SABIC Innovative Plastics NORYL V03550 PPE+HIPS

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

Material Notes:

Noryl* V03550 is a 35% milled fibre reinforced, injection moldable grade. Designed for good dimensional stability and low warpage, this resin also uses non-chlorinated, non-brominated FR additives to achieve a V0 UL94 rating at 2.0 mm. Noryl V03550 is may be an excellent material candidate for application requiring low warpage and flame resistance.

Order this product through the following link:
http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-NORYL-V03550-PPEHIPS.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.35 g/cc	1.35 g/cc	ASTM D792
Density	1.35 g/cc	0.0488 lb/inÂ³	ISO 1183
Moisture Absorption	0.0600 %	0.0600 %	23Â°C / 50% RH; ISO 62
Water Absorption at Saturation	0.20 %	0.20 %	ISO 62
Linear Mold Shrinkage, Flow	0.0030 - 0.0050 cm/cm	0.0030 - 0.0050 in/in	on Tensile Bar; SABIC Method
	0.0030 - 0.0050 cm/cm @Thickness 3.20 mm	0.0030 - 0.0050 in/in @Thickness 0.126 in	SABIC Method
Melt Flow	8.5 g/10 min @Load 5.00 kg, Temperature 300 Â°C	8.5 g/10 min @Load 11.0 lb, Temperature 572 Â°F	ASTM D1238
Melt Index of Compound	15 g/10 min @Load 10.0 kg, Temperature 300 Â°C	15 g/10 min @Load 22.0 lb, Temperature 572 Â°F	MVR [cm^3/10 min]; ISO 1133

Mechanical Properties	Metric	English	Comments
Hardness, H358/30	147 MPa	21300 psi	ISO 2039-1
Tensile Strength at Break	65.0 MPa	9430 psi	5 mm/min; ISO 527
	70.0 MPa	10200 psi	Type I, 5 mm/min; ASTM D638
Tensile Strength, Yield	65.0 MPa	9430 psi	5 mm/min; ISO 527
	70.0 MPa	10200 psi	Type I, 5 mm/min; ASTM D638
Elongation at Break	3.0 %	3.0 %	5 mm/min; ISO 527
	3.5 %	3.5 %	Type I, 5 mm/min; ASTM D638
Elongation at Yield	3.0 %	3.0 %	5 mm/min; ISO 527

Mechanical Properties	Metric	English	Comments
	3.5 %	3.5 %	Type I, 5 mm/min; ASTM D638
Tensile Modulus	4.20 GPa	609 ksi	5 mm/min; ASTM D638
	5.00 GPa	725 ksi	1 mm/min; ISO 527
Flexural Strength	105 MPa	15200 psi	2 mm/min; ISO 178
Flexural Yield Strength	115 MPa	16700 psi	1.3 mm/min, 50 mm span; ASTM D790
Flexural Modulus	4.40 GPa	638 ksi	1.3 mm/min, 50 mm span; ASTM D790
	4.70 GPa	682 ksi	2 mm/min; ISO 178
Izod Impact, Notched	0.550 J/cm	1.03 ft-lb/in	ASTM D256
	0.500 J/cm @Temperature -30.0 Â°C	0.937 ft-lb/in @Temperature -22.0 Â°F	ASTM D256
Izod Impact, Unnotched (ISO)	30.0 kJ/mÂ²	14.3 ft-lb/inÂ²	80*10*4; ISO 180/1U
	30.0 kJ/mÂ² @Temperature -30.0 Â°C	14.3 ft-lb/inÂ² @Temperature -22.0 Â°F	80*10*4; ISO 180/1U
Charpy Impact Unnotched	3.00 J/cmÂ²	14.3 ft-lb/inÂ²	Edgew 80*10*4 sp=62mm; ISO 179/1eU
	3.00 J/cmÂ² @Temperature -30.0 Â°C	14.3 ft-lb/inÂ² @Temperature -22.0 Â°F	Edgew 80*10*4 sp=62mm; ISO 179/1eU
Dart Drop, Total Energy	19.0 J @Temperature 23.0 Â°C	14.0 ft-lb @Temperature 73.4 Â°F	ASTM D3763

