



Product Datasheet

AvaSpire® 621CF30

30% Carbon Fiber Reinforced, FDA Compliant PAEK, Extruded Shapes

AvaSpire 621CF30 is a 30% carbon fiber reinforced PAEK blend developed to offer better toughness than typical carbon fiber reinforced PEEK compositions. It has better chemical resistance than reinforced amorphous polymers such as PEI and PAI. It offers excellent machinability and resistance to high temperature steam and is well suited for highly stressed parts and machine components requiring FDA compliance. Typical applications are:

- Surgical fixtures
- Compressor valve plates and poppets
- Fasteners

Material Notes: AV 621 CF30 is the strongest and stiffest FDA compliant polymer.

Physical Properties	Metric	English	Methods
Specific Gravity	1.42 g/cc	0.052 lb/in ³	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*

Hardness, Rockwell M	100	100	ASTM D785
Hardness, Rockwell R	120	120	ASTM D785
Hardness, Shore D	90	90	ASTM D2240
Tensile Strength, Ultimate	124 MPa	18,000 psi	ASTM D638
Elongation at Break	5%	5 %	ASTM D638
Tensile Modulus	6900 MPa	1,000,000 psi	ASTM D638
Flexural Modulus	6900 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	5520 MPa	800,000 psi	ASTM D695
Izod Impact (notched)	64J/M	1.2	ASTM D256 Type A

Thermal Properties

Melt Point	340°C	644°F	ASTMD3418
Heat Deflection Temp (264 psi)	215°C	420°F	ASTM D638
Coefficient of Linear Thermal Exp. in/in/°F	2.1x10 ⁻⁵ °C ⁻¹	1.2x10 ⁻⁵ °F ⁻¹	ASTM E831

*The mechanical properties of extruded shapes may differ from the values published by resin producers. Published resin data is always generated off injection molded test specimens run under near perfect conditions. Drake's extruded shape values are generated using specimens machined from actual shapes and may reflect surface imperfections from machining, enhanced crystallinity resulting from 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.