Zytel® HTNFR42G30NH BK337

HIGH PERFORMANCE POLYAMIDE RESIN

Zytel® HTNFR42G30NH BK337 is a 30% glass reinforced, flame retardant high performance polyamide resin that has been developed for connector applications with improved reflow soldering performance. It is also a PPA resin and it uses a non-halogenated flame retardant.

Product information

Resin Identification	PA*-GF30 FR(40)		ISO 1043
Part Marking Code	>PA*-GF30 FR(40)<		ISO 11469
Part Marking Code	>PPA-GF30 FR<		SAE J1344
ISO designation	ISO 16396-PA,GF30 FR(40),M1CF1GR,S10-110		
Biobased carbon content	≥20[C]	%	ISO 16620-2
TGA curve	available		ISO 11358-1

[C]: Calculated

Rheological properties

	dry/cond.		
Molding shrinkage, parallel	0.4 / -	%	ISO 294-4, 2577
Molding shrinkage, normal	0.9 / -	%	ISO 294-4, 2577

Typical mechanical properties

	dry/cond.		
Tensile modulus	1.7E6 / -	psi	ISO 527-1/-2
Tensile stress at break, 5mm/min	18900 / 16000	psi	ISO 527-1/-2
Tensile strain at break, 5mm/min	1.9 / 1.4	%	ISO 527-1/-2
Flexural modulus	1.6E6 / 1.6E6	psi	ISO 178
Flexural strength	30500 / -	psi	ISO 178
Charpy impact strength, 23°C	16.6 / -	ftlb/in²	ISO 179/1eU
Charpy impact strength, -30°C	16.6 / -	ftlb/in²	ISO 179/1eU
Charpy notched impact strength, 23°C	3.33 / -	ftlb/in²	ISO 179/1eA
Charpy notched impact strength, -30°C	2.85 / -	ftlb/in²	ISO 179/1eA

Thermal properties

	dry/cond.		
Melting temperature, 10°C/min	592 / *	°F	ISO 11357-1/-3
Melting temperature, first heat	597 / *	°F	ISO 11357-1/-3
Glass transition temperature, 10°C/min	176 / 122	°F	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	529 / *	°F	ISO 75-1/-2
Ball pressure test	518 / -	°F	IEC 60695-10-2
Coefficient of linear thermal expansion (CLTE), parallel	0.12 / *	E-4/°F	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), parallel, -40-23°C	0.0944 / *	E-4/°F	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), parallel, 55-160°C	0.111 / *	E-4/°F	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), normal	0.306 / *	E-4/°F	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), normal, -40-23°C	0.239 / *	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
RTI, electrical, 0.4mm	266	°F	UL 746B
RTI, electrical, 1.5mm	266	°F	UL 746B
RTI, electrical, 3.0mm	266	°F	UL 746B
RTI, impact, 0.4mm	239	°F	UL 746B
RTI, impact, 1.5mm	239	°F	UL 746B
RTI, impact, 3.0mm	248	°F	UL 746B
RTI, strength, 0.4mm	257	°F	UL 746B
RTI, strength, 1.5mm	257 / *	°F	UL 746B
RTI, strength, 3.0mm	266	°F	UL 746B

Flammability

	dry/cond.		
Burning Behav. at thickness h	V-0 / *	class	IEC 60695-11-10
Thickness tested	0.0157 / *	in	IEC 60695-11-10
UL recognition	yes / *		UL 94
Glow Wire Flammability Index, 0.4mm	1760 / -	°F	IEC 60695-2-12
Glow Wire Flammability Index, 1.5mm	1760 / -	°F	IEC 60695-2-12
Glow Wire Flammability Index, 3.0mm	1760 / -	°F	IEC 60695-2-12
Glow Wire Ignition Temperature, 0.4mm	1380 / -	°F	IEC 60695-2-12
Glow Wire Ignition Temperature, 1.5mm	1470 / -	°F	IEC 60695-2-13
Glow Wire Ignition Temperature, 3.0mm	1520 / -	°F	IEC 60695-2-13
Railway classification	R23 / -		EN 45545-2
Railway classification rating	HL1 / -		EN 45545-2

