Zytel® 70G30HSLR BK099

NYLON RESIN

Common features of Zytel® nylon resin include mechanical and physical properties such as high mechanical strength, excellent balance of stiffness and toughness, good high temperature performance, good electrical and flammability properties, good abrasion and chemical resistance. In addition, Zytel® nylon resins are available in different modified and reinforced grades to create a wide range of products with tailored properties for specific processes and end-uses. Zytel® nylon resin, including most flame retardant grades, offer the ability to be coloured.

The good melt stability of Zytel® nylon resin normally enables the recycling of properly handled production waste. If recycling is not possible, we recommend, as the preferred option, incineration with energy recovery (-31kJ/g of base polymer) in appropriately equipped installations. For disposal, local regulations have to be observed.

Zytel® nylon resin typically is used in demanding applications in the automotive, furniture, domestic appliances, sporting goods and construction industry.

Zytel® 70G30HSLR BK099 is a 30% glass fiber reinforced, heat stabilized, hydrolysis resistant polyamide 66 resin for injection molding.

Product information

Resin Identification	PA66-GF30	ISO 1043
Part Marking Code	>PA66-GF30<	ISO 11469
ISO designation	ISO 16396-PA66,GF30,M1CGHRW,S14-100	
Infrared spectrum	available	
TGA curve	available	ISO 11358-1

Rheological properties

	dry/cond.		
Viscosity number	4150[1]/*	in³/lb	ISO 307, 1628
Molding shrinkage, parallel	0.3 / -	%	ISO 294-4, 2577
Molding shrinkage, normal	1.0 / -	%	ISO 294-4, 2577
Melt viscosity , @ 1000 sec-1, 280 °C	1900 / *	P	ISO 11443

[1]: acid sulphuric 96%

Typical mechanical properties

	dry/cond.		
Tensile modulus	1.45E6 / 1.02E6	psi	ISO 527-1/-2
Tensile stress at break, 5mm/min	29000 / 18900	psi	ISO 527-1/-2
Tensile strain at break, 5mm/min	3 / 5	%	ISO 527-1/-2
Flexural modulus	1.31E6 /	psi	ISO 178
	[DS]		
Flexural strength	40600 / 2 9000[DS]	psi	ISO 178
Flexural stress at 3.5%	39200 / 24700	psi	ISO 178
Charpy impact strength, 23 °C	33.3 / 38.1	ftlb/in²	ISO 179/1eU
Charpy impact strength, -30 °C	33.3 / 33.3[DS]	ftlb/in²	ISO 179/1eU
Charpy impact strength, -40 °C	30.9 / -	ftlb/in²	ISO 179/1eU
Charpy notched impact strength, 23 °C	5.71 / 7.14	ftlb/in²	ISO 179/1eA
Charpy notched impact strength, -30 °C	4.28 / 4.28[DS]	ftlb/in²	ISO 179/1eA
Charpy notched impact strength, -40 °C	4.28 / 4.28	ftlb/in²	ISO 179/1eA
Izod notched impact strength, 23 °C	4.76 / 5.71	ftlb/in²	ISO 180/1A
Izod notched impact strength, -30 °C	4.76 / -	ftlb/in²	ISO 180/1A

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Izod notched impact strength, -40 °C	4.76 / -	ftlb/in²	ISO 180/1A
Hardness, Rockwell, M-scale	104 / 88		ISO 2039-2
Hardness, Rockwell, R-scale	124 / 117		ISO 2039-2
Ball indentation hardness, H 961/30	39200 / 26800	psi	ISO 2039-1
Multiaxial Impact, Total Energy, 4.5m/s, 2mm	5 / -	Btu	ISO 6603-2

