

Grilamid® TR 55

Polyamide 12

EMS-GRIVORY

Message:

Grilamid® TR 55 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 55 are:

- Flame Rated
- RoHS Compliant
- Food Contact Acceptable

Typical applications include:

- Medical/Healthcare
- Plumbing/Piping/Potable Water
- Automotive
- Film
- Food Contact Applications

General Information			
UL YellowCard	E53898-243820	E53898-243821	E132701-100536657
	E132701-100536658	E132701-237864	
Features	Food Contact Acceptable		
Uses	Appliance Components		
	Automotive Applications		
	Automotive Interior Parts		
	Consumer Applications		
	Cosmetic Packaging		
	Electrical/Electronic Applications		
	Engineering Parts		
	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		
	Sporting Goods		
	Tubing		
	Wire & Cable Applications		

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	1.06	--	g/cm ³	ISO 1183
Molding Shrinkage				ISO 294-4
Across Flow	0.70	--	%	
Flow	0.60	--	%	
Water Absorption				ISO 62
Saturation, 23°C	3.5	--	%	
Equilibrium, 23°C, 50% RH	1.5	--	%	
Hardness	Dry	Conditioned	Unit	Test Method
Ball Indentation Hardness	--	120	MPa	ISO 2039-1
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus	2200	2200	MPa	ISO 527-2
Tensile Stress (Yield)	75.0	75.0	MPa	ISO 527-2
Tensile Strain (Yield)	7.0	9.0	%	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	7.0	7.0	kJ/m ²	
23°C	7.0	8.0	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	145	--	°C	ISO 75-2/B
1.8 MPa, Unannealed	130	--	°C	ISO 75-2/A
Continuous Use Temperature				Internal Method
-- ¹	80.0 to 100	--	°C	
-- ²	120	--	°C	
Glass Transition Temperature ³	160	--	°C	ISO 11357-2
CLTE				ISO 11359-2
Flow	8.0E-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	--	31	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 12/MACMI, GT, 11-020	--		ISO 1874
NOTE				
1.	Long Term			
2.	Short Term			
3.	10°C/min			

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