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Zytel® HTN510EFT BK010

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 BK010 is an unreinforced, toughened, heat stabilised high performance polyamide resin for injection moulding. It is also a PPA resin.

Product information

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

Rheological properties

	dry/cond.		
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	2200 / 2300	MPa	ISO 527-1/-2
Tensile stress at yield, 50mm/min	66 / 68	MPa	ISO 527-1/-2
Tensile strain at yield, 50mm/min	5.5 / 4.4	%	ISO 527-1/-2
Nominal strain at break	20 / -	%	ISO 527-1/-2
Charpy impact strength, 23°C	N / N	kJ/m²	ISO 179/1eU
Charpy impact strength, -30°C	110 / -	kJ/m²	ISO 179/1eU
Charpy notched impact strength, 23°C	70 / -	kJ/m²	ISO 179/1eA
Charpy notched impact strength, -30°C	17 / -	kJ/m²	ISO 179/1eA
Charpy notched impact strength, -40°C	14 / -	kJ/m²	ISO 179/1eA
Poisson's ratio	0.39 / 0.39		

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	122 / *	°C	ISO 75-1/-2

Flammability

	dry/cond.		
Burning Behav. at thickness h	HB / *	class	IEC 60695-11-10
Thickness tested	0.75 / *	mm	IEC 60695-11-10
FMVSS Class	B		ISO 3795 (FMVSS 302)
Burning rate, Thickness 1 mm	22[1]	mm/min	ISO 3795 (FMVSS 302)

[1]: 2mm nom. thick

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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/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
Min. mould temperature	80	°C
Max. mould temperature	120	°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.

Automotive

OEM	STANDARD
Ford	WSS-M98P14-A9
General Motors	Black; Special Parts Approval, See Your CE Account Representative for Further Details.

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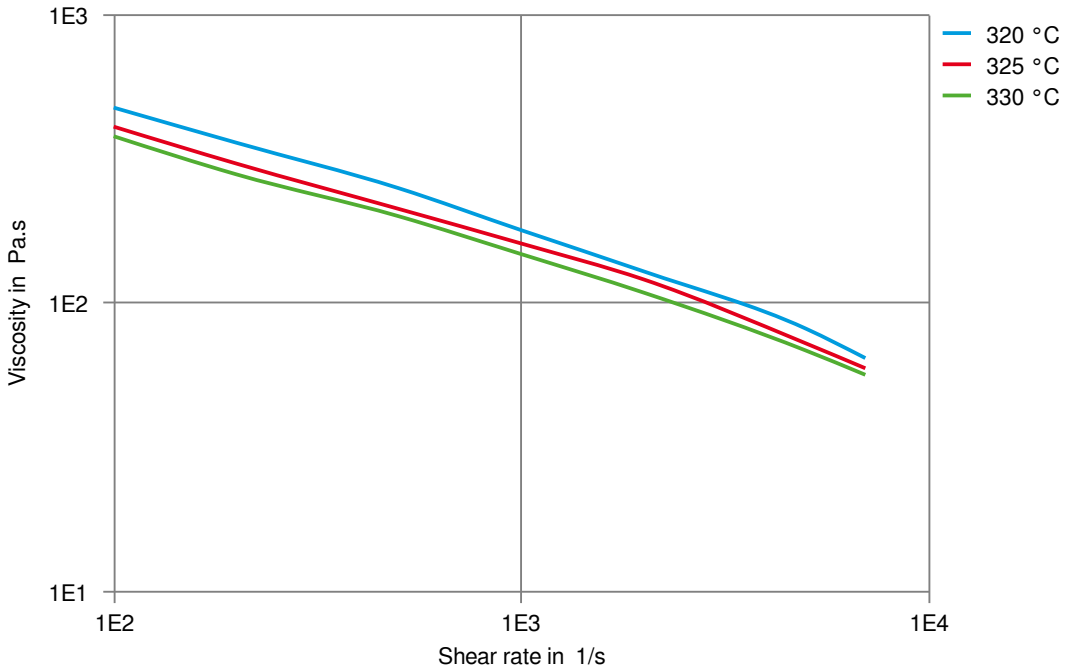
Viscosity-shear rate



