Zytel® HTNFR53G50NH BK337

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® HTNFR53G50NH BK337 is a 50% glass reinforced, flame retardarded high performance polyamide resin for structural applications. It uses a non-halogenated flame retardant.

Product information

Resin Identification	PA-GF50 FR(40)		ISO 1043
Part Marking Code	>PA-GF50 FR(40)<		ISO 11469
Part Marking Code	>PPA-GF50 FR(40)<		SAE J1344

Rheological properties

	dry/cond.		
Molding shrinkage, parallel	0.2 / -	%	ISO 294-4, 2577
Molding shrinkage, normal	0.5 / -	%	ISO 294-4, 2577

Typical mechanical properties

	dry/cond.		
Tensile modulus	2.57E6 / -	psi	ISO 527-1/-2
Tensile stress at break, 5mm/min	28300 / -	psi	ISO 527-1/-2
Tensile strain at break, 5mm/min	2.5 / -	%	ISO 527-1/-2
Flexural modulus	2.49E6 / -	psi	ISO 178
Flexural strength	45500 / -	psi	ISO 178
Charpy impact strength, 23°C	34.3 / -	ftlb/in²	ISO 179/1eU
Charpy impact strength, -40°C	34.7 / -	ftlb/in²	ISO 179/1eU
Charpy notched impact strength, 23°C	5.71 / -	ftlb/in²	ISO 179/1eA
Charpy notched impact strength, -40°C	5.71 / -	ftlb/in²	ISO 179/1eA

Thermal properties

	dry/cond.		
Melting temperature, 10°C/min	496 / *	°F	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	457 / *	°F	ISO 75-1/-2
Coefficient of linear thermal expansion (CLTE), parallel	0.08 / *	E-4/°F	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), parallel, -40-23°C	0.05 / *	E-4/°F	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), parallel, 55-160°C	0.0722 / *	E-4/°F	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), normal	0.239 / *	E-4/°F	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), normal, -40-23°C	0.172 / *	E-4/°F	ISO 11359-1/-2

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Coefficient of linear thermal expansion (CLTE), normal, 55-160 °C	0.467 / *	E-4/°F	ISO 11359-1/-2

Flammability

	dry/cond.		
Burning Behav. at 1.5mm nom. thickn.	V-0 / *	class	IEC 60695-11-10

Electrical properties

	dry/cond.		
Volume resistivity	>1E13 / -	Ohm.m	IEC 62631-3-1
Electric strength	787 / -	kV/in	IEC 60243-1
Comparative tracking index	600 / -		IEC 60112

Physical/Other properties

	dry/cond.		
Humidity absorption, 2mm	1.4 / *	%	Sim. to ISO 62
Density	0.0592 / -	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	554	°F
Min. melt temperature	536	°F
Max. melt temperature	572	°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

