

Grilamid® XE 4158 nat

Polyamide 12

EMS-GRIVORY

Message:

Grilamid® XE 4158 nat is a Polyamide 12 (Nylon 12) material. It is available in Africa & Middle East, Asia Pacific, Europe, Latin America, or North America for extrusion or injection molding.

Important attributes of Grilamid® XE 4158 nat are:

- Flame Rated
- Chemical Resistant
- Good Flexibility
- Good UV Resistance
- Heat Resistant

Typical applications include:

- Automotive
- Electrical/Electronic Applications
- Hose/Tubing
- Outdoor Applications
- Sporting Goods

General Information				
Features		Alcohol Resistant		
		Good Flexibility		
		Good UV Resistance		
		High Heat Resistance		
		High Impact Resistance		
		Hydrolysis Resistant		
Uses		Automotive Applications		
		Electrical/Electronic Applications		
		Hydraulic Applications		
		Outdoor Applications		
		Pneumatic Applications		
		Power/Other Tools		
		Sporting Goods		
		Tubing		
		Wire & Cable Applications		
Appearance		Natural Color		
Forms		Granules		
Processing Method		Extrusion		
		Injection Molding		
Physical	Dry	Conditioned	Unit	Test Method
Density	0.980	--	g/cm ³	ISO 1183

Molding Shrinkage				ISO 294-4
Across Flow	1.6	--	%	
Flow	1.0	--	%	
Water Absorption				ISO 62
Saturation, 23°C	1.3	--	%	
Equilibrium, 23°C, 50% RH	0.60	--	%	
Hardness	Dry	Conditioned	Unit	Test Method
Shore Hardness (Shore D, 15 sec)	65	65		ISO 868
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus	1000	750	MPa	ISO 527-2
Tensile Stress (Yield)	30.0	30.0	MPa	ISO 527-2
Tensile Strain (Yield)	13	18	%	ISO 527-2
Nominal Tensile Strain at Break	> 50	> 50	%	ISO 527-2
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179/1eA
-30°C	60	40	kJ/m ²	
23°C	85	85	kJ/m ²	
Charpy Unnotched Impact Strength				ISO 179/1eU
-30°C	No Break	No Break		
23°C	No Break	No Break		
Thermal	Dry	Conditioned	Unit	Test Method
Heat Deflection Temperature				
0.45 MPa, Unannealed	70.0	--	°C	ISO 75-2/B
1.8 MPa, Unannealed	45.0	--	°C	ISO 75-2/A
Maximum Use Temperature				Internal Method
Long Term	90 to 100	--	°C	
Short Term	150	--	°C	
ISO Type	PA12-HI, GHL, 18-010	--		ISO 1874
Melting Temperature ¹	179	--	°C	ISO 11357-3
CLTE				ISO 11359-2
Flow	1.7E-4	--	cm/cm/°C	
Transverse	2.1E-4	--	cm/cm/°C	
Electrical	Dry	Conditioned	Unit	Test Method
Surface Resistivity	--	1.0E+11	ohms	IEC 60093
Volume Resistivity	1.0E+11	1.0E+11	ohms · cm	IEC 60093
Electric Strength	40	40	kV/mm	IEC 60243-1
Comparative Tracking Index	--	600	V	IEC 60112

Flammability	Dry	Conditioned	Unit	Test Method
Flammability Classification (0.800 mm)	HB	--		IEC 60695-11-10, -20
NOTE				
1.	10°C/min			

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