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Zytel® HTNFG301 NC010

ZYTEL®

Zytel® HTNFG301 NC010 an amorphous, transparent polyamide resin with good barrier properties to gases, water, solvents and essential oils, developed for food contact applications.

Product information

Resin Identification	PA	ISO 1043
Part Marking Code	>PA<	ISO 11469
Part Marking Code	>PPA<	SAE J1344
ISO designation	ISO 16396-PA*,,M1G1N,S10-030	

Rheological properties

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

Typical mechanical properties

	dry/cond.		
Tensile modulus	2900 / -	MPa	ISO 527-1/-2
Tensile stress at yield, 50mm/min	100 / -	MPa	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	450 / -	kJ/m²	ISO 179/1eU
Charpy impact strength, -40°C	480 / -	kJ/m²	ISO 179/1eU
Charpy notched impact strength, 23°C	1.2 / -	kJ/m²	ISO 179/1eA
Charpy notched impact strength, -40°C	1.1 / -	kJ/m²	ISO 179/1eA
Poisson's ratio	0.37 / -		

Thermal properties

	dry/cond.		
Glass transition temperature, 10°C/min	120 / -	°C	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	110 / *	°C	ISO 75-1/-2
Temperature of deflection under load, 0.45 MPa	120 / *	°C	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	130 / -	E-4	IEC 62631-2-1
Volume resistivity	1E13 / -	Ohm.m	IEC 62631-3-1
Volume resistivity	1E15 / -	Ohm.cm	ASTM D 257
Surface resistivity	1E15 / -	Ohm per square	ASTM D 257
Electric strength	23 / -	kV/mm	IEC 60243-1
Dielectric Constant, 1 MHz	4.1 / -		ASTM D 150
Dielectric Constant, 100 Hz	4.6 / -		ASTM D 150
Dielectric Constant, 1000 Hz	4.5 / -		ASTM D 150
Dissipation Factor, 1 MHz	230 / -	E-4	ASTM D 150
Dissipation Factor, 100 Hz	95 / -	E-4	ASTM D 150

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Dissipation Factor, 1000 Hz	160 / -	E-4	ASTM D 150

Physical/Other properties

	dry/cond.		
Density	1190 / -	kg/m³	ISO 1183

Injection

Drying Recommended	yes	
Drying Temperature	90	°C
Drying Time, Dehumidified Dryer	4 - 10	h
Processing Moisture Content	≤0.1	%
Melt Temperature Optimum	300	°C
Min. melt temperature	280	°C
Max. melt temperature	310	°C
Mold Temperature Optimum	80	°C

Extrusion

Drying Temperature	75 - 80	°C
Drying Time, Dehumidified Dryer	2 - 4	h
Processing Moisture Content	≤0.1	%
Melt Temperature Range	230 - 280	°C

Characteristics

Processing	Injection Moulding

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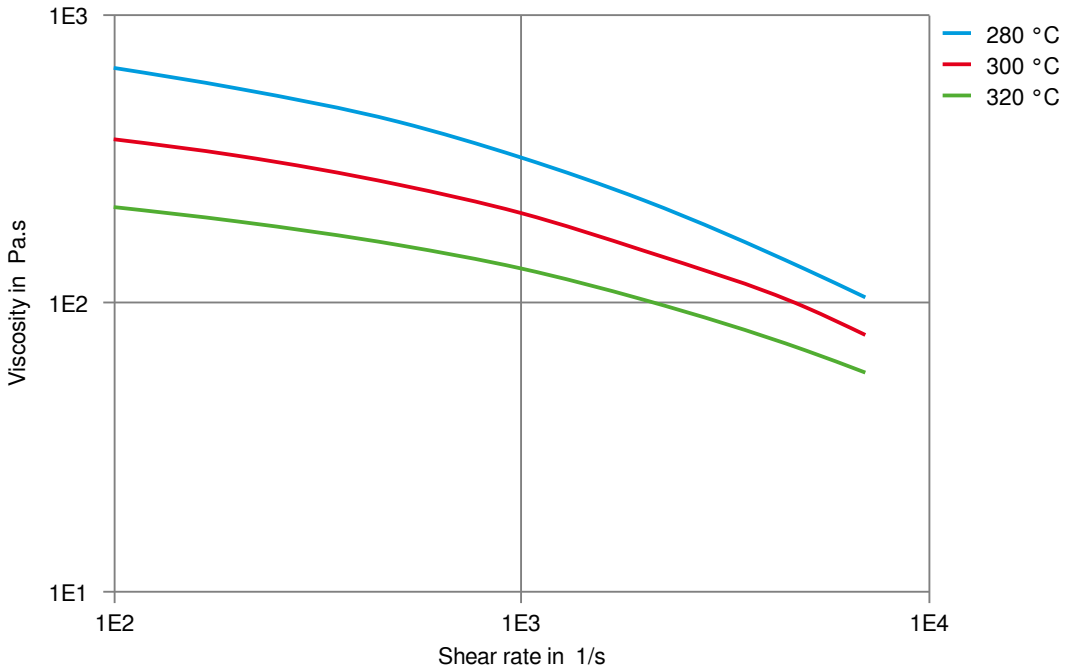
Viscosity-shear rate
(measured on Zytel® HTN301 NC010)



