

EMS-Grivory Grivory® XE 4180 nat PA1010

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

Material Notes:

Product description: Grilamid XE 4180 natural is a unreinforced, high viscosity, plasticized, high impact resistant polyamide 1010 (PA1010) extrusion grade. Grilamid XE 4180 NATURAL is highly resistant to automotive fluids and chemicals in general. Unique features of Grilamid XE 4180 NATURAL are: Polymer fully based on renewable raw materialsHigh flexibility, high elongationVery low water absorptionGood cold impact resistanceGood heat and UV resistanceExcellent chemical and zinc-chloride resistanceEasy processing Application examples: Grilamid XE 4180 natural has been designed for use in various demanding automotive and industrial tubings. It is technically a very close and bio based alternative to comparable PA12 based Grilamid products.Information provided by EMS Grivory

Order this product through the following link:

http://www.lookpolymers.com/polymer_EMS-Grivory-Grivory-XE-4180-nat-PA1010.php

Physical Properties	Metric	English	Comments
Density	1.05 g/cc	0.0379 lb/in³	ISO 1183
Water Absorption	1.5 %	1.5 %	ISO 62
Moisture Absorption	0.600 %	0.600 %	ISO 62

Mechanical Properties	Metric	English	Comments
Tensile Stress	30.0 MPa	4350 psi	conditioned; ISO 527-1/-2
	@Strain 50.0 %	@Strain 50.0 %	
	30.0 MPa	4350 psi	dry; ISO 527-1/-2
	@Strain 50.0 %	@Strain 50.0 %	
Elongation at Break	>= 50 %	>= 50 %	dry; ISO 527-1/-2
	>= 50 %	>= 50 %	
Tensile Modulus	0.480 GPa	69.6 ksi	conditioned; ISO 527-1/-2
	0.600 GPa	87.0 ksi	
Charpy Impact Unnotched	NB	NB	dry; ISO 179/1eU
	NB	NB	
	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	NB	NB	dry; ISO 179/1eA

Mechanical Properties	Metric MPa	English psi	Comments
	0.500 J/cm²	2.38 ft-lb/in²	conditioned; ISO 179/1eA
	@Temperature 30.0 °C	@Temperature 86.0 °F	dry; ISO 179/1eU
	0.500 J/cm²	2.38 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	170 µm/m-°C	94.4 µin/in-°F	ISO 11359-1/-2
CTE, linear, Transverse to Flow	120 µm/m-°C	66.7 µin/in-°F	ISO 11359-1/-2
Melting Point	194 °C	381 °F	10°C/min; ISO 11357-1/-3
Deflection Temperature at 0.46 MPa (66 psi)	115 °C	239 °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+10 ohm	1.00e+10 ohm	IEC 60093
Dielectric Strength	35.0 kV/mm	889 kV/in	dry; IEC 60243-1
	35.0 kV/mm	889 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	
	Compressed air systems	
	Exterior	
	Fuel systems	
	Hydraulic systems	
	Interior	

Descriptive Properties	Powertrain and Chassis Value	Comments
Electricals & Electronics	Connectors	
	Electrical appliances	
	Electrical equipment	
	Lighting	
	Mobile phones and other portable devices	
Form	Granules	
Industry & Consumer goods	Housewares	
	Hydraulics & Pneumatics	
	Mechanical Engineering	
	Medical devices	
	Power transmission	
	Sports & Leisure	
	Tools & Accessories	
Processing	Injection Molding	
Product Attributes	Bio based Polyamide	
	Improved flowability and demoulding	
Special Characteristics	High impact or impact modified	
	Improved UV resistance (outdoor use)	
	Light stabilized or stable to light	

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