



HIGH PERFORMANCE POLYAMIDE RESIN

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® HTN51G35HSLR BK420 is a 35% glass reinforced, heat stabilised, lubricated, hydrolysis resistant high performance polyamide resin. It is also a PPA resin.

Product information

Resin Identification Part Marking Code Part Marking Code ISO designation	PA6T/XT-GF35 >PA6T/XT-GF35 >PPA-GF35< ISO 16396-PA6T		ISO 1043 ISO 11469 SAE J1344 0-120
Rheological properties	dry/cond.		
Melt volume-flow rate Temperature Load	19/* 325/* 2.16/*	cm³/10min ° C kg	ISO 1133
Melt mass-flow rate Melt mass-flow rate, Temperature	21/* 325/*	g/10min °C	ISO 1133
Melt mass-flow rate, Load Moulding shrinkage, parallel Moulding shrinkage, normal	2.16/* 0.2/- 0.6/-	kg % %	ISO 294-4, 2577 ISO 294-4, 2577
Typical mechanical properties	dry/cond.		
Tensile modulus Tensile stress at break, 5mm/min Tensile strain at break, 5mm/min Flexural modulus Charpy impact strength, 23°C Charpy notched impact strength, 23°C Ball indentation hardness, H 961/30 Poisson's ratio	12000/12000 200/190 2.3/2 10500/- 50/40 9/8 310/- 0.33/0.33	MPa MPa % MPa kJ/m² kJ/m² MPa	ISO 527-1/-2 ISO 527-1/-2 ISO 527-1/-2 ISO 178 ISO 179/1eU ISO 179/1eA ISO 2039-1
Thermal properties	dry/cond.		
Melting temperature, 10°C/min Melting temperature, first heat Glass transition temperature, 10°C/min Temperature of deflection under load, 1.8 MPa Temperature of deflection under load, 0.45 MPa Coeff. of linear therm. expansion, parallel, -40-23°C Coefficient of linear thermal expansion (CLTE), parallel Coeff. of linear therm. expansion, normal, -40-23°C Coefficient of linear thermal expansion (CLTE), normal	300/* 300/* 140/95 262/* 276/* 20/* 20/* 55/* 58/*	°C °C °C °C E-6/K E-6/K E-6/K	ISO 11357-1/-3 ISO 11357-1/-3 ISO 11357-1/-3 ISO 75-1/-2 ISO 75-1/-2 ISO 11359-1/-2 ISO 11359-1/-2 ISO 11359-1/-2

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Specific heat capacity of melt	1820	J/(kg K)	ISO 22007-4
Specific heat capacity solid	610 ^[DS]	J/(kg K)	ISO 22007-4
TGA curve	available		ISO 11359-1/-2

[DS]: Derived from similar grade

Flammability

FMVSS Class	В	ISO 3795 (FMVSS 302)
Burning rate, Thickness 1 mm	28 mm/min	ISO 3795 (FMVSS 302)

Electrical properties dry/cond.

Volume resistivity	1E13/-	Ohm.m	IEC 62631-3-1
Electric strength	34/33	kV/mm	IEC 60243-1

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

VDA Properties

Odour 4 class VDA 270

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.

Characteristics

Processing Injection Moulding

Delivery form Pellets

Additives Release agent

Special characteristics Heat stabilised or stable to heat, Hydrolysis resistant

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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.

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 STANDARD ADDITIONAL INFORMATION

Ford WSS-M4D861-A3

General Motors GMW16360P-PPA-GF35

Mercedes-Benz DBL5406.00 PPA GF30

Mercedes-Benz DBL5406.10 PA66 GF30

Mercedes-Benz DBL5408.65 PPA GF35

Mercedes-Benz DBL5409.25 PA66 GF35

Renault-Nissan UB09a, No Spec, Special Part Approval, See

Your CE Account Manager.

Stellantis B62 0300 / 61/225E/218M/H412(G48)/C1 Technical Black

Stellantis MS.50156 / PPA.GF30-35.10000T.7C.HS.GR- CPN4696, 01378_21_03570

Stellantis - Chrysler IGE MS.50103 / CPN-4696 Black

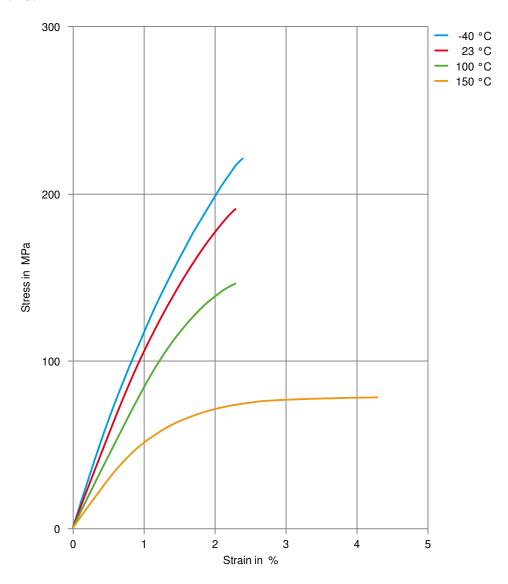
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Stress-strain (dry)



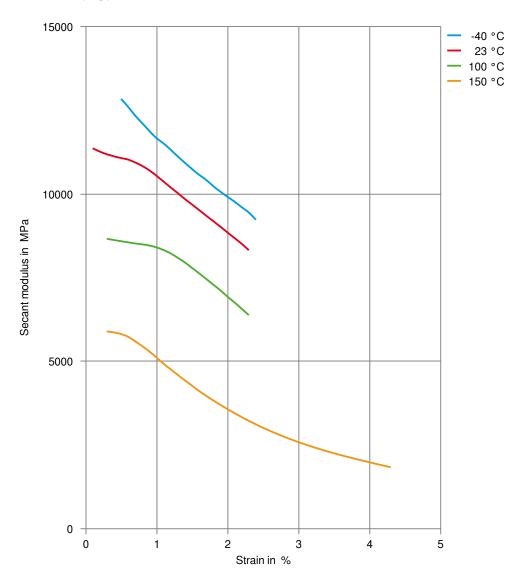
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Secant modulus-strain (dry)



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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

Standard Fuels

- ✓ ISO 1817 Liquid 1 E5, 60°C
- ✓ ISO 1817 Liquid 2 M15E4, 60°C
- ✓ ISO 1817 Liquid 3 M3E7, 60°C
- ✓ ISO 1817 Liquid 4 M15, 60°C
- ✓ Standard fuel without alcohol (pref. ISO 1817 Liquid C), 23°C
- ✓ Standard fuel with alcohol (pref. ISO 1817 Liquid 4), 23°C
- ✓ Diesel fuel (pref. ISO 1817 Liquid F), 23°C
- ✓ Diesel fuel (pref. ISO 1817 Liquid F), 90°C
- ✓ Diesel fuel (pref. ISO 1817 Liquid F), >90°C
- ✓ Diesel EN 590, 100°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

Symbols used:

✓ possibly resistant

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

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Revised: 2025-04-18 Source: Celanese Materials Database

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