

TECAPEEK® PVX black - Stock Shapes

Chemical Designation

PEEK (Polyetheretherketone)

Colour

black opaque

Density

1.48 g/cm³

Fillers

carbon fibres, PTFE, graphite

Main features

- good heat deflection temperature
- high creep resistance
- good slide and wear properties
- hydrolysis and superheated steam resistant
- inherent flame resistance
- excellent chemical resistance

Target Industries

- mechanical engineering
- chemical technology
- conveyor technology
- automotive industry
- textile industry
- precision engineering
- aircraft and aerospace technology

Mechanical properties	condition	value	test method	comment
Modulus of elasticity (tensile test)	@ 73 °F	800,000 psi	ASTM D 638	(1) Data obtained from public source
Tensile strength at yield	@ 73 °F	11,000 psi	ASTM D 638	(2) Data obtained from public source
Tensile strength at break	50 mm/min	12,200 psi	DIN EN ISO 527-2	(3) Data obtained from public source
Elongation at break	@ 73 °F	2.5 %	ASTM D 638	
Elongation at break	50 mm/min	3 %	DIN EN ISO 527-1	2)
Flexural strength	@ 73 °F	18,000 psi	ASTM D 790	
Modulus of elasticity (flexural test)	@ 73 °F Tangent	685,000 psi	ASTM D 790	
Compression strength	@ 10% strain, 73 °F	16,500 psi	ASTM D 695	
Compression modulus	5 mm/min 10N	580,000 psi	EN ISO 604	3)
Impact strength (Izod)	@ 73 °F	0.90 ft-lbs/in	ASTM D 256	
Rockwell hardness	M Scale	85	-	
Coefficient of friction	@ 68 °F 1200 in/min, 155 lbs load	0.19 - 0.21	-	
Wear rate		1.25- 1.50*10 ⁻³	in ³ -min/ft-lbs-hr	-
Thermal properties	condition	value	test method	comment
Melting temperature		633 °F	-	(1) Data obtained from public source
Deflection temperature	@264 psi	530 °F	ASTM D 648	(2) Data obtained from public source
Service temperature	Max Continuous Use	500 °F	-	
Service temperature	short term	572 °F	-	1)
Thermal expansion (CLTE)		3.11*10 ⁻⁵	in/in/°F	ASTM D 696
Thermal conductivity		5.69	BTU-in/hr-ft ² -°F	- 2)
Electrical properties	condition	value	test method	comment
Specific surface resistance		10 ⁵ - 10 ⁸	Ω/square	ASTM D 257
Dielectric strength		1.4*10 ⁵	Ω*cm	ASTM D 257
Other properties	condition	value	test method	comment
Limiting PV		25,000- 30,000	-	(1) Estimate
Moisture absorption	@ 24 hrs, 73 °F	.02 %	ASTM D 570	
Moisture absorption	@ saturation, 73 °F	.03 %	ASTM D 570	
Flammability (UL94)		V-0	-	1)

→ Resin specification:
ASTM D4000-11 PAEK0000R30D73200
Shapes specification:
ASTM D6262-12 S-PAEK0140R30

→ TECAPEEK products are based on Victrex® PEEK polymer.

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