Grilamid TR 55 natural

PA12/MACMI — EMS-GRIVORY | a unit of EMS-CHEMIE AG

Product Texts

Product-nomenclature: ISO 16396-PA12/MACMI,,GT,C11-020

Co Polyamide

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, Cables & Tubes, 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
Packaging
Non oriented film, Cosmetics / Personal care, Medical packaging

Approvals

Burning Behaviour
UL V2
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	**0.6 / ***	%	ISO 294-4, 2577
[C] Molding shrinkage, normal	**0.7 / ***	%	ISO 294-4, 2577
[C] Density of melt	**1000**	kg/m³	-
[C] Thermal conductivity of melt	**0.2**	W/(m K)	-
[C] Spec. heat capacity of melt	**2100**	J/(kg K)	-
[C] Eff. thermal diffusivity	**9.52E-8**	m²/s	-
[C] Ejection temperature	**155**	°C	-

[C]: CAMPUS

Mechanical properties	dry / cond	Unit	Test Standard
ISO Data			
[C] Tensile Modulus	**2300 / 2200**	MPa	ISO 527
[C] Yield stress	**80 / 75**	MPa	ISO 527
[C] Yield strain	**7 / 9**	%	ISO 527
[C] Nominal strain at break	**>50 / >50**	%	ISO 527
[C] Charpy impact strength, +23°C	**N / N**	kJ/m²	ISO 179/1eU
[C] Charpy impact strength, -30°C	**N / N**	kJ/m²	ISO 179/1eU
[C] Charpy notched impact strength, +23°C	**8 / 8**	kJ/m²	ISO 179/1eA
[C] Charpy notched impact strength, -30°C	**7 / 7**	kJ/m²	ISO 179/1eA
[C] Shore D hardness	**85 / ***	-	ISO 7619-1

[C]: CAMPUS

Thermal properties	dry / cond	Unit	Test Standard
ISO Data			
[C] Glass transition temperature, 10°C/min	**160 / ***	°C	ISO 11357-1/-2
[C] Temp. of deflection under load, 1.80 MPa	**130 / ***	°C	ISO 75-1/-2
[C] Temp. of deflection under load, 0.45 MPa	**145 / ***	°C	ISO 75-1/-2
[C] Vicat softening temperature, B	**135 / ***	°C	ISO 306
[C] Coeff. of linear therm. expansion, parallel	**80 / ***	E-6/K	ISO 11359-1/-2
[C] Coeff. of linear therm. expansion, normal	**80 / ***	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	**31 / 31**	kV/mm	IEC 60243-1
[C] Comparative tracking index	**- / 600**	-	IEC 60112

[C]: CAMPUS

Other properties	dry / cond	Unit	Test Standard
[C] Water absorption	**3.5 / ***	%	Sim. to ISO 62
[C] Humidity absorption	**1.5 / ***	%	Sim. to ISO 62
[C] Density	**1060 / -**	kg/m³	ISO 1183

[C]: CAMPUS

Test specimen production	Value	Unit	Test Standard
ISO Data			
[C] Injection Molding, melt temperature	**295**	°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

Features
Copolymer

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

Film extrusion
PREPROCESSING
Max. water content : <=0.08 %
PROCESSING

Melt temperature : 260-280 °C
Smooth or roughened feeding zone : 60-90 °C
Barrel temp. profile : 250-260 °C
Head temp. : 260-250 °C

Please consider the information about the application of the materials.

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.