

SABIC Innovative Plastics NORYL HNA033 PPE+HIPS (Asia Pacific)

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

Material Notes:

Noryl* HNA033 resin is an unfilled modified polyphenylene ether resin designed to withstand several cycles in an autoclave. This resin is suitable for multiple conversion routes and is available in custom colors. Noryl HNA033 resin may be an excellent material candidate for applications requiring multiple sterilization cycles. Noryl HNA033 resin is biocompatible per ISO 10993 (color dependent).

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-NORYL-HNA033-PPEHIPS-Asia-Pacific.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.08 g/cc	1.08 g/cc	ASTM D792
Density	1.08 g/cc	0.0390 lb/in ³	ISO 1183
Moisture Absorption	0.0500 %	0.0500 %	23Â°C / 50% RH; ISO 62
Water Absorption at Saturation	0.15 %	0.15 %	ISO 62
Linear Mold Shrinkage, Flow	0.0070 - 0.0090 cm/cm @Thickness 3.20 mm	0.0070 - 0.0090 in/in @Thickness 0.126 in	SABIC Method
Melt Flow	8.3 g/10 min @Load 5.00 kg, Temperature 300 Â°C	8.3 g/10 min @Load 11.0 lb, Temperature 572 Â°F	ASTM D1238
Melt Index of Compound	8.0 g/10 min @Load 5.00 kg, Temperature 300 Â°C	8.0 g/10 min @Load 11.0 lb, Temperature 572 Â°F	MVR [cm ³ /10 min]; ISO 1133

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	55.0 MPa	7980 psi	50 mm/min; ISO 527
	57.0 MPa	8270 psi	Type I, 50 mm/min; ASTM D638
Tensile Strength, Yield	68.0 MPa	9860 psi	50 mm/min; ISO 527
	71.0 MPa	10300 psi	Type I, 50 mm/min; ASTM D638
Elongation at Break	14.8 %	14.8 %	50 mm/min; ISO 527
	30 %	30 %	Type I, 50 mm/min; ASTM D638
Elongation at Yield	5.2 %	5.2 %	50 mm/min; ISO 527
	5.3 %	5.3 %	Type I, 50 mm/min; ASTM D638
Tensile Modulus	2.31 GPa	335 ksi	5 mm/min; ASTM D638

Mechanical Properties	Metric 2.60 GPa	English 377 ksi	Comments 1 mm/min; ISO 527
Flexural Yield Strength	100 MPa	14500 psi	1.3 mm/min, 50 mm span; ASTM D790
	107 MPa	15500 psi	2 mm/min; ISO 178
Flexural Modulus	2.46 GPa	357 ksi	1.3 mm/min, 50 mm span; ASTM D790
	2.59 GPa	376 ksi	2 mm/min; ISO 178
Izod Impact, Notched	1.92 J/cm	3.60 ft-lb/in	ASTM D256
	1.44 J/cm	2.70 ft-lb/in	ASTM D256
	@Temperature -30.0 Â°C	@Temperature -22.0 Â°F	
Izod Impact, Notched (ISO)	16.0 kJ/mÂ²	7.61 ft-lb/inÂ²	80*10*4; ISO 180/1A
	10.0 kJ/mÂ²	4.76 ft-lb/inÂ²	80*10*4; ISO 180/1A
	@Temperature -30.0 Â°C	@Temperature -22.0 Â°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	47.0 J	34.7 ft-lb	ASTM D3763
	@Temperature 23.0 Â°C	@Temperature 73.4 Â°F	

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	70.9 Âµm/m-Â°C	39.4 Âµin/in-Â°F	ASTM E 831
	@Temperature -40.0 - 40.0 Â°C	@Temperature -40.0 - 104 Â°F	
	70.9 Âµm/m-Â°C	39.4 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	68.7 Âµm/m-Â°C	38.2 Âµin/in-Â°F	ASTM E 831
	@Temperature -40.0 - 40.0 Â°C	@Temperature -40.0 - 104 Â°F	
	68.7 Âµm/m-Â°C	38.2 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)	141 Â°C	286 Â°F	Flatw 80*10*4 sp=64mm; ISO 75/Af
	140 Â°C	284 Â°F	

Thermal Properties	Metric @ Thickness 3.20 mm	English @ Thickness 0.126 in	unannealed; ASTM D648 Comments
Vicat Softening Point	160 Â°C	320 Â°F	Rate B/50; ISO 306
	161 Â°C	322 Â°F	Rate B/50; ASTM D1525
	162 Â°C	324 Â°F	Rate B/120; ISO 306

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