

GF30 PEEK 30% GF, Polyetheretherketone, 30% glass reinforced, extruded (ASTM Data)
Categories: Polymer; Thermoplastic; Filled/Reinforced Thermoplastic; Polyketone; Polyetheretherketone (PEEK); Polyetheretherketone, PEEK, Glass Fiber Filled

Material Notes: Extruded 30% Glass fiber reinforced polyetheretherketone. The addition of glass fibers significantly reduces the expansion rate and increases the flexural modulus of PEEK. This grade is ideal for structural applications that require improved strength, stiffness or stability, especially at temperatures above 300°F.

Physical Properties	Metric	English	Comments
Specific Gravity	1.51 g/cc	1.51 g/cc	ASTM D792
Water Absorption	0.10 %	0.10 %	Immersion, 24hr; ASTM D570(2)
Water Absorption at Saturation	0.30 %	0.30 %	Immersion; ASTM D570(2)

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	103	103	ASTM D785
Hardness, Rockwell R	126	126	ASTM D785
Hardness, Shore D	89	89	ASTM D2240
Tensile Strength	96.5 MPa	14000 psi	ASTM D638
Elongation at Break	2.0 %	2.0 %	ASTM D638
Tensile Modulus	6.89 GPa	1000 ksi	ASTM D638
Flexural Yield Strength	159 MPa	23000 psi	ASTM D790
Flexural Modulus	6.89 GPa	1000 ksi	ASTM D790
Compressive Strength	152 MPa	22000 psi	10% Def.; ASTM D695
Compressive Modulus	3.79 GPa	550 ksi	ASTM D695
Shear Strength	96.5 MPa	14000 psi	ASTM D732
Izod Impact, Notched	0.427 J/cm	0.800 ft-lb/in	ASTM D256 Type A

Electrical Properties	Metric	English	Comments
Surface Resistivity per Square	>= 1.00e+13 ohm	>= 1.00e+13 ohm	EOS/ESD S11.11
Dielectric Strength	19.7 kV/mm	500 kV/in	Short Term; ASTM D149

Thermal Properties	Metric	English	Comments
CTE, linear	21.6 $\mu\text{m/m}\cdot\text{C}$ @Temperature -40.0 - 149 °C	12.0 $\mu\text{in/in}\cdot\text{F}$ @Temperature -40.0 - 300 °F	ASTM E831
Thermal Conductivity	0.429 W/m-K	2.98 BTU-in/hr-ft ² -F	ASTM F433
Melting Point	340 °C	644 °F	Crystalline, Peak; ASTM D3418
Maximum Service Temperature, Air	249 °C	480 °F	Long Term
Deflection Temperature at 1.8 MPa (264 psi)	232 °C	450 °F	ASTM D648
Flammability, UL94	V-0	V-0	1/8 inch (Estimated Rating)

Compliance Properties	Metric	English	Comments
3A-Dairy	No	No	
Canada AG	No	No	
FDA	No	No	
NSF	No	No	
USDA	No	No	
USP Class VI	No	No	

Chemical Resistance Properties	Metric	English	Comments
Acids, Strong (pH 1-3)	Limited	Limited	
Acids, Weak	Acceptable	Acceptable	
Alcohols	Acceptable	Acceptable	
Alkalies, Strong (pH 11-14)	Acceptable	Acceptable	
Alkalies, Weak	Acceptable	Acceptable	
Chlorinated Solvents	Acceptable	Acceptable	
Conductive / Static Dissipative	No	No	
Continuous Sunlight	Limited	Limited	
Hot Water / Steam	Acceptable	Acceptable	
Hydrocarbons - Aliphatic	Acceptable	Acceptable	
Hydrocarbons - Aromatic	Acceptable	Acceptable	
Inorganic Salt Solutions	Acceptable	Acceptable	
Ketones, Esters	Acceptable	Acceptable	