

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

<i>Mechanical properties</i>	<i>parameter</i>	<i>value</i>	<i>unit</i>	<i>norm</i>	<i>comment</i>
Modulus of elasticity (tensile test)	1mm/min	8000	MPa	DIN EN ISO 527-2	(1) For tensile test: specimen type 1b
Tensile strength	50mm/min	109	MPa	DIN EN ISO 527-2	1) (2) For flexural test: support span 64mm, norm specimen.
Elongation at break	50 mm/min	2	%	DIN EN ISO 527-2	(3) For Charpy test: support span 64mm, norm specimen.
Flexural strength	2mm/min, 10 N	178	MPa	DIN EN ISO 178	2) (4) Specimen in 4mm thickness
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)
<i>Thermal properties</i>	<i>parameter</i>	<i>value</i>	<i>unit</i>	<i>norm</i>	<i>comment</i>
Glass transition temperature		150	°C	DIN EN ISO 11357	1) (1) Found in public sources.
Melting temperature		341	°C	DIN EN ISO 11357	(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)	23-100°C, long.	3	10 ⁻⁵ K ⁻¹	-	
Thermal expansion (CLTE)	23-60°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	
<i>Electrical properties</i>	<i>parameter</i>	<i>value</i>	<i>unit</i>	<i>norm</i>	<i>comment</i>
surface resistivity		10 ¹⁴	%	DIN IEC 60093	
<i>Other properties</i>	<i>parameter</i>	<i>value</i>	<i>unit</i>	<i>norm</i>	<i>comment</i>
Resistance to hot water/ bases		+		-	1) (1) + good resistance
Resistance to weathering		-		-	2) (2) - poor resistance
Flammability (UL94)	corresponding to	V0		-	3) (3) 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.

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