

Zytel® HTN53G60LRHF BK083

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® HTN53G60LRHF BK083 is a 60% glass reinforced, lubricated, high performance polyamide resin with improved flow. It was developed for structural applications requiring excellent surface appearance using water-heated molds.

Product information

Resin Identification	PA-GF60	ISO 1043
Part Marking Code	>PA-GF60<	ISO 11469
Part Marking Code	>PA-GF60<	SAE J1344
ISO designation	ISO 16396-PA,GF60,M1CGHR,S10-220	

Rheological properties

	dry/cond.		
Moulding shrinkage, parallel	0.1 / -	%	ISO 294-4, 2577
Moulding shrinkage, normal	0.5 / -	%	ISO 294-4, 2577

Typical mechanical properties

	dry/cond.		
Tensile Modulus	21000 / 20000	MPa	ISO 527-1/-2
Stress at break, 5mm/min	260 / 220	MPa	ISO 527-1/-2
Strain at break, 5mm/min	2.2 / 2.6	%	ISO 527-1/-2
Flexural Modulus	19000 / -	MPa	ISO 178
Flexural Strength	400 / -	MPa	ISO 178
Charpy impact strength, 23°C	90 / 90	kJ/m ²	ISO 179/1eU
Charpy notched impact strength, 23°C	16 / 15	kJ/m ²	ISO 179/1eA
Charpy notched impact strength, -30°C	17 / 15	kJ/m ²	ISO 179/1eA
Poisson's ratio	0.33 / 0.33		

Thermal properties

	dry/cond.		
Melting temperature, first heat	260 / *	°C	ISO 11357-1/-3
Glass transition temperature, 10°C/min	85 / 45	°C	ISO 11357-1/-3
Temp. of deflection under load, 1.8 MPa	240 / *	°C	ISO 75-1/-2
Temp. of deflection under load, 0.45 MPa	260 / *	°C	ISO 75-1/-2

Flammability

	dry/cond.		
Burning Behav. at 1.5mm nom. thickn.	HB / *	class	UL 94
Thickness tested	1.5 / *	mm	UL 94
UL recognition	yes / *		UL 94
FMVSS Class	B		ISO 3795 (FMVSS 302)
Burning rate, Thickness 1 mm	<80	mm/min	ISO 3795 (FMVSS 302)



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Other properties

	dry/cond.		
Humidity absorption, 2mm	0.95 / *	%	Sim. to ISO 62
Water absorption, 2mm	3.4 / *	%	Sim. to ISO 62
Density	1720 / -	kg/m ³	ISO 1183

Injection

Drying Recommended	yes	
Drying Temperature	100 °C	
Drying Time, Dehumidified Dryer	6 - 8 h	
Processing Moisture Content	≤0.1 %	
Melt Temperature Optimum	290 °C	Internal
Min. melt temperature	280 °C	
Max. melt temperature	300 °C	
Min. mould temperature	90 °C	
Max. mould temperature	110 °C	

Characteristics

Additives	Release agent
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Additional information

