

EMS-Grivory Grivory® HT XE 4027 nat PA*-GF30

Category : Polymer , Renewable/Recycled Polymer , Thermoplastic , Nylon

Material Notes:

Product description: Grivory XE 4027 natural is a 30% glass-fiber reinforced flame retardant (UL 94 V-0) engineering thermoplastic material based on a semi-crystalline, partially aromatic copolyamide. This Grivory HT product is partially based on renewable raw materials. Grivory XE 4027 natural is free of halo-gens and red phosphorus. RoHS: Grivory XE 4027 natural is in compliance with RoHS (2002/95/EC, Restriction of Hazardous Substances). WEEE: Parts produced from Grivory XE 4027 natural are not subject to "selective treatment" according the Directive 2002/96/EC on Waste Electrical and Electronic Equipment. ISO polymer designation: PA 10T/X ASTM designation: PPA, polyphthalamide. The main distinguishing features of Grivory HT, when compared to other poly-amides, are its good performance at high temperatures providing parts which are stiffer, stronger, have better heat distortion and dimensional stability as well as excellent chemical resistance and low moisture absorption. Grivory XE 4027 natural is especially suitable for injection molded components in electrical and electronic applications which require a flame class acc. UL 94 V-0. The material is suitable for lead-free SMT reflow soldering acc. e.g. JEDEC J-STD-020C (peak temperature 260°C). Components conforming to JEDEC MSL1 are achievable. Information provided by EMS Grivory

Order this product through the following link:

http://www.lookpolymers.com/polymer_EMS-Grivory-Grivory-HT-XE-4027-nat-PA-GF30.php

Physical Properties	Metric	English	Comments
Density	1.41 g/cc	0.0509 lb/in ³	ISO 1183
Water Absorption	2.3 %	2.3 %	ISO 62
Moisture Absorption	0.900 %	0.900 %	ISO 62
Linear Mold Shrinkage, Flow	0.0030 cm/cm	0.0030 in/in	ISO 294-4, 2577
Linear Mold Shrinkage, Transverse	0.010 cm/cm	0.010 in/in	ISO 294-4, 2577

Mechanical Properties	Metric	English	Comments
Ball Indentation Hardness	235 MPa	34100 psi	dry; ISO 2039-1
	235 MPa	34100 psi	conditioned; ISO 2039-1
Tensile Strength at Break	130 MPa	18900 psi	dry; ISO 527-1/-2
	130 MPa	18900 psi	conditioned; ISO 527-1/-2
Elongation at Break	2.0 %	2.0 %	dry; ISO 527-1/-2
	2.0 %	2.0 %	conditioned; ISO 527-1/-2
Tensile Modulus	10.0 GPa	1450 ksi	conditioned; ISO 527-1/-2
	10.0 GPa	1450 ksi	dry; ISO 527-1/-2

Charpy Impact Unnotched Mechanical Properties	5.00 J/cm ² Metric	23.8 ft-lb/in ² English	dry; ISO 179/1eU Comments
	5.00 J/cm ²	23.8 ft-lb/in ²	conditioned; ISO 179/1eU
	5.00 J/cm ² @Temperature 30.0 °C	23.8 ft-lb/in ² @Temperature 86.0 °F	dry; ISO 179/1eU
	5.00 J/cm ² @Temperature 30.0 °C	23.8 ft-lb/in ² @Temperature 86.0 °F	conditioned; ISO 179/1eU
Charpy Impact, Notched	0.800 J/cm ²	3.81 ft-lb/in ²	dry; ISO 179/1eA
	0.800 J/cm ²	3.81 ft-lb/in ²	conditioned; ISO 179/1eA
	0.700 J/cm ² @Temperature 30.0 °C	3.33 ft-lb/in ² @Temperature 86.0 °F	dry; ISO 179/1eU
	0.700 J/cm ² @Temperature 30.0 °C	3.33 ft-lb/in ² @Temperature 86.0 °F	conditioned; ISO 179/1eU

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	20.0 µm/m-°C	11.1 µin/in-°F	ISO 11359-1/-2
CTE, linear, Transverse to Flow	70.0 µm/m-°C	38.9 µin/in-°F	ISO 11359-1/-2
Melting Point	295 °C	563 °F	10°C/min; ISO 11357-1/-3
Maximum Service Temperature, Air	150 °C	302 °F	long term; EMS
Deflection Temperature at 1.8 MPa (264 psi)	260 °C	500 °F	ISO 75-1/-2
Deflection Temperature at 8.0 MPa	155 °C	311 °F	ISO 75-1/-2
Flammability, UL94	V-0	V-0	IEC 60695-11-10
	V-0 @Thickness 1.50 mm	V-0 @Thickness 0.0591 in	IEC 60695-11-10

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+11 ohm-cm	1.00e+11 ohm-cm	dry; IEC 60093
	1.00e+11 ohm-cm	1.00e+11 ohm-cm	conditioned; IEC 60093
Surface Resistance	1.00e+11 ohm	1.00e+11 ohm	IEC 60093
Dielectric Strength	33.0 kV/mm	838 kV/in	dry; IEC 60243-1
	33.0 kV/mm	838 kV/in	conditioned; IEC 60243-1

Electrical Properties	Metric	English	Comments
Electrical Properties			IEC 60112
Descriptive Properties	Value		Comments
Automotive	Automotive electr. and electronics, lighting		
	Exterior		
	Fuel systems		
	Interior		
	Powertrain and Chassis		
Electricals & Electronics	Connectors		
	Electrical appliances		
	Electrical equipment		
	Energy distribution		
	Lighting		
	Mobile phones and other portable devices		
Form	Granules		
Processing	Injection Molding		
Product Attributes	Bio based Polyamide		
	Hydrolysis resistant		
Special Characteristics	Flame retardant		
	Improved heat resistance		
	Improved UV resistance (outdoor use)		

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