

Zytel® 70G33L BK031

NYLON RESIN

Celanese Corporation

PROSPECTOR®

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Technical Data

Product Description

33% Glass Reinforced Polyamide 66

General

| | |
|-------------------------------|---|
| Material Status | • Commercial: Active |
| Literature ¹ | • Technical Datasheet |
| UL Yellow Card ² | • E41938-234410 |
| Search for UL Yellow Card | • Celanese Corporation • Zytel® |
| Availability | • Asia Pacific • Latin America • North America |
| Filler / Reinforcement | • Glass Fiber, 33% Filler by Weight |
| RoHS Compliance | • Contact Manufacturer |
| Multi-Point Data | • Isothermal Stress vs. Strain (ISO 11403) • Secant Modulus vs. Strain (ISO 11403) • Specific Volume vs Temperature (ISO 11403) |
| Part Marking Code (ISO 11469) | • >PA66-GF33< |
| Resin ID (ISO 1043) | • PA66-GF33 |
| ISO Designation | • ISO 16396-PA66,GF33,M1CGR,S14-110 |

| Physical | Dry | Conditioned | Unit | Test Method |
|------------------------------------|------|-------------|-------------------|-------------|
| Density | 1.39 | -- | g/cm ³ | ISO 1183 |
| Molding Shrinkage | | | | ISO 294-4 |
| Across Flow | 1.1 | -- | % | |
| Flow | 0.30 | -- | % | |
| Water Absorption | | | | ISO 62 |
| Saturation, 23°C, 2.00 mm | 5.7 | -- | % | |
| Equilibrium, 23°C, 2.00 mm, 50% RH | 1.8 | -- | % | |

| Mechanical | Dry | Conditioned | Unit | Test Method |
|------------------------|-------|-------------|------|-------------|
| Tensile Modulus | 11000 | 8000 | MPa | ISO 527-1 |
| Tensile Stress (Break) | 200 | 140 | MPa | ISO 527-2/5 |
| Tensile Strain (Break) | 3.0 | 4.0 | % | ISO 527-2/5 |
| Flexural Modulus | 9300 | -- | MPa | ISO 178 |
| Poisson's Ratio | 0.34 | 0.34 | | |

| Impact | Dry | Conditioned | Unit | Test Method |
|---|-----|-------------|-------------------|-------------|
| Charpy Notched Impact Strength | | | | ISO 179/1eA |
| -40°C | 9.0 | -- | kJ/m ² | |
| 23°C | 13 | 13 | kJ/m ² | |
| Charpy Unnotched Impact Strength (23°C) | 80 | 80 | kJ/m ² | ISO 179/1eU |
| Notched Izod Impact Strength | | | | ISO 180/1A |
| -40°C | 10 | -- | kJ/m ² | |
| 23°C | 12 | -- | kJ/m ² | |



| Thermal | Dry | Conditioned | Unit | Test Method |
|--|--------|-------------|----------|------------------|
| Deflection Temperature Under Load | | | | |
| 0.45 MPa, Unannealed | 260 | -- | °C | ISO 75-2/B |
| 1.8 MPa, Unannealed | 250 | -- | °C | ISO 75-2/A |
| Melting Temperature ⁴ | 262 | -- | °C | ISO 11357-3 |
| CLTE | | | | ISO 11359-2 |
| Flow | 1.8E-5 | -- | cm/cm/°C | |
| Transverse | 8.3E-5 | -- | cm/cm/°C | |
| Electrical | Dry | Conditioned | Unit | Test Method |
| Electric Strength ⁵ (1.00 mm) | 37 | -- | kV/mm | IEC 60243-1 |
| Comparative Tracking Index | 600 | -- | V | IEC 60112 |
| Flammability | Dry | Conditioned | Unit | Test Method |
| Burning Rate ⁶ (1.00 mm) | 35 | -- | mm/min | ISO 3795 |
| Flame Rating | | | | UL 94 |
| 0.71 mm | HB | -- | | IEC 60695-11-10, |
| 1.5 mm | HB | -- | | -20 |
| FMVSS Flammability | B | -- | | FMVSS 302 |
| Fill Analysis | Dry | Conditioned | Unit | |
| Ejection Temperature | 210 | -- | °C | |
| Additional Information | Dry | Conditioned | Unit | Test Method |
| Emission of Organic Compounds | 10.0 | -- | µgC/g | VDA 277 |
| Odor | 3.00 | -- | | VDA 270 |

| Injection | Dry Unit |
|-------------------------------|-----------------|
| Drying Temperature | 80 °C |
| Drying Time - Desiccant Dryer | 2.0 to 4.0 hr |
| Suggested Max Moisture | < 0.20 % |
| Processing (Melt) Temp | 285 to 305 °C |
| Melt Temperature, Optimum | 295 °C |
| Mold Temperature | 70 to 120 °C |
| Mold Temperature, Optimum | 100 °C |
| Holding Pressure | 50.0 to 100 MPa |
| Drying Recommended | yes |
| Hold Pressure Time | 3.00 s/mm |
| Screw Tangential Speed | < 12 m/min |

Notes

¹ These links provide you with access to supplier literature. We work hard to keep them up to date; however you may find the most current literature from the supplier.

² A UL Yellow Card contains UL-verified flammability and electrical characteristics. UL Prospector continually works to link Yellow Cards to individual plastic materials in Prospector, however this list may not include all of the appropriate links. It is important that you verify the association between these Yellow Cards and the plastic material found in Prospector. For a complete listing of Yellow Cards, visit the UL Yellow Card Search.

³ Typical properties: these are not to be construed as specifications.

⁴ 10°C/min

⁵ Short Time

⁶ FMVSS 302

