

Quadrant EPP Ketron® CA30 PEEK, Extruded 30% Carbon Fiber Reinforced Polyetherether Ketone (ASTM Product Data Sheet)

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

Material Notes:

Order this product through the following link:

http://www.lookpolymers.com/polymer_Quadrant-EPP-Ketron-CA30-PEEK-Extruded-30-Carbon-Fiber-Reinforced-Polyetherether-Ketone-ASTM-Product-Data-Sheet.php

| Physical Properties | Metric | English | Comments |
|--------------------------------|-----------|-----------|-------------------------------|
| Specific Gravity | 1.41 g/cc | 1.41 g/cc | ASTM D792 |
| Water Absorption | 0.060 % | 0.060 % | 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 | 102 | 102 | ASTM D785 |
| Hardness, Shore D | 93 | 93 | ASTM D2240 |
| Tensile Strength | 131 MPa | 19000 psi | ASTM D638 |
| Elongation at Break | 5.0 % | 5.0 % | ASTM D638 |
| Tensile Modulus | 7.58 GPa | 1100 ksi | ASTM D638 |
| Flexural Strength | 177.5 MPa | 25750 psi | ASTM D790 |
| Flexural Modulus | 8.62 GPa | 1250 ksi | ASTM D790 |
| Compressive Strength | 200 MPa | 29000 psi | 10% Def.; ASTM D695 |
| Izod Impact, Notched | 0.550 J/cm | 1.03 ft-lb/in | ASTM D256 Type A |
| Coefficient of Friction, Dynamic | 0.20 | 0.20 | Dry vs. Steel; QTM55007 |
| K (wear) Factor | 302 x 10 ⁻⁸ mm ³ /N-M | 150 x 10 ⁻¹⁰ in ³ -min/ft-lb-hr | QTM 55010 |
| Limiting Pressure Velocity | 0.876 MPa-m/sec | 25000 psi-ft/min | 4:1 safety factor; QTM 55007 |

| Thermal Properties | Metric | English | Comments |
|----------------------|-----------------------------|------------------------------------|-----------|
| CTE, linear | 18.0 µm/m-°C | 10.0 µin/in-°F | ASTM E831 |
| | @Temperature -40.0 - 149 °C | @Temperature -40.0 - 300 °F | |
| Thermal Conductivity | 0.922 W/m-K | 6.40 BTU-in/hr-ft ² -°F | ASTM F433 |

| Thermal Properties | Metric | English | Comments |
|---|--------|---------|-----------------------------|
| Maximum Service Temperature, Air | 250 °C | 482 °F | Long Term |
| Deflection Temperature at 1.8 MPa (264 psi) | 270 °C | 518 °F | ASTM D648 |
| Flammability, UL94 | V-0 | V-0 | 1/8 inch (Estimated Rating) |

| Electrical Properties | Metric | English | Comments |
|--------------------------------|------------|------------|-----------------------|
| Surface Resistivity per Square | <= 1e+05 | <= 1e+05 | EOS/ESD S11.11 |
| Dielectric Strength | 1.26 kV/mm | 32.0 kV/in | Short Term; ASTM D149 |

| 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 Chemical Resistance Properties | Acceptable Metric | Acceptable English | Comments |
|---|-----------------------------|------------------------------|----------|
| Ketones, Esters | Acceptable | Acceptable | |

| Descriptive Properties | Value | Comments |
|-------------------------------|---------|---------------------------|
| Color | Natural | |
| Machinability | 7 | 1-10, 1=Easier to Machine |

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