



Properties

Fiberglass Reinforced Structural Profiles

Gator-Shapes Structural profiles are produced in three resin systems. Stocked and non stocked standard structurals are available for many applications.

ISO Resin System – Isophthalic Polyester
 IFR Resin System – Isophthalic Polyester Class 1 FR
 VFR Resin System – Vinylester Class 1 FR

Property (coupon values)	ASTM Test	Units	ISO/IFR Resin System	VFR Resin System
Mechanical				
Tensile Strength (LW)	D638	psi	33,000	37,500
Tensile Strength (CW)	D638	psi	7,500	8,000
Tensile Modulus (LW)	D638	10 ⁶ psi	2.5	3.0
Tensile Modulus (CW)	D638	10 ⁶ psi	0.8	1.0
Compressive Strength (LW)	D695	psi	33,000	37,500
Compressive Strength (CW)	D695	psi	16,500	20,000
Compressive Modulus (LW)	D695	10 ⁶ psi	2.5	2.8
Compressive Modulus (CW)	D695	10 ⁶ psi	1.0	1.2
Flexural Strength (LW)	D790	psi	33,000	37,500
Flexural Strength (CW)	D790	psi	11,000	12,500
Flexural Modulus (LW)	D790	10 ⁶ psi	1.6	2.0
Flexural Modulus (CW)	D790	10 ⁶ psi	0.8	1.0
Modulus of Elasticity	Full Section	10 ⁶ psi	2.5	2.8
Shear Modulus (LW)		10 ⁶ psi	0.42	0.42
Short Beam Shear (LW)	D2344	psi	4,500	4,500
Shear Strength (PF)	D732	psi	5,500	6,000
Notched Izod Impact (LW)	D256	ft-lbs/in	28	30
Notched Izod Impact (CW)	D256	ft-lbs/in	4	5
Bearing Stress (LW)	D953	psi	30,000	30,000
Poisson's Ratio (LW)	D3039	in/in	0.36	0.36
Physical				
Barcol Hardness ¹	D2583		45	45
Water Absorption	D570	% Max	0.6	0.5
Density	D792	lbs/in ³	0.060–0.070	0.060–0.070
Specific Gravity	D792		1.66–1.93	1.66–1.93
Coefficient of Thermal Expansion (LW)	D696	10 ⁶ in/in/°F	4.4	4.4
Thermal Conductivity (PF)	C177	BTU-in/ft ² /hr/°F	4	4
Electrical				
Arc Resistance (LW)	D495	seconds	120	120
Dielectric Strength (LW)	D149	KV/in	40	40
Dielectric Strength (PF)	D149	volts/mil	200	200
Dielectric Constant (PF)	D150	@60Hz	5.2	5.2

¹ Gator-Shapes utilizes a synthetic surface veil that lowers the Barcol Hardness, but does not reflect lack of cure.



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Flammability (1525 & 1625)	Test	IFR Value	VFR Value
Flammability Classification	UL94	(VO)	(VO)
Tunnel Test	ASTM E-84	25 Max	25 Max
Flammability Extinguishing	ASTM D635	Self Extinguishing	Self Extinguishing
NBS Smoke Chamber	ASTM E662	650	650
Flame Resistance (Ignition/Burn)	FTMS 406-2023	55/30 (seconds)	55/30 (seconds)

LW = lengthwise

CW = crosswise

PF = perpendicular to laminate face