

## SABIC Innovative Plastics NORYL NH5120 PPE+PS

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

### Material Notes:

Noryl\* NH5120 Resin is an unreinforced blend of Polyphenylene Ether(PPE) + Polystyrene resin. The material offers a good balance of heat, flow, hydrolytic stability, and non-halogenated V1 flame retardant performance. The material is suitable for injection molding and is available in custom colors.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_SABIC-Innovative-Plastics-NORYL-NH5120-PPEPS.php](http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-NORYL-NH5120-PPEPS.php)

Physical Properties	Metric	English	Comments
Specific Gravity	1.10 g/cc	1.10 g/cc	ASTM D792
Density	1.08 g/cc	0.0390 lb/in <sup>3</sup>	ISO 1183
Moisture Absorption	0.0500 %	0.0500 %	23 <sup>o</sup> C / 50% RH; ISO 62
Water Absorption at Saturation	0.25 %	0.25 %	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	12.2 g/10 min @Load 5.00 kg, Temperature 280 <sup>o</sup> C	12.2 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	52.0 MPa	7540 psi	Type I, 50 mm/min; ASTM D638
	57.0 MPa	8270 psi	50 mm/min; ISO 527
Tensile Strength, Yield	65.0 MPa	9430 psi	50 mm/min; ISO 527
	66.0 MPa	9570 psi	Type I, 50 mm/min; ASTM D638
Elongation at Break	9.2 %	9.2 %	50 mm/min; ISO 527
	29 %	29 %	Type I, 50 mm/min; ASTM D638
Elongation at Yield	4.4 %	4.4 %	50 mm/min; ISO 527
	4.5 %	4.5 %	Type I, 50 mm/min; ASTM D638
Tensile Modulus	2.61 GPa	379 ksi	50 mm/min; ASTM D638

Mechanical Properties	Metric 2.63 GPa	English 389 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	2.61 GPa	379 ksi	2 mm/min; ISO 178
	2.68 GPa	389 ksi	1.3 mm/min, 50 mm span; ASTM D790
Izod Impact, Notched	1.86 J/cm	3.48 ft-lb/in	ASTM D256
	1.11 J/cm	2.08 ft-lb/in	ASTM D256
	@Temperature -30.0 Â°C	@Temperature -22.0 Â°F	
Izod Impact, Notched (ISO)	15.0 kJ/mÂ²	7.14 ft-lb/inÂ²	80*10*4; ISO 180/1A
	12.0 kJ/mÂ²	5.71 ft-lb/inÂ²	80*10*4; ISO 180/1A
	@Temperature -30.0 Â°C	@Temperature -22.0 Â°F	
Charpy Impact, Notched	1.70 J/cmÂ²	8.09 ft-lb/inÂ²	Edgew 80*10*4 sp=62mm; ISO 179/1eA
Dart Drop, Total Energy	53.0 J	39.1 ft-lb	ASTM D3763
	@Temperature 23.0 Â°C	@Temperature 73.4 Â°F	

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	81.0 Âµm/m-Â°C	45.0 Âµin/in-Â°F	ASTM E 831
	@Temperature -40.0 - 40.0 Â°C	@Temperature -40.0 - 104 Â°F	
	81.0 Âµm/m-Â°C	45.0 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	77.0 Âµm/m-Â°C	42.8 Âµin/in-Â°F	ASTM E 831
	@Temperature -40.0 - 40.0 Â°C	@Temperature -40.0 - 104 Â°F	
	77.0 Âµm/m-Â°C	42.8 Âµin/in-Â°F	ISO 11359-2
	@Temperature -40.0 - 40.0 Â°C	@Temperature -40.0 - 104 Â°F	
Deflection Temperature at 0.46 MPa (66 psi)	131 Â°C	268 Â°F	unannealed; ASTM D648
	@Thickness 3.20 mm	@Thickness 0.126 in	

Thermal Properties	Metric	English	Comments
	@Thickness 6.40 mm	@Thickness 0.252 in	unannealed; ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	118 Â°C	244 Â°F	Flatw 80*10*4 sp=64mm; ISO 75/Af
	116 Â°C	241 Â°F	unannealed; ASTM D648
	@Thickness 3.20 mm	@Thickness 0.126 in	
	123 Â°C	253 Â°F	unannealed; ASTM D648
	@Thickness 6.40 mm	@Thickness 0.252 in	
Vicat Softening Point	136 Â°C	277 Â°F	Rate B/50; ASTM D1525
	136 Â°C	277 Â°F	Rate B/50; ISO 306
	138 Â°C	280 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-1	V-1	UL 94
	@Thickness 1.50 mm	@Thickness 0.0591 in	

Electrical Properties	Metric	English	Comments
Comparative Tracking Index	250 - 400 V	250 - 400 V	UL 746A
Hot Wire Ignition, HWI	60 - 120 sec	60 - 120 sec	UL 746A
High Amp Arc Ignition, HAI	>= 120 arcs	>= 120 arcs	UL 746A

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