

## SABIC Innovative Plastics NORYL NH6020 PPE+HIPS (Asia Pacific)

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

### Material Notes:

Noryl NH6020 resin is an unfilled, injection moldable modified polyphenylene ether resin. Designed for high heat resistance and thin wall FR performance, this resin delivers a UL94 V0 rating at 0.8 mm and is also non-halogenated according to VDE/DIN 472 part 815. Noryl NH6020 resin has a HDT > of 120 deg C, pass the BPT @ 125 deg C, pass the GWIT 775 deg C @ 1, 2 and 3 mm, has the CTI value > 250 V and may be an excellent material candidate for unattended appliances components, where IEC 60335 applies.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_SABIC-Innovative-Plastics-NORYL-NH6020-PPEHIPS-Asia-Pacific.php](http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-NORYL-NH6020-PPEHIPS-Asia-Pacific.php)

Physical Properties	Metric	English	Comments
Specific Gravity	1.14 g/cc	1.14 g/cc	ASTM D792
Density	1.14 g/cc	0.0412 lb/in <sup>3</sup>	ISO 1183
Moisture Absorption	0.0600 %	0.0600 %	23 <sup>o</sup> C / 50% RH; ISO 62
Water Absorption at Saturation	0.18 %	0.18 %	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 Flow	13.5 g/10 min @Load 5.00 kg, Temperature 280 <sup>o</sup> C	13.5 g/10 min @Load 11.0 lb, Temperature 536 <sup>o</sup> F	ASTM D1238
Melt Index of Compound	11 g/10 min @Load 5.00 kg, Temperature 280 <sup>o</sup> C	11 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	56.0 MPa	8120 psi	50 mm/min; ISO 527
	67.0 MPa	9720 psi	Type I, 50 mm/min; ASTM D638
Tensile Strength, Yield	77.0 MPa	11200 psi	50 mm/min; ISO 527
	78.0 MPa	11300 psi	Type I, 50 mm/min; ASTM D638
Elongation at Break	4.2 %	4.2 %	50 mm/min; ISO 527
	6.1 %	6.1 %	Type I, 50 mm/min; ASTM D638
Elongation at Yield	4.6 %	4.6 %	Type I, 50 mm/min; ASTM D638
	4.6 %	4.6 %	50 mm/min; ISO 527

Mechanical Properties	Metric <sup>Pa</sup>	English	Comments <sup>ASTM D638</sup>
	2.74 GPa	397 ksi	1 mm/min; ISO 527
Flexural Yield Strength	114 MPa	16500 psi	2 mm/min; ISO 178
	121 MPa	17500 psi	1.3 mm/min, 50 mm span; ASTM D790
Flexural Modulus	2.68 GPa	389 ksi	2 mm/min; ISO 178
	3.02 GPa	438 ksi	1.3 mm/min, 50 mm span; ASTM D790
Izod Impact, Notched	0.490 J/cm	0.918 ft-lb/in	ASTM D256
	0.360 J/cm	0.674 ft-lb/in	ASTM D256
	@Temperature -30.0 Â°C	@Temperature -22.0 Â°F	
Izod Impact, Notched (ISO)	8.00 kJ/mÂ²	3.81 ft-lb/inÂ²	80*10*4; ISO 180/1A
	5.00 kJ/mÂ²	2.38 ft-lb/inÂ²	80*10*4; ISO 180/1A
	@Temperature -30.0 Â°C	@Temperature -22.0 Â°F	
Charpy Impact, Notched	0.900 J/cmÂ²	4.28 ft-lb/inÂ²	Edgew 80*10*4 sp=62mm; ISO 179/1eA
Dart Drop, Total Energy	18.0 J	13.3 ft-lb	ASTM D3763
	@Temperature 23.0 Â°C	@Temperature 73.4 Â°F	

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	75.0 Âµm/m-Â°C	41.7 Âµin/in-Â°F	ISO 11359-2
	@Temperature -40.0 - 40.0 Â°C	@Temperature -40.0 - 104 Â°F	
	77.5 Âµm/m-Â°C	43.1 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	70.0 Âµm/m-Â°C	38.9 Âµin/in-Â°F	ASTM E 831
	@Temperature -40.0 - 40.0 Â°C	@Temperature -40.0 - 104 Â°F	
	77.5 Âµm/m-Â°C	43.1 Âµin/in-Â°F	ISO 11359-2
	@Temperature -40.0 - 40.0 Â°C	@Temperature -40.0 - 104 Â°F	
Hot Ball Pressure Test	125 Â°C	257 Â°F	IEC 60695-10-2

Thermal Properties <small>Deflection Temperature at 1.8 MPa (104 psi)</small>	Metric <small>124.1°C</small>	English <small>255.3°F</small>	Comments <small>0.4 sp=64mm; ISO 75/AF</small>
	125 Â°C @Thickness 3.20 mm	257 Â°F @Thickness 0.126 in	unannealed; ASTM D648
Vicat Softening Point	141 Â°C	286 Â°F	Rate B/50; ISO 306
	150 Â°C	302 Â°F	Rate B/50; ASTM D1525
	151 Â°C	304 Â°F	Rate B/120; ISO 306
UL RTI, Electrical	110 Â°C	230 Â°F	UL 746B
UL RTI, Mechanical with Impact	105 Â°C	221 Â°F	UL 746B
UL RTI, Mechanical without Impact	110 Â°C	230 Â°F	UL 746B
Flammability, UL94	V-0 @Thickness 0.750 mm	V-0 @Thickness 0.0295 in	UL 94 by SABIC-IP
	5VB @Thickness 2.50 mm	5VB @Thickness 0.0984 in	UL 94 by SABIC-IP
	5VA @Thickness 2.50 mm	5VA @Thickness 0.0984 in	UL 94 by SABIC-IP
Glow Wire Test	800 Â°C	1470 Â°F	IEC 60695-2-13
	800 Â°C	1470 Â°F	IEC 60695-2-13
	825 Â°C	1520 Â°F	IEC 60695-2-13
	960 Â°C @Thickness 3.00 mm	1760 Â°F @Thickness 0.118 in	IEC 60695-2-12

Electrical Properties	Metric	English	Comments
Volume Resistivity	2.50e+16 - 4.15e+16 ohm-cm	2.50e+16 - 4.15e+16 ohm-cm	IEC 60093
Dielectric Constant	2.7 @Frequency 50.0 - 60.0 Hz	2.7 @Frequency 50.0 - 60.0 Hz	IEC 60250
Dielectric Strength	27.0 kV/mm @Thickness 1.60 mm	686 kV/in @Thickness 0.0630 in	in oil; IEC 60243-1
Dissipation Factor	0.0029 @Frequency 1.00e+6 Hz	0.0029 @Frequency 1.00e+6 Hz	IEC 60250

Electrical Properties Comparative Tracking Index	Metric 600 V	English 600 V	Comments IEC 60112
Hot Wire Ignition, HWI	60 - 120 sec	60 - 120 sec	UL 746A

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