

SABIC Innovative Plastics LNP FARADEx ES003E PEI

Category : Polymer , Thermoplastic , Polyetherimide (PEI)

Material Notes:

LNP* FARADEx* ES003E is a Polyetherimide resin containing 15% Stainless Steel Fibers. Added feature of this grade is: EMI/RFI Shielding.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-LNP-FARADEx-ES003E-PEI.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.46 g/cc	1.46 g/cc	ASTM D792
Density	1.46 g/cc	0.0527 lb/in ³	ASTM D792
Moisture Absorption	0.190 %	0.190 %	50% RH, 24 hrs; ASTM D570
	0.270 %	0.270 %	23°C / 50% RH; ISO 62
Linear Mold Shrinkage, Flow	0.0060 - 0.0080 cm/cm	0.0060 - 0.0080 in/in	ASTM D955
	@Time 86400 sec	@Time 24.0 hour	
Linear Mold Shrinkage, Transverse	0.0080 - 0.010 cm/cm	0.0080 - 0.010 in/in	ASTM D955
	@Time 86400 sec	@Time 24.0 hour	

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	98.0 MPa	14200 psi	5 mm/min; ISO 527
	105 MPa	15200 psi	Type I, 5 mm/min; ASTM D638
Tensile Strength, Yield	99.0 MPa	14400 psi	5 mm/min; ISO 527
	105 MPa	15200 psi	Type I, 5 mm/min; ASTM D638
Elongation at Break	4.3 %	4.3 %	5 mm/min; ISO 527
	5.0 %	5.0 %	Type I, 5 mm/min; ASTM D638
Elongation at Yield	4.0 %	4.0 %	5 mm/min; ISO 527
	4.8 %	4.8 %	Type I, 5 mm/min; ASTM D638
Tensile Modulus	4.34 GPa	629 ksi	1 mm/min; ISO 527
	4.66 GPa	676 ksi	50 mm/min; ASTM D638
Flexural Strength	155 MPa	22500 psi	ISO 178
Flexural Modulus	4.31 GPa	625 ksi	2 mm/min; ISO 178
	4.59 GPa	666 ksi	1.3 mm/min, 50 mm span; ASTM

Mechanical Properties	Metric	English	0790 Comments
Izod Impact, Notched	0.340 J/cm	0.637 ft-lb/in	ASTM D256
Izod Impact, Unnotched	4.85 J/cm	9.09 ft-lb/in	ASTM D4812
Izod Impact, Notched (ISO)	5.00 kJ/m ²	2.38 ft-lb/in ²	80*10*4; ISO 180/1A
Izod Impact, Unnotched (ISO)	33.0 kJ/m ²	15.7 ft-lb/in ²	80*10*4; ISO 180/1U
Dart Drop, Total Energy	7.00 J @Temperature 23.0 °C	5.16 ft-lb @Temperature 73.4 °F	ASTM D3763
Impact Test	1.00 J	0.738 ft-lb	Multiaxial Impact; ISO 6603

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	40.0 µm/m-°C	22.2 µin/in-°F	ASTM D696
	@Temperature -30.0 - 30.0 °C	@Temperature -22.0 - 86.0 °F	
CTE, linear, Transverse to Flow	44.0 µm/m-°C	24.4 µin/in-°F	ASTM D696
	@Temperature -30.0 - 30.0 °C	@Temperature -22.0 - 86.0 °F	
Deflection Temperature at 0.46 MPa (66 psi)	194 °C	381 °F	Flatw 80*10*4 sp=64mm; ISO 75/Bf
	190 °C @Thickness 3.20 mm	374 °F @Thickness 0.126 in	
Deflection Temperature at 1.8 MPa (264 psi)	177 °C	351 °F	Flatw 80*10*4 sp=64mm; ISO 75/Af
	180 °C @Thickness 3.20 mm	356 °F @Thickness 0.126 in	

Electrical Properties	Metric	English	Comments
Surface Resistance	2.0 - 4.0 ohm	2.0 - 4.0 ohm	ASTM D257
Shielding Effectiveness	60 dB	60 dB	SABIC Method
	@Thickness 2.50 mm	@Thickness 0.0984 in	

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