

PEEK

Material Information



PEEK

Product full identity:

Polyetheretherketone

PEEK is a high-performance, food-approved material with excellent chemical resistance, superior dielectric properties, and strong radiation resistance. Its self-extinguishing fire rating makes it ideal for bearings, piston parts, and pump and compressor components, delivering durable and reliable performance in demanding applications.

Properties

- Outstanding temperature range (+250 to -40°C)
- Excellent creep resistance
- Very high strength and dimensional stability
- Excellent chemical resistance
- Fire rated – self extinguishing
- Food contact approved

Applications

- Bearings
 - Piston parts
 - Pumps
 - Compressors
- High temperature and demanding applications

Forms



Solid Rod



Sheet

PEEK

Technical Properties

Physical	Unit	Test Method	Result
Specific gravity	g/cm ³	ISO 1183-1	1.31
Water absorption until saturation at 23°C	%	ISO 62	0.45
Maximum service temp. Upper temp limit – short term	°C	-	-
Maximum service temp. Upper temp limit – long term	°C	-	250
Lower temp limit	°C	-	-50
Mechanical	Unit	Test Method	Result
Tensile strength	MPa	ISO 527-1/-2	115
Elongation at yield	%	ISO 527-1/-2	5
Tensile strength at break	MPa	ISO 527-1/-2	17
Unnotched impact strength	kJ/m ²	ISO 179-1/1eU	No break
Notch impact strength	kJ/m ²	ISO 179-1/1eA	3.50
Ball indentation / Rockwell hardness	MPa	ISO 2039-2	105
Shore-D		-	-
Flexural modulus of elasticity	MPa	-	-
Tensile modulus of elasticity	MPa	ISO 527-1/-2	4300
Thermal	Unit	Test Method	Result
Vicat-softening point VST/B/50	°C	-	-
Heat deflection temperature HDT/B	°C	ISO 75-1/-2	160
Coefficient of linear thermal expansion 23 – 100°C	m/(m.K)	-	50
Thermal conductivity at 23°C	W/mK	-	0.25
Electrical	Unit	Test Method	Result
Volume resistivity	Ω x m	IEC 62631-3-1	10 ¹⁴
Surface resistivity	Ω	ANSI/ESD STM11.11	10 ¹³
Insulation resistivity	Ω . cm	-	-
Dielectric constant at 1MHz		IEC 62631-2-1	3.20
Dielectric loss factor at 1MHz		IEC 62631-2-1	0.002
Dielectric strength	kV/mm	IEC 60243-1	24
Comparative tracking index (CTI)		-	-
Additional Data	Unit	Test Method	Result
Bondability		-	-
Food compliance – FDA		FDA	Yes
Food compliance – EU		EU 10/2011	Yes
Antistatic		-	-
Flammability	Unit	Test Method	Result
Fire performance		UL 94	V-0
Optical	Unit	Test Method	Result
N/A	N/A	N/A	N/A

All information provided in this Product Datasheet is for guide purposes only. The data has been taken from standard test results provided by our manufacturers.