

TECAPEEK TS - Stock Shapes

Chemical Designation

PEEK (Polyetheretherketone)

Colour

blue grey opaque

Density

1.49 g/cm³

Fillers

mineral filler

Main features

- high dimensional stability
- good chemical resistance
- low moisture absorption
- low burring
- good heat deflection temperature
- low coefficient of thermal expansion

Target Industries

- semiconductor technology
- mechanical engineering
- electrical engineering
- vacuum technology

Mechanical properties	parameter	value	unit	norm	comment
Modulus of elasticity (tensile test)	1mm/min	5700	MPa	DIN EN ISO 527-2	1) (1) For tensile test: specimen type 1b
Tensile strength	50mm/min	110	MPa	DIN EN ISO 527-2	(2) For flexural test: support span 64mm, norm specimen.
Tensile strength at yield	50mm/min	110	MPa	DIN EN ISO 527-2	(3) Specimen 10x10x10mm
Elongation at yield	50mm/min	4	%	DIN EN ISO 527-2	(4) Specimen 10x10x50mm, modulus range between 0.5 and 1% compression.
Elongation at break	50mm/min	4	%	DIN EN ISO 527-2	(5) For Charpy test: support span 64mm, norm specimen.
Flexural strength	2mm/min, 10 N	175	MPa	DIN EN ISO 178	2) n.b. = not broken
Modulus of elasticity (flexural test)	2mm/min, 10 N	5900	MPa	DIN EN ISO 178	(6) Specimen in 4mm thickness
Compression strength	1% / 2% 5mm/min, 10 N	17 / 34	MPa	EN ISO 604	3)
Compression modulus	5mm/min, 10 N	4300	MPa	EN ISO 604	4)
Impact strength (Charpy)	max. 7,5J	n.b.	kJ/m ²	DIN EN ISO 179-1eU	5)
Notched impact strength (Charpy)	max. 7,5J	7	kJ/m ²	DIN EN ISO 179-1eA	
Ball indentation hardness		290	MPa	ISO 2039-1	6)
Thermal properties	parameter	value	unit	norm	comment
Glass transition temperature		151	°C	DIN 53765	1) (1) Found in public sources.
Melting temperature		339	°C	DIN 53765	(2) Found in public sources.
Service temperature	short term	300	°C		2) Individual testing regarding application conditions is mandatory.
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	
Electrical properties	parameter	value	unit	norm	comment
Specific surface resistance		10 ¹⁴	Ω	DIN IEC 60093	
Specific volume resistance		10 ¹⁴	Ω*cm	DIN IEC 60093	
Other properties	parameter	value	unit	norm	comment
Water absorption	24h / 96h (23°C)	0.02 / 0.03	%	DIN EN ISO 62	1) (1) Ø ca. 50mm, h=13mm (2) + good resistance (3) - poor resistance
Resistance to hot water/ bases		+		-	2) (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.
Resistance to weathering		-		-	3)
Flammability (UL94)	corresponding to	V0		DIN IEC 60695-11-10;	4)

→ Made exclusively from Victrex® PEEK

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