

EMS-Grivory Grivory® TR 55 LX PA12/MACMI

Category : Polymer , Thermoplastic , Nylon , Nylon 12

Material Notes:

Product description: Grilamid TR 55 LX natural is a high purity transparent thermoplastic polyamide, based on aliphatic and cycloaliphatic monomers. Grilamid TR 55 LX natural offers outstanding properties such as: Transparency and weathering stability Unlimited colorability Stress crack resistance Toughness and stiffness Very good chemical resistance Grilamid TR 55 LX natural is especially suited for injection molded out door applications in the application fields of: Optics Automotive Mechanical engineering Safety technology Sport & Leisure Information provided by EMS Grivory

Order this product through the following link:

http://www.lookpolymers.com/polymer_EMS-Grivory-Grivory-TR-55-LX-PA12MACMI.php

Physical Properties	Metric	English	Comments
Density	1.04 g/cc	0.0376 lb/in ³	ISO 1183
Water Absorption	2.5 %	2.5 %	ISO 62
Moisture Absorption	1.00 %	1.00 %	ISO 62
Linear Mold Shrinkage, Flow	0.0050 cm/cm	0.0050 in/in	ISO 294-4, 2577
Linear Mold Shrinkage, Transverse	0.0060 cm/cm	0.0060 in/in	ISO 294-4, 2577

Mechanical Properties	Metric	English	Comments
Ball Indentation Hardness	110 MPa	16000 psi	conditioned; ISO 2039-1
Tensile Strength at Break	40.0 MPa	5800 psi	conditioned; ISO 527-1/-2
Tensile Strength, Yield	70.0 MPa	10200 psi	conditioned; ISO 527-1/-2
Elongation at Break	>= 50 %	>= 50 %	conditioned; ISO 527-1/-2
Elongation at Yield	6.0 %	6.0 %	conditioned; ISO 527-1/-2
Tensile Modulus	1.90 GPa	276 ksi	conditioned; ISO 527-1/-2
Charpy Impact Unnotched	NB	NB	conditioned; ISO 179/1eU
	NB	NB	conditioned; ISO 179/1eU
	@Temperature 30.0 °C	@Temperature 86.0 °F	
Charpy Impact, Notched	0.900 J/cm ²	4.28 ft-lb/in ²	conditioned; ISO 179/1eA
	0.800 J/cm ²	3.81 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	90.0 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	50.0 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	ISO 11359-1/-2
CTE, linear, Transverse to Flow	90.0 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	50.0 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	ISO 11359-1/-2
Maximum Service Temperature, Air	80.0 $^{\circ}\text{C}$	176 $^{\circ}\text{F}$	long term; EMS
	95.0 $^{\circ}\text{C}$	203 $^{\circ}\text{F}$	short term; EMS
Transformation Temperature, Tg	110 $^{\circ}\text{C}$	230 $^{\circ}\text{F}$	10 $^{\circ}\text{C}/\text{min}$; ISO 11357-1/-2
Deflection Temperature at 0.46 MPa (66 psi)	90.0 $^{\circ}\text{C}$	194 $^{\circ}\text{F}$	ISO 75-1/-2
Deflection Temperature at 1.8 MPa (264 psi)	80.0 $^{\circ}\text{C}$	176 $^{\circ}\text{F}$	ISO 75-1/-2
Flammability, UL94	HB	HB	IEC 60695-11-10

Optical Properties	Metric	English	Comments
Transmission, Visible	90 %	90 %	transparent; thickness not quantified

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	32.0 kV/mm	813 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	
	Fuel systems	
	Interior	
	Powertrain and Chassis	
Electricals & Electronics	Cables & Tubes	
	Electrical appliances	
	Electrical equipment	
	Energy distribution	

Descriptive Properties	Value	Comments
	Mobile phones and other portable devices	
Form	Granules	
Industry & Consumer goods	Housewares	
	Hydraulics & Pneumatics	
	Mechanical Engineering	
	Medical devices	
	Power transmission	
	Sanitary, water and gas supply	
	Sports & Leisure	
	Tools & Accessories	
Optics	Optical components	
	Spectacle frames	
	Sunglasses	
Processing	Injection Molding	
Product Attributes	Improved alcohol resistance	
Special Characteristics	Transparent	
Water Contact	NSF 61	

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