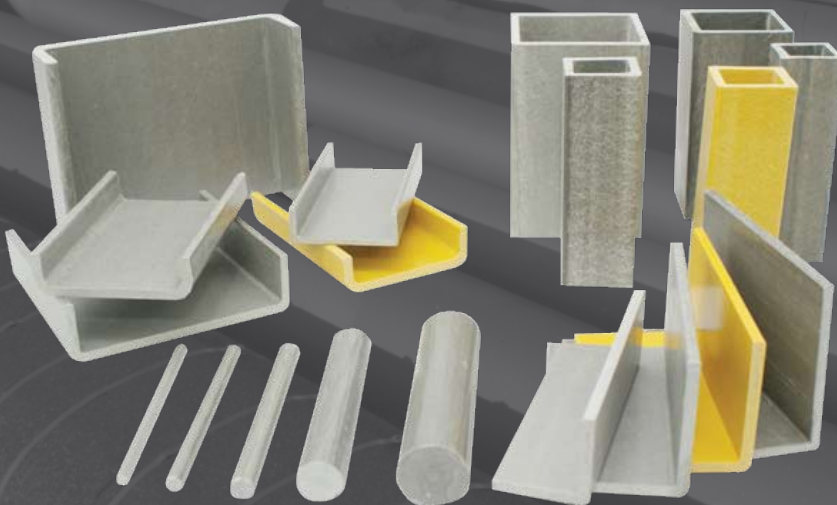


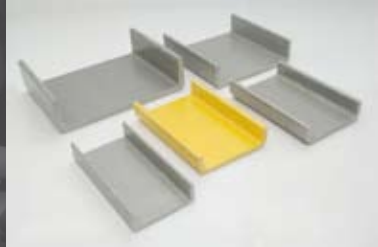
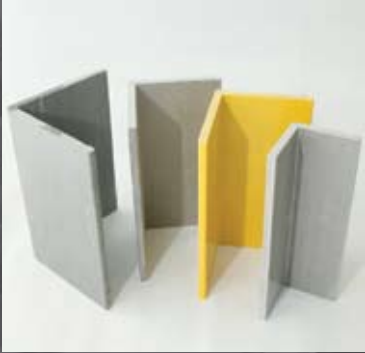
TRUGRID® Corrosion Resistant FRP Handrails, Caged Ladders & Structural Shapes



Typical Physical Properties of Pultruded Components

Property	ASTM TEST	Units	Polyester	Vinyl Ester
Mechanical				
Tensile Stress	D638	psi	30,000	30,000
Tensile Modulus	D638	psi x 10 ⁶	2.5	2.6
Compressive Stress, Axial	D695	psi	30,000	30,000
Flexural Stress	D790	psi	30,000	30,000
Flexural Modulus	D790	psi x 10 ⁶	1.6	1.6
Notched Izod Impact	D256	ft-lbs/in	24	25
Short Beam Shear	D3914	psi	4,500	4,500
Physical				
Barcol Hardness	-	-	45	45
24 Hr Water Absorption	D570	% max	0.5	0.5
Density	D792	lbs/in ³	0.060~0.070	0.060~0.070
Coefficient of Thermal	D696	10 ⁻⁶ in/in/°F	4	4
Electrical				
Arc Resistance	D495	seconds	110	110
Dielectric Strength	D149	KV/in	35	35

