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# Zytel® HTN51G35EF BK236LT

## HIGH PERFORMANCE POLYAMIDE RESIN

Zytel® HTN51G35EF BK236LT is a 35% glass reinforced, heat stabilized, lubricated, hydrolysis resistant, laser transparent, high performance polyamide resin developed for electrical and electronics applications. It is also a PPA resin.

## Product information

| | | |
|---|---|---|
| Resin Identification | PA6T/XT-GF35 | ISO 1043 |
| Part Marking Code | >PA6T/XT-GF35< | ISO 11469 |
| Part Marking Code | >PPA-GF35< | SAE J1344 |

## Rheological properties

| | dry/cond. | | |
|---|---|---|---|
| Moulding shrinkage, parallel | 0.2 / - | % | ISO 294-4, 2577 |
| Moulding shrinkage, normal | 0.6 / - | % | ISO 294-4, 2577 |

## Typical mechanical properties

| | dry/cond. | | |
|---|---|---|---|
| Tensile modulus | 12200 / - | MPa | ISO 527-1/-2 |
| Tensile stress at break, 5mm/min | 230 / - | MPa | ISO 527-1/-2 |
| Tensile strain at break, 5mm/min | 2.4 / 2.2 | % | ISO 527-1/-2 |
| Charpy impact strength, 23°C | 65 / - | kJ/m² | ISO 179/1eU |
| Charpy notched impact strength, 23°C | 11 / - | kJ/m² | ISO 179/1eA |
| Poisson's ratio | 0.33 / - | | |

## Thermal properties

| | dry/cond. | | |
|---|---|---|---|
| Melting temperature, 10°C/min | 300 / * | °C | ISO 11357-1/-3 |
| Glass transition temperature, 10°C/min | 140 / 95 | °C | ISO 11357-1/-3 |
| Temperature of deflection under load, 1.8 MPa | 263 / * | °C | ISO 75-1/-2 |
| Specific heat capacity of melt | 1820 | J/(kg K) | ISO 22007-4 |
| Specific heat capacity solid | 610[DS] | J/(kg K) | ISO 22007-4 |

[DS]: Derived from similar grade

## Physical/Other properties

| | dry/cond. | | |
|---|---|---|---|
| Humidity absorption, 2mm | 1.4 / * | % | Sim. to ISO 62 |
| Water absorption, 2mm | 4 / * | % | Sim. to ISO 62 |
| Water absorption, Immersion 24h | 1 / * | % | Sim. to ISO 62 |
| Density | 1470 / - | kg/m³ | ISO 1183 |

## Injection

| | | |
|---|---|---|
| Drying Recommended | yes | |
| Drying Temperature | 100 | °C |
| Drying Time, Dehumidified Dryer | 6 - 8 | h |
| Processing Moisture Content | ≤0.1 | % |
| Melt Temperature Optimum | 325 | °C |
| Min. melt temperature | 320 | °C |
| Max. melt temperature | 330 | °C |
| Mold Temperature Optimum | 150 | °C |
| Min. mould temperature | 140[1] | °C |
| Max. mould temperature | 180 | °C |

[1]: Higher temperature needed for thinner sections.

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## Characteristics

| | |
|---|---|
| Processing | Injection Moulding |
| Delivery form | Pellets, Granules |
| Special characteristics | Heat stabilised or stable to heat, Hydrolysis resistant |

## Additional information

| | |
|---|---|
| Injection molding | During molding, use proper protective equipment and adequate ventilation. Avoid exposure to fumes and limit the hold up time and temperature of the resin in the machine. Purge degraded resin carefully with HDPE.<br><br>When lower mold temperatures are used, the initial warpage and shrinkage may be lower, but the surface appearance and chemical resistance may be reduced, and the dimensional change may be greater when parts are subsequently heated. |

## Automotive

| OEM | ADDITIONAL INFORMATION |
|---|---|
| General Motors | Part Specific Approval, Please Contact Your CE Representative For More Details. |
| Hyundai | MS941-12 Type B |
| Renault-Nissan | UB23, No Spec, Special Part Approval, See Your CE Account Manager. |

## Chemical Media Resistance

### Acids

- ✔ Acetic Acid (5% by mass), 23°C
- ✔ Citric Acid solution (10% by mass), 23°C
- ✔ Lactic Acid (10% by mass), 23°C

### Mineral oils

- ✔ SAE 10W40 multigrade motor oil, 23°C
- ✔ Insulating Oil, 23°C

### Other

- ✔ Ethylene Glycol (50% by mass) in water, 108°C
- ✔ Water, 23°C
- ✔ Water, 90°C
- ✔ Coolant Glysantin G48, 1:1 in water, 125°C
- ✔ Urea solution (32.5% by mass), 23°C

**Symbols used:**

✔ possibly resistant
Defined as: Supplier has sufficient indication that contact with chemical can be potentially accepted under the intended use conditions and

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expected service life. Criteria for assessment have to be indicated (e.g. surface aspect, volume change, property change).

✕ not recommended - see explanation
Defined as: Not recommended for general use. However, short-term exposure under certain restricted conditions could be acceptable (e.g. fast cleaning with thorough rinsing, spills, wiping, vapor exposure).



Revised: 2025-04-23 Source: Celanese Materials Database