

Quadrant EPP Ketron® CA30 PEEK + carbon fibres, extruded (ISO Data)

Category : Polymer , Thermoplastic , Polyketone , Polyetheretherketone (PEEK) , Polyetheretherketone, PEEK, Carbon Fiber Filled

Material Notes:

This 30 % carbon fibre reinforced grade combines even higher stiffness, mechanical strength and creep resistance than Ketron PEEK-GF30 with an optimum wear resistance. Moreover, compared with unreinforced PEEK, the carbon fibres considerably reduce thermal expansion and provide 3.5 times higher thermal conductivity – dissipating heat from the bearing surface faster, improving bearing life and pressure-velocity capabilities Very high maximum allowable service temperature in air (250 °C continuously, up to 310 °C for short periods of time) High mechanical strength, stiffness and creep resistance, also at elevated temperatures Excellent chemical and hydrolysis resistance Excellent wear & frictional behaviour Very good dimensional stability Excellent resistance to high energy radiation (gamma- and X-rays) Inherent low flammability and very low levels of smoke evolution during combustion

Order this product through the following link:

http://www.lookpolymers.com/polymer_Quadrant-EPP-Ketron-CA30-PEEK-carbon-fibres-extruded-ISO-Data.php

Physical Properties	Metric	English	Comments
Density	1.40 g/cc	0.0506 lb/in ³	ISO 1183-1
Moisture Absorption at Equilibrium	0.16 %	0.16 %	50% RH
Water Absorption at Saturation	0.35 %	0.35 %	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	102	102	ISO 2039-2
Hardness, Shore D	90	90	
Ball Indentation Hardness	310 MPa	45000 psi	ISO 2039-1
Tensile Strength	144 MPa	20900 psi	at Break (NYP); ISO 527-1/-2
Elongation at Break	3.5 %	3.5 %	ISO 527-1/-2
Tensile Modulus	9.20 GPa	1330 ksi	ISO 527-1/-2
Flexural Strength	220 MPa	31900 psi	
Compressive Strength	69.0 MPa	10000 psi	ISO 604
	@Strain 1 %	@Strain 1 %	
	125 MPa	18100 psi	ISO 604
	@Strain 2 %	@Strain 2 %	
	170 MPa	24700 psi	ISO 604
	@Strain 5 %	@Strain 5 %	
K Factor (ISO)	2.0 µm/km	2.0 µm/km	

Mechanical Properties	Metric	English	Comments
Charpy Impact Unnotched	5.00 J/cm²	23.4 ft-lb/in²	ISO 179-1/1eU
Charpy Impact, Notched	0.500 J/cm²	2.38 ft-lb/in²	ISO 179-1/1eA
Coefficient of Friction, Dynamic	0.20 - 0.30	0.20 - 0.30	

Thermal Properties	Metric	English	Comments
CTE, linear	25.0 µm/m-°C @ Temperature 23.0 - 100 °C	13.9 µin/in-°F @ Temperature 73.4 - 212 °F	
Thermal Conductivity	0.920 W/m-K	6.38 BTU-in/hr-ft²-°F	
Melting Point	340 °C	644 °F	DSC, 10°C/min.; ISO 11357-1/-3
Maximum Service Temperature, Air	250 °C	482 °F	Continuous
Deflection Temperature at 1.8 MPa (264 psi)	260 °C	500 °F	ISO 75-1/-2
Flammability, UL94	V-0	V-0	
Oxygen Index	40 %	40 %	ISO 4589-1/-2

Electrical Properties	Metric	English	Comments
Volume Resistivity	<= 1e+05	<= 1e+05	IEC 60093
Surface Resistivity per Square	<= 1e+05	<= 1e+05	IEC 60093

Compliance Properties	Metric	English	Comments
3A-Dairy	No	No	
European Food 1935/2004	No	No	
FDA	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 Chemical Resistance Properties	Acceptable Metric	Acceptable English	Comments
Chlorinated Solvents	Acceptable	Acceptable	
Conductive / Static Dissipative	Yes	Yes	
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	

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