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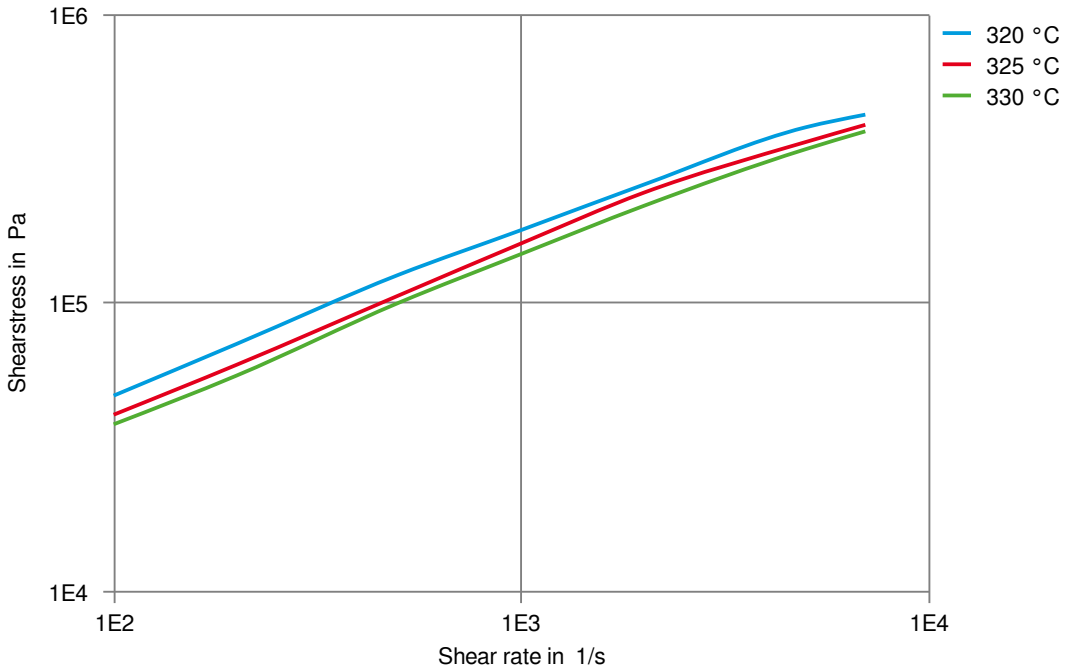
Shearstress-shear rate



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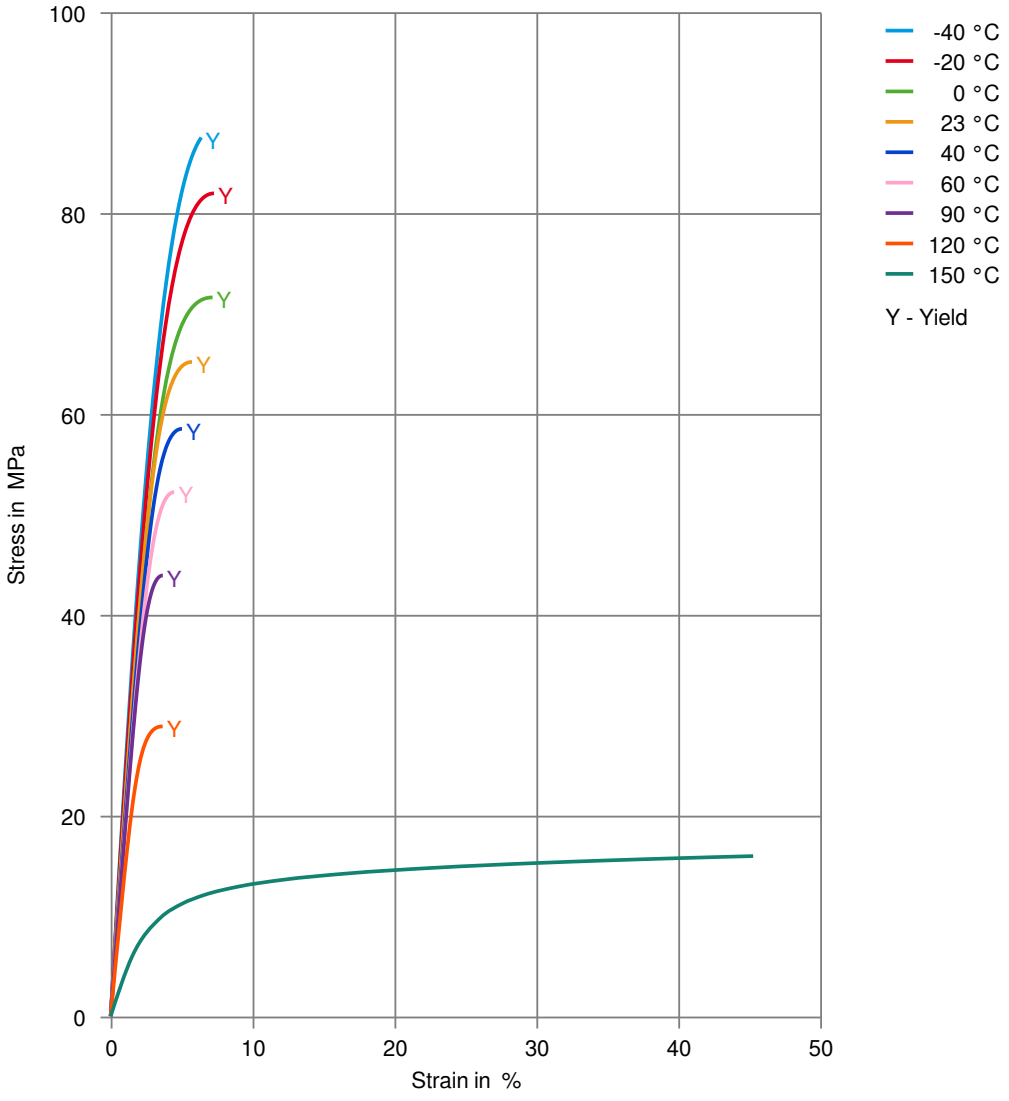
Stress-strain (dry)



