Zytel® HTN54G15HSLR NC010

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® HTN54G15HSLR NC010 is a 15% glass reinforced, toughened, heat stabilized high performance polyamide resin. It is also a PPA resin.

Product information

Resin Identification	PA-I-GF15	ISO 1043
Part Marking Code	>PA-I-GF15<	ISO 11469
Part Marking Code	>PPA-I-GF15<	SAE J1344
ISO designation	ISO 16396-PA-I,GF15,M1GHNRW,S10-050	

Rheological properties

	dry/cond.		
Molding shrinkage, parallel	0.4 / -	%	ISO 294-4, 2577
Molding shrinkage, normal	0.7 / -	%	ISO 294-4, 2577

Typical mechanical properties

	dry/cond.		
Tensile modulus	798000 / 798000	psi	ISO 527-1/-2
Tensile stress at break, 5mm/min	18900 / 14500	psi	ISO 527-1/-2
Tensile strain at break, 5mm/min	3.7 / 2.7	%	ISO 527-1/-2
Flexural modulus	711000 / -	psi	ISO 178
Tensile creep modulus, 1h	* / 798000	psi	ISO 899-1
Tensile creep modulus, 1000h	* / 725000	psi	ISO 899-1
Charpy impact strength, 23°C	33.3 / 28.5	ftlb/in²	ISO 179/1eU
Charpy notched impact strength, 23°C	2.85 / -	ftlb/in²	ISO 179/1eA

Thermal properties

	dry/cond.		
Melting temperature, 10°C/min	579 / *	°F	ISO 11357-1/-3
Glass transition temperature, 10°C/min	239 / 149	°F	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	455 / *	°F	ISO 75-1/-2
Temperature of deflection under load, 0.45 MPa	536 / *	°F	ISO 75-1/-2
Coefficient of linear thermal expansion (CLTE), parallel	0.16 / *	E-4/°F	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), parallel, -40-23°C	0.178 / *	E-4/°F	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), parallel, 55-160°C	0.111 / *	E-4/°F	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), normal	0.389 / *	E-4/°F	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), normal, -40-23°C	0.389 / *	E-4/°F	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), normal, 55-160°C	0.578 / *	E-4/°F	ISO 11359-1/-2

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Flammability

	dry/cond.		
Burning Behav. at 1.5mm nom. thickn.	HB / *	class	IEC 60695-11-10
Thickness tested	0.0591 / *	in	IEC 60695-11-10
UL recognition	yes / *		UL 94
Burning Behav. at thickness h	HB / *	class	IEC 60695-11-10
Thickness tested	0.0315 / *	in	IEC 60695-11-10
UL recognition	yes / *		UL 94
Oxygen index	23 / *	%	ISO 4589-1/-2
FMVSS Class	B		ISO 3795 (FMVSS 302)
Burning rate, Thickness 1 mm	<80	in/min	ISO 3795 (FMVSS 302)

Electrical properties

	dry/cond.		
Relative permittivity, 100Hz	4.2 / -		IEC 62631-2-1
Relative permittivity, 1MHz	3.9 / -		IEC 62631-2-1
Dissipation factor, 100Hz	55 / -	E-4	IEC 62631-2-1
Dissipation factor, 1MHz	135 / -	E-4	IEC 62631-2-1
Volume resistivity	>1E13 / >1E13	Ohm.m	IEC 62631-3-1
Surface resistivity	* / >1E15	Ohm	IEC 62631-3-2
Electric strength	419 / -	kV/in	IEC 60243-1
Comparative tracking index	575 / 575		IEC 60112

Physical/Other properties

	dry/cond.		
Density	0.0451 / -	lb/in³	ISO 1183

Injection

Drying Recommended	yes	
Drying Temperature	212	°F
Drying Time, Dehumidified Dryer	6 - 8	h
Processing Moisture Content	≤0.1	%
Melt Temperature Optimum	617	°F
Min. melt temperature	608	°F
Max. melt temperature	626	°F
Mold Temperature Optimum	212	°F
Min. mold temperature	194	°F
Max. mold temperature	230	°F
Hold Pressure Time (h is the max. wall thickness of the part in mm)	h^2+2	s
Ejection temperature	500	°F

