

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

Chemical Designation

PEEK (Polyetheretherketone)

Colour

beige opaque

Density

1.31 g/cm³

Main features

- high creep resistance
- very good stress cracking resistance
- good machinability
- resistance against high energy radiation
- very good chemical resistance
- hydrolysis and superheated steam resistant
- good slide and wear properties
- very good sterilisable

Target Industries

- food technology
- medical technology
- pharmaceutical industry
- mechanical engineering

Mechanical properties

	parameter	value	unit	norm	comment
Tensile strength	50mm/min	116	MPa	DIN EN ISO 527-2	
Modulus of elasticity (tensile test)	1mm/min	4200	MPa	DIN EN ISO 527-2	1)
Tensile strength at yield	50mm/min	116	MPa	DIN EN ISO 527-2	
Elongation at yield (tensile test)	50mm/min	5	%	DIN EN ISO 527-2	
Elongation at break (tensile test)	50mm/min	15	%	DIN EN ISO 527-2	
Flexural strength	2mm/min, 10 N	175	MPa	DIN EN ISO 178	2)
Modulus of elasticity (flexural test)	2mm/min, 10 N	4200	MPa	DIN EN ISO 178	
Compression strength	1% / 2% / 5% 5mm/min, 10 N	23/43/102	MPa	EN ISO 604	3)
Compression modulus	5mm/min, 10 N	3400	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	4	kJ/m ²	DIN EN ISO 179-1eA	
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		342	°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		DIN IEC 60093	
volume resistivity		10 ¹⁴		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)
Resistance to hot water/ bases	+		-		2)
Resistance to weathering	-		-		3)
Flammability (UL94)	listed (value at 1.5mm)	V0		DIN IEC 60695-11-10;	

→ TECAPEEK products are based on Victrex® PEEK polymer.

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