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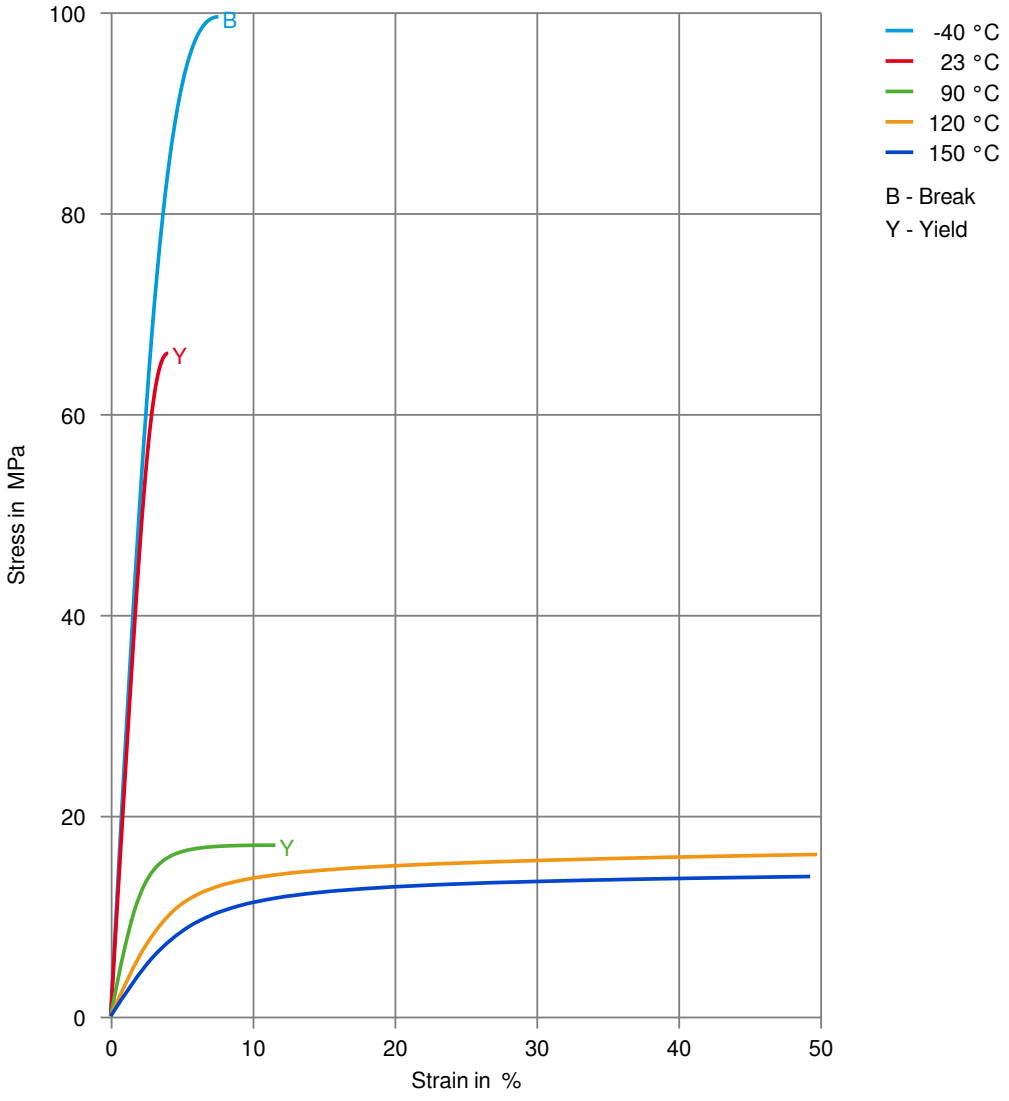
Stress-strain (cond.)



