

Grilamid® TRV-4X9

Polyamide 12

EMS-GRIVORY

Message:

Grilamid® TRV-4X9 is a Polyamide 12 (Nylon 12) material filled with 40% glass fiber. It is available in Africa & Middle East, Asia Pacific, Europe, Latin America, or North America for injection molding.

Important attributes of Grilamid® TRV-4X9 are:

Flame Rated

RoHS Compliant

Typical applications include:

Appliances

Automotive

Consumer Goods

Electrical/Electronic Applications

Engineering/Industrial Parts

General Information				
Filler / Reinforcement		Glass Fiber,40% Filler by Weight		
Uses		Appliance Components		
		Automotive Applications		
		Consumer Applications		
		Electrical/Electronic Applications		
		Engineering Parts		
		Household Goods		
		Hydraulic Applications		
		Industrial Applications		
		Medical Devices		
		Pneumatic Applications		
		Power/Other Tools		
Agency Ratings		NSF 61		
RoHS Compliance		RoHS Compliant		
Appearance		Clear/Transparent		
Forms		Granules		
Processing Method		Injection Molding		
Multi-Point Data		Shear Modulus vs. Temperature (ISO 11403-1)		
Physical	Dry	Conditioned	Unit	Test Method
Density	1.32	--	g/cm ³	ISO 1183
Molding Shrinkage				ISO 294-4
Across Flow	0.40	--	%	
Flow	0.10	--	%	
Water Absorption				ISO 62
Saturation, 23°C	1.5	--	%	

Equilibrium, 23°C, 50% RH	0.80	--	%	
Hardness	Dry	Conditioned	Unit	Test Method
Ball Indentation Hardness	--	160	MPa	ISO 2039-1
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus	9000	9000	MPa	ISO 527-2
Tensile Stress (Break)	140	130	MPa	ISO 527-2
Tensile Strain (Break)	2.0	2.0	%	ISO 527-2
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179/1eA
-30°C	--	13	kJ/m ²	
23°C	--	14	kJ/m ²	
Charpy Unnotched Impact Strength				ISO 179/1eU
-30°C	--	45	kJ/m ²	
23°C	--	45	kJ/m ²	
Thermal	Dry	Conditioned	Unit	Test Method
Heat Deflection Temperature				
0.45 MPa, Unannealed	135	--	°C	ISO 75-2/B
1.8 MPa, Unannealed	125	--	°C	ISO 75-2/A
Continuous Use Temperature				Internal Method
-- ¹	80.0 to 110	--	°C	
-- ²	125	--	°C	
Glass Transition Temperature ³	155	--	°C	ISO 11357-2
CLTE				ISO 11359-2
Flow	2.0E-5	--	cm/cm/°C	
Transverse	8.0E-5	--	cm/cm/°C	
Electrical	Dry	Conditioned	Unit	Test Method
Surface Resistivity	--	1.0E+12	ohms	IEC 60093
Volume Resistivity	--	1.0E+13	ohms·cm	IEC 60093
Electric Strength	--	27	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
Additional Information	Dry	Conditioned		Test Method
ISO Type	PA MCM 12, MH, 12-090, GF40--			ISO 1874
NOTE				
1.	Long Term			
2.	Short Term			

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