TECAPEEK CF30 black - Stock Shapes (rods, plates, tubes)

Chemical Designation
PEEK (Polyetheretherketone)

Colour
black opaque

Density
1.38 g/cm^3

Fillers
carbon fibres

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

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

Mechanical properties	parameter	value	unit	norm		comment
Tensile strength	50mm/min	112	MPa	DIN EN ISO 527-2		(1) For tensile test: specimen type 1b (2) For flexural test: support span 64mm, norm specimen. (3) Specimen 10x10x10mm (4) For Charpy test: support span 64mm, norm specimen.
Modulus of elasticity (tensile test)	1mm/min	6000	MPa	DIN EN ISO 527-2	1)	
Elongation at break (tensile test)	50mm/min	10	%	DIN EN ISO 527-2		
Flexural strength	2mm/min, 10 N	184	MPa	DIN EN ISO 178	2)	
Modulus of elasticity (flexural test)	2mm/min, 10 N	6100	MPa	DIN EN ISO 178		
Compression strength	1% / 2% / 5% 5mm/min, 10 N	25/47/111	MPa	EN ISO 604	3)	
Impact strength (Charpy)	max. 7,5J	92	kJ/m^2	DIN EN ISO 179-1eU	4)	
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.	6	10^{-5} K^{-1}	DIN EN ISO 11359-1;2		
Specific heat		1.2	J/(g*K)	ISO 22007-4:2008		
Thermal conductivity		0.66	W/(K*m)	ISO 22007-4:2008		

Electrical properties	parameter	value	unit	norm	comment
surface resistivity		10^3- 10^{12}	Ω	DIN EN 61340-2-3	
volume resistivity		10^3- 10^{12}	Ω*cm	DIN EN 61340-2-3	

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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