

Zytel® HTNWRF51G30 NC010 (PRELIMINARY)

HIGH PERFORMANCE POLYAMIDE RESIN

Zytel® HTNWRF51G30 NC010 is a 30% Glass Reinforced, PPA, Teflon® Lubricated, High Performance Polyamide with Low Wear and Low Friction

Product information

Resin Identification	PA6T/XT-GF30SD	ISO 1043
Part Marking Code	>PA6T/XT-GF30SD<	ISO 11469
ISO designation	ISO 16396-PA6T/XT,GF30,M1GHNRS,S10-100	

Rheological properties

	dry/cond.		
Moulding shrinkage, parallel	0.2 / -	%	ISO 294-4, 2577
Moulding shrinkage, normal	0.7 / -	%	ISO 294-4, 2577

Typical mechanical properties

	dry/cond.		
Tensile Modulus	10000 / 10000	MPa	ISO 527-1/-2
Stress at break, 5mm/min	190 / 170	MPa	ISO 527-1/-2
Strain at break, 5mm/min	2.6 / 2.2	%	ISO 527-1/-2
Flexural Modulus	9300 / -	MPa	ISO 178
Charpy impact strength, 23°C	65 / -	kJ/m ²	ISO 179/1eU
Charpy notched impact strength, 23°C	11 / -	kJ/m ²	ISO 179/1eA
Charpy notched impact strength, -30°C	9 / -	kJ/m ²	ISO 179/1eA
Poisson's ratio	0.34 / 0.34		

Tribological properties

	dry/cond.	
Coefficient of sliding friction, 1h against steel	- / 0.25	ASTM 1894

Thermal properties

	dry/cond.		
Melting temperature, 10°C/min	300 / *	°C	ISO 11357-1/-3
Glass transition temperature, 10°C/min	140 / 90	°C	ISO 11357-1/-3
Temp. of deflection under load, 1.8 MPa	260 / *	°C	ISO 75-1/-2
Coeff. of linear therm. expansion, parallel, -40-23°C	16 / *	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, parallel	15 / *	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal, -40-23°C	53 / *	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal	60 / *	E-6/K	ISO 11359-1/-2
Thermal conductivity of melt	0.23	W/(m K)	Internal
Spec. heat capacity of melt	1740	J/(kg K)	Internal
TGA curve	available		ISO 11359-1/-2



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Flammability

FMVSS Class	DNI	ISO 3795 (FMVSS 302)
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Electrical properties

	dry/cond.	
Comparative tracking index	550/-	IEC 60112

Other properties

	dry/cond.	
Density	1560/-	kg/m ³
Density of melt	1350	kg/m ³
		ISO 1183 Internal

Injection

Drying Recommended	yes	
Drying Temperature	100 °C	
Drying Time, Dehumidified Dryer	6 - 8 h	
Processing Moisture Content	≤0.1 %	
Melt Temperature Optimum	325 °C	Internal
Min. melt temperature	320 °C	
Max. melt temperature	330 °C	
Mold Temperature Optimum	150 °C	
Min. mould temperature	140 °C	
Max. mould temperature	180 °C	

Characteristics

Additives	Release agent
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Additional information

