Zytel® HTN301 NC010

HIGH PERFORMANCE POLYAMIDE RESIN

Zytel® HTN301 NC010 an amorphous, transparent polyamide resin with good barrier properties to gases, water, solvents and essential oils, developed for molding applications.

Product information

Resin Identification	PA6I/6T	ISO 1043
Part Marking Code	>PA6I/6T<	ISO 11469
Part Marking Code	>PPA<	SAE J1344
ISO designation	ISO 16396-PA,,M1G1NT,S10-030	

Rheological properties

	dry/cond.		
Molding shrinkage, parallel	0.4 / -	%	ISO 294-4, 2577
Molding shrinkage, normal	0.5 / -	%	ISO 294-4, 2577

Typical mechanical properties

	dry/cond.		
Tensile modulus	421000 / -	psi	ISO 527-1/-2
Tensile stress at yield, 50mm/min	15000 / -	psi	ISO 527-1/-2
Tensile strain at yield, 50mm/min	6 / -	%	ISO 527-1/-2
Nominal strain at break	>50 / -	%	ISO 527-1/-2
Charpy impact strength, 23°C	214 / -	ftlb/in²	ISO 179/1eU
Charpy impact strength, -40°C	228 / -	ftlb/in²	ISO 179/1eU
Charpy notched impact strength, 23°C	0.571 / -	ftlb/in²	ISO 179/1eA
Charpy notched impact strength, -40°C	0.523 / -	ftlb/in²	ISO 179/1eA

Thermal properties

	dry/cond.		
Glass transition temperature, 10°C/min	257 / -	°F	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	232 / *	°F	ISO 75-1/-2
Temperature of deflection under load, 0.45 MPa	252 / *	°F	ISO 75-1/-2

Electrical properties

	dry/cond.		
Relative permittivity, 100Hz	4.6 / -		IEC 62631-2-1
Relative permittivity, 1000Hz	4.5 / -		IEC 62631-2-1
Relative permittivity, 1MHz	4.1 / -		IEC 62631-2-1
Dissipation factor, 100Hz	95 / -	E-4	IEC 62631-2-1
Dissipation factor, 1000Hz	160 / -	E-4	IEC 62631-2-1
Dissipation factor, 1MHz	230 / -	E-4	IEC 62631-2-1
Volume resistivity	>1E13 / -	Ohm.m	IEC 62631-3-1
Electric strength	584 / -	kV/in	IEC 60243-1
Electric Strength, Short Time, 1mm	584 / -	V/mil	IEC 60243-1

Physical/Other properties

	dry/cond.		
Density	0.043 / -	lb/in³	ISO 1183

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Injection

Drying Recommended	yes	
Drying Temperature	194	°F
Drying Time, Dehumidified Dryer	4 - 10	h
Processing Moisture Content	≤0.1	%
Melt Temperature Optimum	572	°F
Min. melt temperature	536	°F
Max. melt temperature	590	°F
Mold Temperature Optimum	176	°F
Hold Pressure Time (h is the max. wall thickness of the part in mm)	h^2+2	s

