

AvaSpire® AV-722 CF30 polyaryletherketone

AvaSpire® AV-722 CF30 is a 30% carbon fiber reinforced version of AvaSpire® AV-722. This formulation offers improved part economics relative to 30% carbon fiber reinforced PEEK while retaining most of the desirable high performance attributes of carbon fiber reinforced PEEK. Those attributes include chemical resistance, fatigue resistance, and long term thermal oxidative stability.

The excellent balance of properties of AV-722 CF30 makes this grade well suited for a broad range of applications across a number of industries, including healthcare, transportation, electronics, oil and gas and chemical processing.

The melt processing behavior of AV-722 CF30 is overall very similar to that of 30% CF 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 • Flame Retardant • Good Dimensional Stability	• High Heat Resistance • High Stiffness • High Strength
Uses	• Automotive Applications • Gears	• Industrial Applications
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)	0.80	g/10 min	ASTM D1238
Molding Shrinkage ¹			ASTM D955
Flow : 3.18 mm	0.0 to 0.20	%	
Across Flow : 3.18 mm	1.4 to 1.6	%	
Water Absorption (24 hr)	0.10	%	ASTM D570

Mechanical	Typical Value	Unit	Test method
Tensile Modulus			
-- ²	22000	MPa	ASTM D638
--	26600	MPa	ISO 527-1/1A/1

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Mechanical	Typical Value	Unit	Test method
Tensile Stress			
Yield	224	MPa	ISO 527-2/1A/5
-- ²	200	MPa	ASTM D638
Tensile Elongation			
Break ²	1.5	%	ASTM D638
Break	1.5	%	ISO 527-2/1A/5
Flexural Modulus			
--	19300	MPa	ASTM D790
--	25000	MPa	ISO 178
Flexural Strength			
--	304	MPa	ASTM D790
--	334	MPa	ISO 178
Compressive Strength	170	MPa	ASTM D695
Shear Strength	98.0	MPa	ASTM D732
Poisson's Ratio	0.44		ASTM E132

Impact	Typical Value	Unit	Test method
Notched Izod Impact			
--	53	J/m	ASTM D256
--	8.5	kJ/m ²	ISO 180
Unnotched Izod Impact			
--	530	J/m	ASTM D4812
--	39	kJ/m ²	ISO 180

Hardness	Typical Value	Unit	Test method
Rockwell Hardness (M-Scale)	107		ASTM D785

Thermal	Typical Value	Unit	Test method
Deflection Temperature Under Load			ASTM D648
1.8 MPa, Annealed	276	°C	
Glass Transition Temperature	150	°C	ASTM D3418
Peak Melting Temperature ³	340	°C	ASTM D3418
CLTE - Flow (-50 to 50°C)	6.0E-6	cm/cm/°C	ASTM E831
Specific Heat			DSC
50°C	1280	J/kg/°C	
200°C	1740	J/kg/°C	
Thermal Conductivity	0.34	W/m/K	ASTM C177

Fill Analysis	Typical Value	Unit
Melt Viscosity (400°C, 1000 sec ⁻¹)	470	Pa·s

Injection	Typical Value	Unit
Drying Temperature	149	°C
Drying Time	4.0	hr
Rear Temperature	366	°C

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Injection	Typical Value	Unit
Middle Temperature	371	°C
Front Temperature	377	°C
Nozzle Temperature	382	°C
Mold Temperature	177 to 204	°C
Injection Rate	Fast	
Screw Compression Ratio	2.5:1.0 to 3.5:1.0	

Injection Notes

Back Pressure: Minimum

Notes

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

¹ 5" x 0.5" x 0.125" bars

² 5.0 mm/min

³ For major component

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