



# DRAKE BG PEEK

## Bearing Grade

### DESCRIPTION

**Drake BG PEEK** is an industrial grade polyetheretherketone possessing improved wear resistance for high temperature and chemically aggressive environments. It offers the high strength and stiffness of reinforced PEEK, but twice the limiting PV, 30% lower coefficient of friction, and 25% the wear rate of unfilled PEEK. It performs well in both dry running and lubricated bearing applications.

### TYPICAL APPLICATIONS:

- Industrial bushings and bearings
- High temperature wear pads
- Pump wear rings

**Material Notes:** Drake BG PEEK is common to a family of PEEK wear grades referred to as 10-10-10 PEEK (10% carbon fiber, 10% graphite, 10% PTFE). It is not approved for direct food contact applications.

### EXTRUDED SHAPES PROPERTIES

PHYSICAL PROPERTIES	METRIC	IMPERIAL	METHODS
Specific Gravity	1.45 g/cc	0.053 lb/in <sup>3</sup>	ASTM D792
Water Absorption	0.5%	0.5%	Immersion, 24hr; ASTM D570(2)
Water Absorption at Saturation	0.3%	0.3%	Immersion; ASTM D570(2)
MECHANICAL PROPERTIES <sup>1</sup>			
Hardness, Rockwell M	100	85	ASTM D785
Hardness, Rockwell R	125	115	ASTM D785
Hardness, Shore D	92	86	ASTM D2240
Tensile Strength, Ultimate	97 MPa	14,000 PSI	ASTM D638
Elongation at Break	4%	4%	ASTM D638
Tensile Modulus	5,862 MPa	850,000 PSI	ASTM D638
Flexural Modulus	6,896 MPa	1,000,000 PSI	ASTM D790
Flexural Yield Strength	172 MPa	25,000 PSI	ASTM D790
Compressive Strength	138 MPa	20,000 PSI	10% Def.; ASTM D695
Compressive Modulus	3,500 MPa	500,000 PSI	ASTM D695
Izod Impact (notched)	36.8 J/m	0.7 ft-lbs/in	ASTM D256 Type A
THERMAL PROPERTIES			
Glass Transition Temp./T <sub>g</sub>	150° C	302° F	ASTM D3418
Coefficient of Linear Thermal Expansion	4.8 x 10 <sup>-5</sup> C <sup>-1</sup>	2.7 x 10 <sup>-5</sup> F <sup>-1</sup>	ASTM E831

<sup>1</sup>The mechanical properties of extruded shapes may differ from the values published by resin producers. Published resin data is always generated from test specimens injection molded under optimum conditions. Drake's extruded shape values are generated using specimens machined from actual shapes and may reflect surface imperfections from machining, enhanced crystallinity as a result of processing, and fiber alignment inherent in all reinforced plastic shapes, regardless of process. For additional information on the effects of fiber alignment, see Drake Fiber Orientation Diagram, available on the Resource page of our website.