

AvaSpire® AV-722

Polyaryletherketone
Solvay Specialty Polymers

Message:

AvaSpire® AV-722 is an unreinforced polyaryletherketone (PAEK) that offers improved economics relative to PEEK while retaining most of PEEK's key performance attributes. AV-722 resin has been formulated for applications requiring high chemical resistance and mechanical strength along with low moisture absorption and good barrier properties. These and other properties make this resin well-suited for applications in healthcare, transportation, electronics, chemical processing and other industries.

Beige: AvaSpire® AV-722 BG 20

General Information	
Features	Good dimensional stability
	Impact resistance, good
	Good chemical resistance
	Heat resistance, high
	ductility
	Flame retardancy
Uses	Films
	Gear
	Electrical/Electronic Applications
	Aircraft applications
	Seals
	Application in Automobile Field
	Fuel line
	Oil/Gas Supplies
	Medical/nursing supplies
RoHS Compliance	Contact manufacturer
Appearance	Beige
Forms	Particle
Processing Method	Film extrusion
	Wire & Cable Extrusion
	Machining
	Extrusion blow molding
	Thermoforming
	Fiber (spinning) extrusion
	Profile extrusion molding
	Injection blowing molding
	Injection molding

Multi-Point Data	Isothermal Stress vs. Strain (ISO 11403-1)		
	Viscosity vs. Shear Rate (ISO 11403-2)		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.32	g/cm ³	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	0.80 - 1.0	%	ASTM D955
Transverse flow: 3.18mm	1.2 - 1.4	%	ASTM D955
Water Absorption (24 hr)	0.10	%	ASTM D570
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (M-Scale)	95		ASTM D785
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
-- ²	3700	MPa	ASTM D638
--	3900	MPa	ISO 527-2/1A/1
Tensile Stress			
Yield	91.0	MPa	ISO 527-2/1A/50
-- ³	89.0	MPa	ASTM D638
Tensile Elongation			
Yield ⁴	5.0	%	ASTM D638
Yield	4.5	%	ISO 527-2/1A/50
Fracture ⁵	25	%	ASTM D638
Fracture	25	%	ISO 527-2/1A/50
Flexural Modulus			
--	3700	MPa	ASTM D790
--	3800	MPa	ISO 178
Flexural Strength			
--	141	MPa	ASTM D790
--	138	MPa	ISO 178
Compressive Strength	112	MPa	ASTM D695
Shear Strength	79.0	MPa	ASTM D732
Poisson's Ratio	0.43		ASTM E132
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact			
--	80	J/m	ASTM D256
--	7.0	kJ/m ²	ISO 180
Unnotched Izod Impact	No Break		ASTM D4812, ISO 180
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load ⁶ (1.8 MPa, Annealed, 3.20 mm)	161	°C	ASTM D648
Glass Transition Temperature	150	°C	ASTM D3418

Peak Melting Temperature ⁷	340	°C	ASTM D3418
CLTE - Flow (-50 to 50°C)	4.5E-5	cm/cm/°C	ASTM E831
Specific Heat			DSC
50°C	1410	J/kg/°C	DSC
200°C	1970	J/kg/°C	DSC
Thermal Conductivity	0.22	W/m/K	ASTM E1530
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	> 1.9E+17	ohms	ASTM D257
Volume Resistivity	3.1E+17	ohms · cm	ASTM D257
Dielectric Strength			ASTM D149
0.0500mm, amorphous film	170	kV/mm	ASTM D149
3.00 mm	19	kV/mm	ASTM D149
Dielectric Constant			ASTM D150
60 Hz	3.12		ASTM D150
1 MHz	3.06		ASTM D150
Dissipation Factor			ASTM D150
60 Hz	1.0E-3		ASTM D150
1 MHz	4.0E-3		ASTM D150
Flammability	Nominal Value	Unit	Test Method
Oxygen Index	40	%	ASTM D2863
Fill Analysis	Nominal Value	Unit	
Melt Viscosity (400°C, 1000 sec ⁻¹)	450	Pa · s	
Injection	Nominal Value	Unit	
Drying Temperature	149	°C	
Drying Time	4.0	hr	
Rear Temperature	354	°C	
Middle Temperature	366	°C	
Front Temperature	371	°C	
Nozzle Temperature	374	°C	
Mold Temperature	177 - 204	°C	
Injection Rate	Fast		
Screw Compression Ratio	2.5:1.0 - 3.5:1.0		
Injection instructions			
Back Pressure: Minimum			
NOTE			
1.	5" x 0.5" x 0.125"		
2.	50 mm/min		
3.	50 mm/min		
4.	50 mm/min		
5.	50 mm/min		
6.	200°C, 2 hours		
7.	For main components		

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