# Zytel® 70G43L NC010

PA66-GF43 Celanese

## Product Texts

Common features of Zytel® nylon resin include mechanical and physical properties such as high mechanical strength, excellent balance of stiffness and toughness, good high temperature performance, good electrical and flammability properties, good abrasion and chemical resistance. In addition, Zytel® nylon resins are available in different modified and reinforced grades to create a wide range of products with tailored properties for specific processes and end-uses. Zytel® nylon resin, including most flame retardant grades, offer the ability to be coloured.

The good melt stability of Zytel® nylon resin normally enables the recycling of properly handled production waste. If recycling is not possible, we recommend, as the preferred option, incineration with energy recovery (-31kJ/g of base polymer) in appropriately equipped installations. For disposal, local regulations have to be observed.

Zytel® nylon resin typically is used in demanding applications in the automotive, furniture, domestic appliances, sporting goods and construction industry.

**Zytel® 70G43L NC010 is a 43% glass fiber reinforced polyamide 66 resin for injection molding.**

| Processing/Physical Characteristics | dry / cond | Unit | Test Standard |
|---|---|---|---|
| **ISO Data** | | | |
| [C] Molding shrinkage, parallel | **0.3 / *** | % | ISO 294-4, 2577 |
| [C] Molding shrinkage, normal | **1.0 / *** | % | ISO 294-4, 2577 |
| [C] Density of melt | **1290** | kg/m³ | - |
| [C] Thermal conductivity of melt | **0.25** | W/(m K) | - |
| [C] Spec. heat capacity of melt | **2050** | J/(kg K) | - |
| [C] Eff. thermal diffusivity | **9.5E-8** | m²/s | - |
| [C] Ejection temperature | **210** | °C | - |
| **ASTM Data** | | | |
| Mold Shrinkage, MD | **0.002** | mm/mm | ASTM D 955 |
| Mold Shrinkage, TD | **0.009** | mm/mm | ASTM D 955 |

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| Mechanical properties | dry / cond | Unit | Test Standard |
|---|---|---|---|
| **ISO Data** | | | |
| [C] Tensile Modulus | **14000 / 11000** | MPa | ISO 527 |
| [C] Stress at break | **225 / 160** | MPa | ISO 527 |
| [C] Strain at break | **3 / 4** | % | ISO 527 |
| [C] Tensile creep modulus, 1h | *** / 10800** | MPa | ISO 899-1 |
| [C] Tensile creep modulus, 1000h | *** / 7960** | MPa | ISO 899-1 |
| [C] Charpy impact strength, +23°C | **100 / 105** | kJ/m² | ISO 179/1eU |
| [C] Charpy impact strength, -30°C | **85 / 75** | kJ/m² | ISO 179/1eU |
| [C] Charpy notched impact strength, +23°C | **16 / 19** | kJ/m² | ISO 179/1eA |
| [C] Charpy notched impact strength, -30°C | **12 / 12** | kJ/m² | ISO 179/1eA |
| **ASTM Data** | | | |
| Tensile Strength | **207 / -** | MPa | ASTM D 638 |
| Elongation at Break | **2 / -** | % | ASTM D 638 |
| Flexural Modulus | **11030 / -** | MPa | ASTM D 790 |
| Flexural Strength | **285 / -** | MPa | ASTM D 790 |
| Rockwell Hardness | **M 103 /** | - | ASTM D 785 |
| Izod Impact notched, 1/8 in | **133 / -** | J/m | ASTM D 256 |

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| Thermal properties | dry / cond | Unit | Test Standard |
|---|---|---|---|
| **ISO Data** | | | |
| [C] Melting temperature, 10°C/min | **262 / *** | °C | ISO 11357-1/-3 |
| [C] Glass transition temperature, 10°C/min | **80 / *** | °C | ISO 11357-1/-2 |
| [C] Temp. of deflection under load, 1.80 MPa | **255 / *** | °C | ISO 75-1/-2 |
| [C] Temp. of deflection under load, 0.45 MPa | **262 / *** | °C | ISO 75-1/-2 |
| [C] Vicat softening temperature, B | **255 / *** | °C | ISO 306 |
| [C] Coeff. of linear therm. expansion, parallel | **15 / *** | E-6/K | ISO 11359-1/-2 |
| [C] Coeff. of linear therm. expansion, normal | **79 / *** | E-6/K | ISO 11359-1/-2 |
| [C] Burning Behav. at 1.5 mm nom. thickn. | **HB / *** | class | IEC 60695-11-10 |
| Thickness tested | **1.5 / *** | mm | - |

| | | | |
|---|---|---|---|
| Yellow Card available | **yes / *** | - | - |
| [C] Burning Behav. at thickness h | **HB / *** | class | IEC 60695-11-10 |
| Thickness tested | **0.7 / *** | mm | - |
| Yellow Card available | **yes / *** | - | - |
| [C] Burning rate, FMVSS, Thickness 1 mm | **27** | mm/min | ISO 3795 (FMVSS 302) |
| [C] Oxygen index | **23 / *** | % | ISO 4589-1/-2 |
| **ASTM Data** | | | |
| UL 94 Flame rating | **HB** | - | UL 94 |
| Thickness tested | **1.5** | mm | - |
| DTUL @ 66 psi | **260** | °C | ASTM D 648 |
| DTUL @ 264 psi | **252** | °C | ASTM D 648 |
| Melting Temperature | **263** | °C | ASTM D 3418 |

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| **Electrical properties** | **dry / cond** | **Unit** | **Test Standard** |
|---|---|---|---|
| **ISO Data** | | | |
| [C] Relative permittivity, 100Hz | **4.5 / -** | - | IEC 62631-2-1 |
| [C] Relative permittivity, 1MHz | **4.1 / 4.9** | - | IEC 62631-2-1 |
| [C] Dissipation factor, 100Hz | **100 / -** | E-4 | IEC 62631-2-1 |
| [C] Dissipation factor, 1MHz | **145 / 600** | E-4 | IEC 62631-2-1 |
| [C] Volume resistivity | **>1E13 / 1E10** | Ohm*m | IEC 62631-3-1 |
| [C] Surface resistivity | *** / 1E12** | Ohm | IEC 62631-3-2 |
| [C] Electric strength | **27 / -** | kV/mm | IEC 60243-1 |

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| **Other properties** | **dry / cond** | **Unit** | **Test Standard** |
|---|---|---|---|
| [C] Water absorption | **4.7 / *** | % | Sim. to ISO 62 |
| [C] Humidity absorption | **1.5 / *** | % | Sim. to ISO 62 |
| [C] Density | **1490 / -** | kg/m³ | ISO 1183 |
| Water Absorption, 24hr | **0.6** | % | ASTM D 570 |
| Water Absorption, Equilibrium | **4.7** | % | ASTM D 570 |
| Density | **1510** | kg/m³ | ASTM D 792 |

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## Characteristics

**Processing**
Injection Molding

**Delivery form**
Pellets, Natural Color

**Additives**
Lubricants, Release agent

**Features**
Creep Resistance, Weldable

**Applications**
Automotive, Electrical and Electronical, General Purpose

**Regional Availability**
North America, Europe, Asia Pacific, South and Central America, Near East/Africa