Zytel® HTNFR52G30NH 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® HTNFR52G30NH NC010 is a 30% glass reinforced, flame retardant high performance polyamide resin. It is also a PPA resin and it uses a non-halogenated flame retardant.

Product information

Resin Identification	PA6T/66-GF30 FR(40)	ISO 1043
Part Marking Code	>PA6T/66-GF30 FR(40)<	ISO 11469
Part Marking Code	>PPA-GF30 FR<	SAE J1344
ISO designation	ISO 16396-PA6T/66,GF30 FR(40),M1F1GNR,S10-100	

Rheological properties

	dry/cond.		
Molding shrinkage, parallel	0.3 / -	%	ISO 294-4, 2577
Molding shrinkage, normal	1.1 / -	%	ISO 294-4, 2577

Typical mechanical properties

	dry/cond.		
Tensile modulus	1.52E6 / 1.52E6	psi	ISO 527-1/-2
Tensile stress at break, 5mm/min	21800 / 18900	psi	ISO 527-1/-2
Tensile strain at break, 5mm/min	2.2 / 2	%	ISO 527-1/-2
Flexural modulus	1.31E6 / 1.45E6	psi	ISO 178
Flexural strength	33400 / 29000	psi	ISO 178
Charpy impact strength, 23°C	21.4 / 19	ftlb/in²	ISO 179/1eU
Charpy impact strength, -30°C	19 / 16.6	ftlb/in²	ISO 179/1eU
Charpy notched impact strength, 23°C	3.81 / 3.33	ftlb/in²	ISO 179/1eA
Charpy notched impact strength, -30°C	3.33 / 3.33	ftlb/in²	ISO 179/1eA

Thermal properties

	dry/cond.		
Melting temperature, 10°C/min	590 / *	°F	ISO 11357-1/-3
Melting temperature, first heat	590 / *	°F	ISO 11357-1/-3
Glass transition temperature, 10°C/min	194 / 113	°F	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	541 / *	°F	ISO 75-1/-2
Ball pressure test	554 / -	°F	IEC 60695-10-2
Coefficient of linear thermal expansion (CLTE), parallel	0.11 / *	E-4/°F	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), parallel, -40-23°C	0.111 / *	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	0.333 / *	E-4/°F	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), normal, -40-23°C	0.333 / *	E-4/°F	ISO 11359-1/-2

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Coefficient of linear thermal expansion (CLTE), normal, 55-160°C	0.556 / *	E-4/°F	ISO 11359-1/-2
RTI, electrical, 0.4mm	284	°F	UL 746B
RTI, electrical, 0.75mm	284	°F	UL 746B
RTI, electrical, 1.5mm	284	°F	UL 746B
RTI, electrical, 3.0mm	284	°F	UL 746B
RTI, impact, 0.75mm	239	°F	UL 746B
RTI, impact, 1.5mm	239	°F	UL 746B
RTI, impact, 3.0mm	248	°F	UL 746B
RTI, strength, 0.75mm	257	°F	UL 746B
RTI, strength, 1.5mm	257 / *	°F	UL 746B
RTI, strength, 3.0mm	266	°F	UL 746B

Flammability

	dry/cond.		
Burning Behav. at 1.5mm nom. thickn.	V-0 / *	class	IEC 60695-11-10
Thickness tested	0.0591 / *	in	IEC 60695-11-10
UL recognition	yes / *		UL 94
Burning Behav. at thickness h	V-0 / *	class	IEC 60695-11-10
Thickness tested	0.0157 / *	in	IEC 60695-11-10
UL recognition	yes / *		UL 94
Oxygen index	37 / *	%	ISO 4589-1/-2
Glow Wire Flammability Index, 0.75mm	1760 / -	°F	IEC 60695-2-12
Glow Wire Flammability Index, 3.0mm	1760 / -	°F	IEC 60695-2-12
Glow Wire Ignition Temperature, 0.75mm	1340 / -	°F	IEC 60695-2-13
Glow Wire Ignition Temperature, 0.4mm	1290 / -	°F	IEC 60695-2-12
Glow Wire Ignition Temperature, 3.0mm	1470 / -	°F	IEC 60695-2-13
FMVSS Class	DNI		ISO 3795 (FMVSS 302)

