

GC-70-ULS: Product Specifications

GC-70-ULS: UNIDIRECTIONAL FIBERGLASS WITH 50/50 WOVEN INLAY

A continuous unidirectional "E" fiberglass combined with a 50/50 woven fiberglass inlay that has high strength and stiffness along the longitudinal (0) axis and provides cross strength (90 degrees to the longitudinal axis). GC-70-ULS is manufactured with a proprietary pulforming process in which all glass fibers are pretensioned and aligned during the impregnation and curing process.

Applications

- Structural Components
- Infrastructure Reinforcement
- Archery Bow Limbs
- Industrial Springs

Sizing

Width: .1.50" to 18.00"

Thickness: .040" to .080"

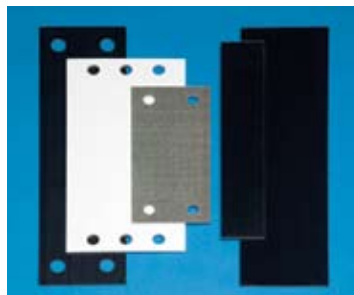
Length: 6" to 120"

Color

Clear, White, Black, Gray, Brown, Red, Blue

Finish

The material is normally supplied with one surface prepared for bonding but can also be supplied with a bonding surface on both sides.



[Physical and Mechanical Properties \(other side\)](#)

Contact us, or visit www.gordoncomposites.com for additional product information.

Gordon Composites, Inc.

2350 Air Park Way
Montrose, CO 81401

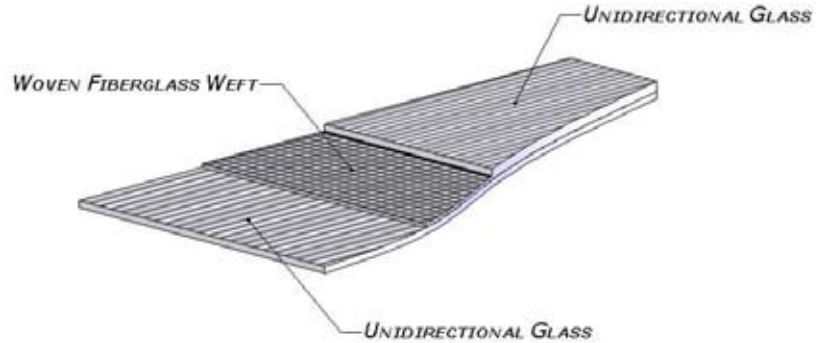
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GC-70-ULS: Physical and Mechanical Properties

GC-70-ULS: UNIDIRECTIONAL FIBERGLASS WITH A 50/50 WOVEN INLAY



Physical and Mechanical Properties

PROPERTY DESCRIPTION (ORIENTATION and MATERIAL CONSTANT)	UNITS	TEST METHOD	MIN VALUE	AVG. VALUE
PRODUCT TYPE **		ASTM D3647	UNI-WOVEN	UNI-WOVEN
GLASS CONTENT BY WEIGHT	%	ASTM D2584	68	70
DENSITY	lbs./c.i.	ASTM D1505	.067	.068
FIBER ORIENTATION	0°/ 90°	ASTM D3647		0/90
FLEX STRENGTH, 0° ***	KSI	ASTM D790	184	210
FLEX MODULUS, 0° ***	MSI	ASTM D790	5.1	6
TENSILE STRENGTH, 0°, (τS_{11})	KSI	ASTM D3039	130	152
TENSILE MODULUS of ELASTICITY, 0°, (τE_{11})	MSI	ASTM D3039	5.6	6.0
ULTIMATE TENSILE STRAIN, 0°, (τ_{11})	%	ASTM D3039	2.3	2.5
TENSILE STRENGTH, 90°, (τS_{22})	KSI	ASTM D3039		
TENSILE MODULUS of ELASTICITY, 90°, (τE_{22})	MSI	ASTM D3039		
POISSON'S RATIO, 0°/ 90°, (ν_{12}) tension		ASTM D3039		
COMPRESSION STRENGTH, 0°, (τS_{11})	KSI	ASTM D3410	77.7	111
COMPRESSION MODULUS OF ELASTICITY, 0°, (τE_{11})	MSI	ASTM D3410	5.46	6.0
ULTIMATE COMPRESSION STRAIN, 0°, (τE_{11})	%	ASTM D3410	1.4	1.9
COMPRESSION STRENGTH, 90°, (τS_{22})	KSI	ASTM D3410		
COMPRESSION MODULUS OF ELASTICITY, 90°, (τE_{22})	MSI	ASTM D3410		
POISSON'S RATIO, 0°/ 90°, (ν_{12}) compression		ASTM D3410		
IN PLANE SHEAR SHEAR STRENGTH, (S_{12})	KSI	ASTM D5379		
IN PLANE SHEAR SHEAR MODULUS, (G_{12})	MSI	ASTM D5379		
INTER-LAMINAR SHEAR STRENGTH, (S_{23})	KSI	ASTM D5379		
INTER-LAMINAR SHEAR MODULUS, (G_{23})	MSI	ASTM D5379		
GLASS TRANSITION TEMP.	(°F)	ASTM D3418	240	250
WATER ABSORPTION	%	ASTM D570		.04

E is Elastic Modulus

G is Shear Modulus

S is strength

ν is Poisson's ratio

τ is tension

C is compression

ϵ is strain

"1" is parallel to fiber direction (length)

"2" is transverse to fiber direction (width)

"3" is vertical to fiber direction (thickness)

**50/50 Scrim Fiberglass Cloth Inlay, 1.45 oz. per square yd.

***Note: Strength Values developed from ASTM D790 are dependent on thickness.

As thickness increased flex strength decreased. The test data above is based on a test thickness of .060"

Origination Date 1-3-02 Revised 4-1-08

Because Gordon Composites, Inc. has no control over the ways in which others may use its products, it cannot guarantee or accept responsibility for the effectiveness or the safety of any possible or suggested design or application of articles containing its products. Each user of the material should perform their own tests to determine the suitability of the material or design, or both for their particular use or application.



Engineered Structural Materials

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