

MATERIAL PROPERTIES

Pultex® Fiber Reinforced Polymer **SuperStructural** Profiles *Angles*

SuperStructural Angle sizes are: 4" x 1/4", 4" x 3/8", 6" x 3/8" and 6" x 1/2

1500 Series - Thermoset Polyester – Olive Green

1525 Series - Thermoset Polyester Class 1 FR – Slate Gray (Dark Gray)

1625 Series - Thermoset Vinyl Ester Class 1 FR – Beige

Pultex® **SuperStructural** Profiles are identified with imprinted veil.

The following data was derived from ASTM coupon and full section testing. The results are average values based on random sampling and testing of production lots. Composite materials are not homogeneous; and therefore, the location of the coupon extraction can cause variances in the coupon test results. Creative Pultrusions publishes an average value of random samples from production lots.

Property (coupon values)	ASTM Test	Units	1500/1525 Series	1625 Series
Mechanical				
Tensile Strength (LW)	D638	psi	31,000	35,600
Tensile Strength (CW)	D638	psi	16,500	18,900
Tensile Modulus (LW)	D638	10 ⁶ psi	3.5	3.5
Tensile Modulus (CW)	D638	10 ⁶ psi	1.0	1.0
Compressive Strength (LW)	D695	psi	38,800	44,500
Compressive Strength (CW)	D695	psi	25,500	29,000
Compressive Modulus (LW)	D695	10 ⁶ psi	3.0	3.0
Compressive Modulus (CW)	D695	10 ⁶ psi	2.2	2.2
Flexural Strength (LW)	D790	psi	43,500	50,000
Flexural Strength (CW)	D790	psi	24,000	27,500
Flexural Modulus (LW)	D790	10 ⁶ psi	1.9	1.9
Flexural Modulus (CW)	D790	10 ⁶ psi	1.6	1.6
Modulus of Elasticity	Full Section ²	10 ⁶ psi	2.8	2.8
Shear Modulus	Full Section ²	10 ⁶ psi	0.5	0.5
Interlaminar Shear (LW) ⁴	D2344	psi	3,400	3,900
Shear Strength By Punch (PF)	D732	psi	5,500	6,000
Notched Izod Impact (LW)	D256	ft-lbs/in	34	39
Notched Izod Impact (CW)	D256	ft-lbs/in	33	38
Maximum Bearing Strength (LW)	D953	psi	33,000	38,000
Maximum Bearing Strength (CW)	D953	psi	33,000	38,000
Poisson's Ratio (LW)	D3039	in/in	0.35	0.35
Poisson's Ratio (CW)	D3039	in/in	0.12	0.12
In-Plane Shear (LW)	Modified D2344 ³	psi	7,000	7,000
In-Plane Shear (LW) (through heel of angle)	Full Section*	psi	3,400	3,900

*Note: Based on Full Section Connection Test

Additional properties located on page back

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(cont'd)

Property (coupon values)	ASTM Test	Units	1500/1525 Series	1625 Series
Physical				
Barcol Hardness ¹	D2583		45	45
Water Absorption	D570	% Max	0.6	0.6
Density	D792	lbs/in ³	0.060-0.070	0.060-0.070
Specific Gravity	D792		1.66-1.93	1.66-1.93
Coefficient of Thermal Expansion (LW)	D696	10 ⁻⁶ in/in/°F	4.4	4.4
Thermal Conductivity (PF)	C177	BTU-in/ft ² /hr/°F	4	4
Electrical				
Arc Resistance (LW)	D495	seconds	120	120
Dielectric Strength (LW)	D149	KV/in	40	40
Dielectric Strength (PF)	D149	volts/mil	200	200
Dielectric Constant (PF)	D150	@60Hz	5.2	5.2

LW = lengthwise

CW = crosswise

PF = perpendicular to laminate face

¹ Pultex[®] uses a synthetic surface veil that reduces the Barcol Hardness, but does not reflect lack of cure.

² Full section testing based on a 3-point bend simply supported.

³ Follow ASTM D2344, but rotate coupon 90° (cut section of coupon length faces up).

⁴ Tested on a 3:1, span to depth ratio.

Property	ASTM Test	Value 1525	Value 1625
Flammability Classification	UL94	(VO)	(VO)
Tunnel Test	ASTM E84	25 Max	25 Max
Flammability Extinguishing	ASTM D635	Self extinguishing	Self extinguishing
NBS Smoke Chamber	ASTM E662	650	650

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