

PULTRUDED ROD & BAR TYPICAL COUPON PROPERTIES

PROPERTY	ASTM TEST	UNITS	POLYESTER	VINYL ESTER
MECHANICAL				
Tensile Stress	D638	MPa	690	690
Tensile Modulus	D638	Gpa	42	42
Compressive Stress	D695	MPa	410	450
Flexural Stress	D790	MPa	690	690
Flexural Modulus	D790	Gpa	42	42
Short Beam Shear	D3914	MPa	38	55
PHYSICAL				
Barcol Hardness	-	-	45-50	45-50
24 Hour Water Absorption	D570	% Max.	0.25	0.25
Density	D792	gm/cm³	1.95-2.1	1.95-2.1
Coefficient of Thermal Expansion	D696	10 ⁻⁶ /EF	3	3
Thermal Conductivity	C177	BTU-in/ft²/hr/EF	4	4
ELECTRICAL				
Arc Resistance	D495	Seconds	140	140
Dielectric Strength	D149	KV/in	35	50

The table gives typical minimum coupon properties of pultruded rod and bar stock per the referenced ASTM procedures.

Pultruded rods are typically made with 75% nominal glass content, all reinforcement being in the length of the rod or bar. Resin systems are polyester or vinyl ester depending upon application requirement.

Note that coupon tests provided a proof test for the composite, but the actual geometry and application of the structural shape will determine its ultimate usability