

SABIC Innovative Plastics LNP THERMOCOMP Noryl_FM3020 PPE+PS

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

Material Notes:

LNP* Thermocomp* Noryl_FM3020 compound is GR/MR 30%, high modulus structural foam. 10% weight reduction, 0.250" wall thickness.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-LNP-THERMOCOMP-NorylFM3020-PPEPS.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.19 g/cc	1.19 g/cc	foam molded; ASTM D792
	1.32 g/cc	1.32 g/cc	ASTM D792
Water Absorption	0.080 %	0.080 %	ASTM D570
	@Time 86400 sec	@Time 24.0 hour	
Linear Mold Shrinkage, Flow	0.0025 cm/cm	0.0025 in/in	SABIC Method
	@Thickness 6.40 mm	@Thickness 0.252 in	
Linear Mold Shrinkage, Transverse	0.0030 cm/cm	0.0030 in/in	SABIC Method
	@Thickness 6.40 mm	@Thickness 0.252 in	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	83	83	ASTM D785
Tensile Strength, Yield	72.0 MPa	10400 psi	ASTM D638
	@Thickness 6.35 mm	@Thickness 0.250 in	
Elongation at Yield	2.0 %	2.0 %	ASTM D638
	@Thickness 6.35 mm	@Thickness 0.250 in	
Flexural Yield Strength	104 MPa	15100 psi	6.4 mm; ASTM D790
Flexural Modulus	6.55 GPa	950 ksi	6.4 mm; ASTM D790
Poissons Ratio	0.38	0.38	ASTM E 132
Izod Impact, Notched	0.960 J/cm	1.80 ft-lb/in	ASTM D256
	@Thickness 6.40 mm	@Thickness 0.252 in	
Coefficient of Friction, Static	0.51	0.51	steel; ASTM D1894
	0.54	0.54	self; ASTM D1894
Taber Abrasion, mg/1000 Cycles	100	100	CS-17, 1 kg; ASTM D1044

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	23.4 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$	13.0 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$	ASTM E 831
	@Temperature -40.0 - 95.0 $\text{Å}^\circ\text{C}$	@Temperature -40.0 - 203 $\text{Å}^\circ\text{F}$	
CTE, linear, Transverse to Flow	34.2 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$	19.0 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$	ASTM E 831
	@Temperature -40.0 - 95.0 $\text{Å}^\circ\text{C}$	@Temperature -40.0 - 203 $\text{Å}^\circ\text{F}$	
Deflection Temperature at 0.46 MPa (66 psi)	118 $\text{Å}^\circ\text{C}$	244 $\text{Å}^\circ\text{F}$	unannealed; ASTM D648
	@Thickness 6.40 mm	@Thickness 0.252 in	
Deflection Temperature at 1.8 MPa (264 psi)	110 $\text{Å}^\circ\text{C}$	230 $\text{Å}^\circ\text{F}$	unannealed; ASTM D648
	@Thickness 6.40 mm	@Thickness 0.252 in	
UL RTI, Electrical	50.0 $\text{Å}^\circ\text{C}$	122 $\text{Å}^\circ\text{F}$	UL 746B
UL RTI, Mechanical with Impact	50.0 $\text{Å}^\circ\text{C}$	122 $\text{Å}^\circ\text{F}$	UL 746B
UL RTI, Mechanical without Impact	50.0 $\text{Å}^\circ\text{C}$	122 $\text{Å}^\circ\text{F}$	UL 746B
Flammability, UL94	V-1	V-1	UL 94
	@Thickness 2.89 mm	@Thickness 0.114 in	
	5VA	5VA	UL 94
	@Thickness 2.89 mm	@Thickness 0.114 in	

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+17 ohm-cm	1.00e+17 ohm-cm	ASTM D257
Surface Resistance	1.00e+17 ohm	1.00e+17 ohm	ASTM D257
Arc Resistance	60 - 120 sec	60 - 120 sec	Tungsten; ASTM D495
Comparative Tracking Index	100 - 175 V	100 - 175 V	UL 746A
Hot Wire Ignition, HWI	≥ 120 sec	≥ 120 sec	UL 746A
High Amp Arc Ignition, HAI	0.00 - 15 arcs	0.00 - 15 arcs	UL 746A
High Voltage Arc-Tracking Rate, HVTR	≥ 150 mm/min	≥ 5.91 in/min	UL 746A

Descriptive Properties	Value	Comments
FOAM - ELECTRICAL 6.4 mm Wt Reduction	20%	
FOAM - Flame Class Minimum Density	1.12g/cm ³	

FOAM - IMPACT 6.4 mm Wt Reduction Descriptive Properties	10% Value	Comments
FOAM - MECHANICAL 6.4 mm Wt Reduction	10%	
FOAM - PHYSICAL 6.4mm Wt Reduction	10%	
FOAM - THERMAL 6.4mm Wt Reduction	10%	
Weight Reduction	10%	SABIC Method

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