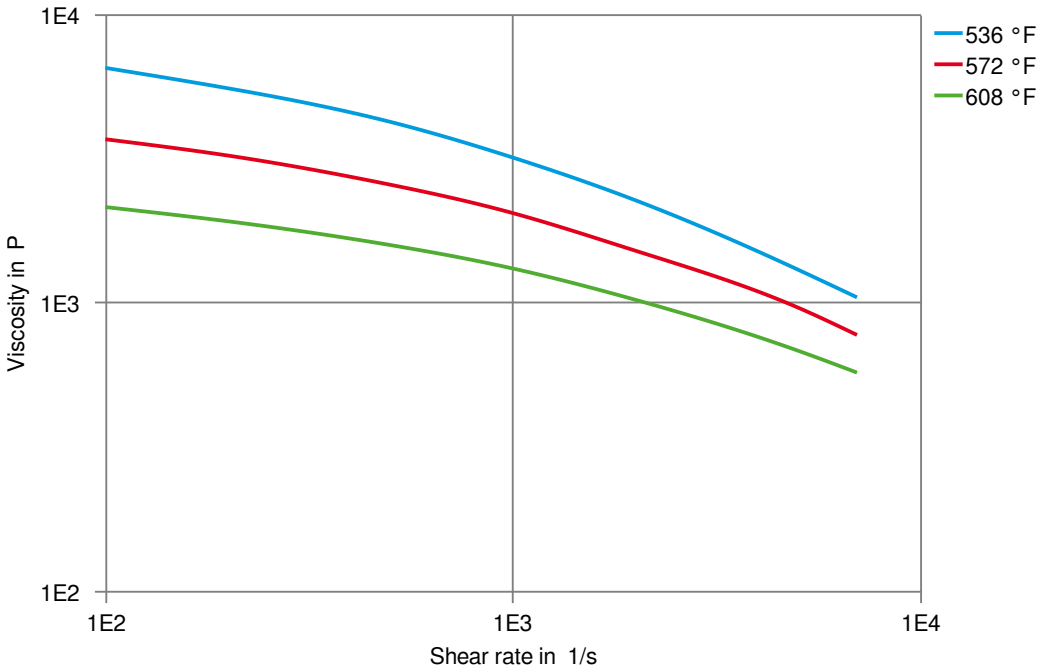
Extrusion

Drying Temperature	167 - 212	°F
Drying Time, Dehumidified Dryer	2 - 6	h
Processing Moisture Content	≤0.05	%
Melt Temperature Optimum	473	°F
Melt Temperature Range	446 - 536	°F

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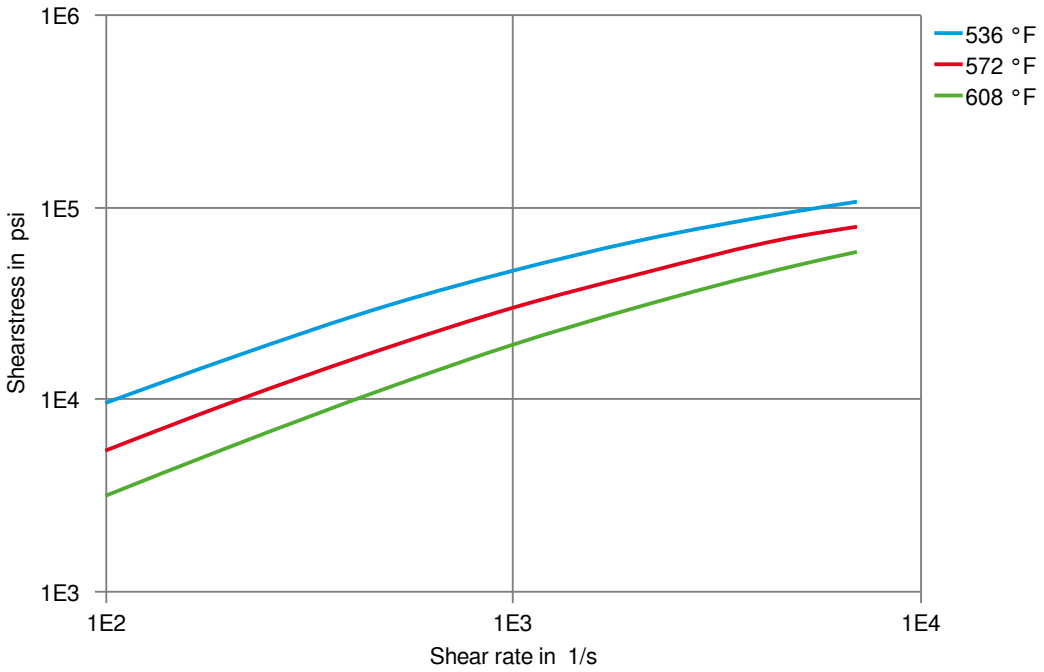
Viscosity-shear rate



