

### General Information

**Chemical Designation:**

UHMW-PE (Ultra High Molecular Weight Polyethylene)

**Fillers:**

Carbon

**Color:**

Black

**Specific Gravity:**

0.93

*Poly-Texx® 350 ESD is one of the most abrasive resistant polymer materials available. Standard color is black. It has 1% carbon filled material ideal for applications requiring both abrasion resistance and static dissipation. Typical applications include sleeve and flanged bearings for industrial and manufacturing bearing applications. With experience, it is easily machined into bearing and wear components for material handling applications. Its main attributes are abrasion and chemical resistance.*

*Available in custom filled formulations, its self-lubrication properties and low cost makes Poly-Texx® 350SD a great choice for many demanding applications. See our Technical Assistance page on our website for details.*

### Technical Information

Specification	Test	Value	Units
Density, 73°F	D792	.93	gm/cm <sup>3</sup>
Tensile Strength @ Yield, 73°F	D638	4,000	psi
Tensile Modulus of Elasticity, 73°F	D638	156,900	psi
Tensile Elongation (at break), 73°F	D638	140	%
Flexural Strength, 73°F	D790		psi
Flexural Modulus of Elasticity	D790	100,000	psi
Shear Strength, 73°F	D732		psi
Compressive Strength – Ultimate		1,000	psi
Compressive Strength at 2% Deformation	D695	750	psi
Compressive Strength at 10% Deformation	D695	1,000	psi
Deformation Under Load		10	%
Compressive Modulus of Elasticity, 73°F	D695		
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	68	
Hardness, Rockwell (Scale as noted)	D785	–	Rockwell M
Izod Impact, Notched @ 73°F	D256 Type A	No Break	ft.lbs/in. of notch
Coefficient of Friction (Dry vs Steel) Static	PTM55007	.15-.2	
Coefficient of Friction (Dry vs Steel) Dynamic	PTM55007	.10-.14	
Maximum Static Bearing Load (P)	PTM55007	1,000	psi
Maximum Unlubricated No Load Bearing Velocity (V)	PTM55007	20	ft/minute
Maximum Limiting PV (Unlubricated)	PTM55007	1,500	psi x ft/min.
Wear Factor "K" x 10 <sup>-10</sup>	PTM55010		Cubic in.-min/ft.lbs.hr
Sand Wheel Wear/Abrasion Test		100	UHMW=100
Minimum Mating Surface Hardness		25	Rockwell (Brinnell)
Coefficient of Linear Thermal Expansion	E-831(TMA)	11	in/in/°F x 10 <sup>-5</sup>
Coefficient of Thermal Expansion // to Laminates	E-831(TMA)	11	in/in/°F x 10 <sup>-5</sup>
Coefficient of Thermal Expansion $\perp$ to Laminates	E-831(TMA)	11	in/in/°F x 10 <sup>-5</sup>
Softening Point		180	°F
Heat Deflection Temperature 264 psi	D648	180	°F
Embrittlement Temperature		Cryo	°F Min.
Continuous Service Temperature in Air		180	°F Max.
Short Term Service Temperature		200	°F Max.
Tg-Glass Transition (Amorphous)	D3418	280	°F
Melting Point (Crystalline Peak)	D3418	267	°F
Thermal Conductivity	F433	.44	BTU-in/(hr/ft <sup>2</sup> °F)
Dielectric Strength Short Term	D149		KV/mm
Volume Resistivity	D257	105 -109	ohm/cm
Surface Resistivity	D257	105 -109	ohm/cm
Dielectric Constant, 106 Hz	D150		
Static Decay Time	FTS-101c	<0.1	
Flammability @ 3.1mm(1/8 in.) UL94	UL94	V-2	
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 (Call for Availability)	1	4.0	inches
Sheet Thickness Availability (Call for Availability)	.25	4.0	inches
Characteristics / Attributes	Excellent Abrasion Resistance / Static Dissipative		

*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.*