

TECAPEEK CF30 black - Stock Shapes

Chemical Designation

PEEK (Polyetheretherketone)

Colour

black opaque

Density

1.38 g/cm³

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

<i>Mechanical properties</i>	<i>parameter</i>	<i>value</i>	<i>unit</i>	<i>norm</i>		<i>comment</i>
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% / 5% 5mm/min, 10 N	25/47/111	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)	
<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 ⁻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		
<i>Electrical properties</i>	<i>parameter</i>	<i>value</i>	<i>unit</i>	<i>norm</i>		<i>comment</i>
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		
<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.

Our information and statements reflect the current state of our knowledge and shall inform about our products and their applications. They do not assure or guarantee chemical resistance, quality of products and their merchantability in a legally binding way. Our products are not defined for use in medical or dental implants. Existing commercial patents have to be observed. The corresponding values and information are no minimum or maximum values, but guideline values that can be used primarily for comparison purposes for material selection. These values are within the normal tolerance range of product properties and do not represent guaranteed property values. Therefore they shall not be used for specification purposes. Unless otherwise noted, these values were determined by tests at reference dimensions (typically rods with diameter 40-60 mm according to DIN EN 15860) on extruded and machined specimen. As the properties depend on the dimensions of the semi-finished products and the orientation in the component (esp. in reinforced grades), the material may not be used without a separate testing under individual circumstances. The customer is solely responsible for the quality and suitability of products for the application and has to test usage and processing prior to use. Data sheet values are subject to periodic review, the most recent update can be found at www.ensinger-online.com. Technical changes reserved.