Zytel® HTN54G50HSLR BK031

HIGH PERFORMANCE POLYAMIDE RESIN

Zytel® HTN54G50HSLR BK031 is a 50% Glass Reinforced, PPA, Toughened, Heat Stabilized, High Performance Polyamide

Product information

Resin Identification	PA-I-GF50	ISO 1043
Part Marking Code	>PA-I-GF50<	ISO 11469
Part Marking Code	>PPA-I-GF50<	SAE J1344
ISO designation	ISO 16396-PA-I,GF50,M1CGHRW,S10-160	

Rheological properties

	dry/cond.		
Molding shrinkage, parallel	0.2 / -	%	ISO 294-4, 2577
Molding shrinkage, normal	0.4 / -	%	ISO 294-4, 2577

Typical mechanical properties

	dry/cond.		
Tensile modulus	2.32E6 / 2.32E6	psi	ISO 527-1/-2
Tensile stress at break, 5mm/min	31900 / 27600	psi	ISO 527-1/-2
Tensile strain at break, 5mm/min	2.8 / 2.9	%	ISO 527-1/-2
Flexural modulus	2.03E6 / -	psi	ISO 178
Flexural strength	47900 / -	psi	ISO 178
Charpy impact strength, 23°C	45.2 / 38.1	ftlb/in²	ISO 179/1eU
Charpy impact strength, -30°C	45.2 / 38.1	ftlb/in²	ISO 179/1eU
Charpy notched impact strength, 23°C	6.66 / 6.18	ftlb/in²	ISO 179/1eA
Charpy notched impact strength, -30°C	6.18 / 6.18	ftlb/in²	ISO 179/1eA
Izod notched impact strength, 23°C	7.14 / -	ftlb/in²	ISO 180/1A

Thermal properties

	dry/cond.		
Melting temperature, 10°C/min	579 / *	°F	ISO 11357-1/-3
Glass transition temperature, 10°C/min	239 / 158	°F	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	509 / *	°F	ISO 75-1/-2
Temperature of deflection under load, 0.45 MPa	550 / *	°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	0.0778 / *	E-4/°F	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), parallel, 55-160°C	0.0556 / *	E-4/°F	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), normal	0.278 / *	E-4/°F	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), normal, -40-23°C	0.278 / *	E-4/°F	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), normal, 55-160°C	0.533 / *	E-4/°F	ISO 11359-1/-2
RTI, electrical, 0.75mm	302	°F	UL 746B
RTI, electrical, 1.5mm	302	°F	UL 746B
RTI, electrical, 3.0mm	302	°F	UL 746B

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RTI, impact, 0.75mm	230	°F	UL 746B
RTI, impact, 1.5mm	248	°F	UL 746B
RTI, impact, 3.0mm	266	°F	UL 746B
RTI, strength, 0.75mm	266	°F	UL 746B
RTI, strength, 1.5mm	284 / *	°F	UL 746B
RTI, strength, 3.0mm	302	°F	UL 746B

Flammability

	dry/cond.		
Burning Behav. at 1.5mm nom. thickn.	HB / *	class	IEC 60695-11-10
Thickness tested	0.0591 / *	in	IEC 60695-11-10
UL recognition	yes / *		UL 94
Burning Behav. at thickness h	HB / *	class	IEC 60695-11-10
Thickness tested	0.0295 / *	in	IEC 60695-11-10
UL recognition	yes / *		UL 94
Glow Wire Flammability Index, 0.75mm	1520 / -	°F	IEC 60695-2-12
Glow Wire Flammability Index, 1.5mm	1380 / -	°F	IEC 60695-2-12
Glow Wire Flammability Index, 3.0mm	1760 / -	°F	IEC 60695-2-12
FMVSS Class	SE		ISO 3795 (FMVSS 302)

Electrical properties

	dry/cond.		
Volume resistivity	>1E13 / -	Ohm.m	IEC 62631-3-1
Surface resistivity	* / >1E15	Ohm	IEC 62631-3-2
Comparative tracking index	550 / -		IEC 60112

Physical/Other properties

	dry/cond.		
Water absorption, Immersion 24h	0.27 / *	%	Sim. to ISO 62
Density	0.057 / -	lb/in³	ISO 1183

Injection

Drying Time, Dehumidified Dryer	6 - 8	h
Processing Moisture Content	≤0.1	%
Melt Temperature Optimum	617	°F
Min. melt temperature	608	°F
Max. melt temperature	626	°F
Mold Temperature Optimum	212	°F
Min. mold temperature	176	°F
Max. mold temperature	248	°F
Hold Pressure Time (h is the max. wall thickness of the part in mm)	h^2+2	s
Ejection temperature	491	°F

Characteristics

Processing	Injection Molding
Special characteristics	Heat stabilized or stable to heat, Hydrolysis resistant, Low Warpage

