	67.81	6.978
0.0073	69.60	7.233
0.0073	66.87	7.266
0.0073	68.92	7.340
0.0073	68.67	7.206
0.0073	68.37	7.239

Average 67.43 7.111
Standard Dev. 0.8420 0.1174
Coeff. of Var. [%] 1.249 1.651
Min. 66.14 6.883
Max. 68.60 7.212
Number of Spec. 6 6

Average_{norm} 0.0073 68.37 7.210
Standard Dev_{norm} 0.9439 0.1226
Coeff. of Var. [%]_{norm} 1.380 1.700
Min. 0.0073 66.87 6.978
Max. 0.0073 69.60 7.340
Number of Spec. 6 6 6



September 15, 2025

CAM-RP-2025-009 Rev -

Laminate Unnotched Compression Properties (UNC1)--ETW (250°F)

Strength & Modulus

VICTREX LMPAEK™ UDT AS7-192-34

normalizing

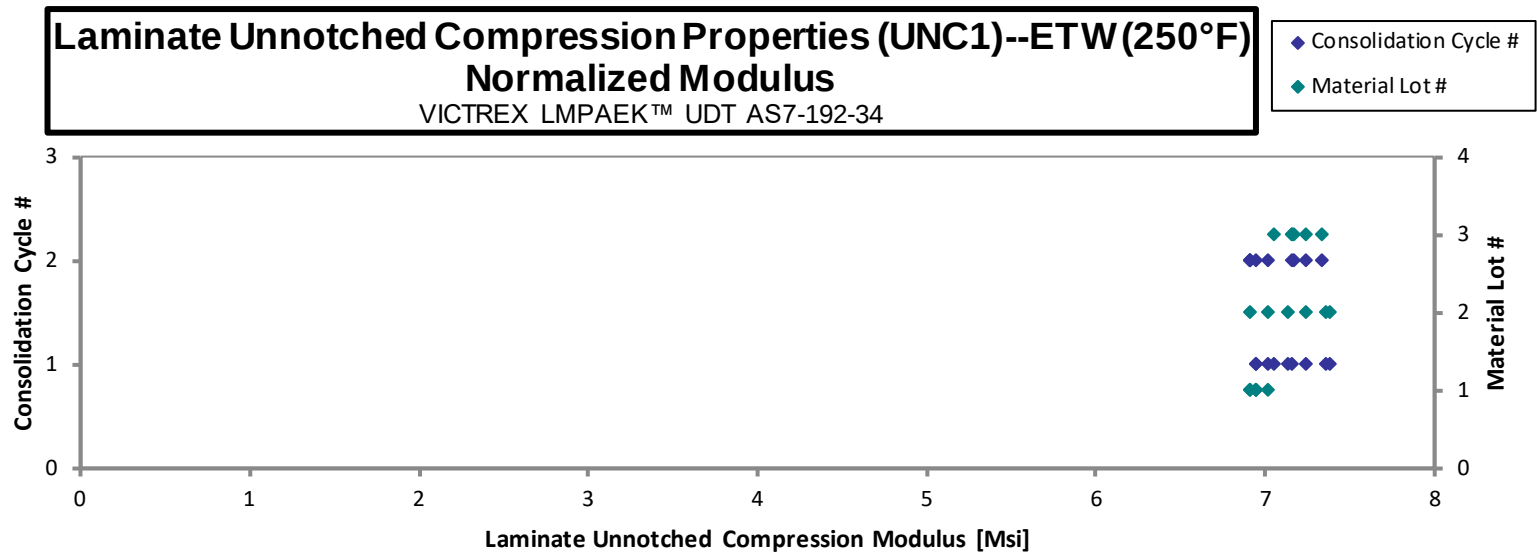
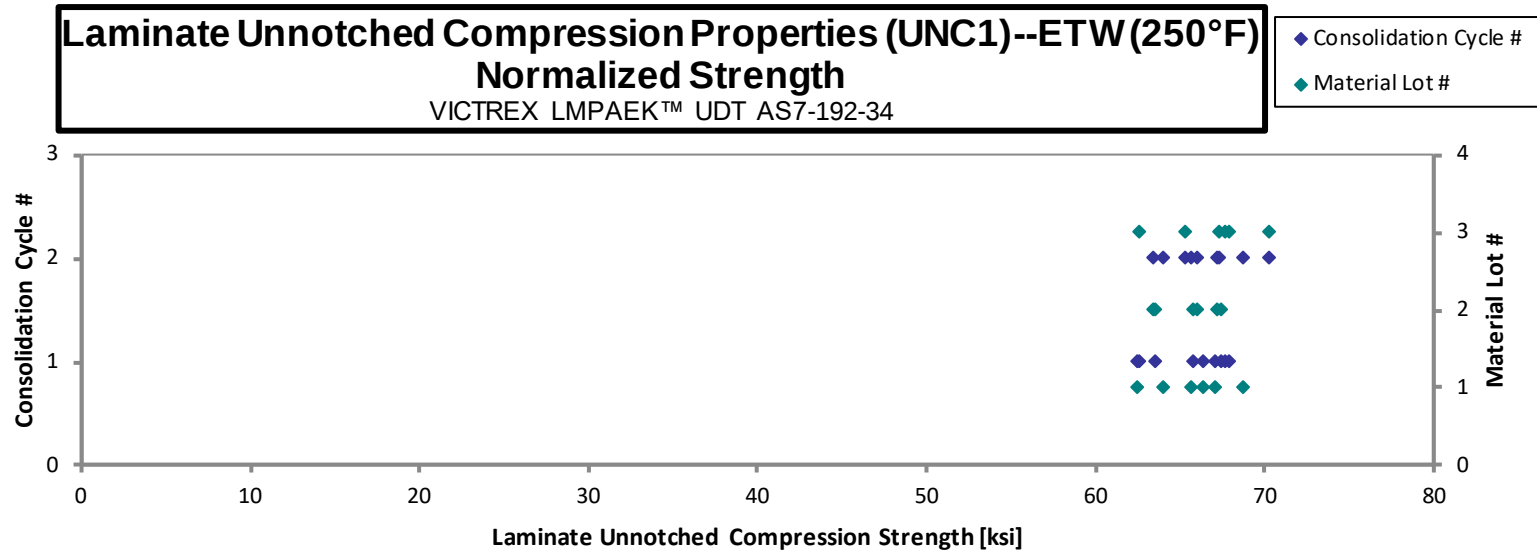
t_{ply} [in]

0.0072

Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	Strength [ksi]	Modulus [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	Strength _{norm} [ksi]	Modulus _{norm} [Msi]
NTP1251Q1-V-A2-DA-UNC1-A-C1-1-ETW-1	A	C1	1	1	65.66	6.876	0.1765	24	BGM	0.0074	67.06	7.022
NTP1251Q1-V-A2-DA-UNC1-A-C1-1-ETW-2	A	C1	1	1	61.60	6.844	0.1753	24	BGM	0.0073	62.50	6.944
NTP1251Q1-V-A2-DA-UNC1-A-C1-1-ETW-3	A	C1	1	1	65.15	6.817	0.1761	24	BGM	0.0073	66.38	6.946
NTP1251Q1-V-A2-DA-UNC1-A-C2-1-ETW-1	A	C2	1	2	63.32	6.837	0.1747	24	BGM	0.0073	64.00	6.911
NTP1251Q1-V-A2-DA-UNC1-A-C2-1-ETW-2	A	C2	1	2	64.77	6.847	0.1753	24	BGM	0.0073	65.69	6.944
NTP1251Q1-V-A2-DA-UNC1-A-C2-1-ETW-3	A	C2	1	2	67.76	6.812	0.1753	24	BGM	0.0073	68.75	6.911
NTP1251Q1-V-A2-DA-UNC1-B-C1-1-ETW-1	B	C1	2	1	67.10	7.352	0.1735	24	BGM	0.0072	67.38	7.383
NTP1251Q1-V-A2-DA-UNC1-B-C1-1-ETW-2	B	C1	2	1	65.49	7.095	0.1737	24	BGM	0.0072	65.81	7.130
NTP1251Q1-V-A2-DA-UNC1-B-C1-1-ETW-3	B	C1	2	1	62.69	7.256	0.1751	24	BGM	0.0073	63.54	7.354
NTP1251Q1-V-A2-DA-UNC1-B-C2-1-ETW-1	B	C2	2	2	66.24	6.928	0.1723	24	BGM	0.0072	66.04	6.907
NTP1251Q1-V-A2-DA-UNC1-B-C2-1-ETW-2	B	C2	2	2	67.12	7.244	0.1728	24	BGM	0.0072	67.13	7.246
NTP1251Q1-V-A2-DA-UNC1-B-C2-1-ETW-3	B	C2	2	2	63.20	6.993	0.1735	24	BGM	0.0072	63.43	7.019
NTP1251Q1-V-A2-DA-UNC1-C-C1-1-ETW-1	C	C1	3	1	68.50	7.296	0.1714	24	BGM	0.0071	67.95	7.237
NTP1251Q1-V-A2-DA-UNC1-C-C1-1-ETW-2	C	C1	3	1	67.84	7.170	0.1724	24	BGM	0.0072	67.68	7.153
NTP1251Q1-V-A2-DA-UNC1-C-C1-1-ETW-3	C	C1	3	1	62.74	7.067	0.1724	24	BGM	0.0072	62.58	7.050
NTP1251Q1-V-A2-DA-UNC1-C-C2-1-ETW-1	C	C2	3	2	70.04	7.141	0.1733	24	BGM	0.0072	70.26	7.163
NTP1251Q1-V-A2-DA-UNC1-C-C2-1-ETW-2	C	C2	3	2	65.18	7.324	0.1731	24	BGM	0.0072	65.28	7.335
NTP1251Q1-V-A2-DA-UNC1-C-C2-1-ETW-3	C	C2	3	2	66.59	7.090	0.1748	24	BGM	0.0073	67.34	7.171

Average 65.61 7.055
 Standard Dev. 2.282 0.1913
 Coeff. of Var. [%] 3.478 2.711
 Min. 61.60 6.812
 Max. 70.04 7.352
 Number of Spec. 18 18

Average_{norm} 0.0072 66.05 7.101
 Standard Dev._{norm} 2.165 0.1625
 Coeff. of Var. [%]_{norm} 3.279 2.288
 Min. 0.0071 62.50 6.907
 Max. 0.0074 70.26 7.383
 Number of Spec. 18 18 18



4.14 “10/80/10” Unnotched Compression 2 Properties (UNC2)

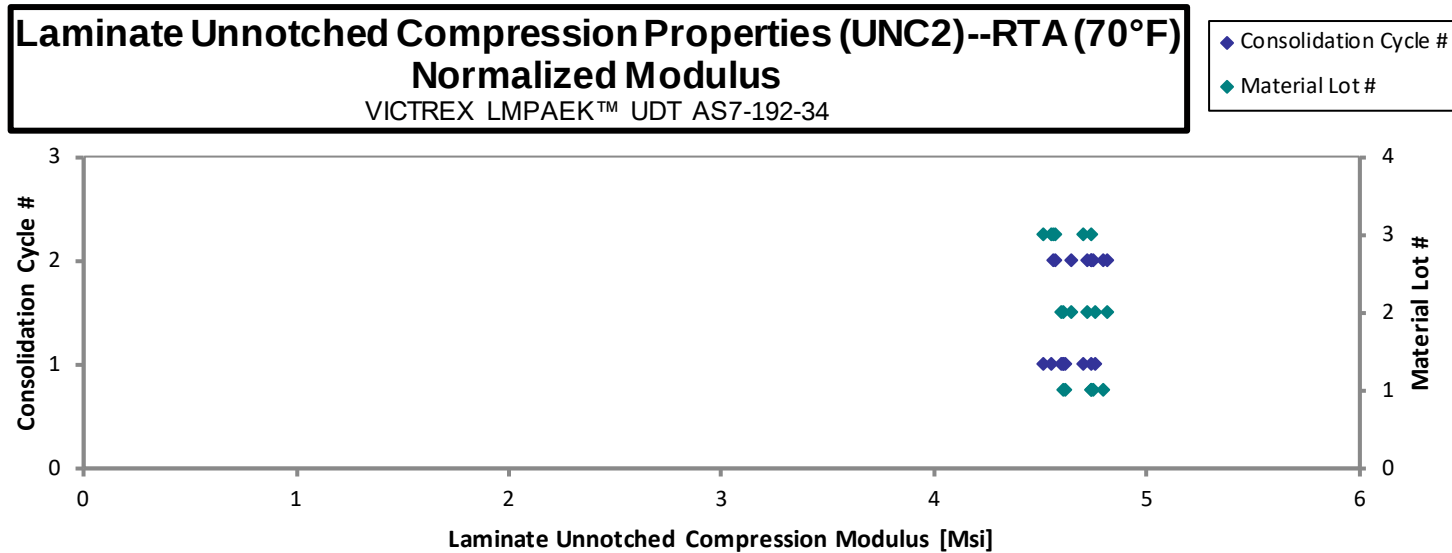
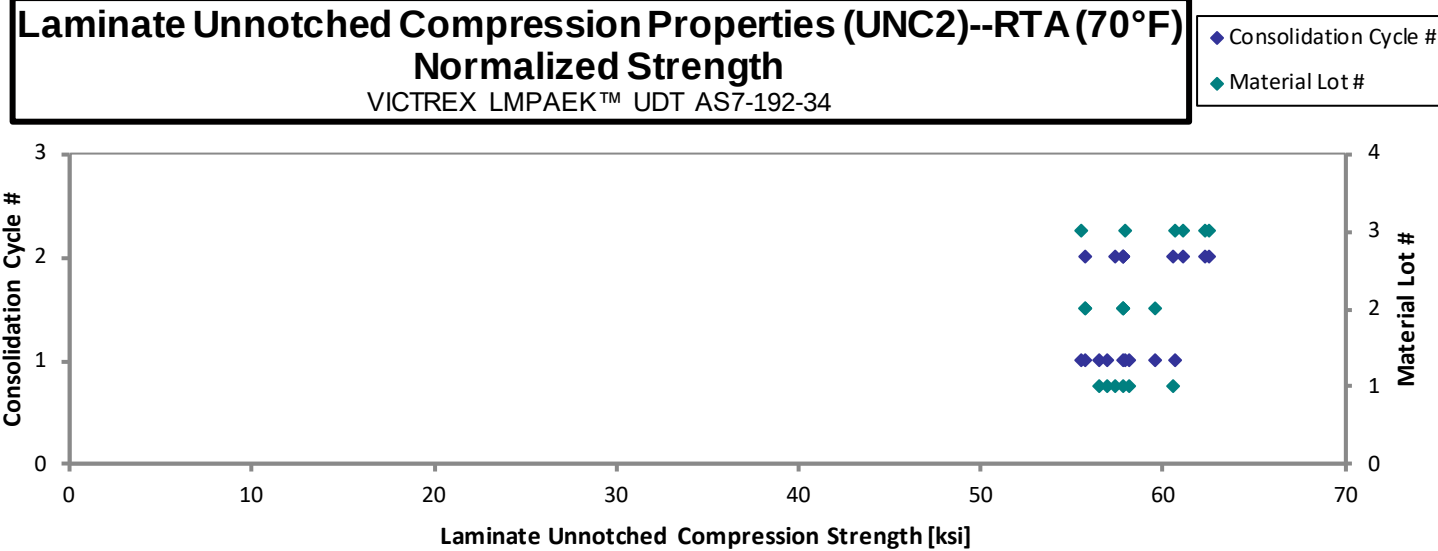
Laminate Unnotched Compression Properties (UNC2)--RTA (70°F)
Strength & Modulus
 VICTREX LMPAEK™ UDT AS7-192-34

normalizing
 t_{ply} [in]
 0.0072

Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	Strength [ksi]	Modulus [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	Strength _{norm} [ksi]	Modulus _{norm} [Msi]
UNC2-A-C1-3-RTA-1	A	C1	1	1	57.18	4.534	0.1464	20	BGM	0.0073	58.11	4.608
UNC2-A-C1-3-RTA-2	A	C1	1	1	56.12	4.584	0.1449	20	BGM	0.0072	56.49	4.614
UNC2-A-C1-3-RTA-3	A	C1	1	1	55.77	4.640	0.1470	20	BGM	0.0074	56.94	4.738
UNC2-A-C2-3-RTA-1	A	C2	1	2	56.92	4.676	0.1462	20	BGM	0.0073	57.78	4.747
UNC2-A-C2-3-RTA-2	A	C2	1	2	56.19	4.639	0.1470	20	BGM	0.0074	57.37	4.736
UNC2-A-C2-3-RTA-3	A	C2	1	2	59.32	4.698	0.1471	20	BGM	0.0074	60.61	4.799
UNC2-B-C1-3-RTA-1	B	C1	2	1	58.84	4.536	0.1459	20	BGM	0.0073	59.61	4.596
UNC2-B-C1-3-RTA-2	B	C1	2	1	54.82	4.533	0.1464	20	BGM	0.0073	55.74	4.610
UNC2-B-C1-3-RTA-3	B	C1	2	1	56.89	4.677	0.1464	20	BGM	0.0073	57.85	4.756
UNC2-B-C2-3-RTA-1	B	C2	2	2	56.73	4.729	0.1467	20	BGM	0.0073	57.80	4.819
UNC2-B-C2-3-RTA-2	B	C2	2	2	56.81	4.640	0.1466	20	BGM	0.0073	57.82	4.723
UNC2-B-C2-3-RTA-3	B	C2	2	2	54.61	4.556	0.1470	20	BGM	0.0073	55.73	4.650
UNC2-C-C1-3-RTA-1	C	C1	3	1	58.83	4.579	0.1419	20	BGM	0.0071	57.98	4.513
UNC2-C-C1-3-RTA-2	C	C1	3	1	56.25	4.613	0.1420	20	BGM	0.0071	55.47	4.549
UNC2-C-C1-3-RTA-3	C	C1	3	1	60.87	4.716	0.1436	20	BGM	0.0072	60.72	4.704
UNC2-C-C2-3-RTA-1	C	C2	3	2	62.54	4.755	0.1435	20	BGM	0.0072	62.32	4.738
UNC2-C-C2-3-RTA-2	C	C2	3	2	63.12	4.602	0.1426	20	BGM	0.0071	62.52	4.558
UNC2-C-C2-3-RTA-3	C	C2	3	2	61.11	4.571	0.1440	20	BGM	0.0072	61.09	4.570

Average 57.94 4.627
 Standard Dev. 2.548 0.07037
 Coeff. of Var. [%] 4.398 1.521
 Min. 54.61 4.533
 Max. 63.12 4.755
 Number of Spec. 18 18

Average_{norm} 0.0073 58.44 4.668
 Standard Dev._{norm} 2.203 0.09335
 Coeff. of Var. [%]_{norm} 3.769 2.000
 Min. 0.0071 55.47 4.513
 Max. 0.0074 62.52 4.819
 Number of Spec. 18 18 18



September 15, 2025

CAM-RP-2025-009 Rev -

Laminate Unnotched Compression Properties (UNC2)--ETW (250°F)
Strength & Modulus

VICTREX LMPAEK™ UDT AS7-192-34

normalizing

t_{ply} [in]

0.0072

Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	Strength [ksi]	Modulus [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode
UNC2-A-C1-3-ETW-1	A	C1	1	1	39.55	3.902	0.1464	20	BGM
UNC2-A-C1-3-ETW-2	A	C1	1	1	41.88	4.139	0.1463	20	BAB, HIB
UNC2-A-C1-3-ETW-3	A	C1	1	1	40.55	3.997	0.1464	20	BGM
UNC2-A-C1-3-ETW-4 ¹	A	C1	1	1	41.66		0.1451	20	BGM
UNC2-A-C2-3-ETW-1	A	C2	1	2	40.36	4.053	0.1461	20	BGM
UNC2-A-C2-3-ETW-2	A	C2	1	2	41.07	4.157	0.1462	20	BGM
UNC2-A-C2-3-ETW-3	A	C2	1	2	40.23	4.001	0.1467	20	BGM
UNC2-B-C1-3-ETW-1	B	C1	2	1	40.12	4.123	0.1461	20	BGM
UNC2-B-C1-3-ETW-2	B	C1	2	1	44.84	4.118	0.1465	20	BGM
UNC2-B-C1-3-ETW-3	B	C1	2	1	44.10	4.067	0.1461	20	BGM
UNC2-B-C2-3-ETW-1	B	C2	2	2	38.33	3.963	0.1478	20	BGM
UNC2-B-C2-3-ETW-2	B	C2	2	2	39.65	4.179	0.1462	20	BGM
UNC2-B-C2-3-ETW-3	B	C2	2	2	40.41	4.248	0.1470	20	BGM
UNC2-C-C1-3-ETW-1	C	C1	3	1	40.34	4.190	0.1421	20	BGM
UNC2-C-C1-3-ETW-2	C	C1	3	1	39.52	4.118	0.1423	20	BGM
UNC2-C-C1-3-ETW-3	C	C1	3	1	43.10	4.170	0.1428	20	BGM
UNC2-C-C2-3-ETW-1	C	C2	3	2	39.83	4.021	0.1433	20	BGM
UNC2-C-C2-3-ETW-2	C	C2	3	2	38.96	4.171	0.1438	20	BGM
UNC2-C-C2-3-ETW-3	C	C2	3	2	39.24	4.083	0.1434	20	BGM

Avg. t_{ply} [in]	Strength _{norm} [ksi]	Modulus _{norm} [Msi]
0.0073	40.22	3.968
0.0073	42.55	4.204
0.0073	41.22	4.062
0.0073	41.96	
0.0073	40.95	4.112
0.0073	41.71	4.221
0.0073	40.98	4.076
0.0073	40.70	4.183
0.0073	45.62	4.189
0.0073	44.73	4.125
0.0074	39.33	4.066
0.0073	40.25	4.242
0.0074	41.25	4.337
0.0071	39.79	4.133
0.0071	39.06	4.070
0.0071	42.74	4.136
0.0072	39.64	4.002
0.0072	38.90	4.165
0.0072	39.08	4.067

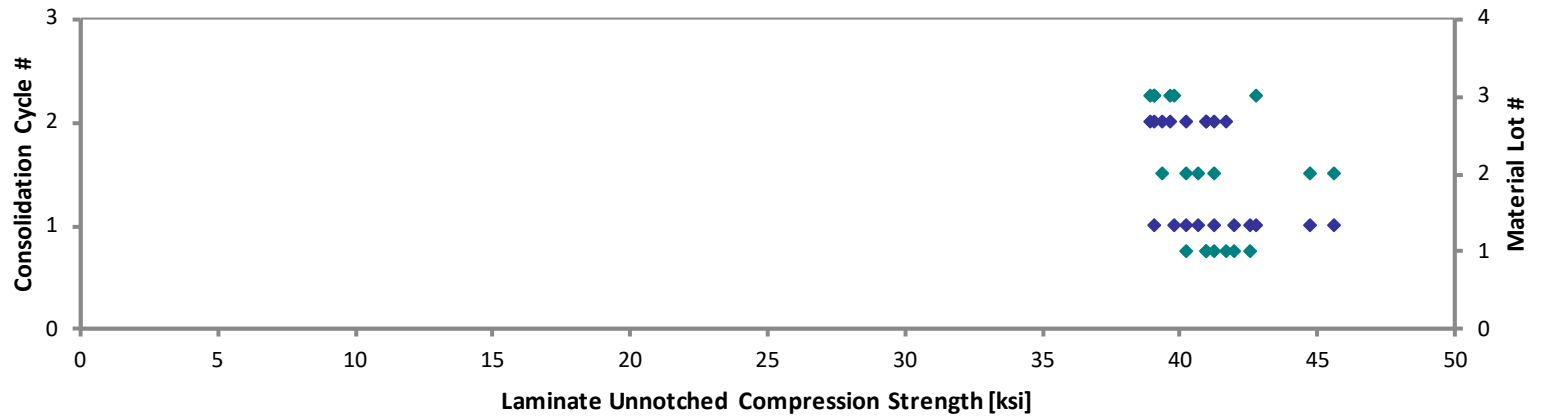
¹ Specimen tested was Strength property only. Strain not recorded.

Average 40.72 4.094
 Standard Dev. 1.719 0.09071
 Coeff. of Var. [%] 4.221 2.215
 Min. 38.33 3.902
 Max. 44.84 4.248
 Number of Spec. 19 18

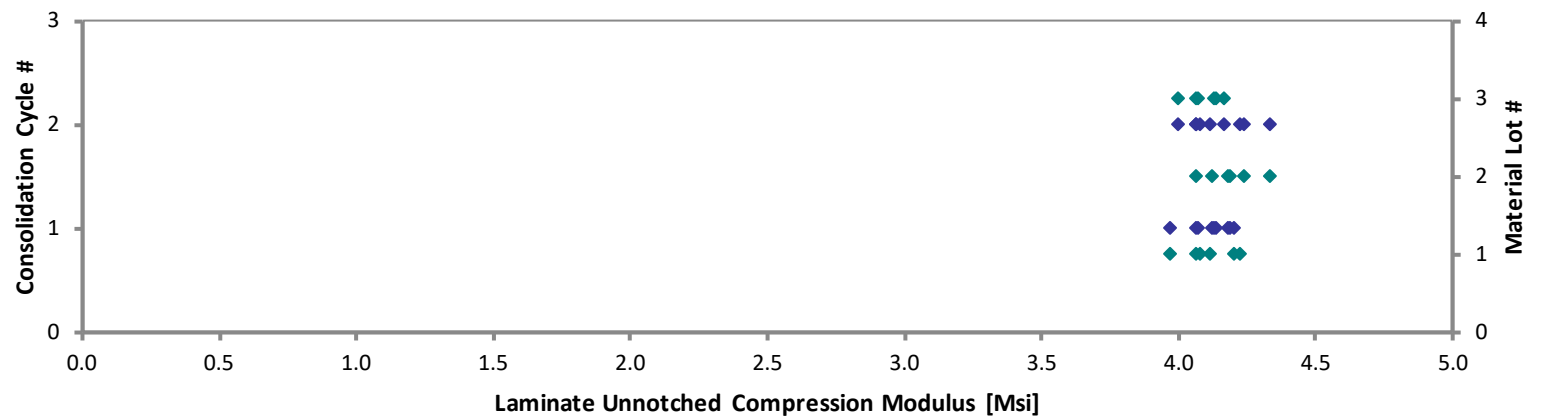
Average_{norm} 0.0073 41.09 4.131
 Standard Dev._{norm} 1.845 0.09038
 Coeff. of Var. [%]_{norm} 4.490 2.188
 Min. 0.0071 38.90 3.968
 Max. 0.0074 45.62 4.337
 Number of Spec. 19 19 18

Laminate Unnotched Compression Properties (UNC2)--ETW (250°F)
Normalized Strength

VICTREX LMPAEK™ UDT AS7-192-34

**Laminate Unnotched Compression Properties (UNC2)--ETW (250°F)**
Normalized Modulus

VICTREX LMPAEK™ UDT AS7-192-34



September 15, 2025

CAM-RP-2025-009 Rev -

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

Laminate Unnotched Compression Properties (UNC3)--RTA (70°F)

Strength & Modulus

VICTREX LMPAEK™ UDT AS7-192-34

normalizing

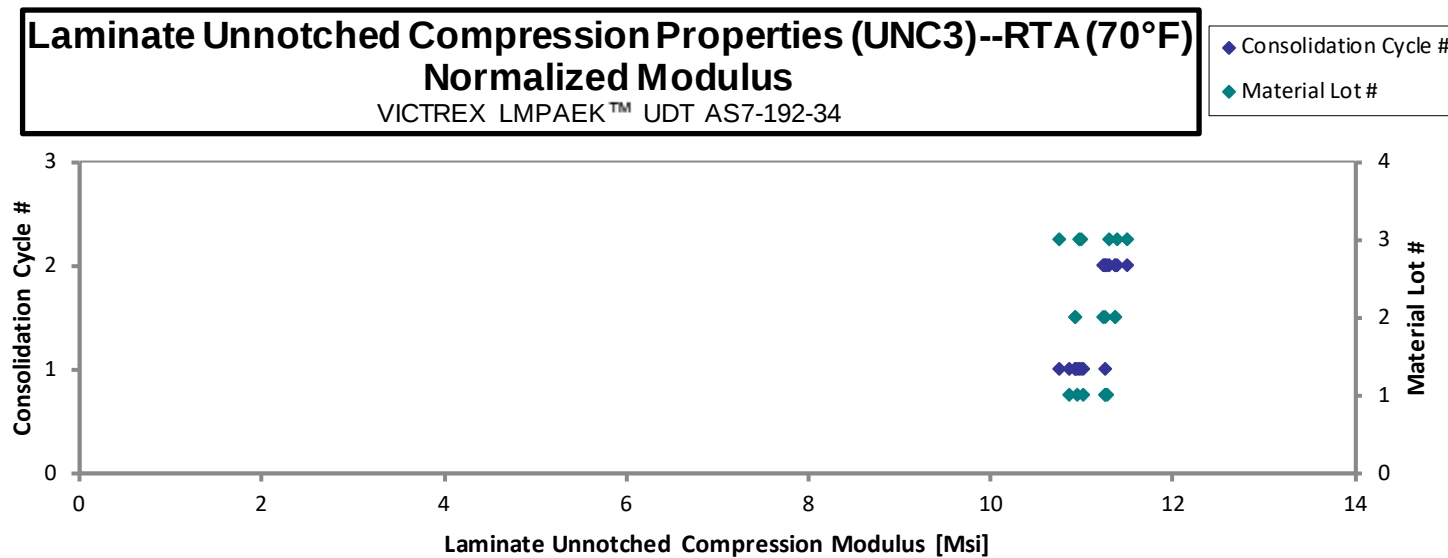
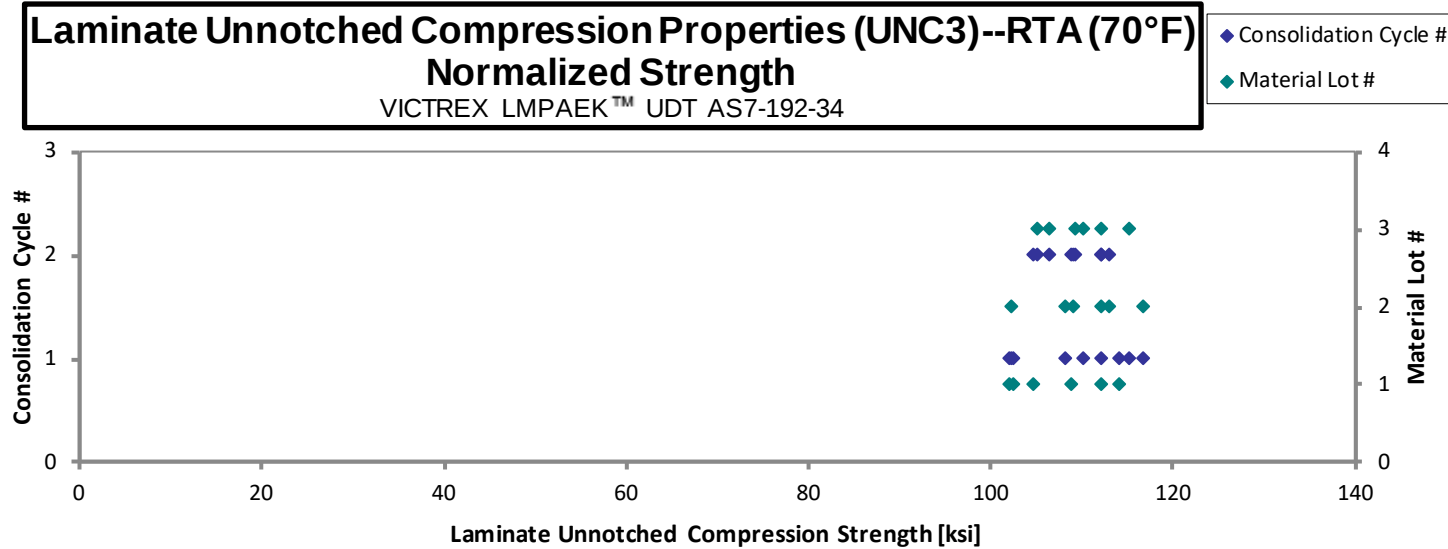
t_{ply} [in]

0.0072

Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	Strength [ksi]	Modulus [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	Strength _{norm} [ksi]	Modulus _{norm} [Msi]
UNC3-A-C1-4-RTA-1	A	C1	1	1	101.7	10.91	0.1453	20	BGM	0.0073	102.6	11.01
UNC3-A-C1-4-RTA-2	A	C1	1	1	100.9	10.75	0.1457	20	BGM	0.0073	102.1	10.87
UNC3-A-C1-4-RTA-3	A	C1	1	1	113.0	10.84	0.1454	20	M(B,H)AT	0.0073	114.1	10.94
UNC3-A-C2-4-RTA-1	A	C2	1	2	107.5	11.13	0.1457	20	M(B,H)AB	0.0073	108.8	11.26
UNC3-A-C2-4-RTA-2	A	C2	1	2	103.4	11.14	0.1459	20	HAT	0.0073	104.7	11.29
UNC3-A-C2-4-RTA-3	A	C2	1	2	110.0	11.05	0.1466	20	BAT, HIT	0.0073	112.0	11.25
UNC3-B-C1-4-RTA-1	B	C1	2	1	100.8	10.76	0.1462	20	BAT, HIT	0.0073	102.3	10.92
UNC3-B-C1-4-RTA-2	B	C1	2	1	115.2	10.80	0.1459	20	HAT, HIT	0.0073	116.7	10.94
UNC3-B-C1-4-RTA-3	B	C1	2	1	106.9	11.13	0.1456	20	M(B,H)AB	0.0073	108.1	11.25
UNC3-B-C2-4-RTA-1	B	C2	2	2	112.1	11.38	0.1440	20	M(B,H)AT, HIT	0.0072	112.1	11.38
UNC3-B-C2-4-RTA-2	B	C2	2	2	113.5	11.30	0.1433	20	HAT	0.0072	112.9	11.25
UNC3-B-C2-4-RTA-3	B	C2	2	2	109.8	11.45	0.1429	20	HAT, HIT	0.0071	109.0	11.36
UNC3-C-C1-4-RTA-1	C	C1	3	1	113.6	11.14	0.1421	20	HAB	0.0071	112.1	10.99
UNC3-C-C1-4-RTA-2	C	C1	3	1	111.3	11.08	0.1427	20	BAB	0.0071	110.3	10.98
UNC3-C-C1-4-RTA-3	C	C1	3	1	116.2	10.84	0.1427	20	BGM	0.0071	115.2	10.75
UNC3-C-C2-4-RTA-1	C	C2	3	2	108.7	11.24	0.1449	20	M(B,H)AT, HIT	0.0072	109.4	11.31
UNC3-C-C2-4-RTA-2	C	C2	3	2	104.2	11.29	0.1451	20	BGM, HAT, HIT	0.0073	105.0	11.38
UNC3-C-C2-4-RTA-3	C	C2	3	2	105.6	11.41	0.1451	20	BGM, HAT	0.0073	106.5	11.50

Average 108.6 11.09
 Standard Dev. 4.967 0.2312
 Coeff. of Var. [%] 4.575 2.085
 Min. 100.8 10.75
 Max. 116.2 11.45
 Number of Spec. 18 18

Average_{norm} 0.0072 109.1 11.15
 Standard Dev._{norm} 4.486 0.2190
 Coeff. of Var. [%]_{norm} 4.112 1.965
 Min. 0.0071 102.1 10.75
 Max. 0.0073 116.7 11.50
 Number of Spec. 18 18 18



September 15, 2025

CAM-RP-2025-009 Rev -

Laminate Unnotched Compression Properties (UNC3)--ETW (250°F)
Strength & Modulus

VICTREX LMPAEK™ UDT AS7-192-34

normalizing

t_{ply} [in]

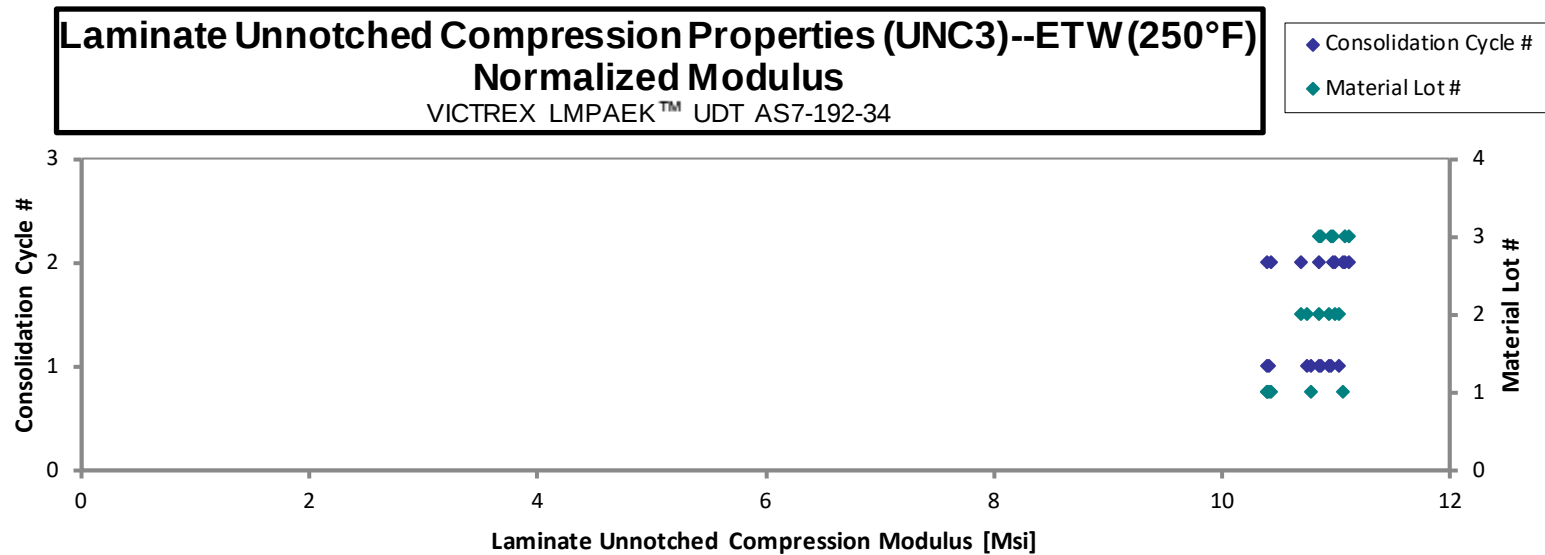
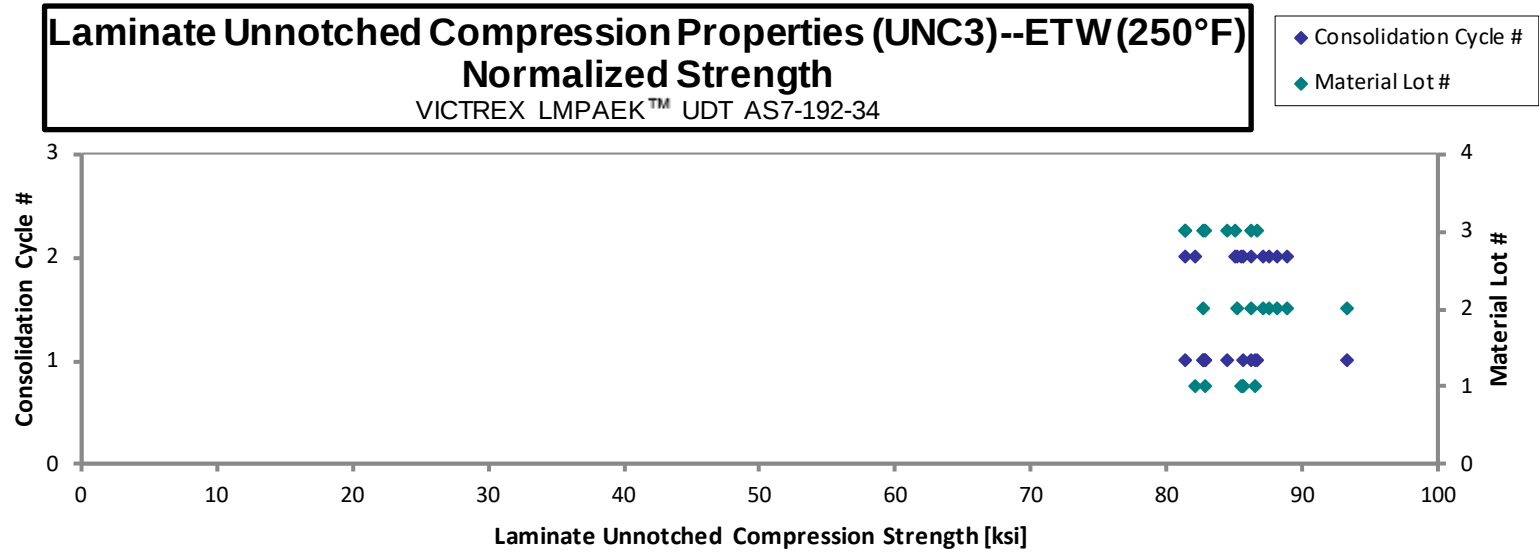
0.0072

Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	Strength [ksi]	Modulus [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	Strength _{norm} [ksi]	Modulus _{norm} [Msi]
UNC3-A-C1-4-ETW-1	A	C1	1	1	81.46	10.59	0.1465	20	BGM	0.0073	82.87	10.78
UNC3-A-C1-4-ETW-2	A	C1	1	1	85.87	10.33	0.1451	20	BGM	0.0073	86.51	10.40
UNC3-A-C1-4-ETW-3	A	C1	1	1	83.92	10.20	0.1471	20	BAB	0.0074	85.71	10.42
UNC3-A-C2-4-ETW-1	A	C2	1	2	84.10	10.20	0.1467	20	BAB, HAT	0.0073	85.68	10.39
UNC3-A-C2-4-ETW-2	A	C2	1	2	81.15	10.31	0.1456	20	BGM	0.0073	82.06	10.43
UNC3-A-C2-4-ETW-3	A	C2	1	2	84.04	10.89	0.1465	20	HAB/HIB	0.0073	85.49	11.07
UNC3-B-C1-4-ETW-1	B	C1	2	1	92.06	10.89	0.1459	20	BGM	0.0073	93.28	11.03
UNC3-B-C1-4-ETW-2	B	C1	2	1	84.66	10.75	0.1467	20	BGM	0.0073	86.22	10.95
UNC3-B-C1-4-ETW-3	B	C1	2	1	81.82	10.64	0.1455	20	BGM	0.0073	82.69	10.76
UNC3-B-C2-4-ETW-1	B	C2	2	2	88.81	10.94	0.1428	20	BAB, HAT	0.0071	88.09	10.85
UNC3-B-C2-4-ETW-2	B	C2	2	2	87.53	10.74	0.1434	20	BAB, HIB	0.0072	87.18	10.70
UNC3-B-C2-4-ETW-3	B	C2	2	2	87.72	11.02	0.1437	20	HAB/HIB	0.0072	87.51	10.99
UNC3-B-C2-4-ETW-4 ²	B	C2	2	2	85.46		0.1437	20	BAB, HAB/HIB	0.0072	85.26	
UNC3-B-C2-4-ETW-5 ²	B	C2	2	2	88.92		0.1441	20	HAB/HIB	0.0072	88.96	
UNC3-C-C1-4-ETW-1	C	C1	3	1	82.66	11.02	0.1418	20	HAB/HIB	0.0071	81.40	10.86
UNC3-C-C1-4-ETW-2	C	C1	3	1	87.54	10.96	0.1427	20	BGM	0.0071	86.76	10.87
UNC3-C-C1-4-ETW-3	C	C1	3	1	83.96	11.12	0.1418	20	HAT/HIT	0.0071	82.66	10.95
UNC3-C-C1-4-ETW-4 ²	C	C1	3	1	83.95		0.1421	20	BGM	0.0071	82.86	
UNC3-C-C1-4-ETW-5 ²	C	C1	3	1	85.21		0.1428	20	BGM	0.0071	84.48	
UNC3-C-C2-4-ETW-1 ¹	C	C2	3	2		11.03	0.1451	20	CIT	0.0073		11.12
UNC3-C-C2-4-ETW-2 ¹	C	C2	3	2		10.96	0.1456	20	CIT	0.0073		11.09
UNC3-C-C2-4-ETW-3	C	C2	3	2	84.27	10.88	0.1453	20	HAT/HIT	0.0073	85.01	10.97
UNC3-C-C2-4-ETW-4 ²	C	C2	3	2	85.78		0.1449	20	BAT	0.0072	86.30	
UNC3-C-C2-4-ETW-5 ²	C	C2	3	2	81.06		0.1446	20	M(B,H)AB	0.0072	81.37	

¹ Strength not reported because of unacceptable failure mode.

² Specimen tested was Strength property only. Strain not recorded.

Average	85.09	10.75	Average_{norm}	0.0072	85.38	10.81
Standard Dev.	2.809	0.3025	Standard Dev._{norm}		2.815	0.2484
Coeff. of Var. [%]	3.301	2.814	Coeff. of Var. [%]_{norm}		3.297	2.297
Min.	81.06	10.20	Min.	0.0071	81.37	10.39
Max.	92.06	11.12	Max.	0.0074	93.28	11.12
Number of Spec.	22	18	Number of Spec.	24	22	18



4.16 “25/50/25” V-Notched Rail Shear Properties (VNS)

V-Notched Shear Properties (VNS)--RTA (70°F)

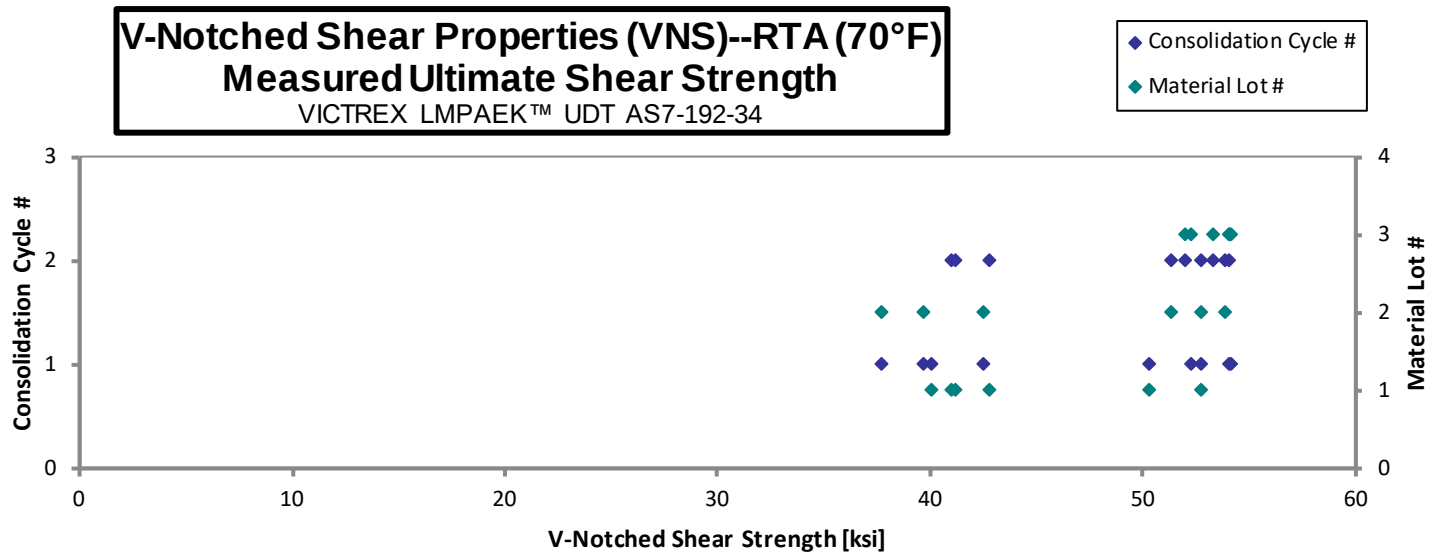
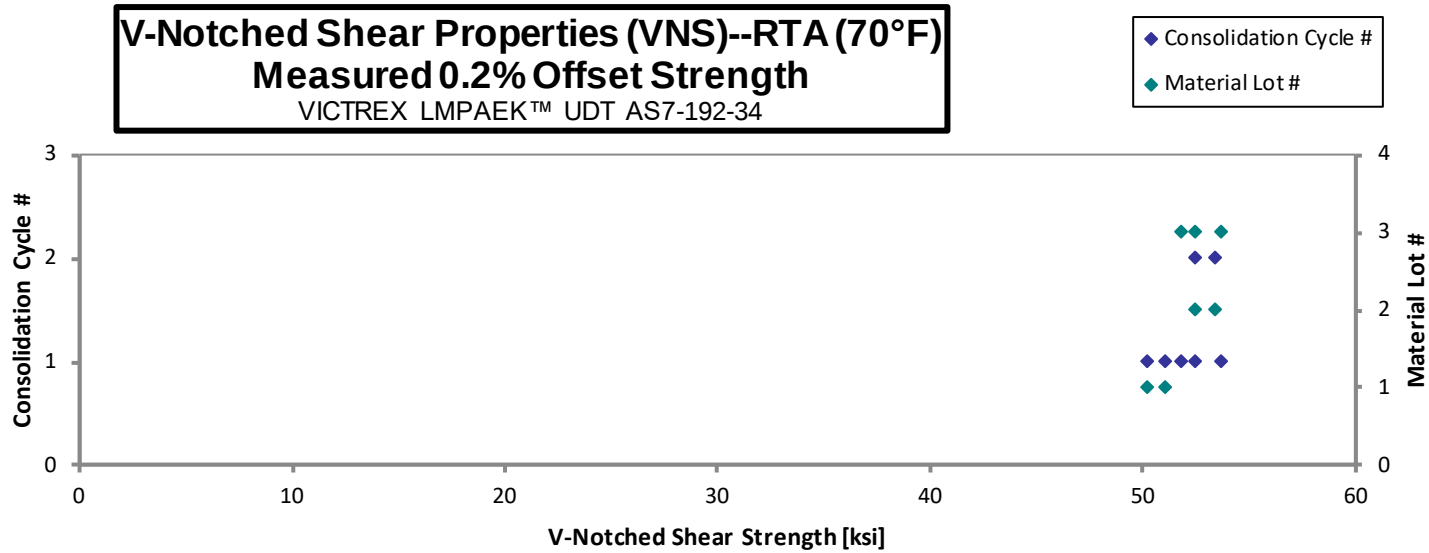
Strength & Modulus

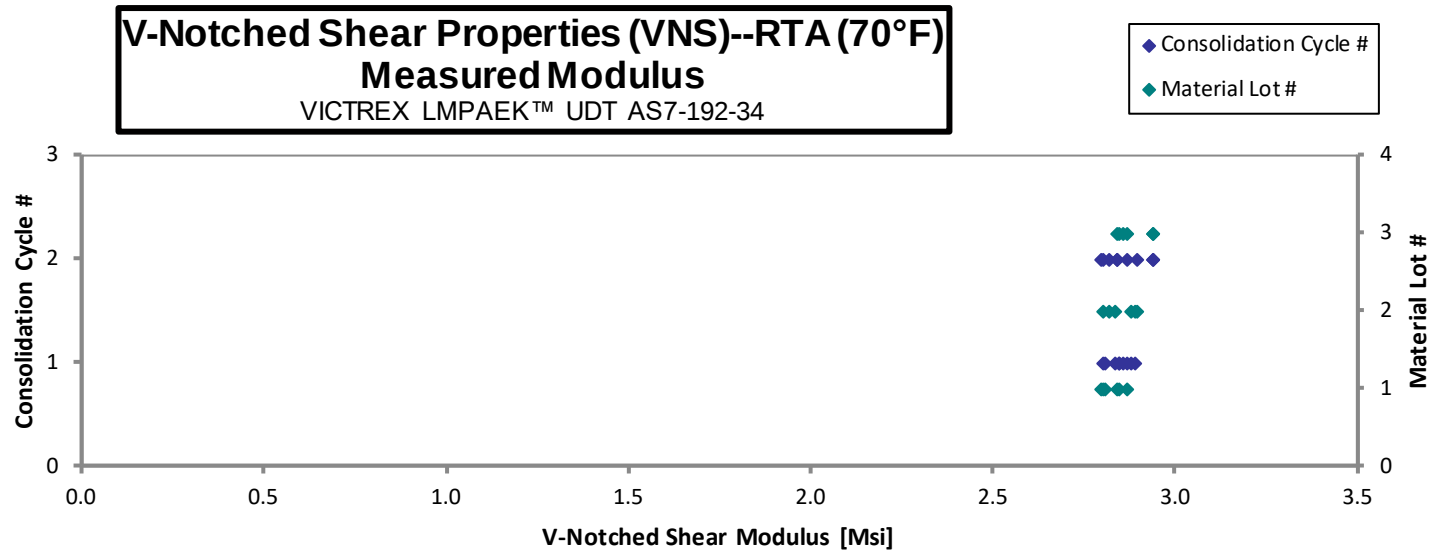
VICTREX LMPAEK™ UDT AS7-192-34

Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	0.2% Offset Strength [ksi]	Ultimate Shear Strength [ksi]	Modulus [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Avg. t _{ply} [in]	Failure Mode
VNS-A-C1-UNC1-RTA-1	A	C1	1	1		40.07	2.802	0.1756	24	0.0073	AGN
VNS-A-C1-UNC1-RTA-2	A	C1	1	1	50.18	50.34	2.850	0.1753	24	0.0073	AGN
VNS-A-C1-UNC1-RTA-3	A	C1	1	1	51.11	52.73	2.811	0.1755	24	0.0073	AGN
VNS-A-C2-1-UNC1-RTA-1	A	C2	1	2		42.80	2.868	0.1754	24	0.0073	AGN
VNS-A-C2-1-UNC1-RTA-2	A	C2	1	2		40.97	2.799	0.1753	24	0.0073	AGN
VNS-A-C2-1-UNC1-RTA-3	A	C2	1	2		41.20	2.842	0.1750	24	0.0073	AGN
VNS-B-C1-UNC1-RTA-1	B	C1	2	1		37.74	2.892	0.1746	24	0.0073	AGN
VNS-B-C1-UNC1-RTA-2	B	C1	2	1		42.56	2.878	0.1748	24	0.0073	AGN
VNS-B-C1-UNC1-RTA-3	B	C1	2	1		39.68	2.834	0.1746	24	0.0073	AGN
VNS-B-C2-1-UNC1-RTA-1	B	C2	2	2	53.46	53.88	2.802	0.1738	24	0.0072	AGN
VNS-B-C2-1-UNC1-RTA-2	B	C2	2	2		51.38	2.898	0.1744	24	0.0073	AGN
VNS-B-C2-1-UNC1-RTA-3	B	C2	2	2	52.44	52.78	2.821	0.1749	24	0.0073	AGN
VNS-C-C1-UNC1-RTA-1	C	C1	3	1	52.50	54.16	2.845	0.1733	24	0.0072	M(V,A)GN
VNS-C-C1-UNC1-RTA-2	C	C1	3	1	51.87	52.31	2.868	0.1731	24	0.0072	AGN
VNS-C-C1-UNC1-RTA-3	C	C1	3	1	53.71	54.12	2.859	0.1730	24	0.0072	AGN
VNS-C-C2-1-UNC1-RTA-1	C	C2	3	2		54.05	2.842	0.1741	24	0.0073	AGN
VNS-C-C2-1-UNC1-RTA-2	C	C2	3	2		53.37	2.942	0.1736	24	0.0072	AGN
VNS-C-C2-1-UNC1-RTA-3	C	C2	3	2		51.98	2.941	0.1733	24	0.0072	AGN

Variation in data in A-C1, A-C2, and B-C1 is due to fixture torque and adjustment.

