

## Description:

Genesis KT 820 CF30 PEEK has higher structural strength than unfilled and glass reinforced grades. Its 30% carbon fiber content also provides 2.5 times the wear resistance of unfilled PEEK, a benefit for dynamic load-bearing devices that must maintain rigidity and resist frictional wear. Available in a wide range of rod and plate sizes, the shapes are extruded from KetaSpire® KT 820 CF30 PEEK resin, approved for applications with short term (up to 24 hours) exposure to bodily tissue and fluids.

## Typical Applications:

High structural strength and wear resistance make carbon fiber reinforced KT 820 CF30 shapes particularly beneficial for instruments requiring rigidity, and precision-machined prosthetic devices that must resist frictional wear under dynamic load. Applications include:

- Passive prostheses
- Body power prostheses
- Externally powered prostheses
- Surgical retractors

## Extruded Shapes Properties

PHYSICAL PROPERTIES	METRIC	IMPERIAL	METHODS
Specific Gravity	1.41 g/cc	0.0515 lb/in <sup>3</sup>	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 <sup>1</sup>			
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	108 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 <sub>g</sub>	150° C	302° F	ASTM D3418
Coefficient of Linear Thermal Expansion	1.8 x 10 <sup>-5</sup> C <sup>-1</sup>	1.0 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. Genesis' extruded shape values are generated using specimens machined from actual shapes and may reflect surface imperfections from machining and enhanced crystallinity as a result of processing.