Automotive

OEM	STANDARD	ADDITIONAL INFORMATION
Ford	WSS-M98P14-A3	
General Motors	GMW18066P-PPA-GF15	Natural

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Characteristics

Processing	Injection Molding
Additives	Release agent
Special characteristics	Heat stabilized or stable to heat, Hydrolysis resistant

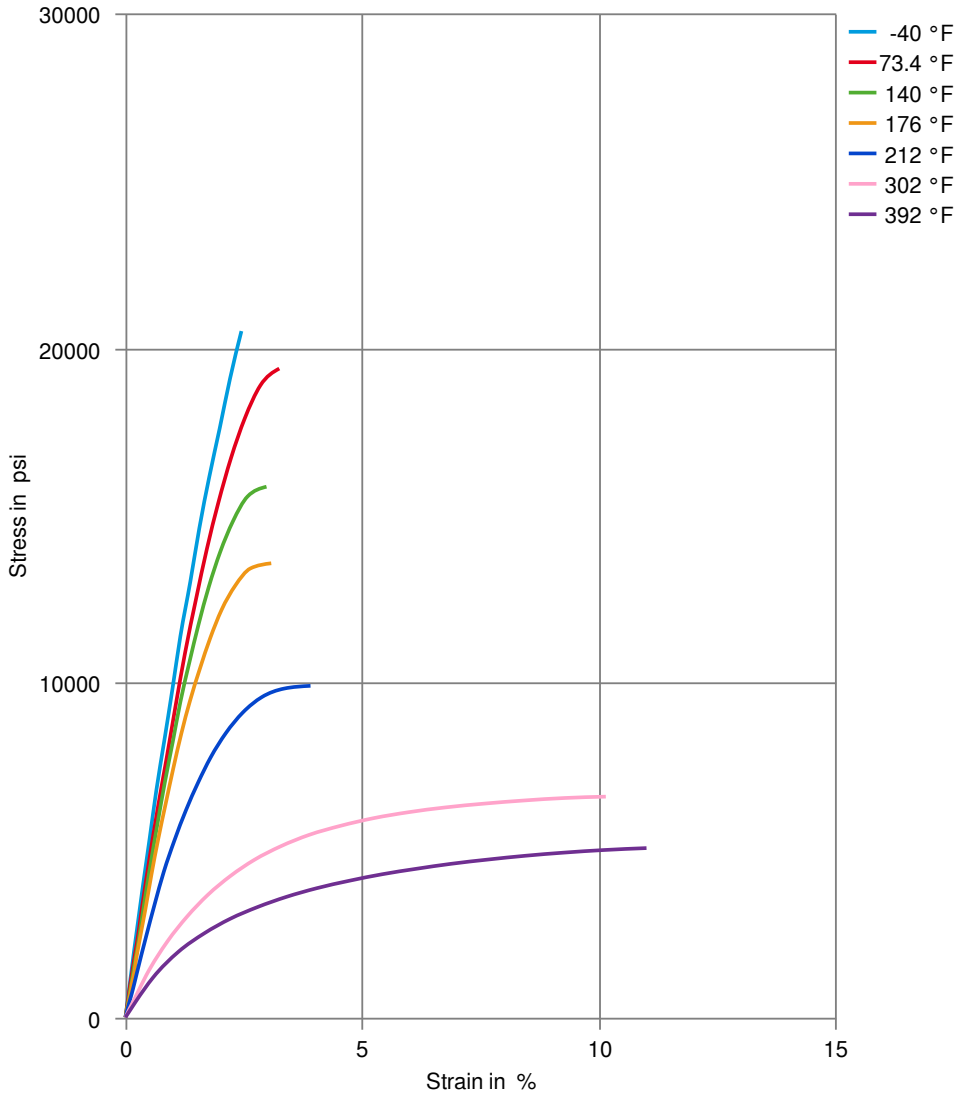
Additional information

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

Stress-strain (dry)

