

TECAPEEK TF10 natural - Stock Shapes (rods, plates, tubes)

Chemical Designation

PEEK (Polyetheretherketone)

Colour

beige opaque

Density

1.35 g/cm³

Fillers

PTFE

Main features

- good machinability
- good slide and wear properties
- inherent flame retardant
- good heat deflection temperature
- hydrolysis and superheated steam resistant

Target Industries

- mechanical engineering
- food technology
- automotive industry
- chemical technology

Mechanical properties	parameter	value	unit	norm	comment
Tensile strength	50mm/min	96	MPa	DIN EN ISO 527-2	(1) For tensile test: specimen type 1b
Modulus of elasticity (tensile test)	1mm/min	3600	MPa	DIN EN ISO 527-2	(2) For flexural test: support span 64mm, norm specimen.
Tensile strength at yield	50mm/min	96	MPa	DIN EN ISO 527-2	(3) Specimen 10x10x10mm
Elongation at yield (tensile test)	50mm/min	5	%	DIN EN ISO 527-2	(4) Specimen 10x10x50mm, modulus range between 0.5 and 1% compression.
Elongation at break (tensile test)	50mm/min	7	%	DIN EN ISO 527-2	(5) For Charpy test: support span 64mm, norm specimen.
Flexural strength	2mm/min, 10 N	146	MPa	DIN EN ISO 178	
Modulus of elasticity (flexural test)	2mm/min, 10 N	3700	MPa	DIN EN ISO 178	
Compression strength	1% / 2% / 5% 5mm/min, 10 N	22/40/91	MPa	EN ISO 604	
Compression modulus	5mm/min, 10 N	2900	MPa	EN ISO 604	
Impact strength (Charpy)	max. 7,5J	46	kJ/m ²	DIN EN ISO 179-1eU	
Shore hardness	D	87		DIN EN ISO 868	
Thermal properties	parameter	value	unit	norm	comment
Glass transition temperature		147	°C	DIN EN ISO 11357	(1) Found in public sources.
Melting temperature		340	°C	DIN EN ISO 11357	(2) Found in public sources.
Heat distortion temperature	HDT, Method A	159	°C	ISO-R 75 Method A	Individual testing regarding application conditions is mandatory.
Service temperature	short term	300	°C		
Service temperature	long term	260	°C		
Thermal expansion (CLTE)	23-60°C, long.	6	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	
Thermal expansion (CLTE)	23-100°C, long.	6	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		0.28	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) Ø ca. 50mm, h=13mm
Resistance to hot water/ bases		+		-	(2) + good resistance
Resistance to weathering		-		-	(3) - poor resistance
Flammability (UL94)	corresponding to	V0		DIN IEC 60695-11-10;	(4) Corresponding means no listing at UL (yellow card). The information might be taken from resin, stock shape or estimation. Individual testing regarding application conditions is mandatory.