[DS]: Derived from similar grade

Thermal properties

	dry/cond.		
Melting temperature, 10 °C/min	504 / *	°F	ISO 11357-1/-3
Glass transition temperature, 10 °C/min	167 / 68	°F	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	487 / *	°F	ISO 75-1/-2
Temperature of deflection under load, 0.45 MPa	502 / *	°F	ISO 75-1/-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	0.144 / *	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	0.444 / *	E-4/°F	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), normal, -40-23 °C	0.389 / *	E-4/°F	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), normal, 55-160 °C	0.722 / *	E-4/°F	ISO 11359-1/-2
Thermal conductivity, flow	0.36	W/(m K)	ISO 22007-2
Thermal conductivity of melt	0.21	W/(m K)	ISO 22007-2
Specific heat capacity of melt	2290	J/(kg K)	ISO 22007-4
RTI, electrical, 0.75mm	284	°F	UL 746B
RTI, electrical, 1.5mm	284	°F	UL 746B
RTI, electrical, 3.0mm	284	°F	UL 746B
RTI, impact, 0.75mm	257	°F	UL 746B
RTI, impact, 1.5mm	257	°F	UL 746B
RTI, impact, 3.0mm	257	°F	UL 746B
RTI, strength, 0.75mm	284	°F	UL 746B
RTI, strength, 1.5mm	284 / *	°F	UL 746B
RTI, strength, 3.0mm	284	°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
Oxygen index	24 / *	%	ISO 4589-1/-2
Glow Wire Flammability Index, 1.0mm	1290 / -	°F	IEC 60695-2-12
Glow Wire Flammability Index, 2.0mm	1380 / -	°F	IEC 60695-2-12
Glow Wire Flammability Index, 3.0mm	1470 / -	°F	IEC 60695-2-12
Glow Wire Ignition Temperature, 1.0mm	1340 / -	°F	IEC 60695-2-13

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Glow Wire Ignition Temperature, 2.0mm	1340 / -	°F	IEC 60695-2-13
Glow Wire Ignition Temperature, 3.0mm	1430 / -	°F	IEC 60695-2-13
Glow Wire Temperature, No Flame, 3mm	1380 / -	°F	IEC 60335-1
FMVSS Class	B		ISO 3795 (FMVSS 302)
Burning rate, Thickness 1 mm	0.984	in/min	ISO 3795 (FMVSS 302)

Electrical properties

	dry/cond.		
Volume resistivity	>1E13 / 1E9[DS]	Ohm.m	IEC 62631-3-1
Surface resistivity	* / 1E12[DS]	Ohm	IEC 62631-3-2
Electric strength	965 / 813	kV/in	IEC 60243-1
Comparative tracking index	400 / -		IEC 60112
Comparative tracking index, 23 °C	1 / -	PLC	UL 746A

[DS]: Derived from similar grade

Physical/Other properties

	dry/cond.		
Humidity absorption, 2mm	1.9 / *	%	Sim. to ISO 62
Water absorption, 2mm	6 / *	%	Sim. to ISO 62
Water absorption, Immersion 24h	1.3 / *	%	Sim. to ISO 62
Density	0.0495 / -	lb/in³	ISO 1183

Emissions

Odor test	3.5	class	VDA 270

Injection

Drying Recommended	yes	
Drying Temperature	176	°F
Drying Time, Dehumidified Dryer	2 - 4	h
Processing Moisture Content	≤0.2	%
Melt Temperature Optimum	563	°F
Min. melt temperature	545	°F
Max. melt temperature	581	°F
Max. screw tangential speed	≤0.2	m/s
Mold Temperature Optimum	212	°F
Min. mold temperature	158	°F
Max. mold temperature	248	°F
Hold pressure range	7250 - 14500	psi
Hold pressure time	0.0762	s/mil
Hold Pressure Time (h is the max. wall thickness of the part in mm)	h^2+2	s
Ejection temperature	410	°F

Automotive

OEM	STANDARD	ADDITIONAL INFORMATION
BMW	GS93016-PA66-GF30	(Highly) Hydrolysis/Heat Aging Resistant
Bosch	N28 BN02-GF053	

