Zytel® HTN330 NC010

HIGH PERFORMANCE POLYAMIDE RESIN

Zytel® HTN330 NC010 is an unreinforced, transparent high performance polyamide resin. It is also a PPA resin.

Product information

Resin Identification	PA	ISO 1043
Part Marking Code	>PA<	ISO 11469
ISO designation	ISO 16396-PA,,MG1NT,S10-030	

Rheological properties

	dry/cond.		
Molding shrinkage, parallel	0.5 / -	%	ISO 294-4, 2577
Molding shrinkage, normal	0.5 / -	%	ISO 294-4, 2577

Typical mechanical properties

	dry/cond.		
Tensile modulus	406000 / 435000	psi	ISO 527-1/-2
Tensile stress at yield, 50mm/min	14000 / 13000	psi	ISO 527-1/-2
Tensile strain at yield, 50mm/min	5 / 6	%	ISO 527-1/-2
Tensile strain at break, 50mm/min	30 / -	%	ISO 527-1/-2
Charpy impact strength, 23°C	95.1 / N	ftlb/in²	ISO 179/1eU
Charpy impact strength, -30°C	85.6 / -	ftlb/in²	ISO 179/1eU
Charpy notched impact strength, 23°C	2.85 / 4.76	ftlb/in²	ISO 179/1eA
Charpy notched impact strength, -30°C	2.14 / -	ftlb/in²	ISO 179/1eA
Puncture - maximum force, 23°C	5000 / -	N	ISO 6603-2
Puncture energy, 23°C	60 / -	J	ISO 6603-2

Tribological properties

	dry/cond.		
Coefficient of sliding friction, 1h against itself	0.1 / -		ASTM 1894

Thermal properties

	dry/cond.		
Glass transition temperature, 10°C/min	266 / 212	°F	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	248 / *	°F	ISO 75-1/-2
Temperature of deflection under load, 0.45 MPa	257 / *	°F	ISO 75-1/-2
Coefficient of linear thermal expansion (CLTE), parallel	0.34 / *	E-4/°F	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), normal	0.333 / *	E-4/°F	ISO 11359-1/-2
Thermal conductivity of melt	0.22	W/(m K)	ISO 22007-2
Specific heat capacity of melt	2460	J/(kg K)	ISO 22007-4
RTI, electrical, 0.75mm	194	°F	UL 746B
RTI, electrical, 1.5mm	194	°F	UL 746B
RTI, electrical, 3.0mm	194	°F	UL 746B
RTI, impact, 0.75mm	149	°F	UL 746B
RTI, impact, 1.5mm	149	°F	UL 746B
RTI, impact, 3.0mm	149	°F	UL 746B
RTI, strength, 0.75mm	194	°F	UL 746B
RTI, strength, 1.5mm	194 / *	°F	UL 746B
RTI, strength, 3.0mm	194	°F	UL 746B

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Flammability

	dry/cond.		
Burning Behav. at 1.5mm nom. thickn.	HB / *	class	IEC 60695-11-10
UL recognition	yes / *		UL 94
Burning Behav. at thickness h	V-2 / *	class	IEC 60695-11-10
Thickness tested	0.0339 / *	in	IEC 60695-11-10
UL recognition	yes / *		UL 94
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, 1MHz	3.7 / 3.8		IEC 62631-2-1
Dissipation factor, 1MHz	200 / 200	E-4	IEC 62631-2-1
Volume resistivity	1E13 / 1E13	Ohm.m	IEC 62631-3-1
Electric strength	737 / 711	kV/in	IEC 60243-1
Comparative tracking index	600 / -		IEC 60112

Physical/Other properties

	dry/cond.		
Humidity absorption, 2mm	4 / *	%	Sim. to ISO 62
Water absorption, 2mm	9.6 / *	%	Sim. to ISO 62
Density	0.0426 / -	lb/in³	ISO 1183
Luminous transmittance	88	%	ISO 13468-1, -2