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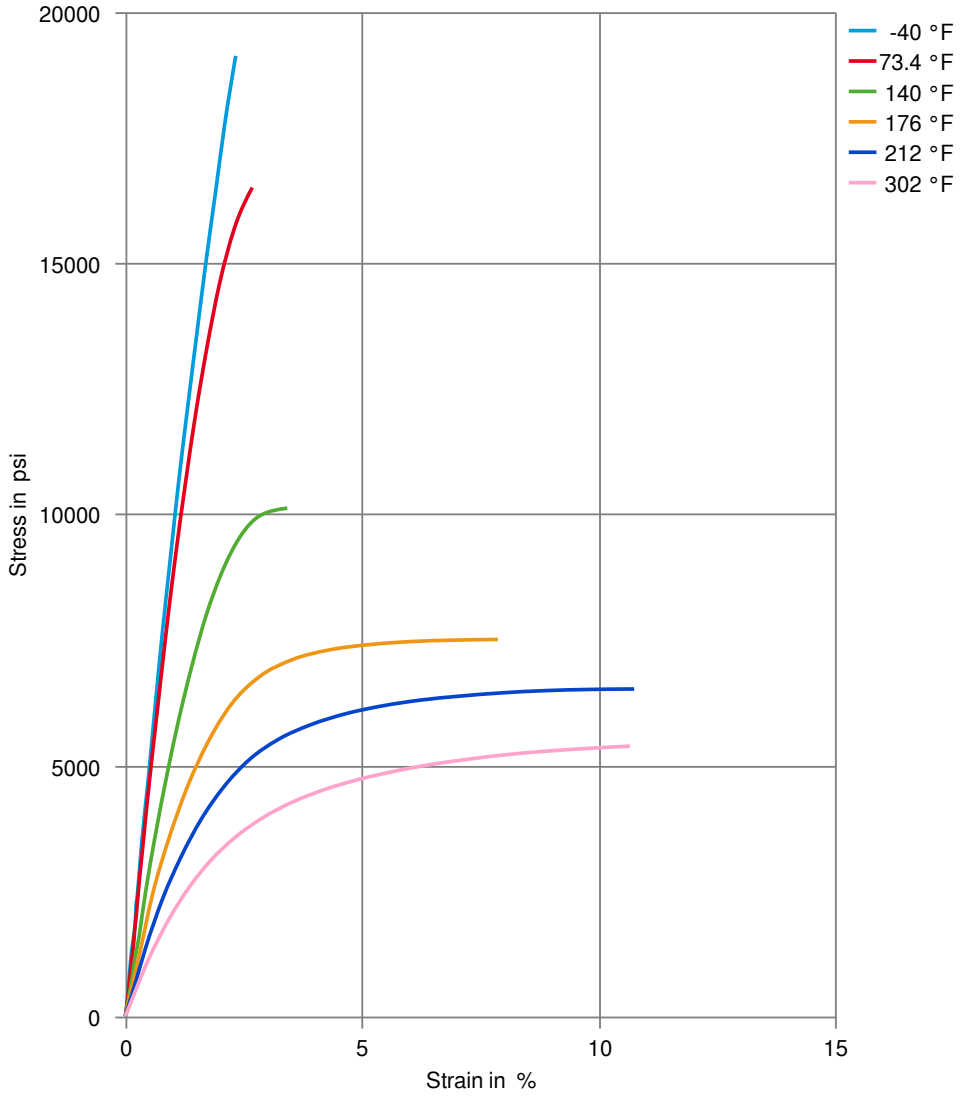
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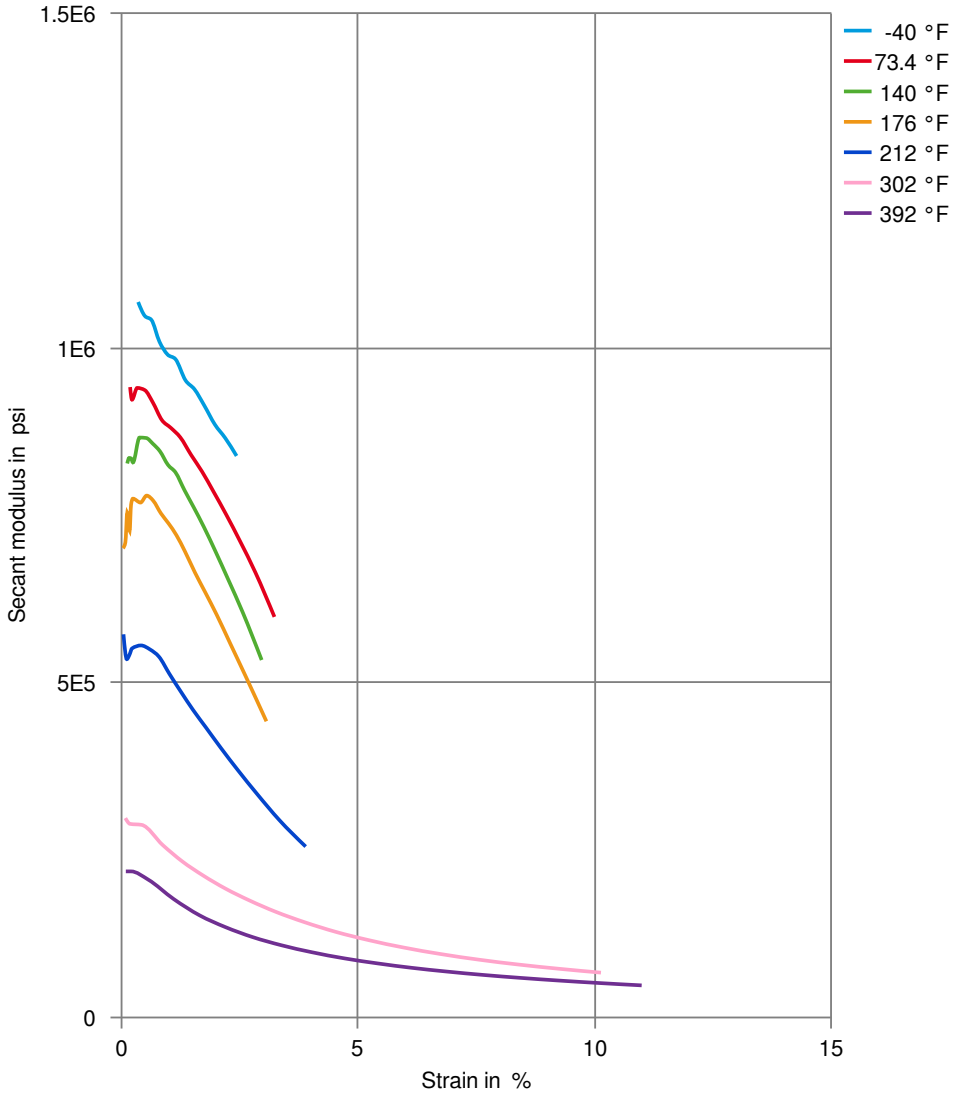
Stress-strain (cond.)



