TECAPEEK IM natural - Stock Shapes (rods, plates, tubes)

Chemical Designation
PEEK (Polyetheretherketone)

Colour
brown-beige

Density
1.44

Main features
- excellent chemical resistance
- excellent mechanical properties
- high thermal resistance
- good heat deflection temperature
- good machinability
- very good slide and wear properties
- hydrolysis and superheated steam resistant

Target Industries
- oil and gas industry
- aircraft and aerospace technology
- food technology
- food processing
- chemical plant engineering
- semiconductor technology
- automotive industry

Mechanical properties	condition	value	unit	test method	comment
Modulus of elasticity (tensile test)	@73°F	537,000	psi	ASTM D 638	
Tensile strength at yield	@73°F	14,500	psi	ASTM D 638	
Elongation at break (tensile test)	@73°F	45	%	ASTM D 638	
Flexural strength	@73°F	23,900	psi	ASTM D 790	
Modulus of elasticity (flexural test)	@73°F	595,000	psi	ASTM D 790	
Compression strength	@73°F	18,100	psi	ASTM D 695	
Impact strength (Charpy)	@73°F	21.4	ft-lbs/in	-	

Thermal properties	condition	value	unit	test method	comment
Melting temperature		649	°F	-	
Service temperature	Long Term	500	°F	-	
Service temperature	Short Term	572	°F	-	
Thermal expansion (CLTE)		$2.5*10^{-5}$	in/in/°F	DIN EN ISO 11359-1;2	

Electrical properties	condition	value	unit	test method	comment
surface resistivity	@73°F	$1.0*10^{16}$	Ω/square	ASTM D 257	
volume resistance	@73°F	$4.9*10^{16}$	Ω*cm	ASTM D 149	
Dielectric strength	0.1" thick IEC 60243-1	630	V/mil	ISO 60243-1	
Dissipation factor	@73°F, 1MKz	0.003		DIN IEC 60250	
Dielectric constant	@73°F, 1kHz	2.8		DIN IEC 60250	

Other properties	condition	value	unit	test method	comment
Flammability (UL94)		V0		-	

- Resin specification:
  ASTM D8033-22 PEEK0121,ASTM D4000-13 PEEK; MIL-P-46183 Ty. I
  Shapes specification:
  ASTM D6262-23 S-PAEK0111

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