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Ford	WSS-M4D752-B1	
Geely	Q/JL J124010-2019	
General Motors	GMW3038P-PA66-GF30H	Black
General Motors	GMW3038P-PA66-GF30J	Black
Hyundai	MS211-47 Type A-2-3	
Mercedes-Benz	DBL5406.21 PA66 GF30	
Mercedes-Benz	DBL5406.22 PA66 GF30	
Mercedes-Benz	DBL5408.45 PA66 GF30	
Mercedes-Benz	DBL5409.24 PA66 GF30	
Renault-Nissan	AS22, No Spec, Special Part Approval, See Your CE Account Manager.	
Renault-Nissan	AS23, No Spec, Special Part Approval, See Your CE Account Manager.	
Renault-Nissan	AS23-a, No Spec, Special Part Approval, See Your CE Account Manager.	
Renault-Nissan	UB01b, No Spec, Special Part Approval, See Your CE Account Manager.	
Renault-Nissan	UB02a, No Spec, Special Part Approval, See Your CE Account Manager.	
Renault-Nissan	UB02d, No Spec, Special Part Approval, See Your CE Account Manager.	
Renault-Nissan	UB03c, No Spec, Special Part Approval, See Your CE Account Manager.	
Renault-Nissan	UB03h, No Spec, Special Part Approval, See Your CE Account Manager.	
Renault-Nissan	UB08a, No Spec, Special Part Approval, See Your CE Account Manager.	
Renault-Nissan	UB08c, No Spec, Special Part Approval, See Your CE Account Manager.	
Renault-Nissan	UB09a, No Spec, Special Part Approval, See Your CE Account Manager.	
Renault-Nissan	UB09b, No Spec, Special Part Approval, See Your CE Account Manager.	
Renault-Nissan	UB09c, No Spec, Special Part Approval, See Your CE Account Manager.	
Renault-Nissan	UB09g, No Spec, Special Part Approval, See Your CE Account Manager.	
Renault-Nissan	UB12a, No Spec, Special Part Approval, See Your CE Account Manager.	
Renault-Nissan	UB15b, No Spec, Special Part Approval, See Your CE Account Manager.	
Renault-Nissan	UB20a, No Spec, Special Part Approval, See Your CE Account Manager.	
Renault-Nissan	UB20b, No Spec, Special Part Approval, See Your CE Account Manager.	

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Renault-Nissan	UB20c, No Spec, Special Part Approval, See Your CE Account Manager.	
Renault-Nissan	UB20d, No Spec, Special Part Approval, See Your CE Account Manager.	
Renault-Nissan	UB22f, No Spec, Special Part Approval, See Your CE Account Manager.	
Renault-Nissan	UB23, No Spec, Special Part Approval, See Your CE Account Manager.	
Stellantis	MS.50150 / PA66.GF30.9000T.10C.HS.GR	01994_10_00023;CPN4018, 01994_10_00023
Stellantis - Chrysler	MS.50017 / CPN-4018	Black
VW Group	TL 520 62 PA66-GF30	
VW Group	TL 526 82 PA66-GF30	
VW Group	VW 50127 PA66-7	
VW Group	VW 50133 PA66-6-A	
Valeo	PDTNVB15009	PA66 GF30
Valeo	PDTNVC15006 RevE	PA66 GF30
Valeo	PDTNVC15006 RevE	PA66-GF30 Class 1
Valeo	PDTNVC15006 RevE	PA66-GF30 Class 2