Average	52.18	48.12	2.855	0.0073
Standard Dev.	1.251	6.236	0.04338	
Coeff. of Var. [%]	2.397	12.96	1.519	
Min.	50.18	37.74	2.799	0.0072
Max.	53.71	54.16	2.942	0.0073
Number of Spec.	7	18	18	18



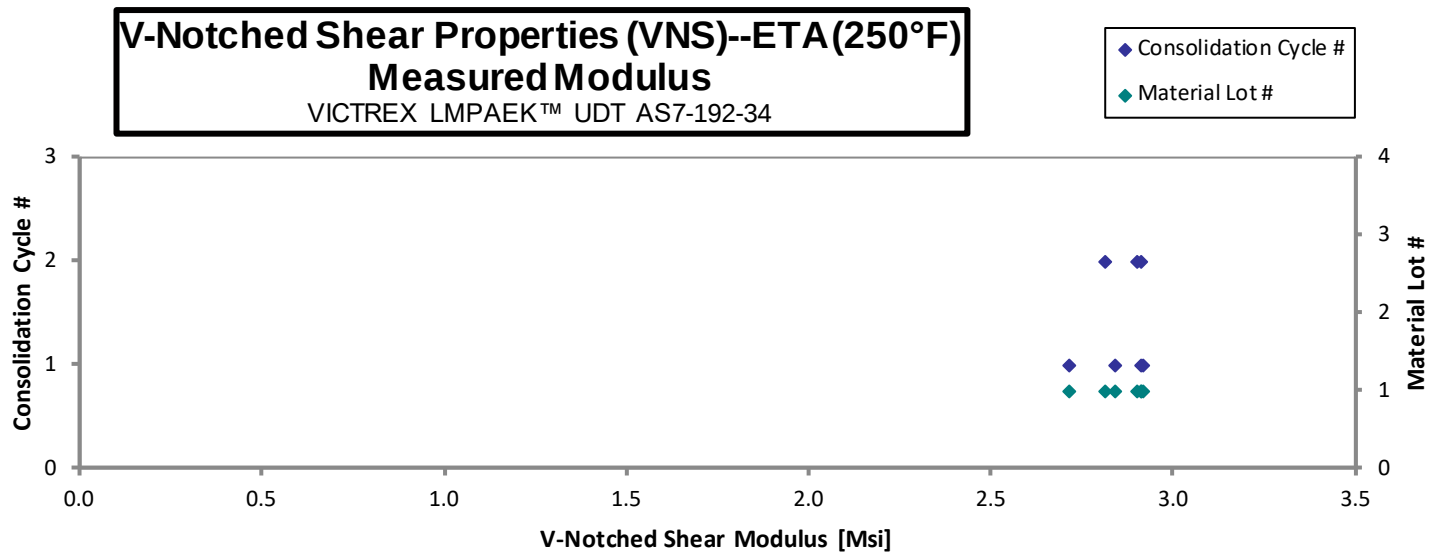
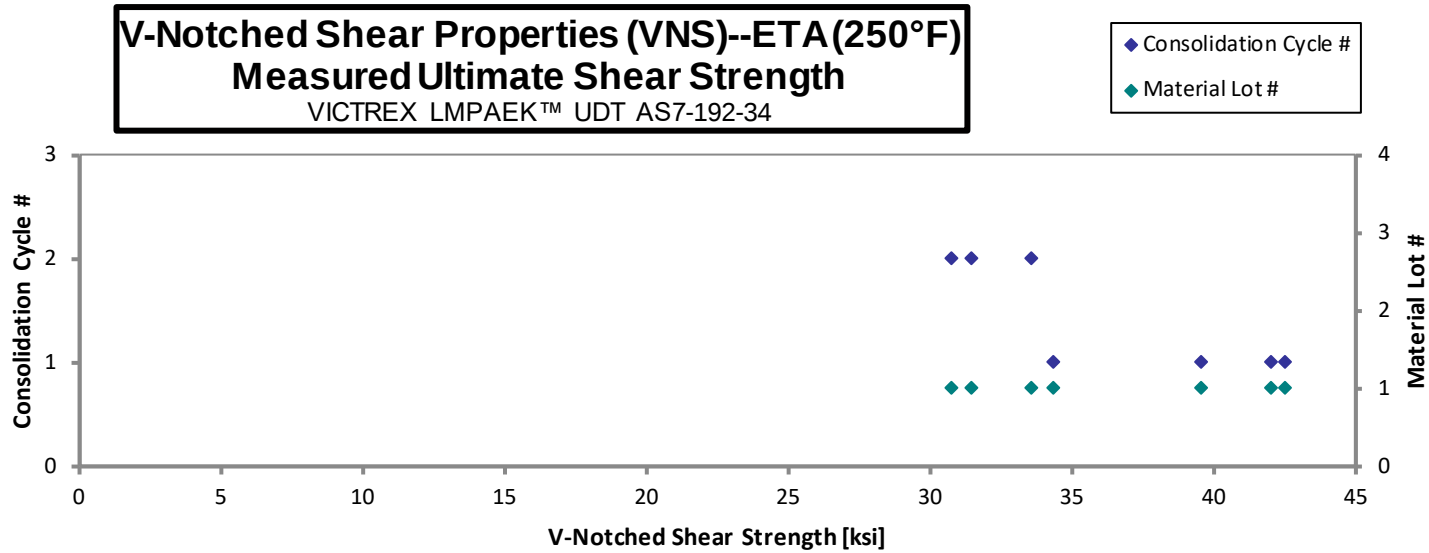


**V-Notched Shear Properties (VNS)--ETA (250°F)
Strength & Modulus**

VICTREX LMPAEK™ UDT AS7-192-34

Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	Ultimate Shear Strength [ksi]	Modulus [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Avg. t_{ply} [in]	Failure Mode
VNS-A-C1-UNC1-ETA-1	A	C1	1	1	34.34	2.921	0.1760	24	0.0073	AGN
VNS-A-C1-UNC1-ETA-2	A	C1	1	1	39.56	2.716	0.1757	24	0.0073	AGN
VNS-A-C1-UNC1-ETA-3	A	C1	1	1	42.02	2.841	0.1757	24	0.0073	AGN
VNS-A-C1-UNC1-ETA-4	A	C1	1	1	42.55	2.914	0.1765	24	0.0074	AGN
VNS-A-C2-1-UNC1-ETA-1	A	C2	1	2	30.78	2.816	0.1752	24	0.0073	AGN
VNS-A-C2-1-UNC1-ETA-2	A	C2	1	2	33.60	2.903	0.1746	24	0.0073	AGN
VNS-A-C2-1-UNC1-ETA-3	A	C2	1	2	31.50	2.915	0.1745	24	0.0073	AGN

Average	36.34	2.861	0.0073
Standard Dev.	4.950	0.07578	
Coeff. of Var. [%]	13.62	2.649	
Min.	30.78	2.716	0.0073
Max.	42.55	2.921	0.0074
Number of Spec.	7	7	7



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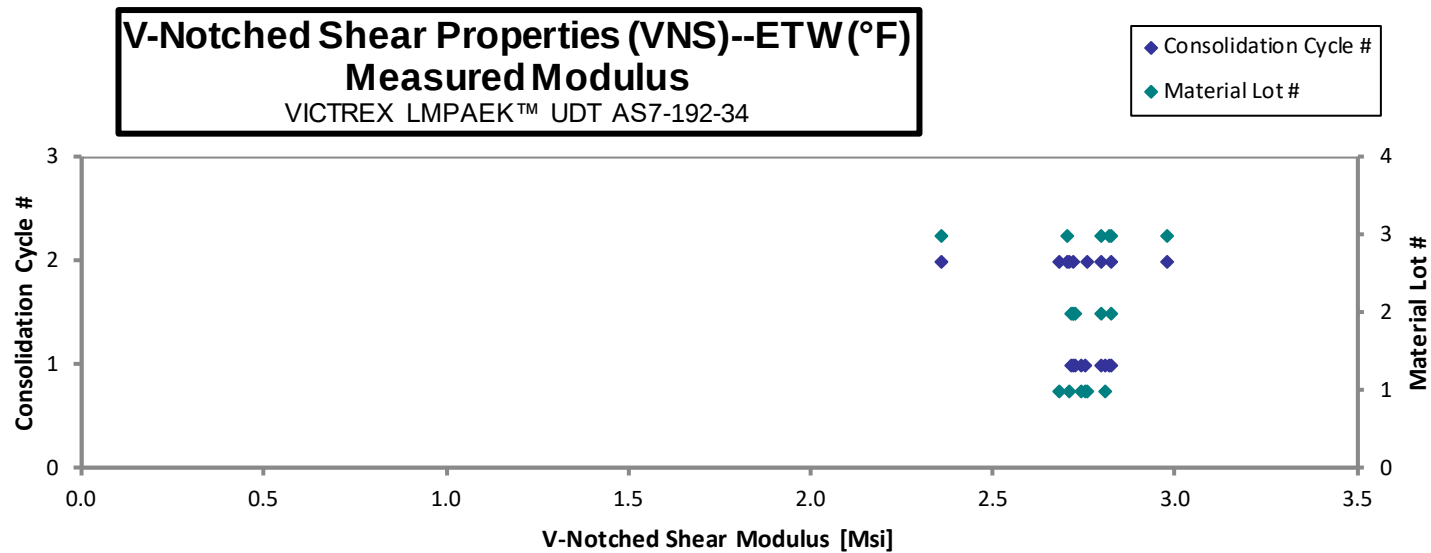
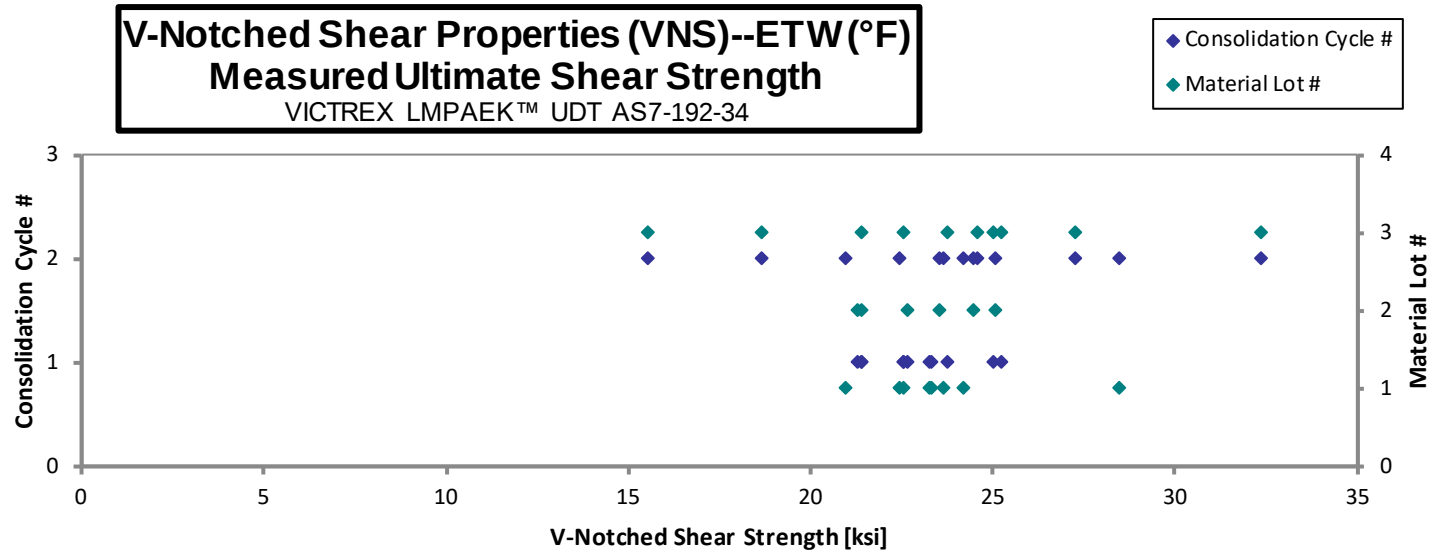
**V-Notched Shear Properties (VNS)--ETW (°F)
Strength & Modulus**

VICTREX LMPAEK™ UDT AS7-192-34

Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	Ultimate Shear Strength [ksi]	Modulus [Msi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Avg. t _{ply} [in]	Failure Mode
VNS-A-C1-UNC1-ETW-1	A	C1	1	1	23.27	2.745	0.1742	24	0.0073	M(V,A)GN
VNS-A-C1-UNC1-ETW-2	A	C1	1	1	22.57	2.752	0.1751	24	0.0073	M(V,A,H)GN
VNS-A-C1-UNC1-ETW-3	A	C1	1	1	23.30	2.807	0.1754	24	0.0073	M(V,A,H)GN
VNS-A-C2-1-UNC1-ETW-1	A	C2	1	2	23.65	2.710	0.1754	24	0.0073	M(V,A)GN
VNS-A-C2-1-UNC1-ETW-2	A	C2	1	2	24.21	2.684	0.1766	24	0.0074	M(V,A,H)GN
VNS-A-C2-1-UNC1-ETW-3	A	C2	1	2	28.48	2.760	0.1755	24	0.0073	M(V,A,H)GN
VNS-A-C2-1-UNC1-ETW-4	A	C2	1	2	20.96		0.1756	24	0.0073	M(V,A,H)GN
VNS-A-C2-1-UNC1-ETW-5	A	C2	1	2	22.43		0.1750	24	0.0073	M(V,A)GN
VNS-B-C1-UNC1-ETW-1	B	C1	2	1	22.68	2.721	0.1751	24	0.0073	M(V,A,H)GN
VNS-B-C1-UNC1-ETW-2	B	C1	2	1	21.29	2.725	0.1750	24	0.0073	M(V,A,H)GN
VNS-B-C1-UNC1-ETW-3	B	C1	2	1	21.38	2.713	0.1750	24	0.0073	M(V,A,H)GN
VNS-B-C2-1-UNC1-ETW-1	B	C2	2	2	24.49	2.825	0.1737	24	0.0072	M(V,A,H)GN
VNS-B-C2-1-UNC1-ETW-2	B	C2	2	2	25.09	2.799	0.1755	24	0.0073	M(V,A,H)GN
VNS-B-C2-1-UNC1-ETW-3	B	C2	2	2	23.55	2.722	0.1743	24	0.0073	M(V,A,H)GN
VNS-C-C1-UNC1-ETW-1	C	C1	3	1	22.53	2.825	0.1723	24	0.0072	M(V,A)GN
VNS-C-C1-UNC1-ETW-2	C	C1	3	1	25.02	2.819	0.1730	24	0.0072	M(V,A,H)GN
VNS-C-C1-UNC1-ETW-3	C	C1	3	1	25.25	2.800	0.1727	24	0.0072	M(V,A,H)GN
VNS-C-C1-UNC1-ETW-4	C	C1	3	1	23.77		0.1730	24	0.0072	M(V,A,H)GN
VNS-C-C1-UNC1-ETW-5	C	C1	3	1	21.41		0.1734	24	0.0072	M(V,A)GN
VNS-C-C2-1-UNC1-ETW-1	C	C2	3	2	24.57	2.976	0.1731	24	0.0072	M(V,A,H)GN
VNS-C-C2-1-UNC1-ETW-2	C	C2	3	2	15.52	2.359	0.1745	24	0.0073	AGN
VNS-C-C2-1-UNC1-ETW-3	C	C2	3	2	18.68	2.704	0.1739	24	0.0072	AGN
VNS-C-C2-1-UNC1-ETW-4	C	C2	3	2	32.36		0.1750	24	0.0073	M(V,A,H)GN
VNS-C-C2-1-UNC1-ETW-5	C	C2	3	2	27.28		0.1745	24	0.0073	M(V,A,H)GN

Source of data scatter in C-C2 is unclear.

Average	23.49	2.747	0.0073
Standard Dev.	3.223	0.1189	
Coeff. of Var. [%]	13.72	4.330	
Min.	15.52	2.359	0.0072
Max.	32.36	2.976	0.0074
Number of Spec.	24	18	24



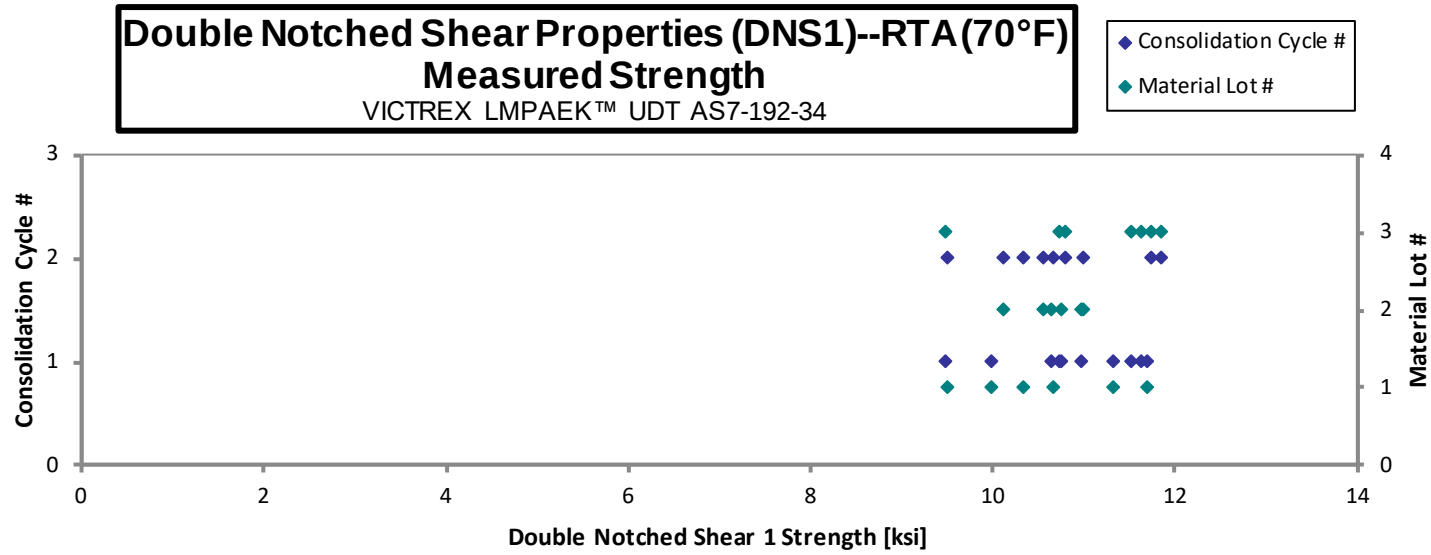
4.17 “25/50/25” Double Notched Shear Properties (DNS1)

Double Notched Shear Properties (DNS1)--RT A (70°F)
Strength

VICTREX LMPAEK™ UDT AS7-192-34

Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Avg. t_{ply} [in]	Failure Mode
DNS1-A-C1-1-UNC1-RTA-1	A	C1	1	1	11.71	0.1755	24	0.0073	GAGE SECTION SHEAR
DNS1-A-C1-1-UNC1-RTA-2	A	C1	1	1	9.992	0.1754	24	0.0073	GAGE SECTION SHEAR
DNS1-A-C1-1-UNC1-RTA-3	A	C1	1	1	11.33	0.1762	24	0.0073	GAGE SECTION SHEAR
DNS1-A-C2-1-UNC1-RTA-1	A	C2	1	2	10.33	0.1766	24	0.0074	GAGE SECTION SHEAR
DNS1-A-C2-1-UNC1-RTA-2	A	C2	1	2	10.67	0.1762	24	0.0073	GAGE SECTION SHEAR
DNS1-A-C2-1-UNC1-RTA-3	A	C2	1	2	9.502	0.1762	24	0.0073	GAGE SECTION SHEAR
DNS1-B-C1-1-UNC1-RTA-1	B	C1	2	1	10.74	0.1742	24	0.0073	GAGE SECTION SHEAR
DNS1-B-C1-1-UNC1-RTA-2	B	C1	2	1	10.65	0.1749	24	0.0073	GAGE SECTION SHEAR
DNS1-B-C1-1-UNC1-RTA-3	B	C1	2	1	10.96	0.1745	24	0.0073	GAGE SECTION SHEAR
DNS1-B-C2-1-UNC1-RTA-1	B	C2	2	2	10.13	0.1737	24	0.0072	GAGE SECTION SHEAR
DNS1-B-C2-1-UNC1-RTA-2	B	C2	2	2	10.55	0.1733	24	0.0072	GAGE SECTION SHEAR
DNS1-B-C2-1-UNC1-RTA-3	B	C2	2	2	10.99	0.1736	24	0.0072	GAGE SECTION SHEAR
DNS1-C-C1-1-UNC1-RTA-1	C	C1	3	1	11.53	0.1729	24	0.0072	GAGE SECTION SHEAR
DNS1-C-C1-1-UNC1-RTA-2	C	C1	3	1	9.482	0.1729	24	0.0072	GAGE SECTION SHEAR
DNS1-C-C1-1-UNC1-RTA-3	C	C1	3	1	11.62	0.1727	24	0.0072	GAGE SECTION SHEAR
DNS1-C-C1-1-UNC1-RTA-4	C	C1	3	1	10.74	0.1736	24	0.0072	GAGE SECTION SHEAR
DNS1-C-C2-1-UNC1-RTA-1	C	C2	3	2	11.85	0.1736	24	0.0072	GAGE SECTION SHEAR
DNS1-C-C2-1-UNC1-RTA-2	C	C2	3	2	11.73	0.1732	24	0.0072	GAGE SECTION SHEAR
DNS1-C-C2-1-UNC1-RTA-3	C	C2	3	2	10.79	0.1732	24	0.0072	GAGE SECTION SHEAR

Average	10.81	0.0073
Standard Dev.	0.7147	
Coeff. of Var. [%]	6.615	
Min.	9.482	0.0072
Max.	11.85	0.0074
Number of Spec.	19	19



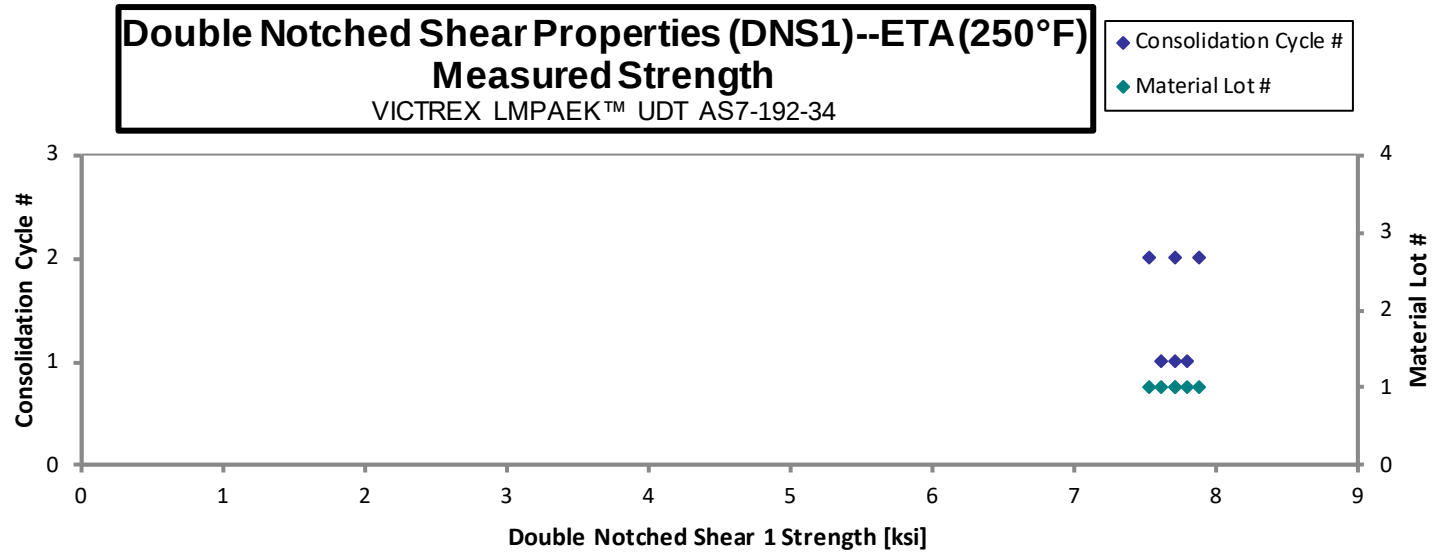
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Double Notched Shear Properties (DNS1)--ETA (250°F) Strength VICTREX LMPAEK™ UDT AS7-192-34

Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Avg. t _{ply} [in]	Failure Mode
DNS1-A-C1-1-UNC1-ETA-1	A	C1	1	1	7.714	0.1758	24	0.0073	GAGE SECTION SHEAR
DNS1-A-C1-1-UNC1-ETA-2	A	C1	1	1	7.622	0.1760	24	0.0073	GAGE SECTION SHEAR
DNS1-A-C1-1-UNC1-ETA-3	A	C1	1	1	7.800	0.1750	24	0.0073	GAGE SECTION SHEAR
DNS1-A-C2-1-UNC1-ETA-1	A	C2	1	2	7.888	0.1758	24	0.0073	GAGE SECTION SHEAR
DNS1-A-C2-1-UNC1-ETA-2	A	C2	1	2	7.535	0.1759	24	0.0073	GAGE SECTION SHEAR
DNS1-A-C2-1-UNC1-ETA-3	A	C2	1	2	7.711	0.1770	24	0.0074	GAGE SECTION SHEAR

Average	7.712	0.0073
Standard Dev.	0.1251	
Coeff. of Var. [%]	1.622	
Min.	7.535	0.0073
Max.	7.888	0.0074
Number of Spec.	6	6

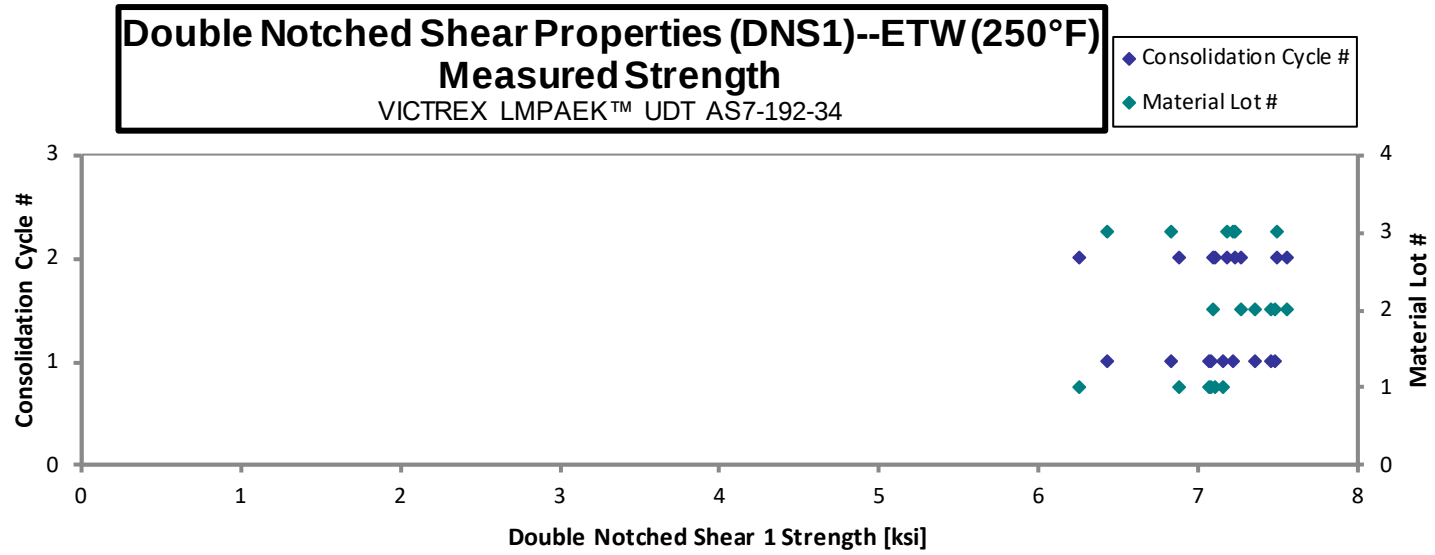


**Double Notched Shear Properties (DNS1)--ETW (250°F)
Strength**

VICTREX LMPAEK™ UDT AS7-192-34

Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Avg. t_{ply} [in]	Failure Mode
DNS1-A-C1-1-UNC1-ETW-1	A	C1	1	1	7.072	0.1757	24	0.0073	GAGE SECTION SHEAR
DNS1-A-C1-1-UNC1-ETW-2	A	C1	1	1	7.079	0.1757	24	0.0073	GAGE SECTION SHEAR
DNS1-A-C1-1-UNC1-ETW-3	A	C1	1	1	7.157	0.1760	24	0.0073	GAGE SECTION SHEAR
DNS1-A-C2-1-UNC1-ETW-1	A	C2	1	2	6.884	0.1742	24	0.0073	GAGE SECTION SHEAR
DNS1-A-C2-1-UNC1-ETW-2	A	C2	1	2	6.263	0.1756	24	0.0073	GAGE SECTION SHEAR
DNS1-A-C2-1-UNC1-ETW-3	A	C2	1	2	7.105	0.1761	24	0.0073	GAGE SECTION SHEAR
DNS1-B-C1-1-UNC1-ETW-1	B	C1	2	1	7.491	0.1738	24	0.0072	GAGE SECTION SHEAR
DNS1-B-C1-1-UNC1-ETW-2	B	C1	2	1	7.463	0.1736	24	0.0072	GAGE SECTION SHEAR
DNS1-B-C1-1-UNC1-ETW-3	B	C1	2	1	7.355	0.1738	24	0.0072	GAGE SECTION SHEAR
DNS1-B-C2-1-UNC1-ETW-1	B	C2	2	2	7.564	0.1744	24	0.0073	GAGE SECTION SHEAR
DNS1-B-C2-1-UNC1-ETW-2	B	C2	2	2	7.271	0.1743	24	0.0073	GAGE SECTION SHEAR
DNS1-B-C2-1-UNC1-ETW-3	B	C2	2	2	7.102	0.1741	24	0.0073	GAGE SECTION SHEAR
DNS1-C-C1-1-UNC1-ETW-1	C	C1	3	1	6.829	0.1733	24	0.0072	GAGE SECTION SHEAR
DNS1-C-C1-1-UNC1-ETW-2	C	C1	3	1	7.226	0.1733	24	0.0072	GAGE SECTION SHEAR
DNS1-C-C1-1-UNC1-ETW-3	C	C1	3	1	6.433	0.1731	24	0.0072	GAGE SECTION SHEAR
DNS1-C-C2-1-UNC1-ETW-1	C	C2	3	2	7.241	0.1739	24	0.0072	GAGE SECTION SHEAR
DNS1-C-C2-1-UNC1-ETW-2	C	C2	3	2	7.502	0.1736	24	0.0072	GAGE SECTION SHEAR
DNS1-C-C2-1-UNC1-ETW-3	C	C2	3	2	7.191	0.1734	24	0.0072	GAGE SECTION SHEAR

Average	7.124	0.0073
Standard Dev.	0.3479	
Coeff. of Var. [%]	4.884	
Min.	6.263	0.0072
Max.	7.564	0.0073
Number of Spec.	18	18



4.18 “25/50/25” Open-Hole Tension 1 Properties (OHT1)

Laminate Open-Hole Tension Properties (OHT1)--CTA (-65°F)
Strength

VICTREX LMPAEK™ UDT AS7-192-34

normalizing

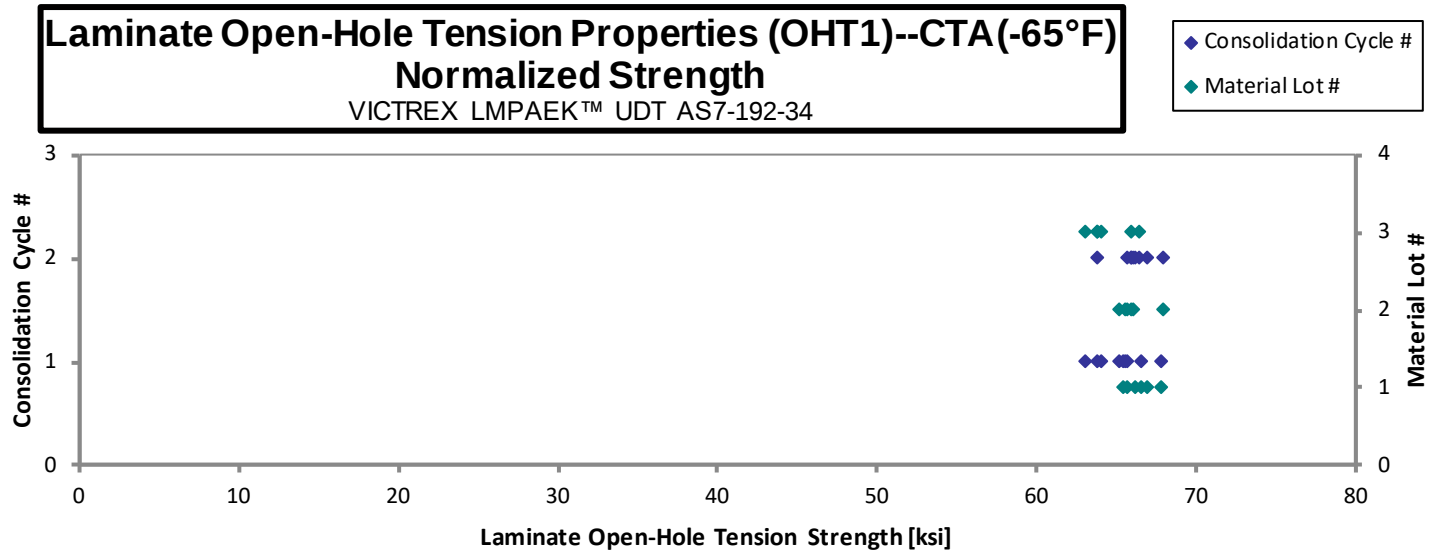
 t_{ply} [in]

0.0072

Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	Strength _{norm} [ksi]
OHT1-A-C1-R-CTA-1	A	C1	1	1	65.66	0.1169	16	AGM	0.0073	66.64
OHT1-A-C1-R-CTA-2	A	C1	1	1	64.05	0.1177	16	AGM	0.0074	65.43
OHT1-A-C1-R-CTA-3	A	C1	1	1	67.32	0.1161	16	AGM	0.0073	67.82
OHT1-A-C2-R-CTA-1	A	C2	1	2	65.32	0.1167	16	AGM	0.0073	66.18
OHT1-A-C2-R-CTA-2	A	C2	1	2	64.83	0.1168	16	AGM	0.0073	65.71
OHT1-A-C2-R-CTA-3	A	C2	1	2	66.16	0.1167	16	AGM	0.0073	67.00
OHT1-B-C1-R-CTA-1	B	C1	2	1	64.26	0.1176	16	AGM	0.0074	65.59
OHT1-B-C1-R-CTA-2	B	C1	2	1	64.11	0.1181	16	AGM	0.0074	65.73
OHT1-B-C1-R-CTA-3	B	C1	2	1	63.55	0.1182	16	AGM	0.0074	65.22
OHT1-B-C2-R-CTA-1	B	C2	2	2	64.48	0.1179	16	AGM	0.0074	65.98
OHT1-B-C2-R-CTA-2	B	C2	2	2	64.15	0.1186	16	AGM	0.0074	66.06
OHT1-B-C2-R-CTA-3	B	C2	2	2	62.67	0.1250	16	AGM	0.0078	67.97
OHT1-C-C1-R-CTA-1	C	C1	3	1	63.03	0.1172	16	AGM	0.0073	64.14
OHT1-C-C1-R-CTA-2	C	C1	3	1	61.92	0.1173	16	AGM	0.0073	63.05
OHT1-C-C1-R-CTA-3	C	C1	3	1	62.75	0.1172	16	AGM	0.0073	63.85
OHT1-C-C2-R-CTA-1	C	C2	3	2	63.07	0.1165	16	AGM	0.0073	63.79
OHT1-C-C2-R-CTA-2	C	C2	3	2	65.02	0.1178	16	AGM	0.0074	66.51
OHT1-C-C2-R-CTA-3	C	C2	3	2	64.82	0.1173	16	AGM	0.0073	66.02

Average 64.29
Standard Dev. 1.354
Coeff. of Var. [%] 2.107
Min. 61.92
Max. 67.32
Number of Spec. 18

Average_{norm} 0.0074 65.70
Standard Dev._{norm} 1.335
Coeff. of Var. [%]_{norm} 2.032
Min. 0.0073 63.05
Max. 0.0078 67.97
Number of Spec. 18 18



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**Laminate Open-Hole Tension Properties (OHT1)--RTA (70°F)
Strength**

VICTREX LMPAEK™ UDT AS7-192-34

normalizing

t_{ply} [in]

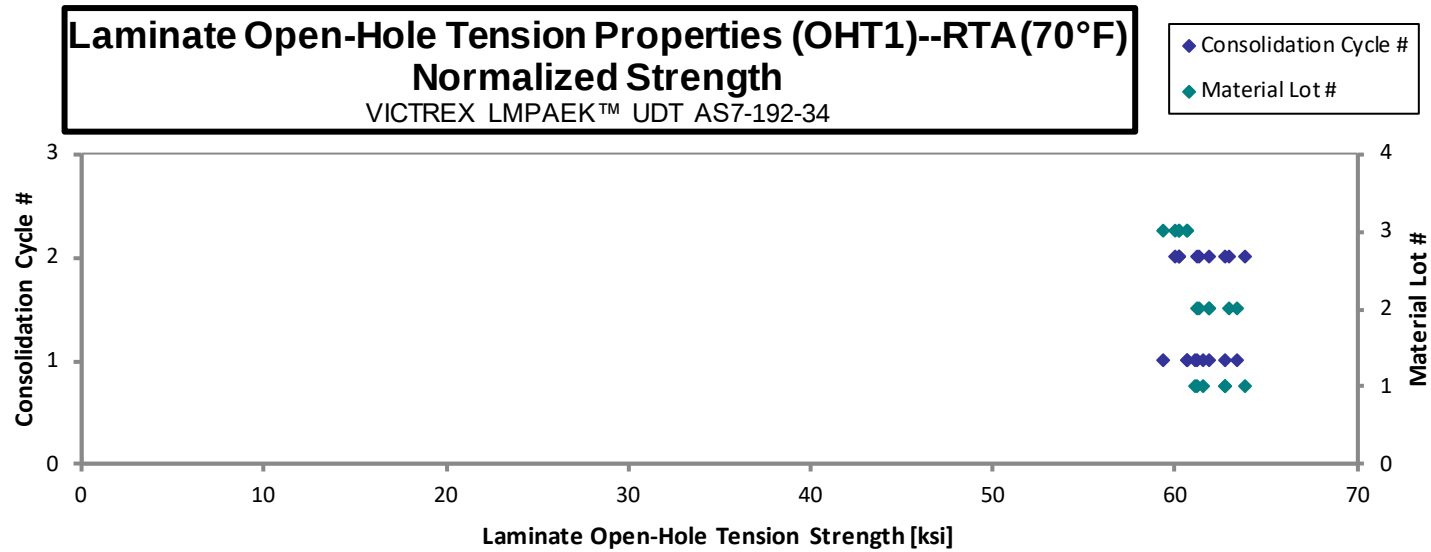
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Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode
OHT1-A-C1-R-RTA-1	A	C1	1	1	60.86	0.1165	16	AGM
OHT1-A-C1-R-RTA-2	A	C1	1	1	61.82	0.1169	16	AGM
OHT1-A-C1-R-RTA-3	A	C1	1	1	60.00	0.1173	16	AGM
OHT1-A-C2-R-RTA-1	A	C2	1	2	60.19	0.1171	16	AGM
OHT1-A-C2-R-RTA-2	A	C2	1	2	62.87	0.1171	16	AGM
OHT1-A-C2-R-RTA-3	A	C2	1	2	61.97	0.1166	16	AGM
OHT1-B-C1-R-RTA-1	B	C1	2	1	61.22	0.1165	16	AGM
OHT1-B-C1-R-RTA-2	B	C1	2	1	62.10	0.1176	16	AGM
OHT1-B-C1-R-RTA-3	B	C1	2	1	59.94	0.1177	16	AGM
OHT1-B-C2-R-RTA-1	B	C2	2	2	61.83	0.1174	16	AGM
OHT1-B-C2-R-RTA-2	B	C2	2	2	60.30	0.1171	16	AGM
OHT1-B-C2-R-RTA-3	B	C2	2	2	60.77	0.1174	16	AGM
OHT1-C-C1-R-RTA-1	C	C1	3	1	60.28	0.1159	16	AGM
OHT1-C-C1-R-RTA-2	C	C1	3	1	59.67	0.1172	16	AGM
OHT1-C-C1-R-RTA-3	C	C1	3	1	58.48	0.1170	16	AGM
OHT1-C-C2-R-RTA-1	C	C2	3	2	59.39	0.1168	16	AGM
OHT1-C-C2-R-RTA-2	C	C2	3	2	59.30	0.1167	16	AGM
OHT1-C-C2-R-RTA-3	C	C2	3	2	59.08	0.1175	16	AGM

Avg. t_{ply} [in]	Strength _{norm} [ksi]
0.0073	61.56
0.0073	62.72
0.0073	61.10
0.0073	61.20
0.0073	63.88
0.0073	62.71
0.0073	61.93
0.0074	63.40
0.0074	61.24
0.0073	63.02
0.0073	61.31
0.0073	61.91
0.0072	60.67
0.0073	60.70
0.0073	59.40
0.0073	60.24
0.0073	60.07
0.0073	60.26

Average 60.56
Standard Dev. 1.205
Coeff. of Var. [%] 1.990
Min. 58.48
Max. 62.87
Number of Spec. 18

Average_{norm} 0.0073 61.52
Standard Dev._{norm} 1.241
Coeff. of Var. [%]_{norm} 2.017
Min. 0.0072 59.40
Max. 0.0074 63.88
Number of Spec. 18 18



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Laminate Open-Hole Tension Properties (OHT1)--ETW (250°F)

Strength

VICTREX LMPAEK™ UDT AS7-192-34

normalizing

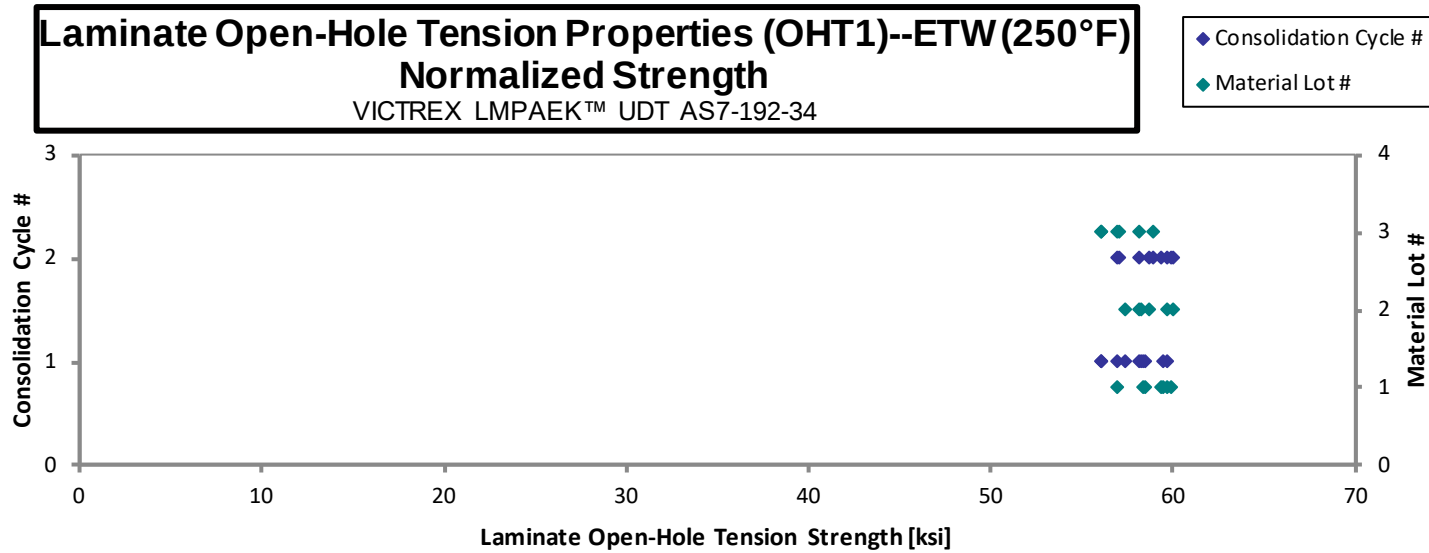
t_{ply} [in]

0.0072

Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	Strength _{norm} [ksi]
OHT1-A-C1-R-ETW-1	A	C1	1	1	57.51	0.1171	16	AGM	0.0073	58.45
OHT1-A-C1-R-ETW-2	A	C1	1	1	55.26	0.1187	16	AGM	0.0074	56.94
OHT1-A-C1-R-ETW-3	A	C1	1	1	57.42	0.1172	16	AGM	0.0073	58.39
OHT1-A-C1-R-ETW-4	A	C1	1	1	58.55	0.1171	16	AGM	0.0073	59.50
OHT1-A-C2-R-ETW-1	A	C2	1	2	58.22	0.1174	16	AGM	0.0073	59.32
OHT1-A-C2-R-ETW-2	A	C2	1	2	59.22	0.1161	16	AGM	0.0073	59.66
OHT1-A-C2-R-ETW-3	A	C2	1	2	59.14	0.1167	16	AGM	0.0073	59.91
OHT1-B-C1-R-ETW-1	B	C1	2	1	57.26	0.1172	16	AGM	0.0073	58.24
OHT1-B-C1-R-ETW-2	B	C1	2	1	55.75	0.1186	16	AGM	0.0074	57.41
OHT1-B-C1-R-ETW-3	B	C1	2	1	58.66	0.1171	16	AGM	0.0073	59.64
OHT1-B-C2-R-ETW-1	B	C2	2	2	55.00	0.1256	16	AGM	0.0079	59.97
OHT1-B-C2-R-ETW-2	B	C2	2	2	54.54	0.1241	16	AGM	0.0078	58.73
OHT1-B-C2-R-ETW-3	B	C2	2	2	56.95	0.1176	16	AGM	0.0074	58.15
OHT1-C-C1-R-ETW-1	C	C1	3	1	55.48	0.1164	16	AGM	0.0073	56.03
OHT1-C-C1-R-ETW-2	C	C1	3	1	54.12	0.1193	16	AGM	0.0075	56.06
OHT1-C-C1-R-ETW-3	C	C1	3	1	57.15	0.1173	16	AGM	0.0073	58.20
OHT1-C-C2-R-ETW-1	C	C2	3	2	55.89	0.1175	16	AGM	0.0073	56.98
OHT1-C-C2-R-ETW-2	C	C2	3	2	56.50	0.1163	16	AGM	0.0073	57.02
OHT1-C-C2-R-ETW-3	C	C2	3	2	58.15	0.1167	16	AGM	0.0073	58.89

Average **56.88**
 Standard Dev. **1.573**
 Coeff. of Var. [%] **2.766**
 Min. **54.12**
 Max. **59.22**
 Number of Spec. **19**

Average_{norm} **0.0074** **58.29**
 Standard Dev._{norm} **1.254**
 Coeff. of Var. [%]_{norm} **2.152**
 Min. **0.0073** **56.03**
 Max. **0.0079** **59.97**
 Number of Spec. **19** **19**



4.19 “10/80/10” Open-Hole Tension 2 Properties (OHT2)

