

## Description:

Medical grade PEEK shapes from Genesis are extruded from KetaSpire® PEEK KT 820 NT, an unfilled, FDA compliant resin that can be used for devices with short term exposure (up to 24 hours) to bodily tissue and fluids. The material has an excellent balance of mechanical properties and resistance to repeated sterilization, high temperatures, chemicals and cleaning solutions. It also offers wear resistance for applications under dynamic load. During processing, the shapes are fully stress relieved to enhance the stability of machined parts.

## Typical Applications:

- Components for endoscopic and laparoscopic devices
- Fluid delivery system manifolds, connectors, and valves
- Instruments requiring frequent sterilization

**Material Notes:** KT 820 NT is Syensqo's equivalent to Victrex 450G and Evonik Vestakeep 4000.

## Extruded Shapes Properties

PHYSICAL PROPERTIES	METRIC	IMPERIAL	METHODS
Specific Gravity	1.30 g/cc	0.047 lb/in <sup>3</sup>	ASTM D792
Water Absorption	0.1%	0.1%	Immersion, 24hr; ASTM D570(2)
Water Absorption at Saturation	0.5%	0.5%	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	85	85	ASTM D2240
Tensile Strength, Ultimate	103 MPa	15,000 PSI	ASTM D638
Elongation at Break	20%	20%	ASTM D638
Tensile Modulus	4,140 MPa	600,000 PSI	ASTM D638
Flexural Modulus	4,140 MPa	600,000 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)	63 J/m	1.2 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	4.68 x 10 <sup>-5</sup> C <sup>-1</sup>	2.6 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.