



MANUFACTURING CORPORATION

- Plastics Machining
- Spring Energized Seals
- Rotary Lip Seals

### Material Data Sheet

Material: Tecapeek™ PVX

Polyetheretherketone

Tecapeek™ PVX is an ultra high performance bearing materials that incorporates the properties of a premium polymeric matrix material with optimum levels of specific wear enhancing additives. This formulation uses the continuous use temperature by approximately 40°F and increases the limiting PV while maintaining excellent chemical resistance. When used as a non-metallic bearing, Tecapeek™ PVX offers a superb range of tribological performance. It is designed to run at high loads and speeds, in hostile environments, either dry or lubricated. Tecapeek™ PVX's exceptional properties make it an ideal material for bearing surfaces in the most demanding applications and in the harshest conditions.

Mechanical Properties	ASTM Test Method	Value	Units
Density	D792	0.0536	lbs/in <sup>3</sup>
Specific Gravity	D792	1.48	g/cc
Water Absorption @ 24 hours, 73°F	D570		%
@ Saturation, 73°F	D570		%
Tensile Strength, 73°F	D638	17,300	psi
Tensile Modulus	D639		psi
Elongation ( at break), 73°F	D638	2.5	%
Flexural Strength, 73°F	D790	30,000	psi
Flexural Modulus, 73°F	D790	1,400,000	psi
Compressive Strength 73°F	D695	22,000	psi
Shear Strength, Ultimate, 73°F	D3846		psi
Izod Impact Strength, 73°F	D256	3	ft-lb/in of notch
Rockwell Hardness, 73°F	D785		M or R Scale
Limiting PV @ 68°F 1200 in/min		515,000	(psi) (ft/min)
Coefficient of Friction, @ 68°F 1200 in/mm, 155 lbs load		0.19-0.21	in. <sup>3</sup> -min/ft.lbs.hr
<b>Thermal Properties</b>			
Heat Deflection Temperature @ 264 psi, 1/4"	D648	530	°F
Maximum Continuous Use Temperature		500	°F
Melting Point		633	°F
Coefficient of Linear Thermal Expansion	D696	3.1 X 10 <sup>-5</sup>	in/in./°F
Thermal Conductivity	C177		
Flammability	UL94		(mm)
<b>Electrical Properties</b>			
Volume Resistivity	D149		ohm - cm
Surface Resistivity	D257	10 <sup>5</sup> x 10 <sup>8</sup>	ohm/square
Dielectric Strength	D257		Volts/mil

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\*The values shown in these and the following charts are typical, average properties. Actual values may differ due to variations in resin formulations and processing methods. These values are obtained from sources believed to be reliable, including the resin manufactures, converters and other published sources. However, they should not be used for specification or design purposes. The above information is provided by Ensinger Hyde.