

Chemical Designation

PEEK (Polyetheretherketone)

Colour

beige opaque

Density

1.53 g/cm³

Fillers

glass fibres

Main features

- inherent flame retardant
- improved toughness
- very high creep resistant
- good chemical resistance
- hydrolysis and superheated steam resistant
- very high stiffness
- high dimensional stability
- resistance against high energy radiation

Target Industries

- automotive industry
- chemical technology
- electronics
- oil and gas industry
- vacuum technology
- mechanical engineering
- aircraft and aerospace technology

<i>Mechanical properties</i>	<i>parameter</i>	<i>value</i>	<i>unit</i>	<i>norm</i>	<i>comment</i>
Tensile strength	5mm/min	113	MPa	DIN EN ISO 527-2	(1) For tensile test: specimen type 1b
Modulus of elasticity (tensile test)	1mm/min	6300	MPa	DIN EN ISO 527-2	(2) Specimen 10x10x10mm
Elongation at break (tensile test)	5mm/min	5	%	DIN EN ISO 527-2	(3) For Charpy test: support span 64mm, norm specimen.
Compression strength	1% / 2% / 5% 5mm/min, 10 N	29/52/120	MPa	EN ISO 604	2)
Impact strength (Charpy)	max. 7,5J	52	kJ/m ²	DIN EN ISO 179-1eU	3)
Shore hardness	D	90		DIN EN ISO 868	
<i>Thermal properties</i>	<i>parameter</i>	<i>value</i>	<i>unit</i>	<i>norm</i>	<i>comment</i>
Glass transition temperature		147	°C	DIN EN ISO 11357	1)
Melting temperature		341	°C	DIN EN ISO 11357	
Service temperature	short term	300	°C		2)
Service temperature	long term	260	°C		
Thermal expansion (CLTE)	23-60°C, long.	4	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1:2	
Thermal expansion (CLTE)	23-100°C, long.	4	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1:2	
Thermal expansion (CLTE)	100-150°C, long.	5	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1:2	
Specific heat		1.0	J/(g*K)	ISO 22007-4:2008	
Thermal conductivity		0.35	W/(K*m)	ISO 22007-4:2008	
<i>Electrical properties</i>	<i>parameter</i>	<i>value</i>	<i>unit</i>	<i>norm</i>	<i>comment</i>
surface resistivity		10 ¹⁴	Ω	-	(1) Specimen in 1mm thickness
volume resistivity		10 ¹⁴	Ω*cm	-	
Dielectric strength	23°C, 50% r.h.	36	kV/mm	ISO 60243-1	1)
<i>Other properties</i>	<i>parameter</i>	<i>value</i>	<i>unit</i>	<i>norm</i>	<i>comment</i>
Water absorption	24h / 96h (23°C)	0.02 / 0.03	%	DIN EN ISO 62	1)
Resistance to hot water/ bases		+		-	2)
Resistance to weathering		-		-	3)
Flammability (UL94)	corresponding to	V0		DIN IEC 60695-11-10;	4)