Laminate Open-Hole Tension Properties (OHT2)--CTA (-65°F)
Strength

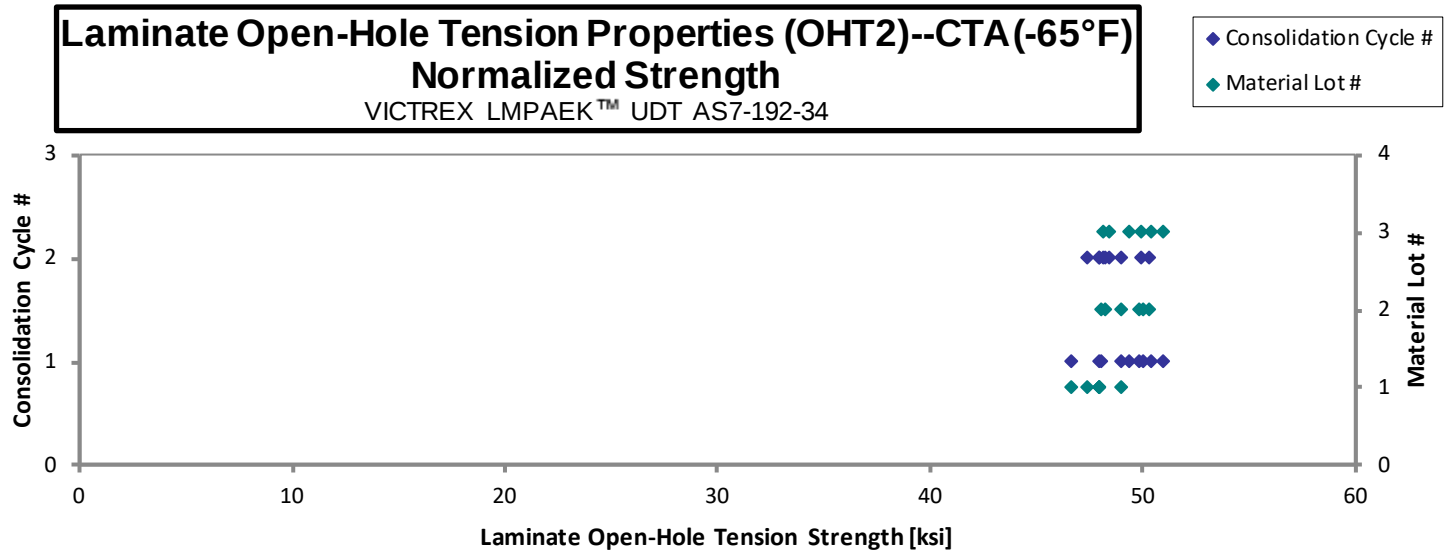
VICTREX LMPAEK™ UDT AS7-192-34

normalizing
 t_{ply} [in]
 0.0072

Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	Strength _{norm} [ksi]
OHT2-A-C1-1-CTA-1	A	C1	1	1	44.89	0.1495	20	AGM	0.0075	46.61
OHT2-A-C1-1-CTA-2	A	C1	1	1	47.56	0.1485	20	AGM	0.0074	49.04
OHT2-A-C1-1-CTA-3	A	C1	1	1	46.63	0.1480	20	AGM	0.0074	47.92
OHT2-A-C2-1-CTA-1	A	C2	1	2	46.12	0.1479	20	AGM	0.0074	47.36
OHT2-A-C2-1-CTA-2	A	C2	1	2	46.52	0.1484	20	AGM	0.0074	47.92
OHT2-A-C2-1-CTA-3	A	C2	1	2	46.68	0.1481	20	AGM	0.0074	48.00
OHT2-B-C1-1-CTA-1	B	C1	2	1	49.02	0.1469	20	AGM	0.0073	50.00
OHT2-B-C1-1-CTA-2	B	C1	2	1	48.81	0.1471	20	AGM	0.0074	49.84
OHT2-B-C1-1-CTA-3	B	C1	2	1	47.03	0.1471	20	AGM	0.0074	48.03
OHT2-B-C2-1-CTA-1	B	C2	2	2	49.24	0.1472	20	AGM	0.0074	50.32
OHT2-B-C2-1-CTA-2	B	C2	2	2	46.83	0.1482	20	AGM	0.0074	48.20
OHT2-B-C2-1-CTA-3	B	C2	2	2	47.58	0.1483	20	AGM	0.0074	48.99
OHT2-C-C1-1-CTA-1	C	C1	3	1	50.16	0.1449	20	AGM	0.0072	50.45
OHT2-C-C1-1-CTA-2	C	C1	3	1	50.71	0.1448	20	AGM	0.0072	50.98
OHT2-C-C1-1-CTA-3	C	C1	3	1	48.95	0.1452	20	AGM	0.0073	49.35
OHT2-C-C2-1-CTA-1	C	C2	3	2	49.71	0.1446	20	AGM	0.0072	49.91
OHT2-C-C2-1-CTA-2	C	C2	3	2	47.78	0.1451	20	AGM	0.0073	48.14
OHT2-C-C2-1-CTA-3	C	C2	3	2	47.13	0.1479	20	AGM	0.0074	48.42

Average 47.85
 Standard Dev. 1.557
 Coeff. of Var. [%] 3.254
 Min. 44.89
 Max. 50.71
 Number of Spec. 18

Average_{norm} 0.0074 48.86
 Standard Dev._{norm} 1.200
 Coeff. of Var. [%]_{norm} 2.456
 Min. 0.0072 46.61
 Max. 0.0075 50.98
 Number of Spec. 18 18



September 15, 2025

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**Laminate Open-Hole Tension Properties (OHT2)--RTA (70°F)
Strength**

VICTREX LMPAEK™ UDT AS7-192-34

normalizing

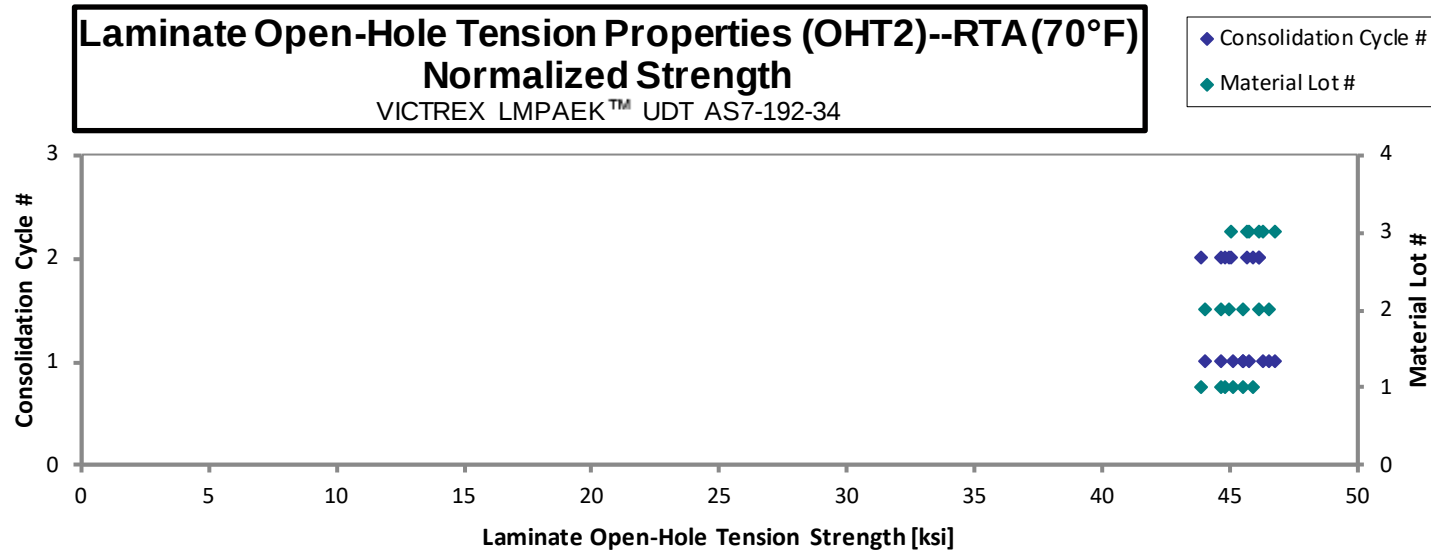
t_{ply} [in]

0.0072

Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	Strength _{norm} [ksi]
OHT2-A-C1-1-RTA-1	A	C1	1	1	44.64	0.1469	20	AGM	0.0073	45.54
OHT2-A-C1-1-RTA-2	A	C1	1	1	44.42	0.1465	20	AGM	0.0073	45.17
OHT2-A-C1-1-RTA-3	A	C1	1	1	43.37	0.1483	20	AGM	0.0074	44.66
OHT2-A-C2-1-RTA-1	A	C2	1	2	42.66	0.1481	20	AGM	0.0074	43.88
OHT2-A-C2-1-RTA-2	A	C2	1	2	43.55	0.1483	20	AGM	0.0074	44.86
OHT2-A-C2-1-RTA-3	A	C2	1	2	44.49	0.1485	20	AGM	0.0074	45.89
OHT2-B-C1-1-RTA-1	B	C1	2	1	42.96	0.1477	20	AGM	0.0074	44.05
OHT2-B-C1-1-RTA-2	B	C1	2	1	44.51	0.1473	20	AGM	0.0074	45.52
OHT2-B-C1-1-RTA-3	B	C1	2	1	45.37	0.1477	20	AGM	0.0074	46.52
OHT2-B-C2-1-RTA-1	B	C2	2	2	43.72	0.1482	20	AGM	0.0074	45.00
OHT2-B-C2-1-RTA-2	B	C2	2	2	45.47	0.1462	20	AGM	0.0073	46.14
OHT2-B-C2-1-RTA-3	B	C2	2	2	42.98	0.1497	20	AGM	0.0075	44.68
OHT2-C-C1-1-RTA-1	C	C1	3	1	45.37	0.1453	20	AGM	0.0073	45.77
OHT2-C-C1-1-RTA-2	C	C1	3	1	46.40	0.1451	20	AGM	0.0073	46.76
OHT2-C-C1-1-RTA-3	C	C1	3	1	46.03	0.1450	20	AGM	0.0073	46.35
OHT2-C-C2-1-RTA-1	C	C2	3	2	45.55	0.1459	20	AGM	0.0073	46.16
OHT2-C-C2-1-RTA-2	C	C2	3	2	44.26	0.1466	20	AGM	0.0073	45.05
OHT2-C-C2-1-RTA-3	C	C2	3	2	45.09	0.1459	20	AGM	0.0073	45.67

Average 44.49
Standard Dev. 1.106
Coeff. of Var. [%] 2.487
Min. 42.66
Max. 46.40
Number of Spec. 18

Average_{norm} 0.0074 45.43
Standard Dev._{norm} 0.8223
Coeff. of Var. [%]_{norm} 1.810
Min. 0.0073 43.88
Max. 0.0075 46.76
Number of Spec. 18 18



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

VICTREX LMPAEK™ UDT AS7-192-34

normalizing

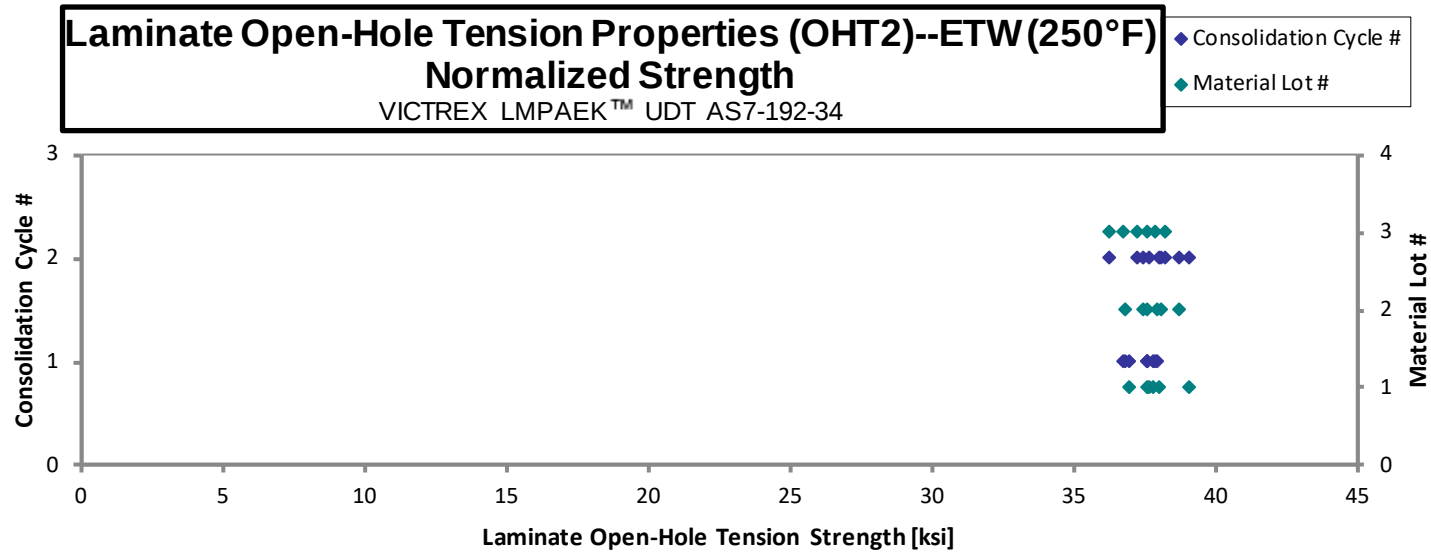
 t_{ply} [in]

0.0072

Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	Strength _{norm} [ksi]
OHT2-A-C1-1-ETW-1	A	C1	1	1	36.80	0.1470	20	AGM	0.0074	37.57
OHT2-A-C1-1-ETW-2	A	C1	1	1	35.79	0.1488	20	AGM	0.0074	36.98
OHT2-A-C1-1-ETW-3	A	C1	1	1	36.96	0.1474	20	AGM	0.0074	37.83
OHT2-A-C2-1-ETW-1	A	C2	1	2	36.57	0.1482	20	AGM	0.0074	37.64
OHT2-A-C2-1-ETW-2	A	C2	1	2	37.72	0.1491	20	AGM	0.0075	39.05
OHT2-A-C2-1-ETW-3	A	C2	1	2	36.28	0.1510	20	AGM	0.0075	38.04
OHT2-B-C1-1-ETW-1	B	C1	2	1	37.19	0.1468	20	AGM	0.0073	37.92
OHT2-B-C1-1-ETW-2	B	C1	2	1	36.02	0.1472	20	AGM	0.0074	36.83
OHT2-B-C1-1-ETW-3	B	C1	2	1	36.68	0.1475	20	AGM	0.0074	37.57
OHT2-B-C2-1-ETW-1	B	C2	2	2	36.33	0.1484	20	AGM	0.0074	37.44
OHT2-B-C2-1-ETW-2	B	C2	2	2	37.42	0.1491	20	AGM	0.0075	38.76
OHT2-B-C2-1-ETW-3	B	C2	2	2	37.31	0.1471	20	AGM	0.0074	38.12
OHT2-C-C1-1-ETW-1	C	C1	3	1	36.46	0.1451	20	AGM	0.0073	36.73
OHT2-C-C1-1-ETW-2	C	C1	3	1	37.57	0.1453	20	AGM	0.0073	37.91
OHT2-C-C1-1-ETW-3	C	C1	3	1	37.11	0.1459	20	AGM	0.0073	37.58
OHT2-C-C2-1-ETW-1	C	C2	3	2	37.05	0.1447	20	AGM	0.0072	37.23
OHT2-C-C2-1-ETW-2	C	C2	3	2	37.65	0.1461	20	AGM	0.0073	38.20
OHT2-C-C2-1-ETW-3	C	C2	3	2	35.98	0.1451	20	AGM	0.0073	36.26

Average 36.83
Standard Dev. 0.5996
Coeff. of Var. [%] 1.628
Min. 35.79
Max. 37.72
Number of Spec. 18

Average_{norm} 0.0074
Standard Dev._{norm} 0.6939
Coeff. of Var. [%]_{norm} 1.843
Min. 0.0072
Max. 0.0075
Number of Spec. 18



4.20 “50/40/10” Open-Hole Tension 3 Properties (OHT3)

Laminate Open-Hole Tension Properties (OHT3)--CTA (-65°F)
Strength

VICTREX LMPAEK™ UDT AS7-192-34

normalizing

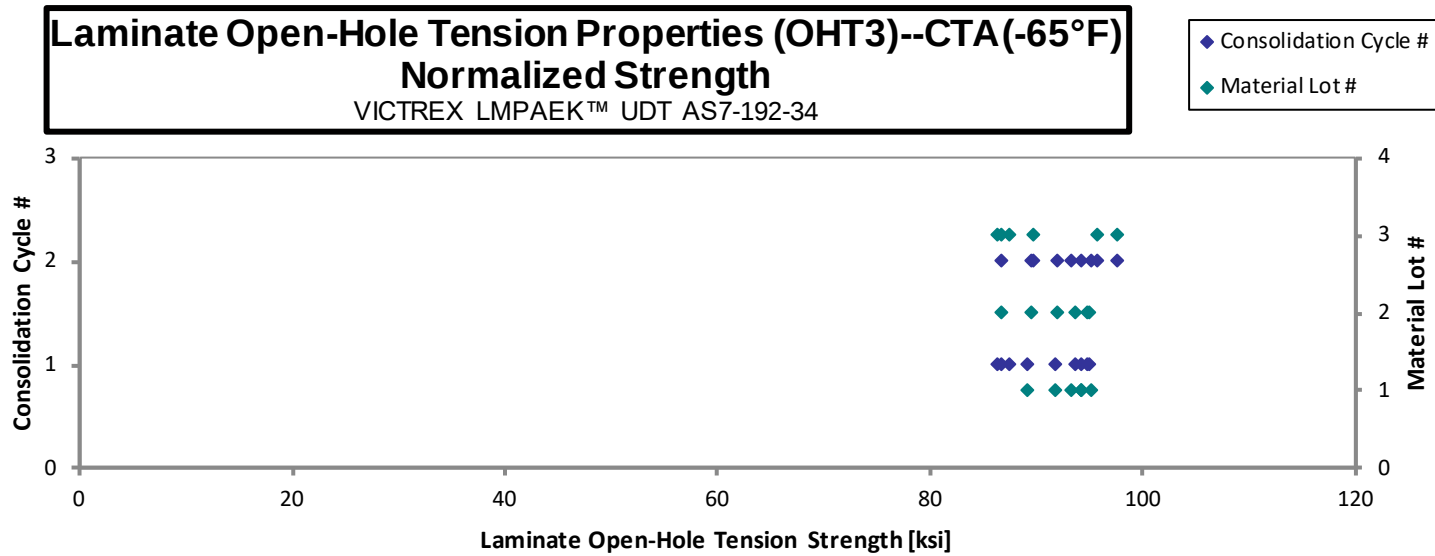
t_{ply} [in]

0.0072

Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	Strength _{norm} [ksi]
OHT3-A-C1-1-CTA-1	A	C1	1	1	90.67	0.1496	20	AGM	0.0075	94.17
OHT3-A-C1-1-CTA-2	A	C1	1	1	88.24	0.1499	20	AGM	0.0075	91.82
OHT3-A-C1-1-CTA-3	A	C1	1	1	85.77	0.1497	20	AGM	0.0075	89.15
OHT3-A-C2-1-CTA-1	A	C2	1	2	94.00	0.1458	20	AGM	0.0073	95.17
OHT3-A-C2-1-CTA-2	A	C2	1	2	91.90	0.1463	20	AGM	0.0073	93.35
OHT3-A-C2-1-CTA-3	A	C2	1	2	92.83	0.1463	20	AGM	0.0073	94.30
OHT3-B-C1-1-CTA-1	B	C1	2	1	92.73	0.1472	20	AGM	0.0074	94.79
OHT3-B-C1-1-CTA-2	B	C1	2	1	91.61	0.1474	20	AGM	0.0074	93.77
OHT3-B-C1-1-CTA-3	B	C1	2	1	93.36	0.1465	20	AGM	0.0073	94.98
OHT3-B-C2-1-CTA-1	B	C2	2	2	85.36	0.1462	20	AGM	0.0073	86.68
OHT3-B-C2-1-CTA-2	B	C2	2	2	87.98	0.1465	20	AGM	0.0073	89.50
OHT3-B-C2-1-CTA-3	B	C2	2	2	89.86	0.1473	20	AGM	0.0074	91.92
OHT3-C-C1-1-CTA-1	C	C1	3	1	86.13	0.1445	20	AGM	0.0072	86.40
OHT3-C-C1-1-CTA-2	C	C1	3	1	86.83	0.1452	20	AGM	0.0073	87.54
OHT3-C-C1-1-CTA-3	C	C1	3	1	85.70	0.1458	20	AGM	0.0073	86.75
OHT3-C-C2-1-CTA-1	C	C2	3	2	97.66	0.1440	20	AGM	0.0072	97.68
OHT3-C-C2-1-CTA-2	C	C2	3	2	95.29	0.1448	20	AGM	0.0072	95.80
OHT3-C-C2-1-CTA-3	C	C2	3	2	89.38	0.1447	20	AGM	0.0072	89.79

Average 90.29
 Standard Dev. 3.638
 Coeff. of Var. [%] 4.029
 Min. 85.36
 Max. 97.66
 Number of Spec. 18

Average_{norm} 0.0073
 Standard Dev._{norm} 3.551
 Coeff. of Var. [%]_{norm} 3.865
 Min. 0.0072
 Max. 0.0075
 Number of Spec. 18



September 15, 2025

CAM-RP-2025-009 Rev -

Laminate Open-Hole Tension Properties (OHT3)--RTA (70°F)
Strength

VICTREX LMPAEK™ UDT AS7-192-34

normalizing

t_{ply} [in]

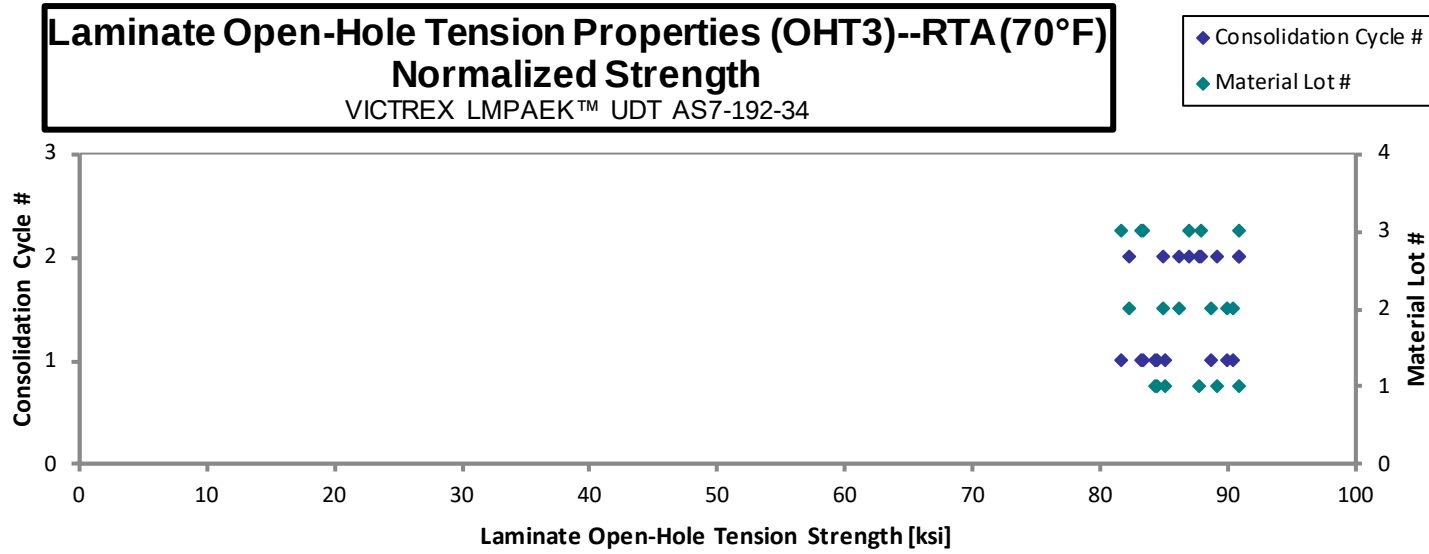
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Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode
OHT3-A-C1-1-RTA-1	A	C1	1	1	80.89	0.1514	20	AGM
OHT3-A-C1-1-RTA-2	A	C1	1	1	81.85	0.1483	20	AGM
OHT3-A-C1-1-RTA-3	A	C1	1	1	82.08	0.1483	20	AGM
OHT3-A-C2-1-RTA-1	A	C2	1	2	87.21	0.1474	20	AGM
OHT3-A-C2-1-RTA-2	A	C2	1	2	86.33	0.1464	20	AGM
OHT3-A-C2-1-RTA-3	A	C2	1	2	88.86	0.1473	20	AGM
OHT3-B-C1-1-RTA-1	B	C1	2	1	87.87	0.1473	20	AGM
OHT3-B-C1-1-RTA-2	B	C1	2	1	86.92	0.1470	20	AGM
OHT3-B-C1-1-RTA-3	B	C1	2	1	88.68	0.1468	20	AGM
OHT3-B-C2-1-RTA-1	B	C2	2	2	83.27	0.1469	20	AGM
OHT3-B-C2-1-RTA-2	B	C2	2	2	80.28	0.1476	20	AGM
OHT3-B-C2-1-RTA-3	B	C2	2	2	84.43	0.1471	20	AGM
OHT3-C-C1-1-RTA-1	C	C1	3	1	82.57	0.1455	20	AGM
OHT3-C-C1-1-RTA-2	C	C1	3	1	83.21	0.1442	20	AGM
OHT3-C-C1-1-RTA-3	C	C1	3	1	80.80	0.1457	20	AGM
OHT3-C-C2-1-RTA-1	C	C2	3	2	86.77	0.1459	20	AGM
OHT3-C-C2-1-RTA-2	C	C2	3	2	86.26	0.1452	20	AGM
OHT3-C-C2-1-RTA-3	C	C2	3	2	90.92	0.1440	20	AGM

Avg. t_{ply} [in]	Strength _{norm} [ksi]
0.0076	85.07
0.0074	84.27
0.0074	84.52
0.0074	89.26
0.0073	87.77
0.0074	90.88
0.0074	89.90
0.0074	88.74
0.0073	90.39
0.0073	84.93
0.0074	82.29
0.0074	86.27
0.0073	83.42
0.0072	83.29
0.0073	81.73
0.0073	87.90
0.0073	86.98
0.0072	90.94

Average 84.96
Standard Dev. 3.202
Coeff. of Var. [%] 3.770
Min. 80.28
Max. 90.92
Number of Spec. 18

Average_{norm} 0.0073 86.59
Standard Dev._{norm} 3.025
Coeff. of Var. [%]_{norm} 3.493
Min. 0.0072 81.73
Max. 0.0076 90.94
Number of Spec. 18 18



Laminate Open-Hole Tension Properties (OHT3)--ETW (250°F)

Strength

VICTREX LMPAEK™ UDT AS7-192-34

normalizing

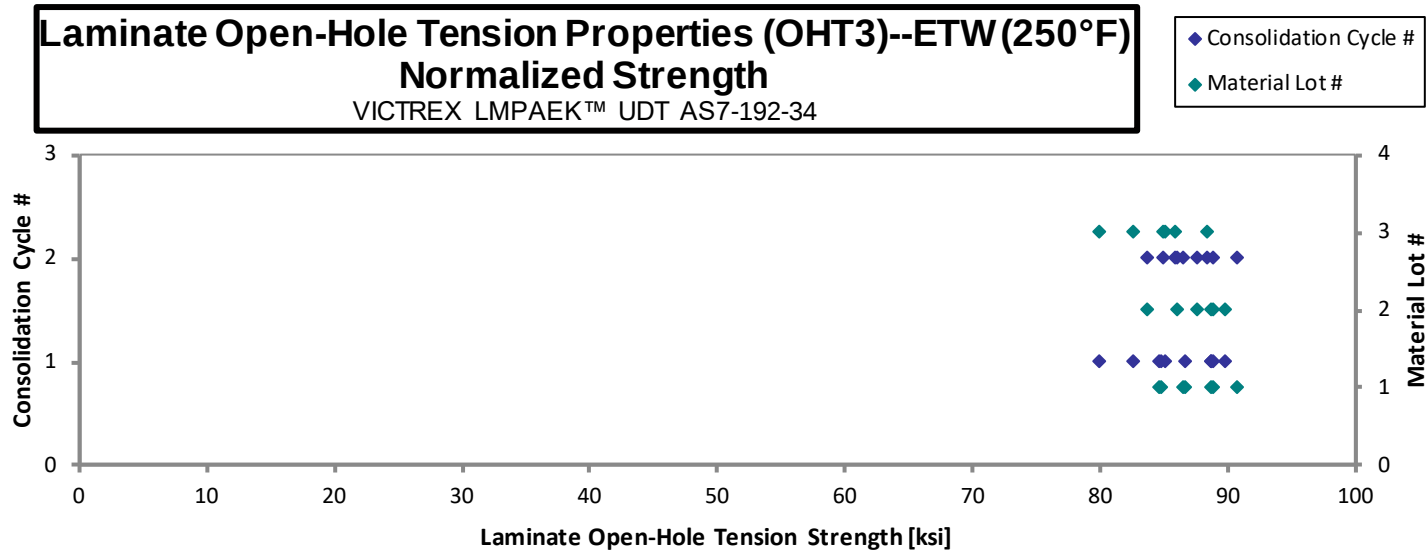
 t_{ply} [in]

0.0072

Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	Strength _{norm} [ksi]
OHT3-A-C1-1-ETW-1	A	C1	1	1	82.80	0.1472	20	AGM	0.0074	84.65
OHT3-A-C1-1-ETW-2	A	C1	1	1	84.17	0.1483	20	AGM	0.0074	86.67
OHT3-A-C1-1-ETW-3	A	C1	1	1	85.35	0.1496	20	AGM	0.0075	88.64
OHT3-A-C1-1-ETW-4	A	C1	1	1	82.48	0.1481	20	AGM	0.0074	84.83
OHT3-A-C2-1-ETW-1	A	C2	1	2	85.45	0.1457	20	AGM	0.0073	86.47
OHT3-A-C2-1-ETW-2	A	C2	1	2	87.62	0.1461	20	AGM	0.0073	88.87
OHT3-A-C2-1-ETW-3	A	C2	1	2	89.69	0.1457	20	AGM	0.0073	90.76
OHT3-B-C1-1-ETW-1	B	C1	2	1	87.54	0.1478	20	AGM	0.0074	89.83
OHT3-B-C1-1-ETW-2	B	C1	2	1	86.68	0.1474	20	AGM	0.0074	88.70
OHT3-B-C1-1-ETW-3	B	C1	2	1	87.24	0.1466	20	AGM	0.0073	88.83
OHT3-B-C2-1-ETW-1	B	C2	2	2	84.53	0.1466	20	AGM	0.0073	86.05
OHT3-B-C2-1-ETW-2	B	C2	2	2	82.31	0.1464	20	AGM	0.0073	83.68
OHT3-B-C2-1-ETW-3	B	C2	2	2	86.16	0.1465	20	AGM	0.0073	87.66
OHT3-C-C1-1-ETW-1	C	C1	3	1	82.40	0.1443	20	AGM	0.0072	82.59
OHT3-C-C1-1-ETW-2	C	C1	3	1	79.14	0.1454	20	AGM	0.0073	79.92
OHT3-C-C1-1-ETW-3	C	C1	3	1	84.69	0.1446	20	AGM	0.0072	85.05
OHT3-C-C2-1-ETW-1	C	C2	3	2	85.91	0.1440	20	AGM	0.0072	85.90
OHT3-C-C2-1-ETW-2	C	C2	3	2	88.44	0.1439	20	AGM	0.0072	88.35
OHT3-C-C2-1-ETW-3	C	C2	3	2	84.38	0.1449	20	AGM	0.0072	84.93

Average 85.11
 Standard Dev. 2.563
 Coeff. of Var. [%] 3.011
 Min. 79.14
 Max. 89.69
 Number of Spec. 19

Average_{norm} 0.0073 86.44
 Standard Dev._{norm} 2.711
 Coeff. of Var. [%]_{norm} 3.136
 Min. 0.0072 79.92
 Max. 0.0075 90.76
 Number of Spec. 19 19



4.21 “25/50/25” Filled-Hole Tension 1 Properties (FHT1)

Laminate Filled-Hole Tension Properties (FHT1)--CTA (-65°F)
Strength

VICTREX LMPAEK™ UDT AS7-192-34

normalizing

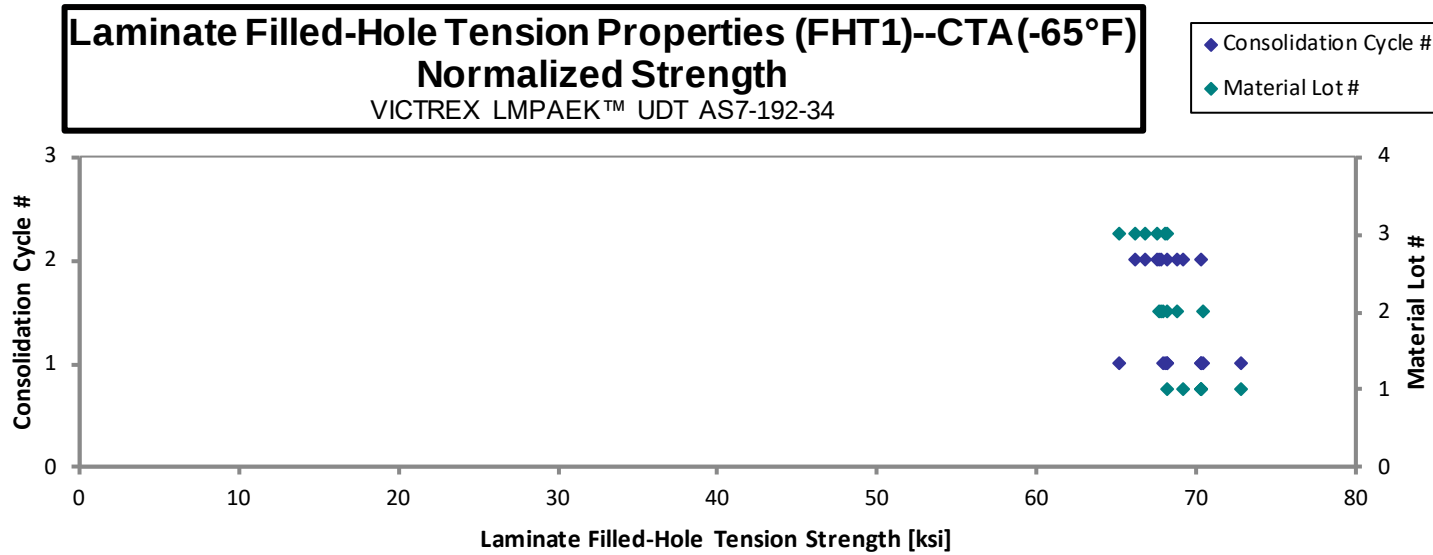
 $t_{ply} [in]$

0.0072

Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. $t_{ply} [in]$	Strength _{norm} [ksi]
FHT1-A-C1-R-CTA-1	A	C1	1	1	71.11	0.1181	16	AGM	0.0074	72.91
FHT1-A-C1-R-CTA-2	A	C1	1	1	68.71	0.1179	16	AGM	0.0074	70.30
FHT1-A-C1-R-CTA-3	A	C1	1	1	68.93	0.1177	16	AGM	0.0074	70.41
FHT1-A-C2-R-CTA-1	A	C2	1	2	67.93	0.1174	16	AGM	0.0073	69.20
FHT1-A-C2-R-CTA-2	A	C2	1	2	68.40	0.1186	16	AGM	0.0074	70.39
FHT1-A-C2-R-CTA-3	A	C2	1	2	66.92	0.1173	16	AGM	0.0073	68.16
FHT1-B-C1-R-CTA-1	B	C1	2	1	66.76	0.1176	16	AGM	0.0074	68.16
FHT1-B-C1-R-CTA-2	B	C1	2	1	66.64	0.1176	16	AGM	0.0073	68.00
FHT1-B-C1-R-CTA-3	B	C1	2	1	68.16	0.1190	16	AGM	0.0074	70.42
FHT1-B-C2-R-CTA-1	B	C2	2	2	66.11	0.1183	16	AGM	0.0074	67.88
FHT1-B-C2-R-CTA-2	B	C2	2	2	66.62	0.1172	16	AGM	0.0073	67.75
FHT1-B-C2-R-CTA-3	B	C2	2	2	67.63	0.1173	16	AGM	0.0073	68.86
FHT1-C-C1-R-CTA-1	C	C1	3	1	67.79	0.1160	16	AGM	0.0072	68.24
FHT1-C-C1-R-CTA-2	C	C1	3	1	67.95	0.1154	16	AGM	0.0072	68.09
FHT1-C-C1-R-CTA-3	C	C1	3	1	64.61	0.1163	16	AGM	0.0073	65.22
FHT1-C-C2-R-CTA-1	C	C2	3	2	66.13	0.1164	16	AGM	0.0073	66.80
FHT1-C-C2-R-CTA-2	C	C2	3	2	66.68	0.1167	16	AGM	0.0073	67.54
FHT1-C-C2-R-CTA-3	C	C2	3	2	65.74	0.1160	16	AGM	0.0073	66.20

Average 67.38
Standard Dev. 1.462
Coeff. of Var. [%] 2.169
Min. 64.61
Max. 71.11
Number of Spec. 18

Average_{norm} 0.0073 68.59
Standard Dev._{norm} 1.809
Coeff. of Var. [%]_{norm} 2.638
Min. 0.0072 65.22
Max. 0.0074 72.91
Number of Spec. 18 18



September 15, 2025

CAM-RP-2025-009 Rev -

Laminate Filled-Hole Tension Properties (FHT1)--RTA (70°F)
Strength

VICTREX LMPAEK™ UDT AS7-192-34

normalizing

t_{ply} [in]

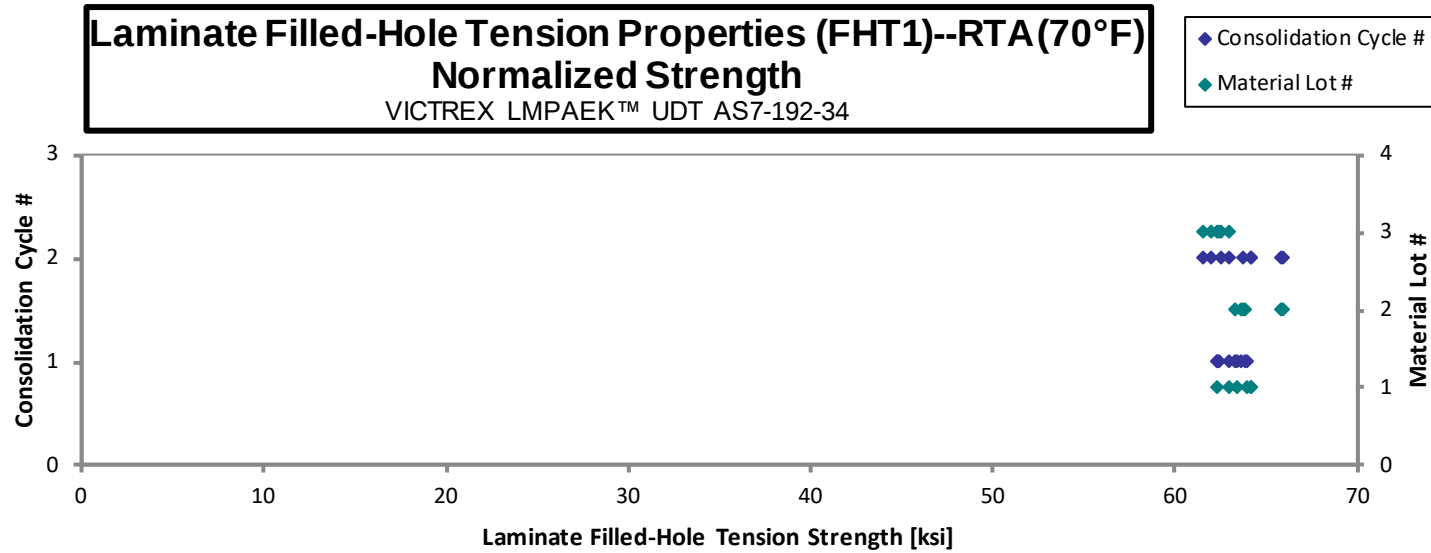
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Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode
FHT1-A-C1-R-RTA-1	A	C1	1	1	61.58	0.1166	16	AGM
FHT1-A-C1-R-RTA-2	A	C1	1	1	62.95	0.1171	16	AGM
FHT1-A-C1-R-RTA-3	A	C1	1	1	62.17	0.1176	16	AGM
FHT1-A-C2-R-RTA-1	A	C2	1	2	62.91	0.1176	16	AGM
FHT1-A-C2-R-RTA-2	A	C2	1	2	61.95	0.1193	16	AGM
FHT1-A-C2-R-RTA-3	A	C2	1	2	61.87	0.1173	16	AGM
FHT1-B-C1-R-RTA-1	B	C1	2	1	61.88	0.1179	16	AGM
FHT1-B-C1-R-RTA-2	B	C1	2	1	62.63	0.1175	16	AGM
FHT1-B-C1-R-RTA-3	B	C1	2	1	62.24	0.1177	16	AGM
FHT1-B-C2-R-RTA-1	B	C2	2	2	60.68	0.1253	16	AGM
FHT1-B-C2-R-RTA-2	B	C2	2	2	60.54	0.1252	16	AGM
FHT1-B-C2-R-RTA-3	B	C2	2	2	61.38	0.1196	16	AGM
FHT1-C-C1-R-RTA-1	C	C1	3	1	61.62	0.1166	16	AGM
FHT1-C-C1-R-RTA-2	C	C1	3	1	62.87	0.1153	16	AGM
FHT1-C-C1-R-RTA-3	C	C1	3	1	62.00	0.1160	16	AGM
FHT1-C-C2-R-RTA-1	C	C2	3	2	61.00	0.1162	16	AGM
FHT1-C-C2-R-RTA-2	C	C2	3	2	62.35	0.1155	16	AGM
FHT1-C-C2-R-RTA-3	C	C2	3	2	61.47	0.1161	16	AGM

Avg. t_{ply} [in]	Strength _{norm} [ksi]
0.0073	62.35
0.0073	63.97
0.0074	63.47
0.0073	64.19
0.0075	64.15
0.0073	62.98
0.0074	63.33
0.0073	63.86
0.0074	63.60
0.0078	65.98
0.0078	65.79
0.0075	63.70
0.0073	62.35
0.0072	62.94
0.0072	62.42
0.0073	61.52
0.0072	62.53
0.0073	61.95

Average 61.89
Standard Dev. 0.7194
Coeff. of Var. [%] 1.162
Min. 60.54
Max. 62.95
Number of Spec. 18

Average_{norm} 0.0074 63.39
Standard Dev._{norm} 1.192
Coeff. of Var. [%]_{norm} 1.881
Min. 0.0072 61.52
Max. 0.0078 65.98
Number of Spec. 18 18



September 15, 2025

CAM-RP-2025-009 Rev -

Laminate Filled-Hole Tension Properties (FHT1)--ETW (250°F)
Strength

VICTREX LMPAEK™ UDT AS7-192-34

normalizing

t_{ply} [in]

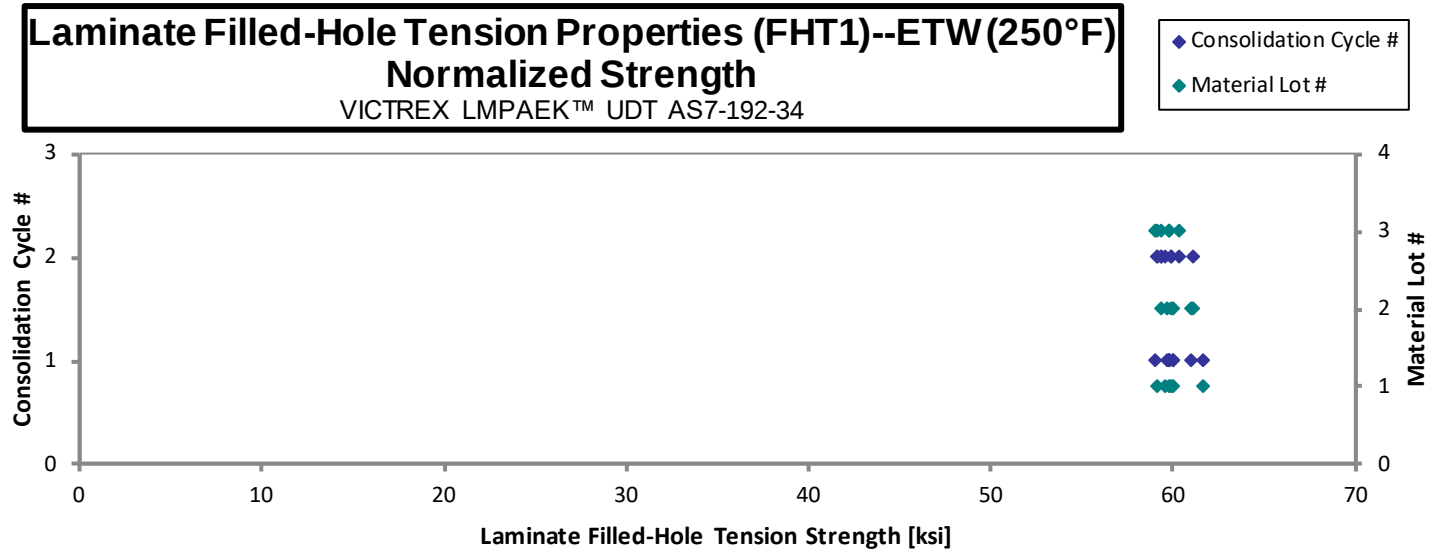
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Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode
FHT1-A-C1-R-ETW-1	A	C1	1	1	59.14	0.1164	16	AGM
FHT1-A-C1-R-ETW-2	A	C1	1	1	61.25	0.1160	16	AGM
FHT1-A-C1-R-ETW-3	A	C1	1	1	58.78	0.1177	16	AGM
FHT1-A-C2-R-ETW-1	A	C2	1	2	57.98	0.1175	16	AGM
FHT1-A-C2-R-ETW-2	A	C2	1	2	58.82	0.1174	16	AGM
FHT1-A-C2-R-ETW-3	A	C2	1	2	58.59	0.1172	16	AGM
FHT1-B-C1-R-ETW-1	B	C1	2	1	58.71	0.1177	16	M(L,A)GM
FHT1-B-C1-R-ETW-2	B	C1	2	1	58.16	0.1183	16	AGM
FHT1-B-C1-R-ETW-3	B	C1	2	1	59.17	0.1187	16	AGM
FHT1-B-C2-R-ETW-1	B	C2	2	2	58.97	0.1170	16	AGM
FHT1-B-C2-R-ETW-2	B	C2	2	2	59.84	0.1176	16	AGM
FHT1-B-C2-R-ETW-3	B	C2	2	2	58.67	0.1167	16	AGM
FHT1-C-C1-R-ETW-1	C	C1	3	1	59.86	0.1152	16	AGM
FHT1-C-C1-R-ETW-2	C	C1	3	1	59.34	0.1162	16	AGM
FHT1-C-C1-R-ETW-3	C	C1	3	1	59.00	0.1153	16	AGM
FHT1-C-C2-R-ETW-1	C	C2	3	2	59.94	0.1159	16	AGM
FHT1-C-C2-R-ETW-2	C	C2	3	2	58.66	0.1161	16	AGM
FHT1-C-C2-R-ETW-3	C	C2	3	2	58.86	0.1163	16	AGM

Avg. t_{ply} [in]	Strength _{norm} [ksi]
0.0073	59.77
0.0072	61.67
0.0074	60.04
0.0073	59.15
0.0073	59.92
0.0073	59.61
0.0074	60.00
0.0074	59.71
0.0074	60.96
0.0073	59.91
0.0074	61.10
0.0073	59.41
0.0072	59.85
0.0073	59.84
0.0072	59.07
0.0072	60.32
0.0073	59.11
0.0073	59.40

Average 59.10
Standard Dev. 0.7557
Coeff. of Var. [%] 1.279
Min. 57.98
Max. 61.25
Number of Spec. 18

Average_{norm} 0.0073 59.94
Standard Dev._{norm} 0.7021
Coeff. of Var. [%]_{norm} 1.171
Min. 0.0072 59.07
Max. 0.0074 61.67
Number of Spec. 18 18



4.22 “10/80/10” Filled-Hole Tension 2 Properties (FHT2)

Laminate Filled-Hole Tension Properties (FHT2)--CTA (-65°F)
Strength

VICTREX LMPAEK™ UDT AS7-192-34

normalizing

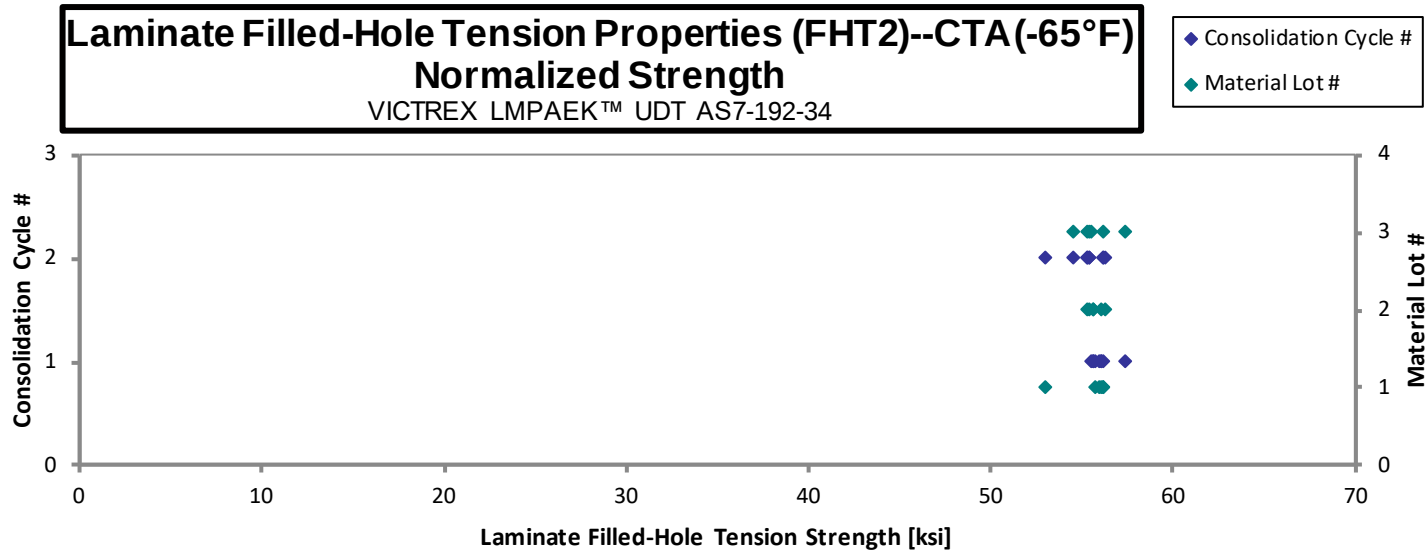
t_{ply} [in]