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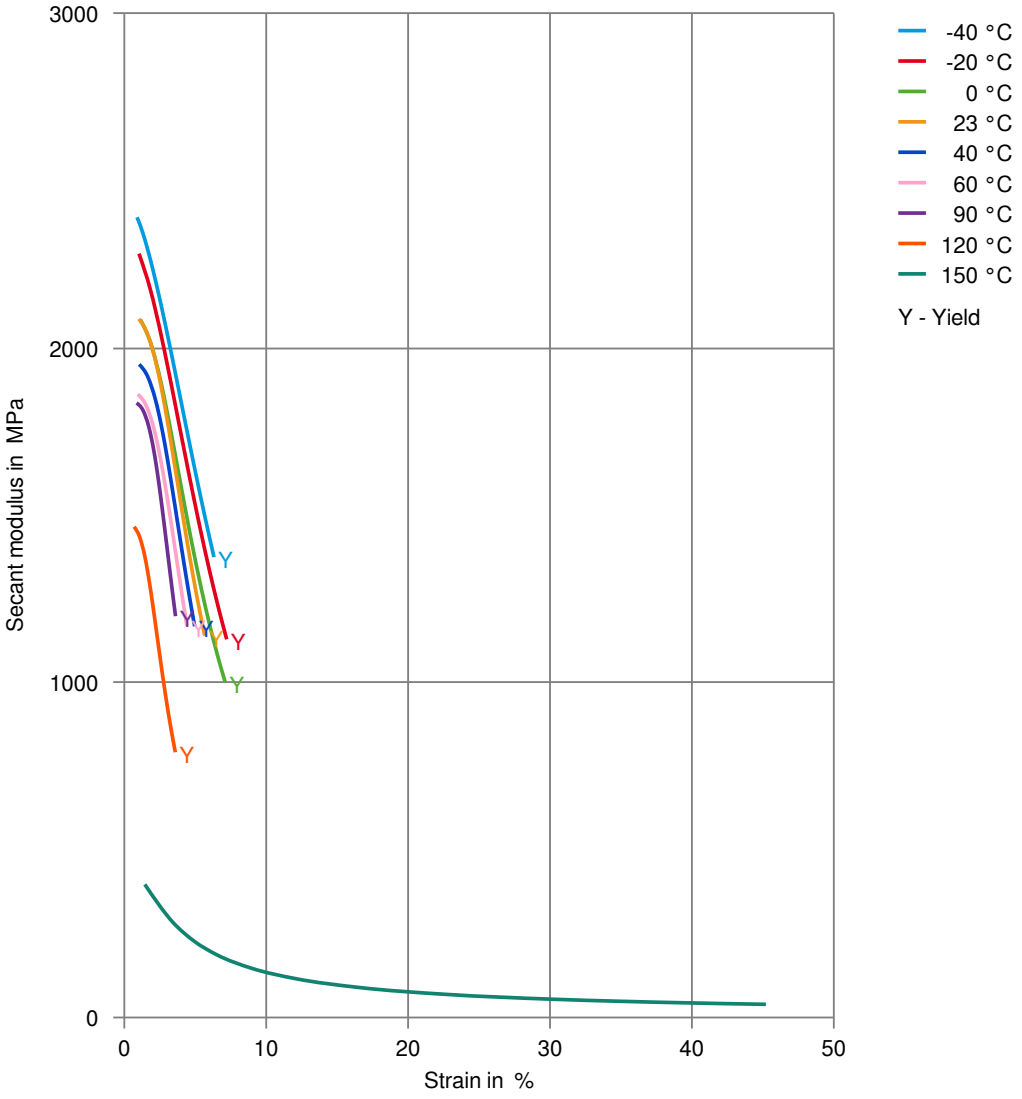
Secant modulus-strain (dry)



