

EMS-Grivory Grivory® GM-4H PA*-MD40

Category : Polymer , Thermoplastic , Nylon

Material Notes:

Product description: Grivory GM-4H natural is a 40 % mineral reinforced engineering thermoplastic material based on a combination of semi-crystalline Polyamide with partially aromatic copolyamide. Grivory GM-4H is used for injection molding technical parts, exhibiting exceptional characteristics even after moisture absorption: high stiffness and strengthdimensional stability, low warpagegood chemical resistancegood surface finish The properties of Grivory GM-4H are almost isotropic and its strength is outstanding compared to other mineral filled materials. Metal plating (electro plating) is also possible. Grivory GM-4H is suitable for production of technical parts in the application fields of: Electro / ElectronicsAutomotiveSafety technologyMechanical engineeringDomestic appliancesInformation provided by EMS Grivory

Order this product through the following link:

http://www.lookpolymers.com/polymer_EMS-Grivory-Grivory-GM-4H-PA-MD40.php

Physical Properties	Metric	English	Comments
Density	1.45 g/cc	0.0524 lb/in ³	ISO 1183
Water Absorption	4.5 %	4.5 %	ISO 62
Moisture Absorption	1.40 %	1.40 %	ISO 62
Linear Mold Shrinkage, Flow	0.0080 cm/cm	0.0080 in/in	ISO 294-4, 2577
Linear Mold Shrinkage, Transverse	0.0080 cm/cm	0.0080 in/in	ISO 294-4, 2577

Mechanical Properties	Metric	English	Comments
Ball Indentation Hardness	200 MPa	29000 psi	conditioned; ISO 2039-1
	225 MPa	32600 psi	dry; ISO 2039-1
Tensile Strength at Break	80.0 MPa	11600 psi	conditioned; ISO 527-1/-2
	100 MPa	14500 psi	dry; ISO 527-1/-2
Elongation at Break	3.0 %	3.0 %	dry; ISO 527-1/-2
	5.0 %	5.0 %	conditioned; ISO 527-1/-2
Tensile Modulus	6.00 GPa	870 ksi	conditioned; ISO 527-1/-2
	7.00 GPa	1020 ksi	dry; ISO 527-1/-2
Charpy Impact Unnotched	8.00 J/cm ²	38.1 ft-lb/in ²	dry; ISO 179/1eU
	10.0 J/cm ²	47.6 ft-lb/in ²	conditioned; ISO 179/1eU
	7.50 J/cm ²	35.7 ft-lb/in ²	dry; ISO 179/1eU

Mechanical Properties	@Temperature 30.0 °C Metric	@Temperature 86.0 °F English	Comments
	9.00 J/cm²	42.8 ft-lb/in²	conditioned; ISO 179/1eU
	@Temperature 30.0 °C	@Temperature 86.0 °F	
Charpy Impact, Notched	0.600 J/cm²	2.86 ft-lb/in²	dry; ISO 179/1eA
	0.600 J/cm²	2.86 ft-lb/in²	conditioned; ISO 179/1eA
	0.400 J/cm²	1.90 ft-lb/in²	dry; ISO 179/1eU
	@Temperature 30.0 °C	@Temperature 86.0 °F	
	0.400 J/cm²	1.90 ft-lb/in²	conditioned; ISO 179/1eU
	@Temperature 30.0 °C	@Temperature 86.0 °F	

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	90.0 µm/m-°C	50.0 µin/in-°F	ISO 11359-1/-2
CTE, linear, Transverse to Flow	90.0 µm/m-°C	50.0 µin/in-°F	ISO 11359-1/-2
Melting Point	260 °C	500 °F	10°C/min; ISO 11357-1/-3
Maximum Service Temperature, Air	100 - 120 °C	212 - 248 °F	long term; EMS
	220 °C	428 °F	short term; EMS
Deflection Temperature at 1.8 MPa (264 psi)	105 °C	221 °F	ISO 75-1/-2
Deflection Temperature at 8.0 MPa	60.0 °C	140 °F	ISO 75-1/-2
Flammability, UL94	HB	HB	IEC 60695-11-10

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+14 ohm-cm	1.00e+14 ohm-cm	dry; IEC 60093
	1.00e+14 ohm-cm	1.00e+14 ohm-cm	conditioned; IEC 60093
Surface Resistance	1.00e+13 ohm	1.00e+13 ohm	IEC 60093
Dielectric Strength	26.0 kV/mm	660 kV/in	dry; IEC 60243-1
	26.0 kV/mm	660 kV/in	conditioned; IEC 60243-1
Comparative Tracking Index	600 V	600 V	conditioned; IEC 60112

Descriptive Properties	Value	Comments
Automotive	Air intake sytems	

Descriptive Properties	Automotive electr. and electronics, lighting Value	Comments
	Cooling and climate control	
	Exterior	
	Interior	
	Powertrain and Chassis	
Electricals & Electronics	Connectors	
	Electrical appliances	
	Electrical equipment	
	Energy distribution	
Form	Granules	
Industry & Consumer goods	Housewares	
	Hydraulics & Pneumatics	
	Mechanical Engineering	
	Power transmission	
	Sports & Leisure	
	Tools & Accessories	
Processing	Injection Molding	
Product Attributes	Partially aromatic Polyamide	
Special Characteristics	Improved heat resistance	

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