

Pultruded Composites Properties

Properties	Test Procedures	Solid		Structural Profiles	
		Rod	Bar	Longitudinal	Transverse
Glass Content, % by weight	ASTM D2584	75	65	47	-
Tensile Strength, psi x 10 ³	ASTM D3916/ D638	120	100	42.4	10.1
Tensile Modulus, psi x 10 ⁶	ASTM D3916/ D638	6.0	5.5	2.66	1.05
Flexural Strength, psi x 10 ³	ASTM D4476/ D790	120	100	64.6	21.4
Flexural Modulus, psi x 10 ⁶	ASTM D4476/ D790	6.0	5.5	2.09	1.24
Compressive Strength psi x 10 ³	ASTM D695	70	60	26.25	-
Barcol Hardness	ASTM D2583	60	50	50	-
Izod Impact, ft.-lb./in.	ASTM D256	40	40	40	-
Specific Gravity	ASTM D792	2.0	1.9	1.72	-
Density, lbs./in ³	ASTM D792	.073	.069	.062	-
Water Absorption, % (weight increase after 24 hours immersion)	ASTM D570	.05	.10	.70	-
Coefficient of Thermal Expansion, in./in./°C x 10 ⁻⁶ (Axial)	ASTM D696	5.3	-	-	-
Dielectric Strength, volts/ mil. (Method A, type 3 electrode)	ASTM D149	140	-	-	-
Dielectric Strength, kv./in. (Method A, type 1 electrode)	ASTM D149	60	-	-	-

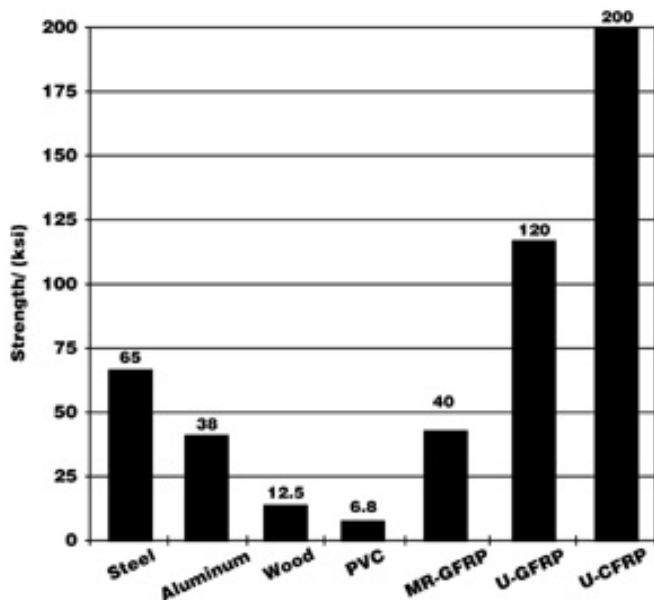
Dielectric Constant, 60 Hz	ASTM D150	5.4	-	-	-
Arc Resistance, seconds	ASTM D495	120	-	-	-
Volume Resistivity, ohm-cm x 10 ¹⁴	ASTM D257	2.5	-	-	-

The above data is representative of a specific formula and not typical of all custom formulated products. The information given is based on data received of others and is presented with every belief in its accuracy. Seller makes no warranty except that the goods shall meet specifications of buyer.

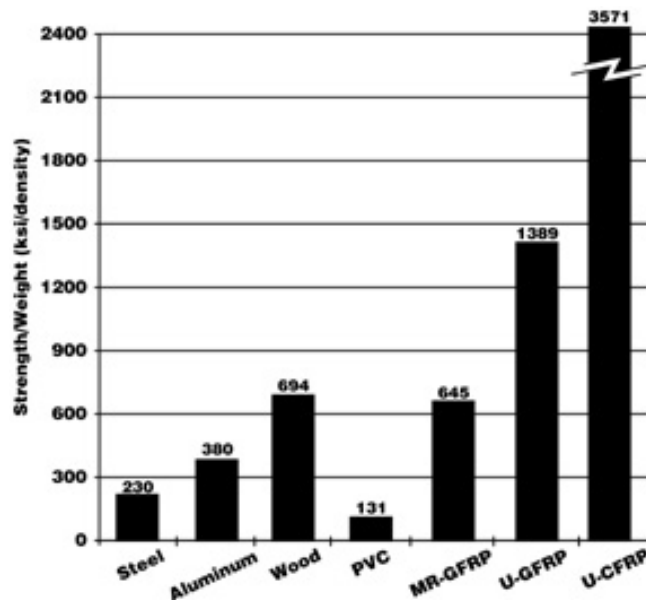
Comparative Material Properties

The choice of reinforcing materials is determined by the demands placed on the product. Glasforms offers a variety of reinforcing options to provide the optimum balance of cost and performance for the most demanding applications. Glass fiber reinforced plastics either in a mat/roving (MR-GFRP) or unidirectional (U-GFRP) reinforcement are most common. The fiber content and orientation is the primary factor in properties as exhibited by the differences between the two GFRP products. We also offer high performance reinforcements such as unidirectional carbon (U-CFRP).

