

Solvay Specialty Polymers AvaSpire® AV-755 SL45 Polyaryletherketone (PAEK)

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

Material Notes:

AV-755 SL45 is a wear resistant grade of AvaSpire® polyaryletherketone (PAEK) designed to provide low wear rates and high pressure-velocity (PV) tolerance in lubricated wear environments. Like the other members of the AvaSpire® AV-700 series, AV-755 SL45 offers more attractive economics than PEEK while retaining most of PEEK's key attributes. In addition to the outstanding wear resistance, the resin also offers the outstanding combination of chemical resistance, mechanical strength and stiffness at elevated temperatures, as well as long-term and high temperature thermal-oxidative stability. AV-755 SL45 is formulated with a binary anti-friction/anti-wear additive system comprised of carbon fiber and graphite. By virtue of its additive system, this resin also offers, exceptionally high stiffness and very low moisture absorption. Features: Flame Retardant; Good Chemical Resistance; Good Dimensional Stability; Good Wear Resistance; High Heat Resistance Uses: Automotive Applications; Bearings; Bushings; Rollers; Seals; Thrust Washer; Wear Strip Injection Molding 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-755-SL45-Polyaryletherketone-PAEK.php

Physical Properties	Metric	English	Comments
Density	1.53 g/cc	0.0553 lb/in ³	ASTM D792
Water Absorption	0.010 % @Time 86400 sec	0.010 % @Time 24.0 hour	ISO 62
Viscosity	600000 cP @Shear Rate 1000 1/s, Temperature 400 Å°C	600000 cP @Shear Rate 1000 1/s, Temperature 752 Å°F	Melt Viscosity; 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	
Linear Mold Shrinkage, Transverse	0.012 - 0.014 cm/cm @Thickness 3.18 mm	0.012 - 0.014 in/in @Thickness 0.125 in	ASTM D955
Melt Flow	1.0 g/10 min @Load 2.16 kg, Temperature 400 Å°C	1.0 g/10 min @Load 4.76 lb, Temperature 752 Å°F	ASTM D1238

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	88	88	ASTM D785
Tensile Strength	169 MPa	24500 psi	5 mm/min; ASTM D638
Tensile Strength, Yield	173 MPa	25100 psi	5 mm/min, Type 1A; ISO 527-2

Elongation at Break Mechanical Properties	0.90 % Metric	0.90 % English	Type 1A, 5 mm/min; ISO 527-2 Comments
	0.90 %	0.90 %	5 mm/min; ASTM D638
Tensile Modulus	30.4 GPa	4410 ksi	1 mm/min, Type 1A; ISO 527-2
	33.6 GPa	4870 ksi	5 mm/min; ASTM D638
Flexural Strength	250 MPa	36300 psi	ASTM D790
	266 MPa	38600 psi	ISO 178
Flexural Modulus	25.9 GPa	3760 ksi	ASTM D790
	30.2 GPa	4380 ksi	ISO 178
Compressive Strength	120 MPa	17400 psi	ASTM D695
Shear Strength	70.0 MPa	10200 psi	ASTM D732
Izod Impact, Notched	0.530 J/cm	0.993 ft-lb/in	ASTM D256
Izod Impact, Unnotched	3.20 J/cm	5.99 ft-lb/in	ASTM D256
Izod Impact, Notched (ISO)	6.80 kJ/m ²	3.24 ft-lb/in ²	ISO 180
Izod Impact, Unnotched (ISO)	25.0 kJ/m ²	11.9 ft-lb/in ²	ISO 180

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	7.00 Åµm/m-Å°C @Temperature -50.0 - 50.0 Å°C	3.89 Åµin/in-Å°F @Temperature -58.0 - 122 Å°F	1
Specific Heat Capacity	1.17 J/g-Å°C @Temperature 50.0 Å°C	0.280 BTU/lb-Å°F @Temperature 122 Å°F	ASTM C351
	1.61 J/g-Å°C @Temperature 200 Å°C	0.385 BTU/lb-Å°F @Temperature 392 Å°F	ASTM C351
Thermal Conductivity	0.700 W/m-K	4.86 BTU-in/hr-ftÅ²- Å°F	ASTM C177
Melting Point	343 Å°C	649 Å°F	ASTM D3418
Deflection Temperature at 1.8 MPa (264 psi)	278 Å°C @Thickness 3.20 mm	532 Å°F @Thickness 0.126 in	Annealed; ASTM D648
Glass Transition Temp, Tg	152 Å°C	306 Å°F	DSC

Processing Properties	Metric	English	Comments
Rear Barrel Temperature	354 Â°C	669 Â°F	
Middle Barrel Temperature	366 Â°C	691 Â°F	
Front Barrel Temperature	371 Â°C	700 Â°F	
Nozzle Temperature	374 Â°C	705 Â°F	
Melt Temperature	366 - 388 Â°C	691 - 730 Â°F	
Mold Temperature	149 - 177 Â°C	300 - 351 Â°F	
Drying Temperature	149 Â°C @Time 14400 sec	300 Â°F @Time 4.00 hour	

Descriptive Properties	Value	Comments
Additive	Carbon Fiber + Graphite Lubricant	
Availability	Africa & Middle East	
	Asia Pacific	
	Europe	
	Latin America	
	North America	
Color	Black	
Form	Pellets	
Injection Rate	Fast	
Processing Technique	Injection Molding; Machining; Profile Extrusion	
RoHS Compliance	RoHS Compliant	
Screw Compression Ratio	2.0:1.0 to 3.0:1.0	

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