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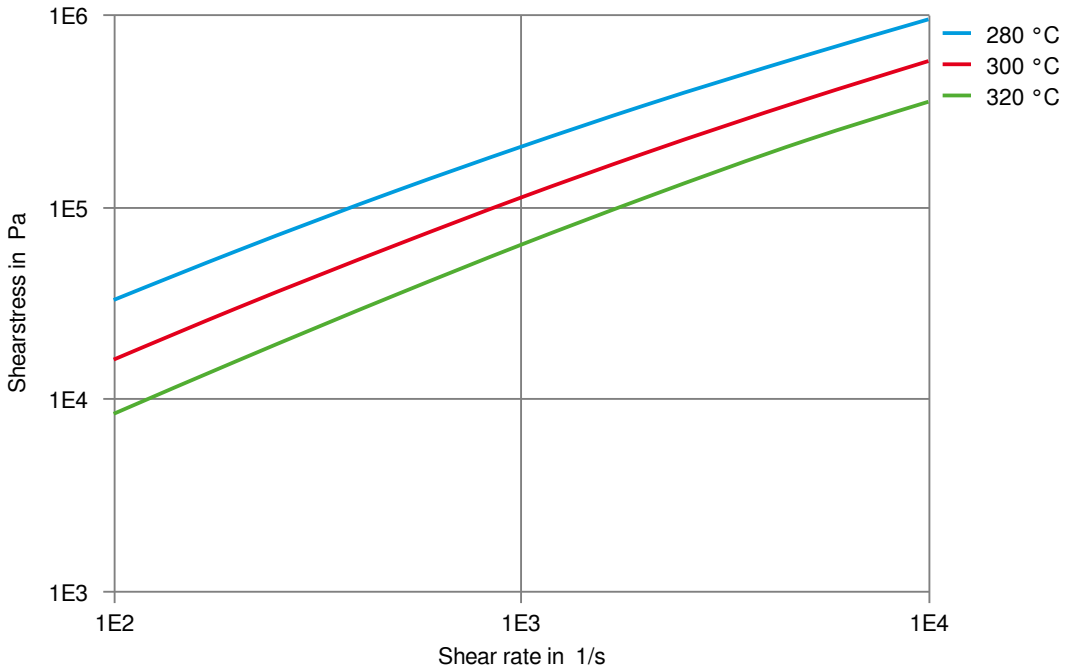
Shearstress-shear rate
(measured on Zytel® HTN301 NC010)



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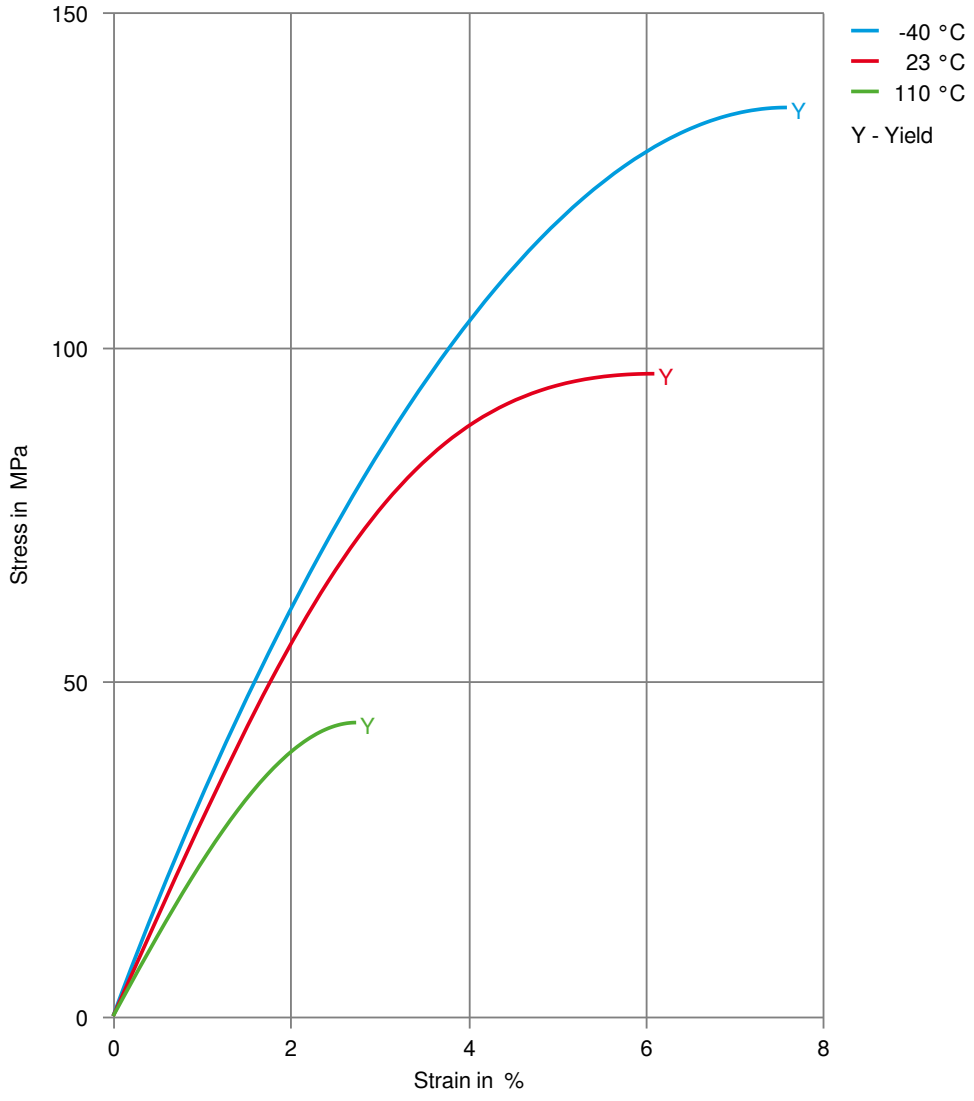
Stress-strain (dry)



