

CompaMid® PA 6 GF 30 HY

Polyamide 6

DimeLika Plast GmbH

Message:

Our new crosslinkable CompaMid® PA 6 compounds are thermoplastic polymers which behave like elastomers over a wide temperature range as a result of beta radiation cross-linking. Thanks to crosslinking, the originally thermoplastic material can withstand significantly higher temperatures of up to 350 °C, thus providing greater shape retention under thermal load. Due to its excellent performance profile, crosslinkable CompaMid® PA 6 can replace costly high-performance plastics such as PPA, PPS or LCP in many cases. No mould changes are required when switching from standard PA 6 to CompaMid® PA 6, and the process parameters also remain the same.

Electrical Applications

Thanks to their outstanding electrical and mechanical properties, crosslinkable CompaMid® PA 6 compounds are ideally suited for applications in the electrical and electronics industries.

Automotive Applications

Crosslinked components made of CompaMid® PA 6 are used in the engine bay and exhaust system, where requirements are the toughest for heat resistance and shape retention, as well as resistance to salts, chemicals and corrosive media.

| General Information | | | | |
|--------------------------------|----------------------------------|-------------|--------------------|--------------|
| Filler / Reinforcement | Glass Fiber,30% Filler by Weight | | | |
| Features | Crosslinkable | | | |
| | Good Electrical Properties | | | |
| | Hydrolysis Resistant | | | |
| Physical | Dry | Conditioned | Unit | Test Method |
| Density | 1.35 | -- | g/cm ³ | ISO 1183 |
| Molding Shrinkage ¹ | | | | ISO 294-4 |
| Across Flow : 80°C | 0.55 | -- | % | |
| Flow : 80°C | 0.10 | -- | % | |
| Water Absorption | | | | ISO 62 |
| Saturation, 23°C | 7.0 | -- | % | |
| Equilibrium, 23°C, 50% RH | 2.0 | -- | % | |
| Viscosity Number | 150 | -- | cm ³ /g | ISO 307 |
| Mechanical | Dry | Conditioned | Unit | Test Method |
| Tensile Modulus | 10000 | 6500 | MPa | ISO 527-2/1 |
| Tensile Stress | | | | ISO 527-2/50 |
| Yield | 185 | 110 | MPa | |
| Break | 170 | -- | MPa | |
| Tensile Strain | | | | ISO 527-2/50 |
| Yield | 3.0 | 5.5 | % | |
| Break | 3.0 | -- | % | |
| Impact | Dry | Conditioned | Unit | Test Method |
| Charpy Notched Impact Strength | | | | ISO 179/1eA |
| -30°C | 9.0 | -- | kJ/m ² | |

| 23°C | 12 | -- | kJ/m ² | |
|---|-------------------|-------------|-------------------|--------------|
| Charpy Unnotched Impact Strength | | | | ISO 179/1eU |
| -30°C | 73 | -- | kJ/m ² | |
| 23°C | 93 | -- | kJ/m ² | |
| Thermal | Dry | Conditioned | Unit | Test Method |
| Heat Deflection Temperature | | | | |
| 1.8 MPa, Unannealed | 205 | -- | °C | ISO 75-2/A |
| 8.0 MPa, Unannealed | 135 | -- | °C | ISO 75-2/C |
| Vicat Softening Temperature | 220 | -- | °C | ISO 306/B120 |
| Melting Temperature | 222 | -- | °C | ISO 11357-3 |
| CLTE | | | | ISO 11359-2 |
| Flow : 23 to 80°C | 1.0E-5 to 3.0E-5 | -- | cm/cm/°C | |
| Transverse : 23 to 80°C | 1.0E-4 to 1.2E-4 | -- | cm/cm/°C | |
| Heat Distortion | < 350 | < 350 | °C | |
| Electrical | Dry | Conditioned | Unit | Test Method |
| Surface Resistivity | 1.0E+10 | -- | ohms | IEC 60093 |
| Volume Resistivity | 1.0E+15 | -- | ohms·cm | IEC 60093 |
| Electric Strength (1.00 mm) | 40 | -- | kV/mm | IEC 60243-1 |
| Relative Permittivity (1 MHz) | 3.80 | -- | | IEC 60250 |
| Comparative Tracking Index (Solution A) | 575 | -- | V | IEC 60112 |
| Flammability | Dry | Conditioned | Unit | Test Method |
| Flame Rating (0.800 mm) | HB | -- | | UL 94 |
| NOTE | | | | |
| 1. | 260 °CWZ, 600 Bar | | | |

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