

AvaSpire® AV-848 CF30

polyaryletherketone

AvaSpire® AV-848 CF30 is a 30% carbon fiber-reinforced, high-temperature, polyaryletherketone (PAEK) that has been specifically formulated to provide several performance advantages over comparable grades of PEEK. These include improved dimensional stability, higher stiffness and lower CLTE from 150°C to 240°C, and lower modulus for greater flexibility at room temperature.

specifically in demanding applications that require superior toughness, higher structural integrity, and exceptional chemical resistance.

AvaSpire® AV-848 CF30 can be easily processed using standard thermoplastic melt processing techniques, including injection molding and extrusion.

High temperature AV-848 CF30 provides design engineers with an alternative to reinforced PEEK,

General

Material Status	• Commercial: Active	
Availability	• Africa & Middle East • Asia Pacific • Europe	• Latin America • North America
Filler / Reinforcement	• Carbon Fiber, 30% Filler by Weight	
Features	• Chemical Resistant • Fatigue Resistant • Flame Retardant • Good Dimensional Stability	• High Heat Resistance • High Stiffness • High Strength
Uses	• Bearings • Bushings • Oil/Gas Applications	• Seals • Wear Strip
RoHS Compliance	• Contact Manufacturer	
Appearance	• Black	
Forms	• Pellets	
Processing Method	• Injection Molding • Machining	• Profile Extrusion

Physical	Typical Value	Unit	Test method
Density / Specific Gravity	1.42		ASTM D792
Melt Mass-Flow Rate (MFR) (400°C/2.16 kg)	3.5	g/10 min	ASTM D1238
Molding Shrinkage			ASTM D955
Flow	0.0 to 0.20	%	
Across Flow	0.40 to 0.60	%	
Water Absorption (24 hr)	0.10	%	ASTM D570

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Mechanical	Typical Value	Unit	Test method
Tensile Modulus ¹	18800	MPa	ASTM D638
Tensile Strength ¹	176	MPa	ASTM D638
Tensile Elongation ¹ (Break)	1.5	%	ASTM D638
Flexural Modulus	16500	MPa	ASTM D790
Flexural Strength	259	MPa	ASTM D790
Compressive Strength	145	MPa	ASTM D695
Shear Strength	95.0	MPa	ASTM D732

Impact	Typical Value	Unit	Test method
Notched Izod Impact	43	J/m	ASTM D256
Unnotched Izod Impact	530	J/m	ASTM D4812

Thermal	Typical Value	Unit	Test method
Deflection Temperature Under Load 1.8 MPa, Annealed	257	°C	ASTM D648
Glass Transition Temperature	158	°C	DSC
Peak Melting Temperature	340	°C	ASTM D3418
Thermal Conductivity	0.037	W/m/K	ASTM E1530

Injection	Typical Value	Unit
Drying Temperature	149	°C
Drying Time	4.0	hr
Rear Temperature	366	°C
Middle Temperature	371	°C
Front Temperature	377	°C
Nozzle Temperature	382	°C
Processing (Melt) Temp	382 to 404	°C
Mold Temperature	166 to 193	°C
Injection Rate	Fast	
Screw Compression Ratio	2.0:1.0 to 3.0:1.0	

Injection Notes

Back Pressure: Minimum

Notes

Typical properties: these are not to be construed as specifications.

¹ 5.0 mm/min

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