

SABIC Innovative Plastics NORYL HIPS3190 HIPS

Category : Polymer , Thermoplastic , Polystyrene (PS)

Material Notes:

Complies with FDA Regulation 21 CFR 177.1640 for rubber modified polystyrene. HB rating from 0.062-0.125" pending. Natural only.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-NORYL-HIPS3190-HIPS.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.04 g/cc	1.04 g/cc	ASTM D792
Linear Mold Shrinkage, Flow	0.0060 - 0.0080 cm/cm	0.0060 - 0.0080 in/in	SABIC Method
	@Thickness 3.20 mm	@Thickness 0.126 in	
Melt Flow	2.6 g/10 min	2.6 g/10 min	ASTM D1238
	@Load 5.00 kg, Temperature 200 Å°C	@Load 11.0 lb, Temperature 392 Å°F	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	94	94	ASTM D785
Tensile Strength at Break	22.0 MPa	3190 psi	Type I, 5 mm/min; ASTM D638
	24.0 MPa	3480 psi	Type I, 50 mm/min; ASTM D638
Tensile Strength, Yield	23.0 MPa	3340 psi	Type I, 5 mm/min; ASTM D638
	28.0 MPa	4060 psi	Type I, 50 mm/min; ASTM D638
Elongation at Break	67 %	67 %	Type I, 50 mm/min; ASTM D638
	67 %	67 %	Type I, 5 mm/min; ASTM D638
Elongation at Yield	1.4 %	1.4 %	Type I, 5 mm/min; ASTM D638
	1.7 %	1.7 %	Type I, 50 mm/min; ASTM D638
Tensile Modulus	1.90 GPa	276 ksi	5 mm/min; ASTM D638
	2.21 GPa	321 ksi	50 mm/min; ASTM D638
Flexural Yield Strength	36.0 MPa	5220 psi	2.6 mm/min, 100 mm span; ASTM D790
	42.0 MPa	6090 psi	1.3 mm/min, 50 mm span; ASTM D790
Flexural Modulus	1.97 GPa	286 ksi	2.6 mm/min, 100 mm span; ASTM D790

Mechanical Properties	2.13 GPa Metric	309 ksi English	1.3 mm/min, 50 mm span; ASTM D790 Comments
Izod Impact, Notched	1.92 J/cm	3.60 ft-lb/in	ASTM D256
	0.740 J/cm @Temperature -30.0 °C	1.39 ft-lb/in @Temperature -22.0 °F	ASTM D256
Dart Drop, Total Energy	11.0 J @Temperature -30.0 °C	8.11 ft-lb @Temperature -22.0 °F	ASTM D3763
	23.0 J @Temperature 23.0 °C	17.0 ft-lb @Temperature 73.4 °F	ASTM D3763

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	52.2 µm/m-°C @Temperature -40.0 - 40.0 °C	29.0 µin/in-°F @Temperature -40.0 - 104 °F	ASTM E 831
CTE, linear, Transverse to Flow	79.2 µm/m-°C @Temperature -40.0 - 40.0 °C	44.0 µin/in-°F @Temperature -40.0 - 104 °F	ASTM E 831
Deflection Temperature at 0.46 MPa (66 psi)	90.0 °C @Thickness 3.20 mm	194 °F @Thickness 0.126 in	unannealed; ASTM D648
	93.0 °C @Thickness 6.40 mm	199 °F @Thickness 0.252 in	unannealed; ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	77.0 °C @Thickness 3.20 mm	171 °F @Thickness 0.126 in	unannealed; ASTM D648
	83.0 °C @Thickness 6.40 mm	181 °F @Thickness 0.252 in	unannealed; ASTM D648
Vicat Softening Point	92.0 °C	198 °F	Rate B/50; ASTM D1525
UL RTI, Electrical	50.0 °C	122 °F	UL 746B
UL RTI, Mechanical with Impact	50.0 °C	122 °F	UL 746B
UL RTI, Mechanical without Impact	50.0 °C	122 °F	UL 746B
Flammability, UL94	HB @Thickness 1.52 mm	HB @Thickness 0.0598 in	UL 94

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