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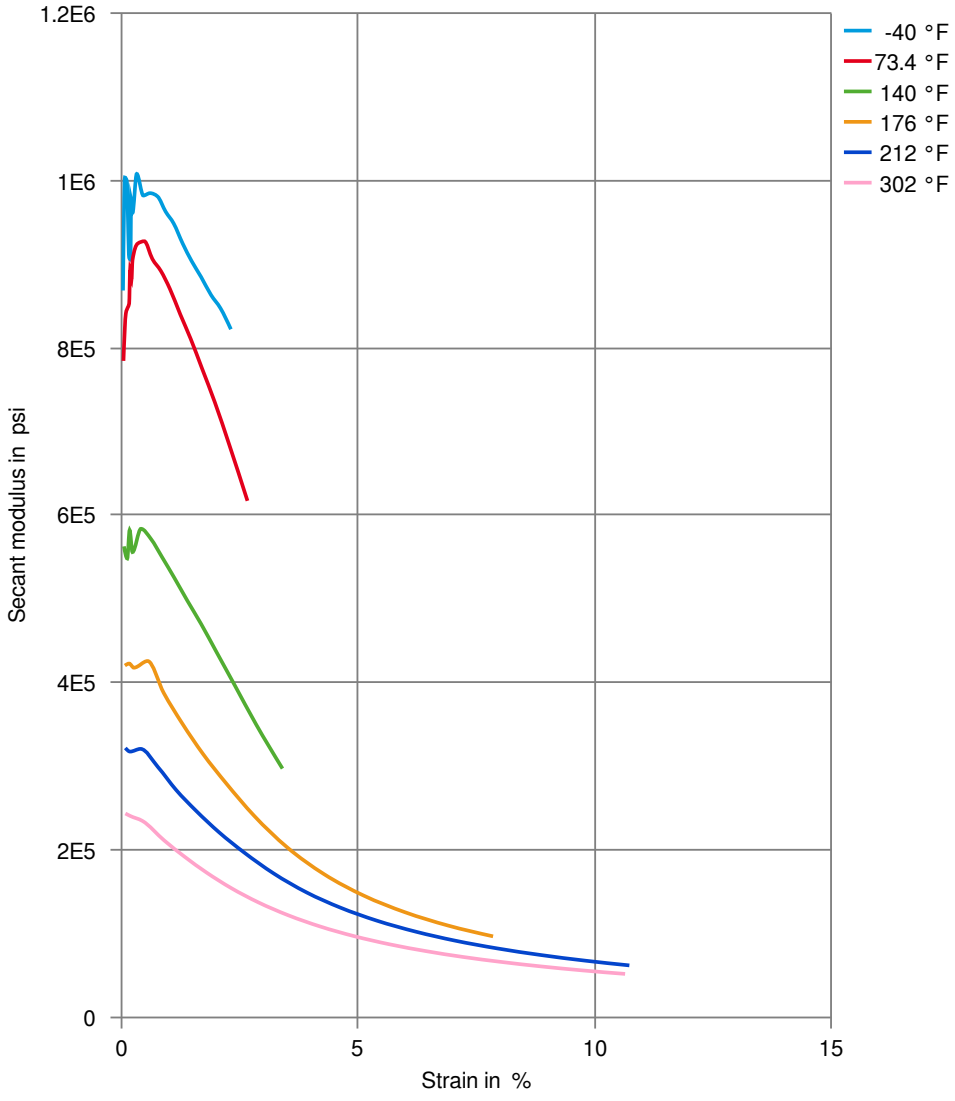
Secant modulus-strain (dry)