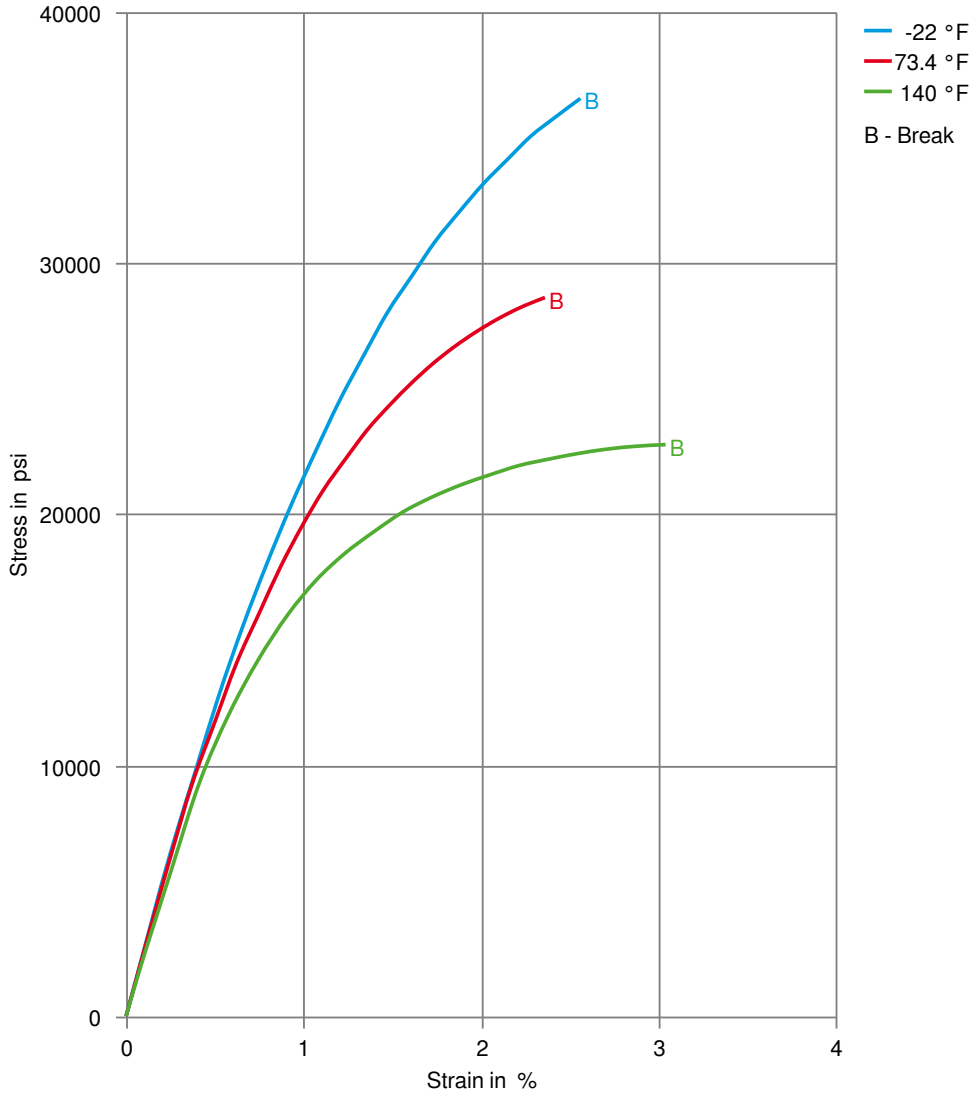
Characteristics

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

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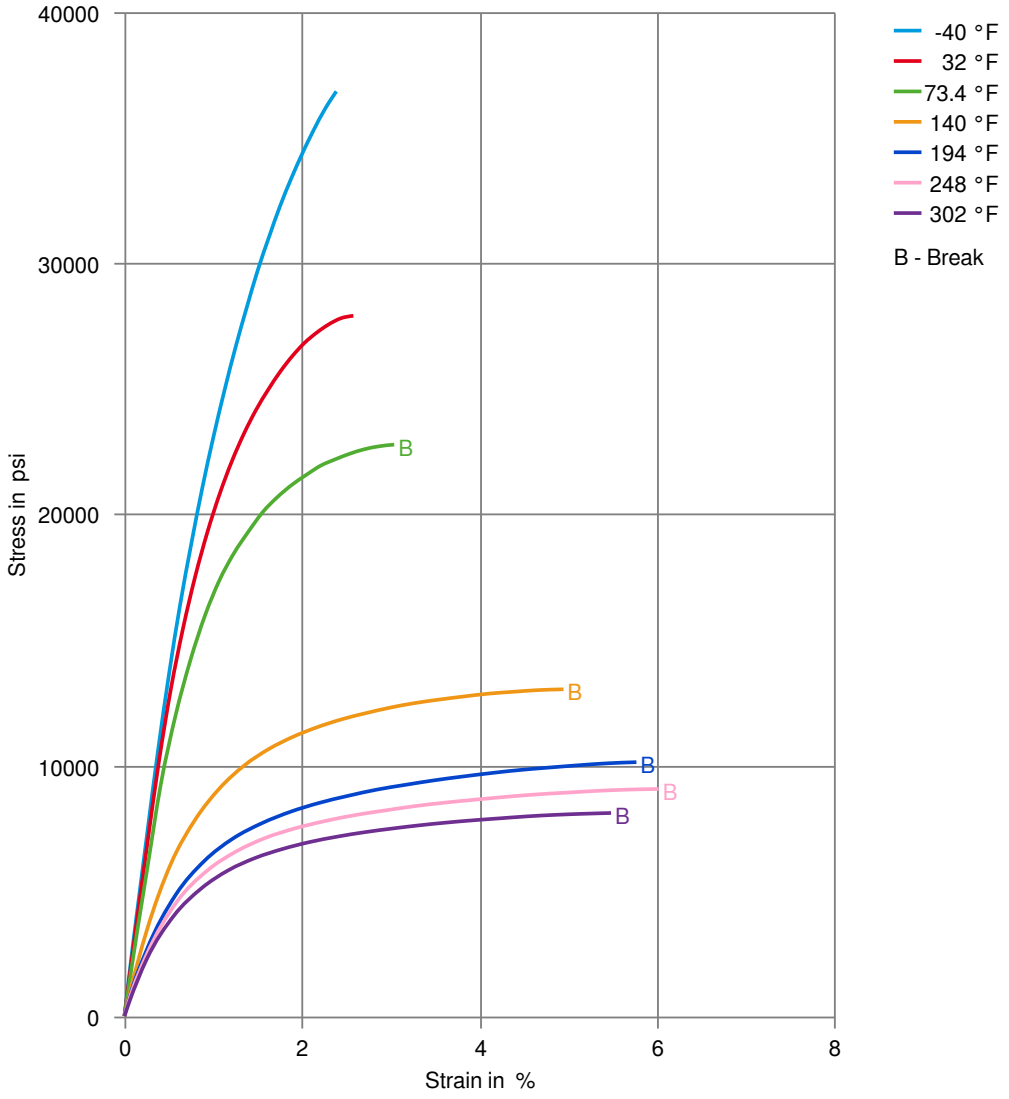
Stress-strain (dry)