Electrical properties

	dry/cond.		
Relative permittivity, 100Hz	4.1 / -		IEC 62631-2-1
Relative permittivity, 1MHz	3.9 / -		IEC 62631-2-1
Dissipation factor, 100Hz	65 / -	E-4	IEC 62631-2-1
Dissipation factor, 1MHz	120 / -	E-4	IEC 62631-2-1
Volume resistivity	>1E13 / 5E11	Ohm.m	IEC 62631-3-1
Surface resistivity	* / >1E15	Ohm	IEC 62631-3-2
Electric strength	991 / -	kV/in	IEC 60243-1
Comparative tracking index	600 / -		IEC 60112
Electric Strength, Short Time, 2mm	660 / -	V/mil	IEC 60243-1
Dielectric Constant, 1 GHz	3.7 / -		ASTM D 2520 B
Dielectric Constant, 23°C, 10 GHz	3.8 / -		ASTM D 2520 B / IPC-TM-650
Dissipation Factor, 1 GHz	110 / -	E-4	ASTM D 2520 B
Dissipation Factor, 23°C, 10 GHz	100 / -	E-4	ASTM D 2520 B / IPC-TM-650

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Physical/Other properties

	dry/cond.		
Humidity absorption, 2mm	1.6 / *	%	Sim. to ISO 62
Water absorption, 2mm	3.9 / *	%	Sim. to ISO 62
Density	0.052 / -	lb/in³	ISO 1183

Emissions

Odor test	3.5	class	VDA 270

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	617	°F
Mold Temperature Optimum	212	°F
Min. mold temperature	194	°F
Max. mold temperature	266	°F
Hold Pressure Time (h is the max. wall thickness of the part in mm)	h^2+2	s
Ejection temperature	498	°F

Characteristics

Processing	Injection Molding
Additives	Release agent, Flame retardant, Lubricants, Non-halogenated/Red phosphorus free flame retardant
Special characteristics	Flame retardant, Lead-free soldering resistant