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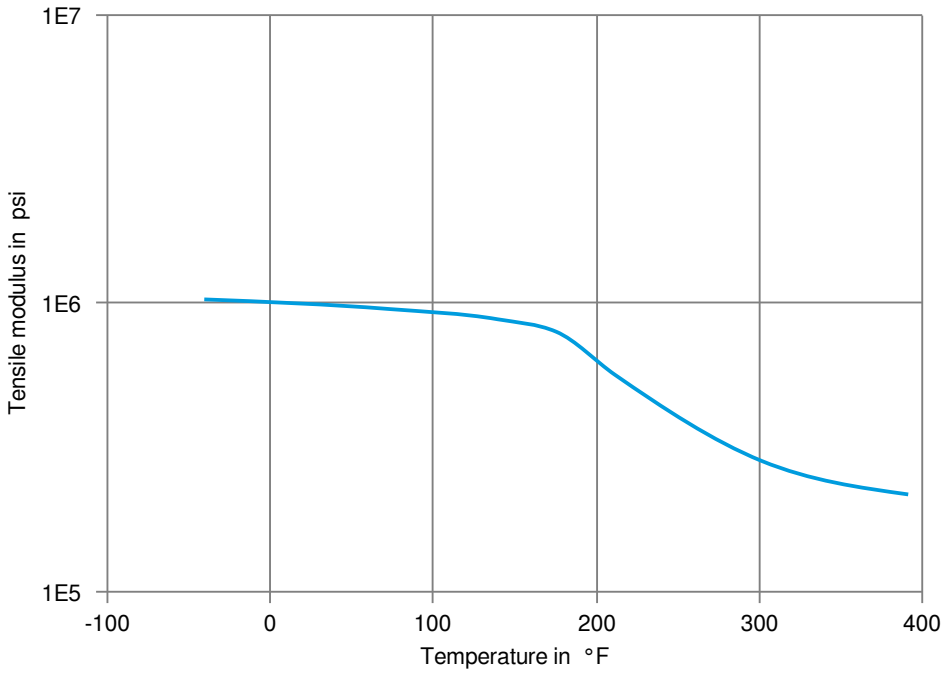
Secant modulus-strain (cond.)



