

GLASS REINFORCED PLASTIC

DATASHEET



Step on Safety

Generic Material Properties

Mechanical Data

Property (coupon values)	ASTM Test	Units	Polyester
Tensile Strength (LW)	D638	psi	33000
Tensile Strength (CW)	D638	psi	7500
Tensile Modulus (LW)	D638	10 ⁶ psi	2.5
Tensile modulus (CW)	D638	10 ⁶ psi	0.8
Compressive Strength (LW)	D695	psi	33000
Compressive Strength (CW)	D695	psi	16500
Compressive Modulus (LW)	D695	10 ⁶ psi	3.0
Compressive Modulus (CW)	D695	10 ⁶ psi	1.0
Flexural Strength (LW)	D790	psi	33000
flexural Strength (CW)	D790	psi	11000
Flexural Modulus (LW)	D790	10 ⁶ psi	1.6
Flexural Modulus (CW)	D790	10 ⁶ psi	0.8
Modulus of Elasticity	Full Section ²	10 ⁶ psi	2.8-3.2
(Channels)	Full Section ²	10 ⁶ psi	2.8
(Square and Rectangular Tubes)	Full Section ²	10 ⁶ psi	3.2
Shear Modulus	Full Section ²	10 ⁶ psi	0.42
Interlaminar Shear (LW) ³	D2344	psi	4,500
Shear Strength By Punch (PF)	D732	psi	5,500
Notched Izod Impact (LW)	D256	ft-lbs/in	28
Notched Izod Impact (CW)	D256	ft-lbs/in	4.0
Maximum Bearing Strength (LW)	D953	psi	30,000
Maximum Bearing Strength (CW)	D953	psi	18,000
Poisson's Ratio (LW)	D3039	in/in	0.35
Poisson's Ratio (CW)	D3039	in/in	0.15
In-plane Shear (LW)	Modified D2344 ⁴	psi	7,000

FOR MORE INFORMATION

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Page 1 of 2

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Barcol Hardness ¹	D2583		45
Water Absorption	D570	%Max	0.6
Density	D792	lbs/in ³	0.060-0.070
Specific Gravity	D792		1.66-1.93
Coefficient of Thermal Expansion (LW)	D696	10 ⁻⁶ in/in/° F	4.4
Thermal Conductivity (PF)	C177	BTU-in/ft ² /hr/° F	4.0

Electrical Data

Property (coupon values)	ASTM Test	Units	Polyester
Arc Resistance (LW)	D495	seconds	120
Dielectric Strength (LW)	D149	KV/in	40
Dielectric Strength (PF)	D149	volts/mil	200
Dielectric Constant (PF)	D150	@60Hz	5.2

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