Electrical properties

	dry/cond.		
Volume resistivity	>1E13 / -	Ohm.m	IEC 62631-3-1
Electric strength	838 / -	kV/in	IEC 60243-1
Comparative tracking index	600 / -		IEC 60112
Comparative tracking index, 23°C	0 / -	PLC	UL 746A
Dielectric Constant, 1 GHz	3.7 / -		ASTM D 2520 B
Dielectric Constant, 23°C, 10 GHz	3.8 / -		ASTM D 2520 B / IPC-TM-650
Dissipation Factor, 1 GHz	116 / -	E-4	ASTM D 2520 B
Dissipation Factor, 23°C, 10 GHz	100 / -	E-4	ASTM D 2520 B / IPC-TM-650

Physical/Other properties

	dry/cond.		
Humidity absorption, 2mm	1 / *	%	Sim. to ISO 62
Water absorption, 2mm	2.7 / *	%	Sim. to ISO 62
Density	0.0531 / -	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	626	°F

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Min. melt temperature	617	°F
Max. melt temperature	635	°F
Mold Temperature Optimum	248	°F
Min. mold temperature	230	°F
Max. mold temperature	266	°F
Hold Pressure Time (h is the max. wall thickness of the part in mm)	h^2+2	s
Ejection temperature	468	°F

Automotive

OEM	STANDARD	ADDITIONAL INFORMATION
Renault-Nissan	AS25-c, No Spec, Special Part Approval, See Your CE Account Manager.	
Stellantis	B62 0300 / 61/U4/223E/218M/11/C2B/C4	01378_20_04254

Characteristics

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

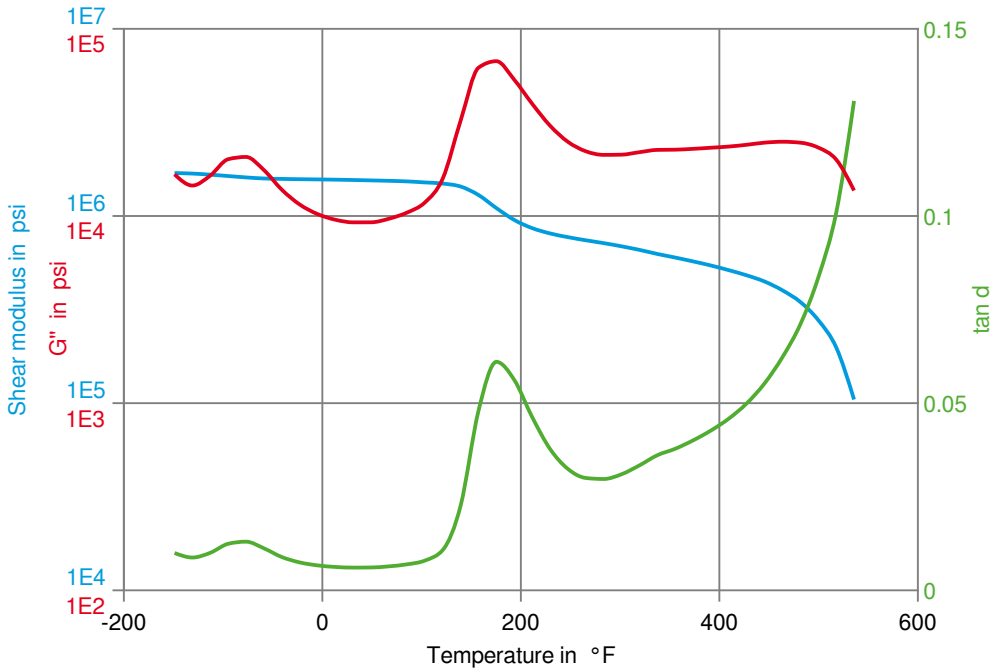
Additional information

Injection molding	For molding machine components, use corrosion resistant and wear resistant steel. For details please contact our representative. Limit the residence time of the resin in the machine. Use proper protective equipment and adequate ventilation.

