

# MATERIAL PROPERTIES

## Pultex<sup>®</sup> Fiber Reinforced Polymer Flat Sheets Metric Version

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

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
<b>Mechanical</b>				
Flexural Strength, Flatwise (LW)	D790	MPa	240.6	240.6
Flexural Strength, Flatwise (CW)	D790	MPa	103.1	103.1
Flexural Modulus, Flatwise (LW)	D790	GPa	13.7	13.7
Flexural Modulus, Flatwise (CW)	D790	GPa	7.6	7.6
Tensile Strength (LW)	D638	MPa	137.5	137.5
Tensile Strength (CW)	D638	MPa	68.7	68.7
Tensile Modulus (LW)	D638	GPa	12.4	12.4
Tensile Modulus (CW)	D638	GPa	6.9	6.9
Compressive Strength, Edgewise (LW)	D695	MPa	165.0	165.0
Compressive Strength, Edgewise (CW)	D695	MPa	110.0	110.0
Compressive Modulus, Edgewise (LW)	D695	GPa	12.4	12.4
Compressive Modulus, Edgewise (CW)	D695	GPa	6.9	6.9
Notched Izod Impact (LW)	D256	J/m	1,067.6	1,067.6
Notched Izod Impact (CW)	D256	J/m	266.9	266.9
Bearing Strength (LW)	D953	MPa	220.0	220.0
Bearing Strength (CW)	D953	MPa	220.0	220.0
Poisson's Ratio (LW)	D3039	mm/mm	0.32	0.32
Poisson's Ratio (CW)	D3039	mm/mm	0.25	0.25
<b>Physical</b>				
Barcol Hardness <sup>1</sup>	D2583		40	40
Water Absorption	D570	% Max	0.6	0.6
Density	D792	Mg/m <sup>3</sup>	1.66-1.93	1.66-1.93
Specific Gravity	D792		1.66-1.93	1.66-1.93
Coefficient of Thermal Expansion (LW)	D696	10 <sup>-6</sup> K <sup>-1</sup>	14.5	14.5
<b>Electrical</b>				
Arc Resistance (LW)	D495	seconds	120	120
Dielectric Strength (LW)	D149	kV/mm	1.58	1.58
Dielectric Strength (PF)	D149	kV/mm	7.9	7.9
Dielectric Constant (PF)	D150	@60Hz	5.2	5.2

<sup>1</sup> Pultex<sup>®</sup> uses a synthetic surface veil that reduces the Barcol Hardness, but does not reflect lack of cure.

Additional Properties located on back



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### Metric Version

(cont'd)

Property	ASTM Test	Value	Value
Flammability Classification	UL94	<u>1525</u> (VO)	<u>1625</u> (VO)
Tunnel Test	ASTM E-84	25 Max	25 Max
Flammability Extinguishing	ASTM D635	Self extinguishing	Self extinguishing
NBS Smoke Chamber	ASTM E662	650	650

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