

**Product Texts**

Product-nomenclature: ISO 16396-PAMACM12,MACMI/MACMT/12,,GT,C11-20

Co Polyamide

Transparent Polyamide

**Product Attributes**

Hydrolysis resistant, Improved impact resistance, Highly transparent

**Markets**

**Automotive**

Compressed air systems, Fuel systems, Interior, Exterior

**Electricals & Electronics**

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

**Industry & Consumer goods**

Housewares, Hydraulics & Pneumatics, Mechanical Engineering, Medical devices

**Optics**

Spectacle frames

Processing/Physical Characteristics	dry / cond	Unit	Test Standard
<b>ISO Data</b>			
<sup>[C]</sup> Molding shrinkage, parallel	0.5 / *	%	ISO 294-4, 2577
<sup>[C]</sup> Molding shrinkage, normal	0.6 / *	%	ISO 294-4, 2577

[C]: CAMPUS

Mechanical properties	dry / cond	Unit	Test Standard
<b>ISO Data</b>			
<sup>[C]</sup> Tensile Modulus	- / 1850	MPa	ISO 527
<sup>[C]</sup> Yield stress	- / 75	MPa	ISO 527
<sup>[C]</sup> Yield strain	- / 7	%	ISO 527
<sup>[C]</sup> Nominal strain at break	- / >50	%	ISO 527
<sup>[C]</sup> Charpy impact strength, +23°C	- / N	kJ/m <sup>2</sup>	ISO 179/1eU
<sup>[C]</sup> Charpy impact strength, -30°C	- / N	kJ/m <sup>2</sup>	ISO 179/1eU
<sup>[C]</sup> Charpy notched impact strength, +23°C	- / 10	kJ/m <sup>2</sup>	ISO 179/1eA
<sup>[C]</sup> Charpy notched impact strength, -30°C	- / 11	kJ/m <sup>2</sup>	ISO 179/1eA

[C]: CAMPUS

Thermal properties	dry / cond	Unit	Test Standard
<b>ISO Data</b>			
<sup>[C]</sup> Glass transition temperature, 10°C/min	135 / *	°C	ISO 11357-1/-2
<sup>[C]</sup> Temp. of deflection under load, 1.80 MPa	90 / *	°C	ISO 75-1/-2
<sup>[C]</sup> Temp. of deflection under load, 0.45 MPa	110 / *	°C	ISO 75-1/-2
<sup>[C]</sup> Coeff. of linear therm. expansion, parallel	95 / *	E-6/K	ISO 11359-1/-2
<sup>[C]</sup> Coeff. of linear therm. expansion, normal	95 / *	E-6/K	ISO 11359-1/-2
<sup>[C]</sup> Burning Behav. at thickness h	HB / *	class	IEC 60695-11-10
Thickness tested	0.8 / *	mm	-

[C]: CAMPUS

Electrical properties	dry / cond	Unit	Test Standard
<b>ISO Data</b>			
<sup>[C]</sup> Volume resistivity	- / 1E11	Ohm*m	IEC 62631-3-1
<sup>[C]</sup> Surface resistivity	* / 1E12	Ohm	IEC 62631-3-2
<sup>[C]</sup> Electric strength	- / 33	kV/mm	IEC 60243-1

## Grilamid TR 90 TL natural

PAMACM12

EMS-GRIVORY | a unit of EMS-CHEMIE AG

[C] Comparative tracking index

- / 600

-

IEC 60112

[C]: CAMPUS

Other properties	dry / cond	Unit	Test Standard
[C] Water absorption	2.5 / *	%	Sim. to ISO 62
[C] Humidity absorption	2 / *	%	Sim. to ISO 62
[C] Density	1020 / -	kg/m <sup>3</sup>	ISO 1183

[C]: CAMPUS

### Characteristics

#### Processing

Injection Molding

#### Features

Copolymer

#### Delivery form

Granules, Natural Color

#### Chemical Resistance

Hydrolytically Stable

#### Additives

Lubricants

#### Applications

Automotive, Electrical and Electronical, Medical

#### Special Characteristics

High impact or impact modified, Transparent

#### Regional Availability

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