# Zytel® 7335F NC010

NYLON RESIN

**Celanese Corporation**

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## Technical Data

| Product Description | | | |
|---|---|---|---|
| Unreinforced, Nucleated Polyamide 6 | | | |
| **General** | | | |
| Material Status | • Commercial: Active | | |
| Literature [1] | • Technical Datasheet | | |
| UL Yellow Card [2] | • E41938-234329 | | |
| Search for UL Yellow Card | • Celanese Corporation<br>• Zytel® | | |
| Availability | • Asia Pacific | • Latin America | • North America |
| Additive | • Mold Release | | |
| RoHS Compliance | • Contact Manufacturer | | |
| Multi-Point Data | • Isothermal Stress vs. Strain (ISO 11403)<br>• Secant Modulus vs. Strain (ISO 11403) | • Shear Stress vs. Shear Rate (ISO 11403)<br>• Specific Volume vs Temperature (ISO 11403) | • Tensile Modulus vs. Temperature (ISO 11403)<br>• Viscosity vs. Shear Rate (ISO 11403) |
| Part Marking Code (ISO 11469) | • >PA6< | | |
| Resin ID (ISO 1043) | • PA6 | | |
| ISO Designation | • ISO 16396-PA6,,M1G1NR,S14-040 | | |

| Physical | Dry | Conditioned | Unit | Test Method |
|---|---|---|---|---|
| Density | 1.13 | -- | g/cm³ | ISO 1183 |
| Molding Shrinkage | | | | ISO 294-4 |
| Across Flow | 0.80 | -- | % | |
| Flow | 0.60 | -- | % | |
| Water Absorption | | | | ISO 62 |
| 24 hr, 23°C, 3.20 mm | 1.8 | -- | % | |
| Saturation, 23°C, 2.00 mm | 9.5 | -- | % | |
| Equilibrium, 23°C, 2.00 mm, 50% RH | 3.0 | -- | % | |
| Viscosity Number | | | | ISO 307, 1628 |
| 96% H2SO4 (Sulphuric Acid) | 150 | -- | cm³/g | |
| **Mechanical** | **Dry** | **Conditioned** | **Unit** | **Test Method** |
| Tensile Modulus | 3600 | 1400 | MPa | ISO 527-1 |
| Tensile Stress (Yield) | 92.0 | 55.0 | MPa | ISO 527-2/50 |
| Tensile Strain (Yield) | 3.8 | 24 | % | ISO 527-2/50 |
| Nominal Tensile Strain at Break | 9.0 | > 50 | % | ISO 527-2 |
| Flexural Modulus | 3100 | 1100 | MPa | ISO 178 |
| Poisson's Ratio | 0.36 | 0.43 | | |
| **Films** | **Dry** | **Conditioned** | **Unit** | **Test Method** |
| Tensile Elongation - MD (Yield) | 4.0 | -- | % | ISO 527-3 |



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| Impact | Dry | Conditioned | Unit | Test Method |
|---|---|---|---|---|
| Charpy Notched Impact Strength | | | | ISO 179/1eA |
| -30°C | 2.5 | 3.0 | kJ/m² | |
| 23°C | 3.2 | 18 | kJ/m² | |
| Charpy Unnotched Impact Strength | | | | ISO 179/1eU |
| -30°C | 110 | 60 | kJ/m² | |
| 23°C | 70 | 120 | kJ/m² | |
| Notched Izod Impact Strength [4] | | | | ISO 180/1A |
| -40°C | 2.0 | -- | kJ/m² | |
| -30°C | 2.0 | -- | kJ/m² | |
| 23°C | 3.5 | -- | kJ/m² | |
| **Hardness** | **Dry** | **Conditioned** | **Unit** | **Test Method** |
| Rockwell Hardness (R-Scale) | -- | 85 | | ISO 2039-2 |
| **Thermal** | **Dry** | **Conditioned** | **Unit** | **Test Method** |
| Deflection Temperature Under Load | | | | |
| 0.45 MPa, Unannealed | 180 | -- | °C | ISO 75-2/B |
| 1.8 MPa, Unannealed | 65.0 | -- | °C | ISO 75-2/A |
| Glass Transition Temperature [5] | 60.0 | 15.0 | °C | ISO 11357-3 |
| Vicat Softening Temperature | 200 | -- | °C | ISO 306/B50 |
| Melting Temperature [5] | 221 | -- | °C | ISO 11357-3 |
| CLTE | | | | ISO 11359-2 |
| Flow | 7.6E-5 | -- | cm/cm/°C | |
| Transverse | 9.2E-5 | -- | cm/cm/°C | |
| Temperature Index | | | | IEC 60216-1 |
| Tensile Strength, 20000 hr | 70 | -- | °C | |
| Tensile Strength, 5000 hr | 85 | -- | °C | |
| **Electrical** | **Dry** | **Conditioned** | **Unit** | **Test Method** |
| Surface Resistivity | -- | 1.0E+11 | ohms | IEC 62631-3-2 |
| Volume Resistivity | > 1.0E+13 | 1.0E+9 | ohms·m | IEC 62631-3-1 |
| Electric Strength | 30 | -- | kV/mm | IEC 60243-1 |
| Relative Permittivity (100 Hz) | 4.20 | -- | | IEC 62631-2-1 |
| Dissipation Factor (100 Hz) | 0.030 | -- | | IEC 62631-2-1 |
| Comparative Tracking Index | 600 | -- | V | IEC 60112 |
| **Flammability** | **Dry** | **Conditioned** | **Unit** | **Test Method** |
| Flame Rating (1.5 mm) | HB | -- | | UL 94<br>IEC 60695-11-10, -20 |
| Glow Wire Ignition Temperature | | | | IEC 60695-2-13 |
| 0.40 mm | 725 | -- | °C | |
| 0.75 mm | 725 | -- | °C | |
| 1.0 mm | 725 | -- | °C | |
| 1.5 mm | 725 | -- | °C | |
| 2.0 mm | 725 | -- | °C | |
| 3.0 mm | 725 | -- | °C | |
| FMVSS Flammability | SE | -- | | FMVSS 302 |

| Flammability | Dry | Conditioned | Unit | Test Method |
|---|---|---|---|---|
| Glow Wire Temperature - No Flame | | | | IEC 60335-1 |
| 750.0 µm | 700 | -- | °C | |
| 1.00 mm | 700 | -- | °C | |
| 1.50 mm | 700 | -- | °C | |
| 2.00 mm | 700 | -- | °C | |
| 3.00 mm | 700 | -- | °C | |

| Fill Analysis | Dry | Conditioned | Unit | Test Method |
|---|---|---|---|---|
| Melt Density | 0.970 | -- | g/cm³ | |
| Specific Heat Capacity of Melt | 2700 | -- | J/kg/°C | ISO 22007-4 |
| Thermal Conductivity of Melt | 0.16 | -- | W/m/K | ISO 22007-2 |

| 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 | 260 to 280 °C |
| Melt Temperature, Optimum | 270 °C |
| Mold Temperature | 50 to 90 °C |
| Mold Temperature, Optimum | 70 °C |
| Holding Pressure | 50.0 to 100 MPa |
| Drying Recommended | yes |
| Hold Pressure Time | 4.00 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] Assessed

[5] 10°C/min



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