

## General Information

**Chemical Designation:** *Poly-Texx 641 is a member of the filled PTFE (polytetrafluoroethylene) family and has the unique distinction of having FDA compliant components, along with the ability to withstand nearly all chemicals. It is self-lubricating, has low very low friction and is resistant to heat up to 550 degrees F.*

**PTFE (Polytetrafluoroethylene)**

**Fillers:** *Poly-Texx 641 is off-white in color where its mineral filler was especially developed for use in applications requiring FDA and USDA cleared materials. Significantly, Poly-Texx 641 contains only USDA accepted and FDA cleared components that are non-toxic and has been used in many applications where incidental contact with food and/or body fluids occur. It is easily machined and is available in rod, sheet, tubing. Custom and standard bearing sizes are available.*

**Color:**

*White (Opaque)*

**Specific Gravity:**

2.22

## Technical Information

Specification	Test	Value	Units
Density, 73°F	D792	2.25	gm/cm <sup>3</sup>
Tensile Strength @ Yield, 73°F	D638	2,000	psi
Tensile Modulus of Elasticity, 73°F	D638		psi
Tensile Elongation (at break), 73°F	D4745	200	%
Flexural Strength, 73°F	D790	600	psi
Flexural Modulus of Elasticity	D790		psi
Shear Strength, 73°F	D732		psi
Compressive Strength – Ultimate		1,000	psi
Compressive Strength at 2% Deformation	D695	1,000	psi
Compressive Strength at 1% Deformation	D695	700	psi
Deformation Under Load 24 hrs @ 2,000 psi	D621	<14	%
Compressive Modulus of Elasticity, 73°F	D695		
Compressive Strength $\perp$ to Laminate (Modulus)			psi
Compressive Strength $\perp$ to Laminate (Yield)			psi
Compressive Strength $\perp$ to Laminate (Ultimate)			psi
Hardness, Durometer (Shore "D" scale)	D2240	<50	
Hardness, Rockwell (Scale as noted)	D785		Rockwell M
Izod Impact, Notched @ 73°F	D256 Type A	6.0	ft.lbs/in. of notch
Coefficient of Friction (Dry vs Steel) Static	PTM55007	0.10-0.15	
Coefficient of Friction (Dry vs Steel) Dynamic	PTM55007	0.1	
Maximum Static Bearing Load (P)	PTM55007	1,000	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 <sup>-10</sup>	PTM55010		Cubic in.-min/ft.lbs.hr
Sand Wheel Wear/Abrasion Test			UHMW=100
Minimum Mating Surface Hardness		B-25 (64)	Rockwell (Brinnell)
Coefficient of Linear Thermal Expansion	D696	3.9-5.5	in/in/°F x 10 <sup>-5</sup>
Coefficient of Thermal Expansion // to Laminates	E-831(TMA)		in/in/°F x 10 <sup>-5</sup>
Coefficient of Thermal Expansion $\perp$ to Laminates	E-831(TMA)		in/in/°F x 10 <sup>-5</sup>
Softening Point			°F
Heat Deflection Temperature 264 psi	D648	250	°F
Embrittlement Temperature		-328	°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	2.6	BTU-in/(hr/ft <sup>2</sup> °F)
Dielectric Strength Short Term	D149	350	Volts/mil
Volume Resistivity	D257	–	ohm/cm
Surface Resistivity	D257	–	ohm/cm
Dielectric Constant, 106 Hz	D150	2.5	
Dissipation Factor, 106 Hz	D150	–	
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		1.00-6.00	inches
Sheet Thickness Availability		.250-3.00	inches
Characteristics / Attributes	FDA Compliant / Self Lubricating / Easily Machined		

*Thank you for your interest in our materials. All statements, technical information and recommendations presented are in good faith, based upon tests believed to be reliable and practical field experience. Poly-Tech is not responsible for its accuracy or completeness. It is our recommendation and the customer's responsibility to determine the suitability of any material for any given application.*