

Typical Engineering Properties (only an indication)

PULTRUDED FIBREGLASS PROFILES

Section	Profile	Area (mm ²)	WT (g/m)	E _{long} (GPa)	L _{yy} (mm ⁴)	I _{xx} (mm ⁴)	y ¹	x ¹
Angle	50 x 50 x 6	564	1018	17	131 x 10 ³	131 x 10 ³	14.70	14.70
Channel	200 x 50 x 10	2777	5021	22	13.7 x 10 ⁶	427 x 10 ³	12.17	
Channel	102 x 45 x 5	910	1053	21	1.21 x 10 ⁶	119 x 10 ³	10.74	
Channel	75 x 4 x 35 x 5.5	640	1092	26	411 x 10 ³	29.2 x 10 ³	7.06	
I-Beam	150 x 150 x 10	4382	7335	17	5.61 x 10 ⁶	16.8 x 10 ⁶		
I-Beam	200 x 200 x 10	5882	9935	17	13.3 x 10 ⁶	41.6 x 10 ⁶		
Box	44 x 44 x 6	912	1704	28	225 x 10 ³			
Box	51 x 51 x 3.2	602	1051	25	227 x 10 ³			
Tube	φ38 x φ33	298	508	19	47.0 x 10 ³			
Rung	φ34 x φ25	342	614	20	37.3 x 10 ³			

Standard Structural Profiles

TYPICAL MECHANICAL PROPERTIES

Properties	Units	Longitudinal	Transverse
Tensile Strength	MN/m ²	300	55
Tensile Modulus	GN/m ²	17	7
Compressive Strength	MN/m ²	200	100
Compressive Modulus	GN/m ²	17	7
Shear Strength	MN/m ²	60	60
Shear Modulus	GN/m ²	3	3
Flexural Strength	MN/m ²	300	100
Flexural Modulus	GN/m ²	12	5

COMPARATIVE PROPERTIES

	Unit	Pultruded Profiles	Al T651	Mild Steel	Stainless Steel 316	Rigid PVC
Density	g/cm ³	1.7	2.7	7.8	7.9	1.38
Tensile Strength (L/T)	MPa	300/55	310	414	552	43
Tensile Modulus (L/T)	GPa	17/7	69	207	193	2.7
Flexural Strength (L/T)	MPa	300/100	310	414	552	76
Flexural Modulus (L/T)	GPa	12/5	69	207	193	2.4
Coefficient of Thermal Expansion (L)	X10 ⁻⁶ /°C	9	24	13	17	67
Thermal Conductivity	W/m°C	0.6	170	35-60	15-25	0.2

- L = Longitudinal Direction
- T = Transverse Direction