

EMS-Grivory Grivory® XE 4181 nat PA1010

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

Material Notes:

Product description: Grilamid XE 4181 natural is a unreinforced, high viscosity, plasticized, high impact resistant polyamide 1010 (PA1010) extrusion grade. Grilamid XE 4181 natural is highly resistant to automotive fluids and chemicals in general. Unique features of Grilamid XE 4181 natural are: Polymer fully based on renewable raw materialsFlexibility, high elongationVery low water absorptionGood cold impact resistanceGood heat and UV resistanceExcellent chemical and zinc-chloride resistanceEasy processing Application examples: Grilamid XE 4181 natural has been designed for use in various types of 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-4181-nat-PA1010.php

Physical Properties	Metric	English	Comments
Density	1.05 g/cc	0.0379 lb/in ³	ISO 1183
Water Absorption	1.3 %	1.3 %	ISO 62
Moisture Absorption	0.700 %	0.700 %	ISO 62

Mechanical Properties	Metric	English	Comments
Tensile Strength, Yield	35.0 MPa	5080 psi	dry; ISO 527-1/-2
	40.0 MPa	5800 psi	dry; ISO 527-1/-2
Elongation at Break	>= 50 %	>= 50 %	conditioned; ISO 527-1/-2
	<= 50 %	<= 50 %	dry; ISO 527-1/-2
Elongation at Yield	30 %	30 %	conditioned; ISO 527-1/-2
	30 %	30 %	dry; ISO 527-1/-2
Tensile Modulus	0.600 GPa	87.0 ksi	conditioned; ISO 527-1/-2
	0.800 GPa	116 ksi	dry; ISO 527-1/-2
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 Mechanical Properties	7.00 J/cm² Metric	33.3 ft-lb/in² English	dry; ISO 179/1eA Comments
	NB	NB	conditioned; ISO 179/1eA
	5.50 J/cm² @Temperature 30.0 °C	26.2 ft-lb/in² @Temperature 86.0 °F	conditioned; ISO 179/1eU

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	110 µm/m-°C	61.1 µin/in-°F	ISO 11359-1/-2
Melting Point	197 °C	387 °F	10°C/min; ISO 11357-1/-3
Deflection Temperature at 0.46 MPa (66 psi)	125 °C	257 °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+10 ohm-cm	1.00e+10 ohm-cm	conditioned; IEC 60093
	1.00e+11 ohm-cm	1.00e+11 ohm-cm	dry; IEC 60093
Surface Resistance	1.00e+11 ohm	1.00e+11 ohm	IEC 60093
Dielectric Strength	37.0 kV/mm	940 kV/in	conditioned; IEC 60243-1
	39.0 kV/mm	991 kV/in	dry; IEC 60243-1
Comparative Tracking Index	600 V	600 V	conditioned; IEC 60112

Descriptive Properties	Value	Comments
Automotive	Air intake sytems	
	Compressed air systems	
	Fuel systems	
	Hydraulic systems	
Electricals & Electronics	Cables & Tubes	
Form	Granules	
Industry & Consumer goods	Hydraulics & Pneumatics	

Processing Descriptive Properties	Other Extrusion Value	Comments
Product Attributes	Bio based Polyamide	
	Flexible	
	High viscosity	
Special Characteristics	High impact or impact modified	
	Improved heat resistance	
	Improved UV resistance (outdoor use)	

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