

## EMS-Grivory Grivory® TR 90 UV PAMACM12

Category : Polymer , Thermoplastic , Nylon , Nylon 12

### Material Notes:

Product description: Grilamid TR 90 UV natural is a high purity transparent thermoplastic polyamide, based on aliphatic and cycloaliphatic monomers. Grilamid 90 UV natural offers outstanding properties such as: Transparency and maximum possible weathering stability Unlimited colourability Stress crack resistance Toughness and stiffness Good chemical resistance High flexural fatigue strength Grilamid TR 90 natural is especially suited for injection moulded outdoor applications in the application fields of: Optics Automotive Mechanical engineering Safety technology Electro / Electronics Information provided by EMS Grivory

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_EMS-Grivory-Grivory-TR-90-UV-PAMACM12.php](http://www.lookpolymers.com/polymer_EMS-Grivory-Grivory-TR-90-UV-PAMACM12.php)

Physical Properties	Metric	English	Comments
Density	1.00 g/cc	0.0361 lb/in <sup>3</sup>	ISO 1183
Water Absorption	3.0 %	3.0 %	ISO 62
Moisture Absorption	1.50 %	1.50 %	ISO 62
Linear Mold Shrinkage, Flow	0.0070 cm/cm	0.0070 in/in	ISO 294-4, 2577
Linear Mold Shrinkage, Transverse	0.0080 cm/cm	0.0080 in/in	ISO 294-4, 2577

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	82	82	conditioned, 15s; ISO 868
Tensile Strength, Yield	60.0 MPa	8700 psi	conditioned; ISO 527-1/-2
Elongation at Break	>= 50 %	>= 50 %	conditioned; ISO 527-1/-2
Elongation at Yield	6.0 %	6.0 %	conditioned; ISO 527-1/-2
Tensile Modulus	1.60 GPa	232 ksi	conditioned; ISO 527-1/-2
	1.60 GPa	232 ksi	dry; ISO 527-1/-2
Charpy Impact Unnotched	NB	NB	conditioned; ISO 179/1eU
	NB	NB	conditioned; ISO 179/1eU
	@Temperature 30.0 °C	@Temperature 86.0 °F	
Charpy Impact, Notched	1.00 J/cm <sup>2</sup>	4.76 ft-lb/in <sup>2</sup>	conditioned; ISO 179/1eA
	0.900 J/cm <sup>2</sup>	4.28 ft-lb/in <sup>2</sup>	conditioned; ISO 179/1eU
	@Temperature 30.0 °C	@Temperature 86.0 °F	

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	90.0 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	50.0 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	ISO 11359-1/-2
CTE, linear, Transverse to Flow	90.0 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	50.0 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	ISO 11359-1/-2
Maximum Service Temperature, Air	80.0 - 100 $^{\circ}\text{C}$	176 - 212 $^{\circ}\text{F}$	long term; EMS
	120 $^{\circ}\text{C}$	248 $^{\circ}\text{F}$	short term; EMS
Transformation Temperature, Tg	155 $^{\circ}\text{C}$	311 $^{\circ}\text{F}$	10 $^{\circ}\text{C}/\text{min}$ ; ISO 11357-1/-2
Deflection Temperature at 0.46 MPa (66 psi)	135 $^{\circ}\text{C}$	275 $^{\circ}\text{F}$	ISO 75-1/-2
Deflection Temperature at 1.8 MPa (264 psi)	115 $^{\circ}\text{C}$	239 $^{\circ}\text{F}$	ISO 75-1/-2
Flammability, UL94	HB	HB	IEC 60695-11-10

Optical Properties	Metric	English	Comments
Transmission, Visible	90 %	90 %	transparent; thickness not quantified

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+13 ohm-cm	1.00e+13 ohm-cm	conditioned; IEC 60093
Surface Resistance	1.00e+12 ohm	1.00e+12 ohm	IEC 60093
Dielectric Strength	31.0 kV/mm	787 kV/in	conditioned; IEC 60243-1
Comparative Tracking Index	600 V	600 V	conditioned; IEC 60112

Descriptive Properties	Value	Comments
Automotive	Automotive electr. and electronics, lighting	
	Cooling and climate control	
	Exterior	
	Fuel systems	
	Interior	
	Powertrain and Chassis	
Electricals & Electronics	Electrical equipment	
	Lighting	
Form	Granules	

Descriptive Properties	Value	Comments
	Mechanical Engineering	
	Sports & Leisure	
	Tools & Accessories	
Processing	Injection Molding	
	Other Extrusion	
Special Characteristics	Improved UV resistance (outdoor use)	
	Light stabilized or stable to light	
	Transparent	

## Contact Songhan Plastic Technology Co.,Ltd.

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