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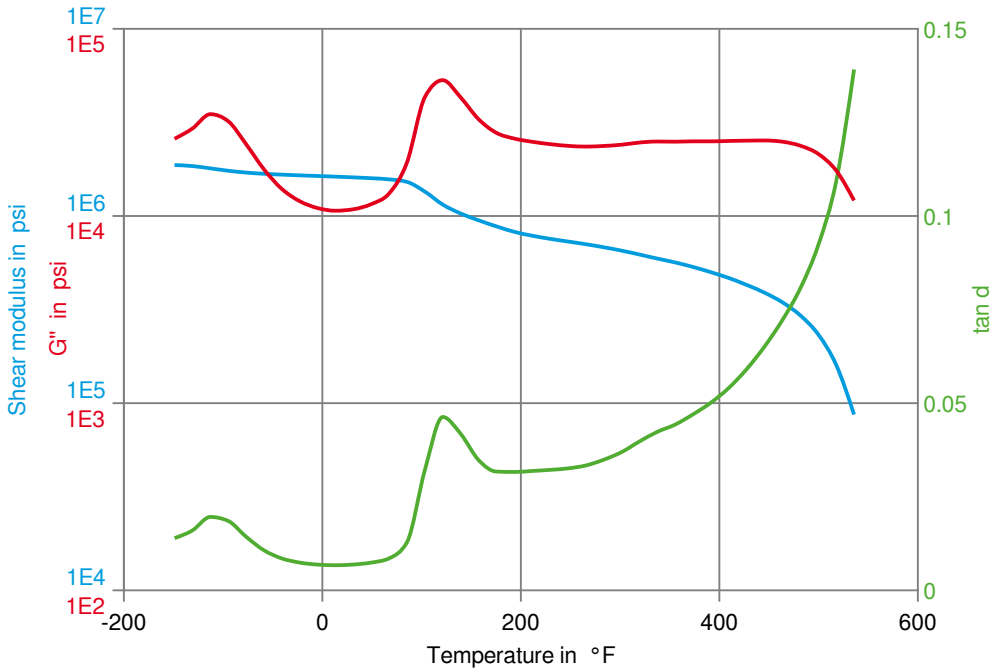
Dynamic Shear modulus-temperature (dry)



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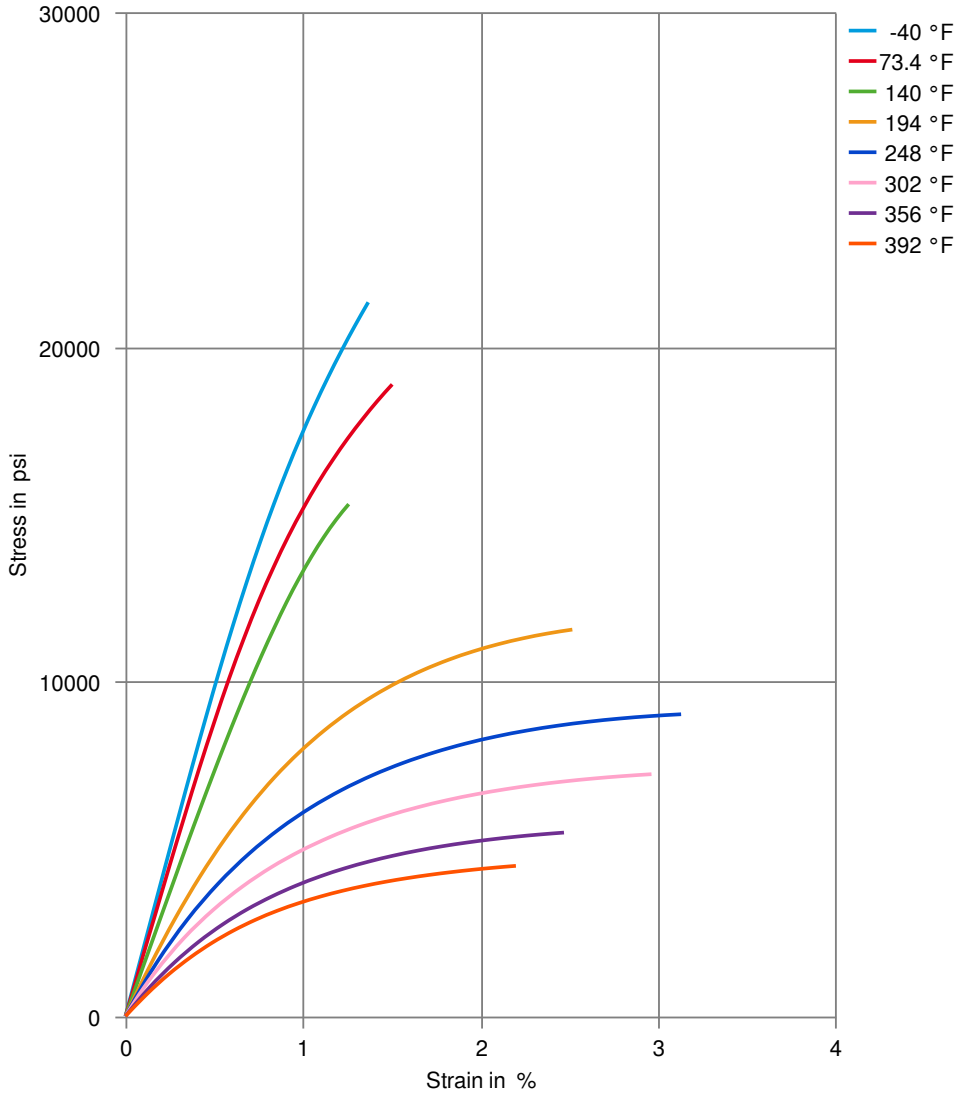
Dynamic Shear modulus-temperature (cond.)



