Solvay Specialty Polymers KetaSpireÂ® KT-851 Polyetheretherketone (PEEK)

Category : Polymer , Thermoplastic , Polyketone , Polyetheretherketone (PEEK)

Material Notes:

KetaSpireÂ® KT-851 resin is a depth-filtered grade of polyetheretherketone (PEEK) specially designed for use in extruded wire insulation coating. KT-851 offers the needed balance of properties and processability for applying thin insulation coatings onto copper or other conducting wire using a continuous extrusion process to achieve a robust insulation coating that is capable of withstanding the harsh use environments of many industrial applications. Features: Ductile; Fatigue Resistant; Flame Retardant; Good Chemical Resistance; Good Dimensional Stability; Good Impact Resistance; High Heat ResistanceUses: Electrical/Electronic Applications; Oil/Gas Applications; Wire JacketingInjection Molding Notes: KetaSpire resins must be dried completely prior to melt processing. Incomplete drying will result in defects in the formed part ranging from surface streaks to severe bubbling. Pellets can be dried on trays in a circulating air oven or in desiccating hopper dryer.Information provided by Solvay Specialty Polymers.

Order this product through the following link:
http://www.lookpolymers.com/polymer_Solvay-Specialty-Polymers-KetaSpire-KT-851-Polyetheretherketone-PEEK.php

Physical Properties	Metric	English	Comments
Density	1.30 g/cc	0.0470 lb/inÂ³	ASTM D792
Water Absorption	0.10 % @Time 86400 sec	0.10 % @Time 24.0 hour	ISO 62
Viscosity	380000 cP @Shear Rate 1000 1/s, Temperature 400 Â°C	380000 cP @Shear Rate 1000 1/s, Temperature 752 Â°F	Melt Viscosity; ASTM D3835
Linear Mold Shrinkage, Flow	0.011 - 0.013 cm/cm	0.011 - 0.013 in/in	
Linear Mold Shrinkage, Transverse	0.013 - 0.015 cm/cm	0.013 - 0.015 in/in	ASTM D955
Melt Flow	10 g/10 min @Load 2.16 kg, Temperature 400 Â°C	10 g/10 min @Load 4.76 lb, Temperature 752 Â°F	ASTM D1238

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	97	97	ASTM D785
Hardness, Shore D	88	88	1 sec; ASTM D2240
Tensile Strength	96.0 MPa	13900 psi	ASTM D638
Tensile Strength, Yield	95.0 MPa	13800 psi	Type 1A, 50 mm/min; ISO 527-2
Elongation at Break	20 - 30 %	20 - 30 %	Type 1A, 50 mm/min; ISO 527-2
	20 - 30 %	20 - 30 %	50 mm/min; ASTM D638

Mechanical Properties	Metric	English	Comments
Elongation at Yield	4.8 %	4.8 %	Type 1A, 50 mm/min; ISO 527-2
	5.2 %	5.2 %	50 mm/min; ASTM D638
Tensile Modulus	3.60 GPa	522 ksi	1.0 mm/min; ASTM D638
	3.85 GPa	558 ksi	1 mm/min, Type 1A; ISO 527-2
Flexural Strength	112 MPa	16200 psi	ISO 178
	152 MPa	22000 psi	ASTM D790
Flexural Modulus	3.62 GPa	525 ksi	ISO 178
	3.90 GPa	566 ksi	ASTM D790
Compressive Strength	121 MPa	17500 psi	ASTM D695
Shear Strength	91.5 MPa	13300 psi	ASTM D732
Izod Impact, Notched	0.690 J/cm	1.29 ft-lb/in	ASTM D256
Izod Impact, Unnotched	NB	NB	ASTM D256
Izod Impact, Notched (ISO)	7.50 kJ/mÂ²	3.57 ft-lb/inÂ²	ISO 180
Izod Impact, Unnotched (ISO)	NB	NB	ISO 180

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	43.0 Âµm/m-Â°C @Temperature -50.0 - 50.0 Â°C	23.9 Âµin/in-Â°F @Temperature -58.0 - 122 Â°F	1
Specific Heat Capacity	1.35 J/g-Â°C @Temperature 50.0 Â°C	0.323 BTU/lb-Â°F @Temperature 122 Â°F	ASTM C351
	1.95 J/g-Â°C @Temperature 200 Â°C	0.466 BTU/lb-Â°F @Temperature 392 Â°F	ASTM C351
Thermal Conductivity	0.240 W/m-K	1.67 BTU-in/hr-ftÂ²-Â°F	ASTM C177
Melting Point	340 Â°C	644 Â°F	ASTM D3418
Deflection Temperature at 1.8 MPa (264 psi)	157 Â°C @Thickness 3.20 mm	315 Â°F @Thickness 0.126 in	Annealed; ASTM D648
Glass Transition Temp, Tg	150 Â°C	302 Â°F	DSC

Electrical Properties	Metric	English	Comments
Volume Resistivity	2.50e+17 ohm-cm	2.50e+17 ohm-cm	ASTM D257
Surface Resistance	>= 1.90e+17 ohm	>= 1.90e+17 ohm	ASTM D257
Dielectric Strength	200 kV/mm @Thickness 0.0500 mm	5080 kV/in @Thickness 0.00197 in	Amorphous Film; ASTM D149

Processing Properties	Metric	English	Comments
Rear Barrel Temperature	355 Â°C	671 Â°F	
Middle Barrel Temperature	365 Â°C	689 Â°F	
Front Barrel Temperature	370 Â°C	698 Â°F	
Nozzle Temperature	375 Â°C	707 Â°F	
Mold Temperature	175 - 205 Â°C	347 - 401 Â°F	
Drying Temperature	150 Â°C @Time 14400 sec	302 Â°F @Time 4.00 hour	

Descriptive Properties	Value	Comments
Additive	Lubricant	
Availability	Africa & Middle East	
	Asia Pacific	
	Europe	
	Latin America	
	North America	
Color	Natural	
Form	Pellets	
Injection Rate	Fast	
Processing Technique	Injection Molding; Machining; Profile Extrusion	
Screw Compression Ratio	2.5:1.0 to 3.5:1.0	

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