Film properties

	dry/cond.		
Gloss, 20°	110 / *		ISO 2813
Haze	0.9 / *		ISO 14782
WVTR, 23°C/85%r.h.	29 / *	g/(m²*d)	DIS 15106-1/-2
Oxygen transmission rate, 23°C/0%r.h.	45 / *	cm³/(m²*d*bar)	DIS 15105-1/-2
Oxygen transmission rate, 23°C/85%r.h.	20 / *	cm³/(m²*d*bar)	DIS 15105-1/-2
Carbon Dioxide transm. rate, 23°C/0%r.h.	230 / *	cm³/(m²*d*bar)	DIS 15105-1/-2
Carbon Dioxide transm. rate, 23°C/85%r.h.	170 / *	cm³/(m²*d*bar)	DIS 15105-1/-2

Injection

Drying Recommended	yes[1]	
Drying Temperature	176	°F
Drying Time, Dehumidified Dryer	6 - 10	h
Processing Moisture Content	≤0.1	%
Melt Temperature Optimum	572	°F
Min. melt temperature	536	°F
Max. melt temperature	608	°F
Mold Temperature Optimum	176	°F
Min. mold temperature	158	°F
Max. mold temperature	203	°F
Hold Pressure Time (h is the max. wall thickness of the part in mm)	h²+2	s

[1]: dehumidified dryer, dew point -30°C

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Extrusion

Drying Temperature	≤176	°F
Drying Time, Dehumidified Dryer	6 - 10	h
Processing Moisture Content	≤0.1	%
Melt Temperature Optimum	500	°F
Melt Temperature Range	446 - 536	°F

Blow Molding

Drying Recommended	yes	
Drying Temperature	≤176	°F
Drying Time, Dehumidified Dryer	6 - 10	h
Processing Moisture Content	≤0.1	%
Melt Temperature Optimum	500	°F
Melt Temperature Range	446 - 536	°F

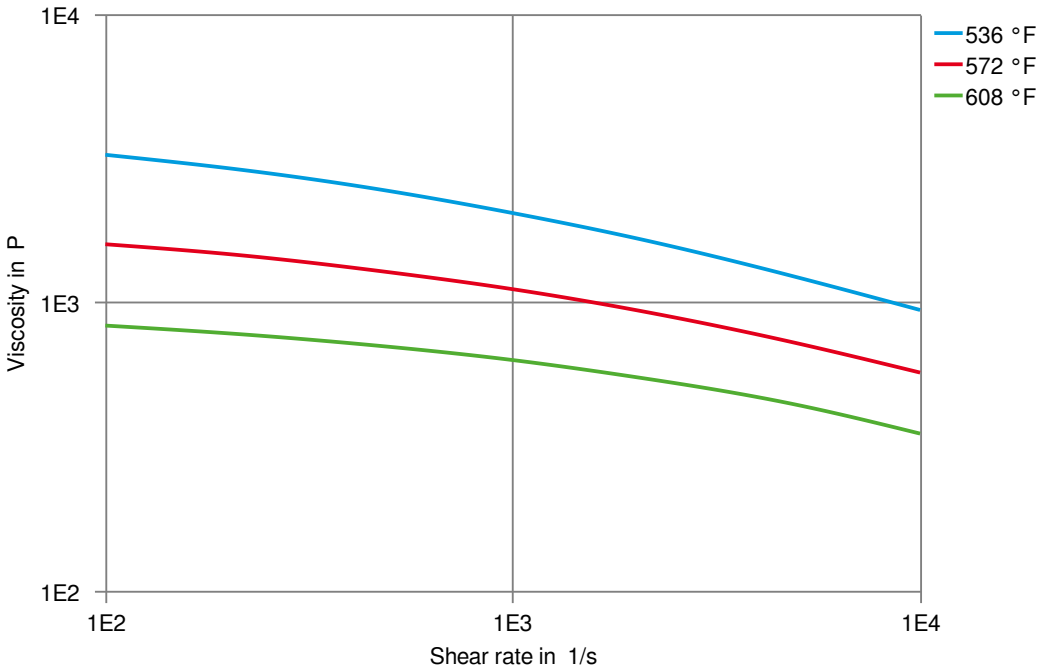
Characteristics

Processing	Injection Molding, Extrusion, Blow Molding
Special characteristics	Transparent, Laser Weldable