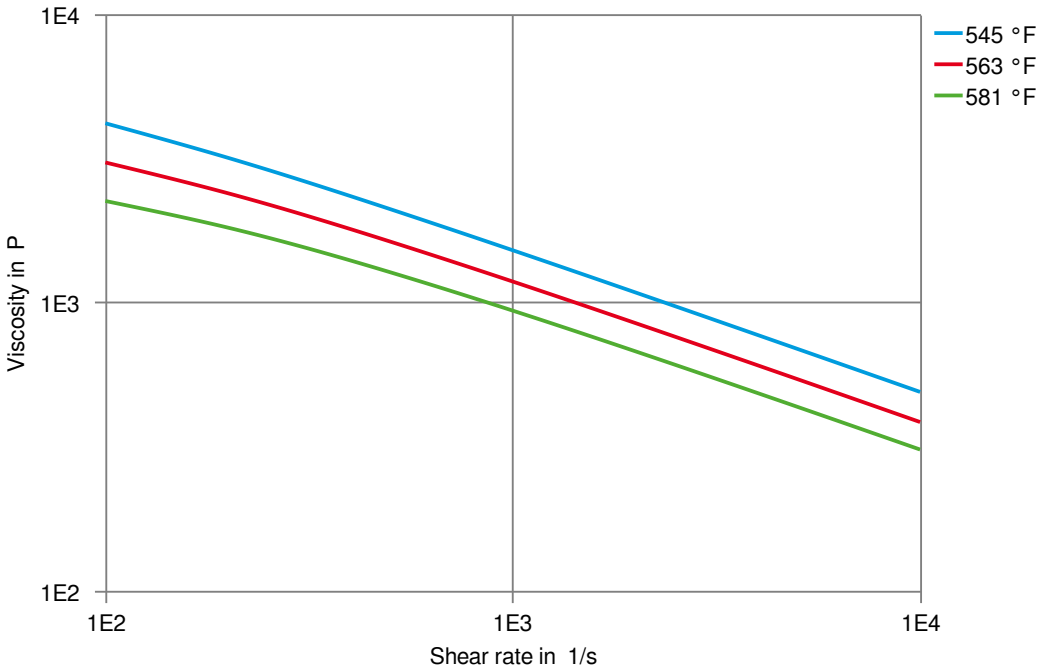
Characteristics

Processing	Injection Molding
Additives	Release agent
Special characteristics	Heat stabilized or stable to heat, Hydrolysis resistant

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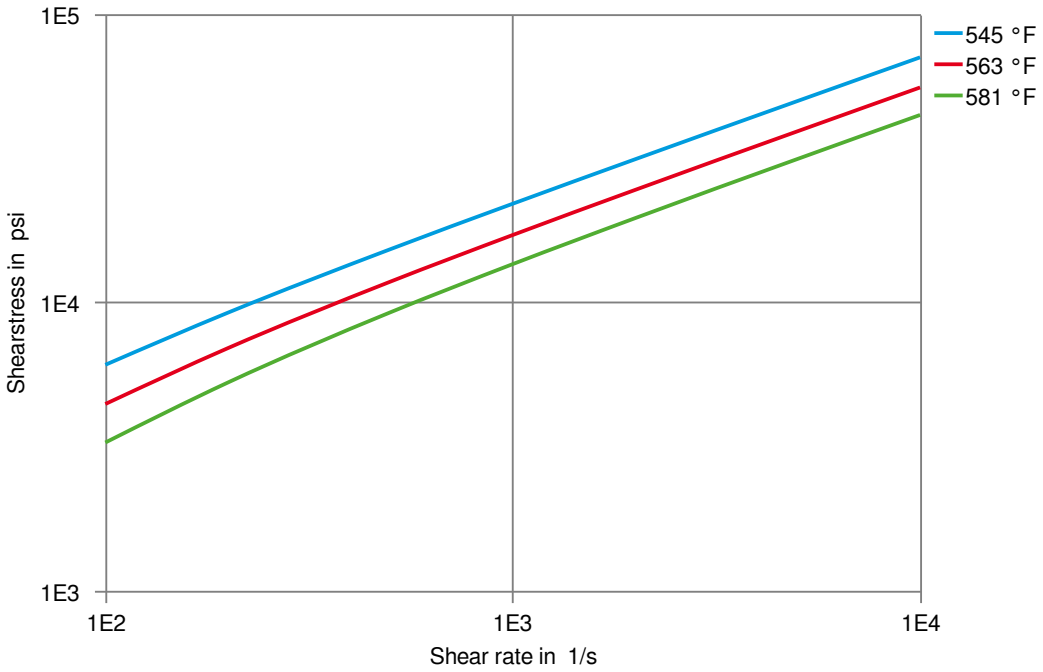
Viscosity-shear rate