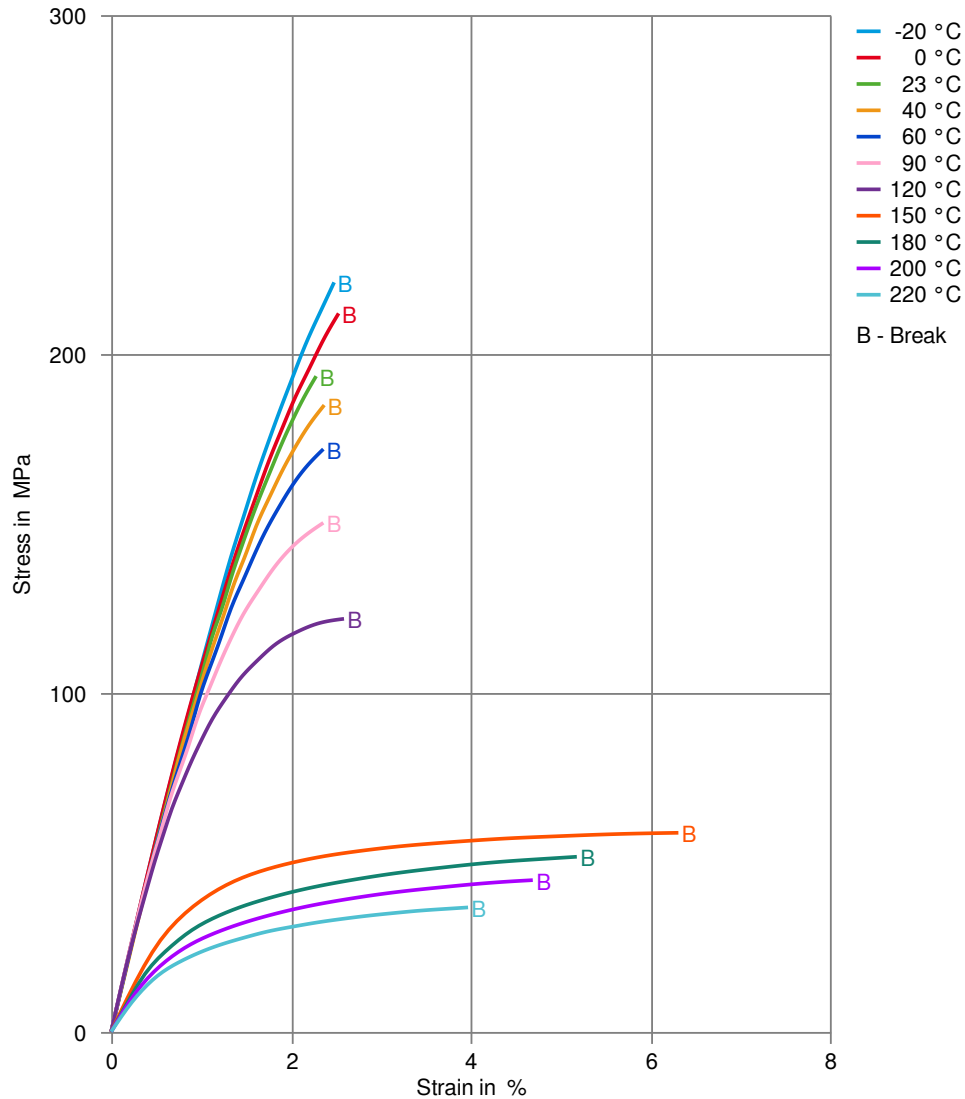
Injection molding	During molding, use proper protective equipment and adequate ventilation. Avoid exposure to fumes and limit the hold up time and temperature of the resin in the machine. Purge degraded resin carefully with HDPE. When lower mold temperatures are used, the initial warpage and shrinkage may be lower, but the surface appearance and chemical resistance may be reduced, and the dimensional change may be greater when parts are subsequently heated.
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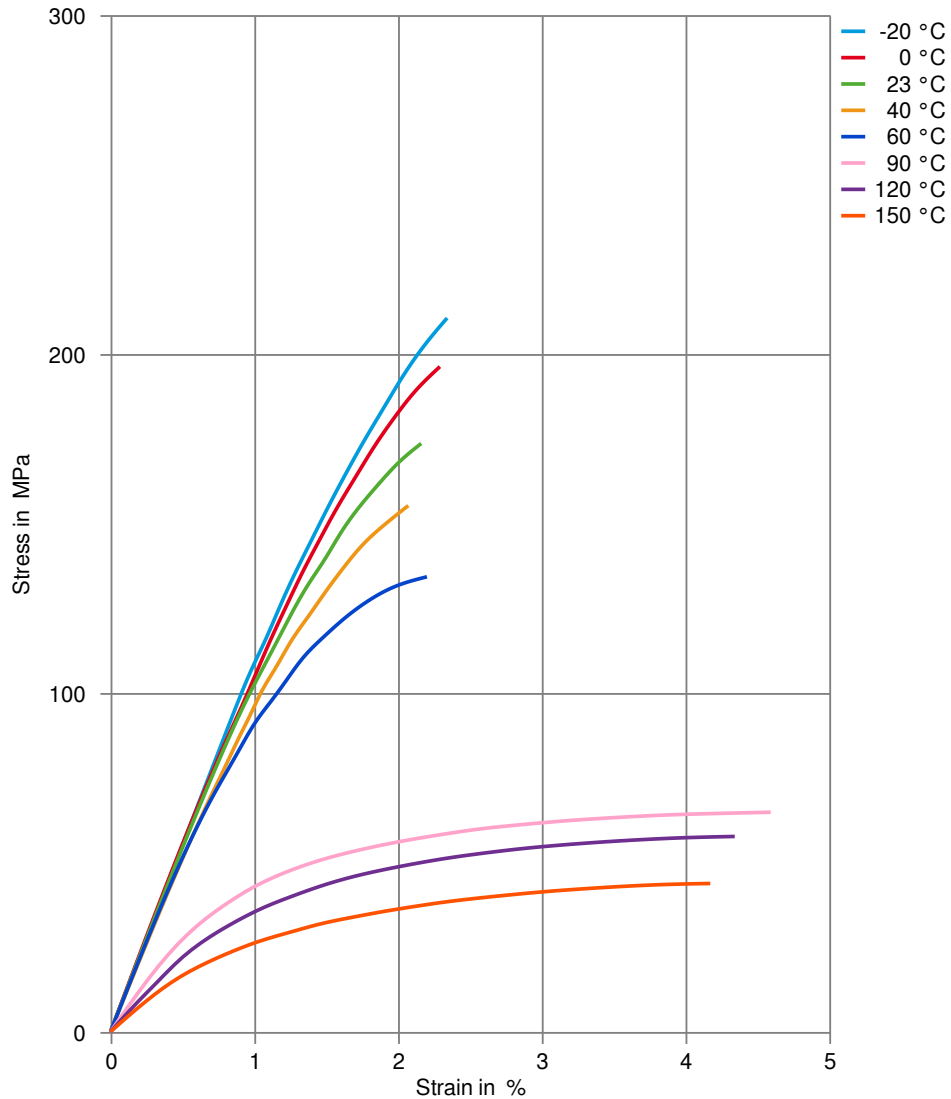
Stress-strain (dry)



