

Properties of Structural Shapes

Test results are for typical coupon properties, derived per the ASTM test method shown, of structural shapes. Synthetic surfacing and ultraviolet inhibitors are standard.

Mechanical Properties	Direction	ASTM	Units	Value
Tensile Stress	Lengthwise	D-638	psi	30,000
			Mpa	206.8
	Crosswise	D-638	psi	7,000
			Mpa	48.2
Tensile Modulus	Lengthwise	D-638	10^6 psi	2.5
			Gpa	17.2
	Crosswise	D-638	10^6 psi	0.8
			Gpa	5.5
Compressive Stress	Lengthwise	D-695	psi	30,000
			Mpa	206.8
	Crosswise	D-695	psi	15,000
			Gpa	103.4
Compressive Modulus	Lengthwise	D-695	10^6 psi	2.5
			Gpa	17.2
	Crosswise	D-695	10^6 psi	1
			Gpa	6.9
Flexural Stress	Lengthwise	D-790	psi	30,000
			Mpa	206.8
	Crosswise	D-790	psi	10,000
			Mpa	68.9
Flexural modulus	Lengthwise	D-790	10^6 psi	1.8
			Gpa	12.4
	Crosswise	D-790	10^6 psi	0.8
			Gpa	5.5
Modulus of Elasticity	Full Section	Full Section	10^6 psi	2.8
			Gpa	19.3
Shear Modulus	-	-	10^6 psi	0.45
			Gpa	3.1
Short Beam Shear	-	D-2344	psi	4,500
			MPa	31

Bearing Stress	Lengthwise	D-953	psi	30,000
			MPa	206.8
Izod Impact	Lengthwise	D-256	ft-lbs/in	25
			J/mm	1.33
	Crosswise	D-257	ft-lbs/in	4
			J/mm	0.21

Physical Properties	Direction	ASTM	Units	Value
Barcol Hardness	-	D-2583	-	45
24 Hours Water Absorption	-	D-570	% Max	0.45
Density	-	D-792	lbs/in ³	0.0686
			gm/cc	2
Coefficient of Thermal Expansion	Lengthwise	D-696	10 ⁻⁶ in/in/°C	8
			10 ⁻⁶ mm/mm/°C	8

Electrical Properties	Direction	ASTM	Units	Value
Arc Resistance	Lengthwise	D-495	seconds	120
Dielectric Strength	Lengthwise	D-149	kv/in	35
	Perpendicular to Laminate Face	D-149	volts/mil	200
Coefficient of Thermal Expansion	Lengthwise	D-150	at 60hz	5

Flammability Properties	Direction	ASTM	Units	Value
Tunnel Test	-	E-84	Flame spread	25
Flammability	-	D-635	-	Non Burning