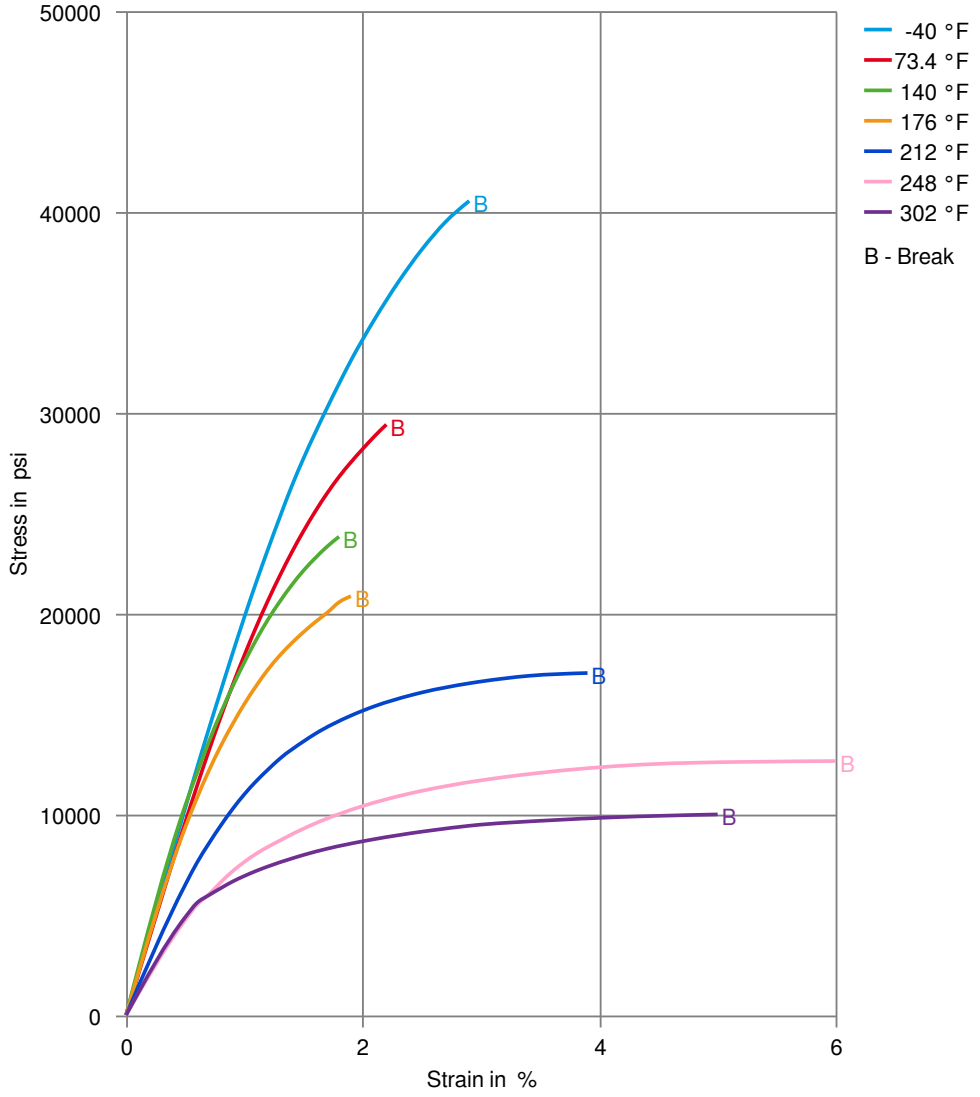
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Additional information

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.