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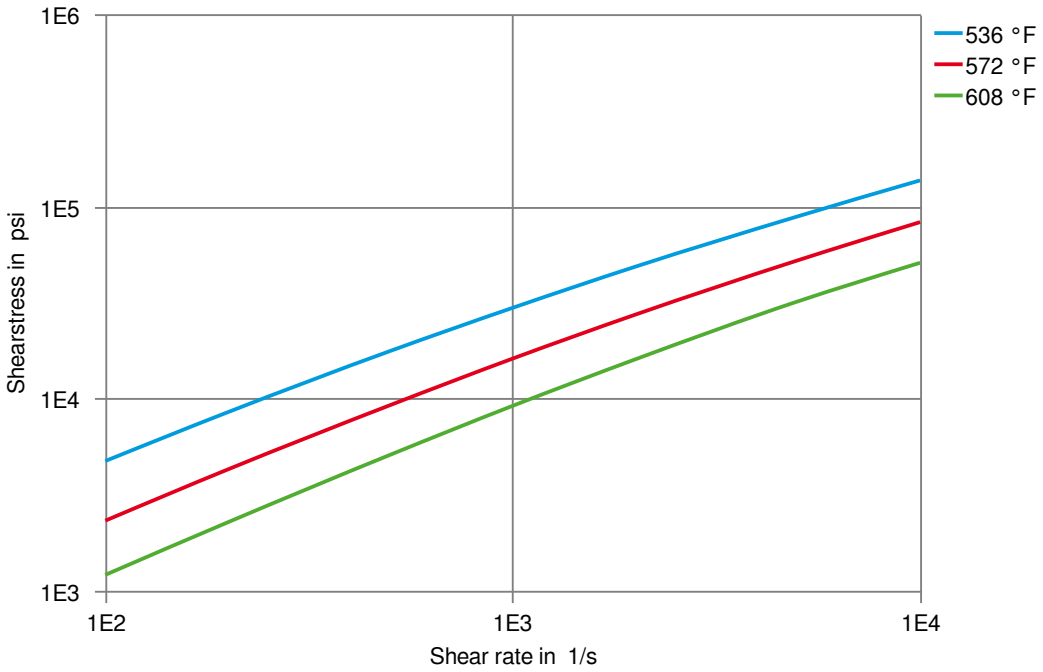
Viscosity-shear rate



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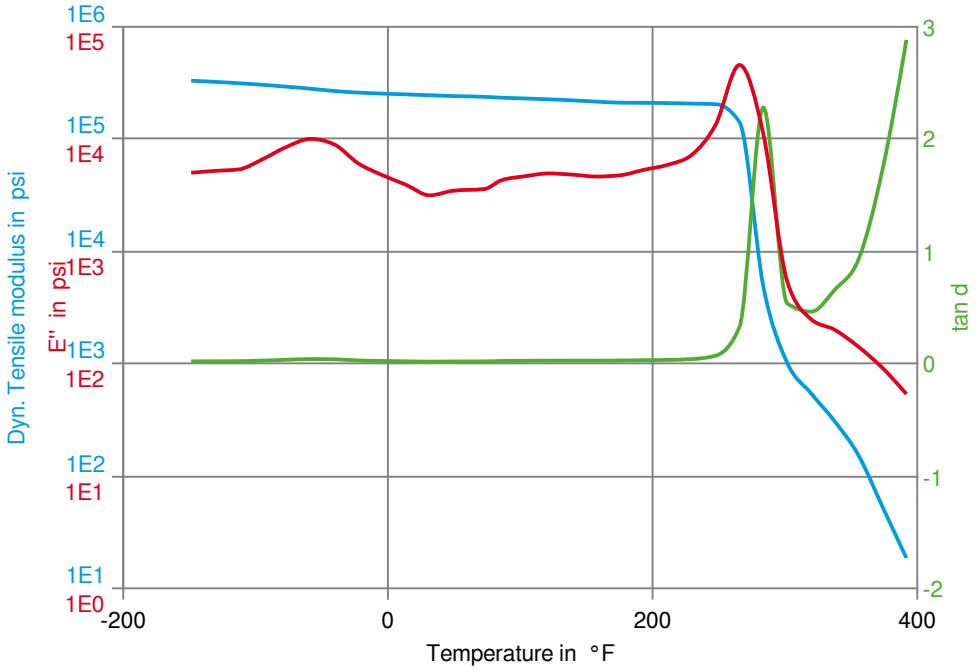
Shearstress-shear rate