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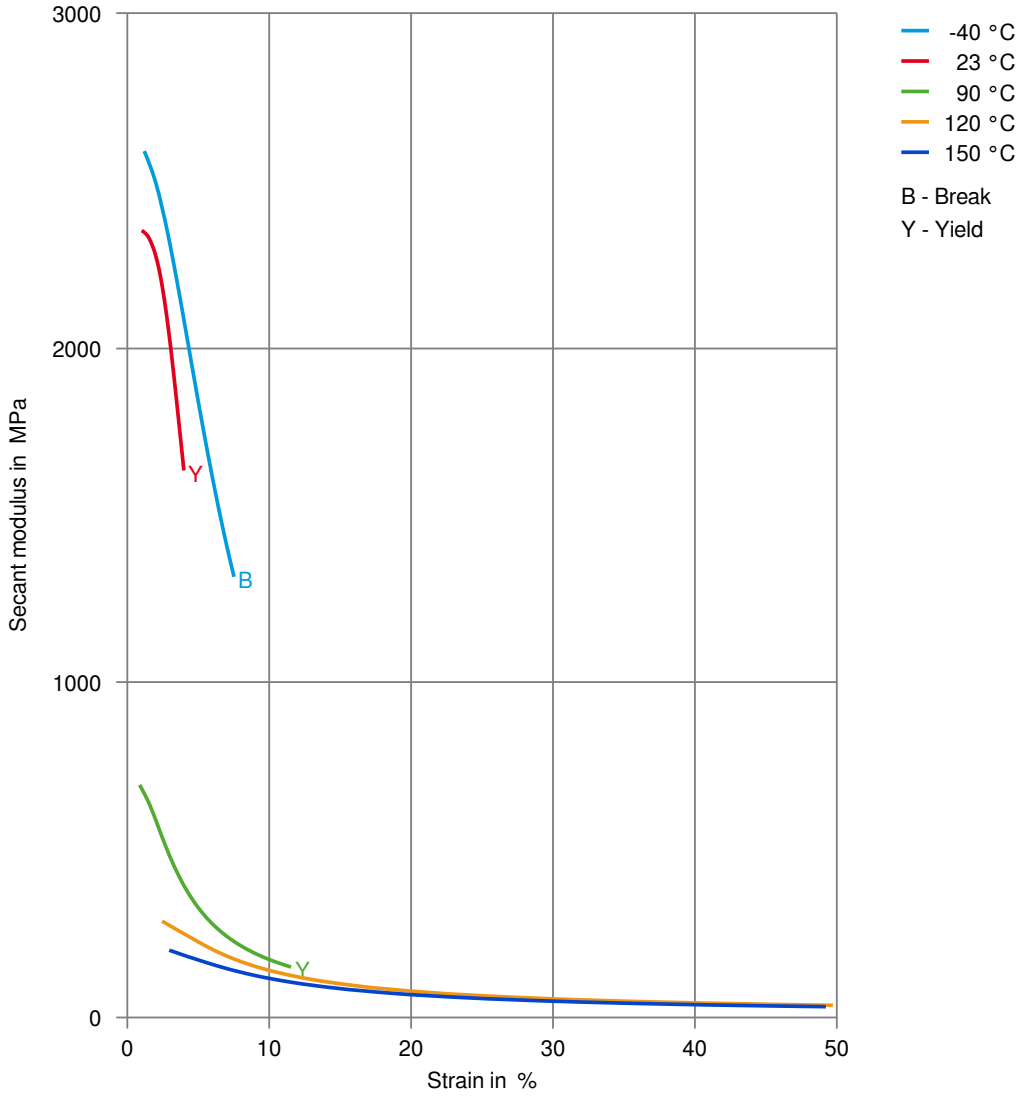
Secant modulus-strain (cond.)



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