Celanese
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Zytel® HTNFE18502 NC010

HIGH PERFORMANCE POLYAMIDE RESIN

Zytel® HTNFE18502 NC010 is an Unreinforced, Heat Stabilized, Toughened, PPA, High Performance Polyamide

Product information

Resin Identification	PA-I	ISO 1043
Part Marking Code	>PA-I<	ISO 11469
ISO designation	ISO 16396-PA*-I,,M1G1HNR,S10-020	

Rheological properties

	dry/cond.		
Moulding shrinkage, parallel	1.0 / -	%	ISO 294-4, 2577
Moulding shrinkage, normal	1.0 / -	%	ISO 294-4, 2577

Typical mechanical properties

	dry/cond.		
Tensile modulus	2200 / 2400	MPa	ISO 527-1/-2
Tensile stress at yield, 50mm/min	60 / 52	MPa	ISO 527-1/-2
Tensile strain at yield, 50mm/min	5 / 4	%	ISO 527-1/-2
Tensile strain at break, 5mm/min	20 / *	%	ISO 527-1/-2
Flexural modulus	1700 / -	MPa	ISO 178
Flexural strength	85 / -	MPa	ISO 178
Charpy impact strength, 23°C	N / N	kJ/m²	ISO 179/1eU
Charpy impact strength, -30°C	N / N	kJ/m²	ISO 179/1eU
Charpy notched impact strength, 23°C	45 / 25	kJ/m²	ISO 179/1eA
Poisson's ratio	0.39 / 0.38		

Thermal properties

	dry/cond.		
Melting temperature, 10°C/min	305 / *	°C	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	114 / *	°C	ISO 75-1/-2
Temperature of deflection under load, 0.45 MPa	210 / *	°C	ISO 75-1/-2
Coeff. of linear therm. expansion, parallel, -40-23°C	86 / *	E-6/K	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), parallel	92 / *	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, parallel, 55-160°C	107 / *	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal, -40-23°C	98 / *	E-6/K	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), normal	105 / *	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal, 55-160°C	119 / *	E-6/K	ISO 11359-1/-2

Flammability

	dry/cond.		
Burning Behav. at 1.5mm nom. thickn.	HB / *	class	IEC 60695-11-10
Thickness tested	1.5 / *	mm	IEC 60695-11-10
FMVSS Class	B		ISO 3795 (FMVSS 302)
Burning rate, Thickness 1 mm	<80	mm/min	ISO 3795 (FMVSS 302)

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Electrical properties

	dry/cond.		
Volume resistivity	>1E13 / -	Ohm.m	IEC 62631-3-1
Surface resistivity	* / >1E15	Ohm	IEC 62631-3-2
Comparative tracking index	600 / -		IEC 60112

Physical/Other properties

	dry/cond.		
Density	1110 / -	kg/m³	ISO 1183

VDA Properties

Emission of organic compounds	65	µgC/g	VDA 277
Odour	3	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
Min. mould temperature	70	°C
Max. mould temperature	100	°C

Characteristics

Processing	Injection Moulding
Delivery form	Pellets
Additives	Release agent
Special characteristics	Heat stabilised or stable to heat

Additional information

Injection molding	During molding, use proper protective equipment and adequate ventilation. Avoid exposure to fumes and limit the holdup time and temperature of the resin in the machine. Purge degraded resin carefully with HDPE.

Automotive

OEM	STANDARD
Ford	WSS-M98P14-A3
General Motors	Gray, Part Specific Approval, Please Contact Your CE Representative For More Details.