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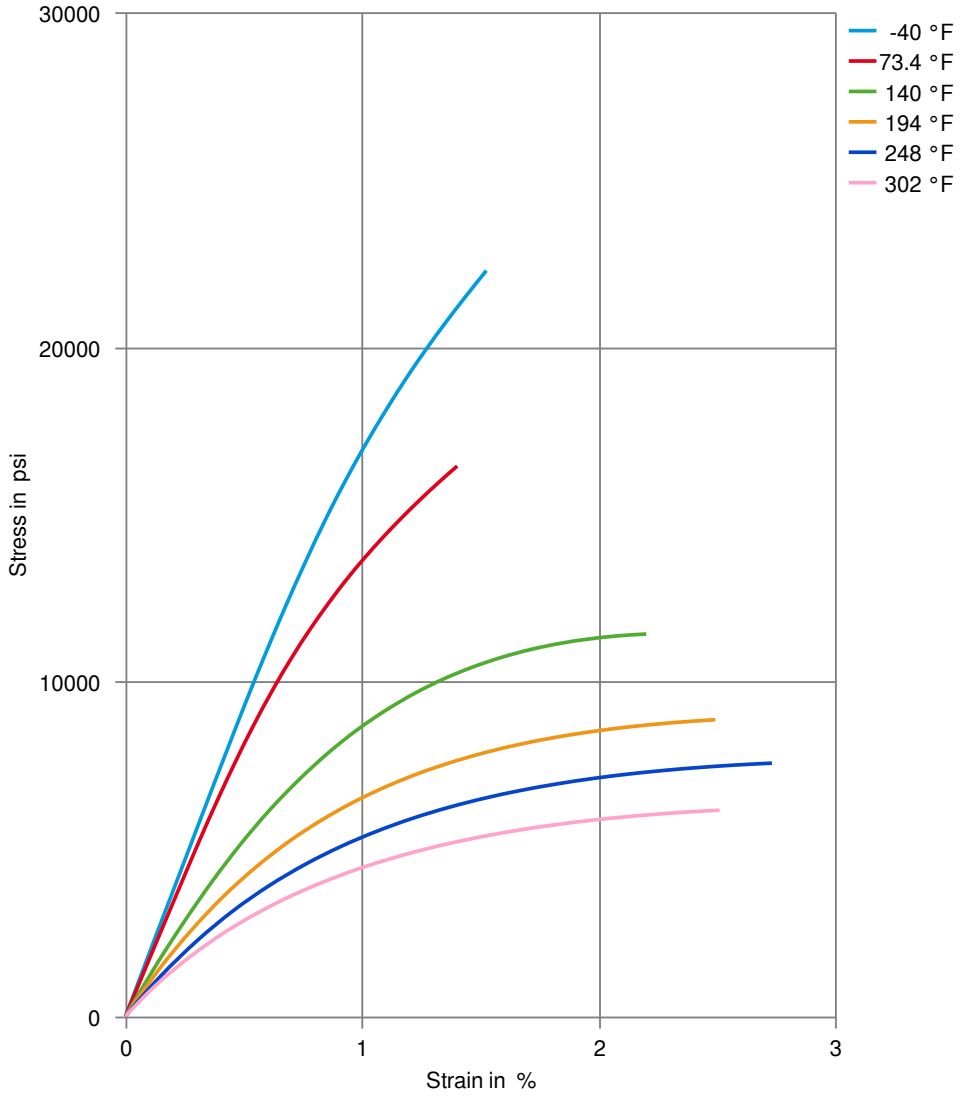
Stress-strain (dry)



