

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

Chemical Designation

PEEK (Polyetheretherketone)

Colour

black opaque

Density

1.41 g/cm³

Fillers

30% carbon fibres

Main features

- very good chemical resistance
- good heat deflection temperature
- inherent flame resistance
- hydrolysis and superheated steam resistant
- very high stiffness
- very high creep resistant
- high dimensional stability
- resistance against high energy radiation

Target Industries

- aircraft and aerospace technology
- automotive industry
- conveyor technology
- oil and gas industry
- mechanical engineering
- chemical plant engineering

Mechanical properties	condition	value	test method	comment
Modulus of elasticity (tensile test)	@ 73 °F	920,000 psi	ASTM D 638	(1) Data from public source
Tensile strength at yield	@ 73 °F	17,500 psi	ASTM D 638	(2) data from public source
Elongation at break (tensile test)	@ 73 °F	7.0 %	ASTM D 638	(3) Data from public source
Flexural strength	@ 73 °F	28,000 psi	ASTM D 790	(4) per ASTM D3846
Modulus of elasticity (flexural test)	@ 73 °F	1,040,000 psi	ASTM D 790	
Compression strength	@ 10% strain, 73 F	24,000 psi	ASTM D 695	
Compression strength	@1% strain, 73 °F	2,700 psi	ASTM D 695	
Compression modulus	@ 73 °F	489,000 psi	ASTM D 695	
Impact strength (Izod)	@ 73 °F	1.16 ft-lbs/in	ASTM D 256	
Rockwell hardness	M Scale	107	ASTM D 785	
Coefficient of friction	@ 68 °F, Static, 50 psi	0.19	ASTM D 3702	1)
Coefficient of friction	Dynamic, 40 psi, 50 fpm	0.13	ASTM D 3702	2)
Wear (K) factor	40 psi, 50 fpm	60 *10 ⁻¹⁰ in ³ -min/ft-lb-hr	ASTM D 3702	3)
Shear strength	@ 73 °F	14,100 psi	-	4)

Thermal properties	condition	value	test method	comment
Melting temperature		633 °F	-	1)
Deflection temperature	@264 psi, 1/4	600 °F	ASTM D 648	2)
Service temperature	Long Term	500 °F	-	3)
Service temperature	short term	572 °F	-	4)
Thermal expansion (CLTE)		0.80 *10 ⁻⁵ in/in/°F	ASTM D 696	5)
Thermal conductivity		6.37 BTU-in/hr-ft ² -°F	ASTM C 177	6)

Electrical properties	condition	value	test method	comment
surface resistivity		1.0*10 ⁸ Ω/square	-	1) (1) Data obtained from public source

Other properties	condition	value	test method	comment
Limiting PV	@ 68 °F	385,000 psi-fpm	-	1) (1) 1200 in/min
Moisture absorption	@ 24 hrs, 73 °F	0.06 %	ASTM D 570	(2) Estimated
Flammability (UL94)		V0 %	-	2)

→ TECAPEEK products are based on Victrex® PEEK polymer.

This information reflects the current state of our knowledge and is intended only to assist and advise. It is given without obligation or liability. It does not assure or guarantee chemical resistance, quality of products or their suitability in any legally binding way. Values are not minimum or maximum values, but guidelines that can be used for comparative purposes in material selection. They are within the normal range of product properties and do not represent guaranteed property values. Testing under individual application circumstances is always recommended. Data is obtained from extruded shapes material unless otherwise noted. References to FDA compliance refer to the resins from which the products were made unless otherwise noted. All trade and patent rights should be observed. All rights reserved. Data sheet values are subject to periodic review, the most recent update can be found at www.ensingerplastics.com.