# Edgetek™ PK-30CF/000 BK

**Polyetheretherketone**

## Key Characteristics

| | | |
|---|---|---|
| **Product Description** | | |
| 30% Carbon Fiber Reinforced PEEK Compound with Standard Flowability for Injection Molding Application | | |
| **General** | | |
| Material Status | • Commercial: Active | |
| Regional Availability | • Africa & Middle East<br>• Asia Pacific | • Europe<br>• North America |
| Filler / Reinforcement | • Carbon Fiber, 30% Filler by Weight | |
| Features | • General Purpose | • High Heat Resistance |
| Uses | • Automotive Applications<br>• Consumer Applications | • General Purpose<br>• Industrial Applications |
| Appearance | • Black | |
| Forms | • Pellets | |
| Processing Method | • Injection Molding | |

## Technical Properties [1]

| Physical | Typical Value (English) | Typical Value (SI) | Test Method |
|---|---|---|---|
| Specific Gravity | 1.40 | 1.40 | ASTM D792 |
| Molding Shrinkage - Flow | 5.0E-4 to 2.0E-3 in/in | 0.050 to 0.20 % | ASTM D955 |
| Molding Shrinkage - Across Flow | 0.014 to 0.016 in/in | 1.4 to 1.6 % | ASTM D955 |
| Water Absorption (24 hr, 0.125 in (3.18 mm)) | 0.050 % | 0.050 % | ASTM D570 |
| Water Absorption (Saturation) | 0.13 % | 0.13 % | ASTM D570 |
| **Mechanical** | **Typical Value (English)** | **Typical Value (SI)** | **Test Method** |
| Tensile Modulus [2] (73°F (23°C)) | 3.63E+6 psi | 25000 MPa | ASTM D638 |
| Tensile Strength [3] | | | ASTM D638 |
| Break, 73°F (23°C) | 35500 psi | 245 MPa | |
| Break, 248°F (120°C) | 23200 psi | 160 MPa | |
| Tensile Elongation [2] (Break) | 1.0 to 2.0 % | 1.0 to 2.0 % | ASTM D638 |
| Flexural Modulus | | | ASTM D790 |
| 73°F (23°C) | 3.19E+6 psi | 22000 MPa | |
| 248°F (120°C) | 2.90E+6 psi | 20000 MPa | |
| Flexural Strength | | | ASTM D790 |
| 73°F (23°C) | 55100 psi | 380 MPa | |
| 248°F (120°C) | 37700 psi | 260 MPa | |
| **Impact** | **Typical Value (English)** | **Typical Value (SI)** | **Test Method** |
| Notched Izod Impact | | | ASTM D256A |
| 73°F (23°C), 0.125 in (3.18 mm), Injection Molded | 1.9 ft·lb/in | 100 J/m | |
| **Hardness** | **Typical Value (English)** | **Typical Value (SI)** | **Test Method** |
| Shore Hardness (Shore D, 73°F (23°C)) | 89 | 89 | ISO 868 |

| Thermal | Typical Value (English) | Typical Value (SI) | Test Method |
|---|---|---|---|
| Deflection Temperature Under Load | | | ASTM D648 |
| 264 psi (1.8 MPa), Unannealed, 0.125 in (3.18 mm) | 617 °F | 325 °C | |
| Glass Transition Temperature | 295 °F | 146 °C | DSC |
| Melting Temperature (DSC) | 649 °F | 343 °C | ISO 3146 |
| CLTE - Flow | | | ISO 11359-2 |
| < 295°F (< 146°C) | 3.3E-6 in/in/°F | 6.0E-6 cm/cm/°C | |
| > 295°F (> 146°C) | 4.4E-6 in/in/°F | 8.0E-6 cm/cm/°C | |
| CLTE - Transverse | | | ISO 11359-2 |
| < 295°F (< 146°C) | 2.8E-5 in/in/°F | 5.0E-5 cm/cm/°C | |
| > 295°F (> 146°C) | 5.6E-5 in/in/°F | 1.0E-4 cm/cm/°C | |
| Thermal Conductivity | | | ASTM E1461 |
| 140°F (60°C) [4] | 3.3 Btu·in/hr/ft²/°F | 0.48 W/m/K | |
| 140°F (60°C) [5] | 12 Btu·in/hr/ft²/°F | 1.7 W/m/K | |

| Electrical | Typical Value (English) | Typical Value (SI) | Test Method |
|---|---|---|---|
| Surface Resistivity | 1.0E+4 to 1.0E+5 ohms | 1.0E+4 to 1.0E+5 ohms | ASTM D257 |

| Flammability | Typical Value (English) | Typical Value (SI) | Test Method |
|---|---|---|---|
| Flame Rating (0.0315 in (0.800 mm)) | V-0 | V-0 | Internal Method |

## Processing Information

| Injection | Typical Value (English) | Typical Value (SI) |
|---|---|---|
| Drying Temperature | 302 °F | 150 °C |
| Drying Time | 4.0 to 6.0 hr | 4.0 to 6.0 hr |
| Processing (Melt) Temp | 662 to 734 °F | 350 to 390 °C |
| Mold Temperature | 338 to 374 °F | 170 to 190 °C |

**Injection Notes**

Injection Pressure: MED-HIGH
Hold Pressure: MED-HIGH
Screw Speed: MODERATE
Back Pressure: LOW

### Notes

[1] Typical values are not to be construed as specifications.

[2] Type I, 0.20 in/min (5.1 mm/min)

[3] 0.20 in/min (5.0 mm/min)

[4] through-plane

[5] in-plane

## CONTACT INFORMATION

**Americas**

United States - Avon Lake
+1 440 930 1000

United States - McHenry
+1 815 385 8500

**Asia**

China - Guangzhou
+86 20 8732 7260

China - Shenzhen
+86 755 2969 2888

China - Suzhou
+86 512 6823 24 38

China - Suzhou
+86 512 6265 2600

Hong Kong -
+852 2690 5332

Taiwan - Yonghe City,
+886 9396 99740, +886 2929 1849

**Europe**

Germany - Gaggenau
+49 7225 6802 0

Spain - Barbastro (Huesca)
+34 974 310 314

*Beyond Polymers.*

*Better Business Solutions.* SM

www.polyone.com

**PolyOne Americas**
33587 Walker Road
Avon Lake, Ohio 44012
United States
+1 440 930 1000
+1 866 POLYONE

**PolyOne Asia**
No. 88 Guoshoujing Road
Z.J Hi-tech Park, Pudong
Shanghai, 201203, China
+86 21 5080 1188

**PolyOne Europe**
6 Giällewee
+352 269 050 35