

EMS-Grivory Grivory® TRV-4X9 PAMACM12-GF40

Category : Polymer , Thermoplastic , Nylon , Nylon 12 , Nylon 12, 40% Glass Fiber Filled

Material Notes:

Product description: Grilamid TRV-4X9 is an amorphous, cycloaliphatic polyamide with 40% glass fibre reinforcement. Grilamid TRV-4X9 characterises itself through the following features: Very low shrinkageHigh heat distortion temperatureLow moisture absorptionResistant to boiling waterHigh creep resistance Application examples:Functional parts in hot waterValves in beverage dispensersInformation provided by EMS Grivory

Order this product through the following link:

http://www.lookpolymers.com/polymer_EMS-Grivory-Grivory-TRV-4X9-PAMACM12-GF40.php

Physical Properties	Metric	English	Comments
Density	1.32 g/cc	0.0477 lb/in ³	ISO 1183
Water Absorption	1.5 %	1.5 %	ISO 62
Moisture Absorption	0.800 %	0.800 %	ISO 62
Linear Mold Shrinkage, Flow	0.0010 cm/cm	0.0010 in/in	ISO 294-4, 2577
Linear Mold Shrinkage, Transverse	0.0040 cm/cm	0.0040 in/in	ISO 294-4, 2577

Mechanical Properties	Metric	English	Comments
Ball Indentation Hardness	160 MPa	23200 psi	conditioned; ISO 2039-1
Tensile Strength at Break	130 MPa	18900 psi	conditioned; ISO 527-1/-2
	140 MPa	20300 psi	dry; 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	9.00 GPa	1310 ksi	conditioned; ISO 527-1/-2
	9.00 GPa	1310 ksi	dry; ISO 527-1/-2
Charpy Impact Unnotched	4.50 J/cm ²	21.4 ft-lb/in ²	conditioned; ISO 179/1eU
	4.50 J/cm ²	21.4 ft-lb/in ²	conditioned; ISO 179/1eU
	@Temperature 30.0 °C	@Temperature 86.0 °F	
Charpy Impact, Notched	1.40 J/cm ²	6.66 ft-lb/in ²	conditioned; ISO 179/1eA
	1.30 J/cm ²	6.19 ft-lb/in ²	conditioned; ISO 179/1eU
	@Temperature 30.0 °C	@Temperature 86.0 °F	

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	80.0 µm/m-°C	44.4 µin/in-°F	ISO 11359-1/-2
Maximum Service Temperature, Air	80.0 - 110 °C	176 - 230 °F	long term; EMS
	125 °C	257 °F	short term; EMS
Transformation Temperature, Tg	155 °C	311 °F	10°C/min; ISO 11357-1/-2
Deflection Temperature at 0.46 MPa (66 psi)	135 °C	275 °F	ISO 75-1/-2
Deflection Temperature at 1.8 MPa (264 psi)	125 °C	257 °F	ISO 75-1/-2
Flammability, UL94	HB	HB	IEC 60695-11-10

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+13 ohm-cm	1.00e+13 ohm-cm	conditioned; IEC 60093
Surface Resistance	1.00e+12 ohm	1.00e+12 ohm	IEC 60093
Dielectric Strength	27.0 kV/mm	686 kV/in	conditioned; IEC 60243-1
Comparative Tracking Index	600 V	600 V	conditioned; IEC 60112

Descriptive Properties	Value	Comments
Automotive	Automotive electr. and electronics, lighting	
	Cooling and climate control	
	Powertrain and Chassis	
Electricals & Electronics	Electrical appliances	
	Electrical equipment	
	Energy distribution	
	Mobile phones and other portable devices	
Form	Granules	
Industry & Consumer goods	Heating systems	
	Housewares	
	Hydraulics & Pneumatics	

Descriptive Properties	Mechanical Engineering Value	Comments
	Medical devices	
	Power transmission	
	Tools & Accessories	
Processing	Injection Molding	
Water Contact	NSF 61	

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