0.0072

Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	Strength _{norm} [ksi]
FHT2-A-C1-5-CTA-1	A	C1	1	1	55.06	0.1465	20	AGM	0.0073	56.03
FHT2-A-C1-5-CTA-2	A	C1	1	1	55.02	0.1458	20	AGM	0.0073	55.72
FHT2-A-C1-5-CTA-3	A	C1	1	1	55.29	0.1459	20	AGM	0.0073	56.01
FHT2-A-C2-5-CTA-1	A	C2	1	2	52.06	0.1466	20	AGM	0.0073	53.00
FHT2-A-C2-5-CTA-2	A	C2	1	2	55.40	0.1460	20	AGM	0.0073	56.18
FHT2-A-C2-5-CTA-3	A	C2	1	2	55.79	0.1449	20	AGM	0.0072	56.14
FHT2-B-C1-5-CTA-1	B	C1	2	1	54.43	0.1473	20	AGM	0.0074	55.65
FHT2-B-C1-5-CTA-2	B	C1	2	1	54.00	0.1482	20	AGM	0.0074	55.59
FHT2-B-C1-5-CTA-3	B	C1	2	1	54.70	0.1477	20	AGM	0.0074	56.09
FHT2-B-C2-5-CTA-1	B	C2	2	2	54.07	0.1476	20	AGM	0.0074	55.41
FHT2-B-C2-5-CTA-2	B	C2	2	2	54.40	0.1465	20	AGM	0.0073	55.35
FHT2-B-C2-5-CTA-3	B	C2	2	2	55.23	0.1469	20	AGM	0.0073	56.33
FHT2-C-C1-5-CTA-1	C	C1	3	1	56.46	0.1434	20	AGM	0.0072	56.23
FHT2-C-C1-5-CTA-2	C	C1	3	1	57.53	0.1437	20	AGM	0.0072	57.41
FHT2-C-C1-5-CTA-3	C	C1	3	1	55.62	0.1436	20	AGM	0.0072	55.48
FHT2-C-C2-5-CTA-1	C	C2	3	2	55.25	0.1443	20	AGM	0.0072	55.37
FHT2-C-C2-5-CTA-2	C	C2	3	2	55.38	0.1439	20	AGM	0.0072	55.34
FHT2-C-C2-5-CTA-3	C	C2	3	2	54.26	0.1446	20	AGM	0.0072	54.49

Average 55.00
Standard Dev. 1.134
Coeff. of Var. [%] 2.061
Min. 52.06
Max. 57.53
Number of Spec. 18

Average_{norm} 0.0073
Standard Dev._{norm} 0.8957
Coeff. of Var. [%]_{norm} 1.609
Min. 0.0072
Max. 0.0074
Number of Spec. 18



September 15, 2025

CAM-RP-2025-009 Rev -

Laminate Filled-Hole Tension Properties (FHT2)--RTA (70°F)

Strength

VICTREX LMPAEK™ UDT AS7-192-34

normalizing

t_{ply} [in]

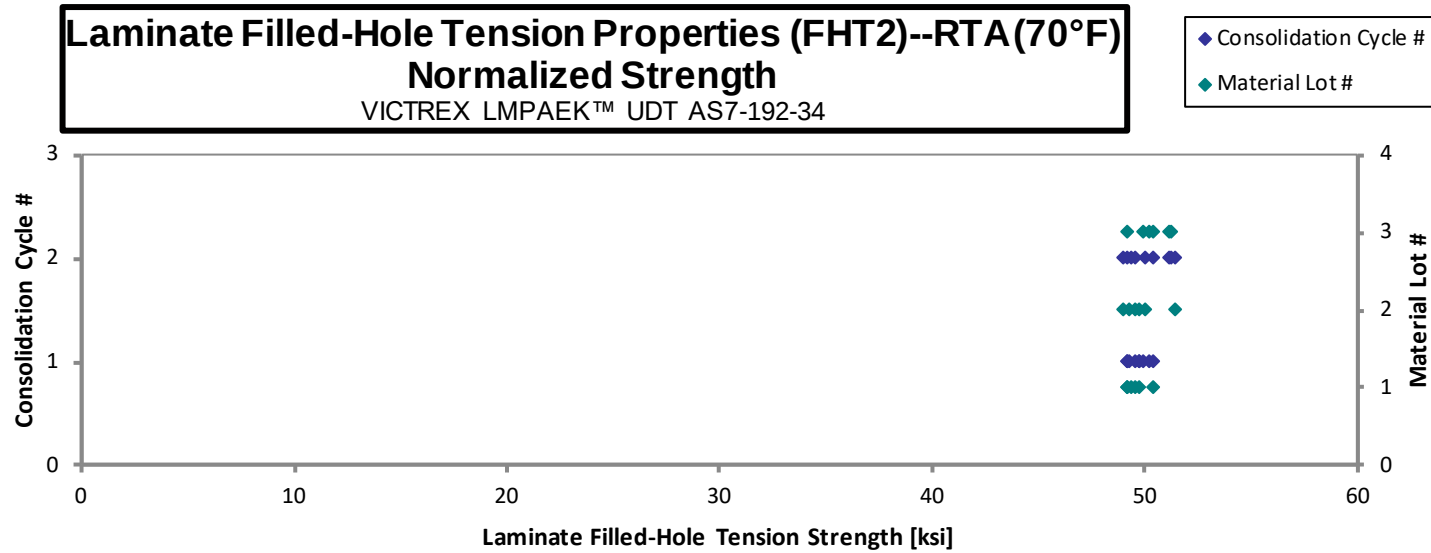
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Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode
FHT2-A-C1-5-RTA-1	A	C1	1	1	50.05	0.1452	20	AGM
FHT2-A-C1-5-RTA-2	A	C1	1	1	48.93	0.1447	20	AGM
FHT2-A-C1-5-RTA-3	A	C1	1	1	49.02	0.1461	20	AGM
FHT2-A-C2-5-RTA-1	A	C2	1	2	48.93	0.1458	20	AGM
FHT2-A-C2-5-RTA-2	A	C2	1	2	48.64	0.1456	20	AGM
FHT2-A-C2-5-RTA-3	A	C2	1	2	48.79	0.1456	20	AGM
FHT2-B-C1-5-RTA-1	B	C1	2	1	48.01	0.1486	20	AGM
FHT2-B-C1-5-RTA-2	B	C1	2	1	48.21	0.1472	20	AGM
FHT2-B-C1-5-RTA-3	B	C1	2	1	48.33	0.1484	20	AGM
FHT2-B-C2-5-RTA-1	B	C2	2	2	47.80	0.1477	20	AGM
FHT2-B-C2-5-RTA-2	B	C2	2	2	48.85	0.1475	20	AGM
FHT2-B-C2-5-RTA-3	B	C2	2	2	50.65	0.1462	20	AGM
FHT2-C-C1-5-RTA-1	C	C1	3	1	49.26	0.1438	20	AGM
FHT2-C-C1-5-RTA-2	C	C1	3	1	50.26	0.1430	20	AGM
FHT2-C-C1-5-RTA-3	C	C1	3	1	50.30	0.1437	20	AGM
FHT2-C-C2-5-RTA-1	C	C2	3	2	50.67	0.1433	20	AGM
FHT2-C-C2-5-RTA-2	C	C2	3	2	51.42	0.1432	20	AGM
FHT2-C-C2-5-RTA-3	C	C2	3	2	51.13	0.1443	20	AGM

Avg. t_{ply} [in]	Strength _{norm} [ksi]
0.0073	50.45
0.0072	49.17
0.0073	49.74
0.0073	49.53
0.0073	49.17
0.0073	49.33
0.0074	49.55
0.0074	49.30
0.0074	49.79
0.0074	49.04
0.0074	50.05
0.0073	51.43
0.0072	49.20
0.0071	49.90
0.0072	50.20
0.0072	50.43
0.0072	51.14
0.0072	51.25

Average 49.40
 Standard Dev. 1.115
 Coeff. of Var. [%] 2.257
 Min. 47.80
 Max. 51.42
 Number of Spec. 18

Average_{norm} 0.0073 49.93
 Standard Dev._{norm} 0.7527
 Coeff. of Var. [%]_{norm} 1.508
 Min. 0.0071 49.04
 Max. 0.0074 51.43
 Number of Spec. 18 18



September 15, 2025

CAM-RP-2025-009 Rev -

Laminate Filled-Hole Tension Properties (FHT2)--ETW (250°F)

Strength

VICTREX LMPAEK™ UDT AS7-192-34

normalizing

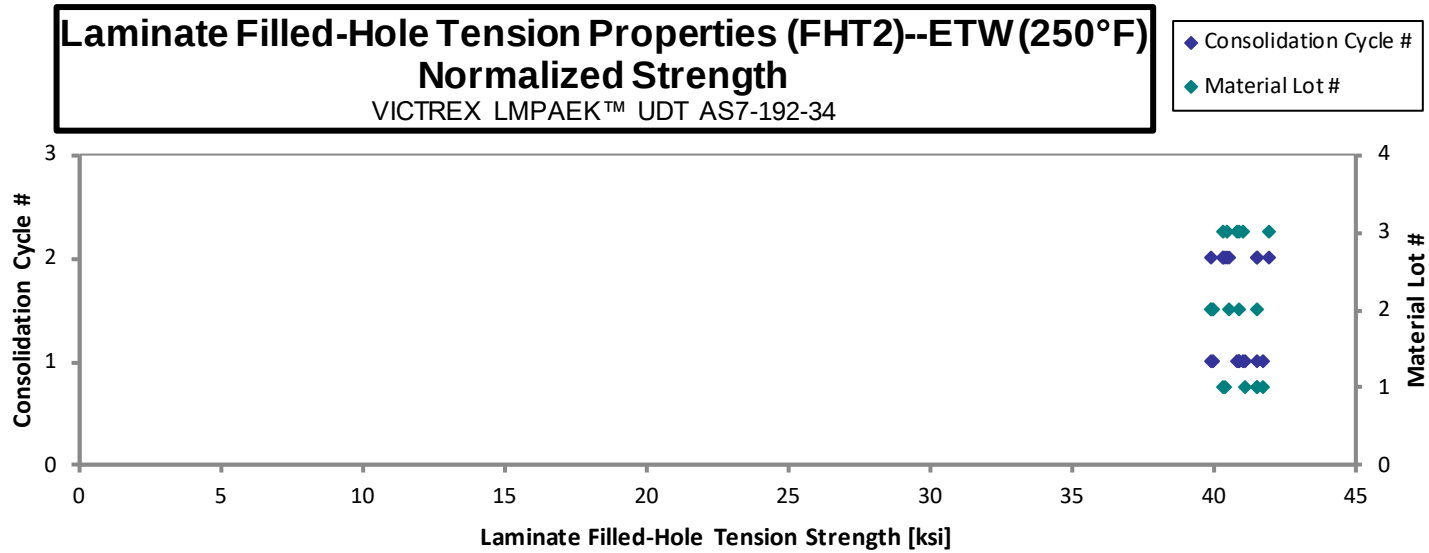
t_{ply} [in]

0.0072

Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	Strength _{norm} [ksi]
FHT2-A-C1-5-ETW-1	A	C1	1	1	40.74	0.1454	20	AGM	0.0073	41.13
FHT2-A-C1-5-ETW-2	A	C1	1	1	40.92	0.1461	20	AGM	0.0073	41.51
FHT2-A-C1-5-ETW-3	A	C1	1	1	41.47	0.1450	20	AGM	0.0072	41.75
FHT2-A-C2-5-ETW-1	A	C2	1	2	39.91	0.1457	20	AGM	0.0073	40.37
FHT2-A-C2-5-ETW-2	A	C2	1	2	41.18	0.1453	20	AGM	0.0073	41.55
FHT2-A-C2-5-ETW-3	A	C2	1	2	40.07	0.1452	20	AGM	0.0073	40.41
FHT2-B-C1-5-ETW-1	B	C1	2	1	39.18	0.1469	20	AGM	0.0073	39.97
FHT2-B-C1-5-ETW-2	B	C1	2	1	38.72	0.1484	20	AGM	0.0074	39.89
FHT2-B-C1-5-ETW-3	B	C1	2	1	39.76	0.1482	20	AGM	0.0074	40.93
FHT2-B-C2-5-ETW-1	B	C2	2	2	39.53	0.1453	20	AGM	0.0073	39.90
FHT2-B-C2-5-ETW-2	B	C2	2	2	39.34	0.1485	20	AGM	0.0074	40.58
FHT2-B-C2-5-ETW-3	B	C2	2	2	40.74	0.1468	20	AGM	0.0073	41.52
FHT2-C-C1-5-ETW-1	C	C1	3	1	41.40	0.1429	20	AGM	0.0071	41.07
FHT2-C-C1-5-ETW-2	C	C1	3	1	41.07	0.1435	20	AGM	0.0072	40.91
FHT2-C-C1-5-ETW-3	C	C1	3	1	41.04	0.1433	20	AGM	0.0072	40.83
FHT2-C-C2-5-ETW-1	C	C2	3	2	40.38	0.1439	20	AGM	0.0072	40.36
FHT2-C-C2-5-ETW-2	C	C2	3	2	40.26	0.1448	20	AGM	0.0072	40.48
FHT2-C-C2-5-ETW-3	C	C2	3	2	41.78	0.1447	20	AGM	0.0072	41.97

Average 40.42
 Standard Dev. 0.8743
 Coeff. of Var. [%] 2.163
 Min. 38.72
 Max. 41.78
 Number of Spec. 18

Average_{norm} 0.0073 40.84
 Standard Dev._{norm} 0.6441
 Coeff. of Var. [%]_{norm} 1.577
 Min. 0.0071 39.89
 Max. 0.0074 41.97
 Number of Spec. 18 18



4.23 “50/40/10” Filled-Hole Tension 3 Properties (FHT3)

Laminate Filled-Hole Tension Properties (FHT3)--CTA (-65°F)
Strength

VICTREX LMPAEK™ UDT AS7-192-34

normalizing

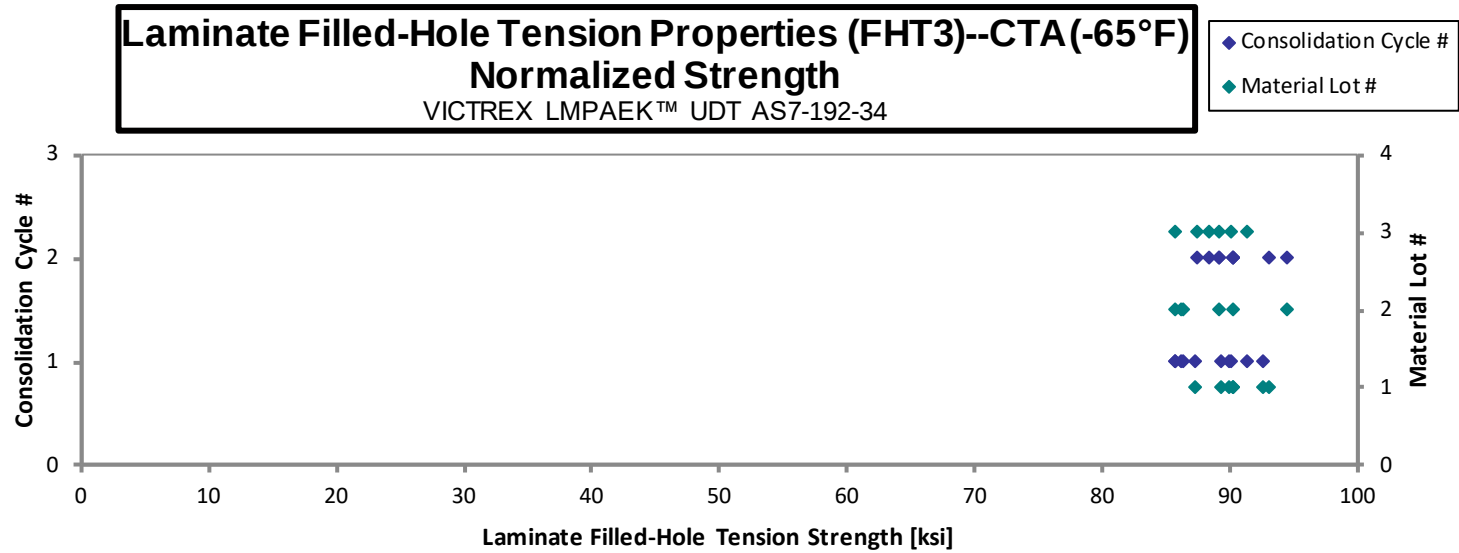
t_{ply} [in]

0.0072

Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	Strength _{norm} [ksi]
FHT3-A-C1-6-CTA-1	A	C1	1	1	88.54	0.1463	20	AGM	0.0073	89.93
FHT3-A-C1-6-CTA-2	A	C1	1	1	88.04	0.1462	20	AGM	0.0073	89.37
FHT3-A-C1-6-CTA-3	A	C1	1	1	85.81	0.1466	20	AGM	0.0073	87.33
FHT3-A-C1-6-CTA-4	A	C1	1	1	91.17	0.1464	20	AGM	0.0073	92.67
FHT3-A-C2-6-CTA-1	A	C2	1	2	88.42	0.1472	20	AGM	0.0074	90.36
FHT3-A-C2-6-CTA-2	A	C2	1	2	91.36	0.1468	20	AGM	0.0073	93.15
FHT3-A-C2-6-CTA-3	A	C2	1	2	88.13	0.1475	20	AGM	0.0074	90.24
FHT3-B-C1-6-CTA-1	B	C1	2	1	83.03	0.1487	20	AGM	0.0074	85.74
FHT3-B-C1-6-CTA-2	B	C1	2	1	83.61	0.1487	20	AGM	0.0074	86.35
FHT3-B-C1-6-CTA-3	B	C1	2	1	83.71	0.1483	20	AGM	0.0074	86.18
FHT3-B-C2-6-CTA-1	B	C2	2	2	88.04	0.1477	20	AGM	0.0074	90.32
FHT3-B-C2-6-CTA-2	B	C2	2	2	86.78	0.1479	20	AGM	0.0074	89.14
FHT3-B-C2-6-CTA-3	B	C2	2	2	92.49	0.1471	20	AGM	0.0074	94.50
FHT3-C-C1-6-CTA-1	C	C1	3	1	91.49	0.1437	20	AGM	0.0072	91.31
FHT3-C-C1-6-CTA-2	C	C1	3	1	89.30	0.1453	20	AGM	0.0073	90.10
FHT3-C-C1-6-CTA-3	C	C1	3	1	85.17	0.1450	20	AGM	0.0072	85.73
FHT3-C-C2-6-CTA-1	C	C2	3	2	88.44	0.1453	20	AGM	0.0073	89.24
FHT3-C-C2-6-CTA-2	C	C2	3	2	88.09	0.1446	20	AGM	0.0072	88.48
FHT3-C-C2-6-CTA-3	C	C2	3	2	87.03	0.1447	20	AGM	0.0072	87.45

Average 87.82
Standard Dev. 2.720
Coeff. of Var. [%] 3.097
Min. 83.03
Max. 92.49
Number of Spec. 19

Average_{norm} 0.0073 89.35
Standard Dev._{norm} 2.508
Coeff. of Var. [%]_{norm} 2.807
Min. 0.0072 85.73
Max. 0.0074 94.50
Number of Spec. 19 19



September 15, 2025

CAM-RP-2025-009 Rev -

Laminate Filled-Hole Tension Properties (FHT3)--RTA (70°F)

Strength

VICTREX LMPAEK™ UDT AS7-192-34

normalizing

t_{ply} [in]

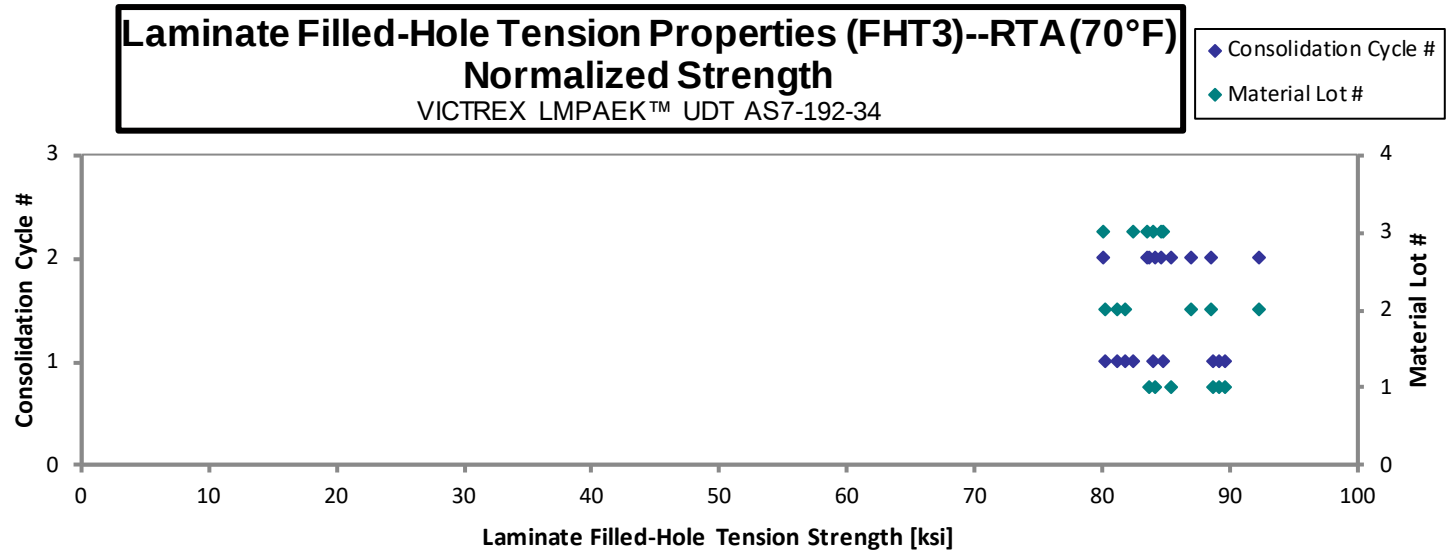
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Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode
FHT3-A-C1-6-RTA-1	A	C1	1	1	87.36	0.1463	20	AGM
FHT3-A-C1-6-RTA-2	A	C1	1	1	87.81	0.1470	20	AGM
FHT3-A-C1-6-RTA-3	A	C1	1	1	87.84	0.1463	20	AGM
FHT3-A-C2-6-RTA-1	A	C2	1	2	82.20	0.1475	20	AGM
FHT3-A-C2-6-RTA-2	A	C2	1	2	84.64	0.1455	20	AGM
FHT3-A-C2-6-RTA-3	A	C2	1	2	80.61	0.1495	20	AGM
FHT3-B-C1-6-RTA-1	B	C1	2	1	77.76	0.1487	20	AGM
FHT3-B-C1-6-RTA-2	B	C1	2	1	78.30	0.1493	20	AGM
FHT3-B-C1-6-RTA-3	B	C1	2	1	79.60	0.1480	20	AGM
FHT3-B-C2-6-RTA-1	B	C2	2	2	89.48	0.1487	20	AGM
FHT3-B-C2-6-RTA-2	B	C2	2	2	83.90	0.1494	20	AGM
FHT3-B-C2-6-RTA-3	B	C2	2	2	86.05	0.1482	20	AGM
FHT3-C-C1-6-RTA-1	C	C1	3	1	84.92	0.1438	20	AGM
FHT3-C-C1-6-RTA-2	C	C1	3	1	84.19	0.1437	20	AGM
FHT3-C-C1-6-RTA-3	C	C1	3	1	81.89	0.1451	20	AGM
FHT3-C-C2-6-RTA-1	C	C2	3	2	82.51	0.1459	20	AGM
FHT3-C-C2-6-RTA-2	C	C2	3	2	79.72	0.1447	20	AGM
FHT3-C-C2-6-RTA-3	C	C2	3	2	84.33	0.1445	20	AGM

Avg. t_{ply} [in]	Strength _{norm} [ksi]
0.0073	88.77
0.0073	89.61
0.0073	89.27
0.0074	84.19
0.0073	85.50
0.0075	83.70
0.0074	80.32
0.0075	81.15
0.0074	81.81
0.0074	92.40
0.0075	87.06
0.0074	88.58
0.0072	84.79
0.0072	84.00
0.0073	82.51
0.0073	83.61
0.0072	80.11
0.0072	84.65

Average 83.51
Standard Dev. 3.450
Coeff. of Var. [%] 4.131
Min. 77.76
Max. 89.48
Number of Spec. 18

Average_{norm} 0.0073 **85.11**
Standard Dev._{norm} 3.498
Coeff. of Var. [%]_{norm} 4.110
Min. 0.0072 **80.11**
Max. 0.0075 **92.40**
Number of Spec. 18 **18**



September 15, 2025

CAM-RP-2025-009 Rev -

Laminate Filled-Hole Tension Properties (FHT3)--ETW (250°F)

Strength

VICTREX LMPAEK™ UDT AS7-192-34

normalizing

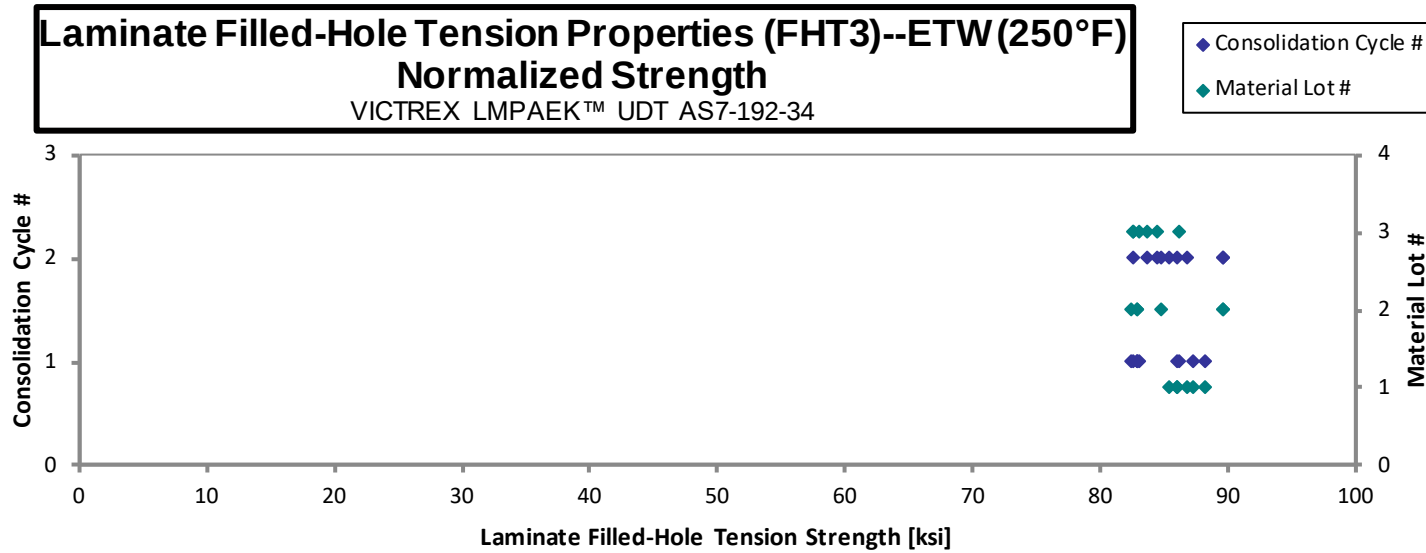
t_{ply} [in]

0.0072

Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	Strength _{norm} [ksi]
FHT3-A-C1-6-ETW-1	A	C1	1	1	84.51	0.1468	20	AGM	0.0073	86.12
FHT3-A-C1-6-ETW-2	A	C1	1	1	86.89	0.1462	20	AGM	0.0073	88.23
FHT3-A-C1-6-ETW-3	A	C1	1	1	85.71	0.1466	20	AGM	0.0073	87.26
FHT3-A-C2-6-ETW-1	A	C2	1	2	84.71	0.1462	20	AGM	0.0073	86.02
FHT3-A-C2-6-ETW-2	A	C2	1	2	83.43	0.1475	20	AGM	0.0074	85.47
FHT3-A-C2-6-ETW-3	A	C2	1	2	85.12	0.1468	20	AGM	0.0073	86.79
FHT3-B-C1-6-ETW-1	B	C1	2	1	80.31	0.1478	20	AGM	0.0074	82.44
FHT3-B-C1-6-ETW-2	B	C1	2	1	80.66	0.1481	20	AGM	0.0074	82.97
FHT3-B-C1-6-ETW-3	B	C1	2	1	79.52	0.1503	20	AGM	0.0075	82.97
FHT3-B-C2-6-ETW-1	B	C2	2	2	82.99	0.1470	20	AGM	0.0074	84.74
FHT3-B-C2-6-ETW-2	B	C2	2	2	87.79	0.1470	20	AGM	0.0073	89.60
FHT3-B-C2-6-ETW-3	B	C2	2	2	87.60	0.1473	20	AGM	0.0074	89.60
FHT3-C-C1-6-ETW-1	C	C1	3	1	83.09	0.1439	20	AGM	0.0072	83.02
FHT3-C-C1-6-ETW-2	C	C1	3	1	82.59	0.1441	20	AGM	0.0072	82.62
FHT3-C-C1-6-ETW-3	C	C1	3	1	86.33	0.1439	20	AGM	0.0072	86.27
FHT3-C-C2-6-ETW-1	C	C2	3	2	82.38	0.1444	20	AGM	0.0072	82.60
FHT3-C-C2-6-ETW-2	C	C2	3	2	83.38	0.1446	20	AGM	0.0072	83.73
FHT3-C-C2-6-ETW-3	C	C2	3	2	84.34	0.1442	20	AGM	0.0072	84.46

Average 83.96
 Standard Dev. 2.402
 Coeff. of Var. [%] 2.861
 Min. 79.52
 Max. 87.79
 Number of Spec. 18

Average_{norm} 0.0073 85.27
 Standard Dev._{norm} 2.375
 Coeff. of Var. [%]_{norm} 2.786
 Min. 0.0072 82.44
 Max. 0.0075 89.60
 Number of Spec. 18 18



4.24 “25/50/25” Open-Hole Compression 1 Properties (OHC1)

Laminate Open-Hole Compression Properties (OHC1)--RTA (70°F)
Strength

VICTREX LMPAEK™ UDT AS7-192-34

normalizing

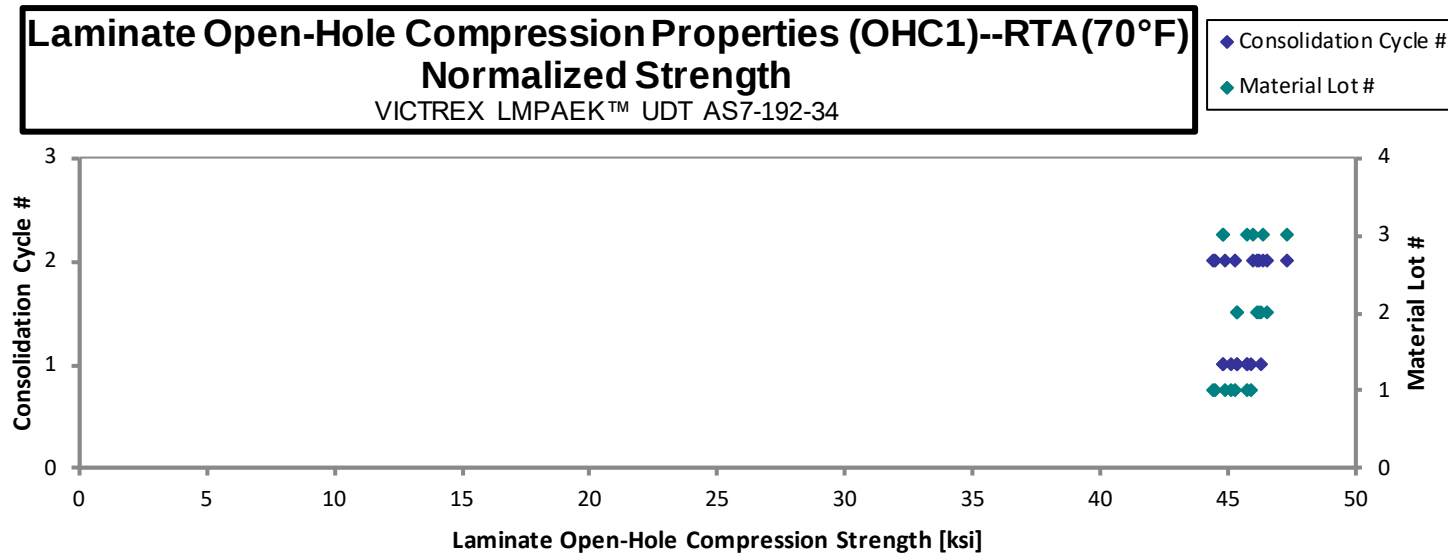
 t_{ply} [in]

0.0072

Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	Strength _{norm} [ksi]
OHC1-A-C1-1-RTA-1	A	C1	1	1	45.39	0.1741	24	M(A,L)GM	0.0073	45.73
OHC1-A-C1-1-RTA-2	A	C1	1	1	45.43	0.1747	24	M(A,L)GM	0.0073	45.92
OHC1-A-C1-1-RTA-3	A	C1	1	1	44.56	0.1751	24	M(A,L)GM	0.0073	45.14
OHC1-A-C2-1-RTA-1	A	C2	1	2	44.59	0.1756	24	M(A,L)GM	0.0073	45.31
OHC1-A-C2-1-RTA-2	A	C2	1	2	44.00	0.1763	24	M(A,L)GM	0.0073	44.90
OHC1-A-C2-1-RTA-3	A	C2	1	2	43.60	0.1760	24	M(A,L)GM	0.0073	44.42
OHC1-A-C2-1-RTA-4	A	C2	1	2	43.68	0.1761	24	M(A,L)GM	0.0073	44.51
OHC1-B-C1-1-RTA-1	B	C1	2	1	44.47	0.1762	24	M(A,L)GM	0.0073	45.34
OHC1-B-C1-1-RTA-2	B	C1	2	1	45.34	0.1766	24	M(A,L)GM	0.0074	46.33
OHC1-B-C1-1-RTA-3	B	C1	2	1	44.46	0.1763	24	M(A,L)GM	0.0073	45.35
OHC1-B-C2-1-RTA-1	B	C2	2	2	45.91	0.1741	24	M(A,L)GM	0.0073	46.26
OHC1-B-C2-1-RTA-2	B	C2	2	2	46.03	0.1747	24	M(A,L)GM	0.0073	46.52
OHC1-B-C2-1-RTA-3	B	C2	2	2	45.87	0.1738	24	M(A,L)GM	0.0072	46.15
OHC1-C-C1-1-RTA-1	C	C1	3	1	45.01	0.1723	24	M(A,L)GM	0.0072	44.87
OHC1-C-C1-1-RTA-2	C	C1	3	1	45.12	0.1716	24	M(A,L)GM	0.0071	44.79
OHC1-C-C1-1-RTA-3	C	C1	3	1	46.03	0.1718	24	M(A,L)GM	0.0072	45.77
OHC1-C-C2-1-RTA-1	C	C2	3	2	46.23	0.1720	24	M(A,L)GM	0.0072	46.02
OHC1-C-C2-1-RTA-2	C	C2	3	2	47.54	0.1720	24	M(A,L)GM	0.0072	47.31
OHC1-C-C2-1-RTA-3	C	C2	3	2	46.95	0.1707	24	M(A,L)GM	0.0071	46.37

Average 45.27
Standard Dev. 1.059
Coeff. of Var. [%] 2.338
Min. 43.60
Max. 47.54
Number of Spec. 19

Average_{norm} 0.0073 45.63
Standard Dev._{norm} 0.7694
Coeff. of Var. [%]_{norm} 1.686
Min. 0.0071 44.42
Max. 0.0074 47.31
Number of Spec. 19 19



Laminate Open-Hole Compression Properties (OHC1)--ETA (250°F) Strength

VICTREX LMPAEK™ UDT AS7-192-34

normalizing

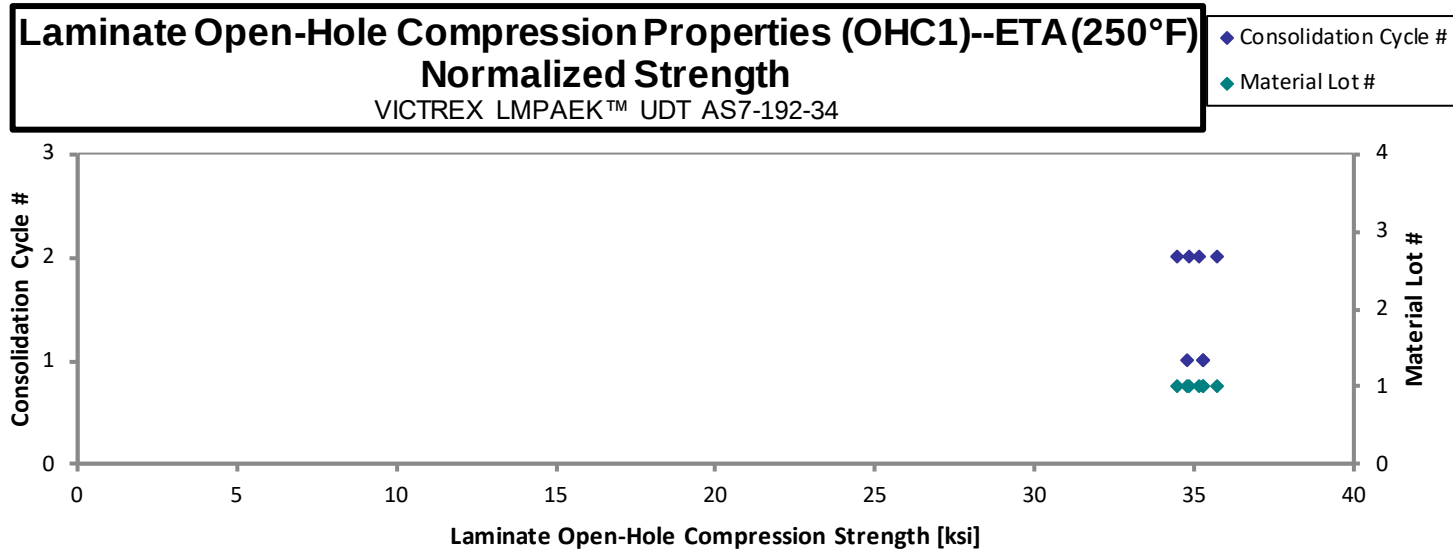
 t_{ply} [in]

0.0072

Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	Strength _{norm} [ksi]
OHC1-A-C1-1-ETA-1	A	C1	1	1	34.77	0.1754	24	LGM	0.0073	35.30
OHC1-A-C1-1-ETA-2	A	C1	1	1	34.98	0.1745	24	LGM	0.0073	35.32
OHC1-A-C1-1-ETA-3	A	C1	1	1	34.47	0.1745	24	LGM	0.0073	34.81
OHC1-A-C2-1-ETA-1	A	C2	1	2	33.90	0.1756	24	LGM	0.0073	34.46
OHC1-A-C2-1-ETA-2	A	C2	1	2	33.97	0.1772	24	LGM	0.0074	34.83
OHC1-A-C2-1-ETA-3	A	C2	1	2	34.44	0.1764	24	LGM	0.0073	35.14
OHC1-A-C2-1-ETA-4	A	C2	1	2	35.03	0.1764	24	LGM	0.0073	35.75

Average 34.51
 Standard Dev. 0.4521
 Coeff. of Var. [%] 1.310
 Min. 33.90
 Max. 35.03
 Number of Spec. 7

Average_{norm} 0.0073
 Standard Dev._{norm} 0.4244
 Coeff. of Var. [%]_{norm} 1.210
 Min. 0.0073
 Max. 0.0074
 Number of Spec. 7



Laminate Open-Hole Compression Properties (OHC1)--ETW (250°F) Strength

VICTREX LMPAEK™ UDT AS7-192-34

normalizing

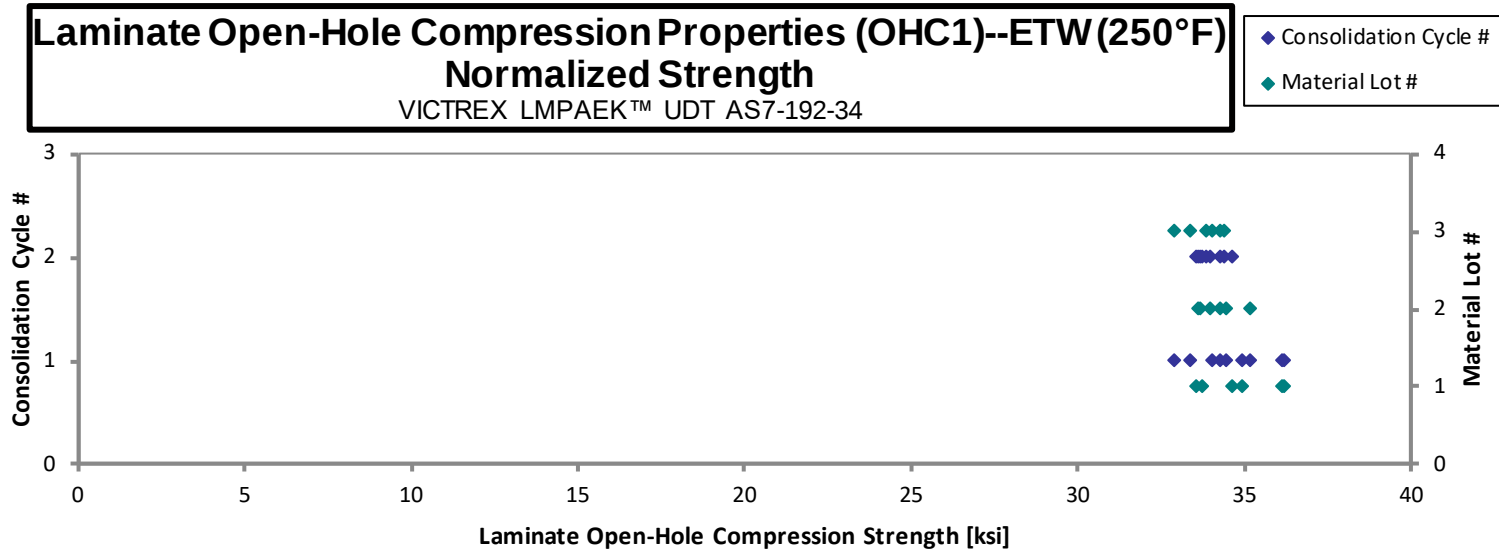
 t_{ply} [in]

0.0072

Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	Strength _{norm} [ksi]
OHC1-A-C1-1-ETW-1	A	C1	1	1	35.49	0.1761	24	LGM	0.0073	36.16
OHC1-A-C1-1-ETW-2	A	C1	1	1	35.76	0.1750	24	LGM	0.0073	36.21
OHC1-A-C1-1-ETW-3	A	C1	1	1	34.56	0.1746	24	LGM	0.0073	34.92
OHC1-A-C2-1-ETW-1	A	C2	1	2	33.86	0.1769	24	LGM	0.0074	34.67
OHC1-A-C2-1-ETW-2	A	C2	1	2	33.00	0.1759	24	LGM	0.0073	33.58
OHC1-A-C2-1-ETW-3	A	C2	1	2	33.04	0.1764	24	LGM	0.0073	33.72
OHC1-B-C1-1-ETW-1	B	C1	2	1	34.06	0.1749	24	LGM	0.0073	34.47
OHC1-B-C1-1-ETW-2	B	C1	2	1	33.69	0.1760	24	LGM	0.0073	34.31
OHC1-B-C1-1-ETW-3	B	C1	2	1	34.57	0.1758	24	LGM	0.0073	35.16
OHC1-B-C2-1-ETW-1	B	C2	2	2	33.67	0.1743	24	LGM	0.0073	33.95
OHC1-B-C2-1-ETW-2	B	C2	2	2	33.34	0.1743	24	LGM	0.0073	33.62
OHC1-B-C2-1-ETW-3	B	C2	2	2	33.51	0.1736	24	LGM	0.0072	33.65
OHC1-C-C1-1-ETW-1	C	C1	3	1	34.13	0.1725	24	M(A,L)GM	0.0072	34.07
OHC1-C-C1-1-ETW-2	C	C1	3	1	32.94	0.1727	24	M(A,L)GM	0.0072	32.91
OHC1-C-C1-1-ETW-3	C	C1	3	1	33.42	0.1725	24	M(A,L)GM	0.0072	33.36
OHC1-C-C2-1-ETW-1	C	C2	3	2	33.87	0.1727	24	M(A,L)GM	0.0072	33.84
OHC1-C-C2-1-ETW-2	C	C2	3	2	34.39	0.1722	24	M(A,L)GM	0.0072	34.27
OHC1-C-C2-1-ETW-3	C	C2	3	2	34.60	0.1719	24	M(A,L)GM	0.0072	34.41

Average 33.99
 Standard Dev. 0.7967
 Coeff. of Var. [%] 2.344
 Min. 32.94
 Max. 35.76
 Number of Spec. 18

Average_{norm} 0.0073 34.29
 Standard Dev._{norm} 0.8853
 Coeff. of Var. [%]_{norm} 2.581
 Min. 0.0072 32.91
 Max. 0.0074 36.21
 Number of Spec. 18 18



4.25 “10/80/10” Open-Hole Compression 2 Properties (OHC2)

Laminate Open-Hole Compression Properties (OHC2)--RTA (70°F)
Strength

VICTREX LMPAEK™ UDT AS7-192-34

normalizing

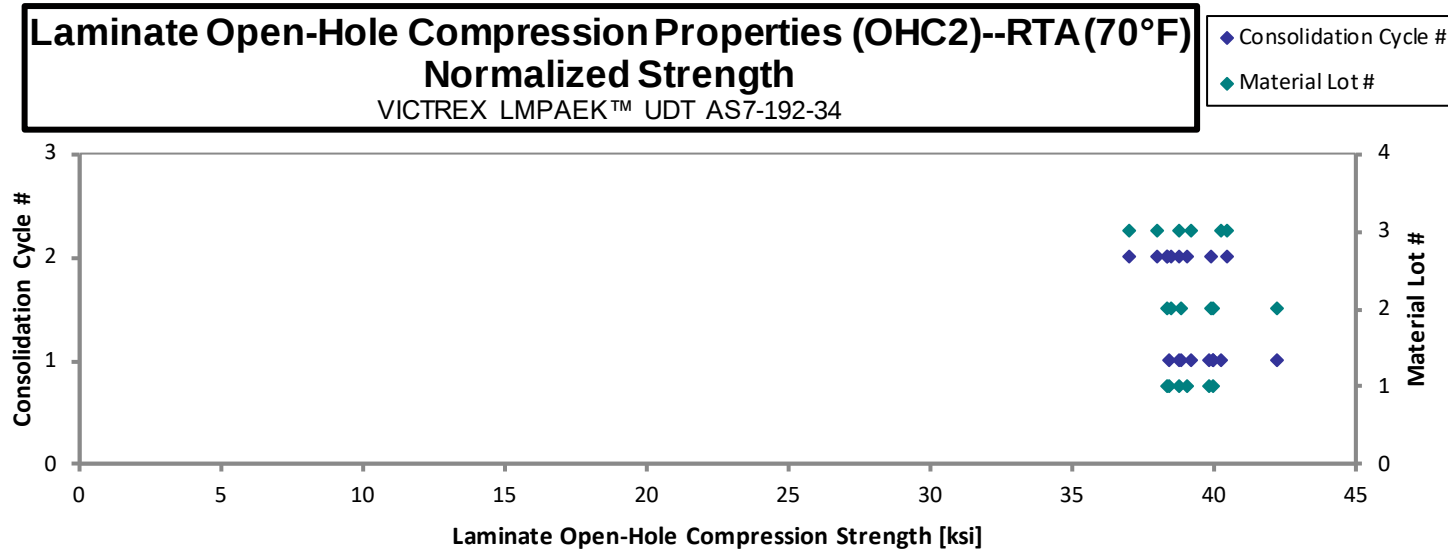
 t_{ply} [in]

0.0072

Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	Strength _{norm} [ksi]
OHC2-A-C1-1-RTA-1	A	C1	1	1	39.00	0.1476	20	M(A,L)GM	0.0074	39.97
OHC2-A-C1-1-RTA-2	A	C1	1	1	39.31	0.1461	20	M(A,L)GM	0.0073	39.89
OHC2-A-C1-1-RTA-3	A	C1	1	1	37.91	0.1459	20	M(A,L)GM	0.0073	38.42
OHC2-A-C2-1-RTA-1	A	C2	1	2	37.41	0.1476	20	M(A,L)GM	0.0074	38.35
OHC2-A-C2-1-RTA-2	A	C2	1	2	38.75	0.1453	20	M(A,L)GM	0.0073	39.09
OHC2-A-C2-1-RTA-3	A	C2	1	2	37.70	0.1483	20	M(A,L)GM	0.0074	38.83
OHC2-B-C1-1-RTA-1	B	C1	2	1	39.29	0.1466	20	M(A,L)GM	0.0073	40.01
OHC2-B-C1-1-RTA-2	B	C1	2	1	41.20	0.1476	20	M(A,L)GM	0.0074	42.23
OHC2-B-C1-1-RTA-3	B	C1	2	1	38.15	0.1467	20	M(A,L)GM	0.0073	38.87
OHC2-B-C2-1-RTA-1	B	C2	2	2	38.32	0.1446	20	M(A,L)GM	0.0072	38.48
OHC2-B-C2-1-RTA-2	B	C2	2	2	39.42	0.1458	20	M(A,L)GM	0.0073	39.92
OHC2-B-C2-1-RTA-3	B	C2	2	2	38.35	0.1441	20	M(A,L)GM	0.0072	38.39
OHC2-C-C1-1-RTA-1	C	C1	3	1	39.10	0.1430	20	M(A,L)GM	0.0072	38.83
OHC2-C-C1-1-RTA-2	C	C1	3	1	39.58	0.1427	20	M(A,L)GM	0.0071	39.22
OHC2-C-C1-1-RTA-3	C	C1	3	1	40.29	0.1439	20	M(A,L)GM	0.0072	40.26
OHC2-C-C2-1-RTA-1	C	C2	3	2	41.29	0.1412	20	M(A,L)GM	0.0071	40.49
OHC2-C-C2-1-RTA-2	C	C2	3	2	38.37	0.1391	20	M(A,L)GM	0.0070	37.06
OHC2-C-C2-1-RTA-3	C	C2	3	2	38.41	0.1425	20	M(A,L)GM	0.0071	38.02

Average 38.99
Standard Dev. 1.092
Coeff. of Var. [%] 2.800
Min. 37.41
Max. 41.29
Number of Spec. 18

Average_{norm} 0.0072 39.24
Standard Dev._{norm} 1.165
Coeff. of Var. [%]_{norm} 2.968
Min. 0.0070 37.06
Max. 0.0074 42.23
Number of Spec. 18 18



Laminate Open-Hole Compression Properties (OHC2)--ETW (250°F) Strength

VICTREX LMPAEK™ UDT AS7-192-34

normalizing

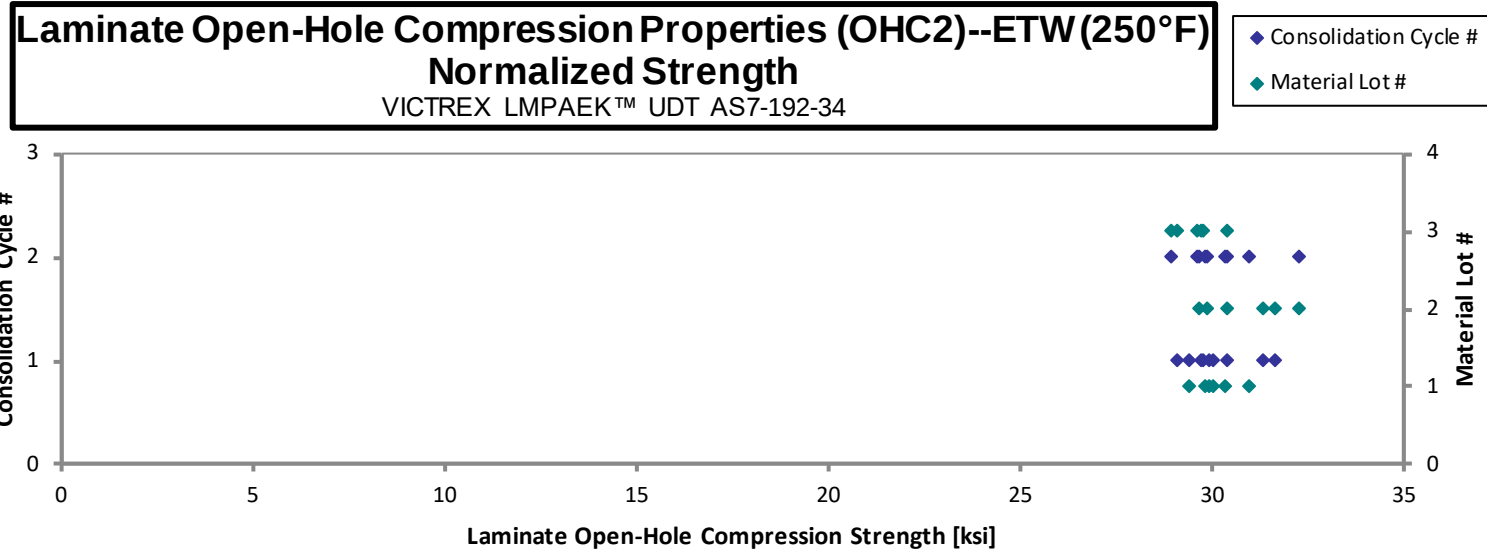
 t_{ply} [in]