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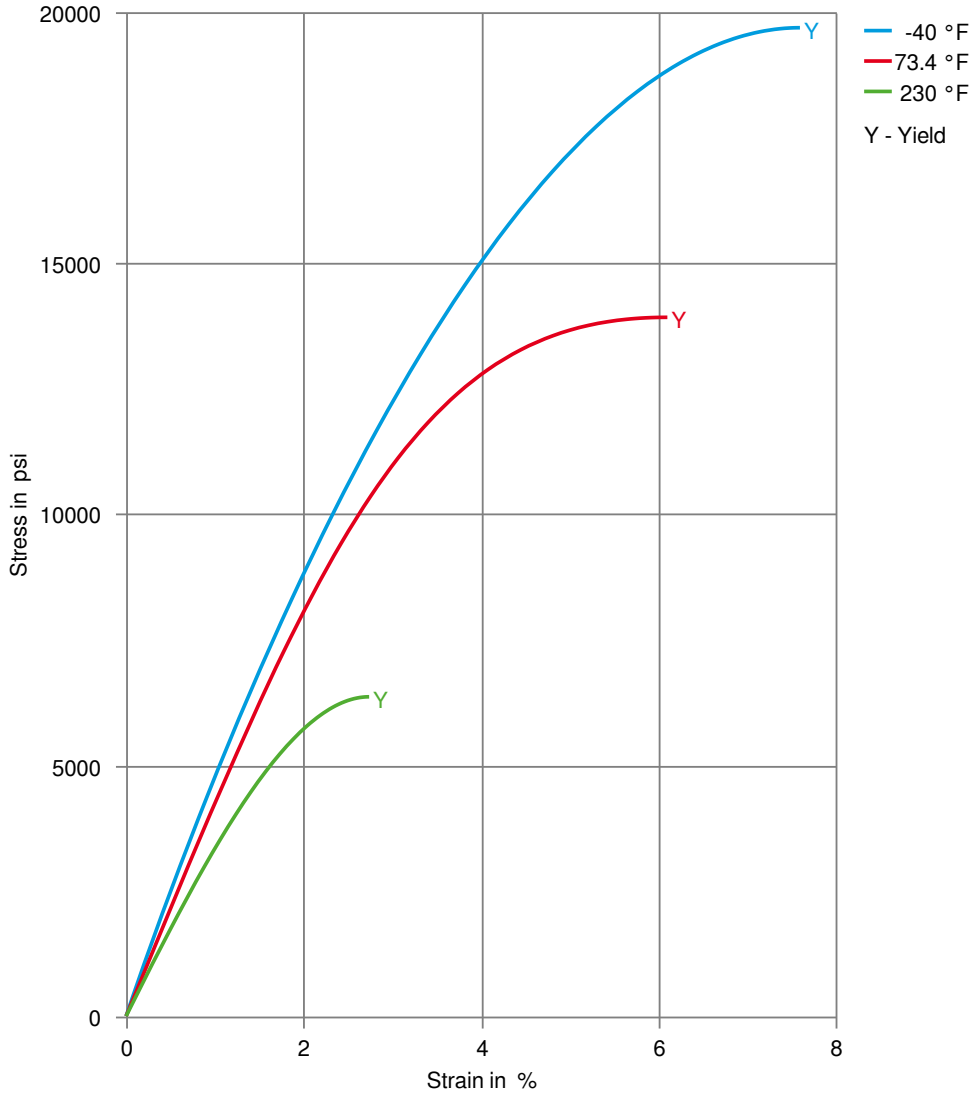
Shearstress-shear rate