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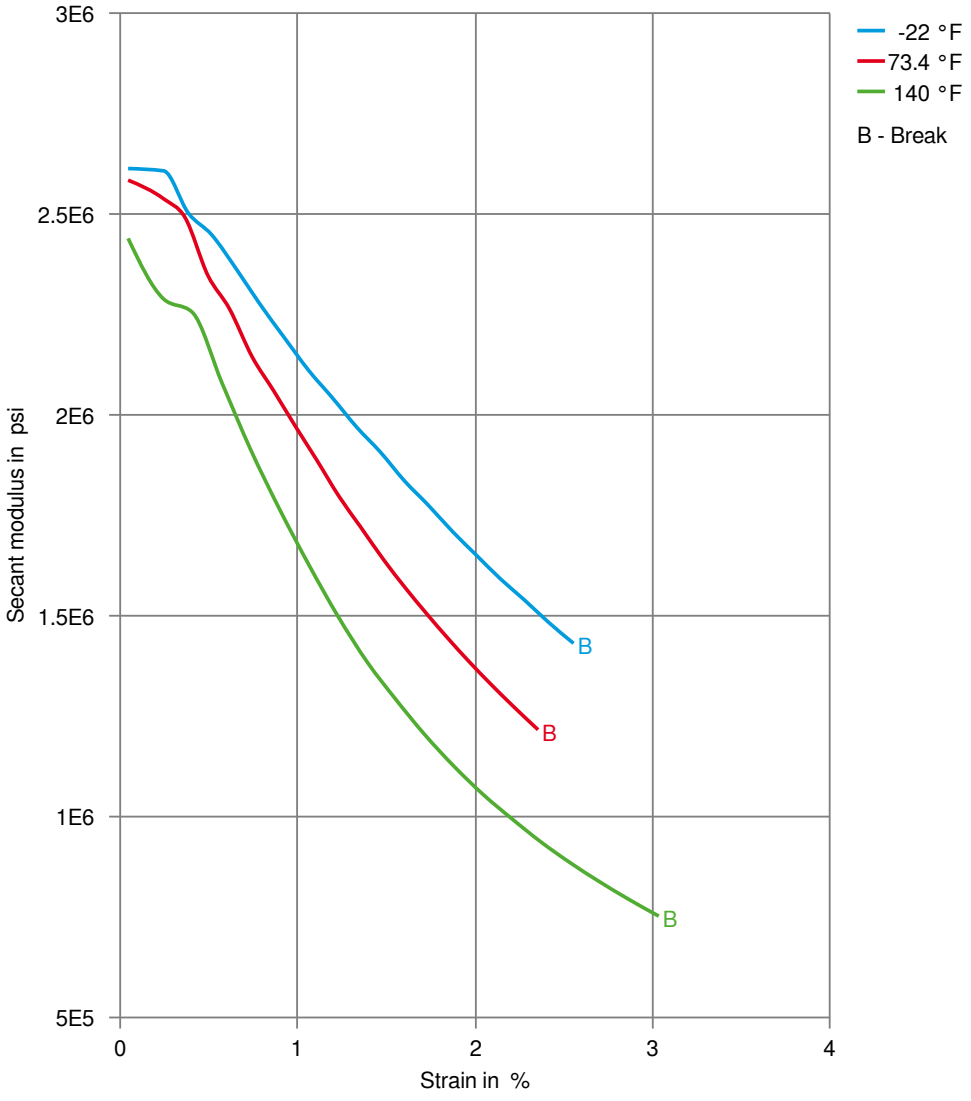
Stress-strain (cond.)



