

EMS-Grivory Grivory® XE 3959 nat PA610

Category : Polymer , Renewable/Recycled Polymer , Thermoplastic , Nylon , Nylon 610

Material Notes:

Product description: Grilamid XE 3959 natural is a high viscosity Polyamide 610 especially suitable for extrusion applications. This PA610 product is to a large extent based on renewable raw materials and its eco-profile is very favourable when compared to similar products based on crude oil. The main features of Grilamid XE 3959 natural are: Low volume expansion of tubes under pressure Good cold impact behaviour High heat and chemical resistance Easy processing Grilamid XE 3959 natural can be processed on standard tube-extrusion lines suitable for polyamides. Grilamid XE 3959 natural was specially developed for automotive tubing applications for which a high long term usage and peak temperature are required. Grilamid XE 3959 natural has an excellent volume expansion behaviour and is particularly suitable for hydraulic clutch tubes. Information provided by EMS Grivory

Order this product through the following link:

http://www.lookpolymers.com/polymer_EMS-Grivory-Grivory-XE-3959-nat-PA610.php

Physical Properties	Metric	English	Comments
Density	1.07 g/cc	0.0387 lb/in ³	ISO 1183
Water Absorption	3.3 %	3.3 %	ISO 62
Moisture Absorption	1.60 %	1.60 %	ISO 62
Linear Mold Shrinkage, Flow	0.0090 cm/cm	0.0090 in/in	ISO 294-4, 2577
Linear Mold Shrinkage, Transverse	0.0090 cm/cm	0.0090 in/in	ISO 294-4, 2577

Mechanical Properties	Metric	English	Comments
Ball Indentation Hardness	70.0 MPa	10200 psi	conditioned; ISO 2039-1
	120 MPa	17400 psi	dry; ISO 2039-1
Tensile Strength at Break	40.0 MPa	5800 psi	dry; ISO 527-1/-2
	60.0 MPa	8700 psi	conditioned; ISO 527-1/-2
Tensile Strength, Yield	45.0 MPa	6530 psi	dry; ISO 527-1/-2
	60.0 MPa	8700 psi	dry; ISO 527-1/-2
Elongation at Break	>= 50 %	>= 50 %	dry; ISO 527-1/-2
	>= 50 %	>= 50 %	conditioned; ISO 527-1/-2
Elongation at Yield	5.0 %	5.0 %	dry; ISO 527-1/-2
	18 %	18 %	conditioned; ISO 527-1/-2
Tensile Modulus	1.20 GPa	174 ksi	conditioned; ISO 527-1/-2

Mechanical Properties	Metric	English	Comments
Charpy Impact Unnotched	NB	NB	dry; ISO 179/1eU
	NB	NB	conditioned; ISO 179/1eU
	NB	NB	dry; ISO 179/1eU
	@Temperature 30.0 °C	@Temperature 86.0 °F	
	NB	NB	conditioned; ISO 179/1eU
	@Temperature 30.0 °C	@Temperature 86.0 °F	
Charpy Impact, Notched	0.800 J/cm ²	3.81 ft-lb/in ²	dry; ISO 179/1eA
	1.80 J/cm ²	8.57 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	
	0.900 J/cm ²	4.28 ft-lb/in ²	dry; ISO 179/1eU
	@Temperature 30.0 °C	@Temperature 86.0 °F	

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	110 µm/m-°C	61.1 µin/in-°F	ISO 11359-1/-2
CTE, linear, Transverse to Flow	110 µm/m-°C	61.1 µin/in-°F	ISO 11359-1/-2
Melting Point	220 °C	428 °F	10°C/min; ISO 11357-1/-3
Maximum Service Temperature, Air	110 - 130 °C	230 - 266 °F	long term; EMS
	160 °C	320 °F	short term; EMS
Deflection Temperature at 0.46 MPa (66 psi)	150 °C	302 °F	ISO 75-1/-2
Deflection Temperature at 1.8 MPa (264 psi)	55.0 °C	131 °F	ISO 75-1/-2
Flammability, UL94	HB	HB	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	34.0 kV/mm	864 kV/in	dry; IEC 60243-1

Electrical Properties	34.0 kV/mm Metric	864 kV/in English	conditioned; IEC 60243-1 Comments
Comparative Tracking Index	600 V	600 V	conditioned; IEC 60112

Descriptive Properties	Value	Comments
Automotive	Air intake systems	
	Compressed air systems	
	Fuel systems	
	Hydraulic systems	
	Powertrain and Chassis	
Electricals & Electronics	Cables & Tubes	
Form	Granules	
Industry & Consumer goods	Hydraulics & Pneumatics	
	Mechanical Engineering	
	Tools & Accessories	
Processing	Other Extrusion	
	Profile Extrusion	
Product Attributes	Bio based Polyamide	
	High viscosity	
Special Characteristics	High impact or impact modified	
	Improved heat resistance	
	Improved UV resistance (outdoor use)	
	Light stabilized or stable to light	

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