

Chemical Designation

PEEK (Polyetheretherketone)

Colour

blue grey opaque

Density

1.49 g/cm³

Fillers

detectable filler

Main features

- detectable via metal detector
- good chemical resistance
- high creep resistance
- inherent flame retardant
- good heat deflection temperature
- hydrolysis and superheated steam resistant
- good machinability

Target Industries

- food technology
- mechanical engineering

Mechanical properties	parameter	value	unit	norm	comment
Tensile strength	50mm/min	111	MPa	DIN EN ISO 527-2	(1) For tensile test: specimen type 1b (2) For flexural test: support span 64mm, norm specimen. (3) Specimen 10x10x10mm (4) Specimen 10x10x50mm, modulus range between 0.5 and 1% compression. (5) For Charpy test: support span 64mm, norm specimen.
Modulus of elasticity (tensile test)	1mm/min	4600	MPa	DIN EN ISO 527-2	
Tensile strength at yield	50mm/min	111	MPa	DIN EN ISO 527-2	
Elongation at yield (tensile test)	50mm/min	4	%	DIN EN ISO 527-2	
Elongation at break (tensile test)	50mm/min	6	%	DIN EN ISO 527-2	
Flexural strength	2mm/min, 10 N	166	MPa	DIN EN ISO 178	2)
Modulus of elasticity (flexural test)	2mm/min, 10 N	3700	MPa	DIN EN ISO 178	
Compression strength	1% / 2% / 5% 5mm/min, 10 N	25/46/106	MPa	EN ISO 604	3)
Compression modulus	5mm/min, 10 N	4800	MPa	EN ISO 604	4)
Impact strength (Charpy)	max. 7,5J	72	kJ/m ²	DIN EN ISO 179-1eU	5)
Shore hardness	D	88		DIN EN ISO 868	
Thermal properties	parameter	value	unit	norm	comment
Glass transition temperature		150	°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.	5	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	
Thermal expansion (CLTE)	23-100°C, long.	5	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	
Thermal expansion (CLTE)	100-150°C, long.	7	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	
Specific heat		1.1	J/(g*K)	ISO 22007-4:2008	
Thermal conductivity		0.27	W/(K*m)	ISO 22007-4:2008	
Electrical properties	parameter	value	unit	norm	comment
surface resistivity		10 ¹⁴	Ω	-	
volume resistivity		10 ¹⁴	Ω*cm	-	
Other properties	parameter	value	unit	norm	comment
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)