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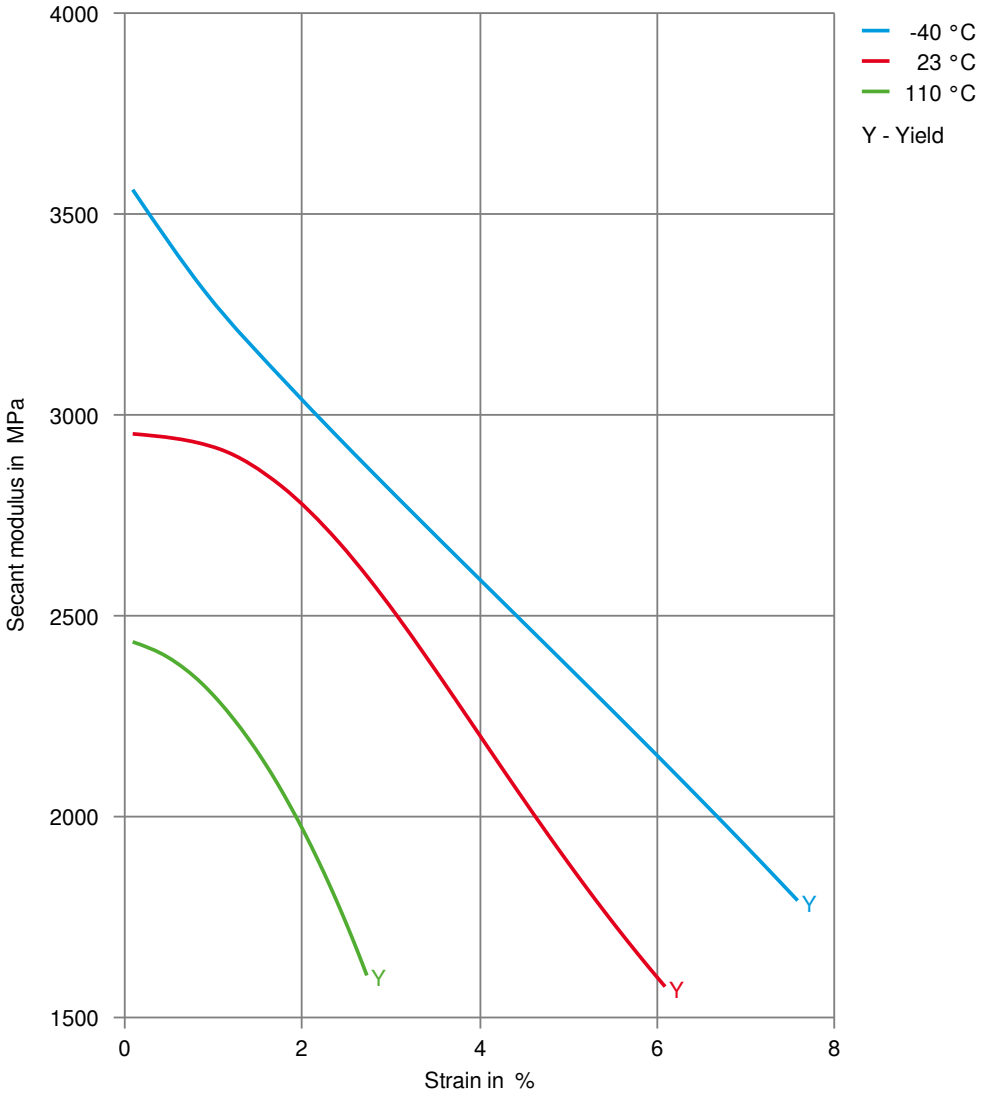
Secant modulus-strain (dry)



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True stress-strain (dry)