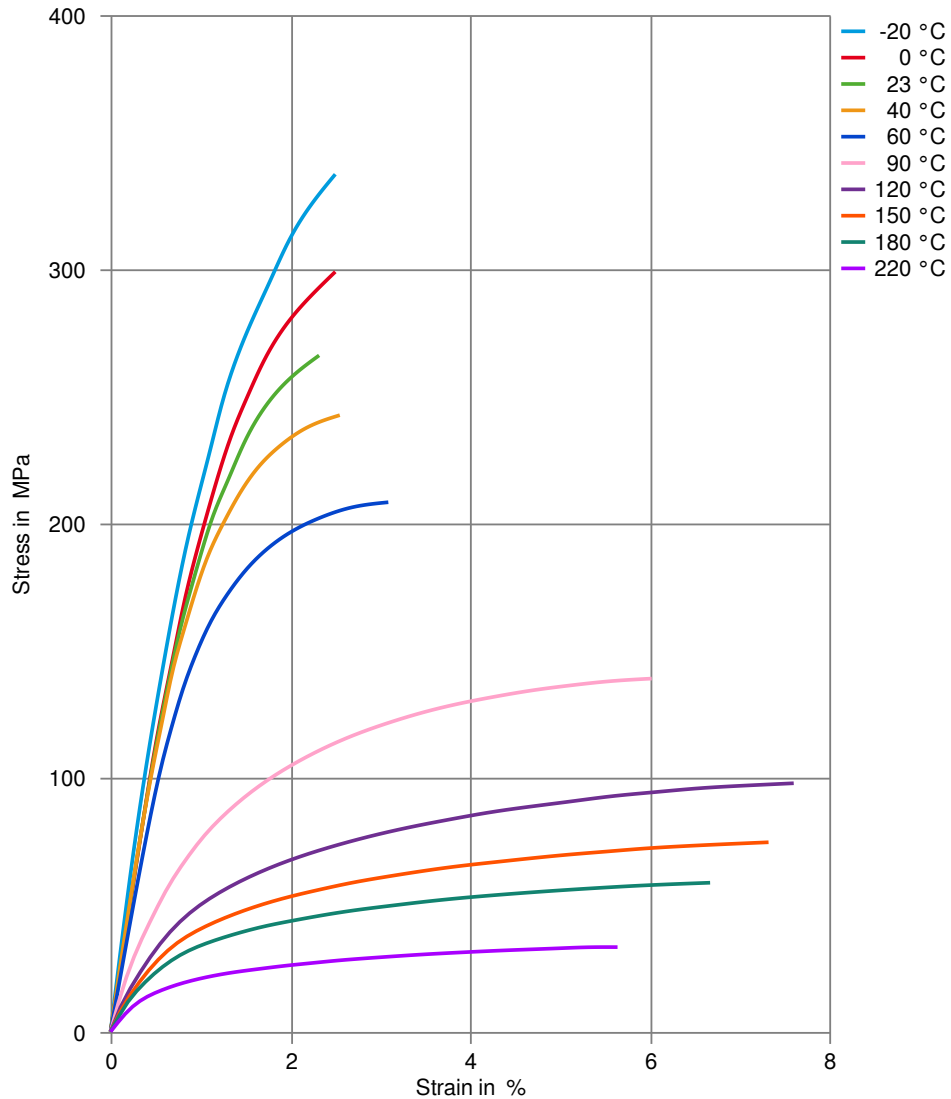
Injection molding	During molding, use proper protective equipment and adequate ventilation. Avoid exposure to fumes and limit the hold up time and temperature of the resin in the machine. Purge degraded resin carefully with HDPE.
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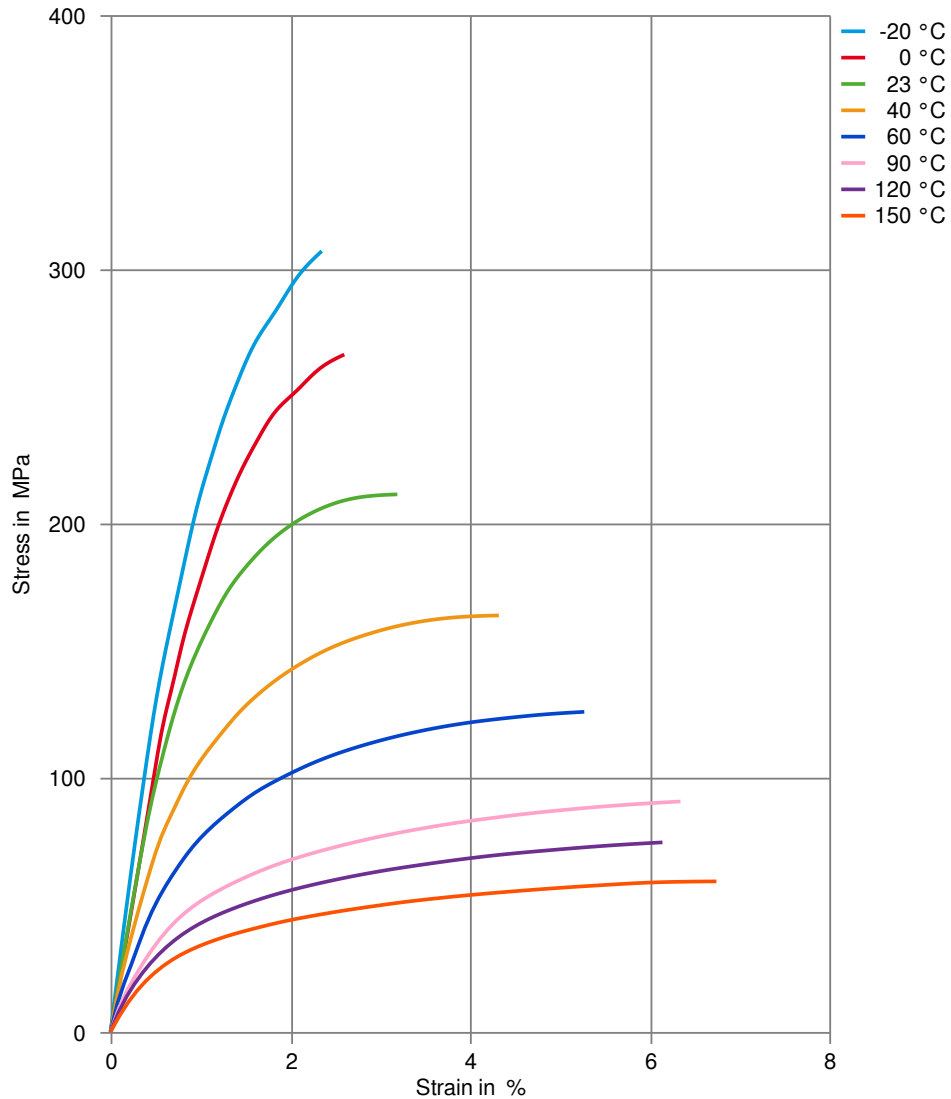
Stress-strain (dry)



