

Solvay Specialty Polymers AvaSpire® AV-630 Polyaryletherketone (PAEK) (Unverified Data**)

Category : Polymer , Thermoplastic , Polyketone

Material Notes:

AvaSpire AV-630 is an unreinforced polyaryletherketone (PAEK) developed as an alternative to low melt flow PEEK for the extrusion of ultra-thin films. Films with thicknesses as low as 0.2 mils (5 microns) can be successfully melt extruded out of AV-630 using conventional thermoplastics film extrusion equipment. Films of AV-630 offer certain performance advantages over comparable PEEK film. These include improved toughness and ductility, a higher retention of mechanical integrity at temperatures above 150°C, better acceptance of adhesives and improved flame propagation resistance properties. Ultra-thin films (

Order this product through the following link:

http://www.lookpolymers.com/polymer_Solvay-Specialty-Polymers-AvaSpire-AV-630-Polyaryletherketone-PAEK-nbspUnverified-Data.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.30 g/cc	1.30 g/cc	ASTM D792
Water Absorption	0.20 % @Time 86400 sec	0.20 % @Time 24.0 hour	ASTM D570
Melt Flow	7.0 g/10 min @Load 2.16 kg, Temperature 400 °C	7.0 g/10 min @Load 4.76 lb, Temperature 752 °F	ASTM D1238

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	92	92	M-Scale; ASTM D785
Tensile Strength	92.0 MPa	13300 psi	50 mm/min; ASTM D638
Tensile Strength, Yield	89.0 MPa	12900 psi	ISO 527-2/1A/50
Elongation at Break	50 - 80 %	50 - 80 %	50 mm/min; ASTM D638
	50 - 80 %	50 - 80 %	ISO 527-2/1A/50
Elongation at Yield	5.4 %	5.4 %	ISO 527-2/1A/50
	6.0 %	6.0 %	50 mm/min; ASTM D638
Tensile Modulus	3.30 GPa	479 ksi	50 mm/min; ASTM D638
	3.40 GPa	493 ksi	ISO 527-2/1A/1
Flexural Strength	127 MPa	18400 psi	ASTM D790
	128 MPa	18600 psi	ISO 178
Flexural Modulus	0.320 GPa	46.4 ksi	ASTM D790

Mechanical Properties	Metric	English	Comments
Compressive Strength	110 MPa	16000 psi	ASTM D695
Shear Strength	79.0 MPa	11500 psi	ASTM D732
Izod Impact, Notched	0.910 J/cm	1.70 ft-lb/in	ASTM D256
	NB	NB	ASTM D4812
Izod Impact, Notched (ISO)	7.00 kJ/m ²	3.33 ft-lb/in ²	ISO 180
Izod Impact, Unnotched (ISO)	NB	NB	ISO 180

Thermal Properties	Metric	English	Comments
Specific Heat Capacity	1.39 J/g-°C	0.332 BTU/lb-°F	DSC
	@Temperature 50.0 °C	@Temperature 122 °F	
	1.96 J/g-°C	0.468 BTU/lb-°F	DSC
	@Temperature 200 °C	@Temperature 392 °F	
Thermal Conductivity	0.230 W/m-K	1.60 BTU-in/hr-ft ² -°F	ASTM E1530
Melting Point	340 °C	644 °F	Peak; ASTM D3418
Deflection Temperature at 1.8 MPa (264 psi)	181 °C	358 °F	Annealed; 2 hours at 200°C; ASTM D648
	@Thickness 3.20 mm	@Thickness 0.126 in	
Glass Transition Temp, Tg	158 °C	316 °F	ASTM D3418
Oxygen Index	38 %	38 %	ASTM D2863

Electrical Properties	Metric	English	Comments
Volume Resistivity	6.20e+17 ohm-cm	6.20e+17 ohm-cm	ASTM D257
Surface Resistance	>= 1.90e+17 ohm	>= 1.90e+17 ohm	ASTM D257
Dielectric Strength	180 kV/mm	4570 kV/in	Amorphous Film; ASTM D149
	@Thickness 0.0600 mm	@Thickness 0.00236 in	

Processing Properties	Metric	English	Comments
Drying Temperature	149 °C	300 °F	
Dry Time	4.00 hour	4.00 hour	

Descriptive Properties	Value	Comments
Appearance	Natural Color	
Availability	Africa & Middle East	
	Asia Pacific	
	Europe	
	North America	
	South America	
Features	Ductile	
	Fatigue Resistant	
	Flame Retardant	
	Good Chemical Resistance	
	Good Dimensional Stability	
	Good Impact Resistance	
	High Heat Resistance	
Forms	Pellets	
Generic	PAEK	
Processing Method	Extrusion Blow Molding	
	Fiber (Spinning) Extrusion	
	Film Extrusion	
	Injection Blow Molding	
	Injection Molding	
	Machining	
	Profile Extrusion	
	Thermoforming	
	Wire & Cable Extrusion	
Uses	Aerospace Applications	
	Aircraft Applications	

Descriptive Properties	Electronic Insulation	Comments
	Value Film	
	Laminates	
	Liners	

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