TYPICAL COUPON PROPERTIES

Below are test results for typical coupon properties of Bedford Reinforced Plastics' structural fiberglass profiles (Standard, Fire Retardant, & Vinylester shapes). Properties are derived per the ASTM test method shown. Synthetic surfacing veil and ultraviolet inhibitors are standard.

		ENGLISH		METRIC	
MECHANICAL PROPERTIES	**ASTM**	**Units**	**Value**	**Units**	**Value**
Tensile Stress, LW	D-638	psi	30,000	*MPa*	*206.8*
Tensile Stress, CW	D-638	psi	7,000	*MPa*	*48.2*
Tensile Modulus, LW	D-638	10^6 psi	2.5	*GPa*	*17.2*
Tensile Modulus, CW	D-638	10^6 psi	.8	*GPa*	*5.5*
Compressive Stress, LW	D-695	psi	30,000	*MPa*	*206.8*
Compressive Stress, CW	D-695	psi	15,000	*MPa*	*103.4*
Compressive Modulus, LW	D-695	10^6 psi	2.5	*GPa*	*17.2*
Compressive Modulus,CW	D-695	10^6 psi	1.0	GPa	6.9
Flexural Stress, LW	D-790	psi	30,000	*MPa*	*206.8*
Flexural Stress, CW	D-790	psi	10,000	*MPa*	*68.9*
Flexural Modulus, LW	D-790	10^6 psi	1.8	*GPa*	*12.4*
Flexural Modulus, CW	D-790	10^6 psi	.8	*GPa*	*5.5*
Modulus of Elasticity, E	Full Section	10^6 psi	2.8	*GPa*	*19.3*
Shear Modulus	——	10^6 psi	0.450	*GPa*	*3.1*
Short Beam Shear	D-2344	psi	4,500	*MPa*	*31.0*
Punch Shear	D-732	psi	10,000	*MPa*	*68.9*
Notched Izod Impact, LW	D-256	ft.-lbs./in.	25	*J/mm*	*1.33*
Notched Izod Impact, CW	D-256	ft.-lbs./in.	4	*J/mm*	*.21*

PHYSICAL PROPERTIES	**ASTM**	**Units**	**Value**	**Units**	**Value**
Barcol Hardness	D-2583	—-	45	*—-*	*45*
24 Hour Water Absorbtion	D-570	% max.	0.45	*% max.*	*0.45*
Density	D-792	lbs./in.^{3}	.062-.070	*g/cc*	*1.72-1.94*
Coefficient of Thermal Expansion, LW	D-696	10^{-6} in./in./°F	4.4	*10^{-6} cm./cm./°C*	*8*

ELECTRICAL PROPERTIES	**ASTM**	**Units**	**Value**	**Units**	**Value**
Arc Resistance, LW	D-495	seconds	120	*seconds*	*120*
Dielectric Strength, LW	D-149	kv./in.	35	*kv./mm*	*1.37*
Dielectric Strength, PF	D-149	volts/mil.	200	*volts/mil.*	*200*
Dielectric Constant, PF	D-150	@60hz	5	*@60hz*	*5*

Fire Retardant Polyester and Fire Retardant Vinylester Structural Profiles:

FLAMMABILITY PROPERTIES	**ASTM**	**Units**	**Value**
Tunnel Test	E-84	Flame Spread	25 max.
Flammability	D-635	——	Nonburning
UL	94	VO	
NBS Smoke Chamber	E-662	Smoke Density 600-700	

LW = Lengthwise CW = Crosswise PF = Perpendicular to Laminate Face