

## SABIC Innovative Plastics LNP THERMOCOMP EC005 PEI

Category : Polymer , Thermoplastic , Polyetherimide (PEI)

### Material Notes:

LNP THERMOCOMP® EC005 is a compound based on Polyetherimide resin containing 25% Carbon Fiber. Added features of this material include: Electrically Conductive.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_SABIC-Innovative-Plastics-LNP-THERMOCOMP-EC005-PEI.php](http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-LNP-THERMOCOMP-EC005-PEI.php)

Physical Properties	Metric	English	Comments
Specific Gravity	1.38 g/cc	1.38 g/cc	ASTM D792
Density	1.365 g/cc	0.04931 lb/in <sup>3</sup>	ASTM D792
	1.37 g/cc	0.0495 lb/in <sup>3</sup>	ISO 1183
Moisture Absorption	0.170 %	0.170 %	50% RH, 24 hrs; ASTM D570
	0.270 %	0.270 %	23°C / 50% RH; ISO 62
Linear Mold Shrinkage, Flow	0.00070 - 0.00090 cm/cm	0.00070 - 0.00090 in/in	ASTM D955
	@Time 86400 sec	@Time 24.0 hour	
	0.0010 - 0.0030 cm/cm	0.0010 - 0.0030 in/in	ISO 294
	@Time 86400 sec	@Time 24.0 hour	
Linear Mold Shrinkage, Transverse	0.0030 - 0.0050 cm/cm	0.0030 - 0.0050 in/in	ISO 294
	@Time 86400 sec	@Time 24.0 hour	
	0.0050 - 0.0070 cm/cm	0.0050 - 0.0070 in/in	ASTM D955
	@Time 86400 sec	@Time 24.0 hour	

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	200 MPa	29000 psi	Type I, 5 mm/min; ASTM D638
	200 MPa	29000 psi	5 mm/min; ISO 527
Elongation at Break	1.4 %	1.4 %	Type I, 5 mm/min; ASTM D638
	1.4 %	1.4 %	5 mm/min; ISO 527
Tensile Modulus	18.17 GPa	2635 ksi	1 mm/min; ISO 527
	18.3 GPa	2650 ksi	50 mm/min; ASTM D638
Flexural Strength	274 MPa	39700 psi	1.3 mm/min, 50 mm span; ASTM D790

Mechanical Properties	Metric	English	Comments
Flexural Yield Strength	275 MPa	39900 psi	1.3 mm/min, 50 mm span; ASTM D790
Flexural Modulus	16.2 GPa	2350 ksi	2 mm/min; ISO 178
	16.3 GPa	2360 ksi	1.3 mm/min, 50 mm span; ASTM D790
Izod Impact, Notched	0.450 J/cm	0.843 ft-lb/in	ASTM D256
Izod Impact, Unnotched	4.05 J/cm	7.59 ft-lb/in	ASTM D4812
Izod Impact, Notched (ISO)	4.00 kJ/m <sup>2</sup>	1.90 ft-lb/in <sup>2</sup>	80*10*4; ISO 180/1A
Izod Impact, Unnotched (ISO)	24.0 kJ/m <sup>2</sup>	11.4 ft-lb/in <sup>2</sup>	80*10*4; ISO 180/1U
Dart Drop, Total Energy	10.0 J	7.38 ft-lb	Instrumented Impact Energy @ peak; ASTM D3763
	11.0 J @Temperature 23.0 Â°C	8.11 ft-lb @Temperature 73.4 Â°F	ASTM D3763
Impact Test	3.00 J	2.21 ft-lb	Multiaxial Impact; ISO 6603

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	19.0 Âµm/m-Â°C	10.6 Âµin/in-Â°F	ASTM E 831
	@Temperature -40.0 - 40.0 Â°C	@Temperature -40.0 - 104 Â°F	
	19.2 Âµm/m-Â°C	10.7 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	20.5 Âµm/m-Â°C	11.4 Âµin/in-Â°F	ASTM D696
	@Temperature -30.0 - 30.0 Â°C	@Temperature -22.0 - 86.0 Â°F	
	27.1 Âµm/m-Â°C	15.1 Âµin/in-Â°F	ASTM E 831
	@Temperature -40.0 - 40.0 Â°C	@Temperature -40.0 - 104 Â°F	
Deflection Temperature at 0.46 MPa	27.1 Âµm/m-Â°C	15.1 Âµin/in-Â°F	ISO 11359-2
	@Temperature -40.0 - 40.0 Â°C	@Temperature -40.0 - 104 Â°F	
	27.1 Âµm/m-Â°C	15.1 Âµin/in-Â°F	ASTM D696
	@Temperature -30.0 - 30.0 Â°C	@Temperature -22.0 - 86.0 Â°F	
	212 Â°C	414 Â°F	

<small>(56 psi)</small> Thermal Properties	Metric	English	Flatw 80*10*4 sp=64mm; ISO 75/Bf Comments
	210 Â°C @Thickness 3.20 mm	410 Â°F @Thickness 0.126 in	unannealed; ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	207 Â°C	405 Â°F	Flatw 80*10*4 sp=64mm; ISO 75/Af
	204 Â°C @Thickness 3.20 mm	399 Â°F @Thickness 0.126 in	unannealed; ASTM D648

Electrical Properties	Metric	English	Comments
Volume Resistivity	100 - 1.00e+6 ohm-cm	100 - 1.00e+6 ohm-cm	ASTM D257
Surface Resistance	100 ohm - 1e+05	100 ohm - 1e+05	ASTM D257

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