

AvaSpire[®] AV-848 GF30 polyaryletherketone

AvaSpire® AV-848 GF30 is a 30% glass fiberreinforced, high-temperature, polyaryletherketone (PAEK) that has been specifically formulated to provide several performance advantages over comparable grades of reinforced 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.

High temperature AV-848 GF30 provides design engineers with an alternative to reinforced PEEK,

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

AvaSpire® PAEK can be easily processed using standard thermoplastic melt processing techniques, including injection molding and extrusion.

• Natural: AvaSpire® AV-848 GF30 NT

General

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Material Status	Commercial: Active	
Availability	 Africa & Middle East Asia Pacific Europe 	 Latin America North America
Filler / Reinforcement	 Glass Fiber, 30% Filler by Weight 	
Features	 Chemical Resistant Fatigue Resistant Flame Retardant Good Dimensional Stability 	High Heat ResistanceHigh StiffnessHigh Strength
Uses	Oil/Gas Applications	• Seals
RoHS Compliance	Contact Manufacturer	
Appearance	Natural Color	
Forms	Pellets	
Processing Method	Injection MoldingMachining	Profile Extrusion

Physical	Typical Value Unit	Test method
Density / Specific Gravity	1.53	ASTM D792
Melt Mass-Flow Rate (MFR) (400°C/2.16 kg)	9.0 g/10 min	ASTM D1238
Molding Shrinkage ¹		ASTM D955
Flow : 3.18 mm	0.20 to 0.40 %	
Across Flow : 3.18 mm	0.50 to 0.70 %	
Water Absorption (24 hr)	0.10 %	ASTM D570

Tensile Modulus ² 10600 MPa ASTM D638 Tensile Strength ² 168 MPa ASTM D638 Tensile Elongation ² (Break) 2.3 % ASTM D638 Flexural Modulus 9900 MPa ASTM D790 Flexural Modulus 9900 MPa ASTM D638 Flexural Modulus 9900 MPa ASTM D790 Compressive Strength 139 MPa ASTM D636 Shear Strength 84.8 MPa ASTM D732 Impact Typical Value Unit Test method Notched Izod Impact 69 J/m ASTM D648 Lin Mpact 960 J/m ASTM D648 Lis MPa, Anneoled, 3.20 mm 257 °C Glass Transition Temperature Under Load ³ Lis MPa, Anneoled, 3.20 mm 257 °C DSC Glass Transition Temperature 158 °C DSC Specific Heat DSC DSC Soo°C 1300 J/kg/°C DSC Z00°C 1700 J/kg/°C STM D150 Volume Resistivity 1.9E+17 ohms ASTM D257 Volume Resistivity 1.9E+17 ohms ASTM D257 Volume Resistivity 1.9E+17 ohms ASTM D257 <	Mechanical	Typical Value	Unit	Test method
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Flexural Modulus 9900 MPa ASTM D790 Flexural Strength 239 MPa ASTM D790 Compressive Strength 139 MPa ASTM D695 Shear Strength 84.8 MPa ASTM D695 Impact Typical Value Unit Testmethod Notched Izod Impact 69 J/m ASTM D780 Unnotched Izod Impact 960 J/m ASTM D4812 Thermal Typical Value Unit Testmethod Deflection Temperature Under Load ³ ASTM D648 ISM P64, Annealed, 320 mm 18 MPa, Annealed, 320 mm 257 °C Glass Transition Temperature 158 °C DSC Specific Heat 00°C 1300 J/kg/°C DSC 50°C 1300 J/kg/°C 200°C 1700 J/kg/°C Thermal Conductivity 0.29 W/m/K ASTM D150 Surface Resistivity 1.8 KP1 ohms ASTM D150 MSTM 257 Volume Resistivity 1.8 KV/mm ASTM D257 Volume Resistivity ASTM D150 060 Hz 3.74 1 ASTM D150 60 Hz 3.74 I MHz 6.0E=3				
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Front Temperature377 °CNozzle Temperature382 °CProcessing (Melt) Temp382 to 404 °C				
Nozzle Temperature382 °CProcessing (Melt) Temp382 to 404 °C				
Processing (Melt) Temp 382 to 404 °C	Front Temperature	377	°C	
	· · ·			
Mold Temperature 166 to 193 °C	Processing (Melt) Temp	382 to 404	°C	
	Mold Temperature	166 to 193	°C	

Injection	Typical Value Unit	
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. $^1\,5"\,x\,0.5"\,x\,0.125"$ bars

² 5.0 mm/min

³ 2 hours at 200°C

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