

## TECAPEEK® GF30 natural - Stock Shapes (rods, plates, tubes)

### Chemical Designation

PEEK (Polyetheretherketone)

### Colour

natural opaque

### Density

1.53 g/cm<sup>3</sup>

### Fillers

30% glass fibres

### Main features

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

### Target Industries

- agricultural machinery
- aircraft and aerospace interiors
- aircraft and aerospace technology
- food processing
- food engineering
- automotive industry
- electrical engineering
- chemical plant engineering
- mechanical engineering
- conveyor technology

Mechanical properties	condition	value	test method	comment
Modulus of elasticity (tensile test)	1% Sec, @ 73 °F	1,000,000 psi	ASTM D 638	(1) Data obtained from public source
Tensile strength at yield	@ 73 °F	15,000 psi	ASTM D 638	(2) Injection molded specimen data obtained from public source
Tensile strength at break	@ 73 °F	15,000 psi	ASTM D 638	(3) injection molded specimen data from public source
Elongation at break (tensile test)	@ 73 °F	2.2 %	ASTM D 638	(4) injection molded specimen data from public source
Flexural strength	@ 73 °F	24,000 psi	ASTM D 790	(5) per ASTM D3846
Modulus of elasticity (flexural test)	@ 73 °F	1,000,000 psi	ASTM D 790	
Compression strength	@ 10% strain, 73 °F	25,000 psi	ASTM D 695	
Compression modulus	@ 73 °F	696,000 psi	ASTM D 695	1)
Impact strength (Izod)	@ 73 °F	1.8 ft-lbs/in	ASTM D 256	
Rockwell hardness	M Scale	103	ASTM D 785	
Coefficient of friction	@ 68 °F, Static, 50 psi	0.28	ASTM D 3702	2)
Coefficient of friction	@ 68 °F, Dynamic, 40 psi, 50 fpm	0.30	ASTM D 3702	3)
Wear (K) factor	@ 68 °F, 40 psi, 50 fpm	90*10 <sup>-10</sup> in <sup>3</sup> -min/ft-lbs-hr	ASTM D 3702	4)
Shear strength	@ 73 °F	14,100 psi	-	5)
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)	< Tg, along flow	1.2*10 <sup>-5</sup> in/in/°F	DIN EN ISO 11359-1:2	5) (5) Injection molded specimen
Thermal conductivity		2.08 BTU-in/hr-ft <sup>2</sup> -°F	ISO 22007-4:2008	6) (6) Injection molded specimen from public source
Electrical properties	condition	value	test method	comment
surface resistivity		1.0*10 <sup>16</sup> Ω/square	ASTM D 257	(1) injection molded specimen from public source
Volume resistivity	@ 73 °F	1.0*10 <sup>16</sup> Ω*cm	ASTM D 149	(2) injection molded specimen from public source
Dielectric strength	0.1	790 V/mil	ISO 60243-1	1) (3) injection molded specimen from public source
Dissipation factor	@ 73 °F, 1 MHz	0.005	DIN IEC 60250	2)
Dielectric constant	@ 73 °F, 1 kHz	3.2	DIN IEC 60250	3)
Other properties	condition	value	test method	comment
Moisture absorption	@ 24 hrs, 73 °F	0.2 %	ASTM D 570	(1) Data obtained from public source
Moisture absorption	@ saturation, 73°F	0.3 %	ASTM D 570	1) (2) Injection molded 3mm specimen
Flammability (UL94)		V0	-	2)

→ Resin specification:  
ASTM D4000-11 PEEK; MIL-P-46183 Ty. II Cl. 3, excp. Elong.  
Shapes specification:  
ASTM D6262-12 S-PAEK0121

→ 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](http://www.ensingerplastics.com).

