SABIC Innovative Plastics NORYL FP6130 PPE+PS

Category : Polymer , Thermoplastic , Polyphenylene Ether/PPO , Polystyrene (PS)

Material Notes:

Noryl* FP6130 is an unfilled, injection moldable modified polyphenylene ether resin. Designed for good dimensional stability and high flow , this resin also uses non-chlorinated, non-brominated FR additives to achieve a V1 UL94 rating at 1.5 mm with a specific density of 1.1 g/cm^3. Noryl FP6130 may be an excellent material candidate for Flat Panel TV enclosure applications requiring good rheological properties, heat resistance, hydrolysis resistance, low density and thin wall flame resistance.

Order this product through the following link:
http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-NORYL-FP6130-PPEPS.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.10 g/cc	1.10 g/cc	ASTM D792
Density	1.10 g/cc	0.0397 lb/in³	ISO 1183
Moisture Absorption	0.0200 %	0.0200 %	23°C / 50% RH; ISO 62
Water Absorption at Saturation	0.13 %	0.13 %	ISO 62
Linear Mold Shrinkage, Flow	0.0050 - 0.0070 cm/cm @Thickness 3.20 mm	0.0050 - 0.0070 in/in @Thickness 0.126 in	SABIC Method
Melt Index of Compound	15 g/10 min @Load 1.20 kg, Temperature 280 °C	15 g/10 min @Load 2.65 lb, Temperature 536 °F	MVR [cm^3/10 min]; ISO 1133
	34 g/10 min @Load 2.16 kg, Temperature 280 °C	34 g/10 min @Load 4.76 lb, Temperature 536 °F	MVR [cm^3/10 min]; ISO 1133

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	49.0 MPa	7110 psi	Type I, 50 mm/min; ASTM D638
	53.0 MPa	7690 psi	50 mm/min; ISO 527
Tensile Strength, Yield	52.0 MPa	7540 psi	Type I, 50 mm/min; ASTM D638
	61.0 MPa	8850 psi	50 mm/min; ISO 527
Elongation at Break	7.3 %	7.3 %	Type I, 50 mm/min; ASTM D638
	8.0 %	8.0 %	50 mm/min; ISO 527
Elongation at Yield	3.5 %	3.5 %	50 mm/min; ISO 527
	3.6 %	3.6 %	Type I, 50 mm/min; ASTM D638

Mechanical Properties	Metric	English	Comments
	3.14 GPa	455 ksi	50 mm/min; ASTM D638
Flexural Yield Strength	89.0 MPa	12900 psi	2 mm/min; ISO 178
	98.0 MPa	14200 psi	1.3 mm/min, 50 mm span; ASTM D790
Flexural Modulus	2.42 GPa	351 ksi	2 mm/min; ISO 178
	2.77 GPa	402 ksi	1.3 mm/min, 50 mm span; ASTM D790
Izod Impact, Notched	0.380 J/cm	0.712 ft-lb/in	ASTM D256
	0.270 J/cm @Temperature -30.0 °C	0.506 ft-lb/in @Temperature -22.0 °F	ASTM D256
Izod Impact, Notched (ISO)	6.00 kJ/m²	2.86 ft-lb/in²	80*10*4; ISO 180/1A
	4.00 kJ/m² @Temperature -30.0 °C	1.90 ft-lb/in² @Temperature -22.0 °F	80*10*4; ISO 180/1A
Charpy Impact, Notched	0.600 J/cm²	2.86 ft-lb/in²	Edgew 80*10*4 sp=62mm; ISO 179/1eA

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	74.0 µm/m-°C @Temperature -40.0 - 40.0 °C	41.1 µin/in-°F @Temperature -40.0 - 104 °F	ASTM E 831
	74.0 µm/m-°C @Temperature -40.0 - 40.0 °C	41.1 µin/in-°F @Temperature -40.0 - 104 °F	ISO 11359-2
CTE, linear, Transverse to Flow	74.0 µm/m-°C @Temperature -40.0 - 40.0 °C	41.1 µin/in-°F @Temperature -40.0 - 104 °F	ASTM E 831
	74.0 µm/m-°C @Temperature -40.0 - 40.0 °C	41.1 µin/in-°F @Temperature -40.0 - 104 °F	ISO 11359-2
Deflection Temperature at 1.8 MPa (264 psi)	92.0 °C	198 °F	Flatw 80*10*4 sp=64mm; ISO 75/Af
	90.0 °C @Thickness 3.20 mm	194 °F @Thickness 0.126 in	unannealed; ASTM D648
Vicat Softening Point	110 °C	230 °F	Rate B/50; ASTM D1525

Thermal Properties	Metric	English	Comments
	111 °C	232 °F	Rate B/50; ISO 306
	114 °C	237 °F	Rate B/120; ISO 306
UL RTI, Electrical	65.0 °C	149 °F	UL 746B
UL RTI, Mechanical with Impact	65.0 °C	149 °F	UL 746B
UL RTI, Mechanical without Impact	65.0 °C	149 °F	UL 746B
Flammability, UL94	V-1 @Thickness 1.50 mm	V-1 @Thickness 0.0591 in	UL 94
Oxygen Index	30 %	30 %	ISO 4589
Glow Wire Test	725 °C	1340 °F	IEC 60695-2-13
	725 °C	1340 °F	IEC 60695-2-13
	725 °C	1340 °F	IEC 60695-2-13
	960 °C @Thickness 3.00 mm	1760 °F @Thickness 0.118 in	IEC 60695-2-12

Electrical Properties	Metric	English	Comments
Volume Resistivity	4.00e+16 - 4.50e+16 ohm-cm	4.00e+16 - 4.50e+16 ohm-cm	ASTM D257
	4.00e+16 - 4.50e+16 ohm-cm	4.00e+16 - 4.50e+16 ohm-cm	IEC 60093
Surface Resistance	1.00e+14 - 1.50e+14 ohm	1.00e+14 - 1.50e+14 ohm	ASTM D257
	1.00e+14 - 1.50e+14 ohm	1.00e+14 - 1.50e+14 ohm	ROA; IEC 60093
Dielectric Constant	2.7 @Frequency 1.00e+6 Hz	2.7 @Frequency 1.00e+6 Hz	ASTM D150
	2.7 @Frequency 1.00e+6 Hz	2.7 @Frequency 1.00e+6 Hz	IEC 60250
Dielectric Strength	28.6 kV/mm @Thickness 1.60 mm	726 kV/in @Thickness 0.0630 in	in oil; IEC 60243-1
Dissipation Factor	0.020 @Frequency 1.00e+6 Hz	0.020 @Frequency 1.00e+6 Hz	ASTM D150

Electrical Properties	Metric	English	Comments
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	IEC 60250
Comparative Tracking Index	175 - 250 V	175 - 250 V	UL 746A
	250 V	250 V	IEC 60112
Hot Wire Ignition, HWI	15 - 30 sec	15 - 30 sec	UL 746A
High Amp Arc Ignition, HAI	>= 120 arcs	>= 120 arcs	UL 746A

Descriptive Properties	Value	Comments
Instrumented Impact Total Energy, 23°C	naJ	ASTM D3763

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