

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

Chemical Designation

PEEK (Polyetheretherketone)

Colour

black opaque

Density

1.31 g/cm³

Main features

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

Target Industries

- medical technology
- food technology
- mechanical engineering

Mechanical properties

	parameter	value	unit	norm	comment
Tensile strength	50mm/min	114	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	114	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	13	%	DIN EN ISO 527-2	
Flexural strength	2mm/min, 10 N	171	MPa	DIN EN ISO 178	2)
Modulus of elasticity (flexural test)	2mm/min, 10 N	4100	MPa	DIN EN ISO 178	
Compression strength	1% / 2% / 5% 5mm/min, 10 N	23/44/105	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	5	kJ/m ²	DIN EN ISO 179-1eA	
Shore hardness	D	89		DIN EN ISO 868	
Thermal properties	parameter	value	unit	norm	comment
Glass transition temperature		151	°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	0.3	W/(K*m)		ISO 22007-4:2008	
Electrical properties	parameter	value	unit	norm	comment
surface resistivity	10 ¹⁴	Ω		DIN EN 62631-3-1	
volume resistivity	10 ¹⁴	Ω*cm		DIN EN 62631-3-1	1)

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)

→ TECAPEEK products are based on Victrex® PEEK polymer.

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