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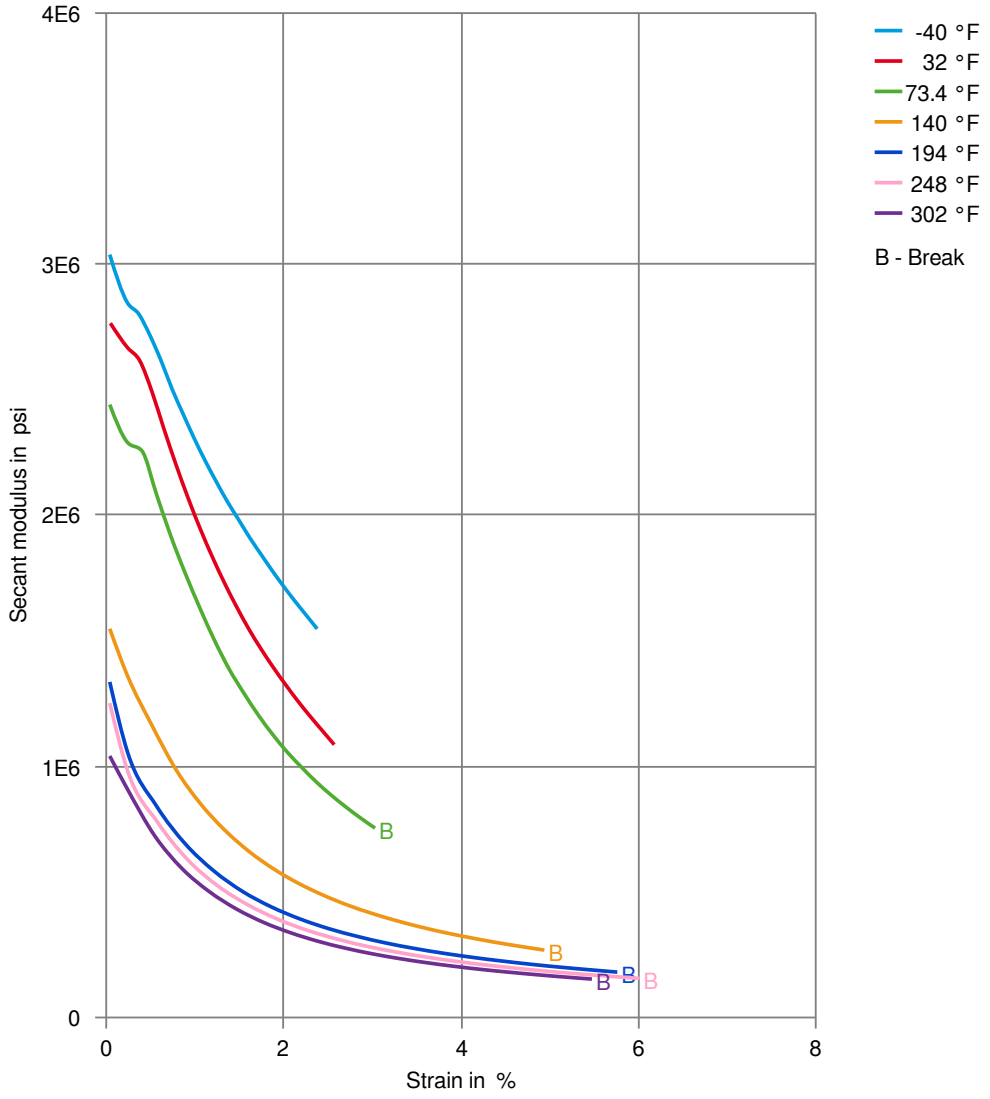
Secant modulus-strain (dry)



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Secant modulus-strain (cond.)



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

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