

Grilamid® TR 90 LS

Polyamide 12

EMS-GRIVORY

Message:

Grilamid® TR 90 LS is a Polyamide 12 (Nylon 12) material. It is available in Africa & Middle East, Asia Pacific, Europe, Latin America, or North America for injection molding.

Important attributes of Grilamid® TR 90 LS are:

Flame Rated

RoHS Compliant

Food Contact Acceptable

Good Mold Release

Typical applications include:

Plumbing/Piping/Potable Water

Automotive

Electrical/Electronic Applications

Food Contact Applications

Appliances

General Information	
Features	Food Contact Acceptable
	Good Mold Release
Uses	Appliance Components
	Automotive Applications
	Automotive Interior Parts
	Connectors
	Consumer Applications
	Electrical/Electronic Applications
	Engineering Parts
	Household Goods
	Hydraulic Applications
	Industrial Applications
	Pneumatic Applications
	Power/Other Tools
	Sporting Goods
Agency Ratings	DVGW W270
	EU Food Contact, Unspecified Rating
	FDA Food Contact, Unspecified Rating
	KTW Unspecified Rating
	NSF 61
	WRAS Unspecified Rating
RoHS Compliance	RoHS Compliant

Appearance		Clear/Transparent		
Forms		Granules		
Processing Method		Injection Molding		
Physical	Dry	Conditioned	Unit	Test Method
Density	1.00	--	g/cm ³	ISO 1183
Molding Shrinkage				ISO 294-4
Across Flow	0.80	--	%	
Flow	0.70	--	%	
Water Absorption				ISO 62
Saturation, 23°C	3.0	--	%	
Equilibrium, 23°C, 50% RH	1.5	--	%	
Hardness	Dry	Conditioned	Unit	Test Method
Ball Indentation Hardness	--	90.0	MPa	ISO 2039-1
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus	1600	1600	MPa	ISO 527-2
Tensile Stress (Yield)	--	60.0	MPa	ISO 527-2
Tensile Strain (Yield)	--	6.0	%	ISO 527-2
Nominal Tensile Strain at Break	--	> 50	%	ISO 527-2
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179/1eA
-30°C	--	12	kJ/m ²	
23°C	--	13	kJ/m ²	
Charpy Unnotched Impact Strength				ISO 179/1eU
-30°C	--	No Break		
23°C	--	No Break		
Thermal	Dry	Conditioned	Unit	Test Method
Heat Deflection Temperature				
0.45 MPa, Unannealed	135	--	°C	ISO 75-2/B
1.8 MPa, Unannealed	115	--	°C	ISO 75-2/A
Continuous Use Temperature				Internal Method
-- ¹	80.0 to 100	--	°C	
-- ²	120	--	°C	
Glass Transition Temperature ³	155	--	°C	ISO 11357-2
CLTE				ISO 11359-2
Flow	9.0E-5	--	cm/cm/°C	
Transverse	9.0E-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	--	34	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 MACM12, GTR, 14-020	--		ISO 1874
NOTE				
1.	Long Term			
2.	Short Term			
3.	10°C/min			

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