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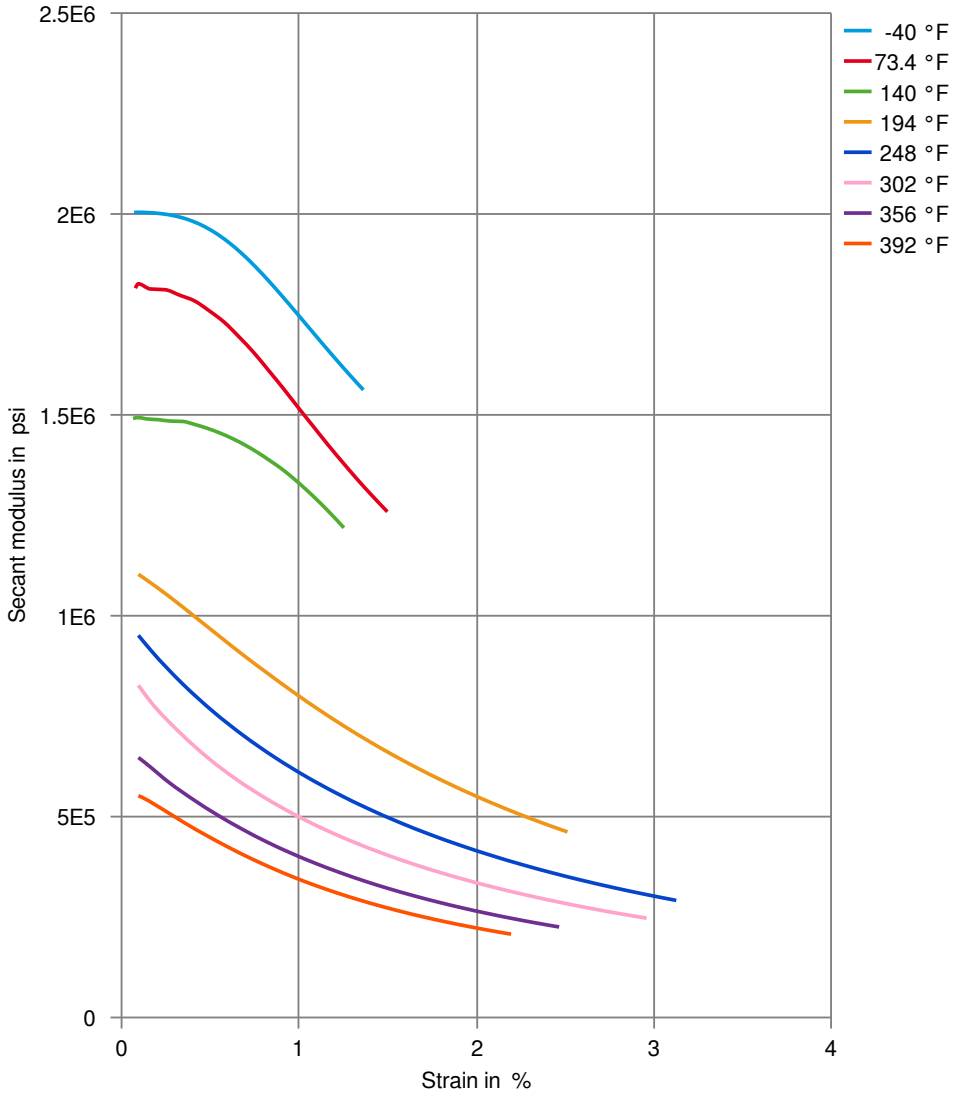
Stress-strain (cond.)



