

Amodel® FC-1140

polyphthalamide

Amodel® FC-1140 is an FDA-approved, 40% glass fiber reinforced resin designed for high strength and stiffness. This combines with its excellent thermal properties, low water absorption and good hydrolytic stability to make it particularly suited for components used in food service and consumer applications such as coffee machines and ovens.

- Natural: FC-1140 NT
- Black: FC-1140 BK 946

General

| | | | |
|------------------------|---|---|--|
| Material Status | • Commercial: Active | | |
| Availability | • Africa & Middle East • Asia Pacific | • Europe • Latin America | • North America |
| Filler / Reinforcement | • Glass Fiber, 40% Filler by Weight | | |
| Features | • Chlorine Resistant • Good Chemical Resistance • Good Creep Resistance | • Good Dimensional Stability • High Stiffness • High Strength | • High Temperature Strength • Low Moisture Absorption |
| Uses | • Appliances • Consumer Applications • Filters | • Housings • Industrial Applications • Plumbing Parts | • Pump Parts • Valves/Valve Parts |
| Agency Ratings | • EU 10/2011 | • FDA 21 CFR 176.170(c) | |
| RoHS Compliance | • RoHS Compliant | | |
| Appearance | • Black | • Natural Color | |
| Forms | • Pellets | | |
| Processing Method | • Injection Molding | | |

Physical

| | Typical Value | Unit | Test method |
|------------------------------------|---------------|-------------------|-------------|
| Density | 1.54 | g/cm ³ | ISO 1183/A |
| Molding Shrinkage | | | ASTM D955 |
| Flow : 1.00 mm ¹ | 0.18 | % | |
| Flow : 1.00 mm ² | 0.16 | % | |
| Flow : 2.00 mm ¹ | 0.25 | % | |
| Flow : 2.00 mm ² | 0.21 | % | |
| Across Flow : 1.00 mm ¹ | 0.57 | % | |
| Across Flow : 1.00 mm ² | 0.50 | % | |
| Across Flow : 2.00 mm ¹ | 0.54 | % | |
| Across Flow : 2.00 mm ² | 0.48 | % | |

Mechanical

| | Typical Value | Unit | Test method |
|------------------------------|---------------|------|-------------|
| Tensile Modulus | 15400 | MPa | ISO 527-2 |
| Tensile Stress (Break, 23°C) | 250 | MPa | ISO 527-2 |
| Tensile Strain (Break, 23°C) | 2.0 | % | ISO 527-2 |
| Flexural Modulus (23°C) | 14700 | MPa | ISO 178 |
| Flexural Stress | 360 | MPa | ISO 178 |
| Flexural Strain (23°C) | 2.50 | | ISO 178 |

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| Impact | Typical Value | Unit | Test method |
|----------------------------------|---------------|-------------------|-------------|
| Charpy Notched Impact Strength | 10 | kJ/m ² | ISO 179 |
| Charpy Unnotched Impact Strength | 75 | kJ/m ² | ISO 179 |

| Thermal | Typical Value | Unit | Test method |
|--|---------------|------|-------------|
| Heat Deflection Temperature 1.8 MPa, Unannealed | 297 | °C | ISO 75-2/Af |

| Injection | Typical Value | Unit |
|------------------------|----------------|------|
| Drying Temperature | 120 | °C |
| Drying Time | 4.0 | hr |
| Suggested Max Moisture | 0.030 to 0.060 | % |
| Rear Temperature | 315 to 330 | °C |
| Middle Temperature | 320 to 340 | °C |
| Front Temperature | 324 to 345 | °C |
| Processing (Melt) Temp | 340 to 360 | °C |
| Mold Temperature | 160 | °C |

Notes

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

¹ Pressure = 500 bar

² Pressure = 750 bar

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