



# AVASPIRE® 621 GF30 PAEK

*30% Glass Fiber Reinforced, FDA Compliant*

## DESCRIPTION

**AvaSpire 621 GF30** is a 30% carbon glass reinforced PAEK blend developed to offer better toughness than typical glass-fiber reinforced PEEK compositions. It has better chemical resistance than glass-reinforced amorphous polymers, such as PEI and PAI. It additionally offers excellent machinability, autoclavability, and good dielectric properties for high strength parts and machine components requiring FDA compliancy.

## TYPICAL APPLICATIONS:

- Surgical instrument handles
- Fasteners
- Thermal and electrical insulators

**Material Notes:** *AvaSpire 621 GF30 is one of the strongest and stiffest FDA compliant polymer.*

## EXTRUDED SHAPES PROPERTIES

PHYSICAL PROPERTIES	METRIC	IMPERIAL	METHODS
Specific Gravity	1.44 g/cc	0.056 lb/in <sup>3</sup>	ASTM D792
Water Absorption	0.2%	0.2%	Immersion, 24hr; ASTM D570(2)
Water Absorption at Saturation	0.6%	0.6%	Immersion; ASTM D570(2)
MECHANICAL PROPERTIES <sup>1</sup>			
Hardness, Rockwell M	100	100	ASTM D785
Hardness, Rockwell R	120	120	ASTM D785
Hardness, Shore D	90	90	ASTM D2240
Tensile Strength, Ultimate	105 MPa	15,000 PSI	ASTM D638
Elongation at Break	10%	10%	ASTM D638
Tensile Modulus	5,520 MPa	800,000 PSI	ASTM D638
Flexural Modulus	5,520 MPa	800,000 PSI	ASTM D790
Flexural Yield Strength	138 MPa	20,000 PSI	ASTM D790
Compressive Strength	124 MPa	18,000 PSI	10% Def.; ASTM D695
Compressive Modulus	3,450 MPa	500,000 PSI	ASTM D695
Izod Impact (notched)	80 J/m	1.5 ft-lbs/in	ASTM D256 Type A
THERMAL PROPERTIES			
Glass Transition Temp./T <sub>g</sub>	158° C	316° F	ASTM D3418
Coefficient of Linear Thermal Expansion	2.5 x 10 <sup>-5</sup> C <sup>-1</sup>	1.4 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.