AvaSpire® AV-621 CF30

Polyaryletherketone

Solvay Specialty Polymers

Message:

AvaSpire AV-621 CF30 is a AvaSpire AV-621 30% carbon fiber reinforced brand. Dimensional stability and warpage resistance are better than those of 30% carbon fiber reinforced PEEK. Toughness and impact strength are higher than PEEK (polyetheretherketone). Among all AV 621 grades, AV-621 CF30 has the highest strength, rigidity and fatigue resistance. Moreover, the resin also retains most of the useful key properties of carbon fiber reinforced PEEK, including chemical resistance, fatigue resistance, and long-term thermal oxidation stability. The excellent balance of various properties of the AV-621 CF30 enables it to be used for a wide range of purposes in all walks of life, including healthcare, transportation, electronics and chemical processing. The material can be easily melted on standard equipment. The melt processability of AV-621 CF30 is very close to that of 30% CF-enhanced PEEK. The low fluidity AV-621 CF30 brand is very suitable for extrusion purposes and has the properties of AV-651 CF30.

General Information	
Filler / Reinforcement	Carbon 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	Pump parts Seals Medical/nursing supplies
RoHS Compliance	Contact manufacturer
Appearance	Black
Forms	Particle
Processing Method	Machining Profile extrusion molding Injection molding

Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.42	g/cm³	ASTM D792
Melt Mass-Flow Rate (MFR) (400°C/2.16 kg)	1.0	g/10 min	ASTM D1238
Molding Shrinkage [1]			ASTM D955
Flow: 3.18mm	0.0 - 0.20	%	ASTM D955
Transverse flow: 3.18mm	0.90 - 1.1	%	ASTM D955
Water Absorption (24 hr)	0.10	%	ASTM D570

Hardness	Nominal Value	Unit	Test Method

Rockwell Hardness (M-Scale)	101		ASTM D785
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus			
-- [2]	17200	MPa	ASTM D638
--	23300	MPa	ISO 527-2/1A/1
Tensile Stress			
Yield	196	MPa	ISO 527-2/1A/5
-- [3]	181	MPa	ASTM D638
Tensile Elongation			
Fracture [4]	2.2	%	ASTM D638
Fracture	2.2	%	ISO 527-2/1A/5
Flexural Modulus			
--	15100	MPa	ASTM D790
--	21300	MPa	ISO 178
Flexural Strength			
--	276	MPa	ASTM D790
--	296	MPa	ISO 178
Compressive Strength	152	MPa	ASTM D695
Shear Strength	91.0	MPa	ASTM D732
Impact	**Nominal Value**	**Unit**	**Test Method**
Notched Izod Impact			
--	69	J/m	ASTM D256
--	9.6	kJ/m²	ISO 180
Unnotched Izod Impact			
--	640	J/m	ASTM D4812
--	39	kJ/m²	ISO 180
Thermal	**Nominal Value**	**Unit**	**Test Method**
Deflection Temperature Under Load [5] (1.8 MPa, Annealed, 3.20 mm)	210	°C	ASTM D648
Glass Transition Temperature	160	°C	ASTM D3418
Peak Melting Temperature	340	°C	ASTM D3418
CLTE - Flow (-50 to 50°C)	5.0E-6	cm/cm/°C	ASTM E831
Specific Heat			DSC
50°C	1350	J/kg/°C	DSC
200°C	1810	J/kg/°C	DSC
Thermal Conductivity	0.35	W/m/K	ASTM E1530
Fill Analysis	**Nominal Value**	**Unit**	**Test Method**
Melt Viscosity (400°C, 1000 sec^-1)	790	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
5.	200°C,2 hours

Recommended distributors for this material

Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519

Phone: +86 13424755533

Email: sales@su-jiao.com

No. 215, Lianhe North Road, Fengxian District, Shanghai, China