

## Solvay Specialty Polymers AvaSpire® AV-848 GF30 Polyaryletherketone (PAEK) (Unverified Data\*\*)

Category : Polymer , Thermoplastic , Polyketone , Polyaryletherketone (PAEK), Glass Fiber Filled

### Material Notes:

AvaSpire AV-848 GF30 is a 30% glass fiber-reinforced, 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 NT Injection Notes: Back Pressure: Minimum Information provided by Solvay Specialty Polymers.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Solvay-Specialty-Polymers-AvaSpire-AV-848-GF30-Polyaryletherketone-PAEK-nbspUnverified-Data.php](http://www.lookpolymers.com/polymer_Solvay-Specialty-Polymers-AvaSpire-AV-848-GF30-Polyaryletherketone-PAEK-nbspUnverified-Data.php)

Physical Properties	Metric	English	Comments
Specific Gravity	1.53 g/cc	1.53 g/cc	ASTM D792
Filler Content	30 %	30 %	Glass Fiber Reinforcement
Water Absorption	0.10 % @Time 86400 sec	0.10 % @Time 24.0 hour	ASTM D570
Viscosity	60000 cP @Shear Rate 1000 1/s, Temperature 400 °C	60000 cP @Shear Rate 1000 1/s, Temperature 752 °F	Melt; ASTM D3835
Linear Mold Shrinkage, Flow	0.0020 - 0.0040 cm/cm @Thickness 3.18 mm	0.0020 - 0.0040 in/in @Thickness 0.125 in	5" x 0.5" x 0.125" bars; ASTM D955
Linear Mold Shrinkage, Transverse	0.0050 - 0.0070 cm/cm @Thickness 3.18 mm	0.0050 - 0.0070 in/in @Thickness 0.125 in	5" x 0.5" x 0.125" bars; ASTM D955
Melt Flow	9.0 g/10 min @Load 2.16 kg, Temperature 400 °C	9.0 g/10 min @Load 4.76 lb, Temperature 752 °F	ASTM D1238

Mechanical Properties	Metric	English	Comments
Tensile Strength	168 MPa	24400 psi	5.0 mm/min; ASTM D638
Elongation at Break	2.3 %	2.3 %	5.0 mm/min; ASTM D638
Tensile Modulus	10.6 GPa	1540 ksi	5.0 mm/min; ASTM D638

Flexural Strength Mechanical Properties	239 MPa Metric	34700 psi English	ASTM D790 Comments
Flexural Modulus	9.90 GPa	1440 ksi	ASTM D790
Compressive Strength	139 MPa	20200 psi	ASTM D695
Shear Strength	84.8 MPa	12300 psi	ASTM D732
Izod Impact, Notched	0.690 J/cm	1.29 ft-lb/in	ASTM D256
	9.60 J/cm	18.0 ft-lb/in	ASTM D256

Thermal Properties	Metric	English	Comments
Specific Heat Capacity	1.30 J/g-°C	0.311 BTU/lb-°F	DSC
	@Temperature 50.0 °C	@Temperature 122 °F	
	1.70 J/g-°C	0.406 BTU/lb-°F	DSC
	@Temperature 200 °C	@Temperature 392 °F	
Thermal Conductivity	0.290 W/m-K	2.01 BTU-in/hr-ft <sup>2</sup> -°F	ASTM E1530
Melting Point	340 °C	644 °F	Peak; ASTM D3418
Deflection Temperature at 1.8 MPa (264 psi)	257 °C	495 °F	Annealed; 2 hours at 200°C; ASTM D648
	@Thickness 3.20 mm	@Thickness 0.126 in	
Glass Transition Temp, Tg	158 °C	316 °F	DSC

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.80e+17 ohm-cm	1.80e+17 ohm-cm	ASTM D257
Surface Resistance	>= 1.90e+17 ohm	>= 1.90e+17 ohm	ASTM D257
Dielectric Constant	3.69	3.69	ASTM D150
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
	3.74	3.74	ASTM D150
	@Frequency 60.0 Hz	@Frequency 60.0 Hz	
Dielectric Strength	18.0 kV/mm	457 kV/in	ASTM D149
	@Thickness 3.00 mm	@Thickness 0.118 in	
Dissipation Factor	0.0020	0.0020	ASTM D150
	@Frequency 60.0 Hz	@Frequency 60.0 Hz	
	0.0060	0.0060	

Electrical Properties	@Frequency 1.00e+6 Metric Hz	@Frequency 1.00e+6 English Hz	ASTM D150 Comments
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Processing Properties	Metric	English	Comments
Rear Barrel Temperature	366 °C	691 °F	
Middle Barrel Temperature	371 °C	700 °F	
Front Barrel Temperature	377 °C	711 °F	
Nozzle Temperature	382 °C	720 °F	
Melt Temperature	382 - 404 °C	720 - 759 °F	
Mold Temperature	166 - 193 °C	331 - 379 °F	
Drying Temperature	149 °C	300 °F	
Dry Time	4.00 hour	4.00 hour	

Descriptive Properties	Value	Comments
Appearance	Natural Color	
Availability	Africa & Middle East	
	Asia Pacific	
	Europe	
	North America	
	South America	
Features	Fatigue Resistant	
	Flame Retardant	
	Good Chemical Resistance	
	Good Dimensional Stability	
	High Heat Resistance	
	High Stiffness	
	High Strength	
Forms	Pellets	
Generic	PAEK	
Injection Rate	Fast	

Descriptive Properties	Value on Molding	Comments
	Machining	
	Profile Extrusion	
Screw Compression Ratio	2.0:1.0 to 3.0:1.0	
Uses	Oil/Gas Applications	
	Seals	

## Contact Songhan Plastic Technology Co.,Ltd.

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