

DuPont™ Zytel® HTNFR52G30NH NC010

HIGH PERFORMANCE POLYAMIDE RESIN

Product Information

Zytel® HTN high performance polyamide resins feature high retention of properties upon exposure to elevated temperature, to high moisture, and to harsh chemical environments. Polymer families and grades of Zytel® HTN are tailored to optimize performance as well as processability.

Typical applications with Zytel® HTN include demanding applications in the automotive, electrical and electronics, domestic appliances, and construction industries.

Zytel® HTNFR52G30NH NC010 is a 30% glass reinforced, flame retardant high performance polyamide resin. It is also a PPA resin and it uses a non-halogenated flame retardant.

| General information | Value | Unit | Test Standard |
|---|--------------------|-------------------|-----------------|
| Resin Identification | PA6T/66-GF30FR(40) | - | ISO 1043 |
| Part Marking Code | PA6T/66-GF30FR(40) | - | ISO 11469 |
| Part Marking Code | >PPA-GF30FR< | - | SAE J1344 |
| Rheological properties | dry / cond | Unit | Test Standard |
| Molding shrinkage, parallel | 0.3 / - | % | ISO 294-4, 2577 |
| Molding shrinkage, normal | 1.1 / - | % | ISO 294-4, 2577 |
| Mechanical properties | dry / cond | Unit | Test Standard |
| Tensile Modulus | 10500 / 10500 | MPa | ISO 527-1/-2 |
| Stress at break | 150 / 130 | MPa | ISO 527-1/-2 |
| Strain at break | 2.2 / 2 | % | ISO 527-1/-2 |
| Flexural Modulus | 9000 / 10000 | MPa | ISO 178 |
| Flexural Strength | 230 / 200 | MPa | ISO 178 |
| Charpy impact strength | | | ISO 179/1eU |
| 73°F | 45 / 40 | kJ/m ² | |
| -22°F | 40 / 35 | kJ/m ² | |
| Charpy notched impact strength | | | ISO 179/1eA |
| 73°F | 8 / 7 | kJ/m ² | |
| -22°F | 7 / 7 | kJ/m ² | |
| Thermal properties | dry / cond | Unit | Test Standard |
| Melting temperature, first heat | 310 / * | °C | ISO 11357-1/-3 |
| Temp. of deflection under load, 260 psi | 283 / * | °C | ISO 75-1/-2 |
| Ball pressure test | 290 / - | °C | IEC 60309 |
| Coeff. of linear therm. expansion, parallel | 20 / * | E-6/K | ISO 11359-1/-2 |
| Coeff. of linear therm. expansion | | | ISO 11359-1/-2 |
| normal | 60 / * | E-6/K | |
| Normal, -40-23°C | 60 / * | E-6/K | |
| Normal, 55-160°C | 100 / * | E-6/K | |
| Parallel, -40-23°C | 20 / * | E-6/K | |
| Parallel, 55-160°C | 20 / * | E-6/K | |
| RTI, electrical | | | UL 746B |
| 15mil | 140 | °C | |
| 30mil | 140 / * | °C | |
| 60mil | 140 / * | °C | |
| 120mil | 140 | °C | |
| RTI, impact | | | UL 746B |
| 30mil | 115 | °C | |
| 60mil | 115 / * | °C | |
| 120mil | 120 | °C | |

To find out more, visit [DuPont Performance Polymers](#) or contact nearest DuPont location.

