AvaSpire® AV-621 GF30

Polyaryletherketone

Solvay Specialty Polymers

Message:

AvaSpire AV-621 GF30 is a AvaSpire AV-621 30% glass fiber reinforced brand. The formula has better dimensional stability and lower warpage than 30% glass fiber reinforced PEEK. The resin maintains most of the useful ultra-high performance of glass fiber reinforced PEEK, including chemical resistance, fatigue resistance and long-term thermal oxidation stability, but the thermal deformation temperature is lower than that of 30% carbon fiber reinforced PEEK. The excellent balance between various properties of the material makes it very suitable for various industries with demanding requirements including medical care, transportation, electronics, oil and gas, chemical treatment, etc.
-Beige: AV-621 GF30 BG 20
-Black: AV-621 GF30 BK95

General Information	
UL YellowCard	E140728-100211992
Filler / Reinforcement	Glass fiber reinforced material, 30% filler by weight
Features	Good dimensional stability Rigidity, high High strength Good chemical resistance Fatigue resistance Heat resistance, high Flame retardancy
Uses	Industrial application Medical/nursing supplies Medical devices
RoHS Compliance	Contact manufacturer
Appearance	Black Beige
Forms	Particle
Processing Method	Machining Profile extrusion molding Injection molding

Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.55	g/cm³	ASTM D792
Melt Mass-Flow Rate (MFR) (400°C/2.16 kg)	2.0	g/10 min	ASTM D1238
Molding Shrinkage [1]			ASTM D955
Flow: 3.18mm	0.10 - 0.30	%	ASTM D955

Transverse flow: 3.18mm	0.90 - 1.1	%	ASTM D955
Water Absorption (24 hr)	0.20	%	ASTM D570
Hardness	**Nominal Value**	**Unit**	**Test Method**
Rockwell Hardness (M-Scale)	101		ASTM D785
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus			
-- [2]	9900	MPa	ASTM D638
--	10600	MPa	ISO 527-2/1A/1
Tensile Stress			
Yield	158	MPa	ISO 527-2/1A/5
-- [3]	147	MPa	ASTM D638
Tensile Elongation			
Fracture [4]	3.2	%	ASTM D638
Fracture	3.2	%	ISO 527-2/1A/5
Flexural Modulus			
--	9400	MPa	ASTM D790
--	9800	MPa	ISO 178
Flexural Strength			
--	237	MPa	ASTM D790
--	236	MPa	ISO 178
Compressive Strength	159	MPa	ASTM D695
Shear Strength	84.5	MPa	ASTM D732
Poisson's Ratio	0.43		ASTM E132
Impact	**Nominal Value**	**Unit**	**Test Method**
Notched Izod Impact			
--	120	J/m	ASTM D256
--	14	kJ/m^2	ISO 180
Unnotched Izod Impact			
--	1000	J/m	ASTM D4812
--	70	kJ/m^2	ISO 180
Thermal	**Nominal Value**	**Unit**	**Test Method**
Deflection Temperature Under Load (1.8 MPa, Annealed)	217	°C	ASTM D648
Glass Transition Temperature	158	°C	ASTM D3418
Peak Melting Temperature	340	°C	ASTM D3418
CLTE - Flow (-50 to 50°C)	1.7E-5	cm/cm/°C	ASTM E831
Specific Heat			DSC
50°C	1290	J/kg/°C	DSC
200°C	1660	J/kg/°C	DSC
Thermal Conductivity	0.28	W/m/K	ASTM E1530
Electrical	**Nominal Value**	**Unit**	**Test Method**
Surface Resistivity	> 1.9E+17	ohms	ASTM D257

Volume Resistivity	2.1E+17	ohms·cm	ASTM D257
Dielectric Strength (3.00 mm)	15	kV/mm	ASTM D149
Dielectric Constant			ASTM D150
60 Hz	3.52		ASTM D150
1 kHz	3.53		ASTM D150
1 MHz	3.48		ASTM D150
Dissipation Factor			ASTM D150
60 Hz	1.0E-3		ASTM D150
1 kHz	1.0E-3		ASTM D150
1 MHz	5.0E-3		ASTM D150
Flammability	**Nominal Value**	**Unit**	**Test Method**
Flame Rating			UL 94
0.800 mm	V-1		UL 94
1.60 mm	V-0		UL 94
Fill Analysis	**Nominal Value**	**Unit**	**Test Method**
Melt Viscosity (400°C, 1000 sec^-1)	650	Pa·s	ASTM D3835
Injection	**Nominal 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	366 - 388	°C	
Mold Temperature	149 - 177	°C	
Injection Rate	Fast		
Screw Compression Ratio	2.0 : 1.0 - 3.0 : 1.0		
Injection instructions			
保压压力:最低值			
NOTE			
1.	5" x 0.5" x 0.125" bars		
2.	5.0 mm/min		
3.	5.0 mm/min		
4.	5.0 mm/min		

Recommended distributors for this material

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