Material data sheet
PEEK GF30 natural

Chemical Designation: Polyetheretherketone
DIN-abbreviation: PEEK
Colour / Fillers: beige opaque / glass fibres
Density: 1,53 g/cm³

Main features

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

Target Industries

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

Characteristics

mechanical properties	parameter	value	unit	norm	comment
Modulus of elasticity (tensile test)	1 mm / min	6300	MPa	DIN EN ISO 527-2 1)	1) For tensile test: specimen type 1b 2) Specimen 10 x 10 x 10 mm 3) For Charpy test: support span 64 mm, norm specimen.
Tensile strength	5 mm / min	113	MPa	DIN EN ISO 527-2	
Elongation at break	5 mm / min	5	%	DIN EN ISO 527-2	
Compression strength	1% / 2% / 5% 5 mm / min, 10 N	29/52/120	MPa	EN ISO 604 2)	
Impact strength (Charpy)	max. 7,5 J	52	kJ/m²	DIN EN ISO 179-1eU 3)	
Shore hardness	D	90		DIN EN ISO 868	

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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	DIN IEC 60093	1) Specimen in 1 mm thickness
volume resistivity		10^{14}	Ω*cm	DIN IEC 60093	
Dielectric strength	23 °C, 50% r.h.	36	kV/mm	ISO 60243-1 1)	

other properties	parameter	value	unit	norm	comment
Water absorption	24 h / 96 h (23 °C)	0.2 / 0.3	%	DIN EN ISO 62 1)	1) Ø ca. 50 mm, h = 13 mm 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 applicaton conditions is mandatory
Resistance to hot water/bases		(+)		- 2)	
Resistance to weathering		-		- 3)	
Flammability (UL94)	corresponding to	VO		DIN IEC 60695-11-10 4)	

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

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