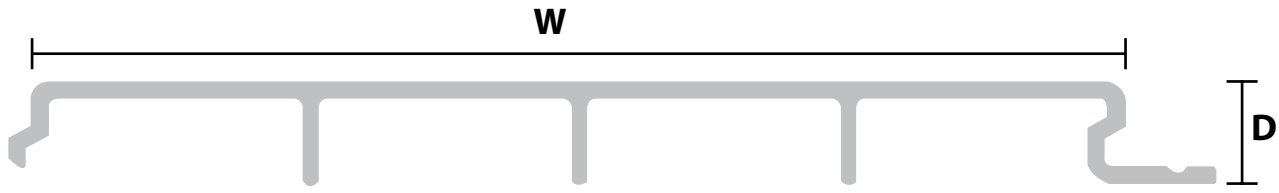
TRUGRID® FRP Structural Profile System



TRUGRID[®] FRP Structural Profile System - Symbols for Elements of Sections

A	Cross-sectional area (in ²)
A_w	Cross-sectional area of web or webs (in ²)
D	Outside diameter of round tube (in) Diameter of round tube (in) Diameter of round hole in square tube (in)
I	Moment of inertia (in ⁴)
J	Torsional constant (in ⁴)
R	Radius (in)
R_f	Flange toe radius (in)
R_i	Radius of inside corner (in)
R_o	Radius of outside corner (in)
S	Section modulus (in ³)
S_b	Section modulus from the bottom of an unsymmetrical section (in ³)
S_t	Section modulus from the top of an unsymmetrical section (in ³)
Wt	Weight of section (lbs)
b	Width of section (in) Outside dimension of square tube or bar (in)
b_f	Width of flange (in)
b₁	Width between flange section in strut (in) Top Width of hat section (in)
d	Full depth of section (in)
d₁	Outer depth of shape in F section (in)
r	Radius of gyration (in)
s	Spacing between back to back channels or angles (in)
t	Thickness of section (in) Wall thickness of tubes (in)
t_b	Thickness of width dimension (in)
t_d	Thickness of depth dimension (in)
t_f	Thickness of flange (in)
t_w	Thickness of web (in)
x	Distance from the outside of the web to the minor (Y-Y) axis of a channel section or other similar unsymmetrical sections (in)
y	Distance from neutral X-X axis to the outer-most fibers of a cross section (in) Distance from the back of the flange to the major (X-X) axis of a tee section or other similar unsymmetrical sections (in)

TRUGRID® FRP Structural Profile System - Product Specification



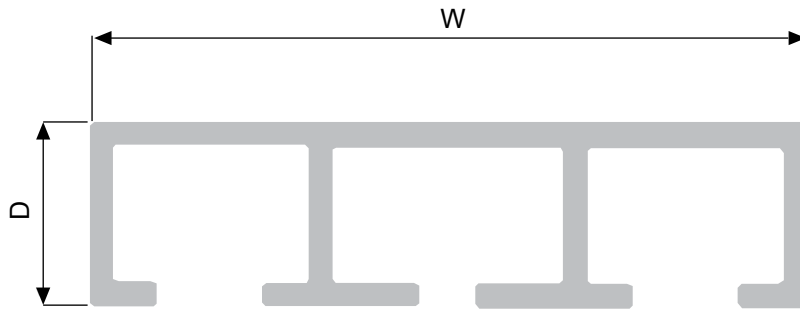
Product Specifications

Product : Pultruded Decking System
 Material : 1. Isophthalic Polyester
 2. Isophthalic Polyester (Fire Retardant)
 3. Vinyl Ester
 Length : Standard 20 Feet

Mechanical Strength Data (Longitudinal)	
Tensile Strength	30,000 PSI
Tensile Modulus	2.6 x 10 ⁶ PSI
Flexural Strength	30,000 PSI
Flexural Modulus	1.6 x 10 ⁶ PSI
Impact Strength	25 ft-lb / in
Dielectric Strength	35 KV / in
Physical Data	
Barcol Hardness	45
24 Hrs. Water Absorption	0.6% Max

Dimensions			Section Properties					
W	D	NOM. Wt/ft	AXIS X-X			AXIS Y-Y		
			I	s	r	I	s	r
in	in	lbs	in ⁴	in ³	in	in ⁴	in ³	in
12	1.12	1.8	0.31	0.38	0.36	39.04	5.70	4.06

TRUGRID® FRP Structural Profile System - Product Specification



Product Specifications

Product : Pultruded Decking System
 Material : 1. Isophathalic Polyester
 2. Isophathalic Polyester (Fire Retardant)
 3. Vinyl Ester
 Length : Standard 20 Feet

Mechanical Strength Data (Longitudinal)	
Tensile Strength	30,000 PSI
Tensile Modulus	2.6 x 10 ⁶ PSI
Flexural Strength	30,000 PSI
Flexural Modulus	1.0 x 10 ⁶ PSI
Impact Strength	25 ft-lb / in
Dielectric Strength	35 KV / in
Physical Data	
Barcol Hardness	45
24 Hrs. Water Absorption	0.6% Max

