TECAPEEK ® ST - Stock Shapes (rods, plates, tubes)

Chemical Designation
PEKEKK
(Polyetherketoneetherketoneketone)

Colour
black

Density
1.32 g/cm^3

Main features
- made exclusively from Victrex® resin
- high heat deflection temperature
- excellent mechanical properties
- excellent chemical resistance
- easy to machine
- good dimensional stability
- electrically insulating
- high purity

Target Industries
- oil and gas industry
- semiconductor technology
- chemical plant engineering
- automotive industry
- process engineering

Mechanical properties	condition	value	unit	test method	comment
Modulus of elasticity (tensile test)	(0.2 in/min)	760,000	psi	ASTM D 638	
Tensile strength at yield	0.2 in/min	19,400	psi	ASTM D 638	
Elongation at break (tensile test)	0.2 in/min	15	%	ASTM D 638	
Flexural strength	@ 73 °F	31,000	psi	ASTM D 790	
Modulus of elasticity (flexural test)	@ 73 °F	740,000	psi	ASTM D 790	
Compression strength	10% Strain	24,400	psi	ASTM D 695	
Compression strength	1% Strain	2,860	psi	ASTM D 695	
Compression modulus		445,000	psi	ASTM D 695	
Impact strength (Izod)	@ 73 °F	0.8	ft-lbs/in	ASTM D 256	
Rockwell hardness	R Scale	112		ASTM D 785	

Thermal properties	condition	value	unit	test method		comment
Glass transition temperature		324	°F	DIN EN ISO 11357	1)	(1) Injection molded data (2) Injection molded data (3) ISO 75-f Injection molded data (4) Data obtained from public source
Melting temperature		729	°F	DIN EN ISO 11357	2)	
Deflection temperature	@264 psi	342	°F	ISO-R 75 Method A	3)	
Service temperature	Long Term	500	°F	-		
Service temperature	short term	572	°F	-	4)	
Thermal expansion (CLTE)		2.72	*10^{-5} in/in/°F	ASTM E 831		

Electrical properties	condition	value	unit	test method		comment
surface resistivity		1.0*10^{14}	Ω/square	DIN IEC 60093	1)	(1) Data obtained from public source (2) resin data (3) resin data, 2 mm thick (4) resin data (5) resin data
volume resistance		>10^{16}	Ω*cm	DIN IEC 60093	2)	
Dielectric strength	IEC 60243-1	23	kV/mm	-	3)	
Dissipation factor	1 MHz	0.004		DIN IEC 60250	4)	
Dielectric constant	1 kHz	3.00		DIN IEC 60250	5)	

Other properties	condition	value	unit	test method		comment
Moisture absorption	@ saturation, 50% R.H.	0.05	%	ASTM D 570		(1) Data obtained from public source (2) Data obtained from public source
Moisture absorption	@ 24 hrs., 73°F	0.02	%	ASTM D 570	1)	
Flammability (UL94)		V0		-	2)	