



TORLON® PAI - Glass or Carbon Fiber Filled

Characteristics

- * Maintains Strength and Stiffness to 500° F (260° C)
- * Minimal Expansion Rate to 500° F (260° C)
- * Excellent Wear Resistance in Bearing Grades
- * Able to Endure Harsh Thermal, Chemical, and Stress Conditions

Description

Torlon is the highest performing, melt processable plastic. It has superior resistance to elevated temperatures. It is capable of performing under severe stress conditions at continuous temperatures to 500° F (260° C). Parts machined from Torlon stock shapes provide greater compressive strength and higher impact resistance than most advanced engineering plastics.

Torlon PAI's extremely low coefficient of linear thermal expansion and high creep resistance deliver excellent dimensional stability over its entire service range.

Torlon stock shapes are post-cured using proprietary procedures. This eliminates the need for additional curing by the end user in most situations.

Forms Available

- ROD .250 to 2.00 " diameter, Lengths to 12 feet
- BUSHING Custom produced as requested
- PLATE .250" to 1.000" thick, Widths to 12", Lengths to 48"
- COLOR Black

Typical Property Values

MECHANICAL @ 73°F

Specific Gravity	
Tensile Strength	psi
Tensile Modulus of Elasticity	psi
Tensile Elongation (at Break)	%
Flexural Strength	psi
Flexural Modulus of Elasticity	psi
Shear Strength	psi
Compressive Strength, 10% Deformation	psi
Compressive Modulus of Elasticity	psi
Rockwell Hardness	E Scale
Izod Impact Strength, Notched	ft-lbs/in. of notch
Coefficient of Friction, Dynamic (Dry vs. Steel)	
Limiting PV (4 :1 Safety Factor Applied)	ft.lbs/in. ² min
Wear Factor	in ³ -min/ft.lbs. hr.
Water Absorption 24 hrs	% by wt.

THERMAL

Coefficient of Linear Expansion (-40°F to 300°F)	in./in./°F
Heat Deflection Temperature @264 psi	°F
Tg-Glass Transition (amorphous)	°F
Continuous Service Temperature in Air	°F
Thermal Conductivity	°F

ELECTRICAL

Dielectric Strength, Short Term	Volts/mil
Surface Resistivity	Ohms/Sq.
Dielectric Constant	1 MHz
Dissipation Factor	1 MHz

Torlon® 30% Glass 5530	Torlon® 30% Glass 4XG	Torlon® 30% Carbon 4XCF
1.61	1.60	1.47
15,000	23,000	22,000
900,000	1,000,000	1,200,000
3	4	2.5
20,000	30,000	
900,000	980,000	
27,000	40,000	37,000
600,000	700,000	1,000,000
85	90	91
0.70	1.00	0.90
0.20		0.30
20,000		14,000
		75
0.30	0.30	0.30
2.6×10^{-5}	$.9 \times 10^{-5}$	$.5 \times 10^{-5}$
520		540
527	527	527
500	500	500
2.50	2.50	3.60
700	700	
$>10^{13}$		
6.30		
0.050		

(Properties listed above are provided for reference only, they should not be used for design specifications or quality control , Torlon is a registered Trademark of Solvay Corp.)