

**Grilamid TR 90 LXS**

PAMACM12

EMS-GRIVORY | a unit of EMS-CHEMIE AG

**Product Texts**

Product designation according to ISO 1874:

PA MACM12 + PA 12, GHLT, 18-020

Mechanical properties	dry / cond	Unit	Test Standard
Tensile Modulus	- / <b>1500</b>	MPa	ISO 527-1/-2
Yield stress	- / <b>60</b>	MPa	ISO 527-1/-2
Yield strain	- / <b>6</b>	%	ISO 527-1/-2
Nominal strain at break	- / <b>&gt;50</b>	%	ISO 527-1/-2
Stress at break	- / <b>40</b>	MPa	ISO 527-1/-2
Charpy impact strength (+23°C)	- / <b>N</b>	kJ/m <sup>2</sup>	ISO 179/1eU
Charpy impact strength (-30°C)	- / <b>N</b>	kJ/m <sup>2</sup>	ISO 179/1eU
Charpy notched impact strength (+23°C)	- / <b>9</b>	kJ/m <sup>2</sup>	ISO 179/1eA
Charpy notched impact strength (-30°C)	- / <b>12</b>	kJ/m <sup>2</sup>	ISO 179/1eA

Mechanical properties (TPE)	dry / cond	Unit	Test Standard
Ball indentation hardness	- / <b>85</b>	MPa	ISO 2039-1

Thermal properties	dry / cond	Unit	Test Standard
Glass transition temperature (10°C/min)	<b>125 / -</b>	°C	ISO 11357-1/-2
Temp. of deflection under load (1.80 MPa)	<b>80 / -</b>	°C	ISO 75-1/-2
Temp. of deflection under load (0.45 MPa)	<b>100 / -</b>	°C	ISO 75-1/-2
Coeff. of linear therm. expansion (parallel)	<b>90 / -</b>	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion (normal)	<b>90 / -</b>	E-6/K	ISO 11359-1/-2
Burning Behav. at thickness h	<b>HB / -</b>	class	IEC 60695-11-10
Thickness tested	<b>0.8 / -</b>	mm	IEC 60695-11-10
Max. usage temperature (long term)	<b>80</b>	°C	ISO 2578
Max. usage temperature (short term)	<b>95</b>	°C	EMS

Electrical properties	dry / cond	Unit	Test Standard
Volume resistivity	- / <b>1E11</b>	Ohm*m	IEC 60093
Surface resistivity	- / <b>1E12</b>	Ohm	IEC 60093
Electric strength	- / <b>35</b>	kV/mm	IEC 60243-1
Comparative tracking index	- / <b>600</b>	-	IEC 60112

Other properties	dry / cond	Unit	Test Standard
Water absorption	<b>3 / -</b>	%	Sim. to ISO 62
Humidity absorption	<b>1.5 / -</b>	%	Sim. to ISO 62
Density	<b>1000 / -</b>	kg/m <sup>3</sup>	ISO 1183

Rheo/Phys properties	dry / cond	Unit	Test Standard
Molding shrinkage (parallel)	<b>0.5 / -</b>	%	ISO 294-4, 2577
Molding shrinkage (normal)	<b>0.6 / -</b>	%	ISO 294-4, 2577

**Characteristics**
**Processing**

Injection Molding

**Delivery form**

Granules

**Electricals & Electronics**

Electrical appliances, Electrical equipment, Connectors, Energy distribution, Lighting, Mobile phones and other portable devices



**Special Characteristics**

Transparent

**Regional Availability**

North America, Europe, Asia Pacific, South and Central America,  
Near East/Africa

**Product Attributes**

Improved flowability and demoulding, Improved alcohol resistance

**Automotive**

Automotive electr. and electronics, lighting, Cooling and climate  
control, Fuel systems, Powertrain and Chassis , Interior

**Industry & Consumer goods**

Housewares, Hydraulics & Pneumatics, Mechanical Engineering,  
Medical devices, Power transmission, Sanitary, water and gas  
supply, Sports & Leisure, Tools & Accessories

**Optics**

Optical components, Safety glasses, Sunglasses, Spectacle frames

**Food Contact**

EU Requirements, FDA

**Biocompatibility**

ISO 10993

