



VICTREX HT™

Unfilled PEK

DESCRIPTION

Victrex® HT™ polyetherketone (PEK) is a unique high performance material for applications demanding higher temperature resistance than other ketone polymers. Among its characteristics are exceptional chemical resistance and temperature and compressive strength. It offers 2x the creep resistance and 3x the wear resistance of unfilled PEEK, while supporting higher loads without permanent deformation. Its higher tensile strength and higher flexural modulus are retained in temperatures 30°C (54°F) greater than standard PEEK.

TYPICAL APPLICATIONS:

- Seal and valve seats
- Back-up rings
- Insulators & electric connectors

EXTRUDED SHAPES PROPERTIES

PHYSICAL PROPERTIES	METRIC	IMPERIAL	METHODS
Specific Gravity	1.30 g/cc	0.0473 lb/in ³	ASTM D792
Water Absorption	0.1%	0.1%	Immersion, 24hr; ASTM D570(2)
Water Absorption at Saturation	0.5%	0.5%	Immersion; ASTM D570(2)
MECHANICAL PROPERTIES*			
Hardness, Rockwell M	100	100	ASTM D785
Hardness, Rockwell	126	126	ASTM D785
Hardness, Shore D	85	85	ASTM D2240
Tensile Strength, Ultimate	114 MPa	16,500 PSI	ASTM D638
Elongation at Break	40%	40%	ASTM D638
Tensile Modulus	4000 MPa	580,000 PSI	ASTM D638
Flexural Modulus	4140 MPa	600,000 PSI	ASTM D790
Flexural Yield Strength	180 MPa	26,000 PSI	ASTM D790
Compressive Strength	180 MPa	26,000 PSI	10% Def.; ASTM D695
Compressive Modulus	4000 MPa	580 KSI	ASTM D695
Izod Impact (notched)	52.5 J/m	1.0 ft-lbs/in	ASTM D256 Type A
THERMAL PROPERTIES			
Glass Transition Temp./T _g	373° C	703° F	ASTM D3418
Heat Deflection Temperature (264 PSI)	176° C	350° F	ASTM D638
Coefficient of Linear Thermal Expansion	4.0 x 10 ⁻⁵ C ⁻¹	2.2 x 10 ⁻⁵ F ⁻¹	ASTM E831

*The mechanical properties of extruded shapes may differ from the values published by resin producers. Published resin data is always generated from test specimens injection molded under optimum conditions. Drake's extruded shape values are generated using specimens machined from actual shapes and may reflect surface imperfections from machining, enhanced crystallinity as a result of processing, and fiber alignment inherent in all reinforced plastic shapes, regardless of process. For additional information on the effects of fiber alignment, see Drake Fiber Orientation Diagram, available on the Resource page of our website.