TECAPEEK CMF white - Stock Shapes (rods, plates, tubes)

Chemical Designation
PEEK (Polyetheretherketone)

Colour
white

Density
1.63 g/cm^3

Fillers
ceramic

Main features
- high dimensional stability
- good machinability
- high strength
- high stiffness
- low thermal expansion
- low burring
- good heat deflection temperature
- very good thermal stability

Target Industries
- electrical engineering
- precision engineering
- semiconductor technology
- vacuum technology

Mechanical properties	condition	value	unit	test method		comment
Modulus of elasticity (tensile test)	@ 73 °F	1,227,111	psi	ASTM D 638	1)	(1) All properties derived from machined plate test specimens (2) Data obtained from public source (3) Data obtained from public source
Tensile strength at yield	@ 73 °F	14,122	psi	ASTM D 638		
Tensile strength at break	50 mm/min	15,200	psi	DIN EN ISO 527-2	2)	
Elongation at yield (tensile test)	50 mm/min	3	%	DIN EN ISO 527-1	3)	
Elongation at break (tensile test)	@ 73 °F	4.85	%	ASTM D 638		
Flexural strength	@ 73 °F	23,642	psi	ASTM D 790		
Modulus of elasticity (flexural test)	@ 73 °F	783,585	psi	ASTM D 790		
Compression strength	@ 73 °F @ 1% strain	1,855	psi	ASTM D 695		
Compression strength	@ 73 °F @ 10% strain	20,712	psi	ASTM D 695		
Compression modulus	@ 73 °F	335,369	psi	ASTM D 695		
Impact strength (Izod)	@ 73 °F notched	0.66	ft-lbs/in	ASTM D 256		
Impact strength (Izod)	@ 73 °F unnotched	15.23	ft-lbs/in	ASTM D 256		
Rockwell hardness	M-Scale	102		ASTM D 785		

Thermal properties	condition	value	unit	test method		comment
Melting temperature		643	°F	-	1)	(1) ASTM D3418 (2) Data obtained from public source
Service temperature	Long Term	500	°F	-	2)	
Service temperature	short term	500	°F	-		
Thermal expansion (CLTE)	73 F to 140 F	2.23	*10^{-5} in/in/°F	ASTM E 831		
Thermal expansion (CLTE)	73 F to 212 F	2.27	*10^{-5} in/in/°F	ASTM E 831		
Thermal expansion (CLTE)	212 F to 302 F	2.58	*10^{-5} in/in/°F	ASTM E 831		
Thermal conductivity		2.60	BTU-in/hr-ft^2-°F	ASTM E1530		

Electrical properties	condition	value	unit	test method	comment
surface resistivity		5.2E+15	Ω/square	ASTM D 257	
volume resistance		3.5E+15	Ω*cm	ASTM D 257	
Dielectric strength	S/T, in oil	168	V/mil	ASTM D 149	
Dissipation factor	1 MHz dry	0.0032		ASTM D 150	
Dielectric constant	1 MHz dry	4.71		ASTM D 150	

Other properties	condition	value	unit	test method		comment
Moisture absorption	@ 24 hrs	0.03	%	ASTM D 570		(1) Data obtained from public source
Flammability (UL94)		V0		-	1)	

- TECAPEEK products are based on Victrex® PEEK polymer.

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