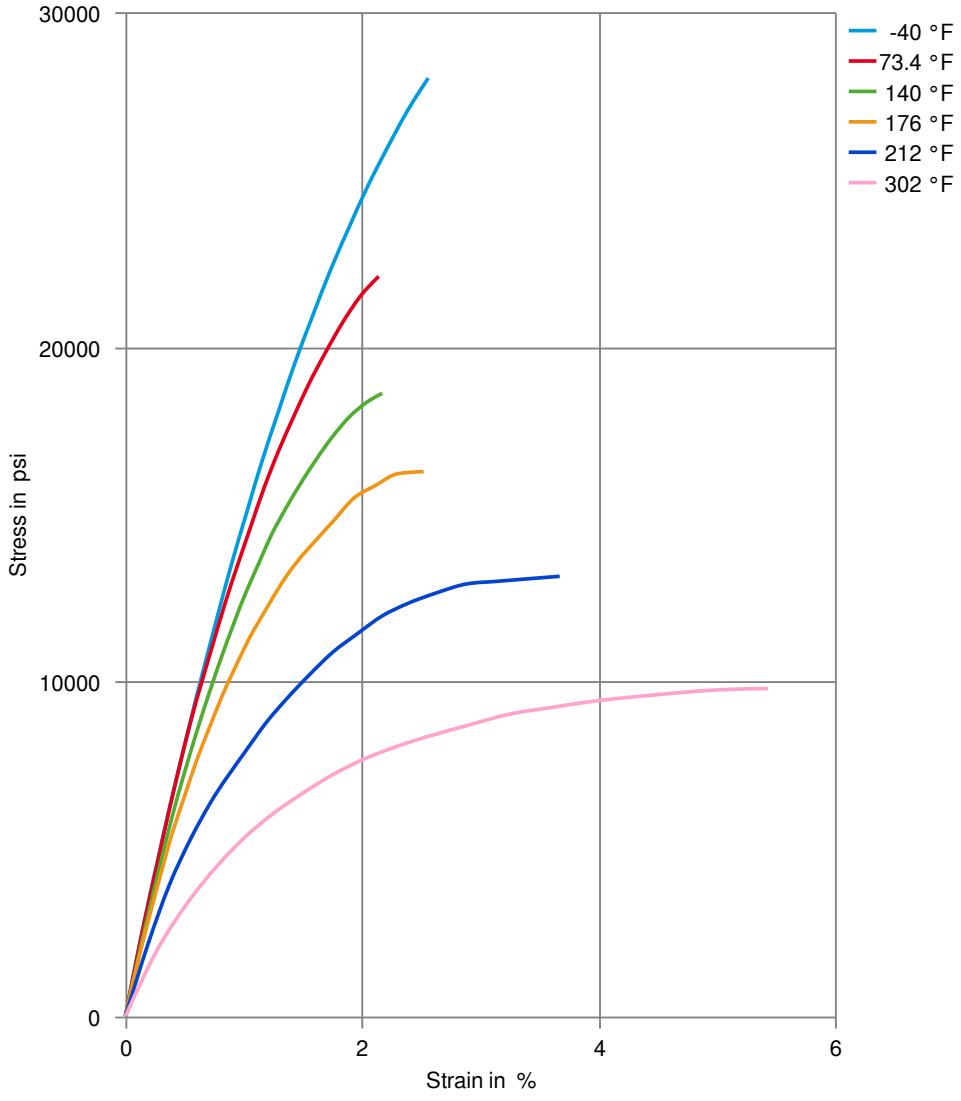
Additional information

Injection molding	For molding machine components, use corrosion resistant and wear resistant steel. For details please contact our representative. Limit the residence time of the resin in the machine. Use proper protective equipment and adequate ventilation.

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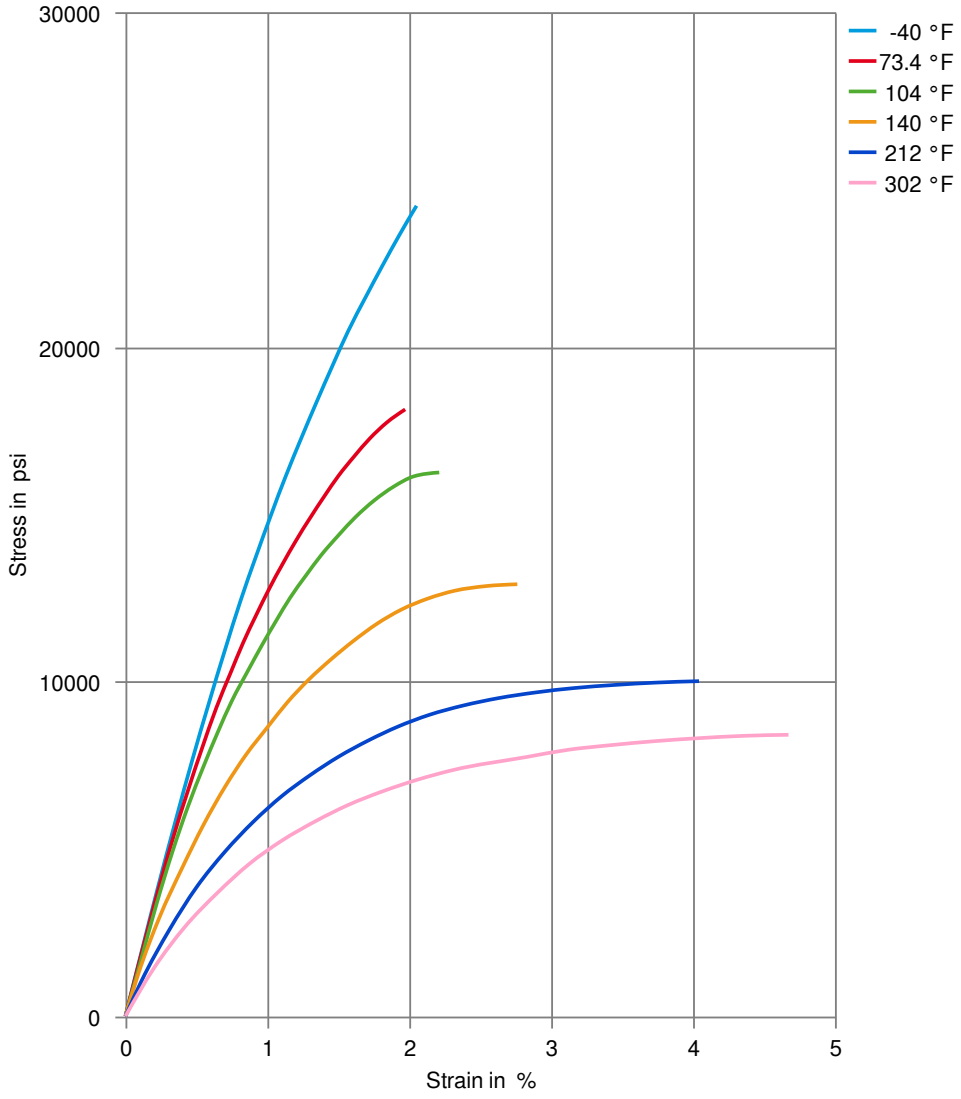
Stress-strain (dry)