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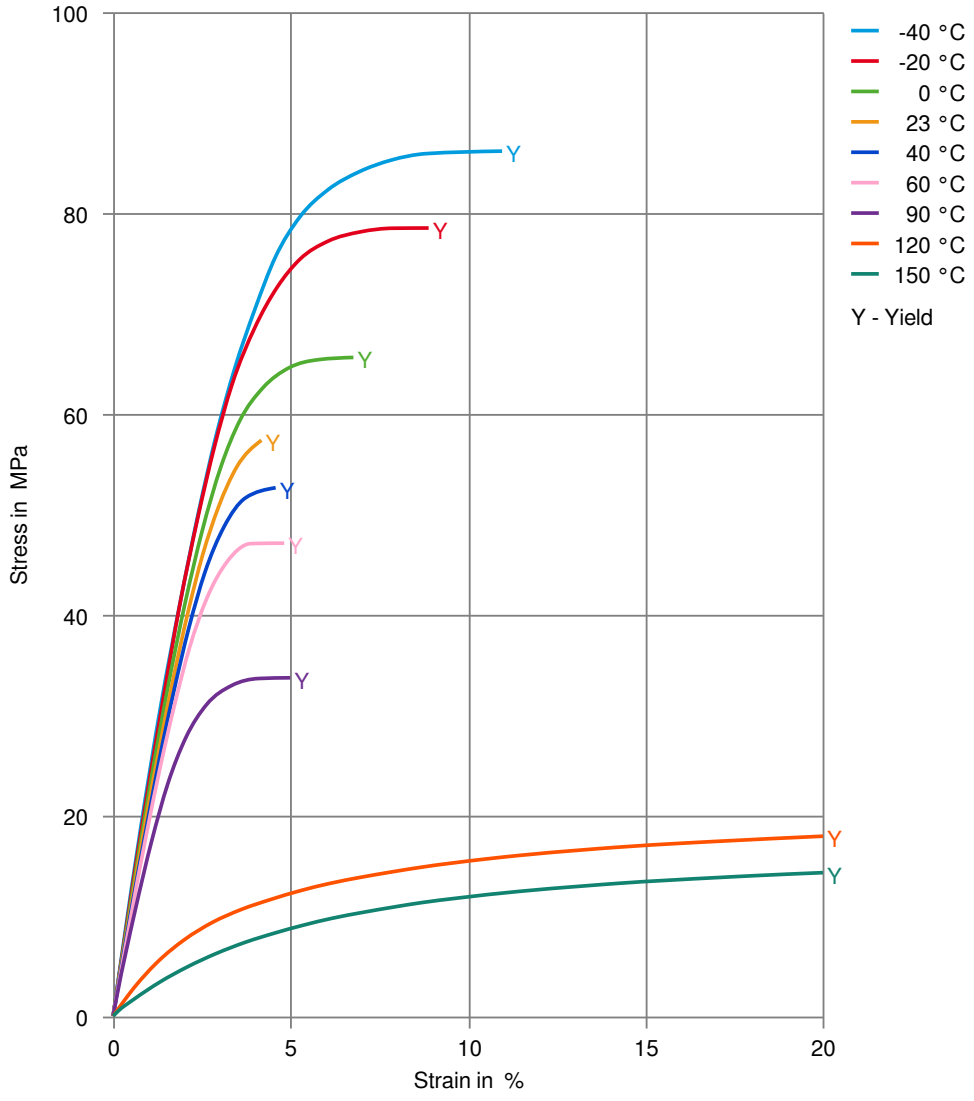
Stress-strain (dry)



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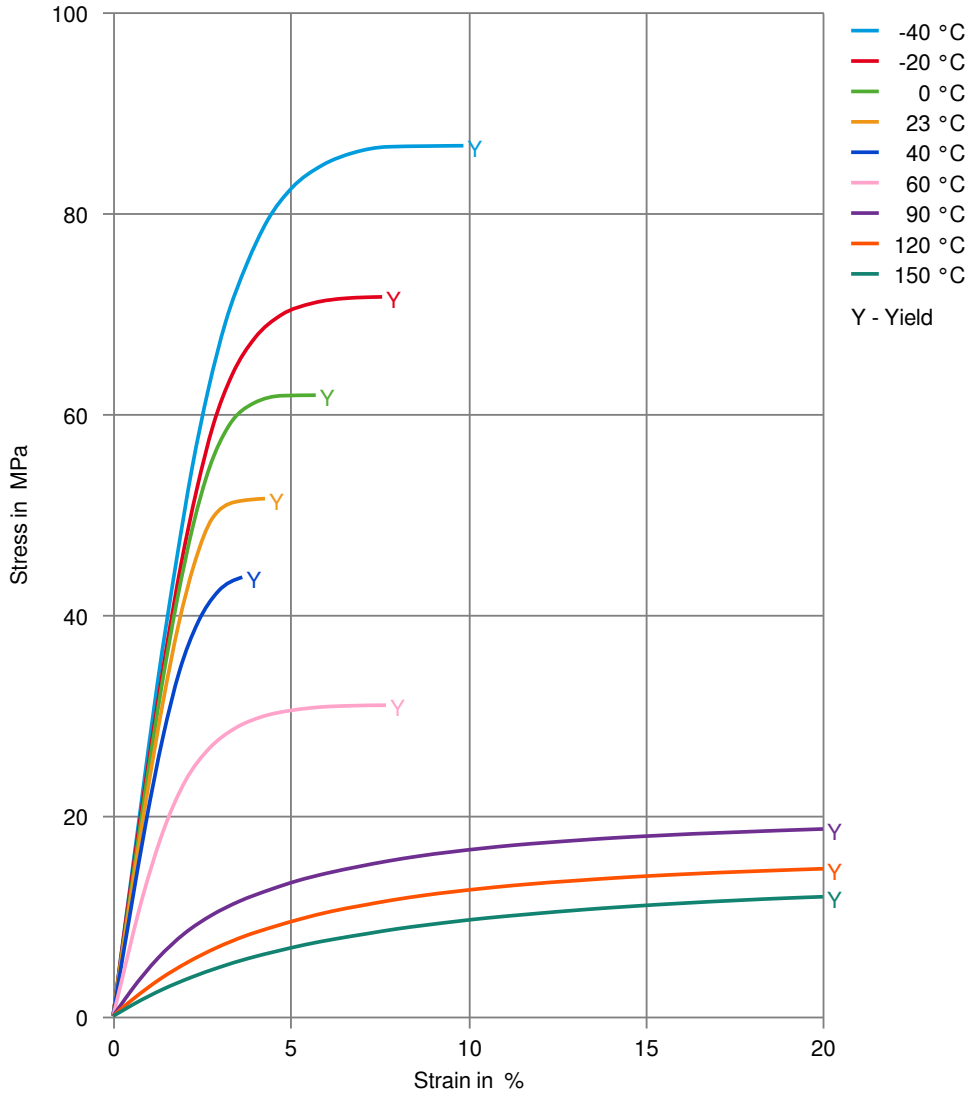
Stress-strain (cond.)



