

# MATERIAL PROPERTIES

## Pultex® Fiber Reinforced Sludge Flights

1500 Series - Thermoset Polyester – Light Gray

### GENERAL PROPERTIES

<u>Flight Profile/Size</u>	<b>Full Section Bending Modulus about the I<sub>yy</sub> axis per 3-point bend</b>	<b>Full Section Bending Strength about the I<sub>yy</sub> axis per 3-point bend</b>	<b>Minimum Moment of Inertia (I<sub>xx</sub>) in<sup>4</sup></b>	<b>Minimum Moment of Inertia (I<sub>yy</sub>) in<sup>4</sup></b>	<b>Density lbs/in<sup>3</sup> (nominal, +/- 0.005 lbs/in<sup>3</sup>)</b>	<b>Specific Gravity</b>	<b>EI Value (lb-in<sup>2</sup>)</b>
3" x 6" Channel	5.1E+06 psi	30,000 psi	7.813	1.020	0.070	1.80-2.08	5.20E+06
3" x 8" Channel	5.1E+06 psi	30,000 psi	15.589	1.114	0.070	1.80-2.08	5.68E+06
3" x 8" Ultra	4.0E+06 psi	30,000 psi	20.601	2.790	0.067	1.72-1.99	11.16E+06

Other minimum properties applicable to all sizes of flights, based on coupon testing values:

<b>Property</b>	<b>Specification</b>	<b>Units</b>	<b>Value</b>
Tensile Strength (Longitudinal)	ASTM D638	psi	60,000
Tensile Strength (Transverse)	ASTM D638	psi	6,900
Tensile Modulus (Longitudinal)	ASTM D638	psi	5.07E+06
Flexural Strength (Longitudinal)	ASTM D790	psi	58,000
Flexural Strength (Transverse)	ASTM D790	psi	18,000
Flexural Modulus (Longitudinal)	ASTM D638	psi	2.46E+06
Compressive Strength (Longitudinal)	ASTM D695	psi	37,000
Compressive Strength (Transverse)	ASTM D695	psi	12,000
Water Absorption – maximum, 73° F, 24 hrs.	ASTM D570	%	0.4%
Minimum Glass Content, by weight %	ASTM D2584	%	55%
Shear Strength (by punch tool)	ASTM D732	psi	12,000
Barcol Hardness, min.	ASTM D2583-81	Barcol	51

### Tolerances:

Squareness of end cut: Maximum deviation is 1°

Angularity: ±2°

Length: ±1/8" up to 20'-0" lg.

Flatness: Maximum deviation from flat is .008" x inch of width.

Twist: 3° maximum up to 20'-0" lg.

Warpage: .030"/ft. of part length for parts 20 ft. and under. For parts longer than 20 ft., .050"/ft. of part length with a maximum deviation of 1.250". The non-lip side is a maximum of .375" for all part lengths. All warpage is checked with no weight minimizing the warp.

\* All material properties are average values, based on mechanical testing performed by the CP Quality Assurance Laboratory.



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