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	40.0 Âµm/m-Â°C @Temperature 23.0 - 80.0 Â°C	22.2 Âµin/in-Â°F @Temperature 73.4 - 176 Â°F	ISO 11359-2
	48.0 Âµm/m-Â°C @Temperature -40.0 - 40.0 Â°C	26.7 Âµin/in-Â°F @Temperature -40.0 - 104 Â°F	ASTM E 831
CTE, linear, Transverse to Flow	48.0 Âµm/m-Â°C @Temperature -40.0 - 40.0 Â°C	26.7 Âµin/in-Â°F @Temperature -40.0 - 104 Â°F	ASTM E 831

Thermal Properties	Metric µm/m-Â°C	English µin/in-Â°F	Comments
	@Temperature 23.0 - 80.0 Â°C	@Temperature 73.4 - 176 Â°F	ISO 11359-2
Thermal Conductivity	0.290 W/m-K	2.01 BTU-in/hr-ftÂ²-Â°F	ISO 8302
Hot Ball Pressure Test	<= 150 Â°C	<= 302 Â°F	IEC 60695-10-2
Deflection Temperature at 0.46 MPa (66 psi)	150 Â°C	302 Â°F	Edgew 120*10*4 sp=100mm; ISO 75/Be
Deflection Temperature at 1.8 MPa (264 psi)	145 Â°C	293 Â°F	Edgew 120*10*4 sp=100mm; ISO 75/Ae
	148 Â°C @Thickness 3.20 mm	298 Â°F @Thickness 0.126 in	unannealed; ASTM D648
Vicat Softening Point	155 Â°C	311 Â°F	Rate B/50; ISO 306
	160 Â°C	320 Â°F	Rate B/120; ISO 306
	161 Â°C	322 Â°F	Rate B/50; ASTM D1525
	165 Â°C	329 Â°F	Rate A/50; ISO 306
UL RTI, Electrical	50.0 Â°C	122 Â°F	UL 746B
UL RTI, Mechanical with Impact	50.0 Â°C	122 Â°F	UL 746B
UL RTI, Mechanical without Impact	50.0 Â°C	122 Â°F	UL 746B
Flammability, UL94	V-1 @Thickness 1.50 mm	V-1 @Thickness 0.0591 in	UL 94
	V-0 @Thickness 2.00 mm	V-0 @Thickness 0.0787 in	UL 94
Oxygen Index	34 %	34 %	ISO 4589
Glow Wire Test	960 Â°C @Thickness 3.20 mm	1760 Â°F @Thickness 0.126 in	IEC 60695-2-12

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+15 ohm-cm	1.00e+15 ohm-cm	IEC 60093
Surface Resistance	>= 1.00e+15 ohm	>= 1.00e+15 ohm	ROA; IEC 60093
Dielectric Constant	3.0 @Frequency 1.00e+6 Hz	3.0 @Frequency 1.00e+6 Hz	IEC 60250

Electrical Properties	Metric	English	Comments
	3.1 @Frequency 50.0 - 60.0 Hz	3.1 @Frequency 50.0 - 60.0 Hz	IEC 60250
Dielectric Strength	15.0 kV/mm @Thickness 3.20 mm	381 kV/in @Thickness 0.126 in	in oil; IEC 60243-1
	26.0 kV/mm @Thickness 1.60 mm	660 kV/in @Thickness 0.0630 in	in oil; IEC 60243-1
	33.0 kV/mm @Thickness 0.800 mm	838 kV/in @Thickness 0.0315 in	in oil; IEC 60243-1
Dissipation Factor	0.0030 @Frequency 1.00e+6 Hz	0.0030 @Frequency 1.00e+6 Hz	IEC 60250
	0.0050 @Frequency 50.0 - 60.0 Hz	0.0050 @Frequency 50.0 - 60.0 Hz	IEC 60250

Descriptive Properties	Value	Comments
Ball Pressure Test, 125Â°C +/- 2Â°C	PASSES	IEC 60695-10-2

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