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

Chemical Designation
PEEK (Polyetheretherketone)

Colour
beige opaque

Density
1.53 g/cm^3

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

Mechanical properties	parameter	value	unit	norm		comment
Tensile strength	5mm/min	113	MPa	DIN EN ISO 527-2		(1) For tensile test: specimen type 1b (2) Specimen 10x10x10mm (3) For Charpy test: support span 64mm, norm specimen.
Modulus of elasticity (tensile test)	1mm/min	6300	MPa	DIN EN ISO 527-2	1)	
Elongation at break (tensile test)	5mm/min	5	%	DIN EN ISO 527-2		
Compression strength	1% / 2% / 5% 5mm/min, 10 N	29/52/120	MPa	EN ISO 604	2)	
Impact strength (Charpy)	max. 7,5J	52	kJ/m^2	DIN EN ISO 179-1eU	3)	
Shore hardness	D	90		DIN EN ISO 868		

Thermal properties	parameter	value	unit	norm		comment
Glass transition temperature		147	°C	DIN EN ISO 11357	1)	(1) Found in public sources. (2) Found in public sources. Individual testing regarding application conditions is mandatory.
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.	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		

Electrical properties	parameter	value	unit	norm		comment
surface resistivity		10^{14}	Ω	-		(1) Specimen in 1mm thickness
volume resistivity		10^{14}	Ω*cm	-		
Dielectric strength	23°C, 50% r.h.	36	kV/mm	ISO 60243-1	1)	

Other properties	parameter	value	unit	norm		comment
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)	

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

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