

TECAPEEK GF30 natural - Stock Shapes

Chemical Designation

PEEK (Polyetheretherketone)

Colour

beige opaque

Density

1.53 g/cm³

Fillers

glass fibres

Main features

- inherent flame retardant
- improved toughness
- very high creep resistant
- good chemical resistance
- hydrolysis and superheated steam resistant
- very high stiffness
- high dimensional stability
- resistance against high energy radiation

Target Industries

- automotive industry
- chemical technology
- electronics
- oil and gas industry
- vacuum technology
- mechanical engineering
- aircraft and aerospace technology

<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	6300	MPa	DIN EN ISO 527-2	1) (1) For tensile test: specimen type 1b
Tensile strength	5mm/min	113	MPa	DIN EN ISO 527-2	(2) Specimen 10x10x10mm
Elongation at break	5mm/min	5	%	DIN EN ISO 527-2	(3) For Charpy test: support span 64mm, norm specimen.
Compression strength	1% / 2% / 5% 5mm/min, 10 N	29/52/120	MPa	EN ISO 604	(4) Specimen in 4mm thickness
Impact strength (Charpy)	max. 7,5J	52	kJ/m ²	DIN EN ISO 179-1eU	3)
Ball indentation hardness		280	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		147	°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)	23-60°C, long.	4	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	
Thermal expansion (CLTE)	23-100°C, long.	4	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	
Thermal expansion (CLTE)	100-150°C, long.	5	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	
Specific heat		1.0	J/(g*K)	ISO 22007-4:2008	
Thermal conductivity		0.35	W/(K*m)	ISO 22007-4:2008	
<i>Electrical properties</i>	<i>parameter</i>	<i>value</i>	<i>unit</i>	<i>norm</i>	<i>comment</i>
Specific surface resistance		10 ¹⁴	Ω	DIN IEC 60093	(1) Specimen in 1mm thickness
Specific volume resistance		10 ¹⁴	Ω*cm	DIN IEC 60093	
Dielectric strength	23°C, 50% r.h.	36	kV/mm	ISO 60243-1	1)
<i>Other properties</i>	<i>parameter</i>	<i>value</i>	<i>unit</i>	<i>norm</i>	<i>comment</i>
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 (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 hot water/ bases		+	-		2)
Resistance to weathering		-	-		3)
Flammability (UL94)	corresponding to	V0		DIN IEC 60695-11-10;	4)

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