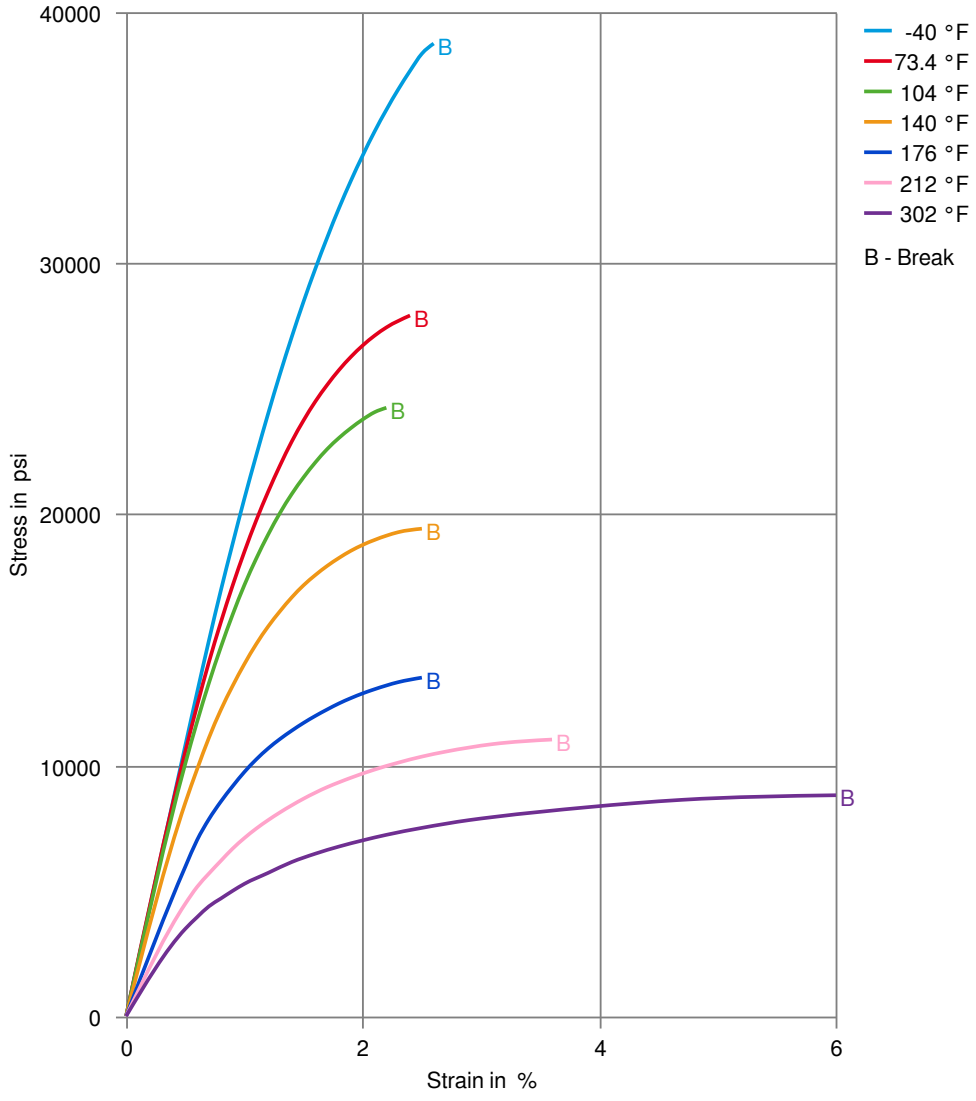
Stress-strain (dry)



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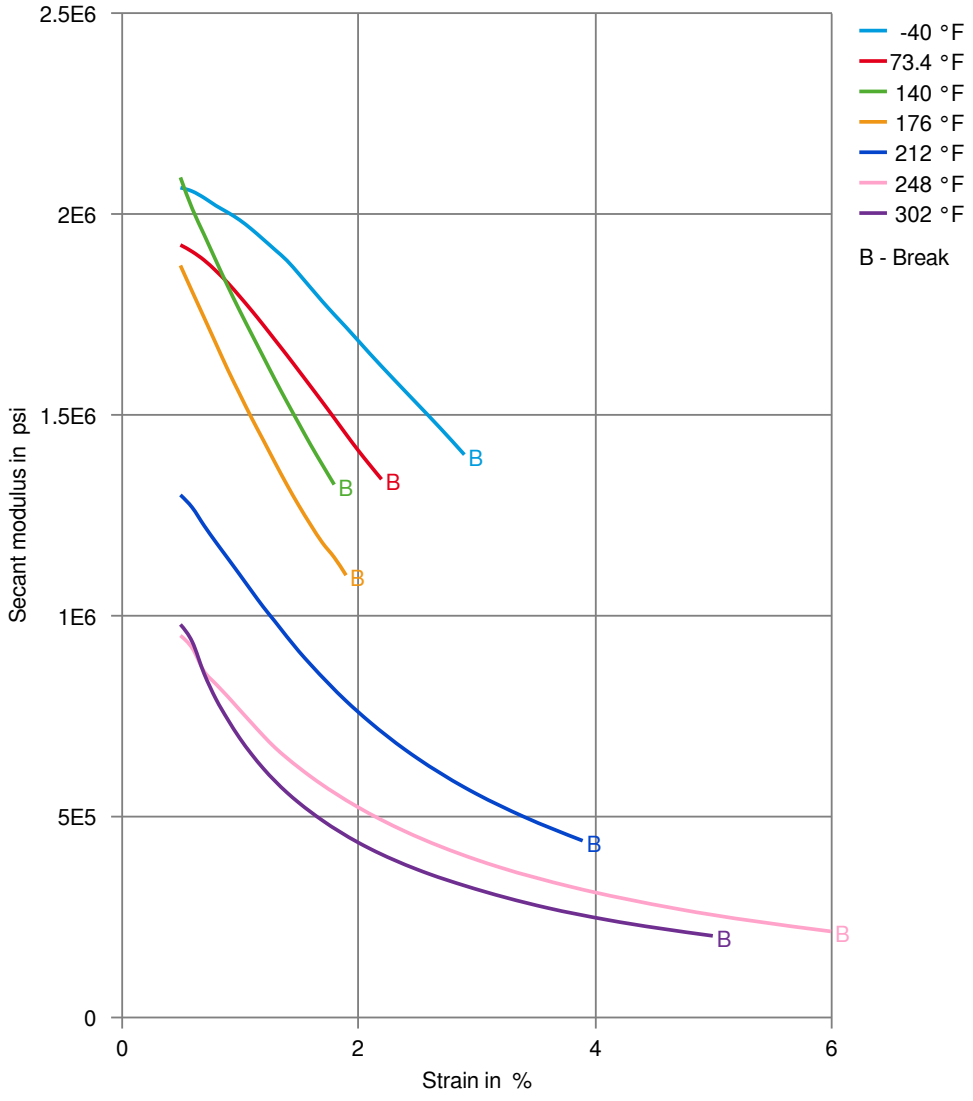
Stress-strain (cond.)