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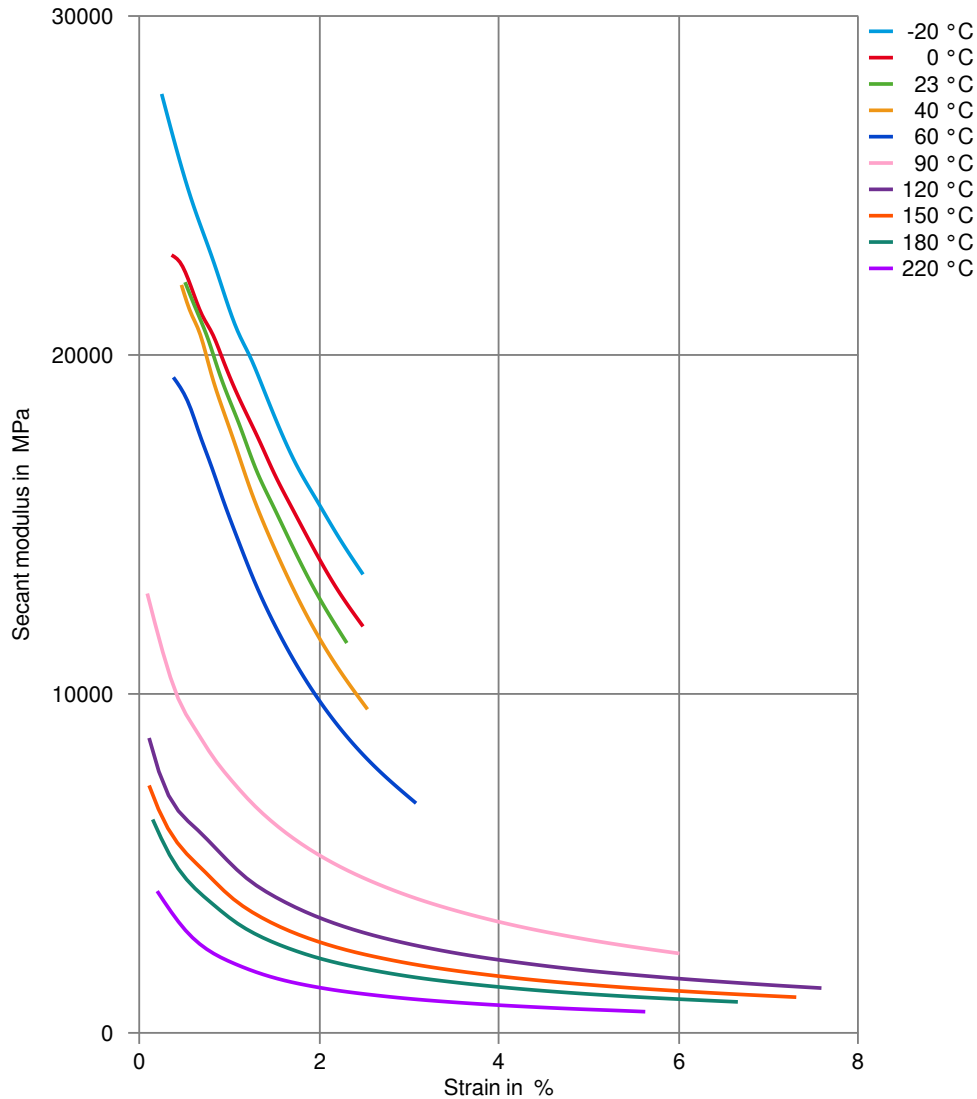
Stress-strain (cond.)



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Secant modulus-strain (dry)



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Secant modulus-strain (cond.)

