

SABIC Innovative Plastics LNP Thermocomp FF004 PE

Category : Polymer , Thermoplastic , Polyethylene (PE)

Material Notes:

LNP THERMOCOMP* FF004 is a compound based on Polyethylene resin containing Glass Fiber. This data was supplied by SABIC-IP for the Americas region.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-LNP-Thermocomp-FF004-PE.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.09 g/cc	1.09 g/cc	ASTM D 792
Density	1.08 g/cc	0.0390 lb/in ³	ASTM D 792
Moisture Absorption at Equilibrium	0.010 %	0.010 %	23 ^o C / 50% RH; ISO 62
	0.020 % @Time 86400 sec	0.020 % @Time 24.0 hour	50% RH; ASTM D 570
Linear Mold Shrinkage, Flow	0.010 - 0.030 cm/cm	0.010 - 0.030 in/in	ASTM D 955
	@Time 86400 sec	@Time 24.0 hour	
Linear Mold Shrinkage, Transverse	0.0070 - 0.010 cm/cm	0.0070 - 0.010 in/in	ASTM D 955
	@Time 86400 sec	@Time 24.0 hour	

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	31.0 MPa	4500 psi	5 mm/min; ISO 527
	35.0 MPa	5080 psi	Type I, 5 mm/min; ASTM D 638
	40.0 MPa	5800 psi	ASTM D 638
Tensile Strength, Yield	37.0 MPa	5370 psi	5 mm/min; ISO 527
	40.0 MPa	5800 psi	Type I, 5 mm/min; ASTM D 638
Elongation at Break	4.2 %	4.2 %	5 mm/min; ISO 527
	4.3 %	4.3 %	ASTM D 638
	4.6 %	4.6 %	Type I, 5 mm/min; ASTM D 638
Elongation at Yield	2.5 %	2.5 %	5 mm/min; ISO 527
	3.0 %	3.0 %	Type I, 5 mm/min; ASTM D 638
Tensile Modulus	3.42 GPa	496 ksi	1 mm/min; ISO 527

Mechanical Properties	4.21 GPa Metric	611 ksi English	50 mm/min; ASTM D 638 Comments
Flexural Strength	48.0 MPa	6960 psi	ASTM D 790
	51.0 MPa	7400 psi	ISO 178
Flexural Yield Strength	54.0 MPa	7830 psi	1.3 mm/min, 50 mm span; ASTM D 790
Flexural Modulus	2.41 GPa	350 ksi	ASTM D 790
	2.84 GPa	412 ksi	2 mm/min; ISO 178
	2.98 GPa	432 ksi	1.3 mm/min, 50 mm span; ASTM D 790
Izod Impact, Notched	0.650 J/cm @Temperature 23.0 Â°C	1.22 ft-lb/in @Temperature 73.4 Â°F	ASTM D 256
Izod Impact, Unnotched	3.37 J/cm @Temperature 23.0 Â°C	6.31 ft-lb/in @Temperature 73.4 Â°F	ASTM D 4812
Izod Impact, Notched (ISO)	5.00 kJ/mÂ² @Temperature 23.0 Â°C	2.38 ft-lb/inÂ² @Temperature 73.4 Â°F	80*10*4; ISO 180/1A
Izod Impact, Unnotched (ISO)	17.0 kJ/mÂ² @Temperature 23.0 Â°C	8.09 ft-lb/inÂ² @Temperature 73.4 Â°F	80*10*4; ISO 180/1U
Impact Test	3.00 J	2.21 ft-lb	Multiaxial Impact; ISO 6603
	10.0 J @Temperature 23.0 Â°C	7.38 ft-lb @Temperature 73.4 Â°F	Instrumented Impact Total Energy; ASTM D 3763

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	56.0 Âµm/m-Â°C @Temperature -30.0 - 30.0 Â°C	31.1 Âµin/in-Â°F @Temperature -22.0 - 86.0 Â°F	ASTM D 696
CTE, linear, Transverse to Flow	123 Âµm/m-Â°C @Temperature -30.0 - 30.0 Â°C	68.3 Âµin/in-Â°F @Temperature -22.0 - 86.0 Â°F	ASTM D 696
Deflection Temperature at 0.46 MPa (66 psi)	121 Â°C	250 Â°F	Flatw 80*10*4 sp=64mm; ISO 75/Bf
	126 Â°C	259 Â°F	unannealed; ASTM D 648

Thermal Properties	@Thickness 3.20 mm Metric	@Thickness 0.126 in English	Comments
Deflection Temperature at 1.8 MPa (264 psi)	92.0 °C	198 °F	Flatw 80*10*4 sp=64mm; ISO 75/Af
	102 °C	216 °F	unannealed; ASTM D 648
	@Thickness 3.20 mm	@Thickness 0.126 in	

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