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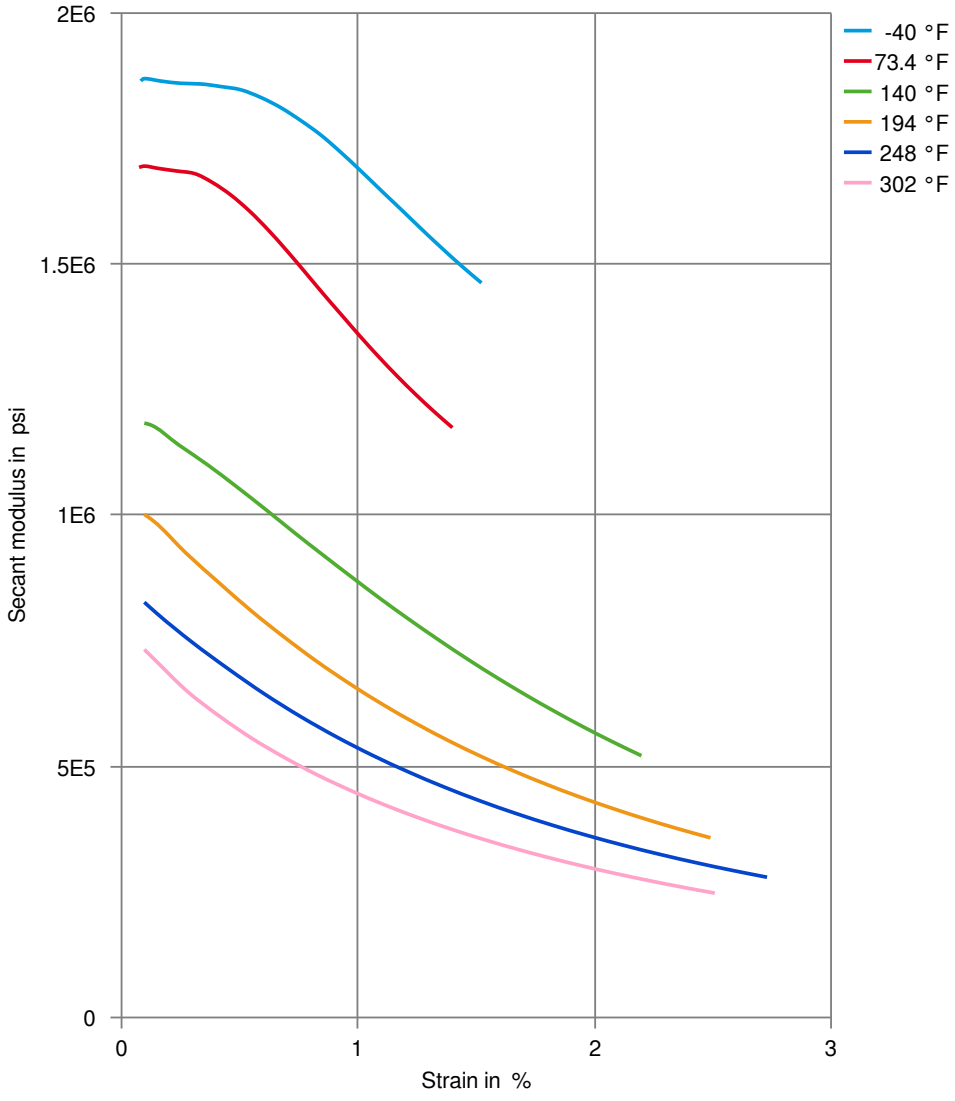
Secant modulus-strain (dry)



