# Grilon® TSGL-60/4 nat

Polyamide 66/6 Copolymer

EMS-GRIVORY

## Message:

Grilon® TSGL-60/4 nat is a Polyamide 66/6 Copolymer (Nylon 66/6) material filled with 60% long glass fiber. It is available in Africa & Middle East, Asia Pacific, Europe, Latin America, or North America for injection molding. Primary attribute of Grilon® TSGL-60/4 nat: Flame Rated.
Typical applications include:
Automotive
Electrical/Electronic Applications
Appliances
Consumer Goods
Engineering/Industrial Parts

| General Information | |
|---|---|
| Filler / Reinforcement | Long Glass Fiber,60% Filler by Weight |
| Uses | Appliance Components<br>Automotive Applications<br>Automotive Exterior Parts<br>Automotive Interior Parts<br>Connectors<br>Consumer Applications<br>Electrical/Electronic Applications<br>Engineering Parts<br>Household Goods<br>Hydraulic Applications<br>Industrial Applications<br>Pneumatic Applications<br>Power/Other Tools<br>Sporting Goods |
| Forms | Granules |
| Processing Method | Injection Molding |

| Physical | Dry | Conditioned | Unit | Test Method |
|---|---|---|---|---|
| Density | 1.68 | -- | g/cm³ | ISO 1183 |
| Molding Shrinkage | | | | ISO 294-4 |
| Across Flow | 0.20 | -- | % | |
| Flow | 0.10 | -- | % | |
| Water Absorption | | | | ISO 62 |
| Saturation, 23°C | 4.0 | -- | % | |
| Equilibrium, 23°C, 50% RH | 1.2 | -- | % | |

| Hardness | Dry | Conditioned | Unit | Test Method |
|---|---|---|---|---|
| Ball Indentation Hardness | 340 | 230 | MPa | ISO 2039-1 |

| Mechanical | Dry | Conditioned | Unit | Test Method |
|---|---|---|---|---|
| Tensile Modulus | 22000 | 16500 | MPa | ISO 527-2 |
| Tensile Stress (Break) | 280 | 205 | MPa | ISO 527-2 |
| Tensile Strain (Break) | 2.1 | 2.3 | % | ISO 527-2 |

| Impact | Dry | Conditioned | Unit | Test Method |
|---|---|---|---|---|
| Charpy Notched Impact Strength | | | | ISO 179/1eA |
| -30°C | 40 | 45 | $kJ/m^2$ | |
| 23°C | 40 | 45 | $kJ/m^2$ | |
| Charpy Unnotched Impact Strength | | | | ISO 179/1eU |
| -30°C | 110 | 95 | $kJ/m^2$ | |
| 23°C | 110 | 120 | $kJ/m^2$ | |

| Thermal | Dry | Conditioned | Unit | Test Method |
|---|---|---|---|---|
| Heat Deflection Temperature | | | | |
| 1.8 MPa, Unannealed | 255 | -- | °C | ISO 75-2/A |
| 8.0 MPa, Unannealed | 235 | -- | °C | ISO 75-2/C |
| Continuous Use Temperature | | | | Internal Method |
| -- [1] | 120 to 130 | -- | °C | |
| -- [2] | 220 | -- | °C | |
| Melting Temperature [3] | 260 | -- | °C | ISO 11357-3 |
| CLTE | | | | ISO 11359-2 |
| Flow | 2.0E-5 | -- | cm/cm/°C | |
| Transverse | 4.0E-5 | -- | cm/cm/°C | |

| Electrical | Dry | Conditioned | Unit | Test Method |
|---|---|---|---|---|
| Surface Resistivity | -- | 1.0E+12 | ohms | IEC 60093 |
| Volume Resistivity | 1.0E+13 | 1.0E+12 | ohms·cm | IEC 60093 |
| Electric Strength | 27 | 22 | kV/mm | IEC 60243-1 |
| Comparative Tracking Index | -- | 600 | V | IEC 60112 |

| Flammability | Dry | Conditioned | Unit | Test Method |
|---|---|---|---|---|
| Flammability Classification (0.800 mm) | HB | -- | | IEC 60695-11-10, -20 |

| Additional Information | Dry | Conditioned | | Test Method |
|---|---|---|---|---|
| ISO Type | PA66+PA6, MH, 14-220, GF60 | -- | | ISO 1874 |

| NOTE | |
|---|---|
| 1. | Long Term |
| 2. | Short Term |
| 3. | 10°C/min |

## Recommended distributors for this material