



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® HTN510EFT NC010 is an unreinforced, toughened, heat stabilised high performance polyamide resin for injection moulding. It is also a PPA resin.

Product information

Resin Identification Part Marking Code Part Marking Code	PA6T/XT-I >PA6T/XT-I< >PPA-I<		ISO 1043 ISO 11469 SAE J1344
Rheological properties	dry/cond.		
Viscosity number	84.4/*	cm ³ /g	ISO 307, 1628
Moulding shrinkage, parallel	0.8/-	%	ISO 294-4, 2577
Moulding shrinkage, normal	0.8/-	%	ISO 294-4, 2577
Typical mechanical properties	dry/cond.		
Tensile modulus	2100/2400	MPa	ISO 527-1/-2
Tensile stress at yield, 50mm/min	67/69	MPa	ISO 527-1/-2
Tensile strain at yield, 50mm/min	6/4	%	ISO 527-1/-2
Nominal strain at break	21/-	%	ISO 527-1/-2
Charpy impact strength, 23°C	N/-	kJ/m²	ISO 179/1eU
Charpy impact strength, -30°C	N/-	kJ/m²	ISO 179/1eU
Charpy impact strength, -40°C	N/-	kJ/m²	ISO 179/1eU
Charpy notched impact strength, 23°C	90/-	kJ/m²	ISO 179/1eA
Charpy notched impact strength, -30°C	20/-	kJ/m²	ISO 179/1eA
Charpy notched impact strength, -40°C	15/-	kJ/m²	ISO 179/1eA
Poisson's ratio	0.4/0.38		
Thermal properties	dry/cond.		
Melting temperature, 10 °C/min	300/*	°C	ISO 11357-1/-3
Melting temperature, first heat	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	124/*	°C	ISO 75-1/-2
Coeff. of linear therm. expansion, parallel, -40-23°C	65/*	E-6/K	ISO 11359-1/-2
CLTE, Parallel, 23-55°C(73-130°F)	67/-	E-6/K	ASTM E 831
Coeff. of linear therm. expansion, normal, -40-23°C	71/*	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, Normal,23-55°C (73-130°F)	75/-	E-6/K	ASTM E 831

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Flammability dry/cond.

[1]: 2mm nom. thick

Electrical properties dry/cond.

Volume resistivity >1E13/>1E13 Ohm.m IEC 62631-3-1 Electric strength 40/40 kV/mm IEC 60243-1 Comparative tracking index 600/- IEC 60112

Physical/Other properties dry/cond.

Humidity absorption, 2mm 1.9/* % Sim. to ISO 62 Water absorption, 2mm 6.3/* % Sim. to ISO 62 Density 1120/- kg/m^3 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	100 °C
Min. mould temperature	80 °C
Max. mould temperature	120 °C
Ejection temperature	242 °C

Characteristics

Processing Injection Moulding

Delivery form Pellets

Additives Release agent

Special characteristics High impact or impact modified, 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.

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Automotive

OEM STANDARD ADDITIONAL INFORMATION

 Bosch
 N28 BN05-OX088

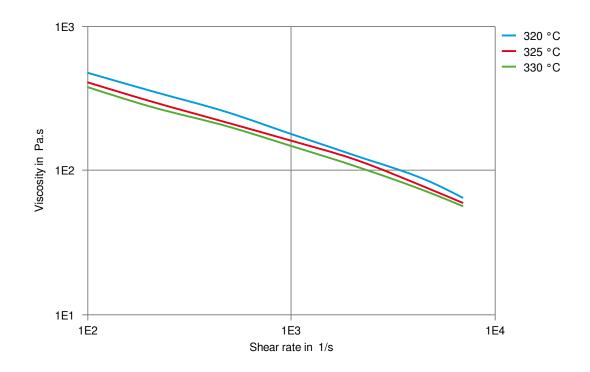
 Ford
 WSS-M98P14-A9

General Motors Natural, Special Parts Approval, See Your CE

Account Representative for Further Details.

General Motors GMW16799P-PPA-T2 Natural

Viscosity-shear rate (measured on Zytel® HTN510EFT BK010)



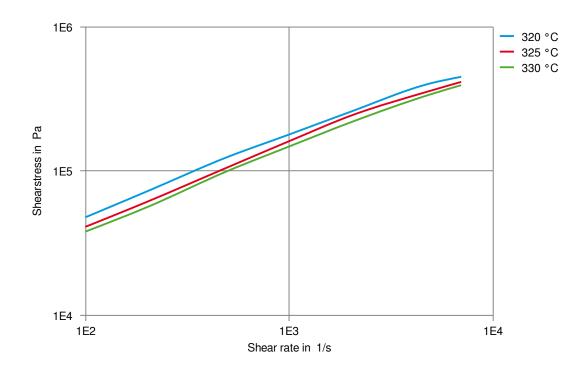
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Shearstress-shear rate (measured on Zytel® HTN510EFT BK010)

