

MATERIAL PROPERTIES

Pultex[®] Fiber Reinforced Sludge Flights ASTM D7290 Design Values

1500 Series - Thermoset Polyester – Light Gray

GENERAL PROPERTIES

<u>Flight Profile/Size</u>	Full Section Bending Modulus about the I_{yy} axis per 3-point bend	Full Section Bending Strength about the I_{yy} axis per 3-point bend	Minimum Moment of Inertia (I_{xx}) in⁴	Minimum Moment of Intertia (I_{yy}) in⁴	Density lbs/in³ (nominal, +/- 0.005 lbs/in³)	Specific Gravity	EI Value (lb-in²)
3" x 6" Channel	4.8E+06 psi	30,000 psi	7.813	1.020	0.070	1.80-2.08	4.90E+06
3" x 8" Channel	4.7E+06 psi	30,000 psi	15.589	1.114	0.070	1.80-2.08	5.24E+06
3" x 8" Ultra	3.2E+06 psi	30,000 psi	20.601	2.790	0.067	1.72-1.99	8.93E+06

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

Property	Specification	Units	Value
Tensile Strength (Longitudinal)	ASTM D638	psi	43,000
Tensile Strength (Transverse)	ASTM D638	psi	4,500
Tensile Modulus (Longitudinal)	ASTM D638	psi	3.20E+06
Flexural Strength (Longitudinal)	ASTM D790	psi	38,000
Flexural Strength (Transverse)	ASTM D790	psi	9,500
Flexural Modulus (Longitudinal)	ASTM D638	psi	1.70E+06
Compressive Strength (Longitudinal)	ASTM D695	psi	17,000
Compressive Strength (Transverse)	ASTM D695	psi	8,900
Water Absorption – maximum, 73° F, 24 hrs.	ASTM D570	%	0.6%
Minimum Glass Content, by weight %	ASTM D2584	%	55%
Shear Strength (by punch tool)	ASTM D732	psi	8,500
Barcol Hardness, min.	ASTM D2583-81	Barcol	46

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 characteristic values following ASTM D7290 statistical analysis, based on mechanical testing performed by the CP Quality Assurance Laboratory.



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