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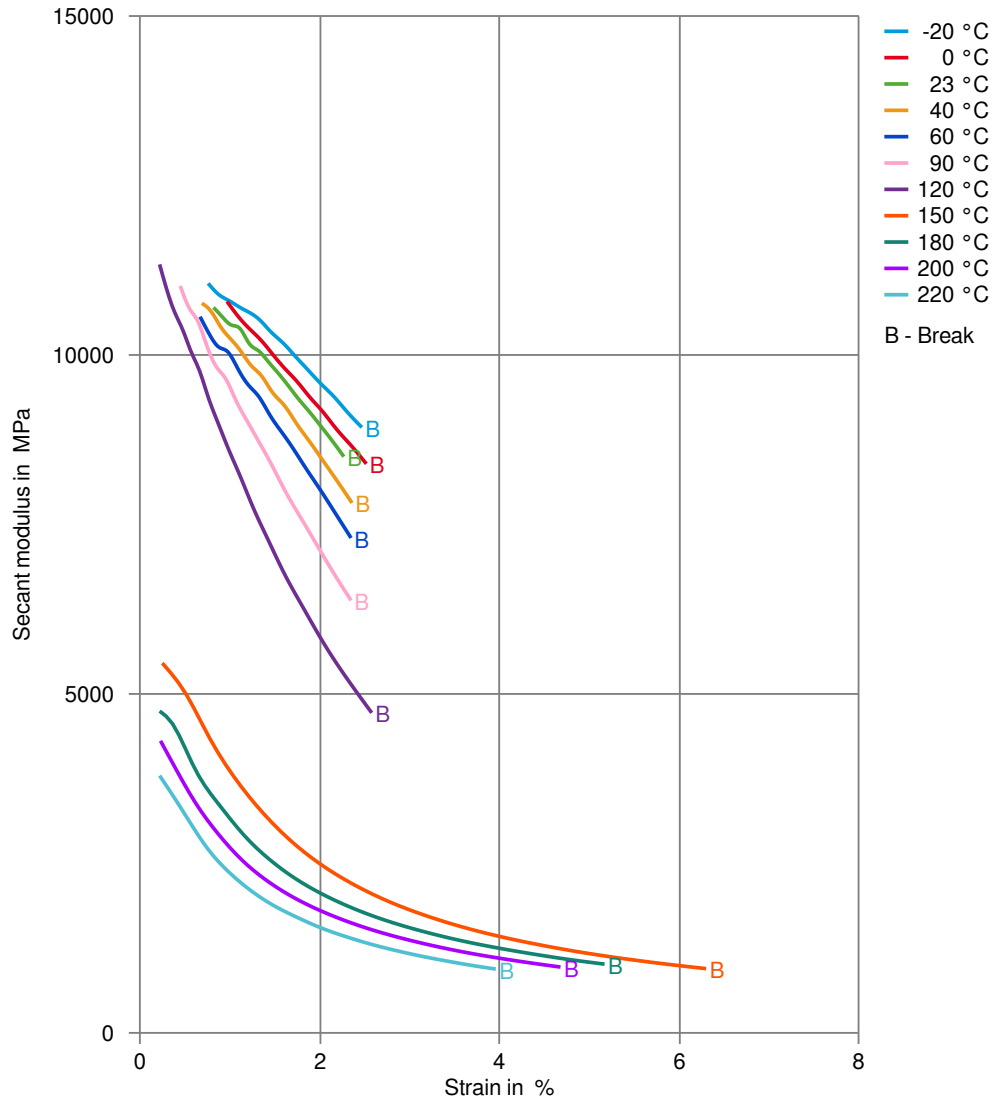
Stress-strain (cond.)



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Secant modulus-strain (dry)



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Secant modulus-strain (cond.)

