

Grilamid® L 20 H FR

Polyamide 12

EMS-GRIVORY

Message:

Grilamid® L 20 H FR is a Polyamide 12 (Nylon 12) material. It is available in Africa & Middle East, Asia Pacific, Europe, Latin America, or North America for extrusion.

Important attributes of Grilamid® L 20 H FR are:

Flame Rated

RoHS Compliant

Flame Retardant

Good UV Resistance

Heat Resistant

Typical applications include:

Electrical/Electronic Applications

Automotive

Hose/Tubing

Wire & Cable

General Information	
UL YellowCard	E53898-243834
Additive	Flame Retardant
	Heat Stabilizer
Features	Flame Retardant
	Good UV Resistance
	Heat Stabilized
	Medium Heat Resistance
	Medium Viscosity
	Self Extinguishing
Uses	Automotive Applications
	Connectors
	Electrical/Electronic Applications
	Tubing
	Wire & Cable Applications
RoHS Compliance	RoHS Compliant
Forms	Granules
Processing Method	Extrusion
Multi-Point Data	Isothermal Stress vs. Strain (ISO 11403-1)
	Secant Modulus vs. Strain (ISO 11403-1)
	Shear Modulus vs. Temperature (ISO 11403-1)
	Viscosity vs. Shear Rate (ISO 11403-2)

Physical	Dry	Conditioned	Unit	Test Method
Density	1.05	--	g/cm ³	ISO 1183
Molding Shrinkage				ISO 294-4
Across Flow	0.80	--	%	
Flow	0.60	--	%	
Water Absorption				ISO 62
Saturation, 23°C	1.4	--	%	
Equilibrium, 23°C, 50% RH	0.70	--	%	
Hardness	Dry	Conditioned	Unit	Test Method
Shore Hardness (Shore D, 15 sec)	--	72		ISO 868
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus	1900	1500	MPa	ISO 527-2
Tensile Stress				ISO 527-2
Yield	50.0	40.0	MPa	
Break	40.0	35.0	MPa	
Tensile Strain (Yield)	5.0	10	%	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	6.0	6.0	kJ/m ²	
23°C	5.0	7.0	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	130	--	°C	ISO 75-2/B
1.8 MPa, Unannealed	50.0	--	°C	ISO 75-2/A
Continuous Use Temperature				Internal Method
-- ¹	90.0 to 110	--	°C	
-- ²	150	--	°C	
Melting Temperature ³	178	--	°C	ISO 11357-3
CLTE				ISO 11359-2
Flow	9.0E-5	--	cm/cm/°C	
Transverse	1.2E-4	--	cm/cm/°C	
Electrical	Dry	Conditioned	Unit	Test Method
Surface Resistivity	--	1.0E+12	ohms	IEC 60093

Volume Resistivity	--	1.0E+14	ohms·cm	IEC 60093
Electric Strength	--	34	kV/mm	IEC 60243-1
Comparative Tracking Index	--	600	V	IEC 60112
Flammability	Dry	Conditioned	Unit	Test Method
Flammability Classification (0.800 mm)	V-2	--		IEC 60695-11-10, -20
Additional Information	Dry	Conditioned		Test Method
ISO Type	PA12, MHF, 18-010	--		ISO 1874
NOTE				
1.	Long Term			
2.	Short Term			
3.	10°C/min			

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