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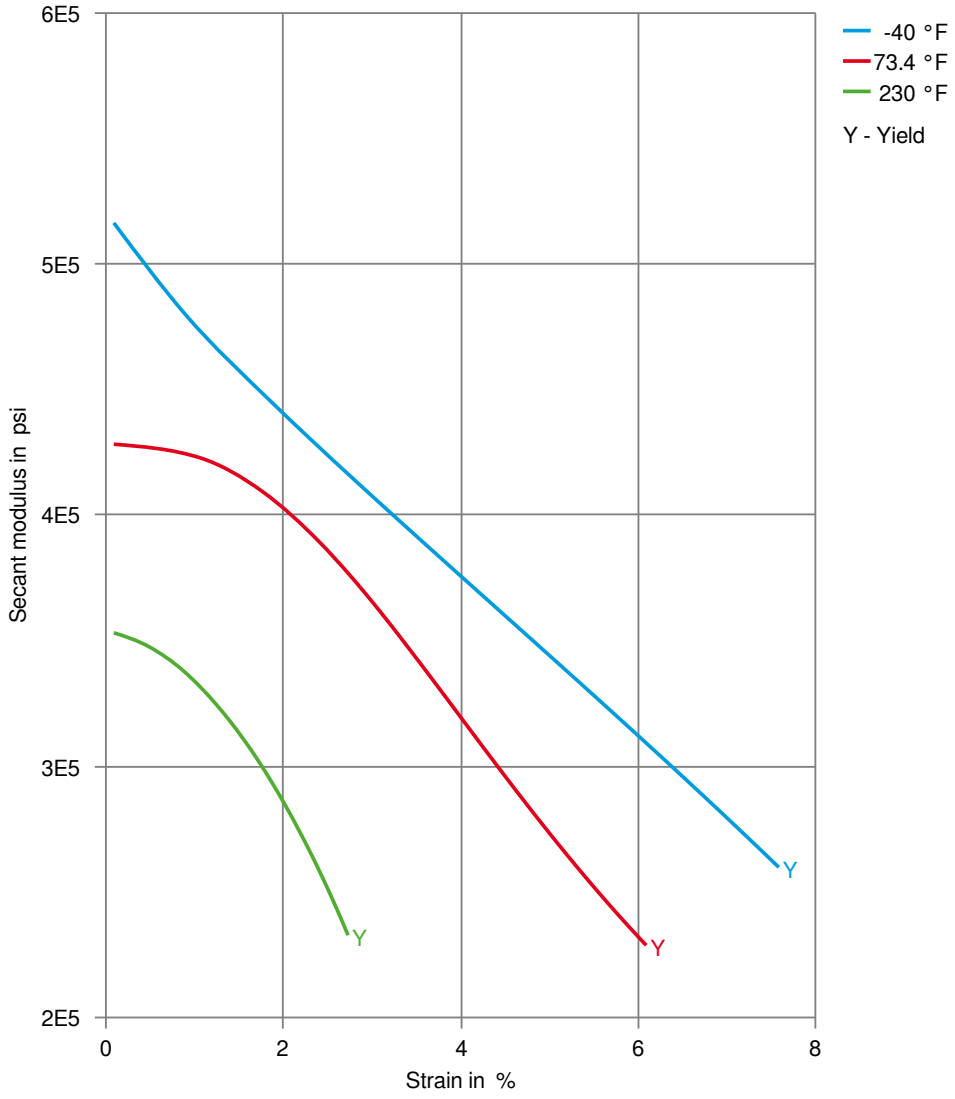
Stress-strain (dry)



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Secant modulus-strain (dry)



Revised: 2026-06-18 Source: Celanese Materials Database

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Chemical Media Resistance

Mineral oils

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

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NOTICE TO USERS: Values shown are based on testing of laboratory test specimens and represent data that fall within the standard range of properties for natural material. These values alone do not represent a sufficient basis for any part design and are not intended for use in establishing maximum, minimum, or ranges of values for specification purposes. Colorants or other additives may cause significant variations in data values. Properties of molded parts can be influenced by a wide variety of factors including, but not limited to, material selection, additives, part design, processing conditions and environmental exposure. Other than those products expressly identified as medical grade (including by MT® product designation or otherwise), Celanese's products are not intended for use in medical or dental implants. Regardless of any such product designation, any determination of the suitability of a particular material and part design for any use contemplated by the users and the manner of such use is the sole responsibility of the users, who must assure themselves that the material as subsequently processed meets the needs of their particular product or use. To the best of our knowledge, the information contained in this publication is accurate; however, we do not assume any liability whatsoever for the accuracy and completeness of such information. The information contained in this publication should not be construed as a promise or guarantee of specific properties of our products. It is the sole responsibility of the users to investigate whether any existing patents are infringed by the use of the materials mentioned in this publication. Moreover, there is a need to reduce human exposure to many materials to the lowest practical limits in view of possible adverse effects. To the extent that any hazards may have been mentioned in this publication, we neither suggest nor guarantee that such hazards are the only ones that exist. We recommend that persons intending to rely on any recommendation or to use any equipment, processing technique or material mentioned in this publication should satisfy themselves that they can meet all applicable safety and health standards. We strongly recommend that users seek and adhere to the manufacturer's current instructions for handling each material they use, and entrust the handling of such material to adequately trained personnel only. Please call the telephone numbers listed for additional technical information. Call Customer Services for the appropriate Materials Safety Data Sheets (MSDS) before attempting to process our products.
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