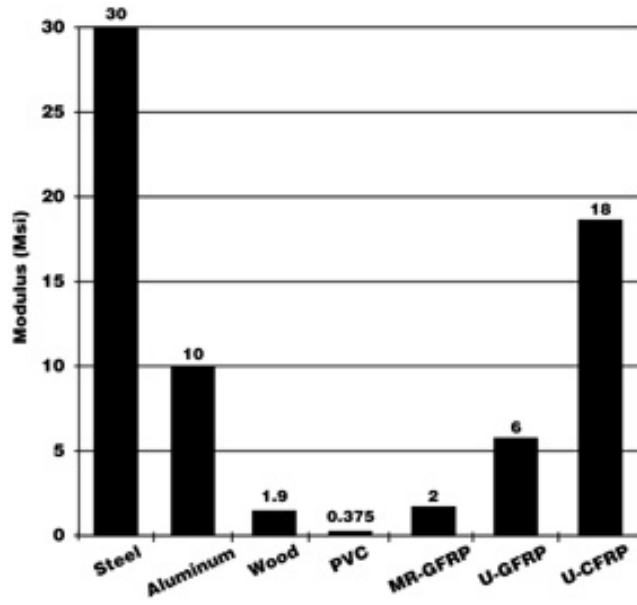
Material Strength



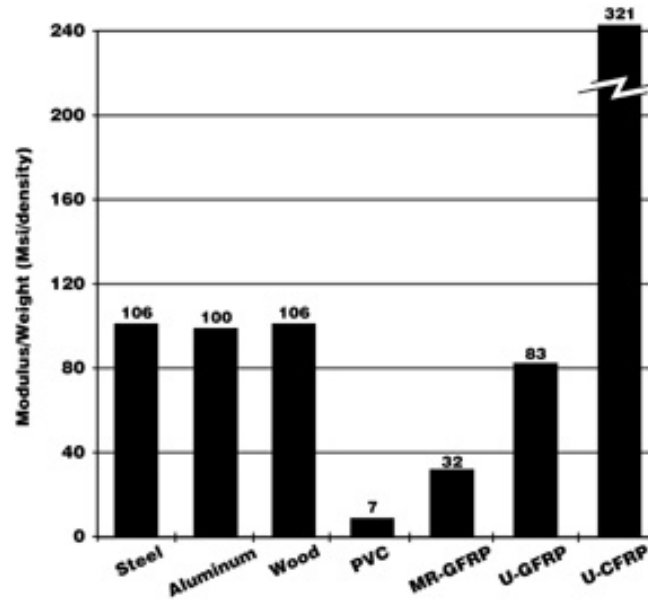
Strength to Weight Ratio



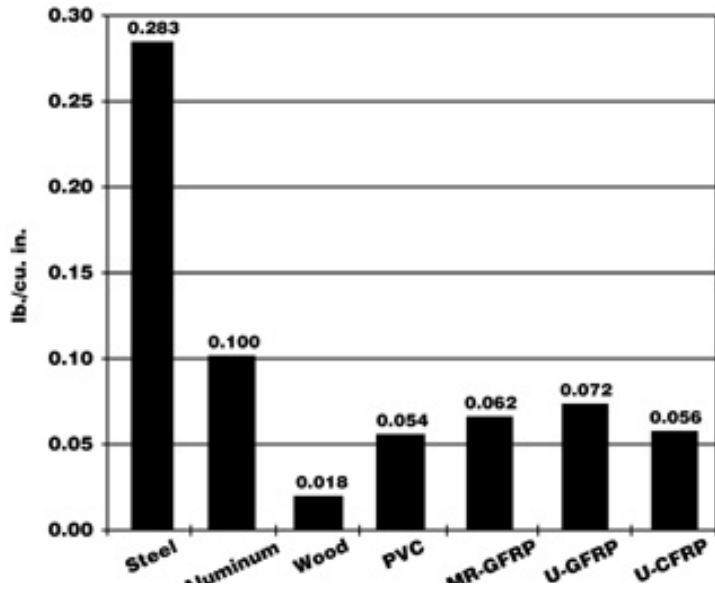
Material Modulus



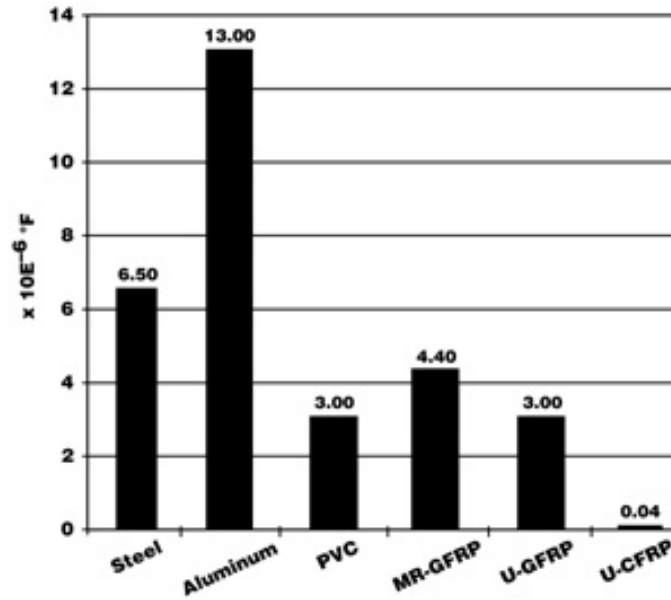
Modulus to Weight Ratio



Density (lb/cu in)



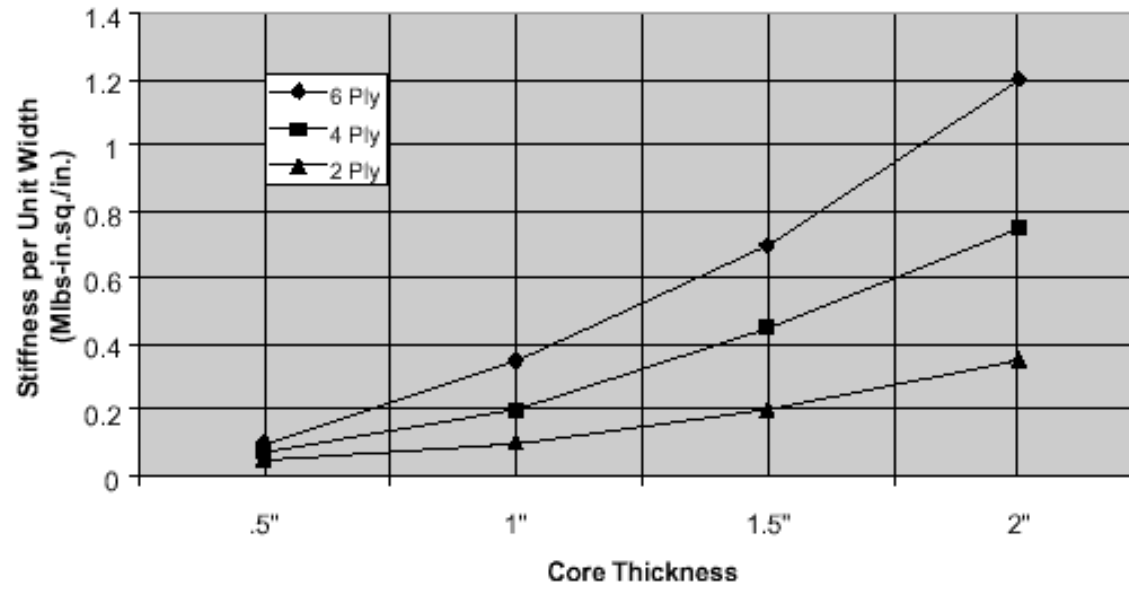
Coefficient of Thermal Expansion



CRTMTM Composite Properties

Typical Room Temperature Properties (Preliminary Information--Not for Design)					
Property		Unit	Nominal Thickness		
			.54" (13.7mm)	.75" (19.1mm)	2.24" (56.9mm)
Areal Weight		Lbs/sq.ft. (kg/sq.m)	1.2 (5.8)	1.4 (6.8)	4.2 (20.5)
Flexural Strength (per unit width)	Longitudinal Transverse	in.-lbs/in. (Nmm/mm)	382 (1700) 292 (1300)	557 (2480) 356 (1580)	8700 (38700) 7400 (32900)
Flexural Stiffness (per unit width)	Longitudinal Transverse	in.-lbs/in. (Nmm/mm)	11.3 (1280) 8.1 (920)	40.8 (4565) 22.0 (2500)	1250 (141200)
Climbing Drum	Peel	in.-lbs/in. (Nmm/mm)	10 (44.5) Min	N/A	N/A
Flatwise Tensile	Tensile Compression	lbs/sq.in. (Mpa)	600 (4.1) Min 2000 (13.7) Min	600 (4.1) Min 2000 (13.7) Min	600 (4.1) Min 2000 (13.7) Min

Stiffness Versus Core Thickness



Weight Versus Core Thickness

