

GC-70-UL: Product Specifications

GC-70-UL: UNIDIRECTIONAL FIBERGLASS LAMINATE

A continuous unidirectional "E" fiberglass/epoxy laminate that has high strength and stiffness along the longitudinal (0) axis. GC-70-UL 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
- Sail Battens
- Industrial Springs
- Prosthetics
- Snow & Water Ski Reinforcements

Sizing

Width: .150" to 18.00"

Thickness: .018" to .080"

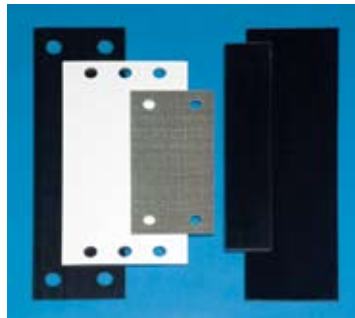
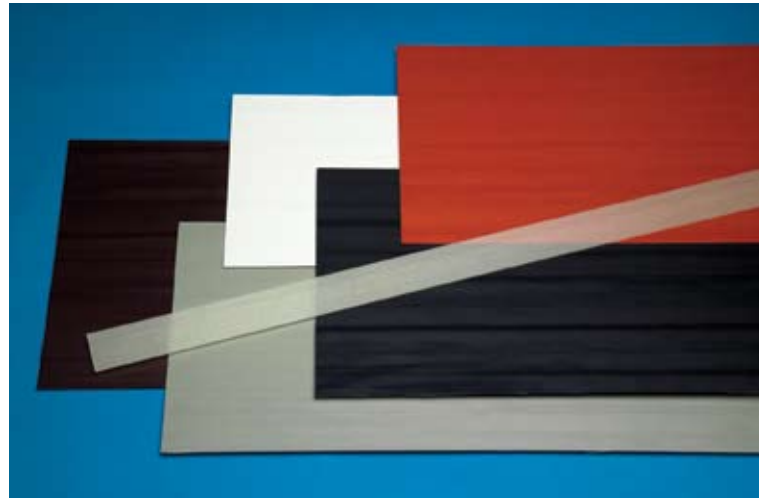
Length: 6" to 120" strips (Also available in roll form with lengths up to 250 ft.)

Color

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

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.

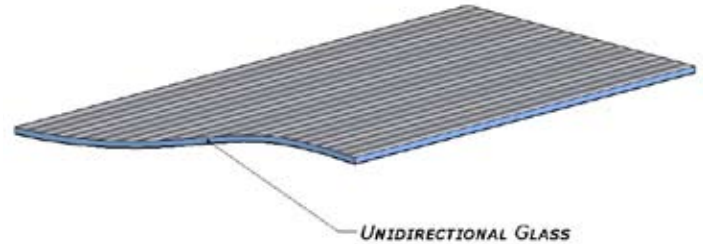
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FIBERGLASS LAMINATE**



Physical and Mechanical Properties

PROPERTY DESCRIPTION (ORIENTATION and MATERIAL CONSTANT)	UNITS	TEST METHOD	MIN VALUE	AVG. VALUE
PRODUCT TYPE		ASTM D3647	UNIDIRECTIONAL	UNIDIRECTIONAL
GLASS CONTENT BY WEIGHT	%	ASTM D2584	68	70
DENSITY	lbs./c.i.	ASTM D1505	.067	.068
FIBER ORIENTATION	0°/ 90°	ASTM D3647		0
FLEX STRENGTH, 0° ***	KSI	ASTM D790	184	208
FLEX MODULUS, 0° ***	MSI	ASTM D790	5.1	5.8
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	6.0	6.8
TENSILE MODULUS of ELASTICITY, 90°, (τE_{22})	MSI	ASTM D3039	1.3	1.5
POISSON'S RATIO, 0°/ 90°, (ν_{12}) tension		ASTM D3039		.29
COMPRESSION STRENGTH, 0°, (S_{11})	KSI	ASTM D3410	77.7	111
COMPRESSION MODULUS OF ELASTICITY, 0°, (E_{11})	MSI	ASTM D3410	5.46	6.0
ULTIMATE COMPRESSION STRAIN, 0°, (ϵ_{11})	%	ASTM D3410	1.4	1.9
COMPRESSION STRENGTH, 90°, (S_{22})	KSI	ASTM D3410	20.6	21.2
COMPRESSION MODULUS OF ELASTICITY, 90°, (E_{22})	MSI	ASTM D3410	1.5	1.8
POISSON'S RATIO, 0°/ 90°, (ν_{12}) compression		ASTM D3410		.29
IN PLANE SHEAR STRENGTH, (S_{12})	KSI	ASTM D5379	6.29	7.4
IN PLANE SHEAR MODULUS, (G_{12})	MSI	ASTM D5379	.5	.65
INTER-LAMINAR SHEAR STRENGTH, (S_{23})	KSI	ASTM D5379	3.6	4.9
INTER-LAMINAR SHEAR MODULUS, (G_{23})	MSI	ASTM D5379	.4	.49
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

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Engineered Structural Materials

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