

## SABIC Innovative Plastics NORYL EXNL0353 PPE+HIPS

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

### Material Notes:

EXNL0353 resin is a modified PPE + PS blend with an excellent balance of non-halogenated flame retardance, hydrolytic stability, impact and heat resistance, good flow, and low specific gravity for light-weight parts. This injection-molding resin is available in custom colors and meets UL 94 V-0 requirements at 1.5 mm. EXNL0353 may be an excellent candidate for industrial battery applications.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_SABIC-Innovative-Plastics-NORYL-EXNL0353-PPEHIPS.php](http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-NORYL-EXNL0353-PPEHIPS.php)

Physical Properties	Metric	English	Comments
Specific Gravity	1.11 g/cc	1.11 g/cc	ASTM D792
Density	1.10 g/cc	0.0397 lb/in <sup>3</sup>	ISO 1183
Moisture Absorption	0.0900 %	0.0900 %	23 <sup>o</sup> C / 50% RH; ISO 62
Water Absorption at Saturation	0.11 %	0.11 %	ISO 62
Linear Mold Shrinkage, Flow	0.0034 - 0.0052 cm/cm @Thickness 3.20 mm	0.0034 - 0.0052 in/in @Thickness 0.126 in	SABIC Method
Melt Flow	35.5 g/10 min @Load 5.00 kg, Temperature 280 <sup>o</sup> C	35.5 g/10 min @Load 11.0 lb, Temperature 536 <sup>o</sup> F	ASTM D1238
Melt Index of Compound	32 g/10 min @Load 5.00 kg, Temperature 280 <sup>o</sup> C	32 g/10 min @Load 11.0 lb, Temperature 536 <sup>o</sup> F	MVR [cm <sup>3</sup> /10 min]; ISO 1133

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	53.0 MPa	7690 psi	Type I, 50 mm/min; ASTM D638
	56.0 MPa	8120 psi	50 mm/min; ISO 527
Tensile Strength, Yield	65.0 MPa	9430 psi	50 mm/min; ISO 527
	69.0 MPa	10000 psi	Type I, 50 mm/min; ASTM D638
Elongation at Break	7.6 %	7.6 %	Type I, 50 mm/min; ASTM D638
	9.5 %	9.5 %	50 mm/min; ISO 527
Elongation at Yield	4.0 %	4.0 %	Type I, 50 mm/min; ASTM D638
	4.0 %	4.0 %	50 mm/min; ISO 527
Tensile Modulus	2.72 GPa	395 ksi	5 mm/min; ASTM D638

Mechanical Properties	Metric 2.97 GPa	English 430 ksi	Comments 1 mm/min; ISO 527
Flexural Yield Strength	105 MPa	15200 psi	1.3 mm/min, 50 mm span; ASTM D790
	105 MPa	15200 psi	2 mm/min; ISO 178
Flexural Modulus	2.75 GPa	399 ksi	2 mm/min; ISO 178
	2.85 GPa	413 ksi	1.3 mm/min, 50 mm span; ASTM D790
Izod Impact, Notched	1.20 J/cm	2.25 ft-lb/in	ASTM D256
	0.790 J/cm @Temperature -30.0 Â°C	1.48 ft-lb/in @Temperature -22.0 Â°F	ASTM D256
Izod Impact, Notched (ISO)	10.0 kJ/mÂ²	4.76 ft-lb/inÂ²	80*10*4; ISO 180/1A
	7.00 kJ/mÂ² @Temperature -30.0 Â°C	3.33 ft-lb/inÂ² @Temperature -22.0 Â°F	80*10*4; ISO 180/1A
Charpy Impact, Notched	1.10 J/cmÂ²	5.23 ft-lb/inÂ²	Edgew 80*10*4 sp=62mm; ISO 179/1eA
Dart Drop, Total Energy	36.0 J	26.6 ft-lb	ASTM D3763
	@Temperature 23.0 Â°C	@Temperature 73.4 Â°F	

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	69.0 Âµm/m-Â°C	38.3 Âµin/in-Â°F	ASTM E 831
	@Temperature -40.0 - 40.0 Â°C	@Temperature -40.0 - 104 Â°F	
CTE, linear, Transverse to Flow	69.0 Âµm/m-Â°C	38.3 Âµin/in-Â°F	ISO 11359-2
	@Temperature -40.0 - 40.0 Â°C	@Temperature -40.0 - 104 Â°F	
CTE, linear, Transverse to Flow	73.0 Âµm/m-Â°C	40.6 Âµin/in-Â°F	ASTM E 831
	@Temperature -40.0 - 40.0 Â°C	@Temperature -40.0 - 104 Â°F	
Deflection Temperature at 1.8 MPa (264 psi)	73.0 Âµm/m-Â°C	40.6 Âµin/in-Â°F	ISO 11359-2
	@Temperature -40.0 - 40.0 Â°C	@Temperature -40.0 - 104 Â°F	
Deflection Temperature at 1.8 MPa (264 psi)	93.0 Â°C	199 Â°F	Flatw 80*10*4 sp=64mm; ISO 75/ Af
	92.0 Â°C	198 Â°F	

Thermal Properties	Metric @ Thickness 3.20 mm	English @ Thickness 0.126 in	unannealed; ASTM D648 Comments
Vicat Softening Point	114 Â°C	237 Â°F	Rate B/50; ASTM D1525
	114 Â°C	237 Â°F	Rate B/50; ISO 306
	116 Â°C	241 Â°F	Rate B/120; ISO 306
Flammability, UL94	V-0 @Thickness 1.50 mm	V-0 @Thickness 0.0591 in	UL 94 by SABIC-IP

Electrical Properties	Metric	English	Comments
Volume Resistivity	2.60e+16 - 4.30e+16 ohm-cm	2.60e+16 - 4.30e+16 ohm-cm	ASTM D257
Dielectric Constant	2.3 @Frequency 1.00e+6 Hz	2.3 @Frequency 1.00e+6 Hz	ASTM D150
Dielectric Strength	27.7 kV/mm @Thickness 1.60 mm	704 kV/in @Thickness 0.0630 in	in air; ASTM D149
Dissipation Factor	0.0030 @Frequency 1.00e+6 Hz	0.0030 @Frequency 1.00e+6 Hz	ASTM D150
Comparative Tracking Index	225 V	225 V	IEC 60112
Hot Wire Ignition, HWI	30 - 60 sec	30 - 60 sec	UL 746A
High Amp Arc Ignition, HAI	60 - 120 arcs	60 - 120 arcs	UL 746A

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