

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

### Chemical Designation

PEEK (Polyetheretherketone)

### Colour

beige opaque

### Density

1.53 g/cm<sup>3</sup>

### 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>
Tensile strength	5mm/min	113	MPa	DIN EN ISO 527-2	(1) For tensile test: specimen type 1b
Modulus of elasticity (tensile test)	1mm/min	6300	MPa	DIN EN ISO 527-2	1) (2) Specimen 10x10x10mm
Elongation at break (tensile test)	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	2) (4) Specimen in 4mm thickness
Impact strength (Charpy)	max. 7,5J	52	kJ/m <sup>2</sup>	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 <sup>-5</sup> K <sup>-1</sup>	DIN EN ISO 11359-1;2	
Thermal expansion (CLTE)	23-100°C, long.	4	10 <sup>-5</sup> K <sup>-1</sup>	DIN EN ISO 11359-1;2	
Thermal expansion (CLTE)	100-150°C, long.	5	10 <sup>-5</sup> K <sup>-1</sup>	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>
surface resistivity		10 <sup>14</sup>	Ω	DIN IEC 60093	(1) Specimen in 1mm thickness
volume resistivity		10 <sup>14</sup>	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
Resistance to hot water/ bases		+	-		2) (2) + good resistance
Resistance to weathering		-	-		3) (3) - poor resistance
Flammability (UL94)	corresponding to	V0		DIN IEC 60695-11-10;	4) (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.

→ TECAPEEK products may be based on Victrex® PEEK or Solvay KetaSpire® polymer

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