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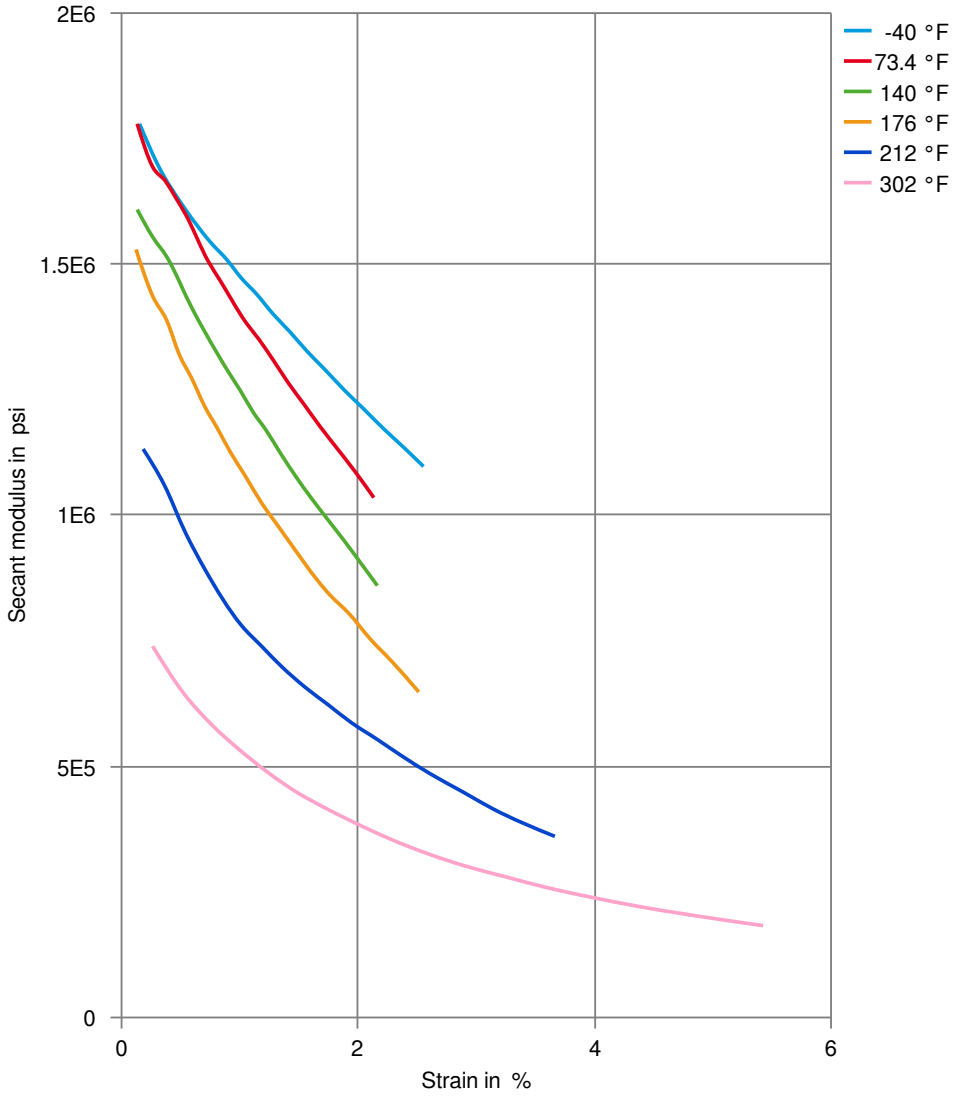
Stress-strain (cond.)



