

Product Texts

Product-nomenclature: ISO 16396-PAMACM12,,GT,C14-020

Transparent Polyamide

Product Attributes

Highly transparent

Markets

Automotive

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

Electricals & Electronics

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

Industry & Consumer goods

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

Optics

Lenses, Optical components, Safety glasses, Sunglasses, Spectacle frames

Packaging

Non oriented film, Cosmetics / Personal care, Medical packaging

Approvals

Food Contact

EU Requirements, FDA

Medical

USP VI, ISO 10993

Potable Water Contact

NSF 61, KTW, WRAS, DVGW W270

Processing/Physical Characteristics	dry / cond	Unit	Test Standard
ISO Data			
^[C] Molding shrinkage, parallel	0.7 / *	%	ISO 294-4, 2577
^[C] Molding shrinkage, normal	0.8 / *	%	ISO 294-4, 2577
^[C] Density of melt	940	kg/m ³	-
^[C] Thermal conductivity of melt	0.2	W/(m K)	-
^[C] Spec. heat capacity of melt	2200	J/(kg K)	-
^[C] Eff. thermal diffusivity	9.67E-8	m ² /s	-
^[C] Ejection temperature	150	°C	-

[C]: CAMPUS

Mechanical properties	dry / cond	Unit	Test Standard
ISO Data			
^[C] Tensile Modulus	1600 / 1600	MPa	ISO 527
^[C] Yield stress	60 / 60	MPa	ISO 527
^[C] Yield strain	7 / 6	%	ISO 527
^[C] Nominal strain at break	>50 / >50	%	ISO 527
^[C] Charpy impact strength, +23°C	N / N	kJ/m ²	ISO 179/1eU
^[C] Charpy impact strength, -30°C	N / N	kJ/m ²	ISO 179/1eU
^[C] Charpy notched impact strength, +23°C	13 / 13	kJ/m ²	ISO 179/1eA
^[C] Charpy notched impact strength, -30°C	12 / 12	kJ/m ²	ISO 179/1eA
^[C] Shore D hardness	81 / *	-	ISO 7619-1

[C]: CAMPUS

Thermal properties	dry / cond	Unit	Test Standard
ISO Data			
^[C] Glass transition temperature, 10°C/min	155 / *	°C	ISO 11357-1/-2

Grilamid TR 90 natural

PAMACM12

EMS-GRIVORY | a unit of EMS-CHEMIE AG

^[C] Temp. of deflection under load, 1.80 MPa	115 / *	°C	ISO 75-1/-2
^[C] Temp. of deflection under load, 0.45 MPa	135 / *	°C	ISO 75-1/-2
^[C] Coeff. of linear therm. expansion, parallel	90 / *	E-6/K	ISO 11359-1/-2
^[C] Coeff. of linear therm. expansion, normal	90 / *	E-6/K	ISO 11359-1/-2
^[C] 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
ISO Data			
^[C] Volume resistivity	1E11 / 1E11	Ohm*m	IEC 62631-3-1
^[C] Surface resistivity	* / 1E12	Ohm	IEC 62631-3-2
^[C] Electric strength	34 / 34	kV/mm	IEC 60243-1
^[C] Comparative tracking index	- / 600	-	IEC 60112

[C]: CAMPUS

Other properties	dry / cond	Unit	Test Standard
^[C] Water absorption	3 / *	%	Sim. to ISO 62
^[C] Humidity absorption	1.5 / *	%	Sim. to ISO 62
^[C] Density	1000 / -	kg/m ³	ISO 1183

[C]: CAMPUS

Test specimen production	Value	Unit	Test Standard
ISO Data			
^[C] Injection Molding, melt temperature	280	°C	ISO 294
Injection Molding, mold temperature	80	°C	ISO 294
Injection Molding, injection velocity	250	mm/s	ISO 294
Injection Molding, pressure at hold	75	MPa	ISO 294

[C]: CAMPUS

Characteristics

Processing

Injection Molding, Other Extrusion

Delivery form

Granules, Natural Color

Special Characteristics

Transparent

Certifications

Food contact, Food approval FDA 21 CFR, Drinking water contact, Drinking water contact KTW, Drinking water contact DVGW W270, Drinking water contact NSF 61, Medical Grade, Biocompatibility ISO 10993, US Pharmacopeia Class VI Approved

Applications

Automotive, Electrical and Electronical, Medical, Packaging, Sports Equipment

Regional Availability

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

Other text information

Other extrusion

-- PIPE EXTRUSION --

-- SHEATING --

PROCESSING

Melt temperature : 250-270 °C

Feeding bush : 60-90

Barrel temp. profile : 240-250 °C

Head temp. : 250-240 °C

Please consider the information about the application of the materials.