North America

Asia Pacific

Europe/Middle East/Africa

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| | | | |
|--------------------------------------|---------------------|-------------------|----------------------|
| RTI, strength | | | UL 746B |
| 30mil | 125 | °C | |
| 60mil | 125 / * | °C | |
| 120mil | 130 | °C | |
| Flammability | dry / cond | Unit | Test Standard |
| Burning Behav. at 60mil nom. thickn. | V-0 / * | class | IEC 60695-11-10 |
| Thickness tested | 1.5 / * | mm | IEC 60695-11-10 |
| UL recognition | yes / * | - | UL 94 |
| Burning Behav. at thickness h | V-0 / * | class | IEC 60695-11-10 |
| Thickness tested | 0.75 / * | mm | IEC 60695-11-10 |
| UL recognition | yes / * | - | UL 94 |
| Oxygen index | 37 / * | % | ISO 4589-1/-2 |
| Glow Wire Flammability Index | | | IEC 60695-2-12 |
| 30mil | 960 / - | °C | |
| 120mil | 960 / - | °C | |
| Glow Wire Ignition Temperature | | | |
| 15mil | 700 / - | °C | IEC 60695-2-12 |
| 30mil | 725 / - | °C | IEC 60695-2-13 |
| 120mil | 800 / - | °C | IEC 60695-2-13 |
| FMVSS Class | DNI | - | ISO 3795 (FMVSS 302) |
| Electrical properties | dry / cond | Unit | Test Standard |
| Relative permittivity | | | IEC 62631-2-1 |
| 100Hz | 4.1 / - | - | |
| 1MHz | 3.9 / - | - | |
| Dissipation factor | | | IEC 62631-2-1 |
| 100Hz | 65 / - | E-4 | |
| 1MHz | 120 / - | E-4 | |
| Volume resistivity | >1E13 / 5E11 | Ohm*m | IEC 62631-3-1 |
| Electric strength | 36 / - | kV/mm | IEC 60243-1 |
| Comparative tracking index | 600 / - | - | IEC 60112 |
| Electric Strength, Short Time, 2mm | 26 / - | kV/mm | IEC 60243-1 |
| Dielectric Constant, 23°C | | | ASTM D 2520 B |
| 1 GHz | 3.7 / - | - | |
| 10 GHz | 3.8 / - | - | |
| Dissipation Factor, 23°C | | | ASTM D 2520 B |
| 1 GHz | 110 / - | E-4 | |
| 10 GHz | 100 / - | E-4 | |
| Other properties | dry / cond | Unit | Test Standard |
| Density | 1440 / - | kg/m ³ | ISO 1183 |
| VDA Properties | Value | Unit | Test Standard |
| Odor test | 3.5 | class | VDA 270 |
| Injection | Value | Unit | Test Standard |
| Drying Recommended | yes | - | - |
| Drying Temperature | ≥100 | °C | - |
| Drying Time, Dehumidified Dryer | 6 - 8 | h | - |
| Processing Moisture Content | ≤0.1 | % | - |
| Min. melt temperature | 320 | °C | - |
| Max. melt temperature | 325 | °C | - |
| Min. mold temperature | 90 | °C | - |
| Max. mold temperature | 130 | °C | - |
| Characteristics | | | |
| Processing | • Injection Molding | | |
| Delivery form | • Pellets | | |
| Additives | • Lubricants | • Release agent | |



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Regional Availability

- North America
- Europe

- Asia Pacific
- South and Central America

- Near East/Africa
- Global

Processing Texts

Injection molding

For molding machine components, use corrosion resistant and wear resistant steel. For details please contact your DuPont representative. Limit the residence time of the resin in the machine. Use proper protective equipment and adequate ventilation.

To find out more, visit [DuPont Performance Polymers](#) or contact nearest DuPont location.

North America

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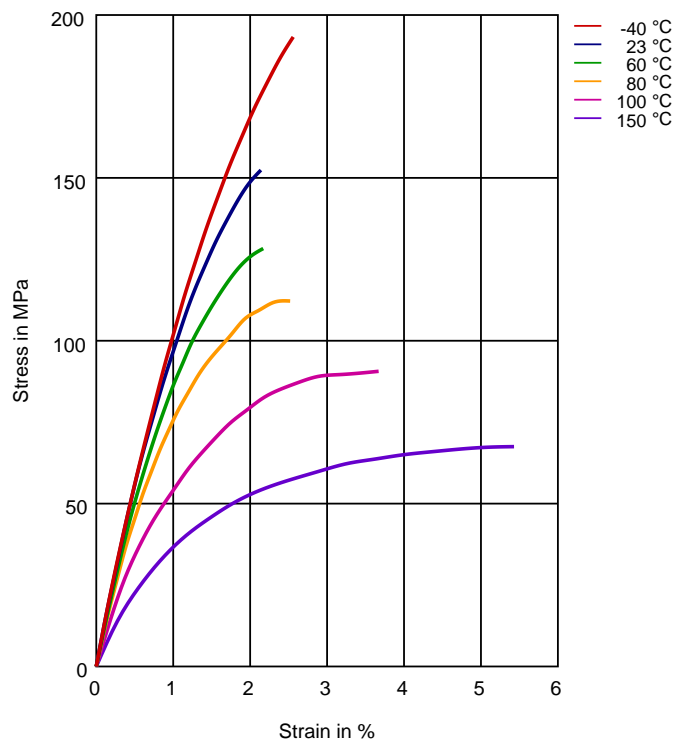


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Diagrams

Stress-strain (dry)



