

General Information

Chemical Designation:

PA 66 (Polyamide 66)

Fillers:

Aramide (Kevlar) Fibers

Color:

Yellow

Specific Gravity:

1.19

Poly-Texx Z combines the strength of Nylon with the resilience and wear resistances of Kevlar aramid fibers. This unique combination results in a material that is strong and extremely stiff. The aramid fibers along with Nylon's inherent strength combine to create a material that has exceptional wear properties. The fibers give Poly-Texx Z exceptional abrasion resistances making it an ideal choice for rollers, chain guides, and rollers.

Because the base polymer Nylon is hygroscopic, care should be taken to account for moisture when designing Poly-Texx Z into an application. Available in sheet, rod, and tubing, it is easily machined with standard metal working equipment. Tolerances of +/- .001 can be achieved with experience.

Technical Information

Specification	Test	Value	Units
Specific Gravity, 73°F	D792	1.19	-
Tensile Strength @ Yield, 73°F	D638	16,000	psi
Tensile Modulus of Elasticity, 73°F	D638	1,300,000	psi
Tensile Elongation (at break), 73°F	D638	4	%
Flexural Strength, 73°F	D790	23,000	psi
Flexural Modulus of Elasticity	D790	900,000	psi
Shear Strength, 73°F	D732	7,600	psi
Compressive Strength – Ultimate		19,300	psi
Compressive Strength at 2% Deformation	D695	3,170	psi
Compressive Strength at 10% Deformation	D695	16,800	psi
Deformation Under Load		< 2	%
Compressive Modulus of Elasticity, 73°F	D695	359,000	
Compressive Strength \perp to Laminate (Modulus)			psi
Compressive Strength \perp to Laminate (Yield)		1,000	psi
Compressive Strength \perp to Laminate (Ultimate)		1,000	psi
Hardness, Durometer (Shore "D" scale)	D2240	D83	
Hardness, Rockwell (Scale as noted)	D785	116	Rockwell R
Izod Impact, Notched @ 73°F	D256 Type A	2.7	ft.lbs/in. of notch
Coefficient of Friction (Dry vs Steel) Static	PTM 55007	0.20	
Coefficient of Friction (Dry vs Steel) Dynamic	PTM 55007	0.19	
Maximum Static Bearing Load (P)	PTM 55007	2,500	psi
Maximum Unlubricated No Load Bearing Velocity (V)	PTM 55007	100	ft/minute
Maximum Limiting PV (Unlubricated)	PTM 55007	8,000	psi x ft/min.
Wear Factor "K" x 10-10	ASTM D 3702	79-128	Cubic in.-min/ft.lbs.hr
Sand Wheel Wear/Abrasion Test		90	UHMW=100
Minimum Mating Surface Hardness		20	Rockwell (Brinnell)
Coefficient of Linear Thermal Expansion	E-831 (TMA)	1.6	in/in/°F x 10-5
Coefficient of Thermal Expansion // to Laminates	E-831 (TMA)	-	in/in/°F x 10-5
Coefficient of Thermal Expansion \perp to Laminates	E-831 (TMA)	-	in/in/°F x 10-5
Softening Point		-	°F
Heat Deflection Temperature 264 psi	D648	470	°F
Embrittlement Temperature		-22	°F Min.
Continuous Service Temperature in Air		200	°F Max.
Short Term Service Temperature		300	°F Max.
Tg-Glass Transition (Amorphous)	D3418		°F
Melting Point (Crystalline) Peak	D3418	347	°F
Thermal Conductivity	F433		BTU-in/(hr/ft2°F)
Dielectric Strength Short Term	D149	400	Volts/mil
Volume Resistivity	D257	>1013	ohm/cm
Surface Resistivity	D257		ohm/cm
Dielectric Constant, 106 Hz	D150	3.1	
Dissipation Factor, 106 Hz	D150	0.010	
Flammability @ 3.1mm(1/8 in.) UL94	UL94	-	
Arc Resistance			seconds
Water Absorption, Immersion 24 Hours	D570 (2)	0.37	%
Water Absorption, Immersion Saturation	D570 (2)	6.3	%
Machinability Rating		3	1=easy, 10=difficult
Rod Diameter Availability (Off the Shelf)	.125	6.0	inches
Sheet Thickness Availability (Off the Shelf)	.250	3.0	inches
Characteristics / Attributes		Wear Resistant/High Stiffness/Strength/Easy to Machine	

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