EMS-Grivory Grivory® XE 3735 Nylon Copolymer, Dry as Molded (Unverified Data**)

Categories: Polymer; Thermoplastic; Nylon (Polyamide PA); Nylon, Aromatic

Material Notes: Grivory XE 3735 is a hybrid reinforced engineering thermoplastic material based on a combination of semi-crystalline Polyamide with partially aromatic copolyamide.

Grivory XE 3735 is used for injection molding of technical parts, exhibiting exceptional characteristics even after moisture absorption.

Information provided by EMS-Grivory

Vendors: No vendors are listed for this material. Please click here if you are a supplier and would like information on how to add your listing to this material.

Physical Properties	Metric	English	Comments
Density	1.47 g/cc	0.0531 lb/in³	ISO 1183
Moisture Absorption	1.4 %	1.4 %	23°C / 50% r.h.; ISO 62
Water Absorption at Saturation	4.0 %	4.0 %	ISO 62
Linear Mold Shrinkage	0.0025 cm/cm	0.0025 in/in	ISO 294
Linear Mold Shrinkage, Transverse	0.0055 cm/cm	0.0055 in/in	ISO 294

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	150 MPa	21800 psi	5 mm/min; ISO 527
Elongation at Break	2.0 %	2.0 %	5 mm/min; ISO 527
Tensile Modulus	11.0 GPa	1600 ksi	1 mm/min; ISO 527
Charpy Impact Unnotched	5.00 J/cm²	23.8 ft-lb/in²	ISO 179/1eU
☒	4.50 J/cm² @Temperature -30.0 °C	21.4 ft-lb/in² @Temperature -22.0 °F	ISO 179/1eU
Charpy Impact, Notched	0.500 J/cm²	2.38 ft-lb/in²	ISO 179/1eA
☒	0.400 J/cm² @Temperature -30.0 °C	1.90 ft-lb/in² @Temperature -22.0 °F	ISO 179/1eA

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+12 ohm-cm	1.00e+12 ohm-cm	IEC 60093
Dielectric Strength	30.0 kV/mm	762 kV/in	IEC 60243-1

Thermal Properties	Metric	English	Comments
CTE, linear ☒	30.0 µm/m-°C @Temperature 23.0 - 55.0 °C	16.7 µin/in-°F @Temperature 73.4 - 131 °F	long.; ISO 11359
	60.0 µm/m-°C @Temperature 23.0 - 55.0 °C	33.3 µin/in-°F @Temperature 73.4 - 131 °F	trans.; ISO 11359
Melting Point	260 °C	500 °F	ISO 11357
Maximum Service Temperature, Air	100 - 120 °C	212 - 248 °F	Long Term; ISO 2578
	180 °C	356 °F	Short Term; ISO 2578
Deflection Temperature at 1.8 MPa (264 psi)	220 °C	428 °F	ISO 75
Deflection Temperature at 8.0 MPa	90.0 °C	194 °F	ISO 75
Flammability, UL94	HB @Thickness 0.800 mm	HB @Thickness 0.0315 in	ISO 1210

Processing Properties	Metric	English	Comments
Processing Temperature	80.0 °C	176 °F	Tool
	80.0 °C	176 °F	Flange
Rear Barrel Temperature	275 °C	527 °F	Zone 3
Middle Barrel Temperature	270 °C	518 °F	Zone 2
Front Barrel Temperature	260 °C	500 °F	Zone 1
Nozzle Temperature	270 °C	518 °F	
Melt Temperature	250 - 280 °C	482 - 536 °F	Basic Machine Settings
Drying Temperature	<= 80.0 °C	<= 176 °F	Desiccant Dryer (dew point at -25°C)
	<= 100 °C	<= 212 °F	Vacuum Oven
Dry Time	4 - 12 hour	4 - 12 hour	Vacuum Oven
	4.00 - 12.0 hour	4.00 - 12.0 hour	Desiccant Dryer (dew point at -25°C)

Hold Pressure	30.0 - 80.0 MPa	4350 - 11600 psi
Back Pressure	0.500 - 1.50 MPa	72.5 - 218 psi
Screw Speed	50 - 100 rpm	50 - 100 rpm

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