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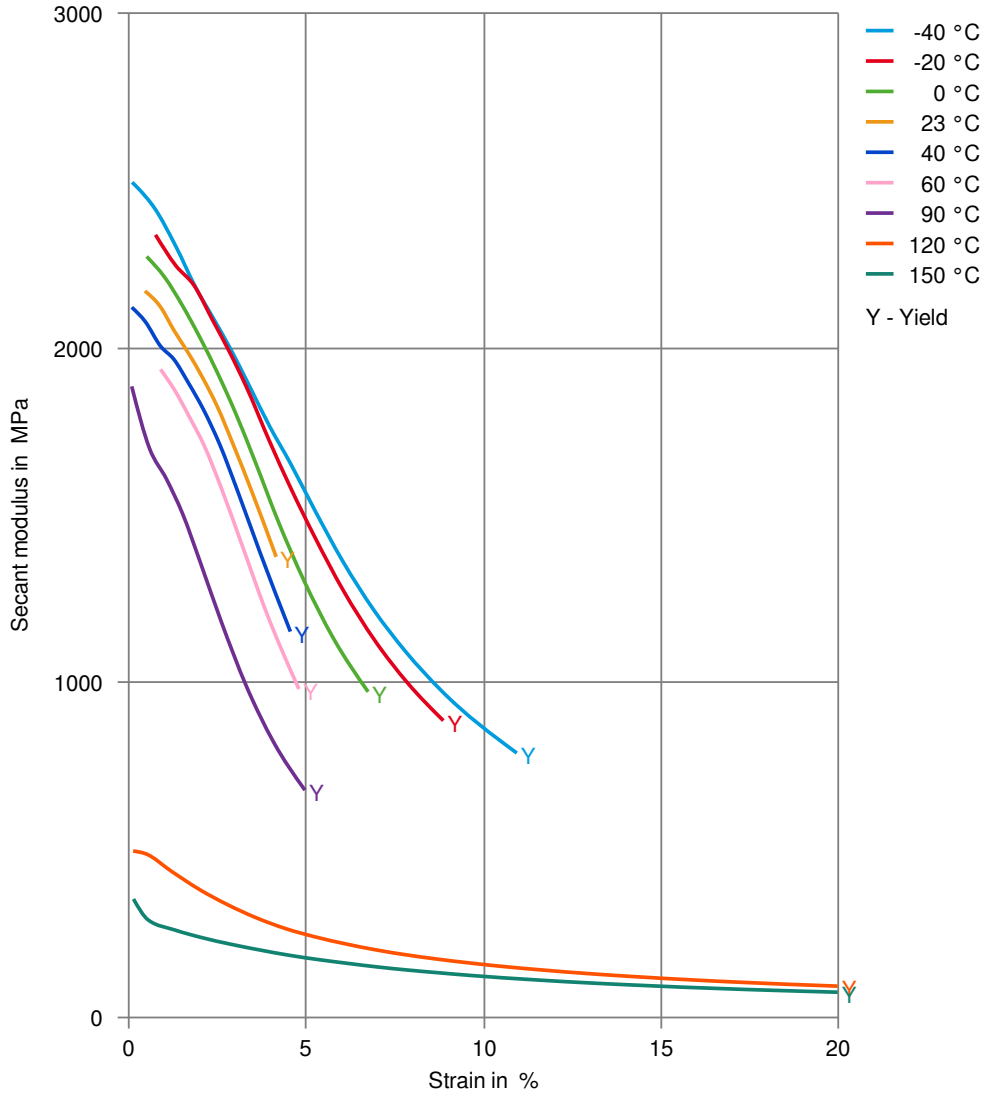
Secant modulus-strain (dry)



