TECAPEEK CF30 black - Stock Shapes

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
Modulus of elasticity (tensile test)	1mm/min	6000	MPa	DIN EN ISO 527-2	1)	(1) For tensile test: specimen type 1b
Tensile strength	50mm/min	112	MPa	DIN EN ISO 527-2		(2) Specimen 10x10x10mm
Elongation at break	50mm/min	10	%	DIN EN ISO 527-2		(3) For Charpy test: support span 64mm, norm specimen.
Compression strength	1% / 2% 5mm/min, 10 N	25 / 47	MPa	EN ISO 604	2)	(4) Specimen in 4mm thickness
Impact strength (Charpy)	max. 7,5J	92	kJ/m^2	DIN EN ISO 179-1eU	3)	
Ball indentation hardness		298	MPa	ISO 2039-1	4)	

Thermal properties	parameter	value	unit	norm		comment
Glass transition temperature		147	°C	DIN 53765	1)	(1) Found in public sources.
Melting temperature		341	°C	DIN 53765		(2) Found in public sources. Individual testing regarding application conditions is mandatory.
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
Specific surface resistance		10^3 - 10^9	Ω	DIN EN 61340-2-3	
Specific volume resistance		10^3 - 10^9	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
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.