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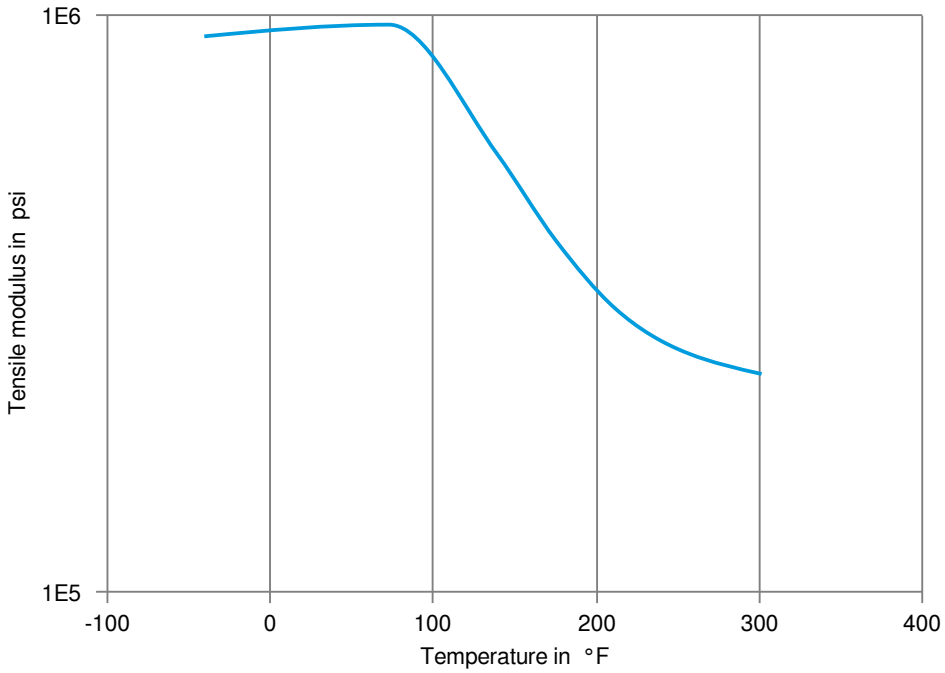
Tensile modulus-temperature (dry)



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Tensile modulus-temperature (cond.)



Revised: 2025-07-08 Source: Celanese Materials Database

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