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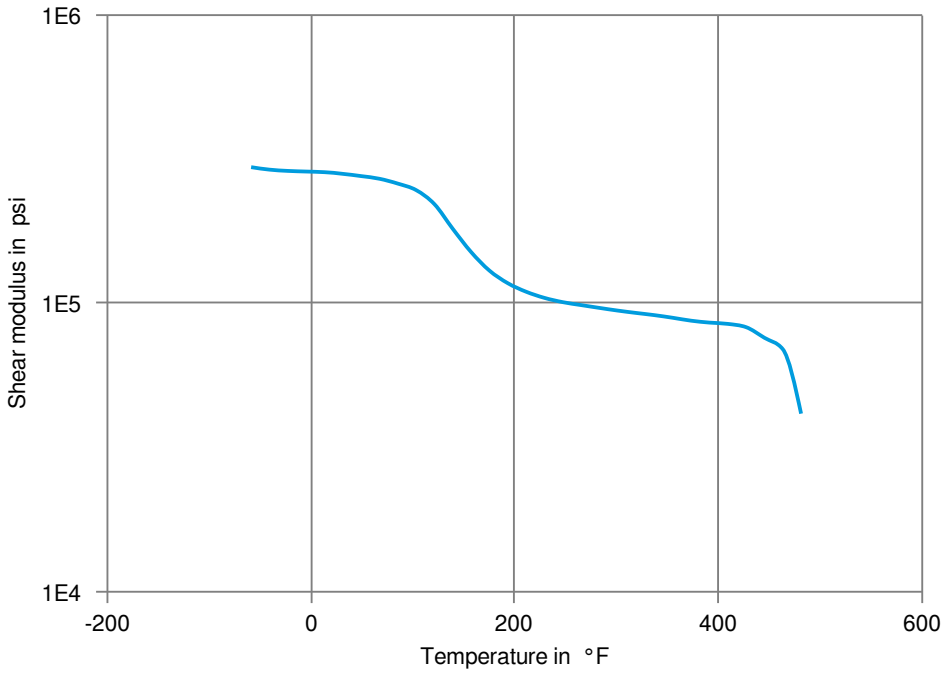
Shearstress-shear rate



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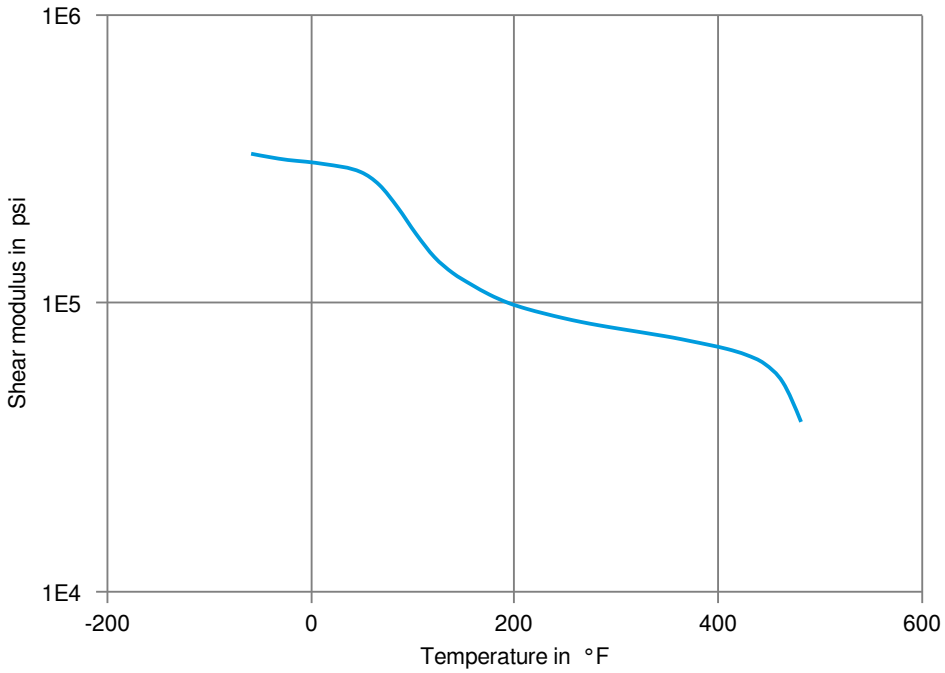
Dynamic Shear modulus-temperature (dry)