0.0072

Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	Strength _{norm} [ksi]
OHC2-A-C1-1-ETW-1	A	C1	1	1	29.61	0.1455	20	LGM	0.0073	29.91
OHC2-A-C1-1-ETW-2	A	C1	1	1	29.31	0.1474	20	LGM	0.0074	30.01
OHC2-A-C1-1-ETW-3	A	C1	1	1	28.84	0.1467	20	LGM	0.0073	29.38
OHC2-A-C2-1-ETW-1	A	C2	1	2	29.52	0.1480	20	AGM	0.0074	30.33
OHC2-A-C2-1-ETW-2	A	C2	1	2	29.07	0.1477	20	AGM	0.0074	29.81
OHC2-A-C2-1-ETW-3	A	C2	1	2	29.76	0.1499	20	AGM	0.0075	30.98
OHC2-B-C1-1-ETW-1	B	C1	2	1	31.08	0.1466	20	M(A,L)GM	0.0073	31.65
OHC2-B-C1-1-ETW-2	B	C1	2	1	29.89	0.1464	20	M(A,L)GM	0.0073	30.38
OHC2-B-C1-1-ETW-3	B	C1	2	1	30.52	0.1478	20	M(A,L)GM	0.0074	31.32
OHC2-B-C2-1-ETW-1	B	C2	2	2	32.10	0.1448	20	M(A,L)GM	0.0072	32.28
OHC2-B-C2-1-ETW-2	B	C2	2	2	29.38	0.1454	20	AGM	0.0073	29.66
OHC2-B-C2-1-ETW-3	B	C2	2	2	29.64	0.1452	20	M(A,L)GM	0.0073	29.89
OHC2-C-C1-1-ETW-1	C	C1	3	1	29.70	0.1440	20	M(A,L)GM	0.0072	29.69
OHC2-C-C1-1-ETW-2	C	C1	3	1	29.08	0.1442	20	M(A,L)GM	0.0072	29.11
OHC2-C-C1-1-ETW-3	C	C1	3	1	29.62	0.1448	20	LGM	0.0072	29.79
OHC2-C-C2-1-ETW-1	C	C2	3	2	30.11	0.1417	20	M(A,L)GM	0.0071	29.62
OHC2-C-C2-1-ETW-2	C	C2	3	2	30.20	0.1379	20	M(A,L)GM	0.0069	28.92
OHC2-C-C2-1-ETW-3	C	C2	3	2	31.32	0.1396	20	M(A,L)GM	0.0070	30.37

Average 29.93
 Standard Dev. 0.8511
 Coeff. of Var. [%] 2.844
 Min. 28.84
 Max. 32.10
 Number of Spec. 18

Average_{norm} 0.0073 30.17
 Standard Dev._{norm} 0.8836
 Coeff. of Var. [%]_{norm} 2.928
 Min. 0.0069 28.92
 Max. 0.0075 32.28
 Number of Spec. 18 18



4.26 “50/40/10” Open-Hole Compression 3 Properties (OHC3)

Laminate Open-Hole Compression Properties (OHC3)--RTA (70°F)
Strength

VICTREX LMPAEK™ UDT AS7-192-34

normalizing

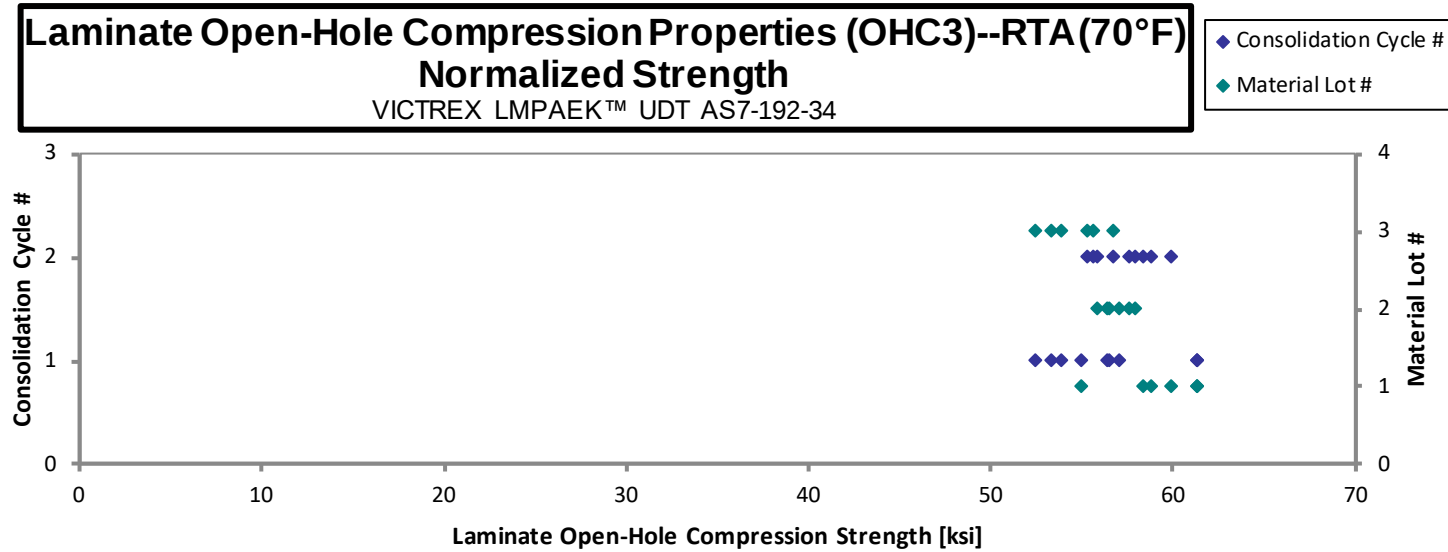
 t_{ply} [in]

0.0072

Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	Strength _{norm} [ksi]
OHC3-A-C1-1-RTA-1	A	C1	1	1	54.32	0.1458	20	M(A,L)GM	0.0073	54.99
OHC3-A-C1-1-RTA-2	A	C1	1	1	60.70	0.1456	20	M(A,L)GM	0.0073	61.37
OHC3-A-C1-1-RTA-3	A	C1	1	1	60.56	0.1459	20	M(A,L)GM	0.0073	61.35
OHC3-A-C2-1-RTA-1	A	C2	1	2	57.61	0.1471	20	M(A,L)GM	0.0074	58.83
OHC3-A-C2-1-RTA-2	A	C2	1	2	59.55	0.1448	20	M(A,L)GM	0.0072	59.87
OHC3-A-C2-1-RTA-3	A	C2	1	2	57.56	0.1461	20	M(A,L)GM	0.0073	58.38
OHC3-B-C1-1-RTA-1	B	C1	2	1	56.88	0.1445	20	M(A,L)GM	0.0072	57.08
OHC3-B-C1-1-RTA-2	B	C1	2	1	56.44	0.1438	20	M(A,L)GM	0.0072	56.37
OHC3-B-C1-1-RTA-3	B	C1	2	1	56.55	0.1440	20	M(A,L)GM	0.0072	56.53
OHC3-B-C2-1-RTA-1	B	C2	2	2	54.41	0.1478	20	M(A,L)GM	0.0074	55.85
OHC3-B-C2-1-RTA-2	B	C2	2	2	56.81	0.1467	20	M(A,L)GM	0.0073	57.89
OHC3-B-C2-1-RTA-3	B	C2	2	2	56.36	0.1471	20	M(A,L)GM	0.0074	57.58
OHC3-C-C1-1-RTA-1	C	C1	3	1	53.61	0.1448	20	M(A,L)GM	0.0072	53.90
OHC3-C-C1-1-RTA-2	C	C1	3	1	52.25	0.1446	20	M(A,L)GM	0.0072	52.46
OHC3-C-C1-1-RTA-3	C	C1	3	1	53.16	0.1445	20	M(A,L)GM	0.0072	53.32
OHC3-C-C2-1-RTA-1	C	C2	3	2	55.42	0.1475	20	M(A,L)GM	0.0074	56.75
OHC3-C-C2-1-RTA-2	C	C2	3	2	55.18	0.1453	20	M(A,L)GM	0.0073	55.66
OHC3-C-C2-1-RTA-3	C	C2	3	2	54.37	0.1465	20	M(A,L)GM	0.0073	55.30

Average 56.21
Standard Dev. 2.409
Coeff. of Var. [%] 4.286
Min. 52.25
Max. 60.70
Number of Spec. 18

Average_{norm} 0.0073 56.86
Standard Dev._{norm} 2.507
Coeff. of Var. [%]_{norm} 4.409
Min. 0.0072 52.46
Max. 0.0074 61.37
Number of Spec. 18 18



September 15, 2025

CAM-RP-2025-009 Rev -

**Laminate Open-Hole Compression Properties (OHC3)--ETW (250°F)
Strength**

VICTREX LMPAEK™ UDT AS7-192-34

normalizing

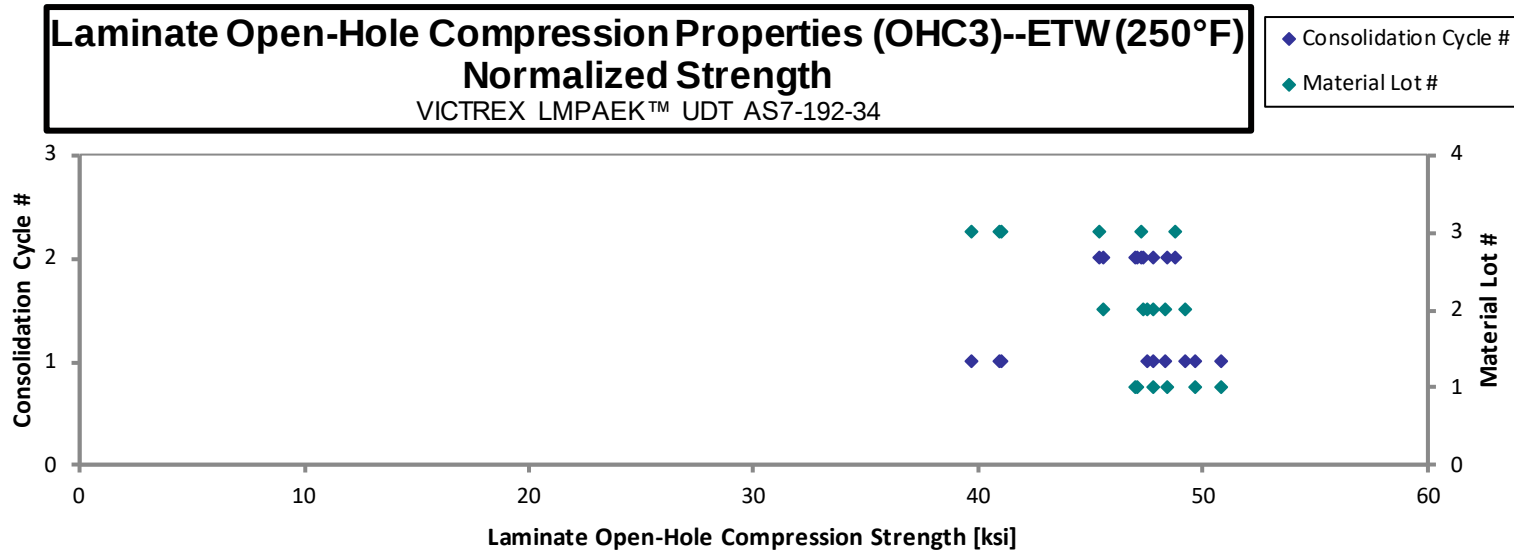
t_{ply} [in]

0.0072

Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	Strength _{norm} [ksi]
OHC3-A-C1-1-ETW-1	A	C1	1	1	50.37	0.1453	20	LGM	0.0073	50.82
OHC3-A-C1-1-ETW-2	A	C1	1	1	48.75	0.1466	20	LGM	0.0073	49.64
OHC3-A-C1-1-ETW-3	A	C1	1	1	46.93	0.1467	20	LGM	0.0073	47.80
OHC3-A-C2-1-ETW-1	A	C2	1	2	46.77	0.1451	20	LGM	0.0073	47.11
OHC3-A-C2-1-ETW-2	A	C2	1	2	47.93	0.1455	20	LGM	0.0073	48.42
OHC3-A-C2-1-ETW-3	A	C2	1	2	47.01	0.1439	20	LGM	0.0072	46.97
OHC3-B-C1-1-ETW-1	B	C1	2	1	49.39	0.1435	20	LGM	0.0072	49.23
OHC3-B-C1-1-ETW-2	B	C1	2	1	48.32	0.1440	20	LGM	0.0072	48.31
OHC3-B-C1-1-ETW-3	B	C1	2	1	47.06	0.1454	20	LGM	0.0073	47.51
OHC3-B-C2-1-ETW-1	B	C2	2	2	46.90	0.1467	20	LGM	0.0073	47.77
OHC3-B-C2-1-ETW-2	B	C2	2	2	44.77	0.1466	20	LGM	0.0073	45.56
OHC3-B-C2-1-ETW-3	B	C2	2	2	46.22	0.1476	20	LGM	0.0074	47.37
OHC3-C-C1-1-ETW-1	C	C1	3	1	40.92	0.1439	20	LGM	0.0072	40.90
OHC3-C-C1-1-ETW-2	C	C1	3	1	41.11	0.1437	20	LGM	0.0072	41.02
OHC3-C-C1-1-ETW-3	C	C1	3	1	39.84	0.1436	20	LGM	0.0072	39.73
OHC3-C-C2-1-ETW-1	C	C2	3	2	44.94	0.1455	20	LGM	0.0073	45.40
OHC3-C-C2-1-ETW-2	C	C2	3	2	46.50	0.1463	20	LGM	0.0073	47.25
OHC3-C-C2-1-ETW-3	C	C2	3	2	48.10	0.1460	20	LGM	0.0073	48.75

Average 46.21
Standard Dev. 2.928
Coeff. of Var. [%] 6.335
Min. 39.84
Max. 50.37
Number of Spec. 18

Average_{norm} 0.0073 46.64
Standard Dev._{norm} 3.098
Coeff. of Var. [%]_{norm} 6.643
Min. 0.0072 39.73
Max. 0.0074 50.82
Number of Spec. 18 18



4.27 “25/50/25” Filled-Hole Compression 1 Properties (FHC1)

Laminate Filled-Hole Compression Properties (FHC1)--RTA (70°F)
Strength

VICTREX LMPAEK™ UDT AS7-192-34

normalizing

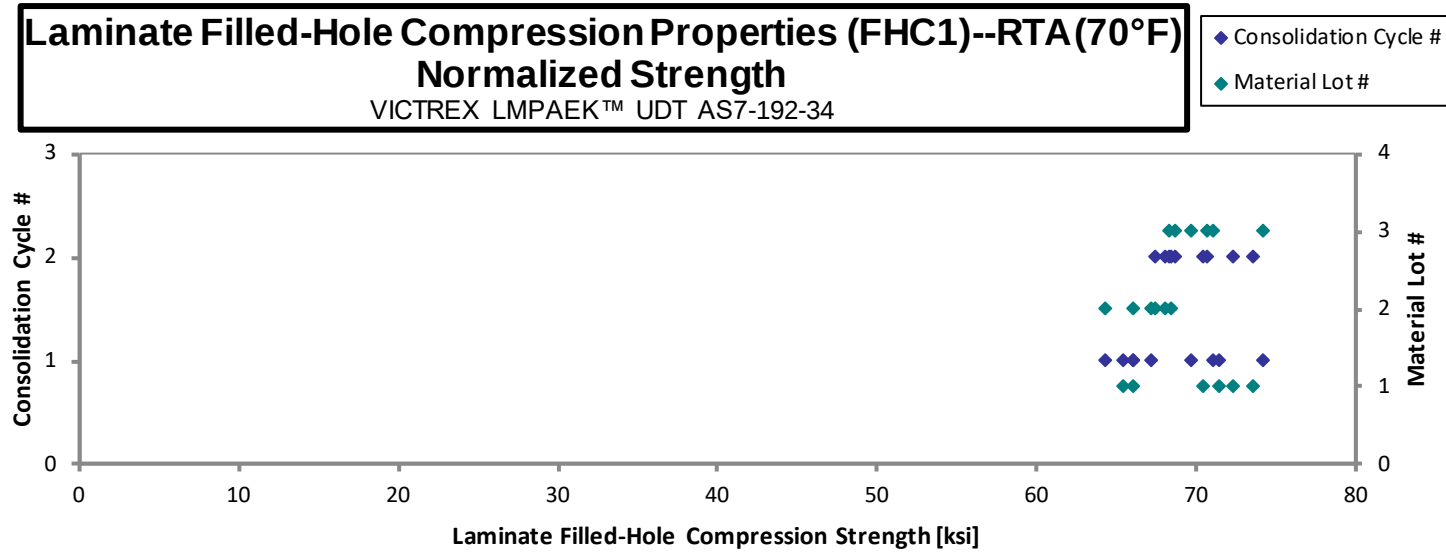
 t_{ply} [in]

0.0072

Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	Strength _{norm} [ksi]
FHC1-A-C1-7-RTA-1	A	C1	1	1	64.07	0.1764	24	M(A,L)GF	0.0073	65.40
FHC1-A-C1-7-RTA-2	A	C1	1	1	70.10	0.1760	24	M(A,L)GF	0.0073	71.42
FHC1-A-C1-7-RTA-3	A	C1	1	1	64.71	0.1766	24	M(A,L)GF	0.0074	66.15
FHC1-A-C2-7-RTA-1	A	C2	1	2	68.94	0.1768	24	M(A,L)GF	0.0074	70.53
FHC1-A-C2-7-RTA-2	A	C2	1	2	70.45	0.1775	24	M(A,L)GF	0.0074	72.36
FHC1-A-C2-7-RTA-3	A	C2	1	2	72.19	0.1763	24	M(A,L)GF	0.0073	73.64
FHC1-B-C1-7-RTA-1	B	C1	2	1	65.00	0.1758	24	M(A,L)GF	0.0073	66.12
FHC1-B-C1-7-RTA-2	B	C1	2	1	62.84	0.1771	24	M(A,L)GF	0.0074	64.38
FHC1-B-C1-7-RTA-3	B	C1	2	1	66.03	0.1760	24	M(A,L)GF	0.0073	67.27
FHC1-B-C2-7-RTA-1	B	C2	2	2	66.75	0.1747	24	M(A,L)GF	0.0073	67.46
FHC1-B-C2-7-RTA-2	B	C2	2	2	68.10	0.1738	24	M(A,L)GF	0.0072	68.49
FHC1-B-C2-7-RTA-3	B	C2	2	2	67.61	0.1740	24	M(A,L)GF	0.0072	68.06
FHC1-C-C1-7-RTA-1	C	C1	3	1	71.48	0.1718	24	M(A,L)GF	0.0072	71.08
FHC1-C-C1-7-RTA-2	C	C1	3	1	69.90	0.1722	24	M(A,L)GF	0.0072	69.66
FHC1-C-C1-7-RTA-4	C	C1	3	1	74.93	0.1711	24	M(A,L)GF	0.0071	74.20
FHC1-C-C2-7-RTA-1	C	C2	3	2	69.07	0.1720	24	M(A,L)GF	0.0072	68.75
FHC1-C-C2-7-RTA-2	C	C2	3	2	71.18	0.1717	24	M(A,L)GF	0.0072	70.71
FHC1-C-C2-7-RTA-3	C	C2	3	2	69.26	0.1706	24	M(A,L)GF	0.0071	68.37

Average 68.48
Standard Dev. 3.151
Coeff. of Var. [%] 4.602
Min. 62.84
Max. 74.93
Number of Spec. 18

Average_{norm} 0.0073 69.11
Standard Dev._{norm} 2.799
Coeff. of Var. [%]_{norm} 4.050
Min. 0.0071 64.38
Max. 0.0074 74.20
Number of Spec. 18 18



Laminate Filled-Hole Compression Properties (FHC1)--ETA (250°F) Strength

VICTREX LMPAEK™ UDT AS7-192-34

normalizing

 t_{ply} [in]

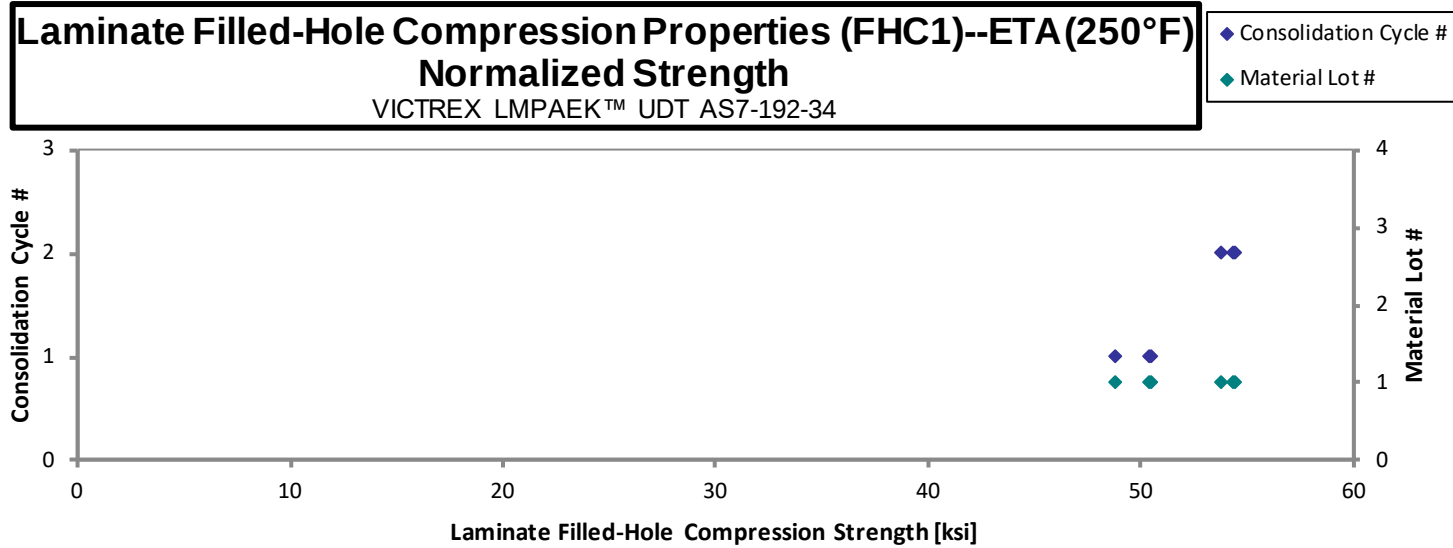
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Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode
FHC1-A-C1-7-ETA-1	A	C1	1	1	49.52	0.1758	24	LGM
FHC1-A-C1-7-ETA-2	A	C1	1	1	49.38	0.1767	24	LGM
FHC1-A-C1-7-ETA-3	A	C1	1	1	47.65	0.1770	24	LGM
FHC1-A-C2-7-ETA-1	A	C2	1	2	52.92	0.1774	24	LGF
FHC1-A-C2-7-ETA-2	A	C2	1	2	53.07	0.1774	24	LGF
FHC1-A-C2-7-ETA-3	A	C2	1	2	52.82	0.1760	24	LGF

Avg. t_{ply} [in]	Strength _{norm} [ksi]
0.0073	50.39
0.0074	50.48
0.0074	48.80
0.0074	54.33
0.0074	54.48
0.0073	53.79

Average 50.89
 Standard Dev. 2.335
 Coeff. of Var. [%] 4.588
 Min. 47.65
 Max. 53.07
 Number of Spec. 6

Average_{norm} 0.0074 52.04
 Standard Dev._{norm} 2.448
 Coeff. of Var. [%]_{norm} 4.704
 Min. 0.0073 48.80
 Max. 0.0074 54.48
 Number of Spec. 6 6



Laminate Filled-Hole Compression Properties (FHC1)--ETW (250°F) Strength

VICTREX LMPAEK™ UDT AS7-192-34

normalizing

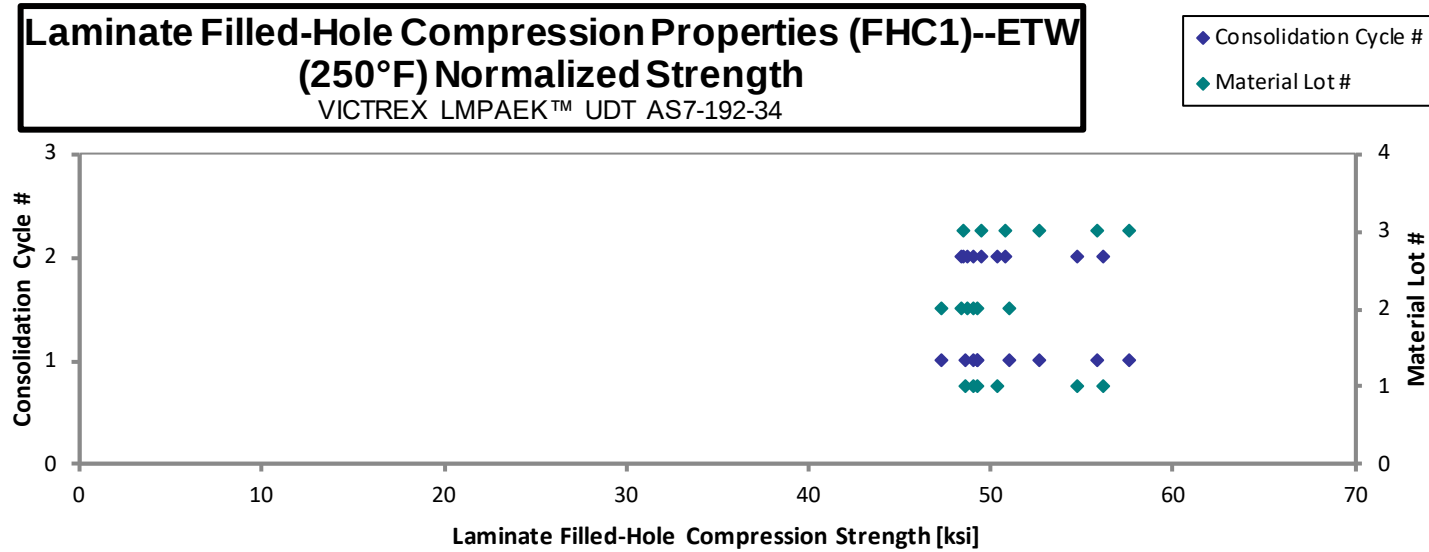
 t_{ply} [in]

0.0072

Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	Strength _{norm} [ksi]
FHC1-A-C1-7-ETW-1	A	C1	1	1	48.46	0.1757	24	LGF	0.0073	49.27
FHC1-A-C1-7-ETW-2	A	C1	1	1	48.34	0.1754	24	LGF	0.0073	49.05
FHC1-A-C1-7-ETW-3	A	C1	1	1	47.56	0.1765	24	LGF	0.0074	48.57
FHC1-A-C2-7-ETW-1	A	C2	1	2	49.18	0.1769	24	LGF	0.0074	50.36
FHC1-A-C2-7-ETW-2	A	C2	1	2	54.90	0.1770	24	LGF	0.0074	56.23
FHC1-A-C2-7-ETW-3	A	C2	1	2	53.37	0.1772	24	LGF	0.0074	54.73
FHC1-B-C1-7-ETW-1	B	C1	2	1	49.97	0.1763	24	LGF	0.0073	50.98
FHC1-B-C1-7-ETW-2	B	C1	2	1	47.83	0.1782	24	LGF	0.0074	49.31
FHC1-B-C1-7-ETW-3	B	C1	2	1	45.96	0.1778	24	LGF	0.0074	47.28
FHC1-B-C2-7-ETW-1	B	C2	2	2	48.38	0.1751	24	LGF	0.0073	49.02
FHC1-B-C2-7-ETW-2	B	C2	2	2	48.27	0.1743	24	LGF	0.0073	48.68
FHC1-B-C2-7-ETW-3	B	C2	2	2	48.11	0.1738	24	LGF	0.0072	48.38
FHC1-C-C1-7-ETW-1	C	C1	3	1	53.06	0.1715	24	LGF	0.0071	52.67
FHC1-C-C1-7-ETW-2	C	C1	3	1	55.69	0.1732	24	LGF	0.0072	55.83
FHC1-C-C1-7-ETW-3	C	C1	3	1	57.64	0.1727	24	LGF	0.0072	57.60
FHC1-C-C2-7-ETW-1	C	C2	3	2	50.13	0.1705	24	LGF	0.0071	49.47
FHC1-C-C2-7-ETW-2	C	C2	3	2	51.34	0.1710	24	LGF	0.0071	50.80
FHC1-C-C2-7-ETW-3	C	C2	3	2	49.03	0.1709	24	LGF	0.0071	48.48

Average 50.40
 Standard Dev. 3.229
 Coeff. of Var. [%] 6.406
 Min. 45.96
 Max. 57.64
 Number of Spec. 18

Average_{norm} 0.0073 50.93
 Standard Dev._{norm} 3.121
 Coeff. of Var. [%]_{norm} 6.128
 Min. 0.0071 47.28
 Max. 0.0074 57.60
 Number of Spec. 18 18



4.28 “10/80/10” Filled-Hole Compression 2 Properties (FHC2)

Laminate Filled-Hole Compression Properties (FHC2)--RTA (70°F)
Strength

VICTREX LMPAEK™ UDT AS7-192-34

normalizing

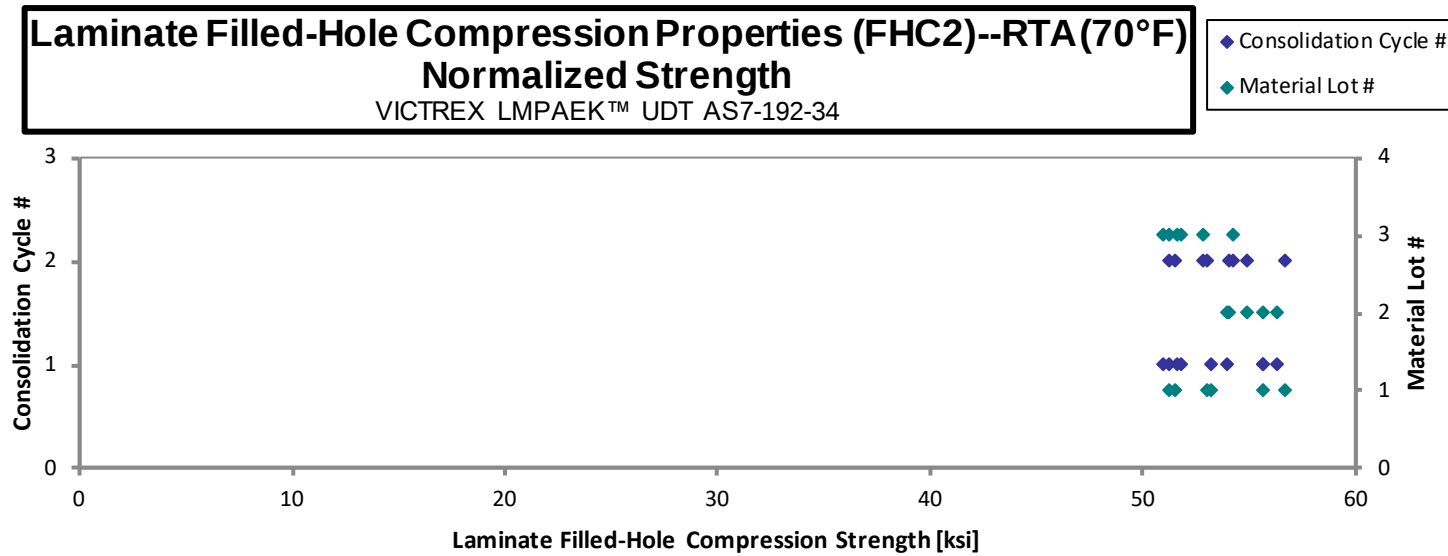
 t_{ply} [in]

0.0072

Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	Strength _{norm} [ksi]
FHC2-A-C1-8-RTA-1	A	C1	1	1	50.47	0.1463	20	M(A,L)GF	0.0073	51.27
FHC2-A-C1-8-RTA-2	A	C1	1	1	54.35	0.1475	20	M(A,L)GF	0.0074	55.67
FHC2-A-C1-8-RTA-3	A	C1	1	1	52.42	0.1462	20	M(A,L)GF	0.0073	53.22
FHC2-A-C2-8-RTA-1	A	C2	1	2	51.98	0.1469	20	M(A,L)GF	0.0073	53.00
FHC2-A-C2-8-RTA-2	A	C2	1	2	56.08	0.1456	20	M(A,L)GF	0.0073	56.70
FHC2-A-C2-8-RTA-3	A	C2	1	2	50.01	0.1483	20	M(A,L)GF	0.0074	51.51
FHC2-B-C1-8-RTA-1	B	C1	2	1	53.18	0.1461	20	M(A,L)GF, M(A,L)WB	0.0073	53.94
FHC2-B-C1-8-RTA-2	B	C1	2	1	55.30	0.1467	20	M(A,L)GF	0.0073	56.33
FHC2-B-C1-8-RTA-3	B	C1	2	1	54.75	0.1465	20	M(A,L)GF	0.0073	55.71
FHC2-B-C2-8-RTA-1	B	C2	2	2	53.82	0.1447	20	M(A,L)GF	0.0072	54.08
FHC2-B-C2-8-RTA-2	B	C2	2	2	54.10	0.1462	20	M(A,L)GF	0.0073	54.91
FHC2-C-C1-8-RTA-1	C	C1	3	1	51.41	0.1428	20	M(A,L)GF	0.0071	50.96
FHC2-C-C1-8-RTA-2	C	C1	3	1	52.12	0.1427	20	M(A,L)GF	0.0071	51.66
FHC2-C-C1-8-RTA-3	C	C1	3	1	52.44	0.1424	20	M(A,L)GF	0.0071	51.85
FHC2-C-C2-8-RTA-1	C	C2	3	2	52.98	0.1394	20	M(A,L)GF	0.0070	51.30
FHC2-C-C2-8-RTA-2	C	C2	3	2	55.17	0.1379	20	M(A,L)GF	0.0069	52.82
FHC2-C-C2-8-RTA-3	C	C2	3	2	56.19	0.1391	20	M(A,L)GF	0.0070	54.29

Average 53.34
Standard Dev. 1.851
Coeff. of Var. [%] 3.471
Min. 50.01
Max. 56.19
Number of Spec. 17

Average_{norm} 0.0072 53.48
Standard Dev._{norm} 1.905
Coeff. of Var. [%]_{norm} 3.561
Min. 0.0069 50.96
Max. 0.0074 56.70
Number of Spec. 17 17



September 15, 2025

CAM-RP-2025-009 Rev -

**Laminate Filled-Hole Compression Properties (FHC2)--ETW (250°F)
Strength**

VICTREX LMPAEK™ UDT AS7-192-34

normalizing

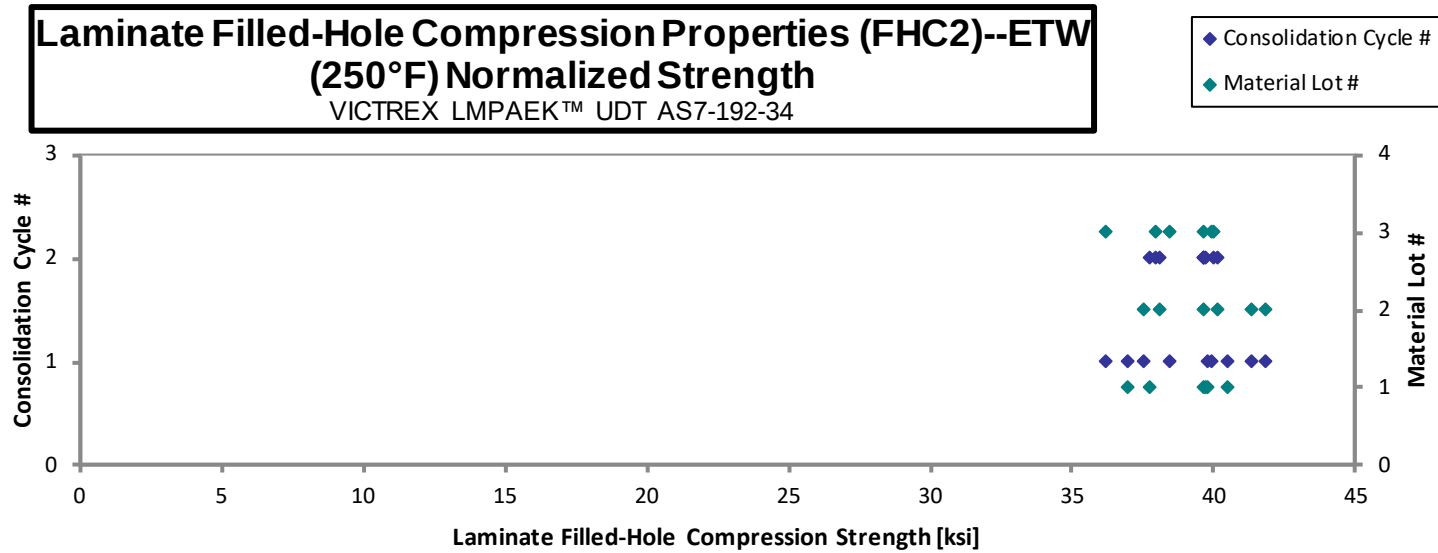
t_{ply} [in]

0.0072

Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	Strength _{norm} [ksi]
FHC2-A-C1-8-ETW-1	A	C1	1	1	38.75	0.1478	20	LGF	0.0074	39.77
FHC2-A-C1-8-ETW-2	A	C1	1	1	36.16	0.1473	20	LGF	0.0074	37.00
FHC2-A-C1-8-ETW-3	A	C1	1	1	39.66	0.1470	20	LGF	0.0074	40.48
FHC2-A-C2-8-ETW-1	A	C2	1	2	37.34	0.1457	20	M(A,L)GF	0.0073	37.77
FHC2-A-C2-8-ETW-2	A	C2	1	2	38.87	0.1468	20	M(A,L)GF	0.0073	39.63
FHC2-A-C2-8-ETW-3	A	C2	1	2	38.76	0.1476	20	M(A,L)GF	0.0074	39.74
FHC2-B-C1-8-ETW-1	B	C1	2	1	40.91	0.1456	20	M(A,L)GF	0.0073	41.37
FHC2-B-C1-8-ETW-2	B	C1	2	1	41.51	0.1453	20	M(A,L)GF	0.0073	41.87
FHC2-B-C1-8-ETW-3	B	C1	2	1	36.85	0.1467	20	LGF	0.0073	37.55
FHC2-B-C2-8-ETW-1	B	C2	2	2	39.65	0.1459	20	M(A,L)GF	0.0073	40.16
FHC2-B-C2-8-ETW-2	B	C2	2	2	39.41	0.1449	20	M(A,L)GF	0.0072	39.64
FHC2-B-C2-8-ETW-3	B	C2	2	2	37.94	0.1446	20	M(A,L)GF	0.0072	38.09
FHC2-C-C1-8-ETW-1	C	C1	3	1	38.76	0.1428	20	M(A,L)GF	0.0071	38.43
FHC2-C-C1-8-ETW-2	C	C1	3	1	36.52	0.1427	20	LGF	0.0071	36.18
FHC2-C-C1-8-ETW-3	C	C1	3	1	40.24	0.1429	20	LGF	0.0071	39.92
FHC2-C-C2-8-ETW-1	C	C2	3	2	39.54	0.1383	20	LGF	0.0069	37.97
FHC2-C-C2-8-ETW-2	C	C2	3	2	41.14	0.1387	20	LGF	0.0069	39.62
FHC2-C-C2-8-ETW-3	C	C2	3	2	41.85	0.1376	20	LGF	0.0069	39.99

Average 39.10
Standard Dev. 1.684
Coeff. of Var. [%] 4.307
Min. 36.16
Max. 41.85
Number of Spec. 18

Average_{norm} 0.0072 39.18
Standard Dev._{norm} 1.511
Coeff. of Var. [%]_{norm} 3.856
Min. 0.0069 36.18
Max. 0.0074 41.87
Number of Spec. 18 18



4.29 “50/40/10” Filled-Hole Compression 3 Properties (FHC3)

Laminate Filled-Hole Compression Properties (FHC3)--RTA (70°F)
Strength

VICTREX LMPAEK™ UDT AS7-192-34

normalizing

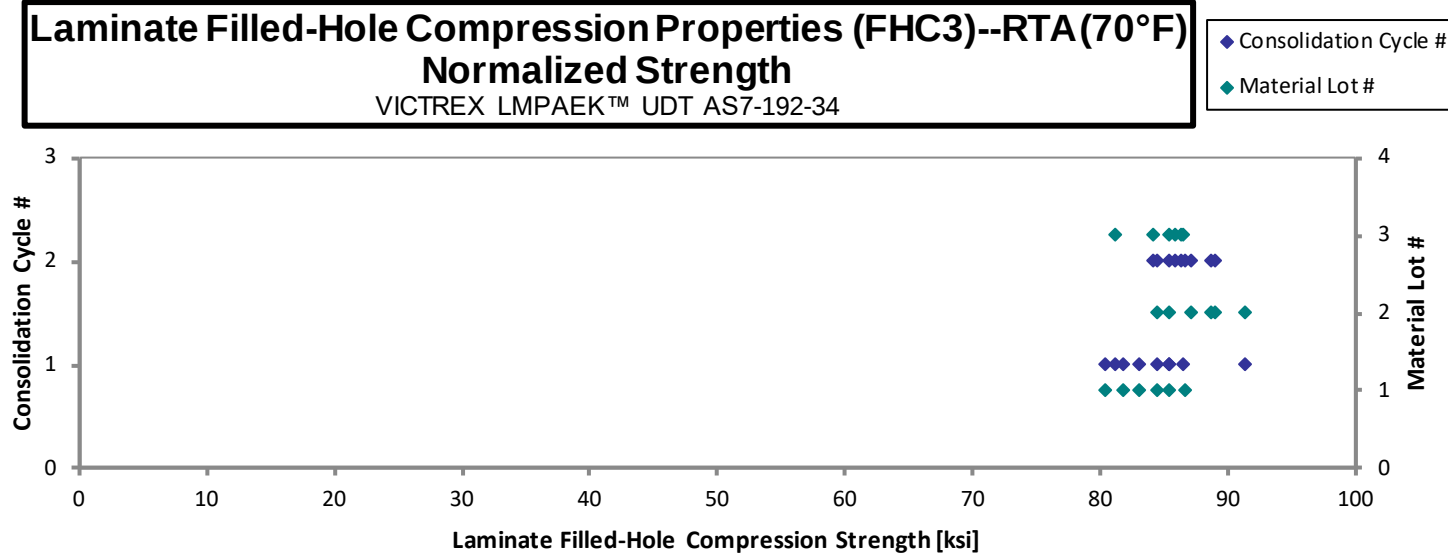
 t_{ply} [in]

0.0072

Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	Strength _{norm} [ksi]
FHC3-A-C1-9-RTA-1	A	C1	1	1	79.20	0.1461	20	M(A,L)GF	0.0073	80.37
FHC3-A-C1-9-RTA-2	A	C1	1	1	81.49	0.1467	20	M(A,L)GF	0.0073	83.02
FHC3-A-C1-9-RTA-3	A	C1	1	1	79.89	0.1476	20	M(A,L)GF	0.0074	81.86
FHC3-A-C2-9-RTA-1	A	C2	1	2	84.83	0.1471	20	M(A,L)GF	0.0074	86.65
FHC3-A-C2-9-RTA-2	A	C2	1	2	82.93	0.1468	20	M(A,L)GF	0.0073	84.52
FHC3-A-C2-9-RTA-3	A	C2	1	2	83.27	0.1477	20	M(A,L)GF	0.0074	85.39
FHC3-B-C1-9-RTA-1	B	C1	2	1	90.87	0.1448	20	M(A,L)GF	0.0072	91.39
FHC3-B-C1-9-RTA-2	B	C1	2	1	84.16	0.1447	20	M(A,L)GF	0.0072	84.55
FHC3-B-C1-9-RTA-3	B	C1	2	1	85.72	0.1435	20	M(A,L)GF	0.0072	85.41
FHC3-B-C2-9-RTA-1	B	C2	2	2	88.13	0.1456	20	M(A,L)GF	0.0073	89.09
FHC3-B-C2-9-RTA-2	B	C2	2	2	86.32	0.1455	20	M(A,L)GF	0.0073	87.19
FHC3-B-C2-9-RTA-3	B	C2	2	2	87.73	0.1456	20	M(A,L)GF	0.0073	88.69
FHC3-C-C1-9-RTA-1	C	C1	3	1	85.80	0.1452	20	M(A,L)GF	0.0073	86.48
FHC3-C-C1-9-RTA-2	C	C1	3	1	81.23	0.1441	20	M(A,L)GF	0.0072	81.26
FHC3-C-C1-9-RTA-3	C	C1	3	1	85.10	0.1446	20	M(A,L)GF	0.0072	85.43
FHC3-C-C2-9-RTA-1	C	C2	3	2	84.17	0.1440	20	M(A,L)GF	0.0072	84.14
FHC3-C-C2-9-RTA-2	C	C2	3	2	86.50	0.1439	20	M(A,L)GO	0.0072	86.41
FHC3-C-C2-9-RTA-3	C	C2	3	2	86.10	0.1438	20	M(A,L)GF	0.0072	85.95

Average 84.63
Standard Dev. 2.976
Coeff. of Var. [%] 3.517
Min. 79.20
Max. 90.87
Number of Spec. 18

Average_{norm} 0.0073 85.43
Standard Dev._{norm} 2.778
Coeff. of Var. [%]_{norm} 3.252
Min. 0.0072 80.37
Max. 0.0074 91.39
Number of Spec. 18 18



Laminate Filled-Hole Compression Properties (FHC3)--ETW (250°F) Strength

VICTREX LMPAEK™ UDT AS7-192-34

normalizing

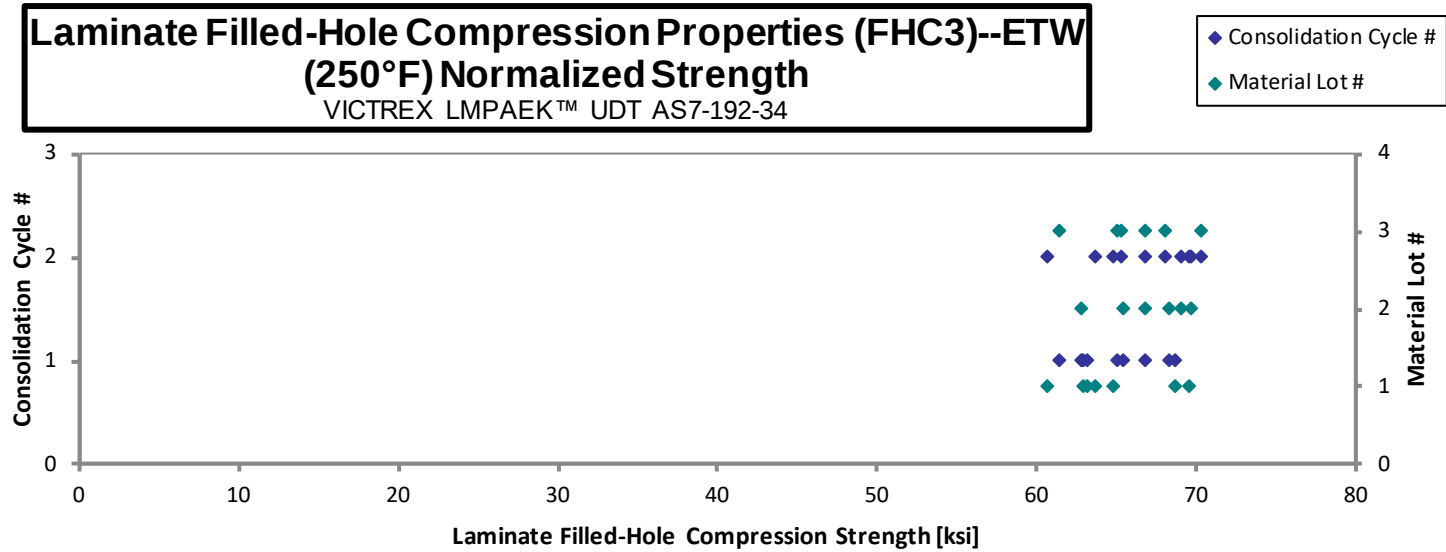
 t_{ply} [in]

0.0072

Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	Strength _{norm} [ksi]
FHC3-A-C1-9-ETW-1	A	C1	1	1	62.25	0.1463	20	M(A,L)GF	0.0073	63.22
FHC3-A-C1-9-ETW-2	A	C1	1	1	62.09	0.1460	20	LGF	0.0073	62.95
FHC3-A-C1-9-ETW-3	A	C1	1	1	67.72	0.1462	20	M(A,L)GF	0.0073	68.77
FHC3-A-C2-9-ETW-1	A	C2	1	2	61.85	0.1482	20	LGF	0.0074	63.66
FHC3-A-C2-9-ETW-2	A	C2	1	2	59.16	0.1479	20	LGF	0.0074	60.75
FHC3-A-C2-9-ETW-3	A	C2	1	2	68.47	0.1465	20	LGF	0.0073	69.64
FHC3-A-C2-9-ETW-4	A	C2	1	2	62.99	0.1482	20	LGF	0.0074	64.82
FHC3-B-C1-9-ETW-1	B	C1	2	1	68.49	0.1438	20	LGF	0.0072	68.38
FHC3-B-C1-9-ETW-2	B	C1	2	1	62.48	0.1448	20	LGF	0.0072	62.84
FHC3-B-C1-9-ETW-3	B	C1	2	1	65.07	0.1448	20	LGF	0.0072	65.42
FHC3-B-C2-9-ETW-1	B	C2	2	2	68.48	0.1453	20	LGF	0.0073	69.09
FHC3-B-C2-9-ETW-2	B	C2	2	2	68.94	0.1456	20	LGF	0.0073	69.70
FHC3-B-C2-9-ETW-3	B	C2	2	2	66.01	0.1457	20	LGF	0.0073	66.80
FHC3-C-C1-9-ETW-1	C	C1	3	1	64.75	0.1447	20	LGF	0.0072	65.04
FHC3-C-C1-9-ETW-2	C	C1	3	1	61.23	0.1444	20	LGF	0.0072	61.41
FHC3-C-C1-9-ETW-3	C	C1	3	1	66.78	0.1442	20	LGF	0.0072	66.88
FHC3-C-C2-9-ETW-1	C	C2	3	2	68.39	0.1435	20	M(A,L)GF	0.0072	68.15
FHC3-C-C2-9-ETW-2	C	C2	3	2	70.57	0.1436	20	LGF	0.0072	70.38
FHC3-C-C2-9-ETW-3	C	C2	3	2	65.10	0.1446	20	LGF	0.0072	65.37

Average 65.30
 Standard Dev. 3.239
 Coeff. of Var. [%] 4.960
 Min. 59.16
 Max. 70.57
 Number of Spec. 19