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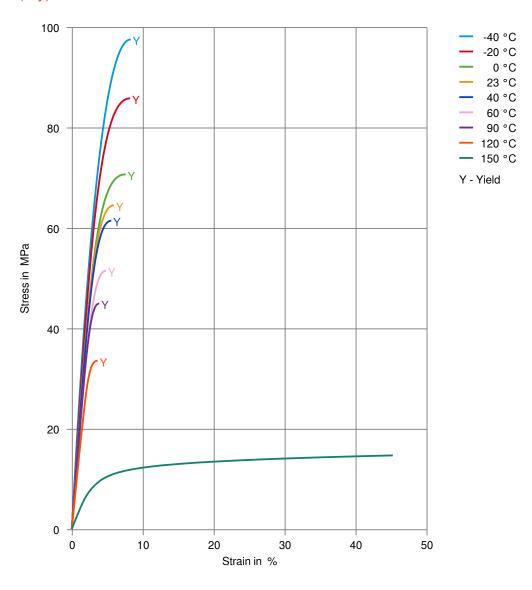
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HIGH PERFORMANCE POLYAMIDE RESIN

Stress-strain (dry)



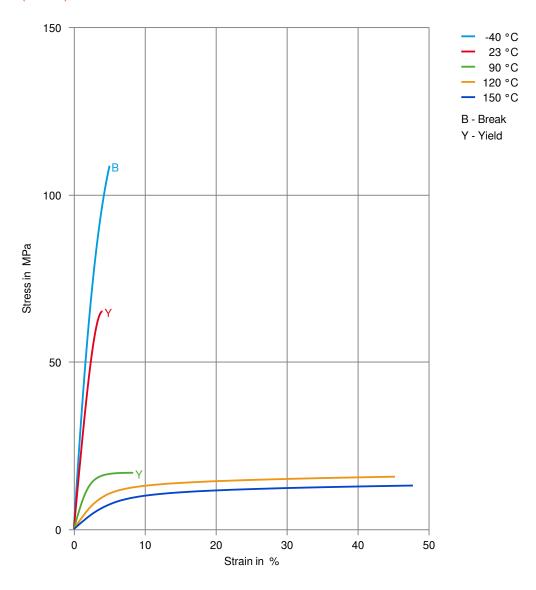
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HIGH PERFORMANCE POLYAMIDE RESIN

Stress-strain (cond.)



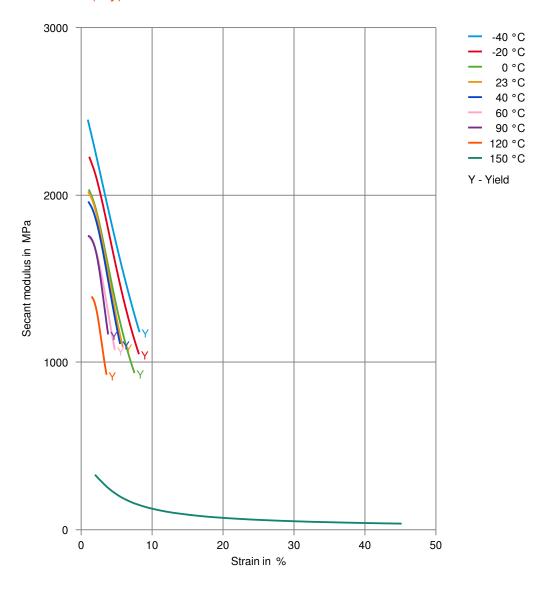
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HIGH PERFORMANCE POLYAMIDE RESIN

Secant modulus-strain (dry)



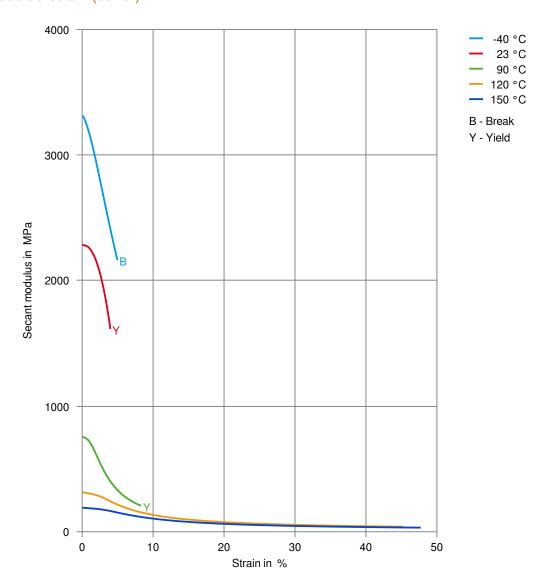
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Secant modulus-strain (cond.)



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Revised: 2025-03-05 Source: Celanese Materials Database

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