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Secant modulus-strain (dry)

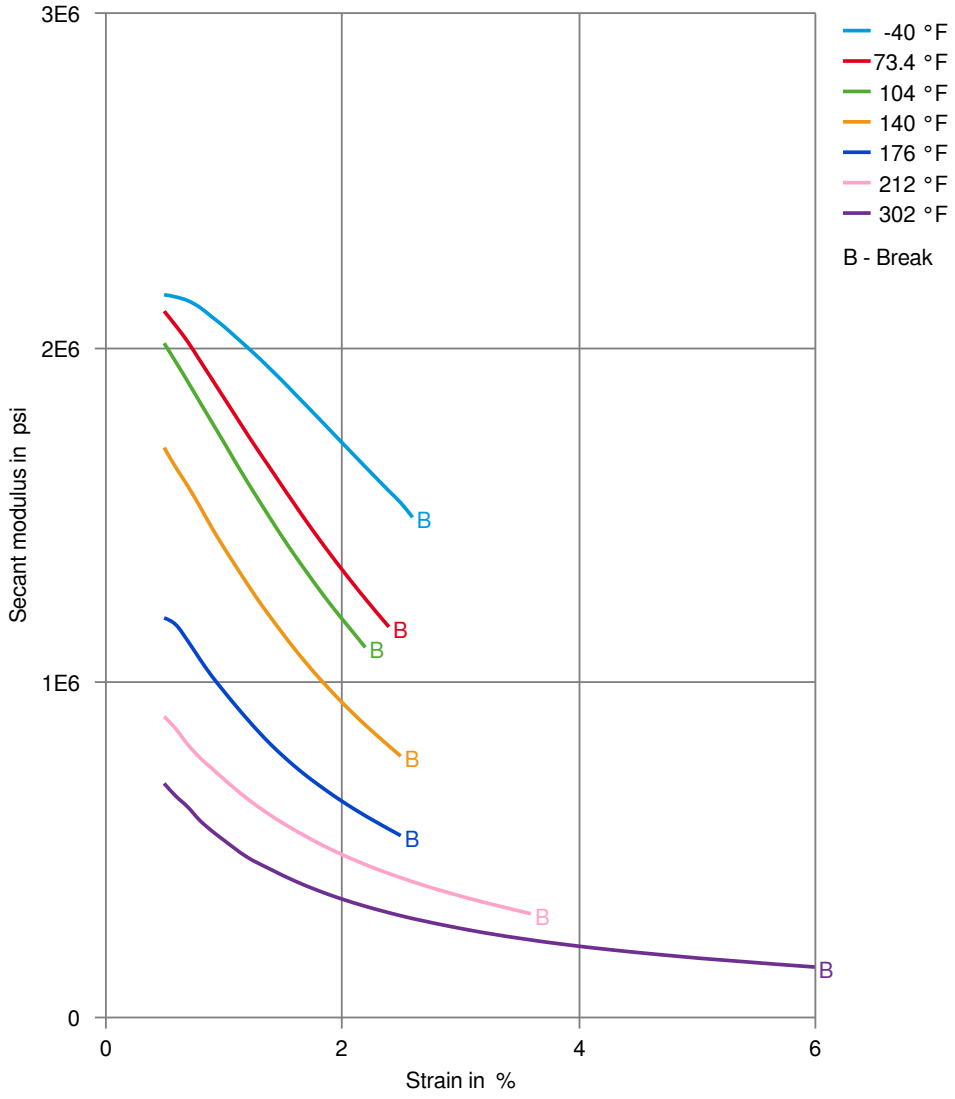


Revised: 2026-06-18 Source: Celanese Materials Database

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Secant modulus-strain (cond.)



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