

Solvay Specialty Polymers AvaSpire® AV-621 CF30 Polyaryletherketone (PAEK) (Unverified Data**)

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

Material Notes:

AvaSpire AV-621 CF30 is a 30% carbon fiber reinforced version of AvaSpire AV-621. It offers better dimensional stability and warp resistance than 30% carbon fiber reinforced PEEK. The AV-621 CF30 grade offers the highest strength, stiffness, and fatigue resistance of any AV-621 based grade. Furthermore, this resin generally retains most of the desirable ultra-performance attributes of carbon fiber reinforced PEEK including chemical resistance, fatigue resistance, and long term thermal oxidative stability. The excellent balance of properties of AV-621 CF30 makes this grade well suited for a broad range of applications across a number of industries, including healthcare, transportation, electronics, and chemical processing. This resin can be easily melt processed by injection molding using standard equipment. The melt processing behavior of AV-621 CF30 is very similar to that of 30% CF reinforced PEEK. The lower melt flow of AV-621 CF30 is well suited for extrusion applications while offering a similar property profile to AV-651 CF30. 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-621-CF30-Polyaryletherketone-PAEK-nbspUnverified-Data.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.42 g/cc	1.42 g/cc	ASTM D792
Filler Content	30 %	30 %	Carbon Fiber Reinforcement
Water Absorption	0.10 % @Time 86400 sec	0.10 % @Time 24.0 hour	ASTM D570
Viscosity	790000 cP @Shear Rate 1000 1/s, Temperature 400 °C	790000 cP @Shear Rate 1000 1/s, Temperature 752 °F	Melt; ASTM D3835
Linear Mold Shrinkage, Flow	0.00 - 0.0020 cm/cm @Thickness 3.18 mm	0.00 - 0.0020 in/in @Thickness 0.125 in	5" x 0.5" x 0.125" bars; ASTM D955
Linear Mold Shrinkage, Transverse	0.0090 - 0.011 cm/cm @Thickness 3.18 mm	0.0090 - 0.011 in/in @Thickness 0.125 in	5" x 0.5" x 0.125" bars; ASTM D955
Melt Flow	1.0 g/10 min @Load 2.16 kg, Temperature 400 °C	1.0 g/10 min @Load 4.76 lb, Temperature 752 °F	ASTM D1238

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	101	101	M-Scale; ASTM D785
Tensile Strength	181 MPa	26300 psi	5.0 mm/min; ASTM D638

Mechanical Properties	Metric	English	Comments
Elongation at Break	2.2 %	2.2 %	5.0 mm/min; ASTM D638
	2.2 %	2.2 %	ISO 527-2/1A/5
Tensile Modulus	17.2 GPa	2490 ksi	5.0 mm/min; ASTM D638
	23.3 GPa	3380 ksi	ISO 527-2/1A/1
Flexural Strength	276 MPa	40000 psi	ASTM D790
	296 MPa	42900 psi	ISO 178
Flexural Modulus	15.1 GPa	2190 ksi	ASTM D790
	21.3 GPa	3090 ksi	ISO 178
Compressive Strength	152 MPa	22000 psi	ASTM D695
Shear Strength	91.0 MPa	13200 psi	ASTM D732
Izod Impact, Notched	0.690 J/cm	1.29 ft-lb/in	ASTM D256
	6.40 J/cm	12.0 ft-lb/in	ASTM D4812
Izod Impact, Notched (ISO)	9.60 kJ/m ²	4.57 ft-lb/in ²	ISO 180
Izod Impact, Unnotched (ISO)	39.0 kJ/m ²	18.6 ft-lb/in ²	ISO 180

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	5.00 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	2.78 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	TMA; ASTM E831
	@Temperature -50.0 - 50.0 $^{\circ}\text{C}$	@Temperature -58.0 - 122 $^{\circ}\text{F}$	
Specific Heat Capacity	1.35 J/g $\cdot^{\circ}\text{C}$	0.323 BTU/lb $\cdot^{\circ}\text{F}$	DSC
	@Temperature 50.0 $^{\circ}\text{C}$	@Temperature 122 $^{\circ}\text{F}$	
Thermal Conductivity	1.81 J/g $\cdot^{\circ}\text{C}$	0.433 BTU/lb $\cdot^{\circ}\text{F}$	DSC
	@Temperature 200 $^{\circ}\text{C}$	@Temperature 392 $^{\circ}\text{F}$	
Thermal Conductivity	0.350 W/m-K	2.43 BTU-in/hr-ft ² $\cdot^{\circ}\text{F}$	ASTM E1530
Melting Point	340 $^{\circ}\text{C}$	644 $^{\circ}\text{F}$	Peak; ASTM D3418
Deflection Temperature at 1.8 MPa (264 psi)	210 $^{\circ}\text{C}$	410 $^{\circ}\text{F}$	Annealed; 2 hours at 200 $^{\circ}\text{C}$; ASTM D648
	@Thickness 3.20 mm	@Thickness 0.126 in	
Glass Transition Temp, Tg	160 $^{\circ}\text{C}$	320 $^{\circ}\text{F}$	ASTM D3418

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	366 - 388 °C	691 - 730 °F	
Mold Temperature	149 - 177 °C	300 - 351 °F	
Drying Temperature	149 °C	300 °F	
Dry Time	4.00 hour	4.00 hour	

Descriptive Properties	Value	Comments
Appearance	Black	
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	
Processing Method	Injection Molding	

Descriptive Properties	Machining Value	Comments
	Profile Extrusion	
Screw Compression Ratio	2.0:1.0 to 3.0:1.0	
Uses	Medical/Healthcare Applications	
	Pump Parts	
	Seals	

Contact Songhan Plastic Technology Co.,Ltd.

Website : www.lookpolymers.com

Email : sales@lookpolymers.com

Tel : +86 021-51131842

Mobile : +86 13061808058

Skype : lookpolymers

Address : United North Road 215,Fengxian District, Shanghai City,China