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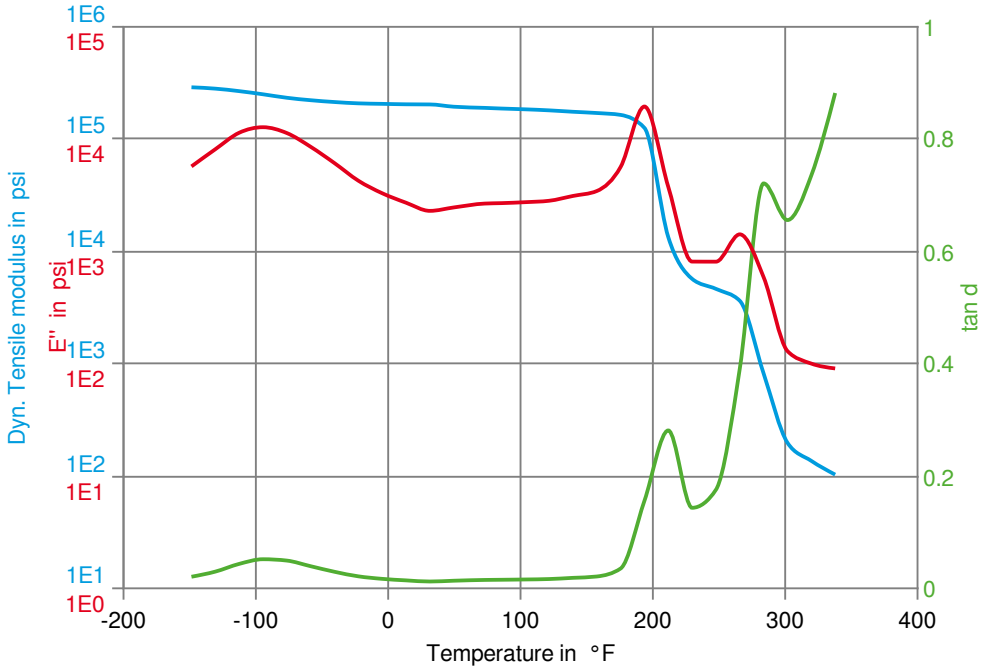
Dynamic Tensile modulus-temperature (dry)



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Dynamic Tensile modulus-temperature (cond.)

