Grilamid® TR 90

Polyamide 12

EMS-GRIVORY

Message:

Grilamid® TR 90 is a Polyamide 12 (Nylon 12) material. It is available in Africa & Middle East, Asia Pacific, Europe, Latin America, or North America for extrusion, film extrusion, or injection molding.
Important attributes of Grilamid® TR 90 are:
Flame Rated
RoHS Compliant
Food Contact Acceptable
Typical applications include:
Medical/Healthcare
Plumbing/Piping/Potable Water
Automotive
Electrical/Electronic Applications
Film

General Information	
UL YellowCard	E53898-243823
Features	Food Contact Acceptable
Uses	Appliance Components
	Automotive Applications
	Automotive Interior Parts
	Connectors
	Consumer Applications
	Cosmetic Packaging
	Electrical/Electronic Applications
	Engineering Parts
	Eyeglass Frames
	Eyeglasses
	Film
	Household Goods
	Hydraulic Applications
	Industrial Applications
	Lenses
	Medical Devices
	Medical Packaging
	Medical/Healthcare Applications
	Non-oriented Film
	Optical Applications
	Packaging
	Pneumatic Applications
	Power/Other Tools
	Safety Equipment

	Sporting Goods
Agency Ratings	DVGW W270 EU Food Contact, Unspecified Rating FDA Food Contact, Unspecified Rating KTW Unspecified Rating NSF 61 USP Class VI WRAS Unspecified Rating
RoHS Compliance	RoHS Compliant
Appearance	Clear/Transparent
Forms	Granules
Processing Method	Extrusion Film Extrusion Injection Molding
Multi-Point Data	Isochronous Stress vs. Strain (ISO 11403-1) Isothermal Stress vs. Strain (ISO 11403-1) Secant Modulus vs. Strain (ISO 11403-1) Shear Modulus vs. Temperature (ISO 11403-1) Specific Volume vs Temperature (ISO 11403-2) Viscosity vs. Shear Rate (ISO 11403-2)

Physical	Dry	Conditioned	Unit	Test Method
Density	1.00	--	g/cm³	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	60.0	MPa	ISO 527-2
Tensile Strain (Yield)	6.0	6.0	%	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	9.0	12	kJ/m²	
23°C	9.0	13	kJ/m²	
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	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, GT,14-020	--		ISO 1874
NOTE				
1.	Long Term			
2.	Short Term			
3.	10°C/min			

Recommended distributors for this material

Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519

Phone: +86 13424755533

Email: sales@su-jiao.com

No. 215, Lianhe North Road, Fengxian District, Shanghai, China