

SABIC Innovative Plastics LNP Faradex ES003DE PEI

Category : Polymer , Thermoplastic , Polyetherimide (PEI)

Material Notes:

LNP* Faradex* ES003DE is a Polyetherimide resin containing stainless steel fibers. Characteristics of this grade are EMI/RFI Shielding. 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-Faradex-ES003DE-PEI.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.46 g/cc	1.46 g/cc	ASTM D 792
Density	1.46 g/cc	0.0527 lb/in ³	ASTM D 792
Moisture Absorption at Equilibrium	0.27 %	0.27 %	23°C / 50% RH; ISO 62
	0.19 % @Time 86400 sec	0.19 % @Time 24.0 hour	50% RH; ASTM D 570
Linear Mold Shrinkage, Flow	0.0060 - 0.0080 cm/cm	0.0060 - 0.0080 in/in	ASTM D 955
	@Time 86400 sec	@Time 24.0 hour	
Linear Mold Shrinkage, Transverse	0.0080 - 0.010 cm/cm	0.0080 - 0.010 in/in	ASTM D 955
	@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 D 638
Tensile Strength, Yield	99.0 MPa	14400 psi	5 mm/min; ISO 527
	105 MPa	15200 psi	Type I, 5 mm/min; ASTM D 638
Elongation at Break	4.3 %	4.3 %	5 mm/min; ISO 527
	5.0 %	5.0 %	Type I, 5 mm/min; ASTM D 638
Elongation at Yield	4.0 %	4.0 %	5 mm/min; ISO 527
	4.8 %	4.8 %	Type I, 5 mm/min; ASTM D 638
Tensile Modulus	4.34 GPa	629 ksi	1 mm/min; ISO 527
	4.66 GPa	676 ksi	50 mm/min; ASTM D 638
Flexural Strength	155 MPa	22500 psi	ISO 178

Flexural Modulus Mechanical Properties	4.31 GPa Metric	625 ksi English	2 mm/min* ISO 178 Comments
	4.59 GPa	666 ksi	1.3 mm/min, 50 mm span; ASTM D 790
Izod Impact, Notched	0.340 J/cm @Temperature 23.0 °C	0.637 ft-lb/in @Temperature 73.4 °F	ASTM D 256
Izod Impact, Unnotched	4.85 J/cm @Temperature 23.0 °C	9.09 ft-lb/in @Temperature 73.4 °F	ASTM D 4812
Izod Impact, Notched (ISO)	5.00 kJ/m ² @Temperature 23.0 °C	2.38 ft-lb/in ² @Temperature 73.4 °F	80*10*4; ISO 180/1A
Izod Impact, Unnotched (ISO)	33.0 kJ/m ² @Temperature 23.0 °C	15.7 ft-lb/in ² @Temperature 73.4 °F	80*10*4; ISO 180/1U
Impact Test	1.00 J	0.738 ft-lb	Multiaxial Impact; ISO 6603
	7.00 J @Temperature 23.0 °C	5.16 ft-lb @Temperature 73.4 °F	Instrumented Impact Total Energy; ASTM D 3763

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	40.0 µm/m-°C @Temperature -30.0 - 30.0 °C	22.2 µin/in-°F @Temperature -22.0 - 86.0 °F	ASTM D 696
CTE, linear, Transverse to Flow	44.0 µm/m-°C @Temperature -30.0 - 30.0 °C	24.4 µin/in-°F @Temperature -22.0 - 86.0 °F	ASTM D 696
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	unannealed; ASTM D 648
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	unannealed; ASTM D 648

Electrical Properties	Metric	English	Comments
Surface Resistance	2.0 - 4.0 ohm	2.0 - 4.0 ohm	ASTM D 257

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