

TECAPEEK SM GF30 natural - Stock Shapes (rods, plates, tubes)

Chemical Designation

PEEK (Polyetheretherketone)

Colour

beige opaque

Density

1.53 g/cm³

Fillers

glass fibres

Main features

- high dimensional stability
- very good chemical resistance
- inherent flame retardant
- good heat deflection temperature
- hydrolysis and superheated steam resistant
- good machinability
- very high creep resistant

Target Industries

- oil and gas industry
- chemical technology
- energy industry
- mechanical engineering

Mechanical properties	parameter	value	unit	norm	comment
Tensile strength	50mm/min	109	MPa	DIN EN ISO 527-2	1)
Modulus of elasticity (tensile test)	1mm/min	8000	MPa	DIN EN ISO 527-2	
Elongation at break (tensile test)	50 mm/min	2	%	DIN EN ISO 527-2	
Flexural strength	2mm/min, 10 N	178	MPa	DIN EN ISO 178	2)
Modulus of elasticity (flexural test)	2mm/min, 10 N	7700	MPa	DIN EN ISO 178	
Impact strength (Charpy)		29	MPa	DIN EN ISO 179-1eA	3)
Ball indentation hardness		310	MPa	ISO 2039-1	4)
Thermal properties	parameter	value	unit	norm	comment
Glass transition temperature		150	°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.	3	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	
Thermal expansion (CLTE)	23-100°C, long.	3	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	
Thermal expansion (CLTE)	100-150°C, long.	4	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	
Electrical properties	parameter	value	unit	norm	comment
surface resistivity		10 ¹⁴	Ω	-	
Other properties	parameter	value	unit	norm	comment
Resistance to hot water/ bases		+		-	1)
Resistance to weathering		-		-	2)
Flammability (UL94)	corresponding to	V0		-	3)