Average_{norm} 0.0073 65.96
 Standard Dev._{norm} 2.974
 Coeff. of Var. [%]_{norm} 4.508
 Min. 0.0072 60.75
 Max. 0.0074 70.38
 Number of Spec. 19 19



September 15, 2025

CAM-RP-2025-009 Rev -

4.30 “25/50/25” Single-Shear Bearing 1 Properties (SSB1)- Reference Only

Laminate Single-Shear Bearing Properties (SSB1)--RTA (70°F) Strength

VICTREX LMPAEK™ UDT AS7-192-34

normalizing

t_{ply} [in]

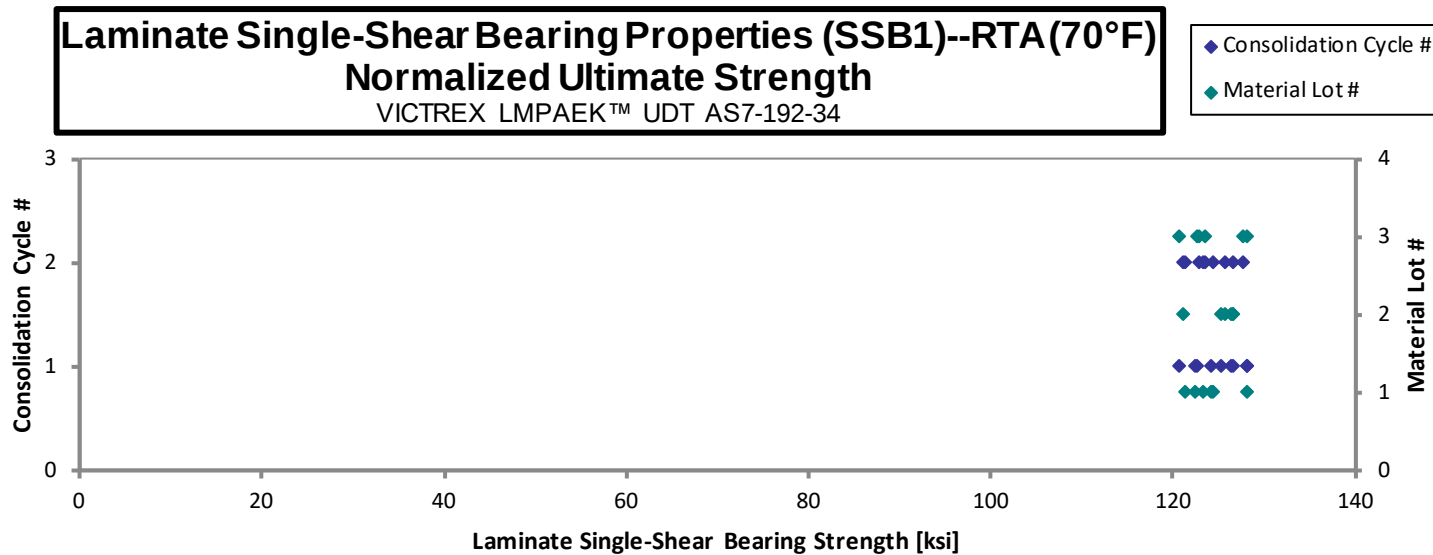
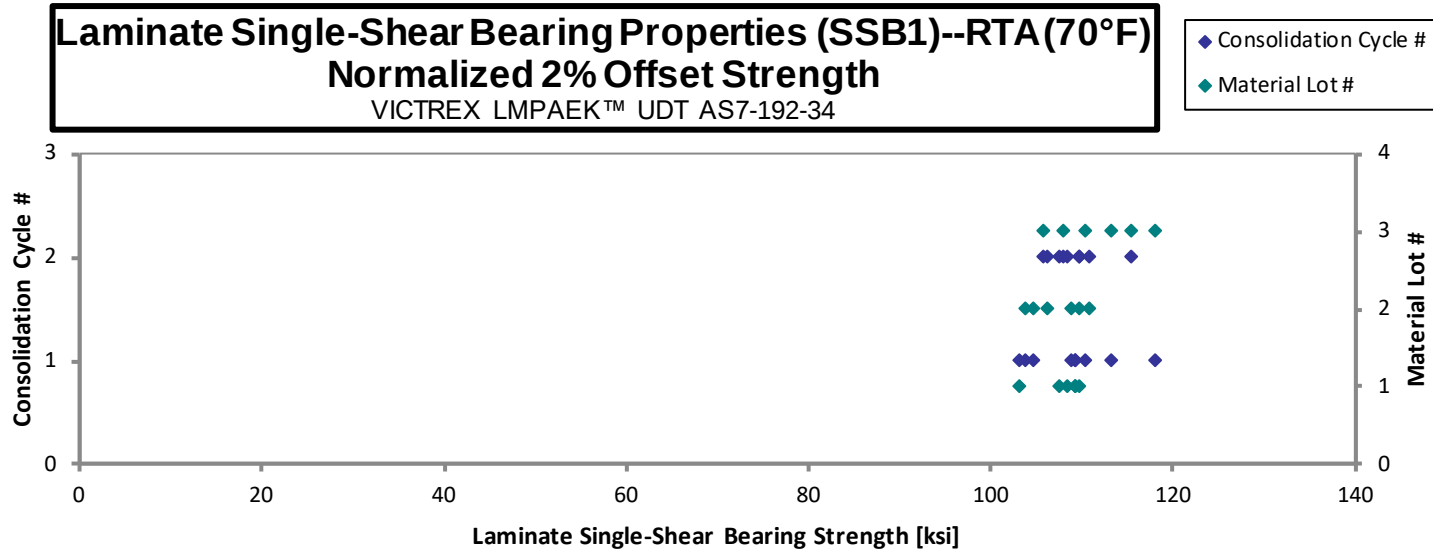
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Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	Initial Peak Strength [ksi]	2% Offset Strength [ksi]	Ultimate Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	2% Offset Strength _{norm} [ksi]	Ultimate Strength _{norm} [ksi]
SSB1-A-C1-2-RTA-1	A	C1	1	1		107.5	126.0	0.1171	16	B1I	0.0073	109.3	128.1
SSB1-A-C1-2-RTA-2	A	C1	1	1	105.2	101.9	122.5	0.1167	16	B1I	0.0073	103.2	124.2
SSB1-A-C1-2-RTA-3	A	C1	1	1		107.5	120.2	0.1172	16	B1I	0.0073	109.4	122.4
SSB1-A-C2-2-RTA-1	A	C2	1	2		105.7	119.3	0.1171	16	B1I	0.0073	107.5	121.3
SSB1-A-C2-2-RTA-2	A	C2	1	2		108.5	123.1	0.1165	16	B1I	0.0073	109.7	124.4
SSB1-A-C2-2-RTA-3	A	C2	1	2	108.5	106.9	121.5	0.1169	16	B1I	0.0073	108.5	123.3
SSB1-B-C1-2-RTA-1	B	C1	2	1	109.7	106.2	123.5	0.1181	16	B1I	0.0074	108.8	126.5
SSB1-B-C1-2-RTA-2	B	C1	2	1		102.2	123.3	0.1180	16	B1I	0.0074	104.7	126.4
SSB1-B-C1-2-RTA-3	B	C1	2	1	103.4	102.1	123.4	0.1170	16	B1I	0.0073	103.7	125.3
SSB1-B-C2-2-RTA-1	B	C2	2	2		105.6	120.5	0.1158	16	B1I	0.0072	106.1	121.1
SSB1-B-C2-2-RTA-2	B	C2	2	2	112.2	108.1	123.9	0.1169	16	B1I	0.0073	109.7	125.8
SSB1-B-C2-2-RTA-3	B	C2	2	2		110.1	125.8	0.1160	16	B1I	0.0073	110.8	126.7
SSB1-C-C1-2-RTA-1	C	C1	3	1		108.8	126.3	0.1169	16	B1I	0.0073	110.3	128.2
SSB1-C-C1-2-RTA-2	C	C1	3	1		117.3	119.9	0.1160	16	B1I	0.0072	118.1	120.8
SSB1-C-C1-2-RTA-3	C	C1	3	1		112.9	122.3	0.1156	16	B1I	0.0072	113.2	122.7
SSB1-C-C2-2-RTA-1	C	C2	3	2		108.1	122.9	0.1151	16	B1I	0.0072	108.0	122.8
SSB1-C-C2-2-RTA-2	C	C2	3	2		106.0	123.8	0.1150	16	B1I	0.0072	105.8	123.6
SSB1-C-C2-2-RTA-3	C	C2	3	2		115.2	127.6	0.1154	16	B1I	0.0072	115.4	127.8

Initial Peak is reported when it is observed

Average	107.8	107.8	123.1
Standard Dev.	3.530	4.147	2.306
Coeff. of Var. [%]	3.274	3.847	1.873
Min.	103.4	101.9	119.3
Max.	112.2	117.3	127.6
Number of Spec.	5	18	18

Average _{norm}	0.0073	109.0	124.5
Standard Dev. _{norm}		3.830	2.430
Coeff. of Var. [%] _{norm}		3.513	1.951
Min.	0.0072	103.2	120.8
Max.	0.0074	118.1	128.2
Number of Spec.	18	18	18



September 15, 2025

CAM-RP-2025-009 Rev -

**Laminate Single-Shear Bearing Properties (SSB1)--ETA (250°F)
Strength**

VICTREX LMPAEK™ UDT AS7-192-34

normalizing

t_{ply} [in]

0.0072

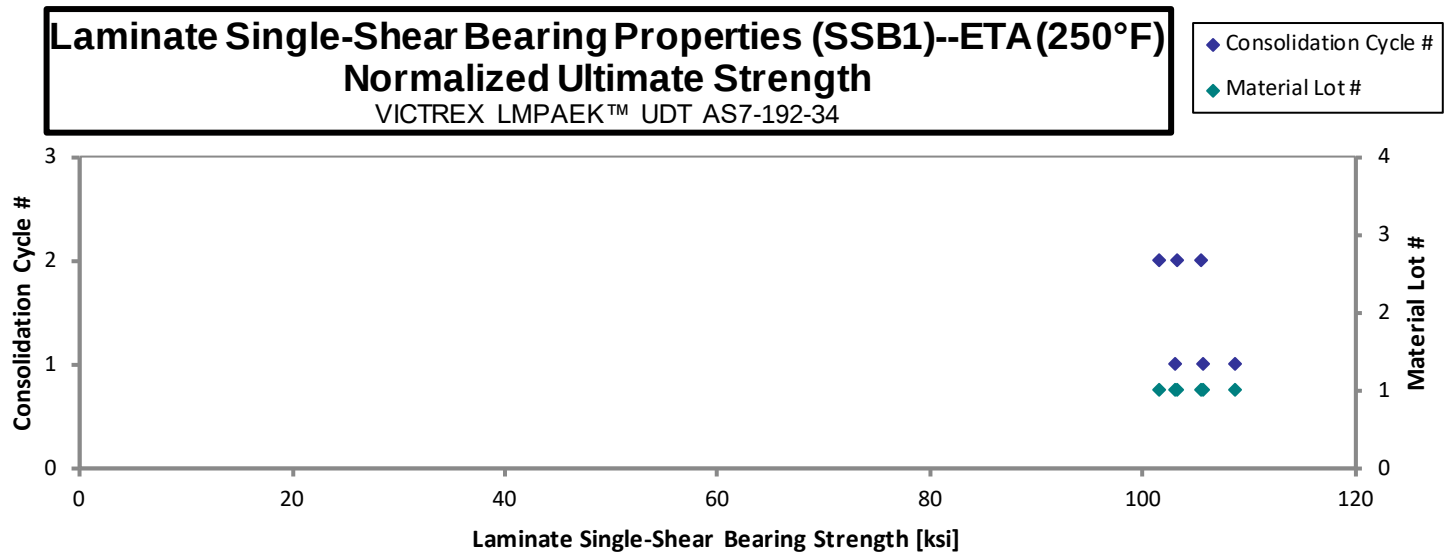
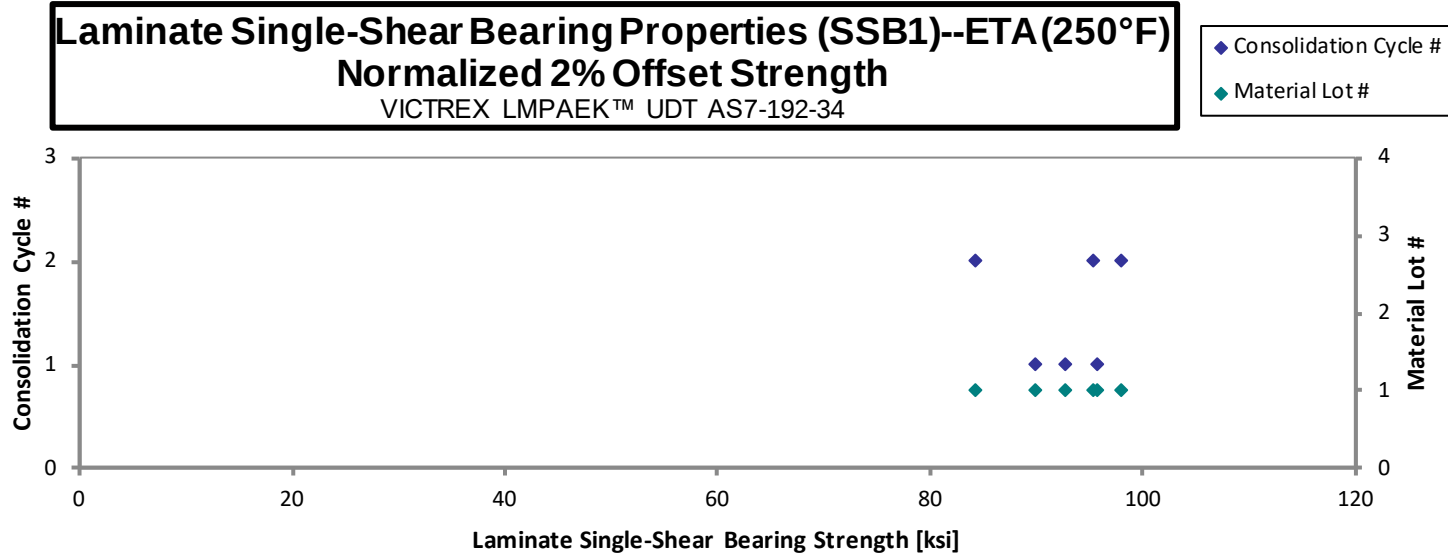
Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	Initial Peak Strength [ksi]	2% Offset Strength [ksi]	Ultimate Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode
SSB1-A-C1-2-ETA-1	A	C1	1	1	90.58	87.96	103.4	0.1178	16	B1I
SSB1-A-C1-2-ETA-2	A	C1	1	1		90.77	100.9	0.1176	16	B1I
SSB1-A-C1-2-ETA-3	A	C1	1	1	96.79	94.18	107.0	0.1171	16	B1I
SSB1-A-C2-2-ETA-1	A	C2	1	2	86.94	83.19	100.2	0.1167	16	B1I
SSB1-A-C2-2-ETA-2	A	C2	1	2		96.65	102.0	0.1168	16	B1I
SSB1-A-C2-2-ETA-3	A	C2	1	2		94.04	104.0	0.1169	16	B1I

Initial Peak is reported when it is observed

Avg. t_{ply} [in]	2% Offset Strength _{norm} [ksi]	Ultimate Strength _{norm} [ksi]
0.0074	89.95	105.7
0.0073	92.65	103.0
0.0073	95.73	108.8
0.0073	84.26	101.5
0.0073	97.98	103.4
0.0073	95.39	105.5

Average	91.44	91.13	102.9
Standard Dev.	4.982	4.928	2.465
Coeff. of Var. [%]	5.448	5.408	2.395
Min.	86.94	83.19	100.2
Max.	96.79	96.65	107.0
Number of Spec.	3	6	6

Average _{norm}	0.0073	92.66	104.7
Standard Dev. _{norm}		4.960	2.573
Coeff. of Var. [%] _{norm}		5.353	2.459
Min.	0.0073	84.26	101.5
Max.	0.0074	97.98	108.8
Number of Spec.	6	6	6



4.31 “10/80/10” Single-Shear Bearing 2 Properties (SSB2)

Laminate Single-Shear Bearing Properties (SSB2)--RTA (70°F)
Strength

VICTREX LMPAEK™ UDT AS7-192-34

normalizing

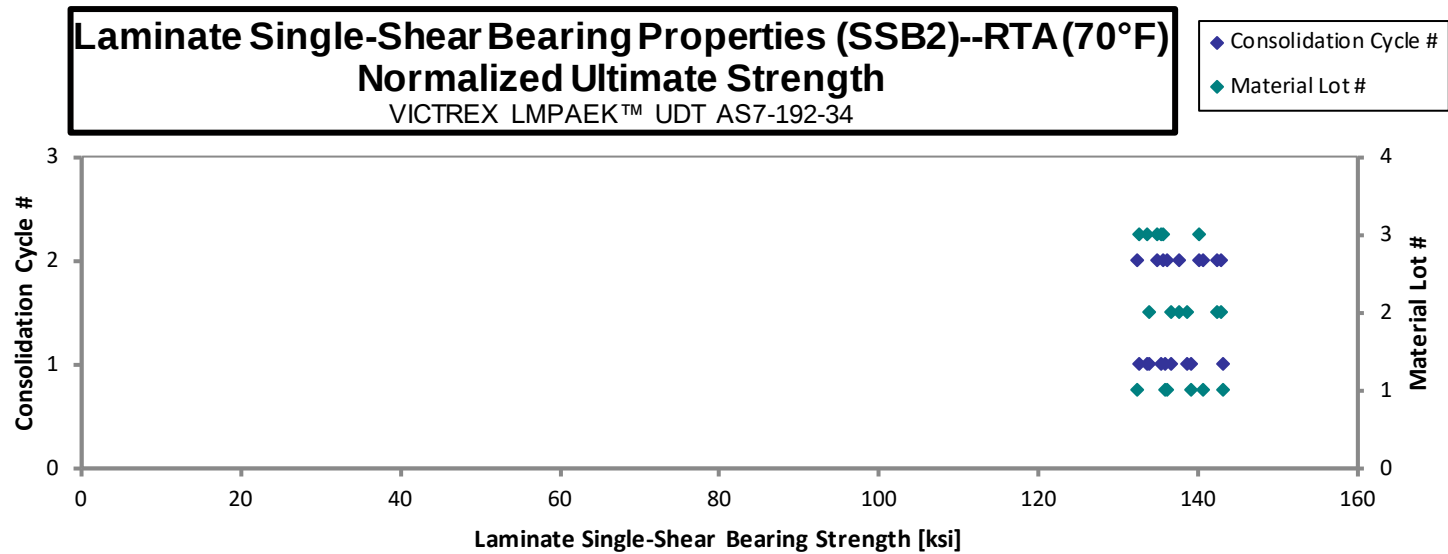
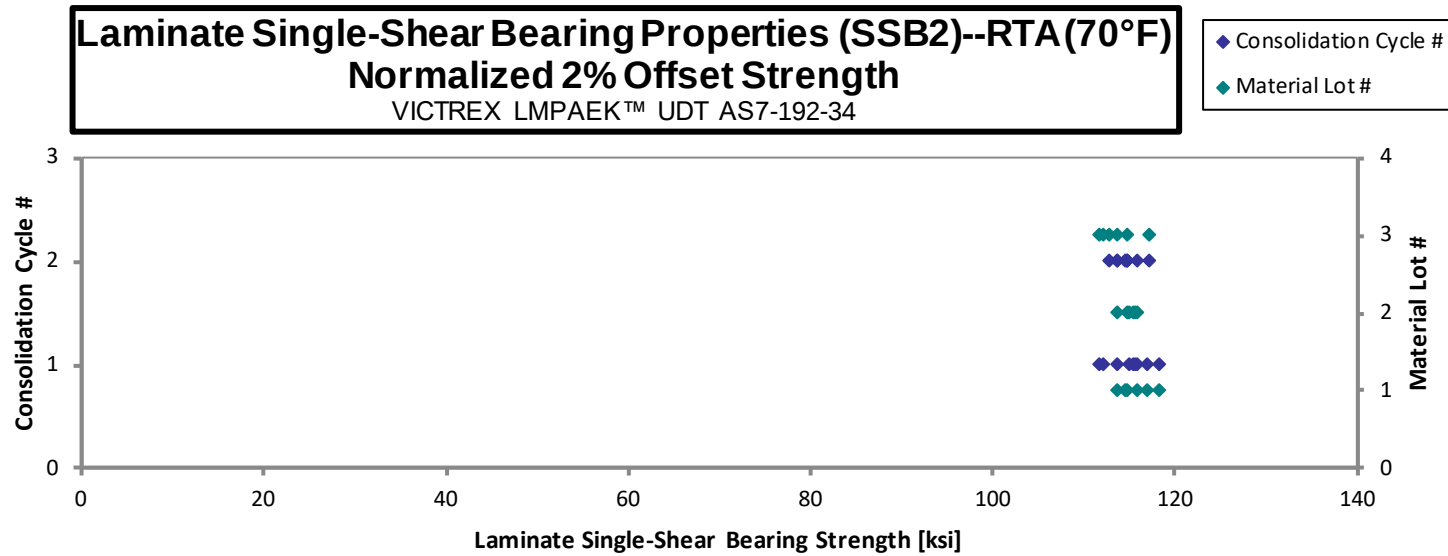
t_{ply} [in]

0.0072

Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	2% Offset Strength [ksi]	Ultimate Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	2% Offset Strength _{norm} [ksi]	Ultimate Strength _{norm} [ksi]
SSB2-A-C1-3-RTA-1	A	C1	1	1	114.4	133.0	0.1473	20	B1I	0.0074	117.0	136.0
SSB2-A-C1-3-RTA-2	A	C1	1	1	115.9	136.3	0.1470	20	B1I	0.0073	118.3	139.2
SSB2-A-C1-3-RTA-3	A	C1	1	1	113.1	139.6	0.1477	20	B1I	0.0074	116.0	143.1
SSB2-A-C2-3-RTA-1	A	C2	1	2	109.1	130.7	0.1500	20	B1I	0.0075	113.7	136.2
SSB2-A-C2-3-RTA-2	A	C2	1	2	110.8	135.8	0.1492	20	B1I	0.0075	114.8	140.7
SSB2-A-C2-3-RTA-3	A	C2	1	2	110.3	127.6	0.1495	20	B1I	0.0075	114.5	132.4
SSB2-B-C1-3-RTA-1	B	C1	2	1	112.8	136.0	0.1467	20	B1I	0.0073	114.9	138.6
SSB2-B-C1-3-RTA-2	B	C1	2	1	112.5	130.3	0.1481	20	B1I	0.0074	115.7	134.0
SSB2-B-C1-3-RTA-3	B	C1	2	1	113.2	134.0	0.1470	20	B1I	0.0073	115.5	136.7
SSB2-B-C2-3-RTA-1	B	C2	2	2	110.5	138.4	0.1483	20	B1I	0.0074	113.7	142.5
SSB2-B-C2-3-RTA-2	B	C2	2	2	112.9	139.3	0.1478	20	B1I	0.0074	115.9	142.9
SSB2-B-C2-3-RTA-3	B	C2	2	2	111.6	134.0	0.1479	20	B1I	0.0074	114.7	137.6
SSB2-C-C1-3-RTA-1	C	C1	3	1	114.0	136.4	0.1412	20	B1I	0.0071	111.8	133.8
SSB2-C-C1-3-RTA-2	C	C1	3	1	114.7	136.5	0.1427	20	B1I, Y3H	0.0071	113.6	135.3
SSB2-C-C1-3-RTA-3	C	C1	3	1	113.0	133.7	0.1430	20	B1I	0.0071	112.2	132.8
SSB2-C-C2-3-RTA-1	C	C2	3	2	116.2	136.6	0.1422	20	B1I	0.0071	114.7	134.9
SSB2-C-C2-3-RTA-2	C	C2	3	2	117.0	135.6	0.1442	20	B1I	0.0072	117.2	135.8
SSB2-C-C2-3-RTA-3	C	C2	3	2	113.5	141.2	0.1429	20	B1I	0.0071	112.7	140.2

Average 113.1 135.3
Standard Dev. 2.120 3.442
Coeff. of Var. [%] 1.875 2.545
Min. 109.1 127.6
Max. 117.0 141.2
Number of Spec. 18 18

Average_{norm} 0.0073 114.8 137.4
Standard Dev._{norm} 1.732 3.429
Coeff. of Var. [%]_{norm} 1.508 2.496
Min. 0.0071 111.8 132.4
Max. 0.0075 118.3 143.1
Number of Spec. 18 18 18



September 15, 2025

CAM-RP-2025-009 Rev -

**Laminate Single-Shear Bearing Properties (SSB2)--ETW (250°F)
Strength**

VICTREX LMPAEK™ UDT AS7-192-34

normalizing

t_{ply} [in]

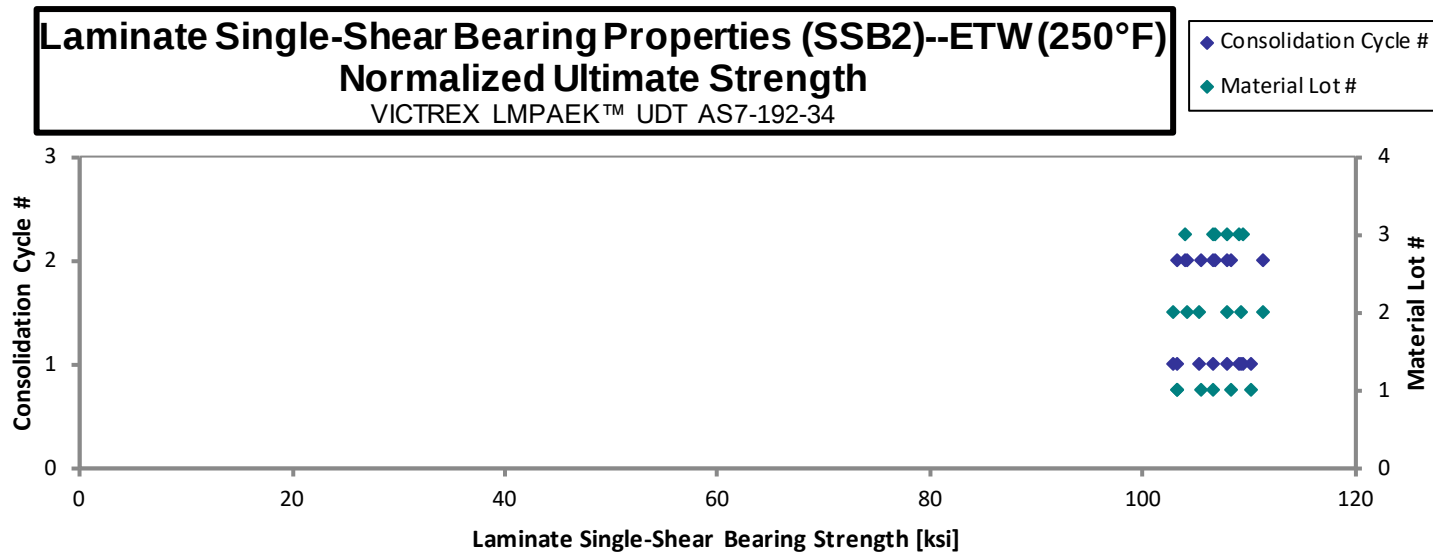
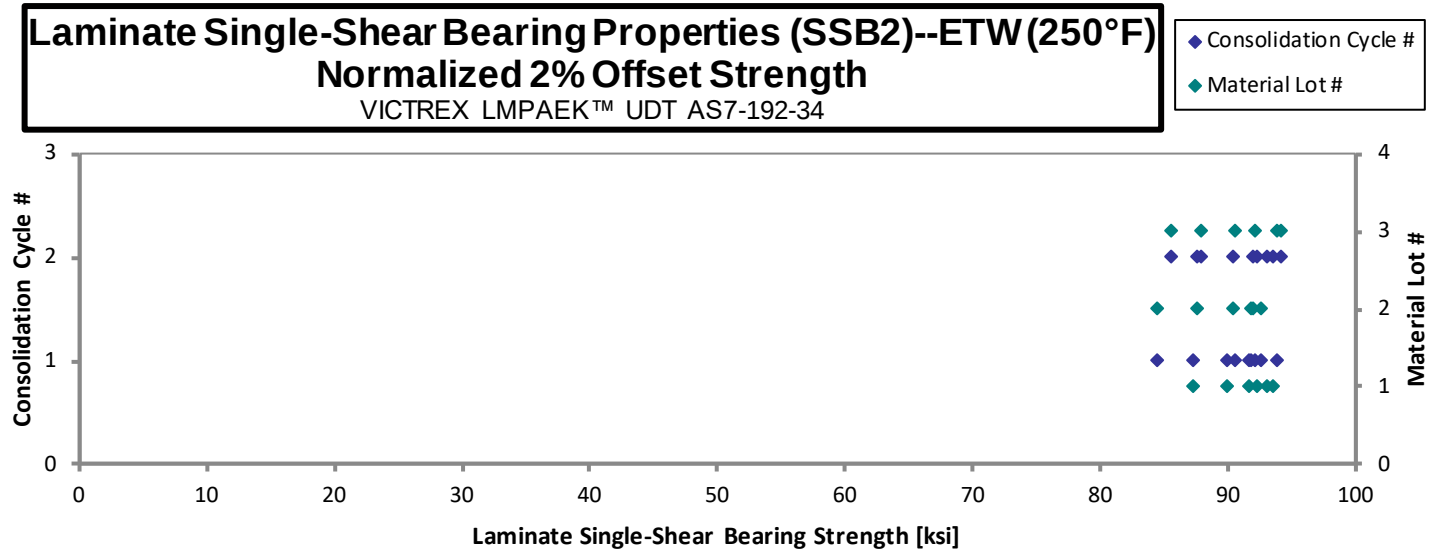
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Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	2% Offset Strength [ksi]	Ultimate Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode
SSB2-A-C1-3-ETW-1	A	C1	1	1	88.24	104.6	0.1469	20	B1I
SSB2-A-C1-3-ETW-2	A	C1	1	1	85.94	108.5	0.1462	20	B1I
SSB2-A-C1-3-ETW-3	A	C1	1	1	89.87	101.1	0.1470	20	B1I
SSB2-A-C2-3-ETW-1	A	C2	1	2	90.65	105.4	0.1479	20	B1I
SSB2-A-C2-3-ETW-2	A	C2	1	2	89.35	100.0	0.1488	20	B1I
SSB2-A-C2-3-ETW-3	A	C2	1	2	89.50	101.0	0.1505	20	B1I
SSB2-B-C1-3-ETW-1	B	C1	2	1	82.29	100.1	0.1479	20	B1I
SSB2-B-C1-3-ETW-2	B	C1	2	1	89.88	106.9	0.1472	20	B1I
SSB2-B-C1-3-ETW-3	B	C1	2	1	91.10	103.5	0.1464	20	B1I
SSB2-B-C2-3-ETW-1	B	C2	2	2	85.75	102.0	0.1471	20	B1I
SSB2-B-C2-3-ETW-2	B	C2	2	2	88.48	105.7	0.1471	20	B1I
SSB2-B-C2-3-ETW-3	B	C2	2	2	90.41	109.3	0.1466	20	B1I
SSB2-C-C1-3-ETW-1	C	C1	3	1	91.50	110.5	0.1425	20	B1I
SSB2-C-C1-3-ETW-2	C	C1	3	1	95.70	111.1	0.1414	20	B1I
SSB2-C-C1-3-ETW-3	C	C1	3	1	92.81	108.6	0.1430	20	B1I
SSB2-C-C2-3-ETW-1	C	C2	3	2	86.00	107.2	0.1434	20	B1I
SSB2-C-C2-3-ETW-2	C	C2	3	2	88.42	104.7	0.1432	20	B1I
SSB2-C-C2-3-ETW-3	C	C2	3	2	94.40	106.9	0.1436	20	B1I

Avg. t_{ply} [in]	2% Offset Strength _{norm} [ksi]	Ultimate Strength _{norm} [ksi]
0.0073	90.00	106.7
0.0073	87.27	110.2
0.0074	91.77	103.2
0.0074	93.09	108.3
0.0074	92.32	103.4
0.0075	93.54	105.6
0.0074	84.52	102.8
0.0074	91.88	109.2
0.0073	92.62	105.3
0.0074	87.57	104.2
0.0074	90.40	108.0
0.0073	92.07	111.3
0.0071	90.53	109.4
0.0071	93.97	109.1
0.0072	92.19	107.9
0.0072	85.66	106.8
0.0072	87.91	104.0
0.0072	94.15	106.6

Average 89.46 105.4
Standard Dev. 3.229 3.542
Coeff. of Var. [%] 3.609 3.361
Min. 82.29 100.0
Max. 95.70 111.1
Number of Spec. 18 18

Average_{norm} 0.0073 90.64 106.8
Standard Dev._{norm} 2.897 2.587
Coeff. of Var. [%]_{norm} 3.197 2.423
Min. 0.0071 84.52 102.8
Max. 0.0075 94.15 111.3
Number of Spec. 18 18 18



September 15, 2025

CAM-RP-2025-009 Rev -

4.32 “50/40/10” Single-Shear Bearing 3 Properties (SSB3)

Laminate Single-Shear Bearing Properties (SSB3)--RTA (70°F) Strength

VICTREX LMPAEK™ UDT AS7-192-34

normalizing

t_{ply} [in]

0.0072

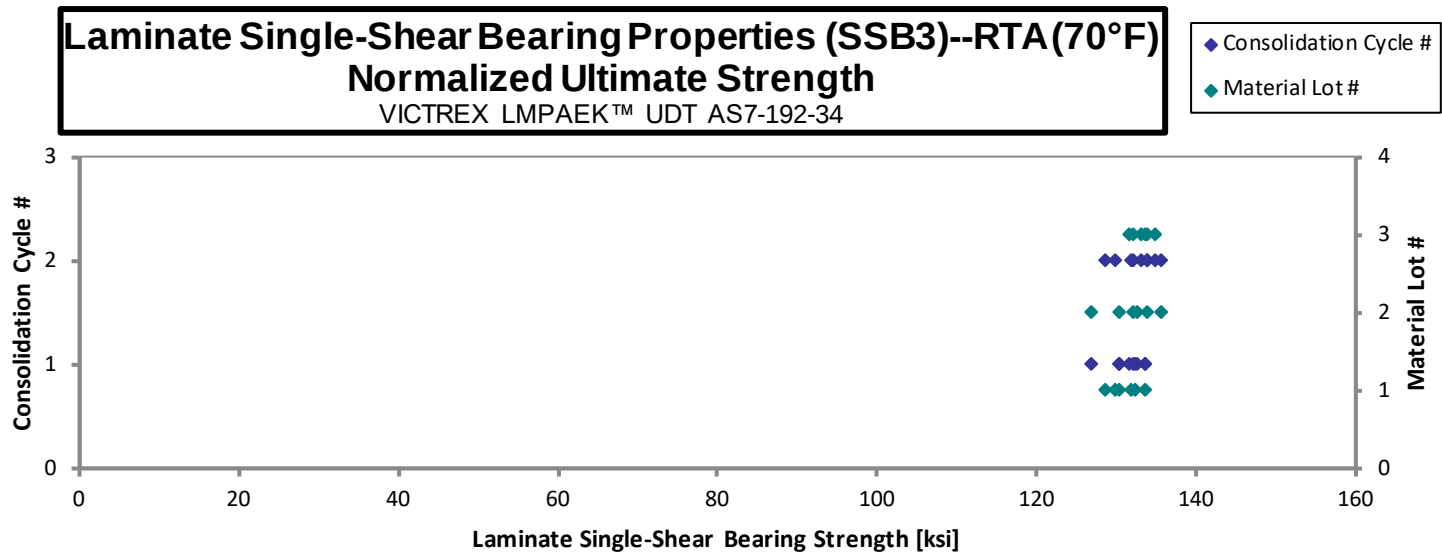
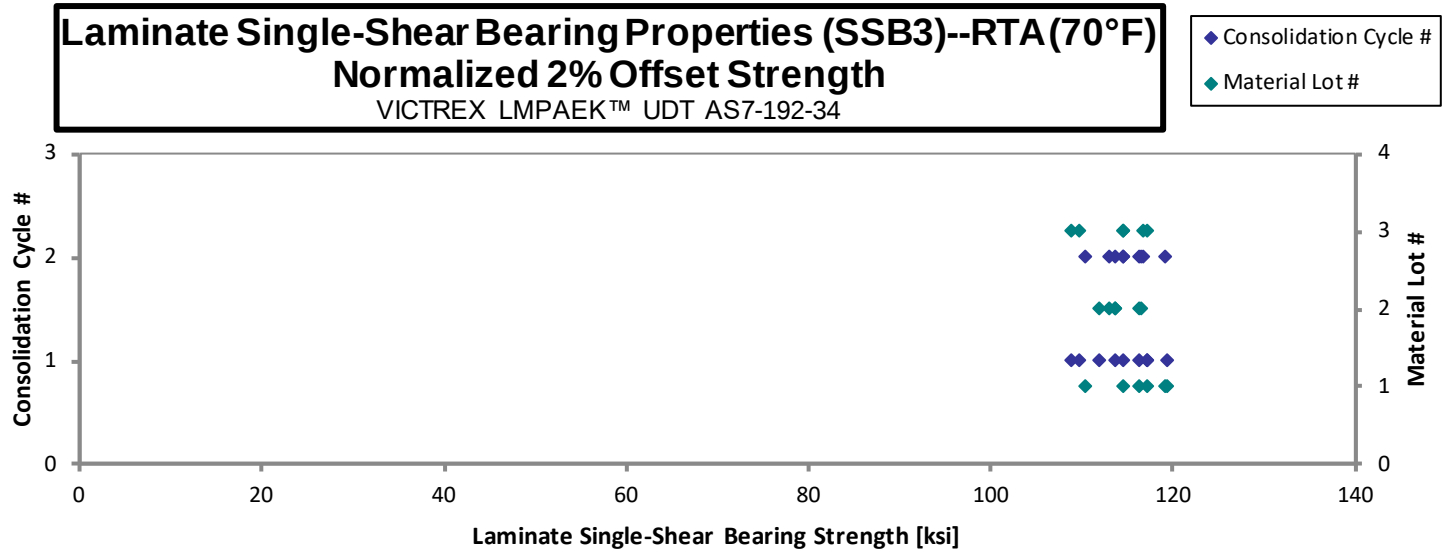
Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	Initial Peak Strength [ksi]	2% Offset Strength [ksi]	Ultimate Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode
SSB3-A-C1-4-RTA-1	A	C1	1	1		115.5	130.5	0.1461	20	B1I
SSB3-A-C1-4-RTA-2	A	C1	1	1		118.4	129.2	0.1452	20	B1I
SSB3-A-C1-4-RTA-3	A	C1	1	1		113.4	132.3	0.1454	20	B1I
SSB3-A-C2-4-RTA-1	A	C2	1	2		113.5	125.3	0.1477	20	B1I
SSB3-A-C2-4-RTA-2	A	C2	1	2		116.5	129.2	0.1471	20	B1I
SSB3-A-C2-4-RTA-3	A	C2	1	2		107.8	126.9	0.1474	20	B1I
SSB3-B-C1-4-RTA-1	B	C1	2	1		116.2	132.6	0.1441	20	B1I
SSB3-B-C1-4-RTA-2	B	C1	2	1		113.2	129.7	0.1447	20	B1I
SSB3-B-C1-4-RTA-3	B	C1	2	1		111.2	126.1	0.1450	20	B1I
SSB3-B-C2-4-RTA-1	B	C2	2	2		113.0	132.2	0.1440	20	B1I
SSB3-B-C2-4-RTA-2	B	C2	2	2		113.8	135.8	0.1438	20	B1I
SSB3-B-C2-4-RTA-3	B	C2	2	2		116.4	133.6	0.1443	20	B1I
SSB3-C-C1-4-RTA-1	C	C1	3	1		110.1	133.1	0.1425	20	B1I
SSB3-C-C1-4-RTA-2	C	C1	3	1	114.8	110.4	134.5	0.1432	20	B1I
SSB3-C-C1-4-RTA-3	C	C1	3	1		118.1	133.2	0.1428	20	B1I
SSB3-C-C2-4-RTA-1	C	C2	3	2		113.5	132.0	0.1453	20	B1I
SSB3-C-C2-4-RTA-2	C	C2	3	2	116.7	115.6	132.8	0.1453	20	B1I
SSB3-C-C2-4-RTA-3	C	C2	3	2		113.4	133.5	0.1454	20	B1I

Initial Peak is reported when it is observed

Avg. t_{ply} [in]	2% Offset Strength _{norm} [ksi]	Ultimate Strength _{norm} [ksi]
0.0073	117.2	132.4
0.0073	119.4	130.3
0.0073	114.5	133.6
0.0074	116.4	128.6
0.0074	119.1	132.0
0.0074	110.3	129.8
0.0072	116.2	132.6
0.0072	113.8	130.3
0.0072	111.9	126.9
0.0072	113.0	132.2
0.0072	113.6	135.7
0.0072	116.6	133.8
0.0071	108.9	131.7
0.0072	109.7	133.7
0.0071	117.1	132.1
0.0073	114.6	133.2
0.0073	116.7	134.0
0.0073	114.4	134.8

Average	115.8	113.9	131.3
Standard Dev.	1.364	2.819	2.950
Coeff. of Var. [%]	1.178	2.476	2.247
Min.	114.8	107.8	125.3
Max.	116.7	118.4	135.8
Number of Spec.	2	18	18

Average _{norm}	0.0072	114.6	132.1
Standard Dev. _{norm}		3.025	2.224
Coeff. of Var. [%] _{norm}		2.638	1.683
Min.	0.0071	108.9	126.9
Max.	0.0074	119.4	135.7
Number of Spec.	18	18	18



September 15, 2025

CAM-RP-2025-009 Rev -

**Laminate Single-Shear Bearing Properties (SSB3)--ETW (250°F)
Strength**

VICTREX LMPAEK™ UDT AS7-192-34

normalizing

t_{ply} [in]

0.0072

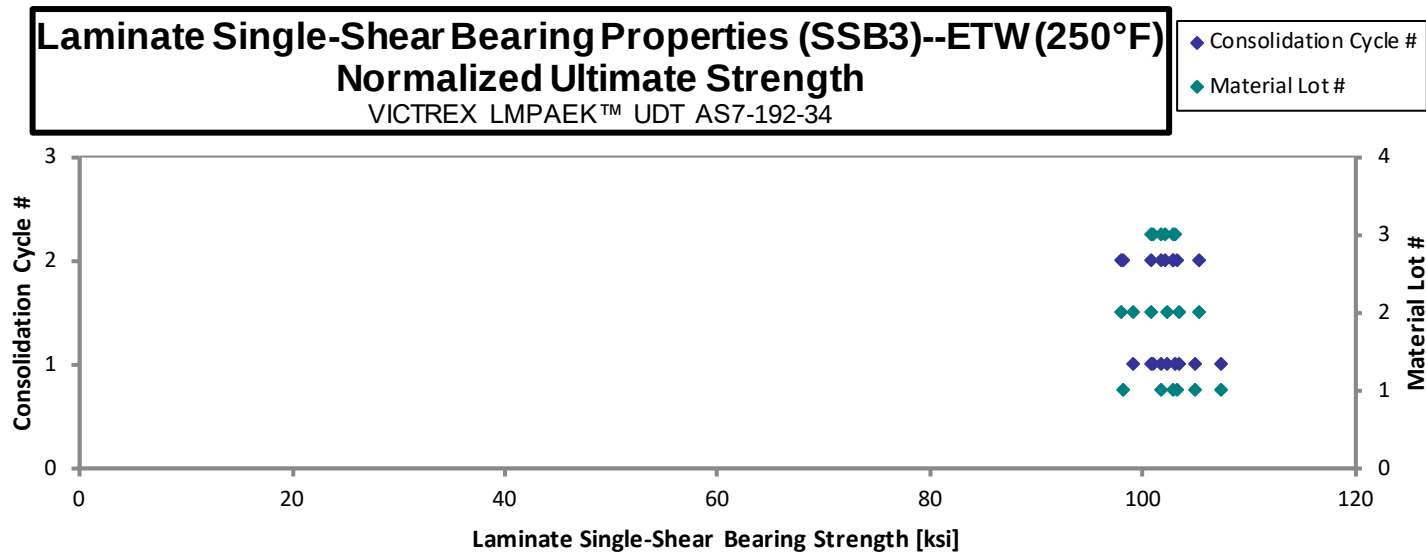
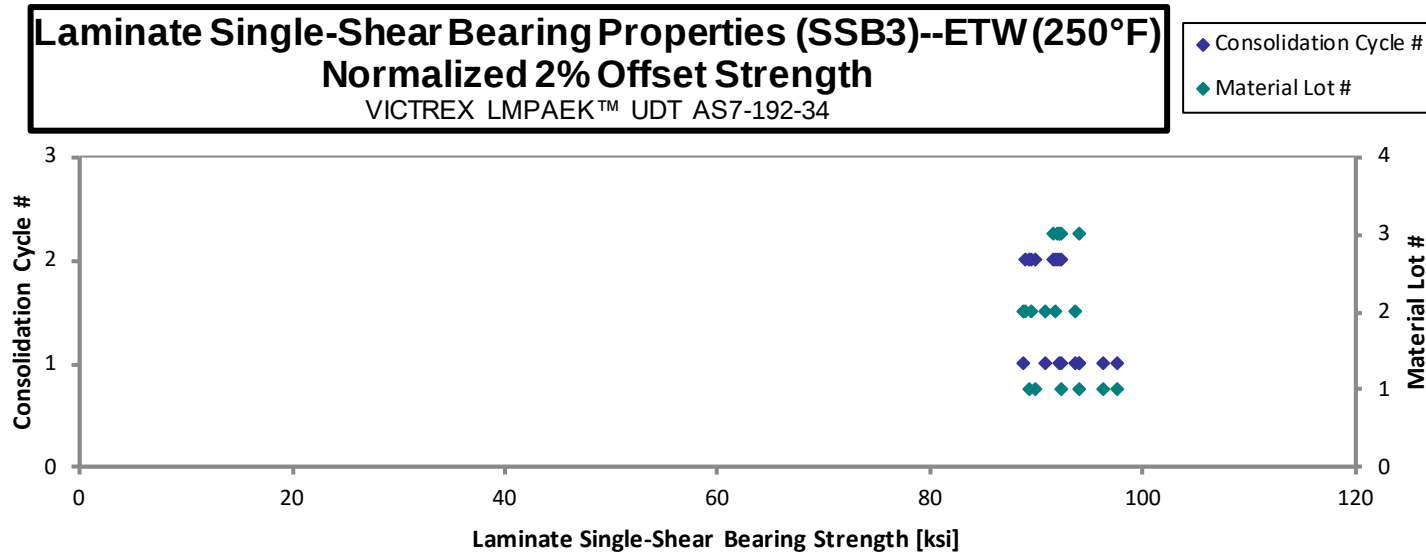
Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	Initial Peak Strength [ksi]	2% Offset Strength [ksi]	Ultimate Strength [ksi]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode
SSB3-A-C1-4-ETW-1	A	C1	1	1	95.15	96.67	106.3	0.1455	20	B1I
SSB3-A-C1-4-ETW-2	A	C1	1	1		94.85	103.5	0.1461	20	B1I
SSB3-A-C1-4-ETW-3	A	C1	1	1		93.20	100.8	0.1453	20	B1I
SSB3-A-C2-4-ETW-1	A	C2	1	2		87.65	96.36	0.1468	20	B1I
SSB3-A-C2-4-ETW-2	A	C2	1	2	91.24	88.45	101.5	0.1464	20	B1I
SSB3-A-C2-4-ETW-3	A	C2	1	2		90.44	100.6	0.1472	20	B1I
SSB3-B-C1-4-ETW-1	B	C1	2	1		88.15	98.32	0.1451	20	B1I
SSB3-B-C1-4-ETW-2	B	C1	2	1		93.22	101.8	0.1447	20	B1I
SSB3-B-C1-4-ETW-3	B	C1	2	1	91.78	90.14	102.5	0.1452	20	B1I
SSB3-B-C2-4-ETW-1	B	C2	2	2		89.73	105.5	0.1438	20	B1I
SSB3-B-C2-4-ETW-2	B	C2	2	2		91.74	97.93	0.1441	20	B1I
SSB3-B-C2-4-ETW-3	B	C2	2	2		89.12	100.9	0.1439	20	B1I
SSB3-C-C1-4-ETW-1	C	C1	3	1	92.51	93.23	101.9	0.1426	20	B1I
SSB3-C-C1-4-ETW-2	C	C1	3	1		95.11	104.4	0.1423	20	B1I
SSB3-C-C1-4-ETW-3	C	C1	3	1		92.46	101.3	0.1437	20	B1I
SSB3-C-C2-4-ETW-1	C	C2	3	2		90.57	101.7	0.1456	20	B1I
SSB3-C-C2-4-ETW-2	C	C2	3	2	92.51	91.54	101.8	0.1446	20	B1I
SSB3-C-C2-4-ETW-3	C	C2	3	2		91.50	101.0	0.1452	20	B1I

Initial Peak is reported when it is observed

Avg. t_{ply} [in]	2% Offset Strength _{norm} [ksi]	Ultimate Strength _{norm} [ksi]
0.0073	97.70	107.4
0.0073	96.24	105.0
0.0073	94.01	101.7
0.0073	89.36	98.2
0.0073	89.94	103.2
0.0074	92.44	102.8
0.0073	88.84	99.08
0.0072	93.64	102.3
0.0073	90.91	103.4
0.0072	89.63	105.4
0.0072	91.78	97.97
0.0072	89.07	100.9
0.0071	92.29	100.9
0.0071	93.96	103.1
0.0072	92.25	101.0
0.0073	91.56	102.9
0.0072	91.92	102.2
0.0073	92.24	101.8

Average 92.67 91.54 101.6
Standard Dev. 1.735 2.529 2.473
Coeff. of Var. [%] 1.873 2.762 2.435
Min. 91.24 87.65 96.36
Max. 95.15 96.67 106.3
Number of Spec. 4 18 18

Average_{norm} 0.0072 92.10 102.2
Standard Dev._{norm} 2.403 2.402
Coeff. of Var. [%]_{norm} 2.609 2.351
Min. 0.0071 88.84 97.97
Max. 0.0074 97.70 107.4
Number of Spec. 18 18 18



September 15, 2025

CAM-RP-2025-009 Rev -

4.33 “25/50/25” Compression After Impact 1 Properties (CAI1)

