

## CM CA30 PEEK Polyetheretherketone, 30% carbon fiber reinforced, compression molded (ASTM Data)

**Categories:** Polymer; Thermoplastic; Filled/Reinforced Thermoplastic; Polyketone; Polyetheretherketone (PEEK); Polyetheretherketone, PEEK, Glass Fiber Filled

Physical Properties	Metric	English	Comments
Specific Gravity	1.42 g/cc	1.42 g/cc	ASTM D792
Water Absorption	0.15 %	0.15 %	Immersion, 24hr; ASTM D570(2)
Water Absorption at Saturation	0.50 %	0.50 %	Immersion; ASTM D570(2)
Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	108	108	ASTM D785
Hardness, Rockwell R	125	125	ASTM D785
Hardness, Shore D	91	91	ASTM D2240
Tensile Strength	110 MPa	16000 psi	ASTM D638
Elongation at Break	3.0 %	3.0 %	ASTM D638
Tensile Modulus	9.65 GPa	1400 ksi	ASTM D638
Flexural Yield Strength	159 MPa	23000 psi	ASTM D790
Flexural Modulus	6.89 GPa	1000 ksi	ASTM D790
Compressive Strength	193 MPa	28000 psi	10% Def.; ASTM D695
Compressive Modulus	4.00 GPa	580 ksi	ASTM D695
Shear Strength	75.8 MPa	11000 psi	ASTM D732
Izod Impact, Notched	0.747 J/cm	1.40 ft-lb/in	ASTM D256 Type A
Coefficient of Friction	0.24	0.24	Dry vs. Steel; QTM55007
K (wear) Factor	205 x 10 <sup>-8</sup> mm <sup>3</sup> /N-M	102 x 10 <sup>-10</sup> in <sup>3</sup> -min/ft-lb-hr	QTM 55010
Limiting Pressure Velocity	0.596 MPa-m/sec	17000 psi-ft/min	4:1 safety factor; QTM 55007
Electrical Properties	Metric	English	Comments
Surface Resistivity per Square	<= 100000 ohm	<= 100000 ohm	EOS/ESD S11.11
Thermal Properties	Metric	English	Comments
CTE, linear	41.4 µm/m-°C @Temperature -40.0 - 149 °C	23.0 µin/in-°F @Temperature -40.0 - 300 °F	ASTM E831
Thermal Conductivity	0.918 W/m-K	6.37 BTU-in/hr-ft <sup>2</sup> -°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	Yes	Yes	
Continuous Sunlight	Acceptable	Acceptable	
Hot Water / Steam	Acceptable	Acceptable	
Hydrocarbons - Aliphatic	Acceptable	Acceptable	
Hydrocarbons - Aromatic	Acceptable	Acceptable	
Inorganic Salt Solutions	Acceptable	Acceptable	
Ketones, Esters	Acceptable	Acceptable	