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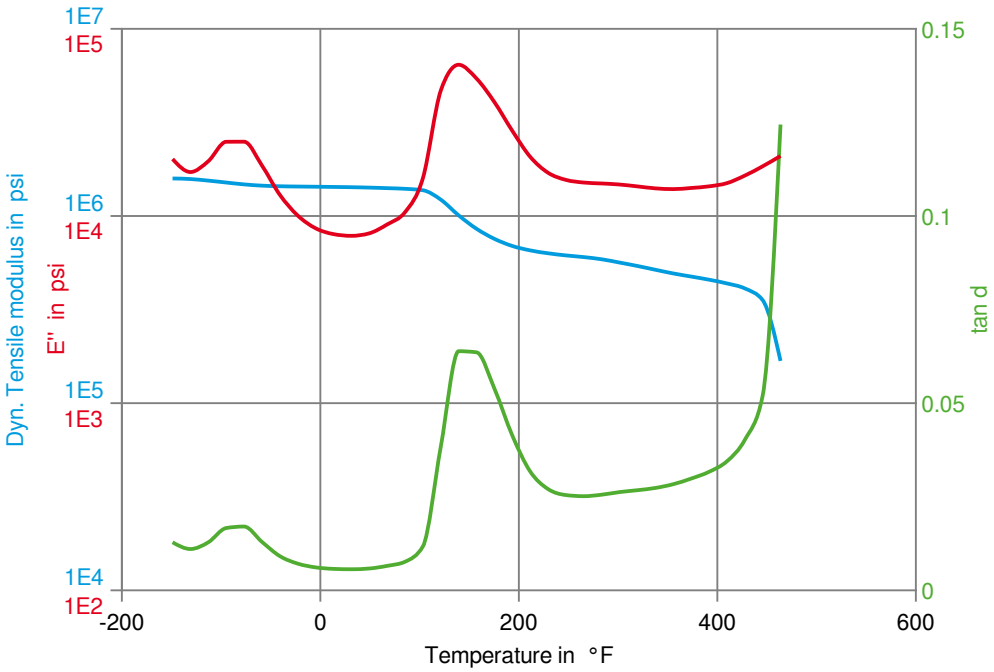
Dynamic Shear modulus-temperature (cond.)



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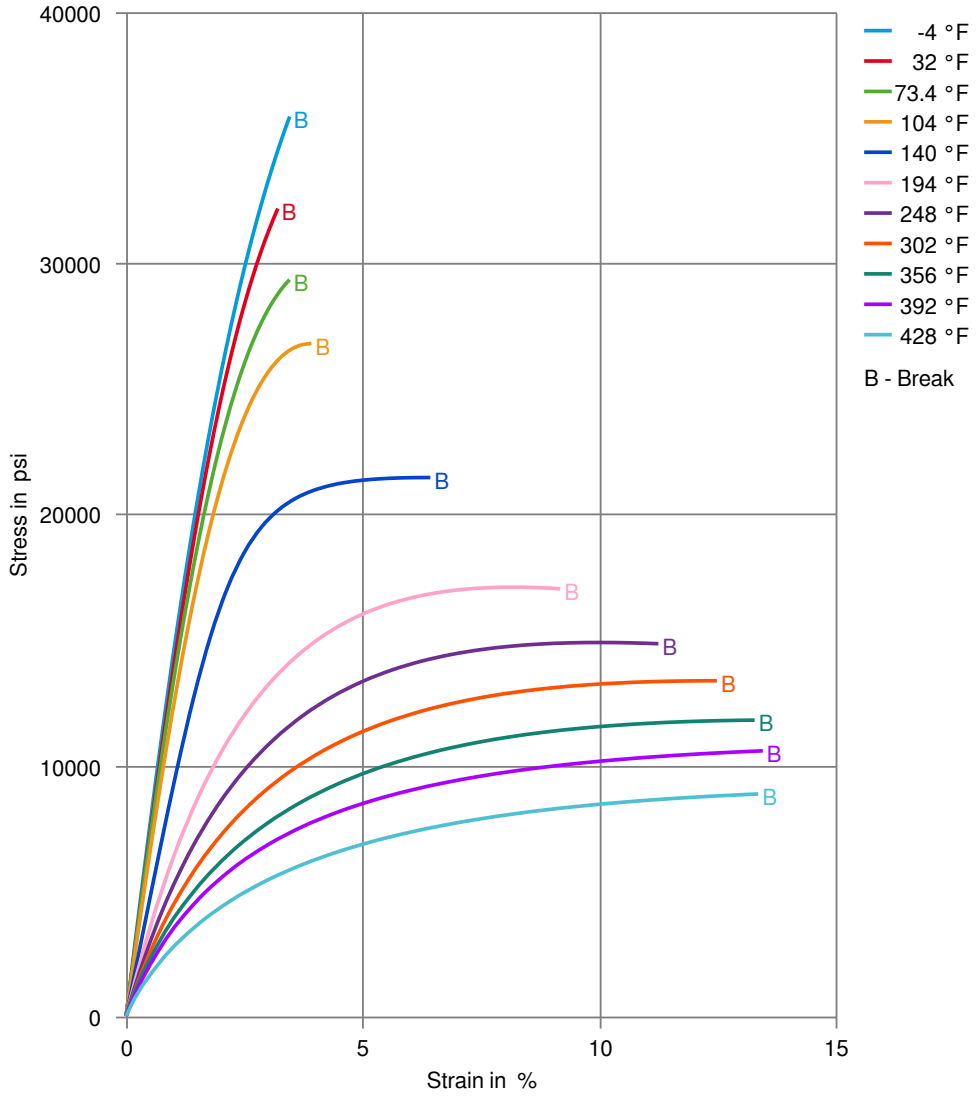
Dynamic Tensile modulus-temperature (dry)



