



KT 820 CF30 PEEK

30% Carbon Fiber Reinforced

DESCRIPTION

KT 820 CF30 is a 30% carbon fiber reinforced PEEK polymer offering high strength for applications demanding strength, wear, abrasion resistance and broad-based chemical resistance. KT 820 CF30's high molecular weight allows Drake to offer shapes up to 8" diameter with low residual stress and optimal machinability. Its low CLTE in the primary fiber direction means parts dimensions remain stable with temperature change. Additionally, it also has high temperature reliability, along with 2x the creep resistance and 2.5x more wear resistance than unfilled PEEK, enabling the support of high loads without permanent deformations.

TYPICAL APPLICATIONS:

- Pump wear parts and vanes
- Static dissipative components
- Seals and back-up rings
- Rotor, gear, and spline components

Material Notes: KT 820 CF30 is the equivalent to Victrex 450 CA30 and is available up to 6" diameter rod.

EXTRUDED SHAPES PROPERTIES

PHYSICAL PROPERTIES	METRIC	IMPERIAL	METHODS
Specific Gravity	1.41 g/cc	0.0515 lb/in ³	ASTM D792
Water Absorption	0.06%	0.06%	Immersion, 24hr; ASTM D570(2)
Water Absorption at Saturation	0.3%	0.3%	Immersion; ASTM D570(2)
MECHANICAL PROPERTIES ¹			
Hardness, Rockwell M	100	100	ASTM D785
Hardness, Rockwell R	125	125	ASTM D785
Hardness, Shore D	92	92	ASTM D2240
Tensile Strength, Ultimate	131 MPa	19,000 PSI	ASTM D638
Elongation at Break	4%	4%	ASTM D638
Tensile Modulus	7,586 MPa	1,100,000 PSI	ASTM D638
Flexural Modulus	7,586 MPa	1,100,000 PSI	ASTM D790
Flexural Yield Strength	207 MPa	30,000 PSI	ASTM D790
Compressive Strength	180 MPa	26,000 PSI	10% Def.; ASTM D695
Compressive Modulus	6,900 MPa	1,000,000 PSI	ASTM D695
Izod Impact (notched)	78.8 J/m	1.5 ft-lbs/in	ASTM D256 Type A
THERMAL PROPERTIES			
Glass Transition Temp./T _g	150° C	302° F	ASTM D3418
Coefficient of Linear Thermal Expansion	1.8 x 10 ⁻⁵ C ⁻¹	1.0 x 10 ⁻⁵ F ⁻¹	ASTM E831

¹The 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.