Poly-Texx J (Rulon J Alternative)

Self-lubricating bearing material that is known for its capabilities in high temperature and low friction in bearing applications.

General Information

Chemical Designation:

PTFE (Polytetrafluoroethylene)

Fillers:

Proprietary Polymer

Color:

Tan/Gold

Specific Gravity:

2.24-2.28

Poly-Texx J, is a member of the filled PTFE (polytetrafluoroethylene) family. This unique family of polymers has the ability to withstand nearly all chemicals, has low friction and is resistant to heat. Poly-Texx J is an all-polymeric reinforced, dull gold colored PTFE compound that operates very well against soft mating surfaces such as 316 stainless steel, aluminum, mild steel, brass, and plastics. The unique "shaft friendly" material is also low in friction and wear and is self-lubricating.

Poly-Texx J has one of the lowest coefficients of friction of most reinforced PTFE materials. This makes it ideally suited for start/stop applications where stick-slip must be eliminated. The tribological (wear) properties of this material also make it suitable for both bearing and wear component applications where lubrication is not desirable or impossible.

Technical Information

Specification	Test	Value	Units
Specific Gravity, 73°F	D792	2.65	–
Tensile Strength @ Yield, 73°F	D638	2,000	psi
Tensile Modulus of Elasticity, 73°F	D638		psi
Tensile Elongation (at break), 73°F	D638	180	%
Flexural Strength, 73°F	D790		psi
Flexural Modulus of Elasticity	D790		psi
Shear Strength, 73°F	D732		psi
Compressive Strength – Ultimate		750	psi
Compressive Strength at 2% Deformation	D695	750	psi
Compressive Strength at 10% Deformation	D695		psi
Deformation Under Load			%
Compressive Modulus of Elasticity, 73°F	D695		
Compressive Strength ⊥ to Laminate (Modulus)			psi
Compressive Strength ⊥ to Laminate (Yield)			psi
Compressive Strength ⊥ to Laminate (Ultimate)			psi
Hardness, Durometer (Shore "D" scale)	D2240	60	
Hardness, Rockwell (Scale as noted)	D785		Rockwell M
Izod Impact, Notched @ 73°F	D256 Type A	–	ft.lbs/in. of notch
Coefficient of Friction (Dry vs Steel) Static	PTM55007	.2	
Coefficient of Friction (Dry vs Steel) Dynamic	PTM55007	.12	
Maximum Static Bearing Load (P)	PTM55007	750	psi
Maximum Unlubricated No Load Bearing Velocity (V)	PTM55007	400	ft/minute
Maximum Limiting PV (Unlubricated)	PTM55007	10,000	psi x ft/min.
Wear Factor "K" x 10-10	PTM55010		Cubic in.-min/ft.lbs.hr
Sand Wheel Wear/Abrasion Test			UHMW=100
Minimum Mating Surface Hardness		RB25	Rockwell (Brinnell)
Coefficient of Linear Thermal Expansion	E-831(TMA)		in/in/°F x 10-5
Coefficient of Thermal Expansion (Bearing Diameter)	E-831(TMA)	4.90	in/in/°F x 10-5
Coefficient of Thermal Expansion (Bearing Length)	E-831(TMA)	6.50	in/in/°F x 10-5
Softening Point			°F
Heat Deflection Temperature 264 psi	D648		°F
Embrittlement Temperature		-400	°F Min.
Continuous Service Temperature in Air		550	°F Max.
Short Term Service Temperature		550	°F Max.
Tg-Glass Transition (Amorphous)	D3418		°F
Melting Point (Crystalline) Peak	D3418		°F
Thermal Conductivity	F433	2.0	BTU-in/(hr/ft2°F)
Dielectric Strength Short Term	D149		Volts/mil
Volume Resistivity	D257	8×1018	ohm/cm
Surface Resistivity	D257	6×1018	ohm/cm
Dielectric Constant, 106 Hz	D150	2.4	
Dissipation Factor, 106 Hz	D150	0.001	
Flammability @ 3.1mm(1/8 in.) UL94	UL94	V-0	
Arc Resistance			seconds
Water Absorption, Immersion 24 Hours	D570 (2)	Nil	%
Water Absorption, Immersion Saturation	D570 (2)	Nil	%
Machinability Rating		3	1=easy, 10=difficult
Rod Diameter Availability (Off the Shelf)		.250-2.50	inches
Sheet Thickness Availability (Off the Shelf)		.125-1.00	inches
Characteristics / Attributes	Low friction/ Excellent Chemical Resistance/ operates well against soft mating surfaces		

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