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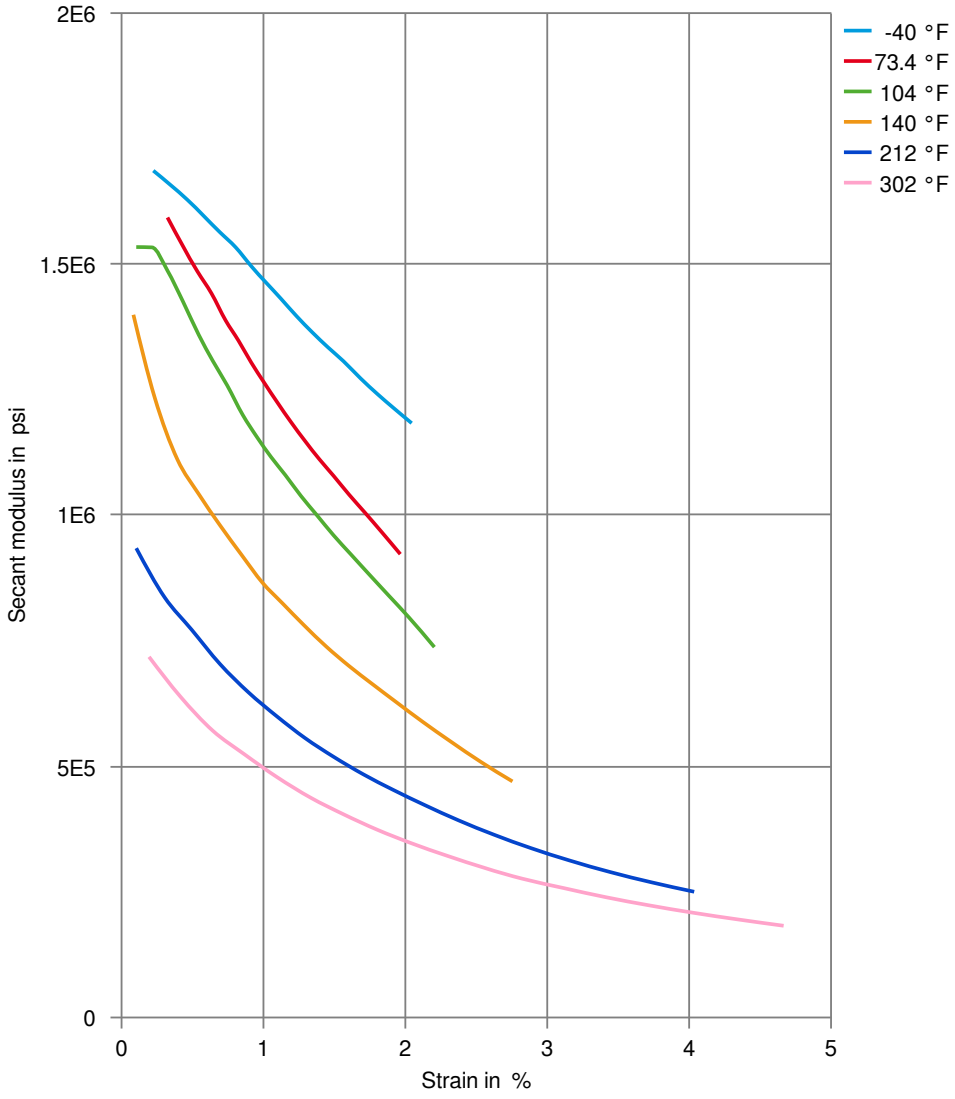
Secant modulus-strain (dry)



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Secant modulus-strain (cond.)



Revised: 2026-09-08 Source: Celanese Materials Database

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