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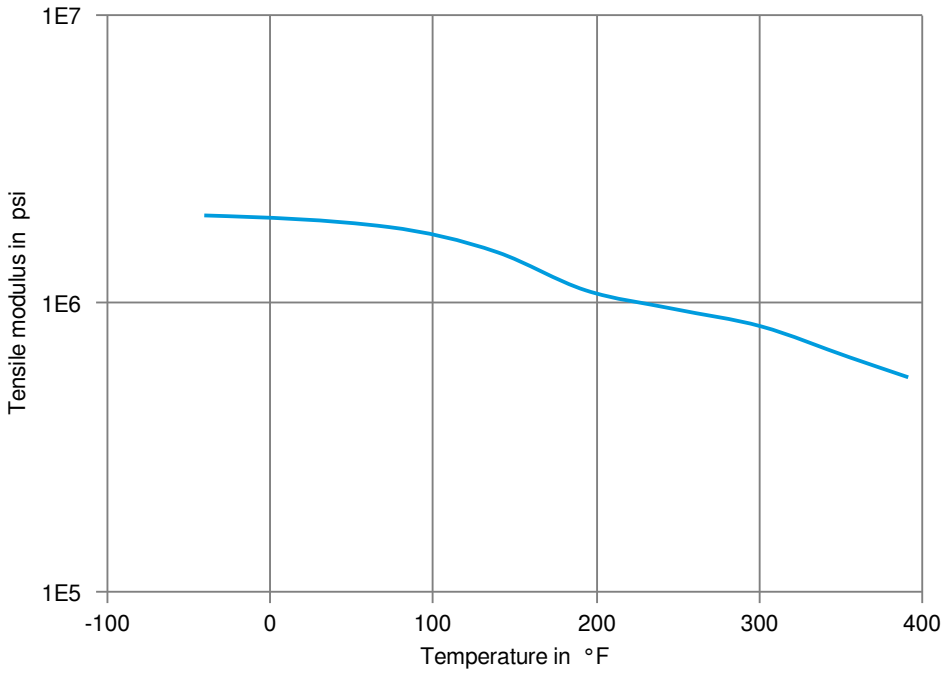
Secant modulus-strain (cond.)



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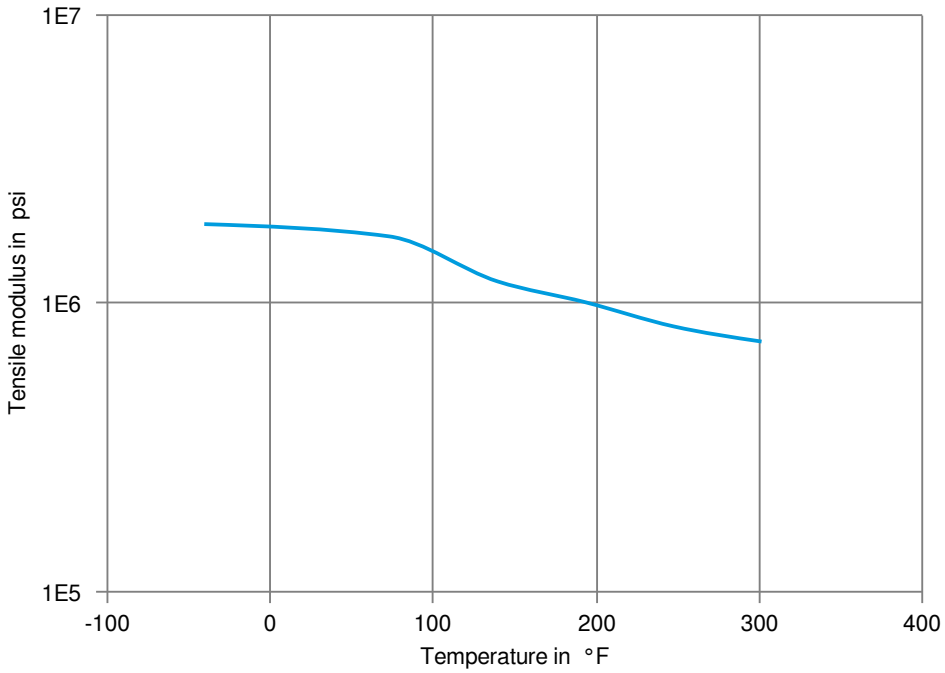
Tensile modulus-temperature (dry)



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Tensile modulus-temperature (cond.)



Revised: 2025-08-04 Source: Celanese Materials Database

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