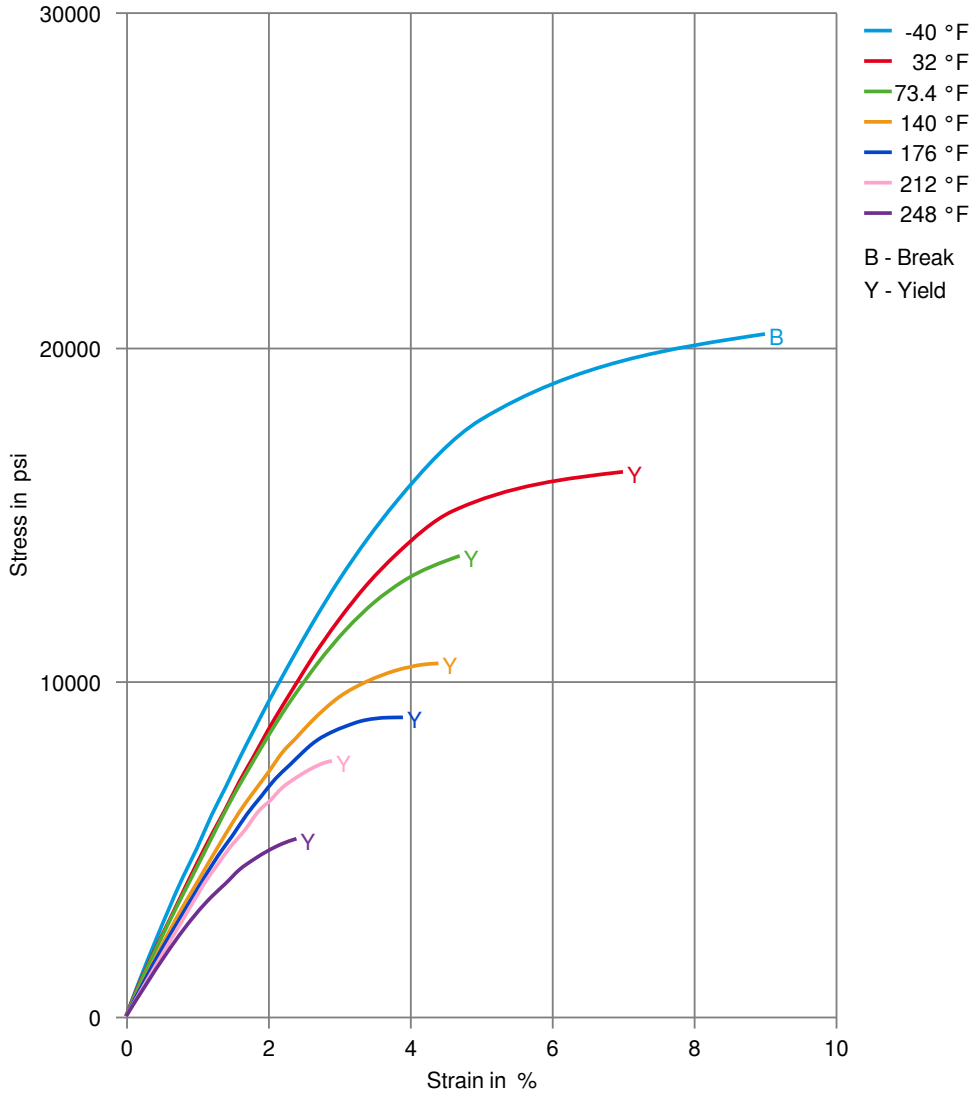


Revised: 2026-02-04 Source: Celanese Materials Database

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Stress-strain (dry)

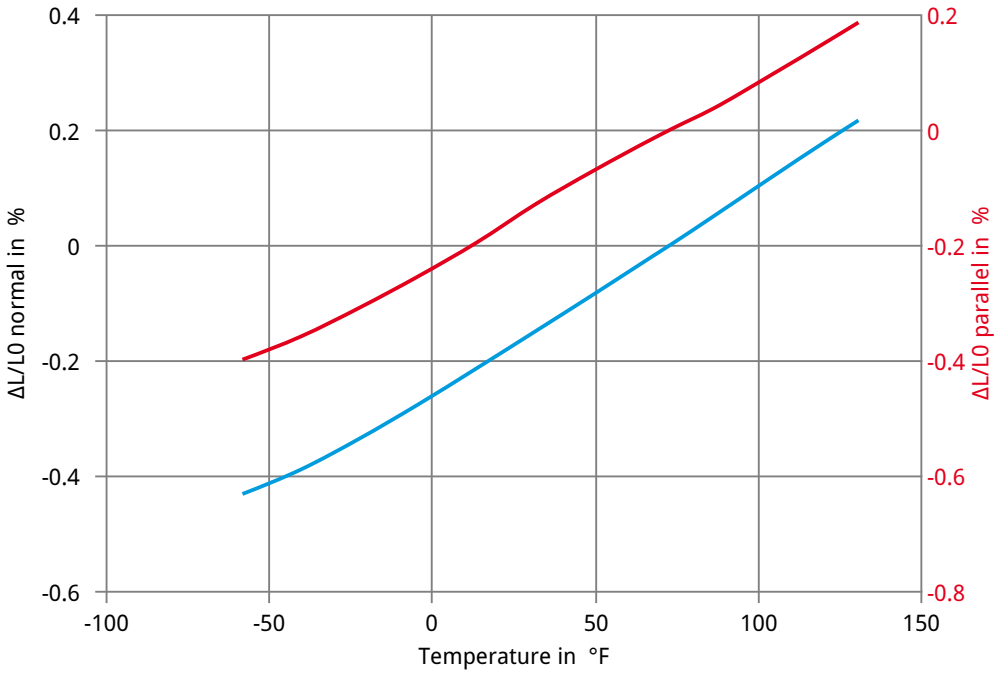


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Thermal expansion



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