Dimension		
W	D	NOM. Wt/ft
in	in	lbs
8	2	3.6

Section Properties					
AXIS X-X			AXIS Y-Y		
l	s	r	l	s	r
in ⁴	in ³	in	in ⁴	in ³	in
2.73	2.39	0.76	30.03	7.51	2.50

PRODUCT CODE						
NO	CODE	ITEM	MODEL	Size		OPENING
				IMPERIAL (INCH)	MATRIX (MM)	
51	127 x 13	FLAT BAR	-	5 (w) x 1/2 (t)	127 (w) x 12.7 (t)	-
52	760 x 3	FLAT BAR	-		760 (w) x 3 (t)	-
53	3	SOLID ROD	-	1/8 (dia)	3.2	-
54	6	SOLID ROD	-	1/4(dia)	6.4	-
55	10	SOLID ROD	-	3/8 (dia)	9.5	-
56	13	SOLID ROD	-	1/2 (dia)	12.7	-
57	16	SOLID ROD	-	5/8 (dia)	15.9	-
58	25	SOLID ROD	-	1 (dia)	25.4	-
59	38	SOLID ROD	-	1.5 (dia)	38.1	-
60	25 x 25	RUNG	-	1 X 1	25.4 x 25.4	-
61	40 x 25 x 4	RUNG CHANNEL	-		40 x 25 x 4(t)	-
62	30	DOOR FRAME SUCTION	-		30	-
63	30	DOOR PREASSURE SUCTION	-		30	-
64	51 x 102 x 6	I-BEAM	-	2(w) x 4(d) x 1/4 (t)	50.8(w) x 101.6(d) x 6.4(t)	-
65	76 x 152 x 6	I-BEAM	-	3(w) x 6(d) x 1/4(t)	76.2(w) x 152.4(d) x 6.4(t)	-
66	std	PROFILE 1	-			-
67	std	PROFILE 2	-			-
68	41 x 41 x 4	FRP STRUT	-		41 x 41 x 4	-
69	76	ROUND TUBE	-	3 (dia)	76.2 (dia)	-
70	38 x 28 x 5	ROUND TUBE	-		38 (OD) x 28 (ID) x 5.05	-
71	M6 x 25	HEX HEAD BOLT & NUT	-	-	M4 x 20	-
72	M6 x 25	HEX HEAD BOLT & NUT	-	-	M6 x 25	-
73	M6 x 35	HEX HEAD BOLT & NUT	-	-	M6 x 35	-
74	M6 x 50	HEX HEAD BOLT & NUT	-	-	M6 x 50	-
75	M6 x 65	HEX HEAD BOLT & NUT	-	-	M6 x 65	-
76	M10 x 35	HEX HEAD BOLT & NUT	-	-	M10 x 35	-
77	M10 x 30	HEX HEAD BOLT & NUT	-	-	M10 x 30	-
78	M10 x 50	HEX HEAD BOLT & NUT	-	-	M10 x 50	-
79	M12 x 45	HEX HEAD BOLT & NUT	-	-	M12 x 45	-
80	M6 x 20	PHILIPS PAN HEAD BOLTS	-	-	M6 x 20	-
81	M6 x 50	PHILIPS PAN HEAD BOLTS	-	-	M6 x 50	-
82	M8 x 25	PHILIPS PAN HEAD BOLTS	-	-	M8 x 25	-
83	M8 x 30	PHILIPS PAN HEAD BOLTS	-	-	M8 x 25	-
84	M10 x 25	PHILIPS PAN HEAD BOLTS	-	-	M10 x 25	-
85	M10 x 30	PHILIPS PAN HEAD BOLTS	-	-	M10 x 30	-
86	M12 x 25	PHILIPS PAN HEAD BOLTS	-	-	M12 x 25	-
87	M12 x 30	PHILIPS PAN HEAD BOLTS	-	-	M12 x 30	-
88	M6 x 50	SOCKET HEAD SCREW	-	-	M6 x 50	-
89	M8 x 30	SOCKET HEAD SCREW	-	-	M8 x 30	-
90	M8 x 45	SOCKET HEAD SCREW	-	*	M8 x 45	-

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