

SABIC Innovative Plastics NORYL BN9003G PPE+HIPS

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

Material Notes:

PPE+PS blend. Unfilled. Blow molding. Excellent balance of impact and surface aesthetics. Suitable for automotive exterior components including spoilers.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-NORYL-BN9003G-PPEHIPS.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.06 g/cc	1.06 g/cc	ASTM D792
Density	1.06 g/cc	0.0383 lb/in ³	ISO 1183
Moisture Absorption	0.0500 %	0.0500 %	23Â°C / 50% RH; ISO 62
Water Absorption at Saturation	0.25 %	0.25 %	ISO 62
Linear Mold Shrinkage, Flow	0.0055 - 0.0075 cm/cm	0.0055 - 0.0075 in/in	on Tensile Bar; SABIC Method
	0.0055 - 0.0075 cm/cm @Thickness 3.20 mm	0.0055 - 0.0075 in/in @Thickness 0.126 in	SABIC Method
Linear Mold Shrinkage, Transverse	0.0055 - 0.0075 cm/cm @Thickness 3.20 mm	0.0055 - 0.0075 in/in @Thickness 0.126 in	SABIC Method
Melt Flow	10 g/10 min @Load 5.00 kg, Temperature 280 Â°C	10 g/10 min @Load 11.0 lb, Temperature 536 Â°F	ASTM D1238
Melt Index of Compound	12 g/10 min @Load 5.00 kg, Temperature 280 Â°C	12 g/10 min @Load 11.0 lb, Temperature 536 Â°F	MVR [cm ³ /10 min]; ISO 1133

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	42.0 MPa	6090 psi	Type I, 50 mm/min; ASTM D638
	42.0 MPa	6090 psi	50 mm/min; ISO 527
Tensile Strength, Yield	47.0 MPa	6820 psi	50 mm/min; ISO 527
	48.0 MPa	6960 psi	Type I, 50 mm/min; ASTM D638
Elongation at Break	30.4 %	30.4 %	50 mm/min; ISO 527
	45 %	45 %	Type I, 50 mm/min; ASTM D638
Elongation at Yield	3.4 %	3.4 %	50 mm/min; ISO 527

Mechanical Properties	Metric	English	Comments
	3.0 Å	5.0 Å	Type I, 50 mm/min; ASTM D638
Tensile Modulus	2.17 GPa	315 ksi	1 mm/min; ISO 527
	2.24 GPa	325 ksi	5 mm/min; ASTM D638
Flexural Yield Strength	70.0 MPa	10200 psi	1.3 mm/min, 50 mm span; ASTM D790
	75.0 MPa	10900 psi	2 mm/min; ISO 178
Flexural Modulus	2.15 GPa	312 ksi	1.3 mm/min, 50 mm span; ASTM D790
	2.19 GPa	318 ksi	2 mm/min; ISO 178
Izod Impact, Notched	3.20 J/cm	5.99 ft-lb/in	ASTM D256
	1.27 J/cm	2.38 ft-lb/in	
	@Temperature -30.0 Å°C	@Temperature -22.0 Å°F	ASTM D256
Izod Impact, Unnotched	NB	NB	ASTM D4812
Izod Impact, Notched (ISO)	25.0 kJ/mÅ²	11.9 ft-lb/inÅ²	80*10*4; ISO 180/1A
	10.0 kJ/mÅ²	4.76 ft-lb/inÅ²	
	@Temperature -30.0 Å°C	@Temperature -22.0 Å°F	80*10*4; ISO 180/1A
Izod Impact, Unnotched (ISO)	NB	NB	80*10*4; ISO 180/1U
	54.0 kJ/mÅ²	25.7 ft-lb/inÅ²	
	@Temperature -30.0 Å°C	@Temperature -22.0 Å°F	80*10*4; ISO 180/1U
Charpy Impact Unnotched	NB	NB	Edgew 80*10*4 sp=62mm; ISO 179/1eU
	10.7 J/cmÅ²	50.9 ft-lb/inÅ²	
	@Temperature -30.0 Å°C	@Temperature -22.0 Å°F	Edgew 80*10*4 sp=62mm; ISO 179/1eU
Charpy Impact, Notched	2.60 J/cmÅ²	12.4 ft-lb/inÅ²	Edgew 80*10*4 sp=62mm; ISO 179/1eA
	1.20 J/cmÅ²	5.71 ft-lb/inÅ²	
	@Temperature -30.0 Å°C	@Temperature -22.0 Å°F	Edgew 80*10*4 sp=62mm; ISO 179/1eA
Dart Drop, Total Energy	40.0 J	29.5 ft-lb	
	@Temperature 23.0 Å°C	@Temperature 73.4 Å°F	ASTM D3763

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	86.0 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$	47.8 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$	ASTM E 831
	@Temperature -40.0 - 40.0 $\text{Å}^\circ\text{C}$	@Temperature -40.0 - 104 $\text{Å}^\circ\text{F}$	
	86.0 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$	47.8 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$	ISO 11359-2
	@Temperature -40.0 - 40.0 $\text{Å}^\circ\text{C}$	@Temperature -40.0 - 104 $\text{Å}^\circ\text{F}$	
CTE, linear, Transverse to Flow	95.0 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$	52.8 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$	ASTM E 831
	@Temperature -40.0 - 40.0 $\text{Å}^\circ\text{C}$	@Temperature -40.0 - 104 $\text{Å}^\circ\text{F}$	
	95.0 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$	52.8 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$	ISO 11359-2
	@Temperature -40.0 - 40.0 $\text{Å}^\circ\text{C}$	@Temperature -40.0 - 104 $\text{Å}^\circ\text{F}$	
Deflection Temperature at 0.46 MPa (66 psi)	126 $\text{Å}^\circ\text{C}$	259 $\text{Å}^\circ\text{F}$	Flatw 80*10*4 sp=64mm; ISO 75/Bf
	124 $\text{Å}^\circ\text{C}$	255 $\text{Å}^\circ\text{F}$	unannealed; ASTM D648
	@Thickness 3.20 mm	@Thickness 0.126 in	
Deflection Temperature at 1.8 MPa (264 psi)	110 $\text{Å}^\circ\text{C}$	230 $\text{Å}^\circ\text{F}$	Flatw 80*10*4 sp=64mm; ISO 75/Af
	108 $\text{Å}^\circ\text{C}$	226 $\text{Å}^\circ\text{F}$	unannealed; ASTM D648
	@Thickness 3.20 mm	@Thickness 0.126 in	
Vicat Softening Point	127 $\text{Å}^\circ\text{C}$	261 $\text{Å}^\circ\text{F}$	Rate B/50; ISO 306
	130 $\text{Å}^\circ\text{C}$	266 $\text{Å}^\circ\text{F}$	Rate B/120; ISO 306
	141 $\text{Å}^\circ\text{C}$	286 $\text{Å}^\circ\text{F}$	Rate B/50; ASTM D1525

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