

DuPont™ Zytel®

nylon resin

Zytel® 70G33L BK031

Zytel® 70G33L BK031 is a 33% glass fiber reinforced black polyamide 66 resin for injection molding.

| Property | Test Method | Units | Value | |
|----------------------------------|----------------|-------------------|---------------|-------------|
| | | | DAM | 50%RH |
| Identification | | | | |
| Resin Identification | ISO 1043 | | PA66-GF33 | |
| Part Marking Code | ISO 11469 | | >PA66-GF33< | |
| Mechanical | | | | |
| Stress at Break | ISO 527 | MPa (kpsi) | 200 (29.0) | 140 (20.3) |
| Strain at Break | ISO 527 | % | 3 | 4 |
| Tensile Modulus | ISO 527 | MPa (kpsi) | 10500 (1520) | 8000 (1160) |
| Flexural Modulus | ISO 178 | MPa (kpsi) | 9300 (1350) | |
| Notched Charpy Impact Strength | ISO 179/1eA | kJ/m ² | -40°C (-40°F) | 9 |
| | | | 23°C (73°F) | 13 |
| Unnotched Charpy Impact Strength | ISO 179/1eU | kJ/m ² | 80 | 80 |
| Thermal | | | | |
| Deflection Temperature | ISO 75f | °C (°F) | 0.45MPa | 261 (502) |
| | | | 1.80MPa | 252 (486) |
| Melting Temperature | ISO 11357-1/-3 | °C (°F) | 10°C/min | 262 (504) |
| | | | CLTE, Normal | |
| -40 - 23°C (-40 - 73°F) | ISO 11359-1/-2 | E-4/C (E-4/F) | 0.65 (0.36) | |
| 23 - 55°C (73 - 130°F) | | | 0.83 (0.46) | |
| 55 - 160°C (130 - 320°F) | | | 1.37 (0.76) | |

Contact DuPont for Material Safety Data Sheet, general guides and/or additional information about ventilation, handling, purging, drying, etc.
 ISO Mechanical properties measured at 4.0mm, ISO Electrical properties measured at 2.0mm, and all ASTM properties measured at 3.2mm.
 Test temperatures are 23°C unless otherwise stated.

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Zytel® 70G33L BK031

| Property | Test Method | Units | Value | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|------------------------|-------------------------------------------|-------|
| | | | DAM | 50%RH |
| Thermal CLTE, Parallel -40 - 23°C (-40 - 73°F) 23 - 55°C (73 - 130°F) 55 - 160°C (130 - 320°F) | ISO 11359-1/-2 | E-4/C (E-4/F) | 0.24 (0.13) 0.18 (0.10) 0.13 (0.07) | |
| Electrical CTI 3.0mm | UL 746A | V | 600 | |
| Flammability Flammability Classification 0.71mm High Amperage Arc Ignition Resistance 0.71mm Hot Wire Ignition 0.71mm 1.5mm 3.0mm | UL94 UL 746A UL 746A | arcs s | HB >200 8 6 9 | |
| Temperature Index RTI, Electrical 0.71mm RTI, Impact 0.71mm RTI, Strength 0.71mm | UL 746B UL 746B UL 746B | °C °C °C | 130 120 130 | |

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| Property | Test Method | Units | Value | |
|---------------------------------|-------------|----------------------------------------|-------------------|-------|
| | | | DAM | 50%RH |
| Other | | | | |
| Density | ISO 1183 | kg/m ³ (g/cm ³) | 1390 (1.39) | |
| Molding Shrinkage | ISO 294-4 | % | | |
| Normal, 2.0mm | | | 1.1 | |
| Parallel, 2.0mm | | | 0.3 | |
| Mold Shrinkage | | % | | |
| Flow, 1.6mm (0.063in) | | | 0.2 | |
| Flow, 3.2mm (0.126in) | | | 0.3 | |
| Flow, 6.4mm (0.25in) | | | 0.5 | |
| Transverse, 1.6mm (0.063in) | | | 1.0 | |
| Transverse, 3.2mm (0.126in) | | | 1.0 | |
| Transverse, 6.4mm (0.25in) | | | 1.1 | |
| Processing | | | | |
| Melt Temperature Range | | °C (°F) | 285-305 (545-580) | |
| Melt Temperature Optimum | | °C (°F) | 295 (565) | |
| Mold Temperature Range | | °C (°F) | 70-120 (160-250) | |
| Mold Temperature Optimum | | °C (°F) | 100 (210) | |
| Drying Time, Dehumidified Dryer | | h | 2-4 | |
| Drying Temperature | | °C (°F) | 80 (175) | |
| Processing Moisture Content | | % | <0.20 | |

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