

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	Dynamic, 40 psi, 50 fpm	0.13		ASTM D 3702	1)
Coefficient of friction	@ 68 °F, Static, 50 psi	0.19		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) (1) Injection molded specimen
Deflection temperature	@264 psi, 1/4	600	°F	ASTM D 648	2) (2) Injection molded specimen
Service temperature	Long Term	500	°F	-	3) (3) Data obtained from public source
Service temperature	short term	572	°F	-	4) (4) Data obtained from public source
Thermal expansion (CLTE)		0.80	*10 ⁻⁵ in/in/°F	ASTM D 696	5) (5) Injection molded specimen
Thermal conductivity		6.37	BTU-in/hr-ft ² -°F	ASTM C 177	6) (6) Injection molded specimen
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) (2) Estimated
Flammability (UL94)		V0	%	-	2)

→ TECAPEEK products are based on Victrex® PEEK polymer.

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