Laminate Compression After Impact 1 Properties (CAI1)--RTA (70°F) Strength

VICTREX LMPAEK™ UDT AS7-192-34

normalizing

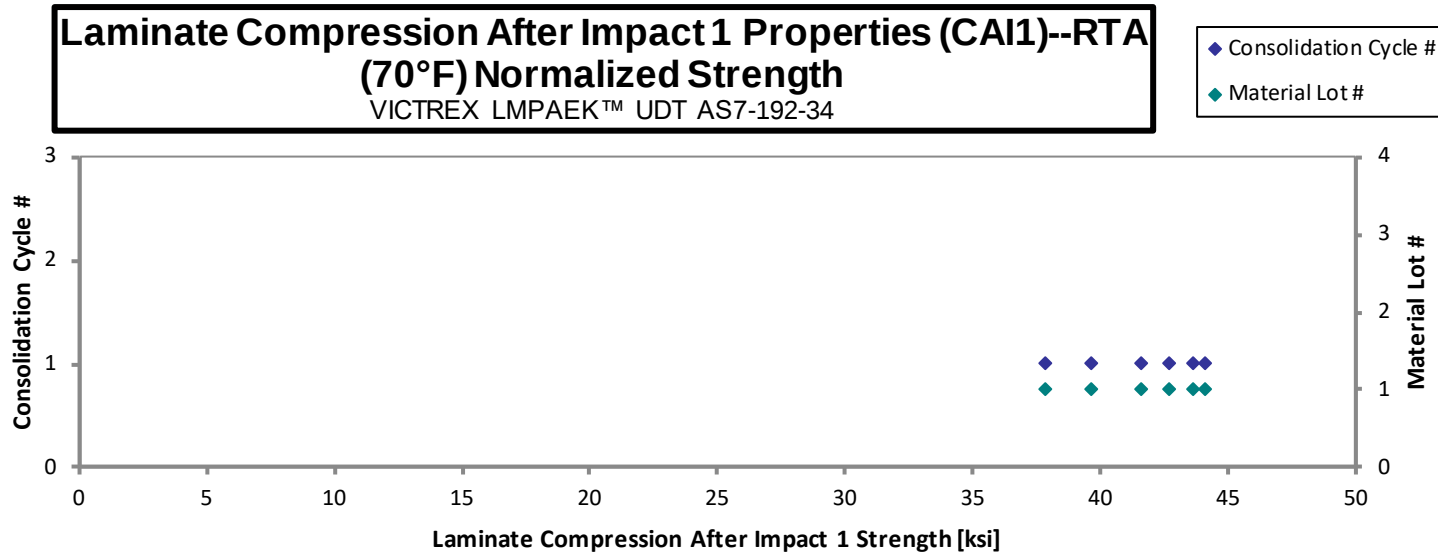
t_{ply} [in]

0.0072

Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	Strength [ksi]	Measured Impact Energy [in-lbf]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	Strength _{norm} [ksi]
NTP1251Q1-V-A2-DA-CAI1-A-C1-1-RTA-1	A	C1	1	1	37.32	349.1	0.2338	32	LDM	0.0073	37.87
NTP1251Q1-V-A2-DA-CAI1-A-C1-1-RTA-2	A	C1	1	1	43.14	350.4	0.2331	32	LDM	0.0073	43.64
NTP1251Q1-V-A2-DA-CAI1-A-C1-1-RTA-3	A	C1	1	1	42.05	350.5	0.2342	32	LDM	0.0073	42.75
NTP1251Q1-V-A2-DA-CAI1-A-C1-1-RTA-4	A	C1	1	1	39.12	350.4	0.2336	32	LDM	0.0073	39.67
NTP1251Q1-V-A2-DA-CAI1-A-C1-1-RTA-5	A	C1	1	1	41.05	350.4	0.2335	32	LDM	0.0073	41.59
NTP1251Q1-V-A2-DA-CAI1-A-C1-1-RTA-6	A	C1	1	1	43.57	352.1	0.2333	32	LDM	0.0073	44.11

Average 41.04
Standard Dev. 2.421
Coeff. of Var. [%] 5.899
Min. 37.32
Max. 43.57
Number of Spec. 6

Average_{norm} 0.0073 41.60
Standard Dev._{norm} 2.426
Coeff. of Var. [%]_{norm} 5.831
Min. 0.0073 37.87
Max. 0.0073 44.11
Number of Spec. 6 6



September 15, 2025

CAM-RP-2025-009 Rev -

**Laminate Compression After Impact 1 Properties (CAI1)--ETA (250°F)
Strength**

VICTREX LMPAEK™ UDT AS7-192-34

normalizing

t_{ply} [in]

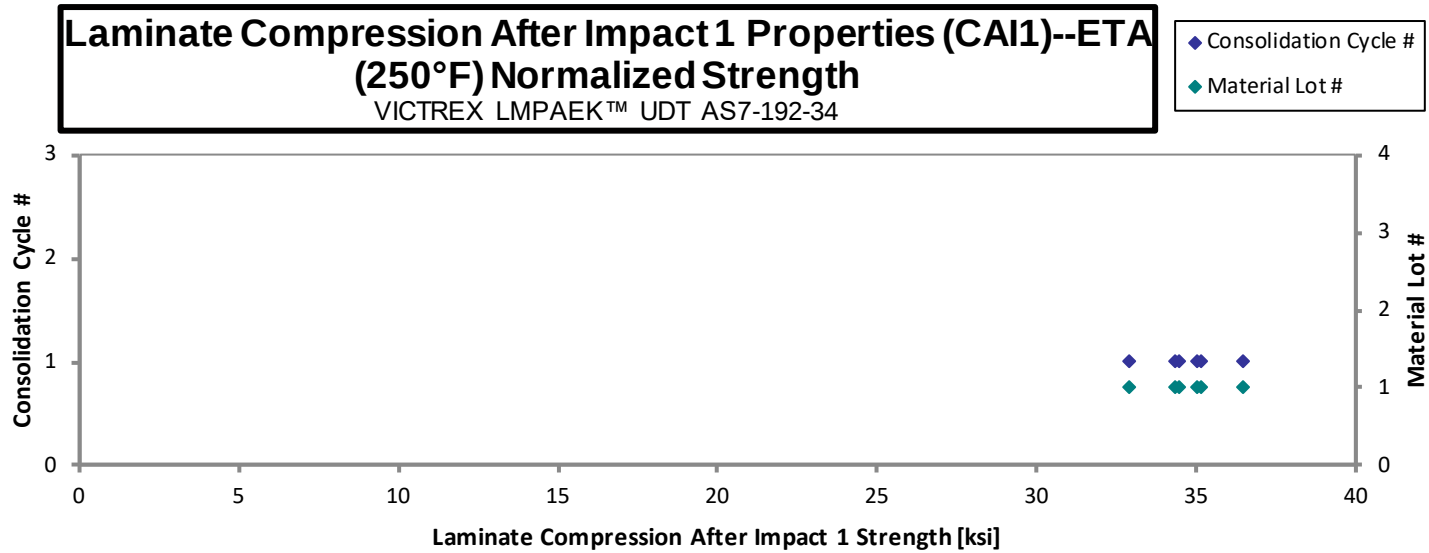
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Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	Strength [ksi]	Measured Impact Energy [in-lbf]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode
NTP1251Q1-V-A2-DA-CAI1-A-C1-1-ETA-1	A	C1	1	1	34.08	351.0	0.2333	32	LDM
NTP1251Q1-V-A2-DA-CAI1-A-C1-1-ETA-2	A	C1	1	1	33.92	348.1	0.2333	32	LDM
NTP1251Q1-V-A2-DA-CAI1-A-C1-1-ETA-3	A	C1	1	1	34.81	350.3	0.2328	32	LDM
NTP1251Q1-V-A2-DA-CAI1-A-C1-1-ETA-4	A	C1	1	1	34.55	349.3	0.2339	32	LDM
NTP1251Q1-V-A2-DA-CAI1-A-C1-1-ETA-5	A	C1	1	1	32.48	347.9	0.2335	32	LDM
NTP1251Q1-V-A2-DA-CAI1-A-C1-1-ETA-6	A	C1	1	1	36.09	349.3	0.2329	32	LDM

Avg. t_{ply} [in]	Strength _{norm} [ksi]
0.0073	34.50
0.0073	34.36
0.0073	35.17
0.0073	35.07
0.0073	32.92
0.0073	36.48

Average 34.32
Standard Dev. 1.185
Coeff. of Var. [%] 3.454
Min. 32.48
Max. 36.09
Number of Spec. 6

Average_{norm} 0.0073 34.75
Standard Dev._{norm} 1.170
Coeff. of Var. [%]_{norm} 3.368
Min. 0.0073 32.92
Max. 0.0073 36.48
Number of Spec. 6 6



September 15, 2025

CAM-RP-2025-009 Rev -

**Laminate Compression After Impact 1 Properties (CAI1)--ETW (250°F)
Strength**

VICTREX LMPAEK™ UDT AS7-192-34

normalizing

t_{ply} [in]

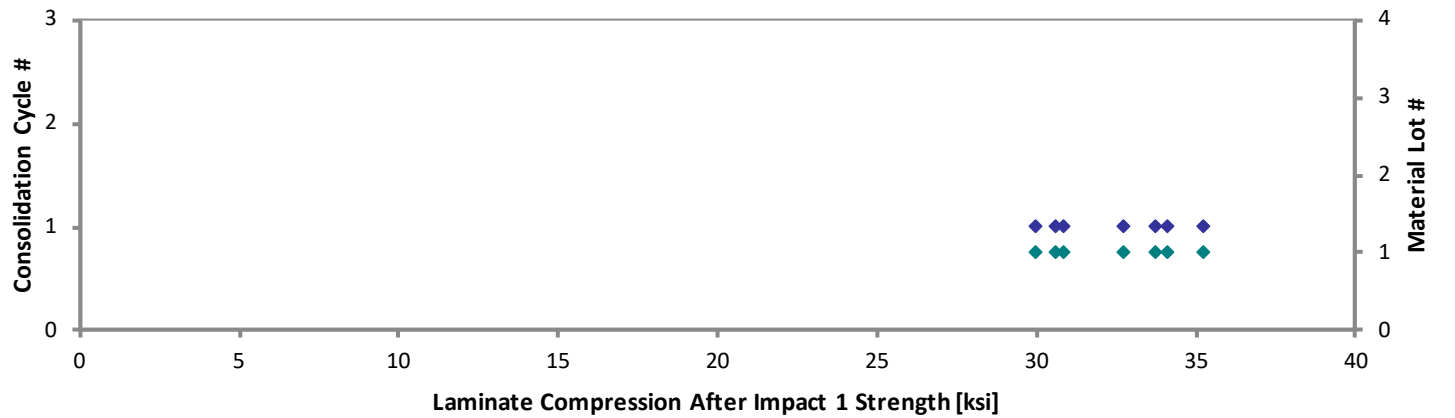
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Specimen Number	Lot #	Consolidation Cycle	Material Lot #	Consolidation Cycle #	Strength [ksi]	Measured Impact Energy [in-lbf]	Avg. Specimen Thickness [in]	# Plies in Laminate	Failure Mode	Avg. t_{ply} [in]	Strength _{norm} [ksi]
NTP1251Q1-V-A2-DA-CAI1-A-C1-1-ETW-1	A	C1	1	1	33.25	352.6	0.2339	32	LDM	0.0073	33.75
NTP1251Q1-V-A2-DA-CAI1-A-C1-1-ETW-2	A	C1	1	1	32.21	352.1	0.2340	32	LDM	0.0073	32.71
NTP1251Q1-V-A2-DA-CAI1-A-C1-1-ETW-3	A	C1	1	1	33.73	351.4	0.2333	32	LDM	0.0073	34.15
NTP1251Q1-V-A2-DA-CAI1-A-C1-1-ETW-4	A	C1	1	1	30.46	352.3	0.2335	32	LDM	0.0073	30.86
NTP1251Q1-V-A2-DA-CAI1-A-C1-1-ETW-5	A	C1	1	1	30.05	350.5	0.2348	32	LDM	0.0073	30.62
NTP1251Q1-V-A2-DA-CAI1-A-C1-1-ETW-6	A	C1	1	1	29.50	352.4	0.2344	32	LDM	0.0073	30.01
NTP1251Q1-V-A2-DA-CAI1-A-C1-1-ETW-8	A	C1	1	1	34.79	352.6	0.2334	32	LDM	0.0073	35.25

Average 32.00
Standard Dev. 2.034
Coeff. of Var. [%] 6.356
Min. 29.50
Max. 34.79
Number of Spec. 7

Average_{norm} 0.0073 32.48
Standard Dev._{norm} 2.011
Coeff. of Var. [%]_{norm} 6.191
Min. 0.0073 30.01
Max. 0.007337 35.25
Number of Spec. 7 7

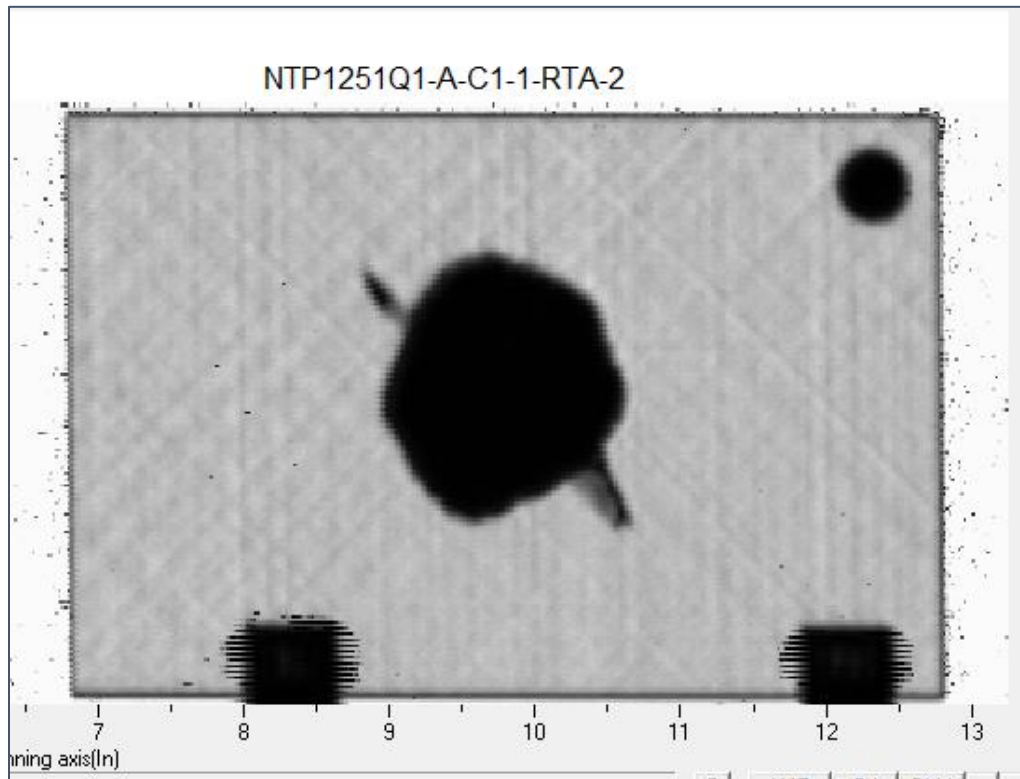
Laminate Compression After Impact 1 Properties (CAI1)--ETW
(250°F) Normalized Strength
 VICTREX LMPAEK™ UDT AS7-192-34

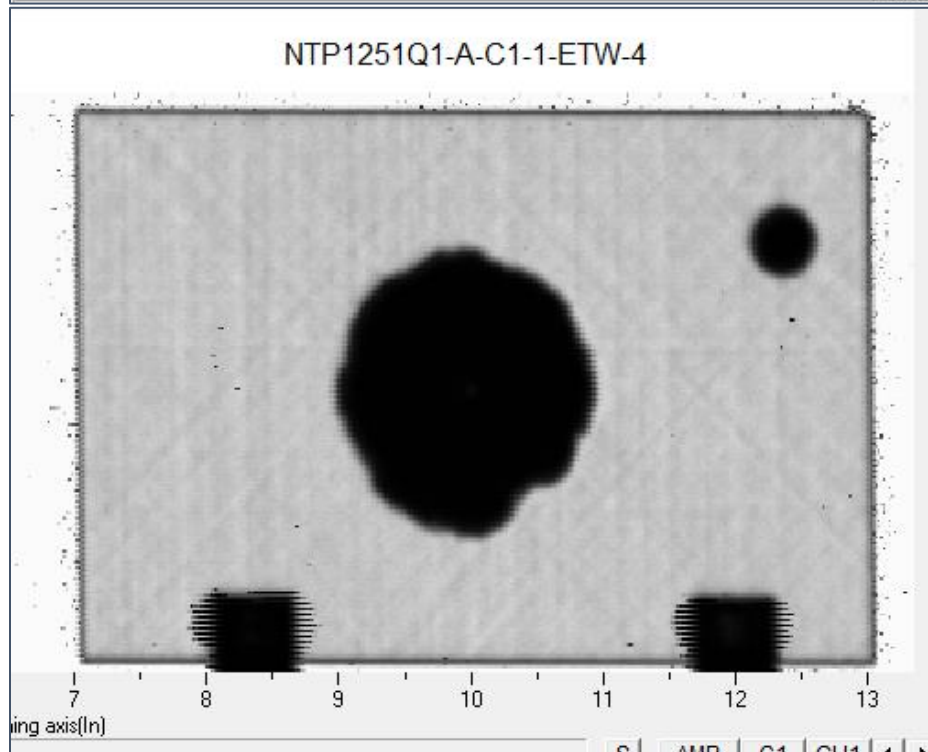
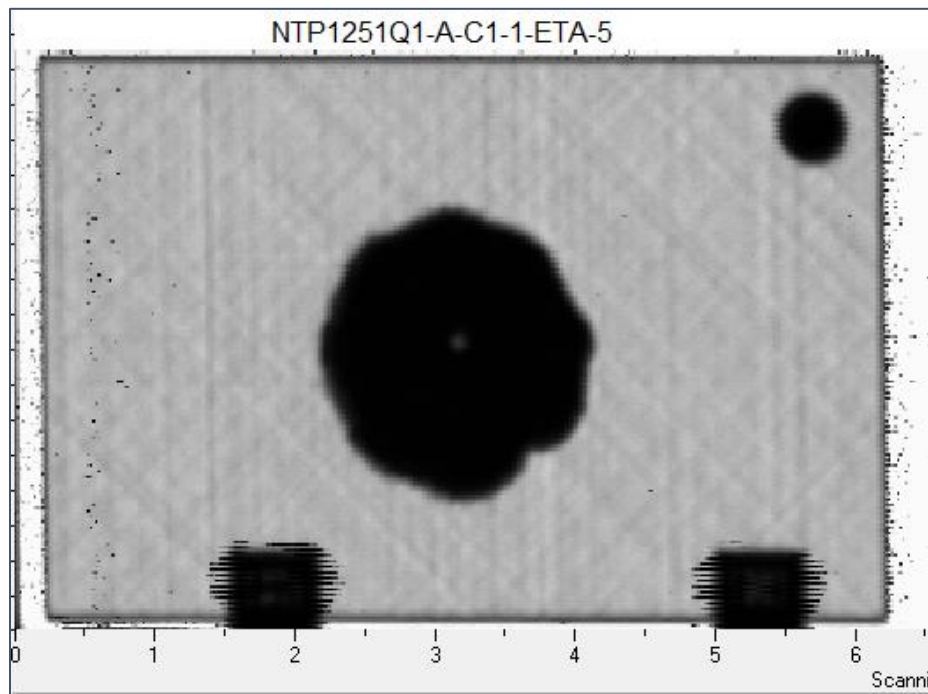


5. Additional Compression After Impact Data

Impactor Diameter: 0.625"

Representative of Damage Area:



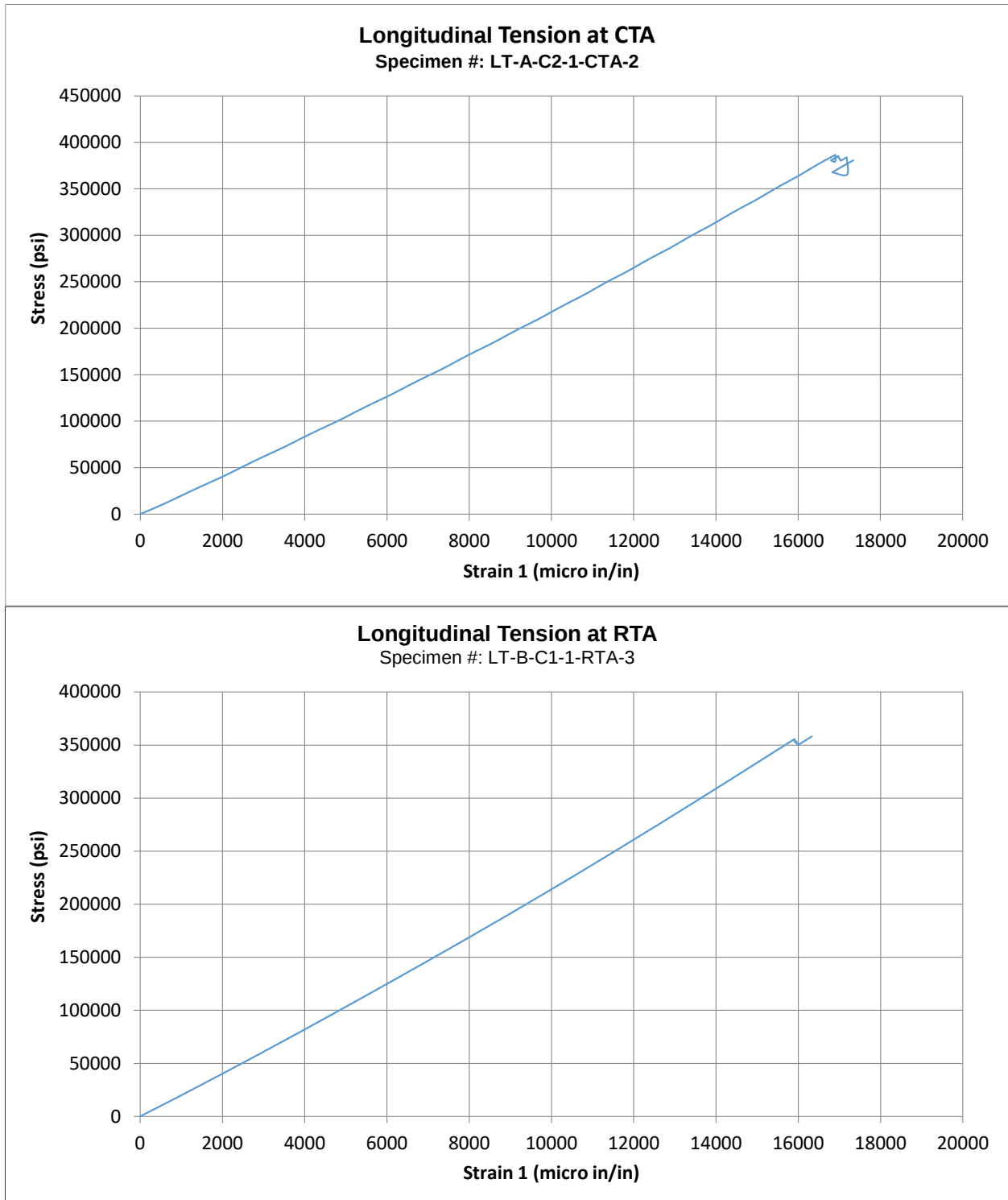


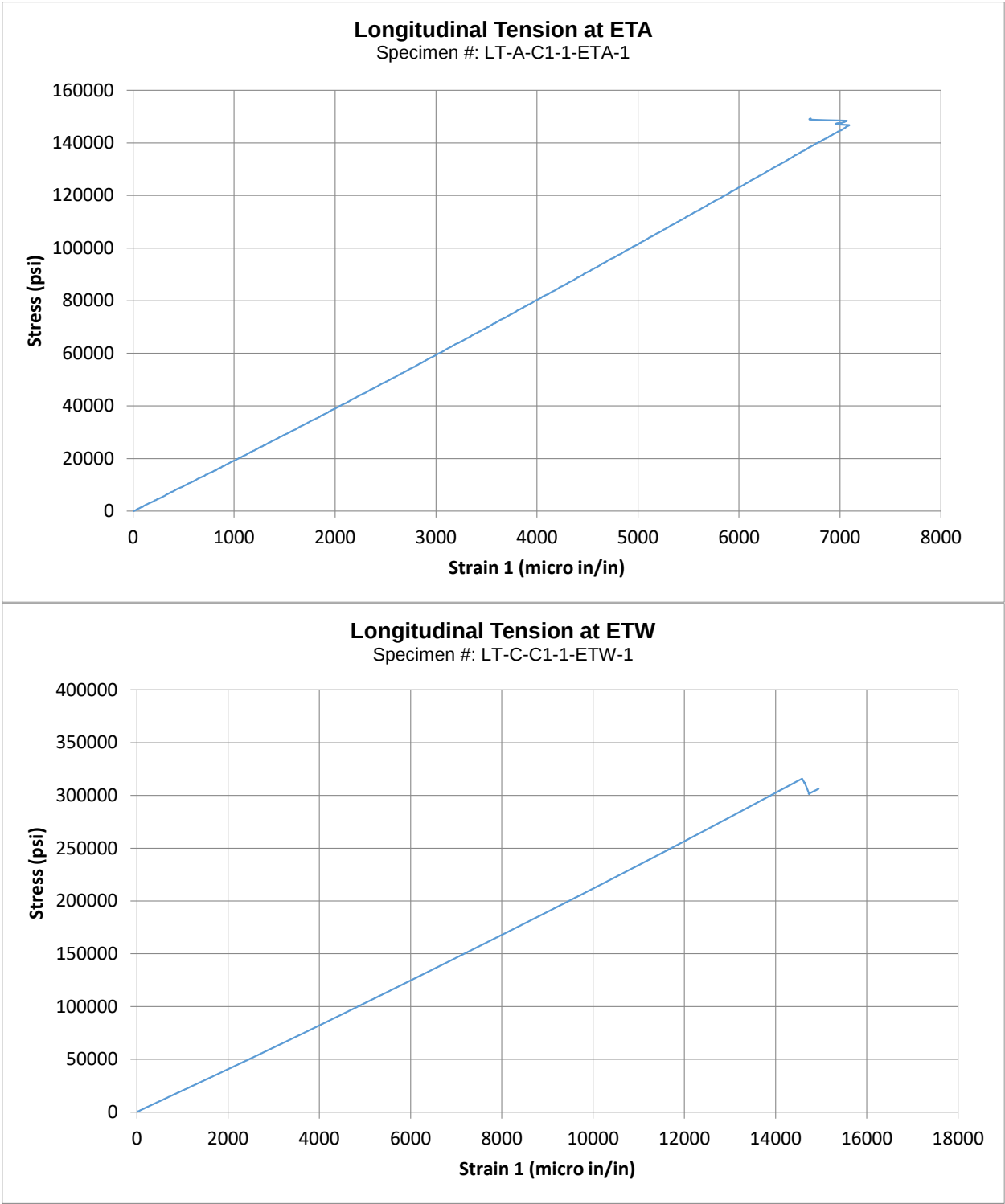
Damage Area and Dent Depth Summary:

Specimen ID	Damage Area (in ²)	Dent Depth (in)
NTP1251Q1-V-A2-DA-CAI1-A-C1-1-RTA-1	3.6272	0.0170
NTP1251Q1-V-A2-DA-CAI1-A-C1-1-RTA-2	2.2948	0.0175
NTP1251Q1-V-A2-DA-CAI1-A-C1-1-RTA-3	2.1532	0.0170
NTP1251Q1-V-A2-DA-CAI1-A-C1-1-RTA-4	3.0880	0.0165
NTP1251Q1-V-A2-DA-CAI1-A-C1-1-RTA-5	3.9532	0.0165
NTP1251Q1-V-A2-DA-CAI1-A-C1-1-RTA-6	2.5044	0.0165
NTP1251Q1-V-A2-DA-CAI1-A-C1-1-ETA-1	3.6148	0.0165
NTP1251Q1-V-A2-DA-CAI1-A-C1-1-ETA-2	2.5692	0.0165
NTP1251Q1-V-A2-DA-CAI1-A-C1-1-ETA-3	2.7344	0.0165
NTP1251Q1-V-A2-DA-CAI1-A-C1-1-ETA-4	2.9324	0.0170
NTP1251Q1-V-A2-DA-CAI1-A-C1-1-ETA-5	3.0060	0.0165
NTP1251Q1-V-A2-DA-CAI1-A-C1-1-ETA-6	2.5544	0.0155
NTP1251Q1-V-A2-DA-CAI1-A-C1-1-ETW-1	2.3888	0.0165
NTP1251Q1-V-A2-DA-CAI1-A-C1-1-ETW-2	2.2128	0.0155
NTP1251Q1-V-A2-DA-CAI1-A-C1-1-ETW-3	1.7100	0.0160
NTP1251Q1-V-A2-DA-CAI1-A-C1-1-ETW-4	3.0120	0.0160
NTP1251Q1-V-A2-DA-CAI1-A-C1-1-ETW-5	2.1116	0.0165
NTP1251Q1-V-A2-DA-CAI1-A-C1-1-ETW-6	3.2072	0.0155
NTP1251Q1-V-A2-DA-CAI1-A-C1-1-ETW-8	2.9564	0.0160

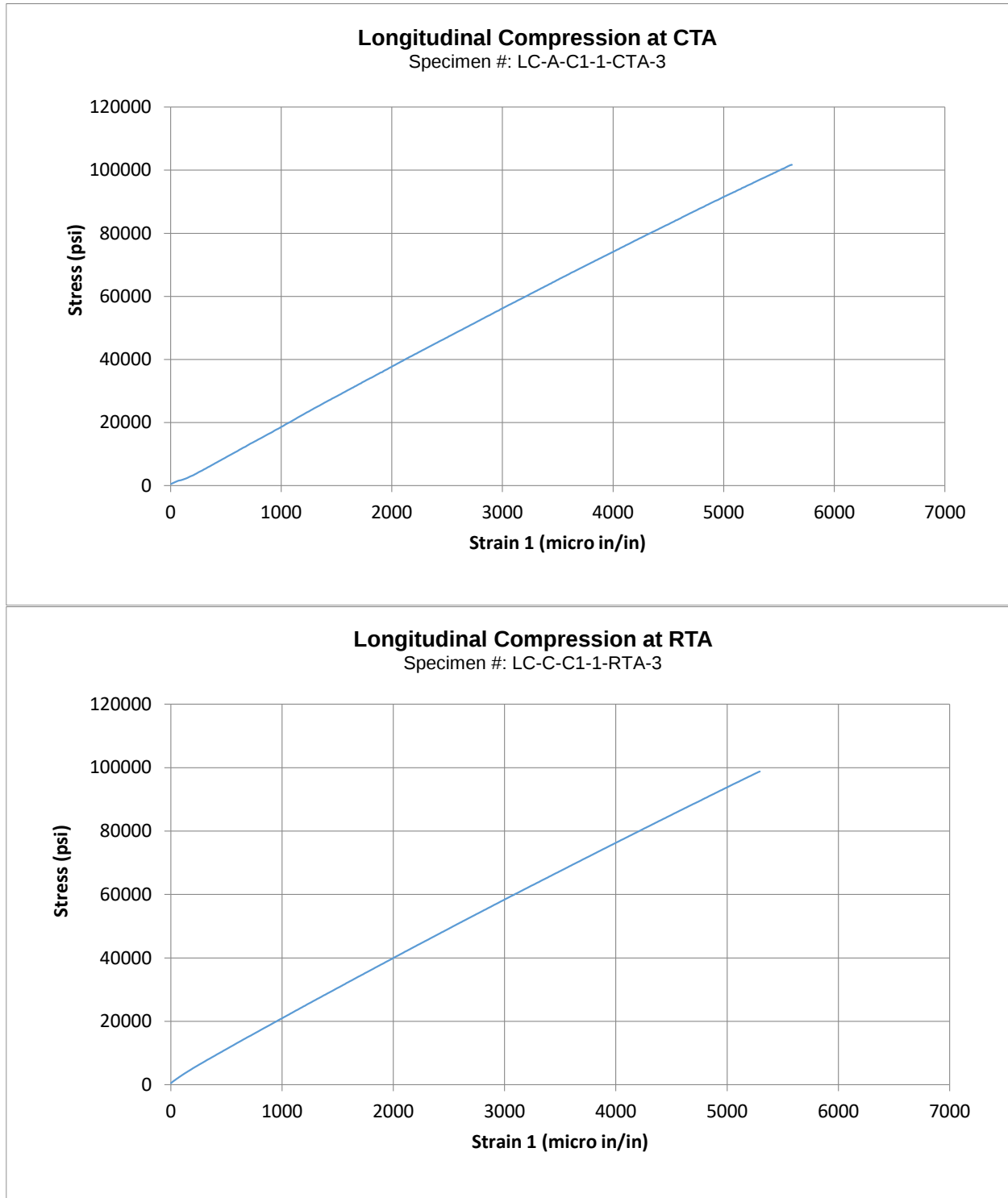
6. Full Stress vs. Strain Curve

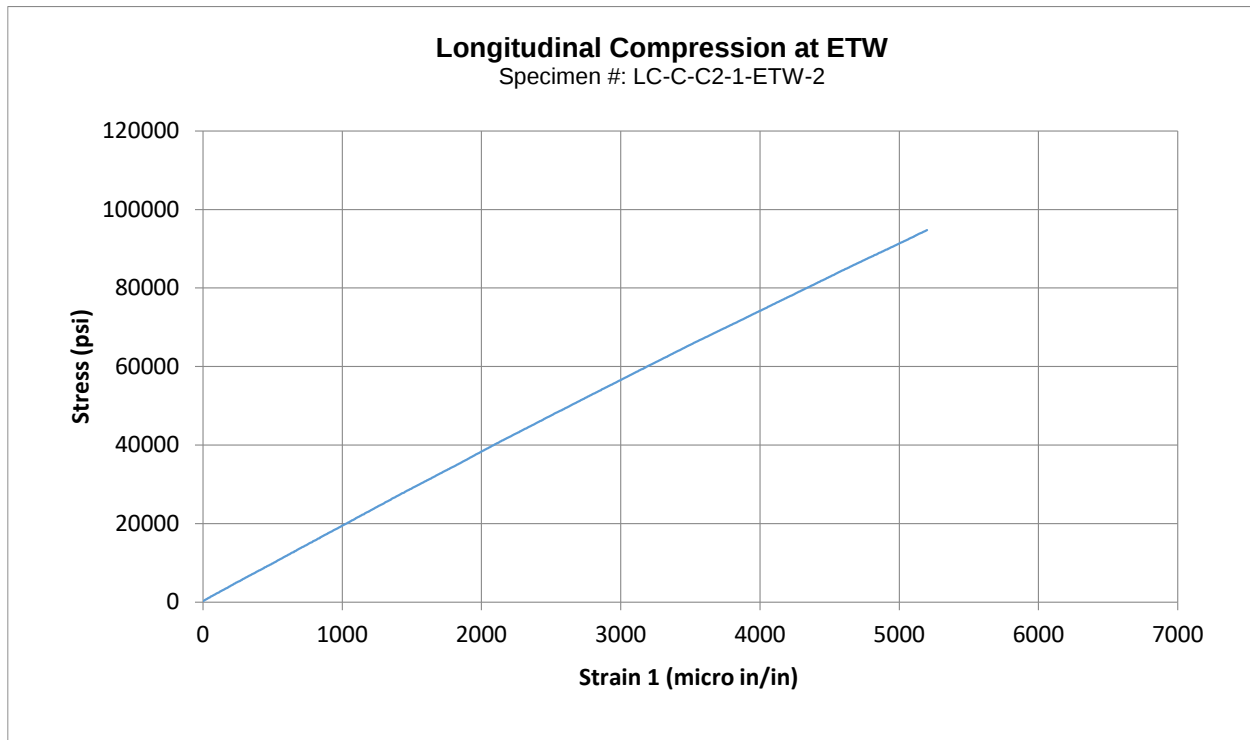
6.1 Longitudinal Tension Properties (LT)



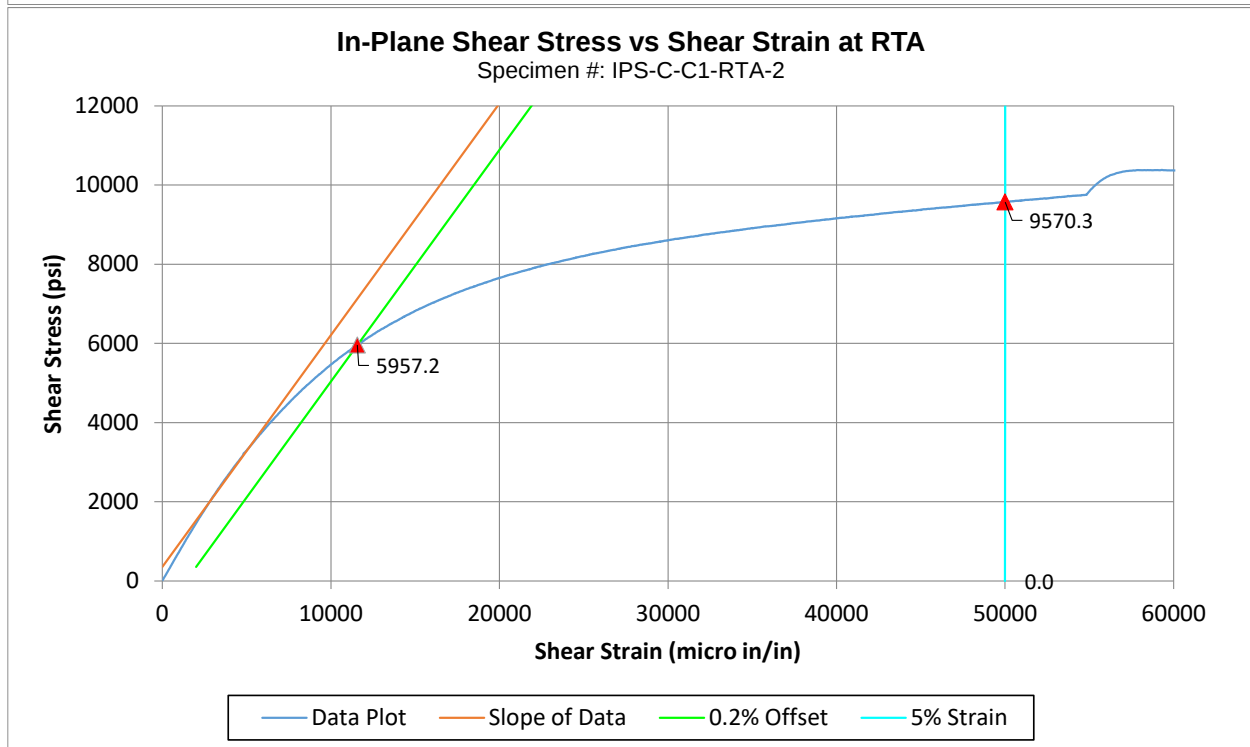
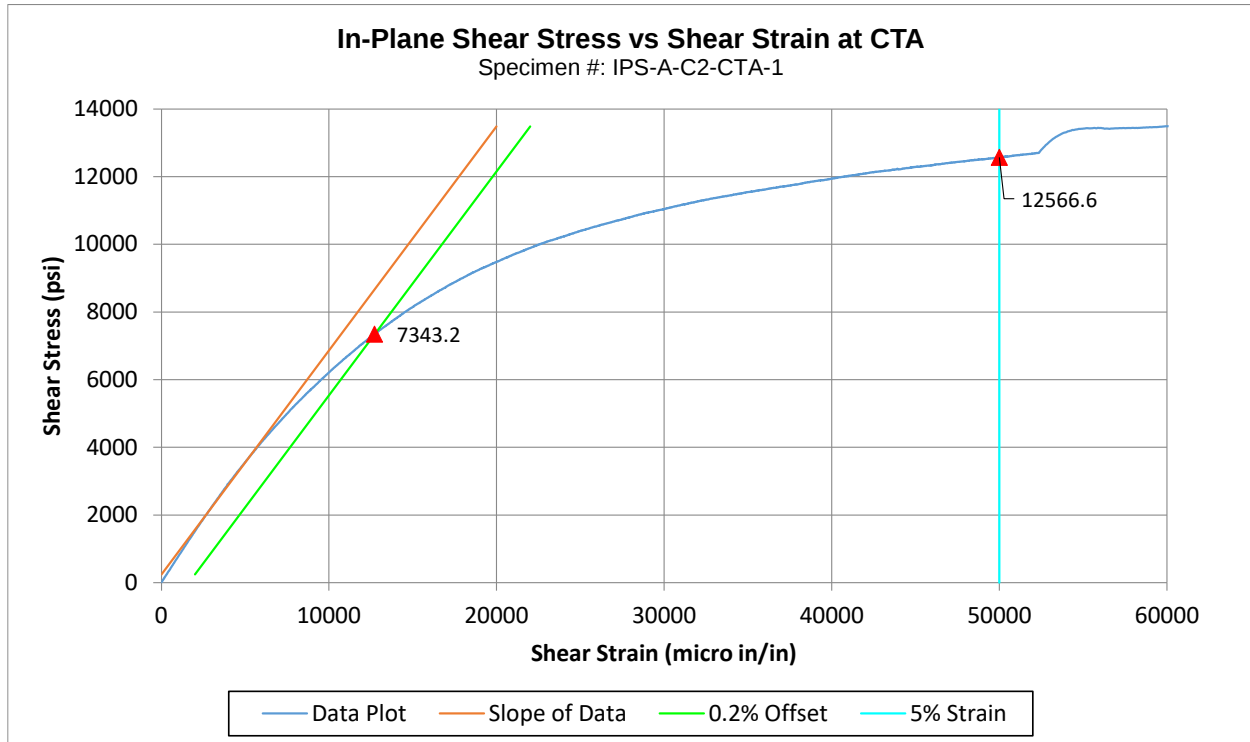


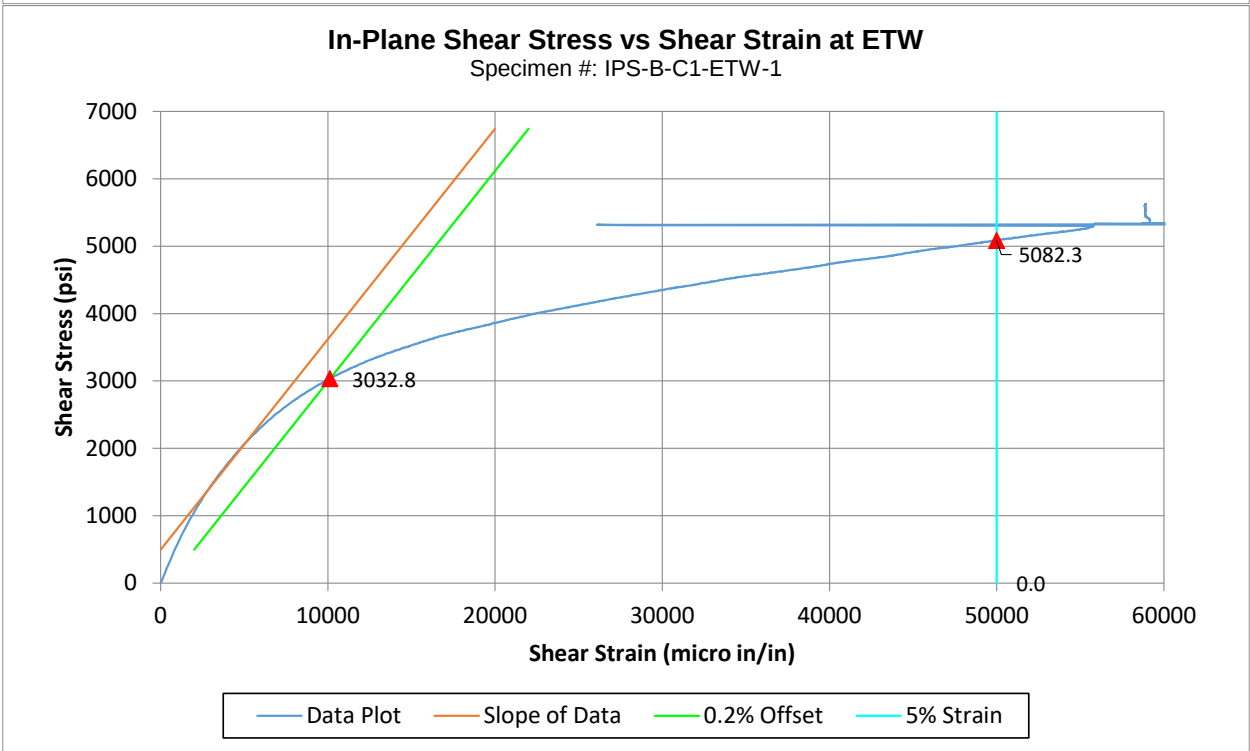
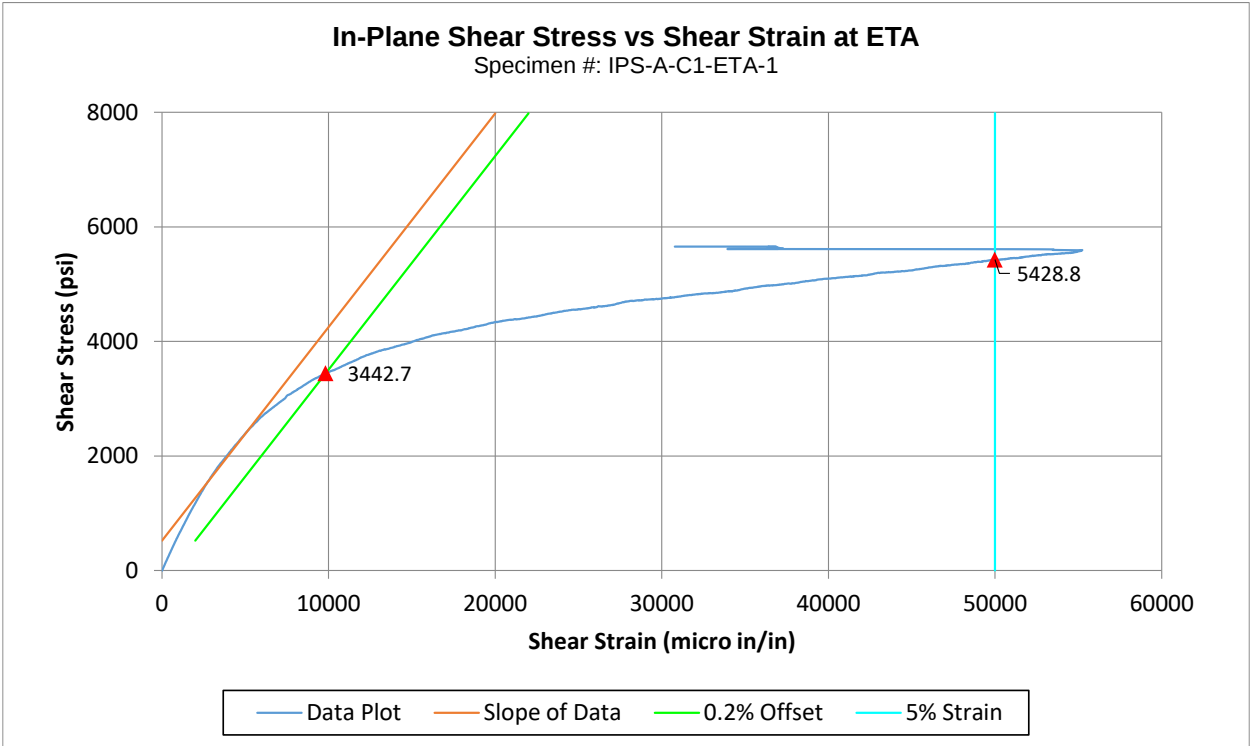
6.2 Longitudinal Compression Properties (LC)



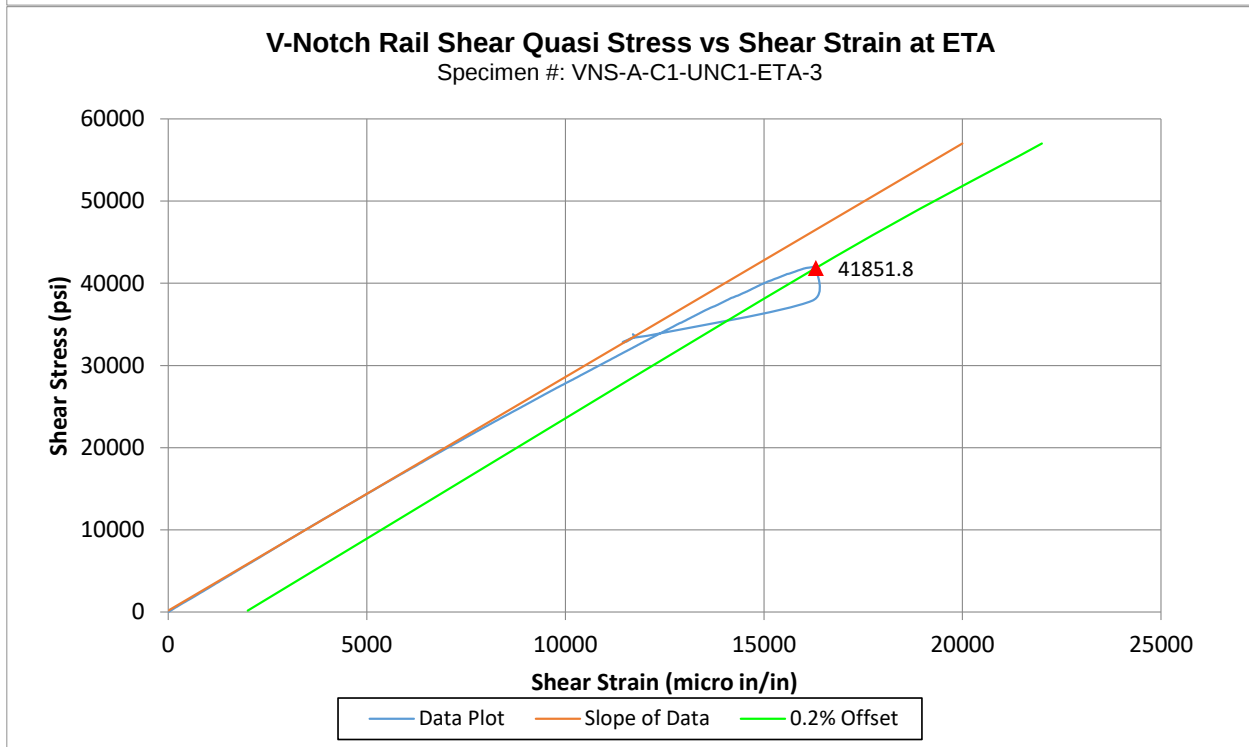
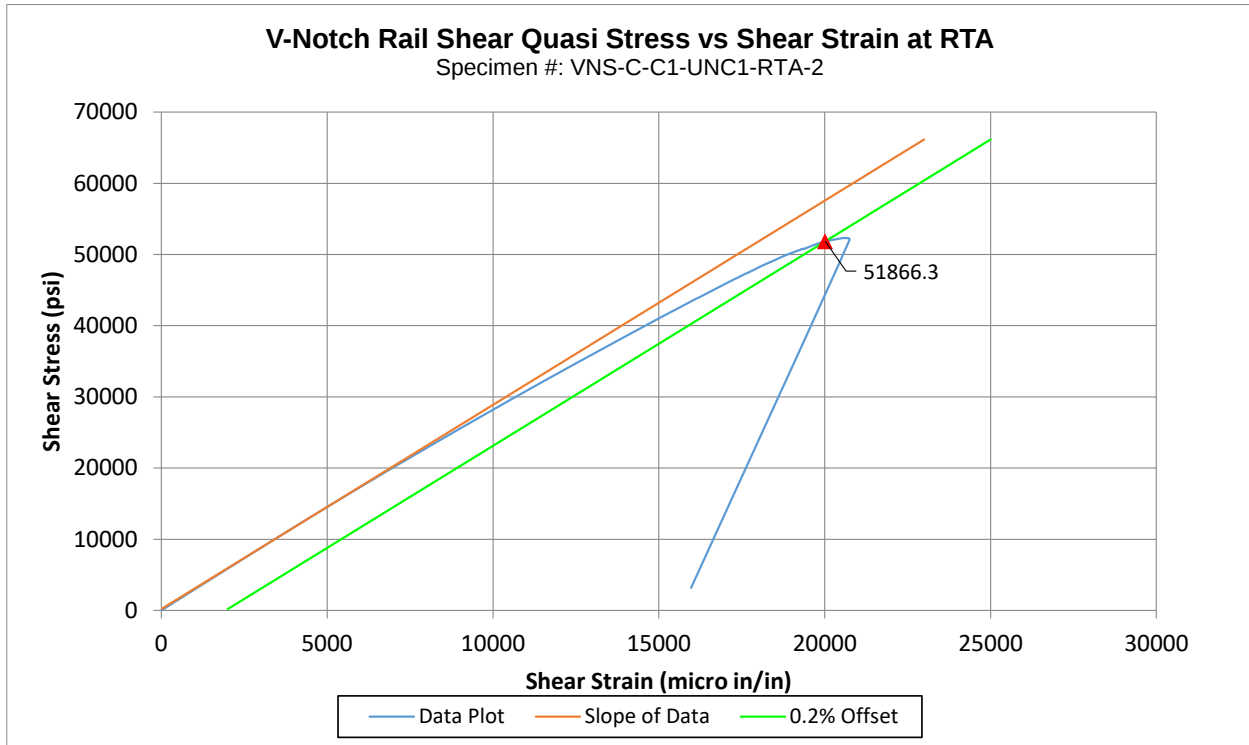


