

TECAPEEK ID - Stock Shapes

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 engineering
- packaging and paper machinery
- conveyor technology
- home appliances
- mechanical engineering
- precision engineering

Mechanical properties	parameter	value	unit	norm	comment
Modulus of elasticity (tensile test)	1mm/min	4600	MPa	DIN EN ISO 527-2	1) (1) For tensile test: specimen type 1b
Tensile strength	50mm/min	111	MPa	DIN EN ISO 527-2	(2) For flexural test: support span 64mm, norm specimen.
Tensile strength at yield	50mm/min	111	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	6	%	DIN EN ISO 527-2	(5) For Charpy test: support span 64mm, norm specimen.
Flexural strength	2mm/min, 10 N	166	MPa	DIN EN ISO 178	(2) (6) Specimen in 4mm thickness
Modulus of elasticity (flexural test)	2mm/min, 10 N	3700	MPa	DIN EN ISO 178	
Compression strength	1% / 2% 5mm/min, 10 N	25 / 46	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)
Ball indentation hardness		260	MPa	ISO 2039-1	6)
Thermal properties	parameter	value	unit	norm	comment
Glass transition temperature		150	°C	DIN 53765	1) (1) Found in public sources.
Melting temperature		341	°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.	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
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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