

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

# Chemical Designation

PEEK (Polyetheretherketone)

### Colour

natural opaque

# Density

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

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

				→ conveyor	Lecilii	ology	
Mechanical properties	condition	value	unit	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     (2) Injection molded specimen data obtained from	
Tensile strength at yield	@ 73 °F	15,000	psi	ASTM D 638			
Tensile strength at break	@ 73 °F	15,000	psi	ASTM D 638		public source (3) injection molded	
Elongation at break (tensile test)	@ 73 °F	2.2	%	ASTM D 638	_	specimen data from public source (4) injection molded	
Flexural strength	@ 73 °F	24,000	psi	ASTM D 790	<u>-</u>	specimen data from public source	
Modulus of elasticity (flexural test)	@ 73 °F	1,000,000	psi	ASTM D 790		(5) per ASTM D3846	
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>	in³-min/ft-lbs-hr	- ASTM D 3702	4)		
Shear strength	@ 73 °F	14,100	psi	-	5)		
Thermal properties	condition	value	unit	test method		comment	
Melting temperature		633	°F	-	1)	(1) Injection molded	
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)	< Tg, along flow	1.2*10 <sup>-5</sup>	in/in/°F	DIN EN ISO 11359-1;2			
Thermal conductivity		2.08	BTU-in/hr-ft <sup>2</sup> -°F	: ISO 22007-4:2008	6)	<ul> <li>(5) Injection molded specimen</li> <li>(6) Injection molded specimen from public source</li> </ul>	
Electrical properties	condition	value	unit	test method		comment	
surface resistivity		1.0*10 <sup>16</sup>	Ω/square	ASTM D 257		(1) injection molded specimen from public source (2) injection molded specimen from public source (3) injection molded specimen from public source	
volume resistance	@ 73 °F	1.0*10 <sup>16</sup>	Ω*cm	ASTM D 149			
Dielectric strength	0.1	790	V/mil	ISO 60243-1	1)		
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	unit	test method		comment	
Moisture absorption	@ 24 hrs, 73 °F	0.2	%	ASTM D 570		(1) Data obtained from public	
Moisture absorption	@ saturation, 73°F	0.3	%	ASTM D 570	1)	source (2) Injection molded 3mm	
Flammability (UL94)		V0		-	2)	specimen	

→ 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.

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Date: 2020/08/28