

Product Texts

Product-nomenclature: ISO 16396-PA12,,M1HF2,C18-010

Product Attributes

Flame retardant, Improved heat resistance, Improved UV resistance (outdoor use)

Markets

Automotive
Automotive electr. and electronics, lighting
Electricals & Electronics
Cables & Tubes, Connectors, Energy distribution

Approvals

Burning Behaviour
UL V2

| Processing/Physical Characteristics | dry / cond | Unit | Test Standard |
|---|----------------|-------------------|-----------------|
| ISO Data | | | |
| ^[C] Molding shrinkage, parallel | 0.6 / * | % | ISO 294-4, 2577 |
| ^[C] Molding shrinkage, normal | 0.8 / * | % | ISO 294-4, 2577 |
| ^[C] Density of melt | 880 | kg/m ³ | - |
| ^[C] Thermal conductivity of melt | 0.22 | W/(m K) | - |
| ^[C] Spec. heat capacity of melt | 2800 | J/(kg K) | - |
| ^[C] Eff. thermal diffusivity | 8.93E-8 | m ² /s | - |
| ^[C] Ejection temperature | 140 | °C | - |

[C]: CAMPUS

| Mechanical properties | dry / cond | Unit | Test Standard |
|--|------------------------|-------------------|---------------|
| ISO Data | | | |
| ^[C] Tensile Modulus | 1900 / 1500 | MPa | ISO 527 |
| ^[C] Yield stress | 50 / 40 | MPa | ISO 527 |
| ^[C] Yield strain | 4.5 / 10 | % | 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 | 7 / 7 | kJ/m ² | ISO 179/1eA |
| ^[C] Charpy notched impact strength, -30°C | 6 / 6 | kJ/m ² | ISO 179/1eA |
| ^[C] Shore D hardness | 72 / * | - | ISO 7619-1 |

[C]: CAMPUS

| Thermal properties | dry / cond | Unit | Test Standard |
|--|----------------|-------|-----------------|
| ISO Data | | | |
| ^[C] Melting temperature, 10°C/min | 178 / * | °C | ISO 11357-1/-3 |
| ^[C] Temp. of deflection under load, 1.80 MPa | 50 / * | °C | ISO 75-1/-2 |
| ^[C] Temp. of deflection under load, 0.45 MPa | 130 / * | °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 | 120 / * | E-6/K | ISO 11359-1/-2 |
| ^[C] Burning Behav. at thickness h | V-2 / * | class | IEC 60695-11-10 |
| Thickness tested | 0.8 / * | mm | - |

[C]: CAMPUS

| Electrical properties | dry / cond | Unit | Test Standard |
|------------------------------------|-----------------|-------|---------------|
| ISO Data | | | |
| ^[C] Volume resistivity | - / 1E12 | Ohm*m | IEC 62631-3-1 |
| ^[C] Surface resistivity | * / 1E12 | Ohm | IEC 62631-3-2 |
| ^[C] Electric strength | - / 34 | kV/mm | IEC 60243-1 |

Grilamid L 20 H FR natural

PA12

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 | 1.4 / * | % | Sim. to ISO 62 |
| [C] Humidity absorption | 0.7 / * | % | Sim. to ISO 62 |
| [C] Density | 1050 / - | kg/m ³ | ISO 1183 |

[C]: CAMPUS

| Test specimen production | Value | Unit | Test Standard |
|---|-------|------|---------------|
| ISO Data | | | |
| [C] Injection Molding, melt temperature | 240 | °C | ISO 294 |
| Injection Molding, mold temperature | 40 | °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

Flame retardant, Light stabilized or stable to light, U.V. stabilized or stable to weather, Heat stabilized or stable to heat

Applications

Automotive, Electrical and Electronical

Regional Availability

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

Other text information

Other extrusion

-- PIPE EXTRUSION --

PROCESSING

Melt temperature : 200-230 °C

Feeding bush : 40-80

Barrel temp. profile : 200-210 °C

Head temp. : 210-200 °C

Please consider the information about the application of the materials.