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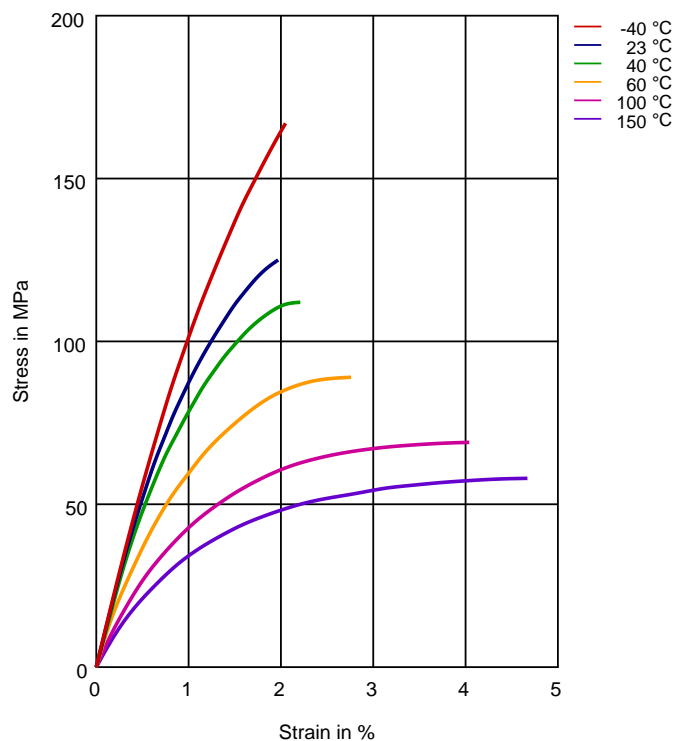
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HIGH PERFORMANCE POLYAMIDE RESIN

Stress-strain (cond.)



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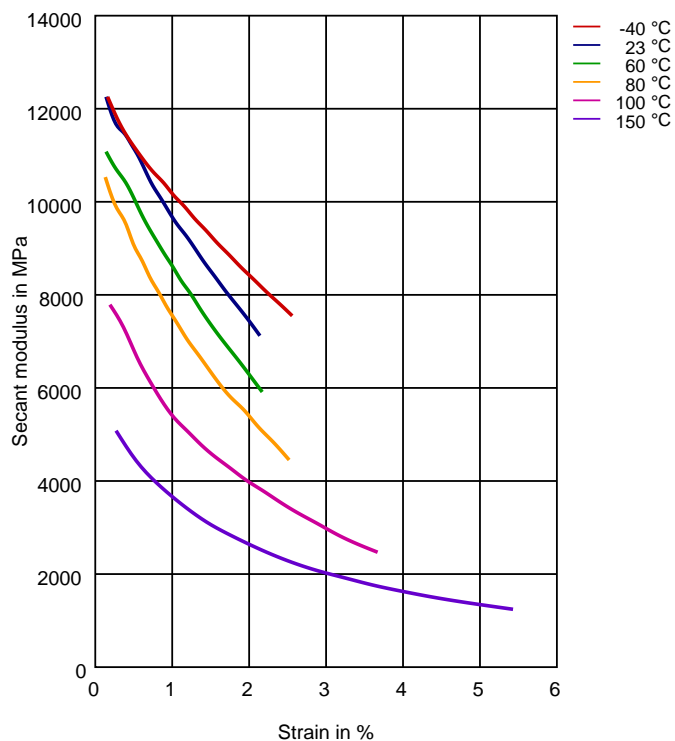
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DuPont™ Zytel® HTNFR52G30NH NC010

HIGH PERFORMANCE POLYAMIDE RESIN

Secant modulus-strain (dry)



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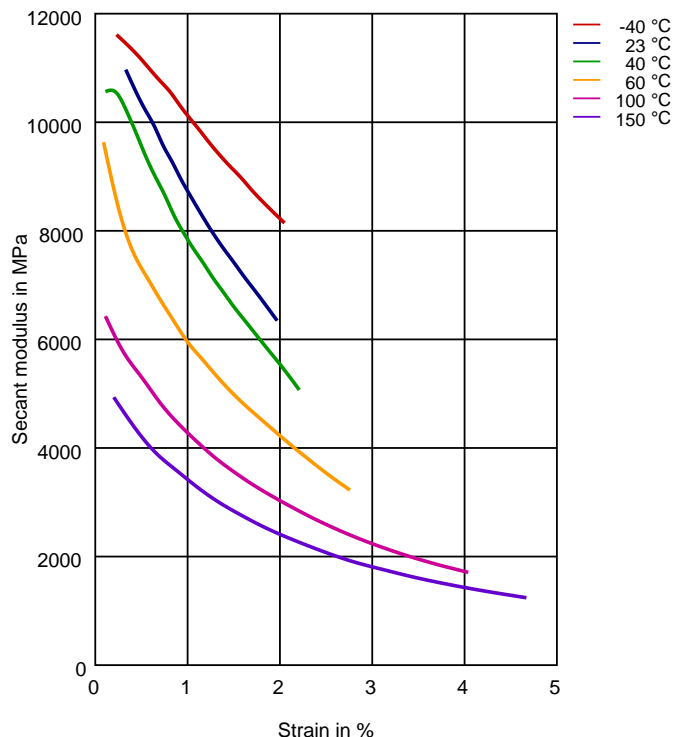
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Secant modulus-strain (cond.)



Contact DuPont for Material Safety Data Sheet, general guides and/or additional information about ventilation, handling, purging, drying, etc. ISO Mechanical properties measured at 160 mil (Hytrel® measured at 80 mil), IEC Electrical properties measured at 80 mil, all ASTM properties measured at 120 mil, and test temperatures are 73 °F unless otherwise stated.

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