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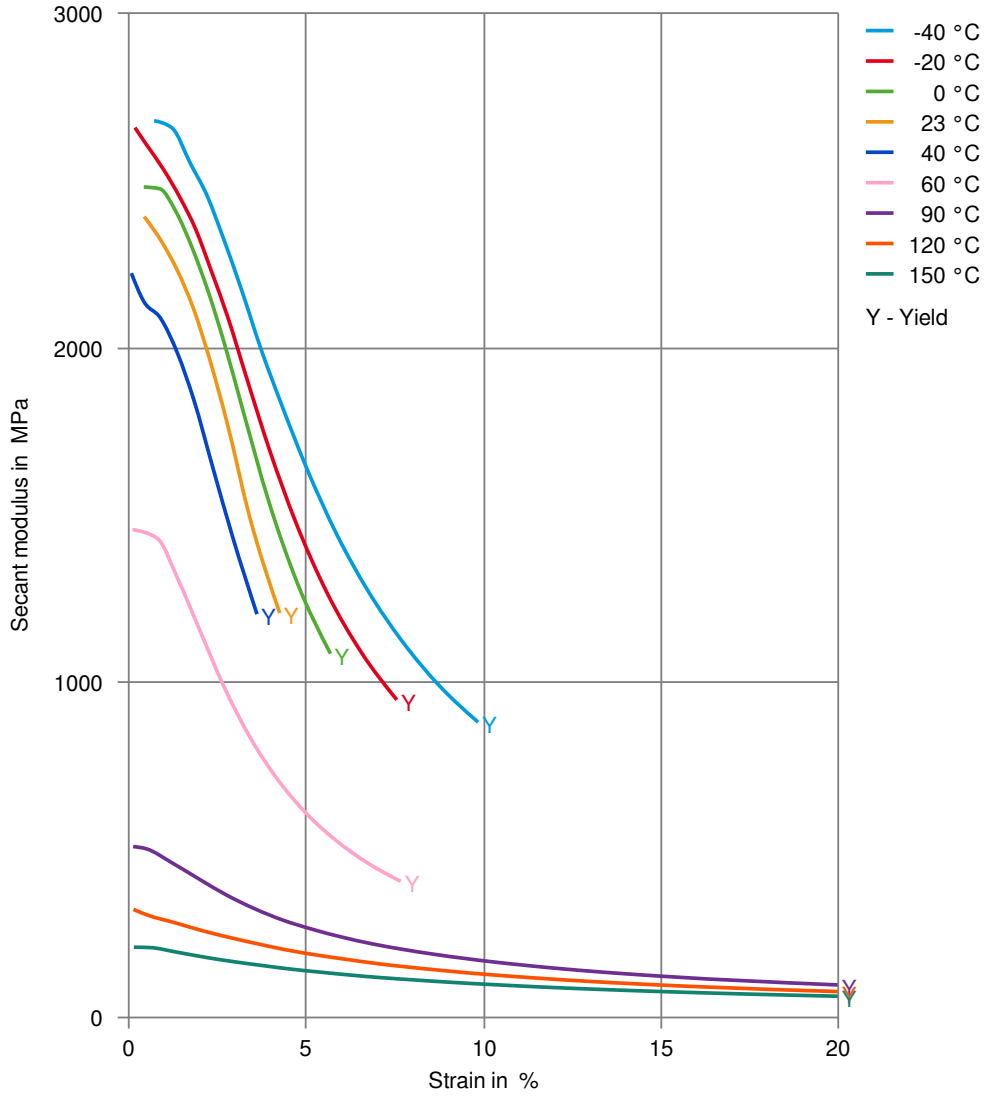
Secant modulus-strain (cond.)



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Chemical Media Resistance

Mineral oils

- ✔ SAE 10W40 multigrade motor oil, 23 °C
- ✔ SAE 10W40 multigrade motor oil, 130 °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).