

SABIC Innovative Plastics NORYL HH180 PPE+PS

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

Material Notes:

Noryl* HH180 is a high heat, unfilled modified polyphenylene ether resin with a Vicat B/120 temperature of 185 deg C. Noryl HH180 is only available in color 80365.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-NORYL-HH180-PPEPS.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.05 g/cc	1.05 g/cc	ASTM D792
Density	1.05 g/cc	0.0379 lb/in ³	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	0.0050 - 0.0070 cm/cm @Thickness 3.20 mm	0.0050 - 0.0070 in/in @Thickness 0.126 in	SABIC Method
Melt Flow	1.3 g/10 min @Load 5.00 kg, Temperature 280 Â°C	1.3 g/10 min @Load 11.0 lb, Temperature 536 Â°F	ASTM D1238
Melt Index of Compound	40 g/10 min @Load 21.6 kg, Temperature 300 Â°C	40 g/10 min @Load 47.6 lb, Temperature 572 Â°F	MVR [cm ³ /10 min]; ISO 1133

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	50.0 MPa	7250 psi	50 mm/min; ISO 527
	55.0 MPa	7980 psi	Type I, 50 mm/min; ASTM D638
Tensile Strength, Yield	65.0 MPa	9430 psi	50 mm/min; ISO 527
	75.0 MPa	10900 psi	Type I, 50 mm/min; ASTM D638
Elongation at Break	15 %	15 %	50 mm/min; ISO 527
	25 %	25 %	Type I, 50 mm/min; ASTM D638
Elongation at Yield	5.0 %	5.0 %	Type I, 50 mm/min; ASTM D638
	5.0 %	5.0 %	50 mm/min; ISO 527
Tensile Modulus	2.30 GPa	334 ksi	1 mm/min; ISO 527

Mechanical Properties	2.50 GPa Metric	363 ksi English	5 mm/min: ASTM D638 Comments
Flexural Yield Strength	90.0 MPa	13100 psi	2 mm/min; ISO 178
	105 MPa	15200 psi	1.3 mm/min, 50 mm span; ASTM D790
Flexural Modulus	2.10 GPa	305 ksi	2 mm/min; ISO 178
	2.50 GPa	363 ksi	1.3 mm/min, 50 mm span; ASTM D790
Izod Impact, Notched	2.30 J/cm	4.31 ft-lb/in	ASTM D256
	1.50 J/cm	2.81 ft-lb/in	ASTM D256
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Izod Impact, Notched (ISO)	23.0 kJ/mÂ²	10.9 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 °C	@Temperature -22.0 °F	
Charpy Impact, Notched	1.50 J/cmÂ²	7.14 ft-lb/inÂ²	Edgew 80*10*4 sp=62mm; ISO 179/1eA
Dart Drop, Total Energy	65.0 J	47.9 ft-lb	ASTM D3763
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	60.0 Âµm/m-Â°C	33.3 Âµin/in-Â°F	ISO 11359-2
	@Temperature 23.0 - 150 Â°C	@Temperature 73.4 - 302 Â°F	
	68.0 Âµm/m-Â°C	37.8 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	60.0 Âµm/m-Â°C	33.3 Âµin/in-Â°F	ISO 11359-2
	@Temperature 23.0 - 150 Â°C	@Temperature 73.4 - 302 Â°F	
	68.0 Âµm/m-Â°C	37.8 Âµin/in-Â°F	ASTM E 831
	@Temperature -40.0 - 40.0 Â°C	@Temperature -40.0 - 104 Â°F	
Deflection Temperature at 0.46 MPa (66 psi)	180 Â°C	356 Â°F	Edgew 120*10*4 sp=100mm; ISO 75/Be
Deflection Temperature at 1.8 MPa (264 psi)	165 Â°C	329 Â°F	Edgew 120*10*4 sp=100mm; ISO 75/Ae

Thermal Properties	Metric	English	Comments
	@Thickness 3.20 mm	@Thickness 0.126 in	unannealed; ASTM D648
Vicat Softening Point	185 Â°C	365 Â°F	Rate B/50; ISO 306
	187 Â°C	369 Â°F	Rate B/120; ISO 306
	188 Â°C	370 Â°F	Rate B/50; ASTM D1525
	195 Â°C	383 Â°F	Rate A/50; ISO 306
Flammability, UL94	V-1	V-1	UL 94 by SABIC-IP
	@Thickness 3.10 mm	@Thickness 0.122 in	
Oxygen Index	20 %	20 %	ISO 4589
Glow Wire Test	960 Â°C	1760 Â°F	IEC 60695-2-12
	@Thickness 3.20 mm	@Thickness 0.126 in	

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	2.5	2.5	IEC 60250
	@Frequency 100 Hz	@Frequency 100 Hz	
Dielectric Strength	22.0 kV/mm	559 kV/in	in oil; IEC 60243-1
	@Thickness 3.20 mm	@Thickness 0.126 in	
Dissipation Factor	0.00040	0.00040	IEC 60250
	@Frequency 100 Hz	@Frequency 100 Hz	
Comparative Tracking Index	>= 125 V	>= 125 V	IEC 60112
	550 V	550 V	IEC 60112

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

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