

Makrolon® M810 GF

Covestro - Polycarbonates - *Polycarbonate*

General Information

Product Description

polycarbonate; MVR (300 °C/1.2 kg) 4.0 cm³/10 min; high viscosity; 10 % glass fiber reinforced; biocompatible according to many ISO 10993-1 test requirements; injection molding; available in opaque colors only; suitable for medical devices

General

| | | | |
|------------------------|-------------------------------------|-----------------------------------|-----------------|
| Material Status | • Commercial: Active | | |
| Availability | • Africa & Middle East | • Europe | • North America |
| | • Asia Pacific | • Latin America | |
| Filler / Reinforcement | • Glass Fiber, 10% Filler by Weight | | |
| Features | • Biocompatible | • High Viscosity | |
| Uses | • Medical Devices | • Medical/Healthcare Applications | |
| Agency Ratings | • ISO 10993-1 | • USP Class VI | |
| RoHS Compliance | • RoHS Compliant | | |
| Appearance | • Colors Available | • Opaque | |
| Processing Method | • Injection Molding | | |
| ISO Designation | • PC-GF10 | | |

Properties ¹

| Physical | Nominal Value | Unit | Test Method |
|---|---------------|------------------------|--------------|
| Density (73°F) | 1.27 | g/cm ³ | ISO 1183 |
| Melt Volume-Flow Rate (MVR) (300°C/1.2 kg) | 4.0 | cm ³ /10min | ISO 1133 |
| Molding Shrinkage ² | | | ISO 294-4 |
| Across Flow : 0.0787 in | 0.55 | % | |
| Flow : 0.0787 in | 0.55 | % | |
| Water Absorption (Saturation, 73°F) | 0.30 | % | ISO 62 |
| Water Absorption (Equilibrium, 73°F, 50% RH) | 0.12 | % | ISO 62 |
| Mechanical | Nominal Value | Unit | Test Method |
| Tensile Modulus (73°F) | 522000 | psi | ISO 527-1/1 |
| Tensile Stress (Yield, 73°F) | 11200 | psi | ISO 527-2/5 |
| Tensile Strain (Yield, 73°F) | 4.1 | % | ISO 527-2/5 |
| Nominal Tensile Strain at Break (73°F) | 5.7 | % | ISO 527-2/5 |
| Flexural Modulus ³ (73°F) | 551000 | psi | ISO 178 |
| Flexural Stress ³ (73°F) | 18900 | psi | ISO 178 |
| Impact | Nominal Value | Unit | Test Method |
| Notched Izod Impact Strength ⁴ | | | ISO 180/A |
| -22°F | 4.8 | ft·lb/in ² | |
| 73°F | 5.7 | ft·lb/in ² | |
| Thermal | Nominal Value | Unit | Test Method |
| Deflection Temperature Under Load (66 psi, Unannealed) | 293 | °F | ISO 75-2/B |
| Deflection Temperature Under Load (264 psi, Unannealed) | 277 | °F | ISO 75-2/A |
| Vicat Softening Temperature | 300 | °F | ISO 306/B120 |
| CLTE - Flow (73 to 131°F) | 2.2E-5 | in/in/°F | ISO 11359-2 |
| CLTE - Transverse (73 to 131°F) | 2.2E-5 | in/in/°F | ISO 11359-2 |
| Fill Analysis | Nominal Value | Unit | Test Method |
| Melt Viscosity (572°F, 1000 sec ⁻¹) | 660 | Pa·s | ISO 11443-A |

Processing Information

Injection

Nominal Value Unit



| | |
|------------------------------------|--------|
| Drying Temperature - Dry Air Dryer | 248 °F |
| Drying Time - Dry Air Dryer | 4.0 hr |
| Processing (Melt) Temp | 590 °F |
| Mold Temperature | 212 °F |

Notes

¹ Typical properties: these are not to be construed as specifications.

² 60x60x2mm

³ 0.079 in/min

⁴ 3.0 mm