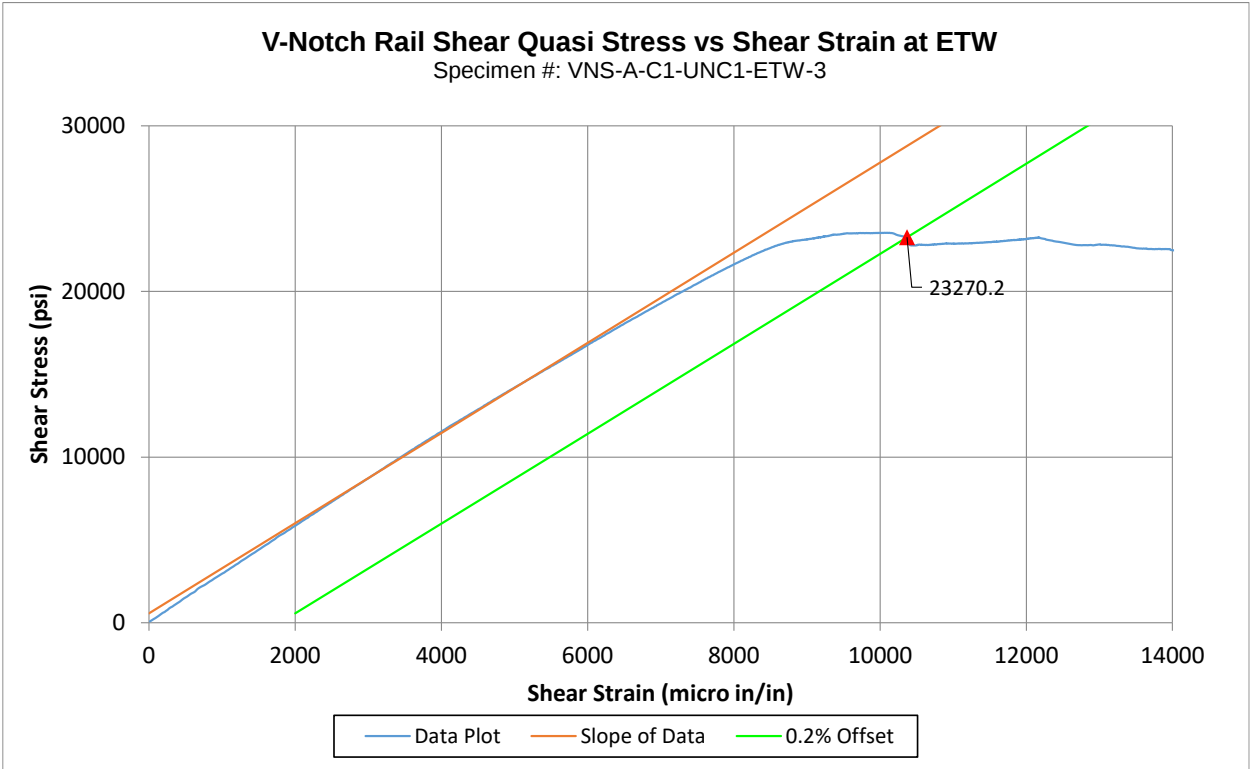
6.3 In-Plane Shear Properties (IPS)



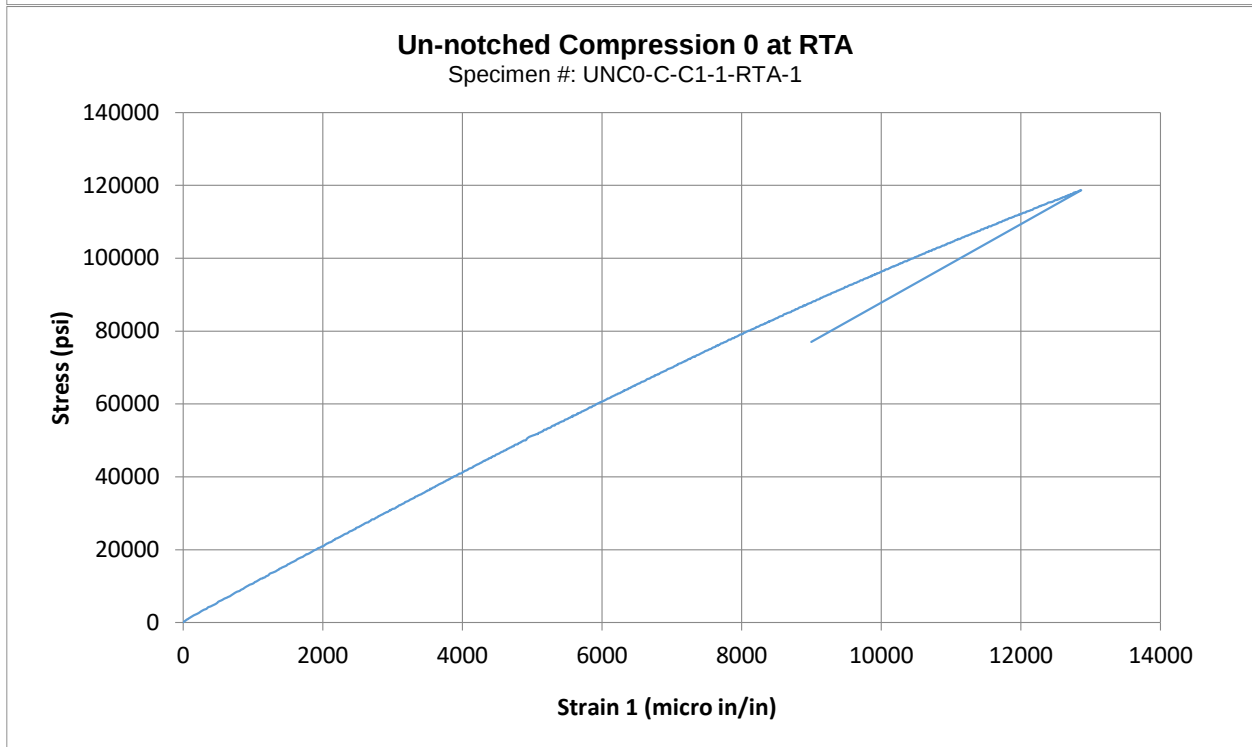
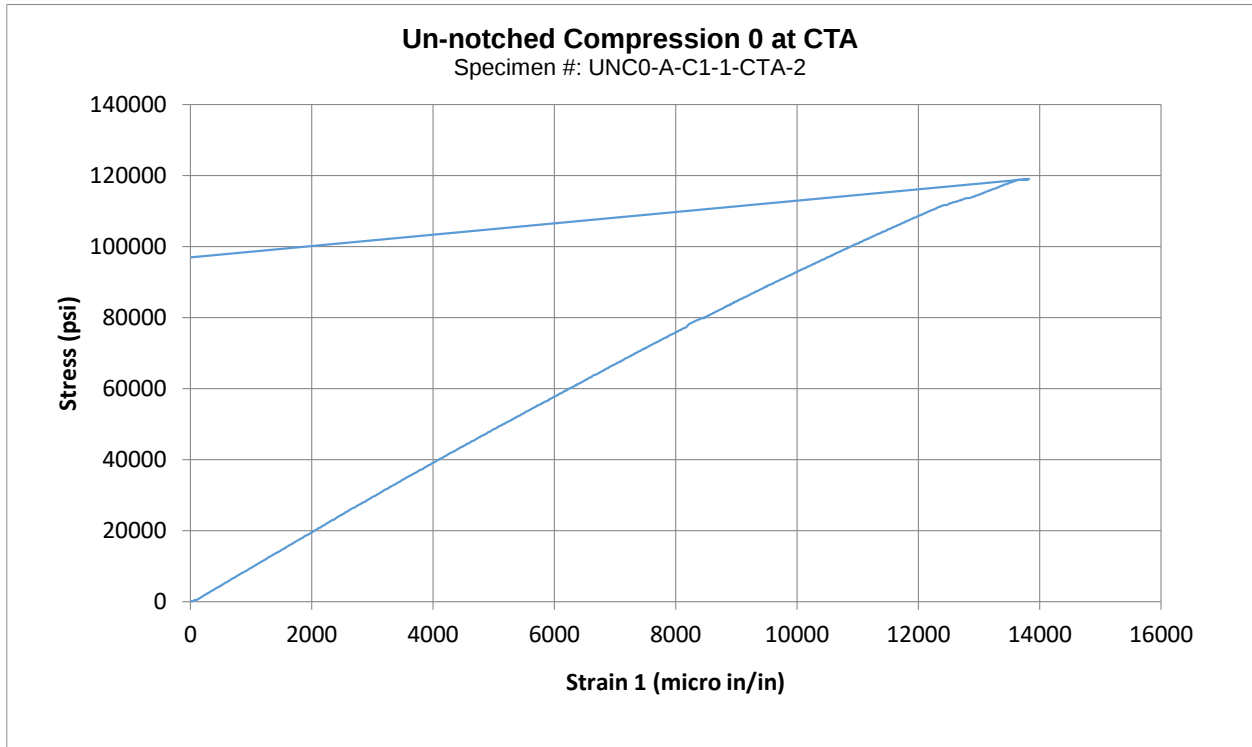


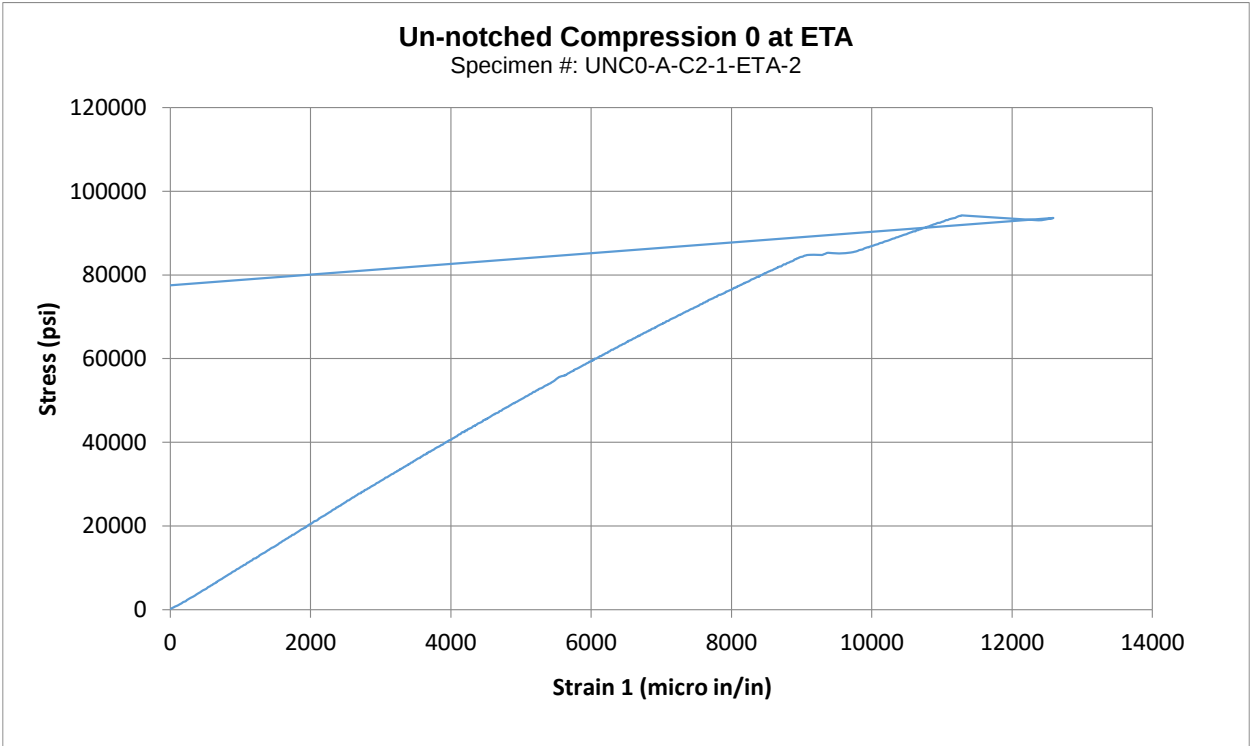
6.4 V-Notch Shear (VNS)



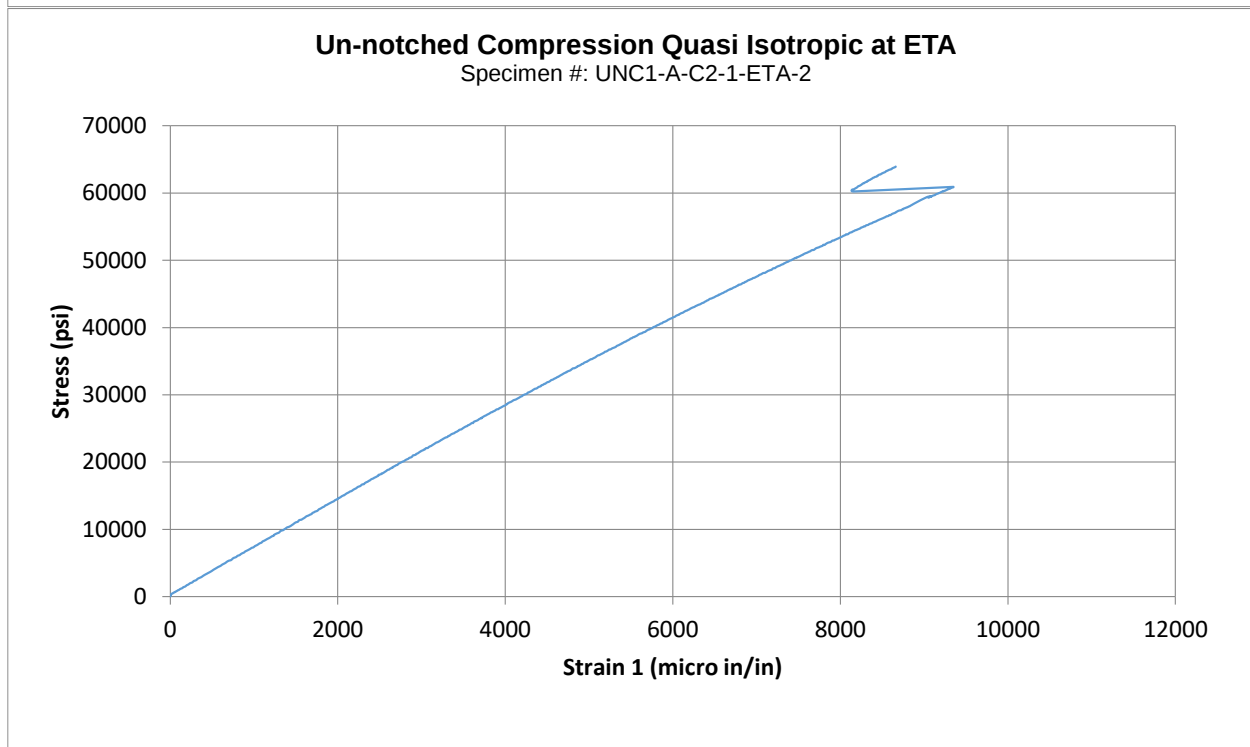
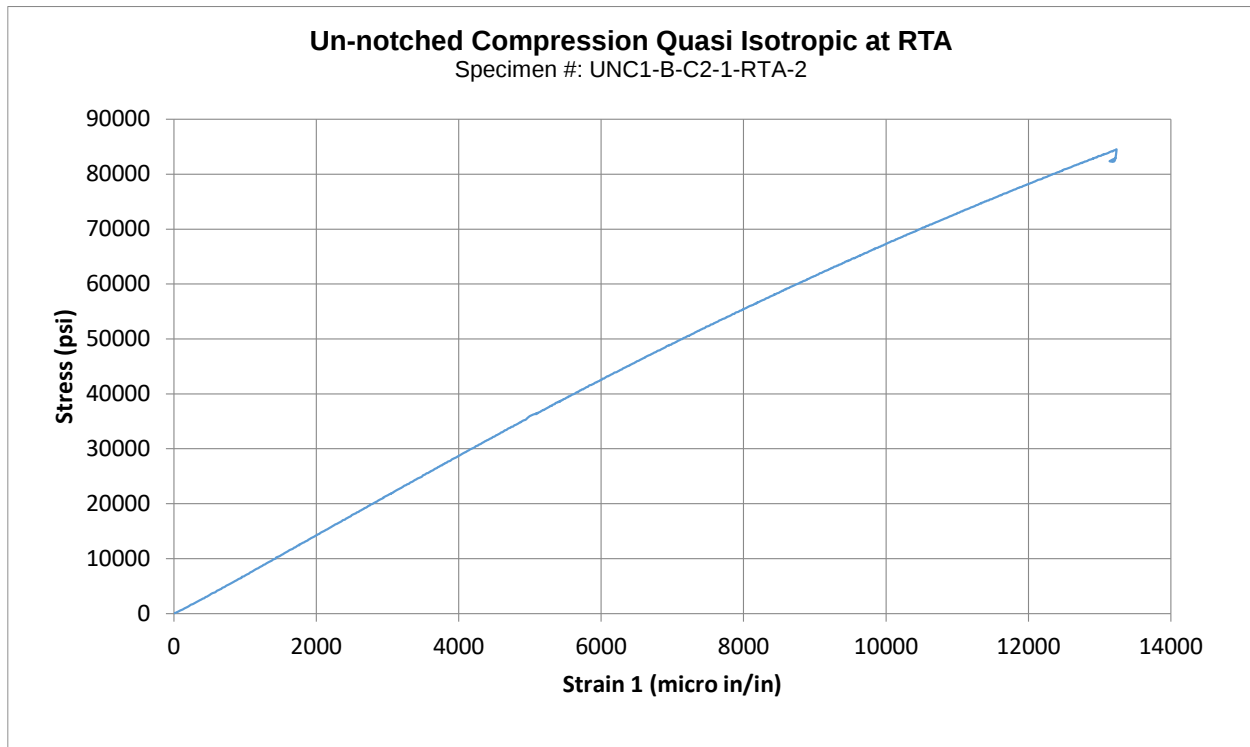


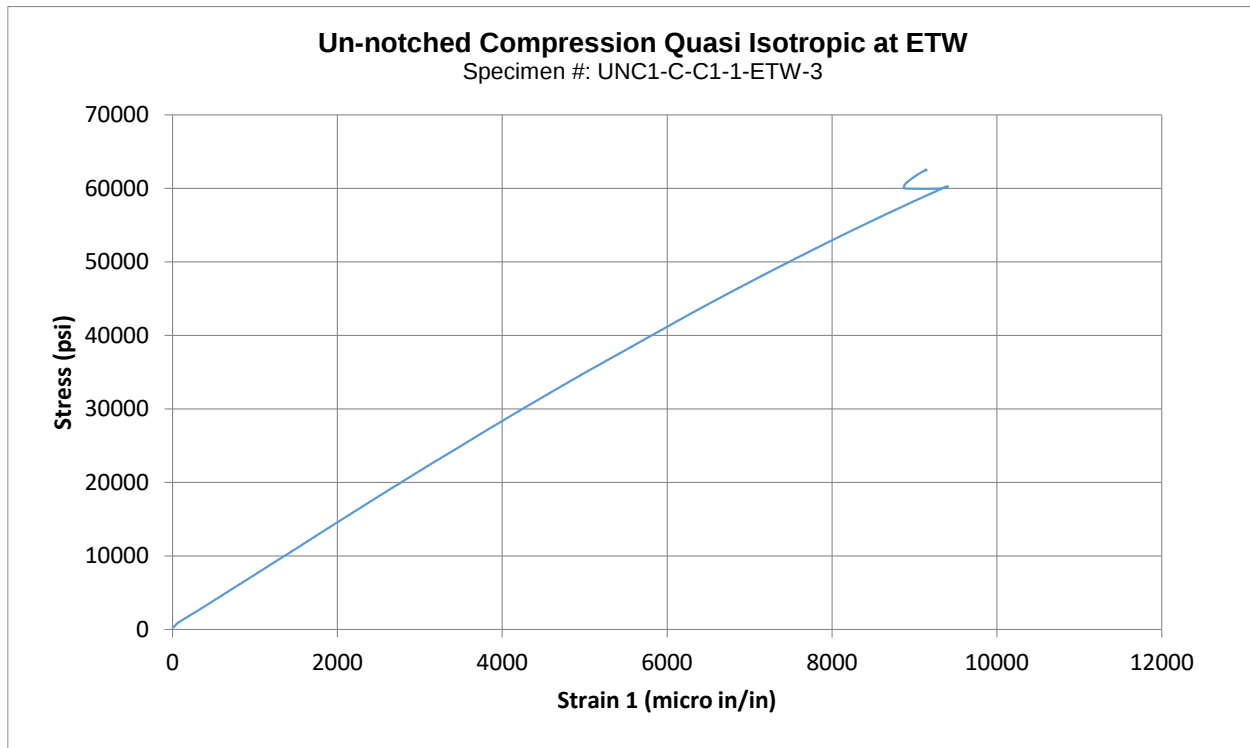
6.5 Unnotched Compression Properties (UNC0)



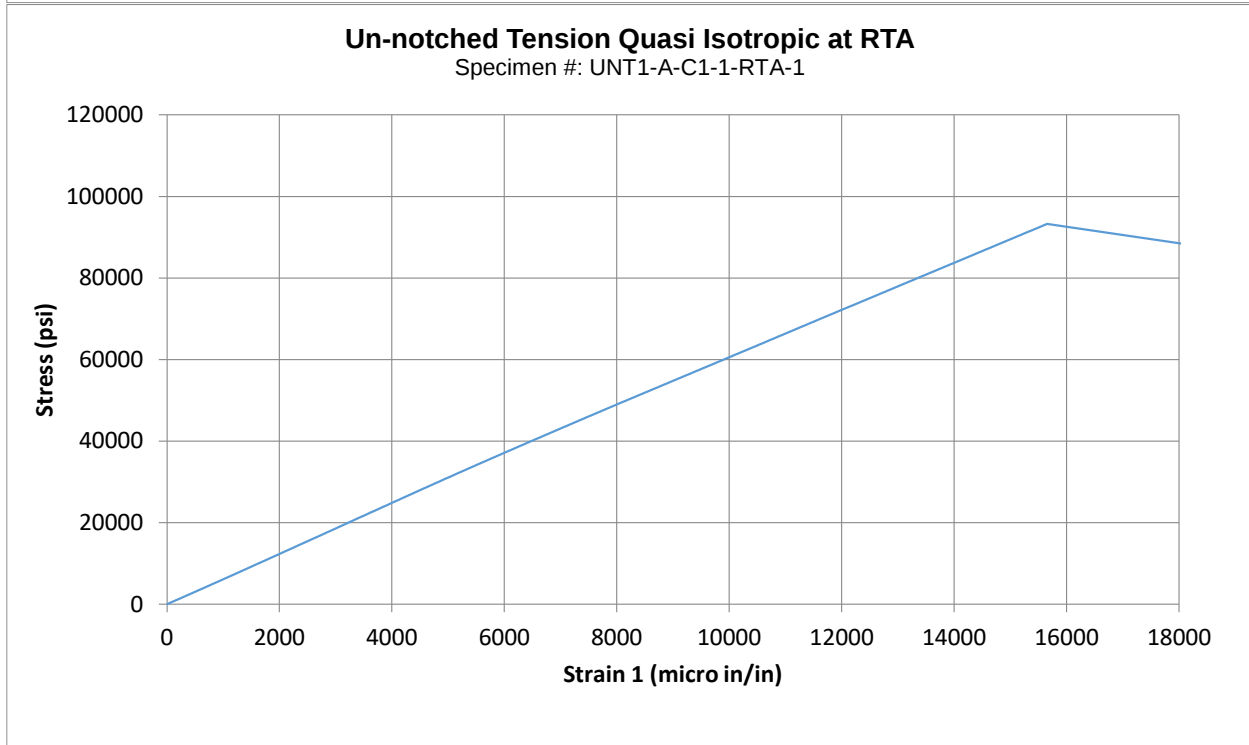
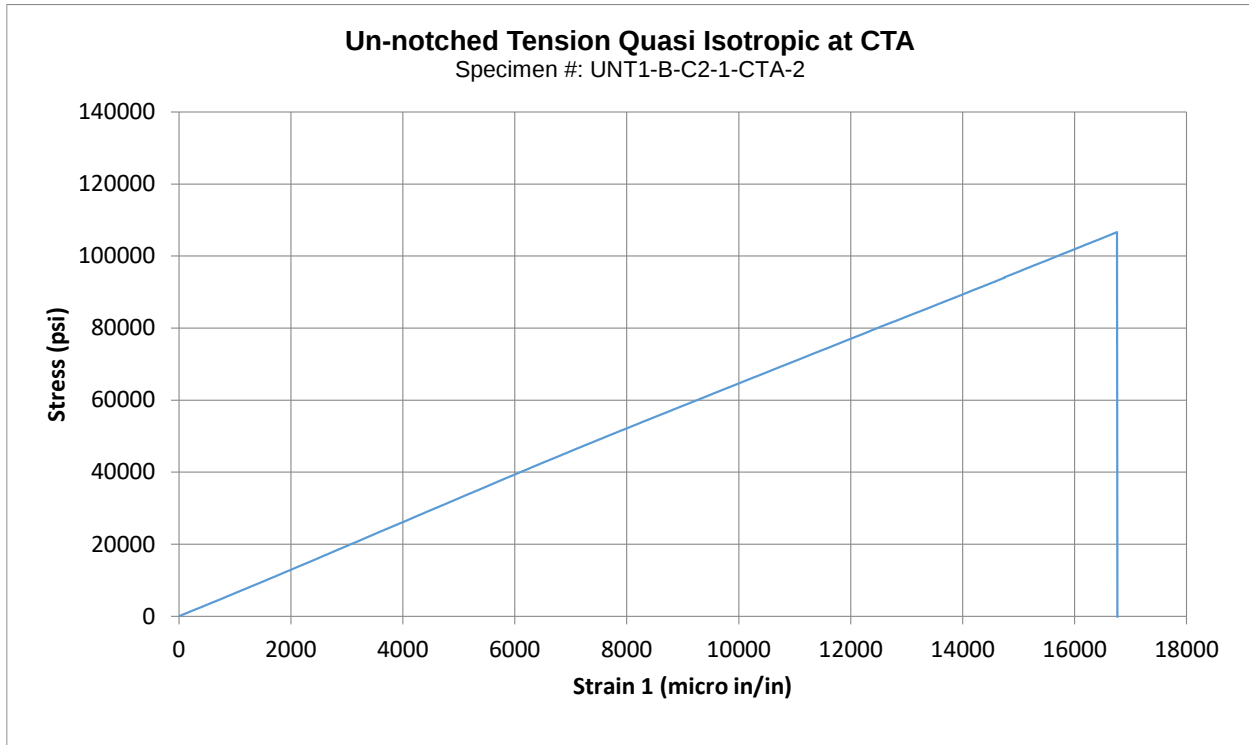


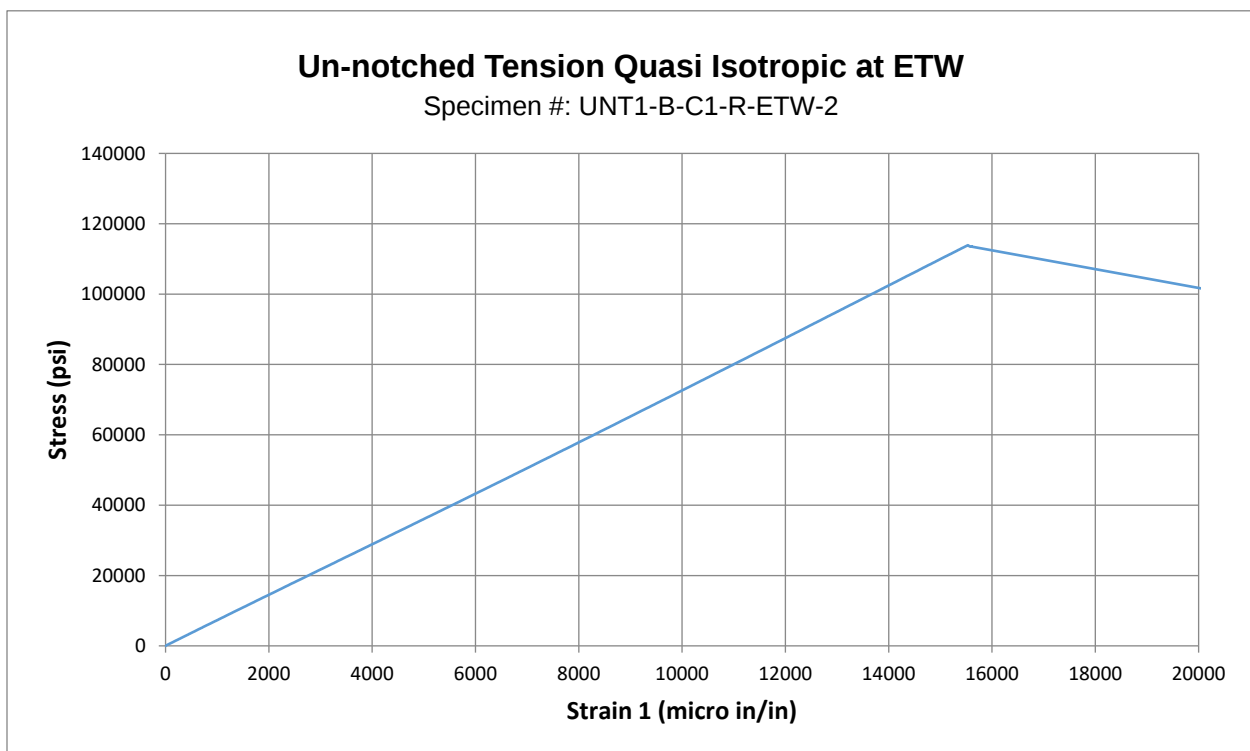
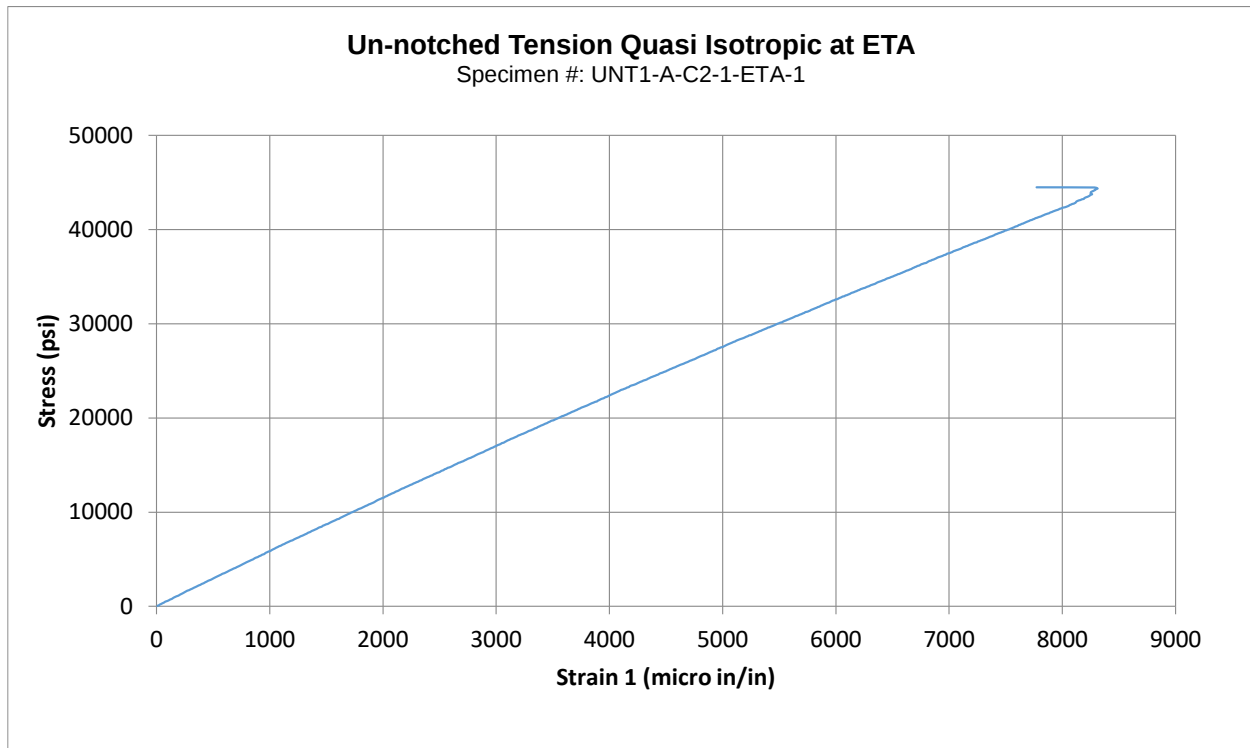
6.6 “25/50/25” Unnotched Compression 1 Properties (UNC1)





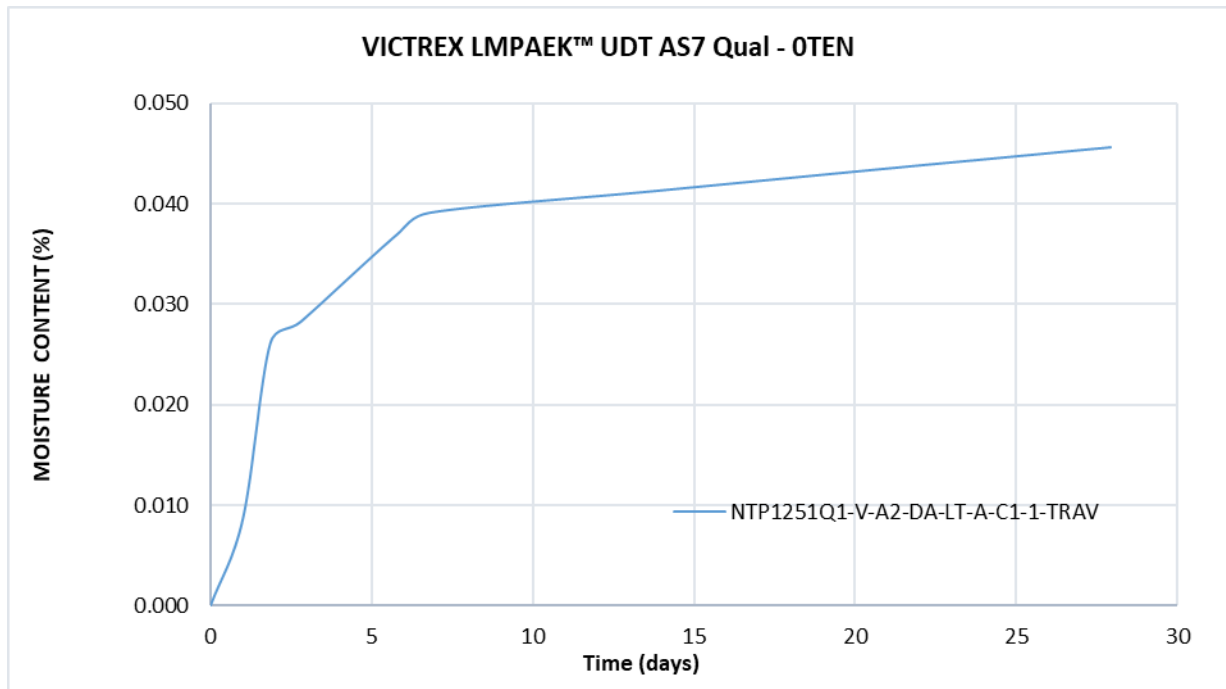
6.7 “25/50/25” Unnotched Tension 1 Properties (UNT1)



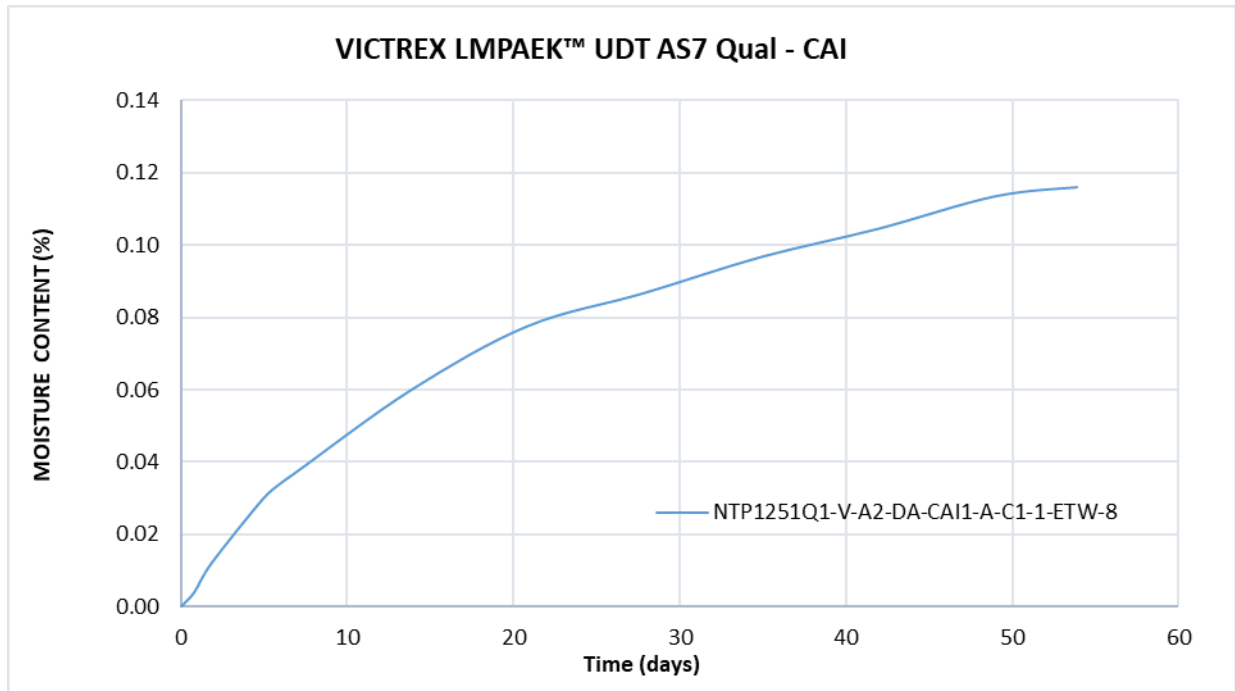


7. Moisture Conditioning Charts

7.1 Longitudinal Tension - Thinnest Panel



7.2 Compression After Impact - Thickest Panel



8. Thermal Results

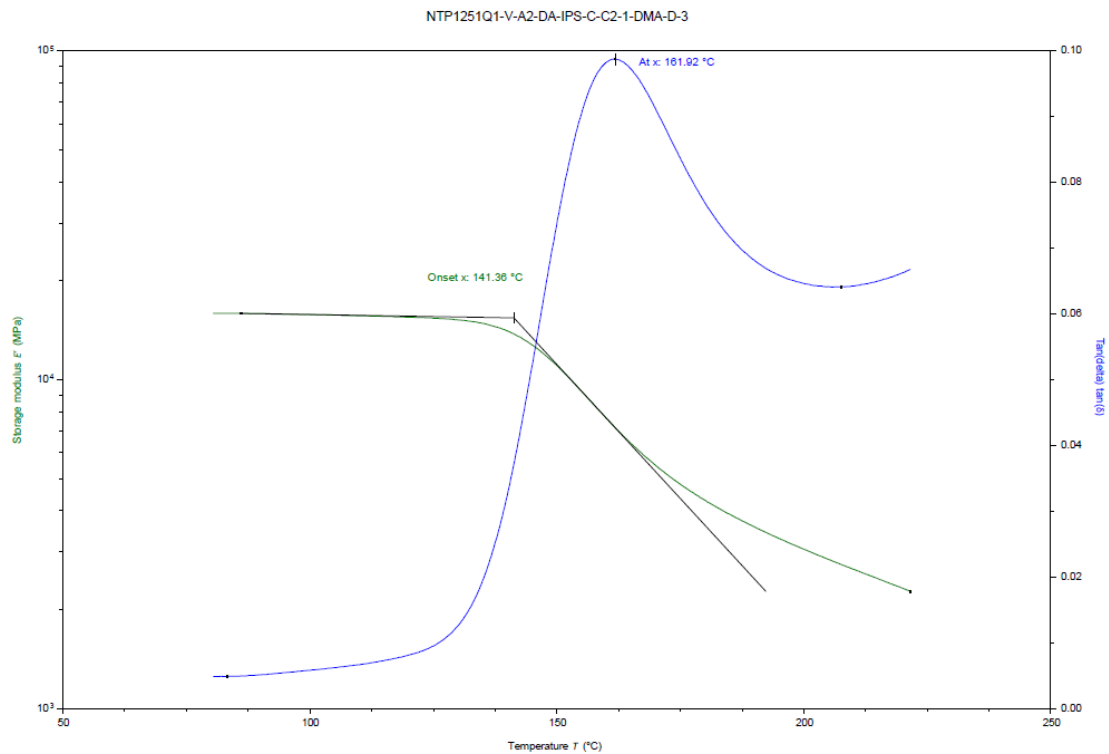
8.1 DMA Dry Batch A

DMA Results Summary				
VICTREX LMPAEK™ UDT AS7 Qual DMA Dry				
Sample ID	Onset Storage Modulus		Peak of Tangent Delta	
	T _g [°C]	T _g [°F]	T _g [°C]	T _g [°F]
NTP1251Q1-V-A2-DA-OHT1_FHT1-B-C2-R-DMA-D-X	142.5	288.5	164.7	328.4
NTP1251Q1-V-A2-DA-IPS-B-C1-1-DMA-D-X	141.5	286.7	161.6	322.9
NTP1251Q1-V-A2-DA-IPS-C-C2-1-DMA-D-X	141.2	286.2	161.5	322.8
NTP1251Q1-V-A2-DA-OHT2/FHT2-B-C1-1-DMA-D-X	139.4	283.0	158.8	317.8
NTP1251Q1-V-A2-DA-OHT2/FHT2-C-C1-1-DMA-D-X	139.8	283.7	159.2	318.6
NTP1251Q1-V-A2-DA-SSB2/UNT2/UNC2-C-C2-1-DMA-D-X	139.9	283.8	159.4	318.9
NTP1251Q1-V-A2-DA-UNC0-B-C1-1-DMA-D-X	143.4	290.2	166.4	331.5
NTP1251Q1-V-A2-DA-UNC0-C-C2-1-DMA-D-X	143.8	290.8	166.9	332.3
NTP1251Q1-V-A2-DA-UNC1-A-C1-1-DMA-D-X	142.6	288.6	163.4	326.0
Average	141.6	286.8	162.4	324.4
Standard Deviation	1.61	2.90	3.08	5.54

Sample: NTP1251Q1-V-A2-DA-IPS-C-C2-1-DMA-D-3
 Size: 50.00000 x 12.34000 x 2.98000 mm
 Procedure name: Oscillation Temperature Ramp

DMA850

File: NTP1251Q1-V-A2-DA-IPS-C-C2-1-DMA-D-3
 Operator: Ping
 Run Date: 8/10/2024 8:10:16 PM
 Instrument: DMA 850-0388



8.2 DMA Wet Batch A

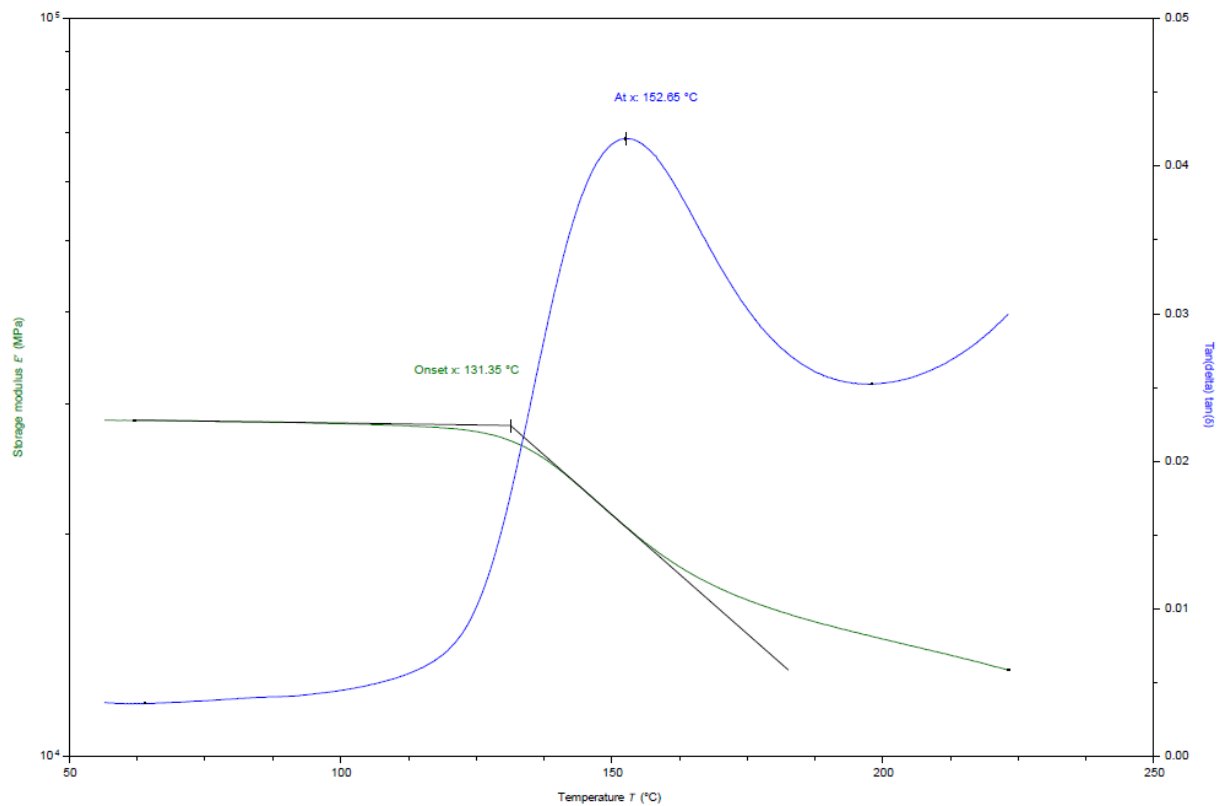
DMA Results Summary VICTREX LMPAEK™ UDT AS7 Qual DMA Wet				
Sample ID	Onset Storage Modulus		Peak of Tangent Delta	
	T _g [°C]	T _g [°F]	T _g [°C]	T _g [°F]
NTP1251Q1-V-A2-DA-OHT1/FHT1-B-C2-R-DMA-W-1	132.7	270.9	156.6	314.0
NTP1251Q1-V-A2-DA-IPS-B-C1-1-DMA-W-X	130.8	267.5	154.1	309.4
NTP1251Q1-V-A2-DA-IPS-C-C2-1-DMA-W-X	130.6	267.1	153.9	309.0
NTP1251Q1-V-A2-DA-OHT2/FHT2-B-C1-1-DMA-W-X	131.3	268.4	152.5	306.6
NTP1251Q1-V-A2-DA-OHT2/FHT2-C-C1-1-DMA-W-X	130.3	266.5	152.3	306.2
NTP1251Q1-V-A2-DA-SSB2/UNT2/UNC2-C-C2-1-DMA-W-X	129.9	265.8	152.2	306.0
NTP1251Q1-V-A2-DA-UNC0-B-C1-1-DMA-W-X	133.9	273.1	157.9	316.2
NTP1251Q1-V-A2-DA-UNC0-C-C2-1-DMA-W-X	133.3	271.9	158.5	317.3
NTP1251Q1-V-A2-DA-UNC1-A-C1-1-DMA-W-X	133.4	272.1	154.8	310.7
Average	131.8	269.3	154.8	310.6
Standard Deviation	1.53	2.75	2.39	4.30

Sample: NTP1251Q1-V-A2-DA-OHT2_FHT2-B-C1-1-DMA-W-3
 Size: 50.00000 x 12.77000 x 3.07000 mm
 Procedure name: Oscillation Temperature Ramp

DMA850

File: NTP1251Q1-V-A2-DA-OHT2_FHT2-B-C1-1-DMA-W-3
 Operator: Ping
 Run Date: 10/2/2024 4:37:29 PM
 Instrument: DMA 850-0398

NTP1251Q1-V-A2-DA-OHT2_FHT2-B-C1-1-DMA-W-3



TA Instruments Trios V5.6.0.87

8.3 Consolidated Laminate DSC Data

DSC Results Summary									
VICTREX LMPAEK™ UDT AS7 Qual DSC									
Sample #	Glass Transition Temperature		Melting Peak Temperature		Enthalpy of Melting ΔH_m [J/g]	Crystallization Peak Temperature		Enthalpy of Crystallization ΔH_c [J/g]	Degree of Crystallinity %
	T _g [°C]	T _g [°F]	T _m [°C]	T _m [°F]		T _c [°C]	T _c [°F]		
NTP1251Q1-V-A2-DA-IPS-C-C2-1-DSC-X	141.1	286.0	308.9	588.0	12.53	248.7	479.6	12.39	28.34
NTP1251Q1-V-A2-DA-IPS-B-C1-1-DSC-1	141.4	286.5	310.0	590.0	12.93	251.0	483.8	12.54	29.25
NTP1251Q1-V-A2-DA-OHT1/FHT1-B-C2-R-DSC-1	145.5	293.9	310.4	590.7	11.75	250.5	482.8	11.79	26.58
NTP1251Q1-V-A2-DA-OHT2/FHT2-B-C1-1-DSC-1	146.2	295.2	310.4	590.7	13.31	251.1	483.9	12.43	30.12
NTP1251Q1-V-A2-DA-OHT2/FHT2-C-C1-1-DSC-1	142.9	289.3	310.0	590.0	12.75	247.9	478.3	11.93	28.84
NTP1251Q1-V-A2-DA-SSB2/UNT2/UNC2-C-C2-1-DSC-1	140.7	285.2	309.9	589.7	11.99	248.5	479.3	11.96	27.12
NTP1251Q1-V-A2-DA-UNC0-B-C1-1-DSC-1	146.7	296.1	310.5	590.9	12.79	250.9	483.6	12.55	28.93
NTP1251Q1-V-A2-DA-UNC0-C-C2-1-DSC-1	145.5	293.9	310.0	590.1	12.58	248.6	479.5	12.51	28.47
NTP1251Q1-V-A2-DA-UNC1-A-C1-1-DSC-1	142.7	288.9	310.6	591.1	12.27	251.0	483.8	12.63	27.75
Average	143.6	290.6	310.1	590.1	12.54	249.8	481.6	12.30	28.38
Standard Deviation	2.371	4.267	0.520	0.937	0.482	1.320	2.376	0.319	1.091

9. Deviations

- a. Mode 1 and mode 2 specimens were not tested. The insert to facilitate crack separation may have fused with the laminate during consolidation. An initial crack was not achievable and testing was not completed.
- b. SSB1 panels do not have a balanced layup. All plies are present and there is correct ply count but the opposing 45° ply was not rotated, so all 45° plies in the laminate stacking faces one direction. RTA and ETA testing was completed before the discrepancy was noted and the data has been reported for REFERENCE.
- c. Replacement panels were sent for UNT1, OHT1, and FHT1 because layup of initial panels sent were not symmetrical. To help cost savings, during the retest, ETA testing was not completed.