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NYLON RESIN

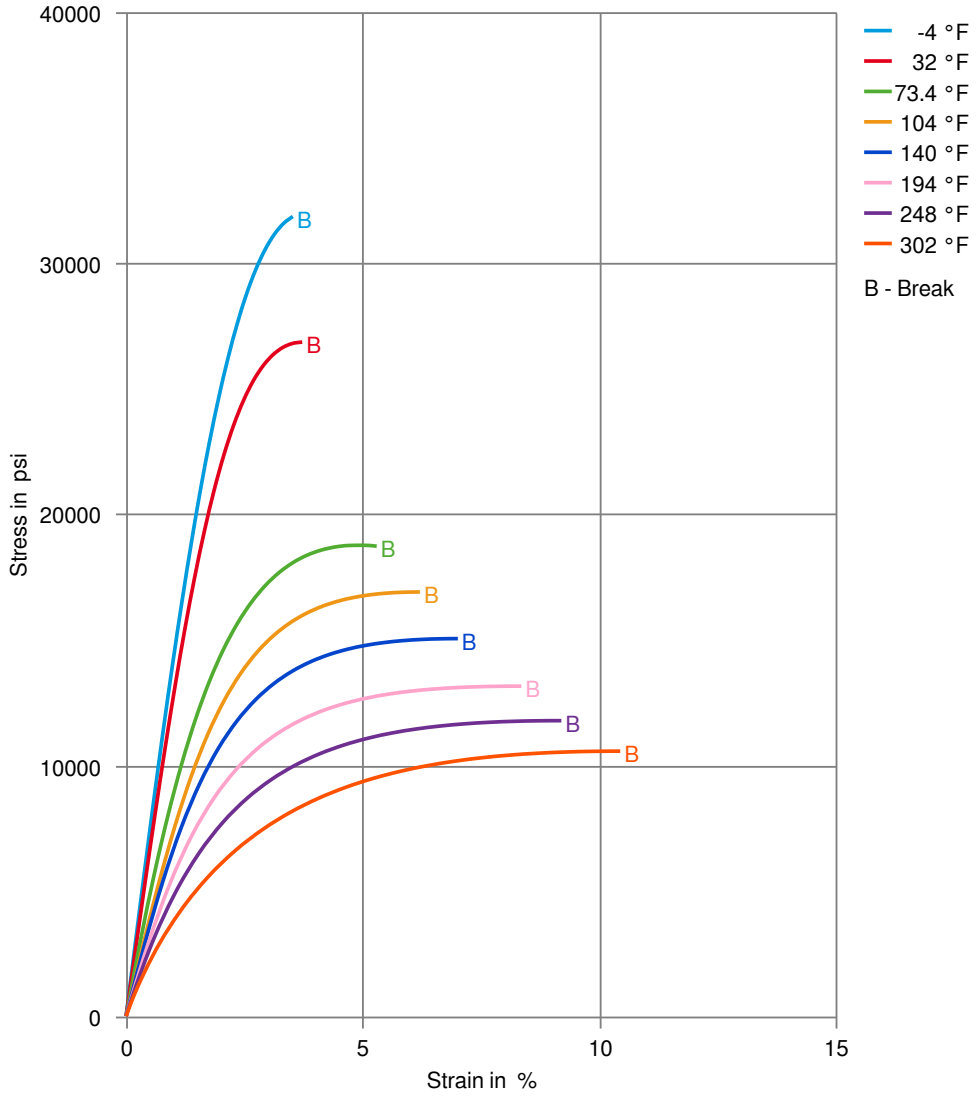
Stress-strain (dry)



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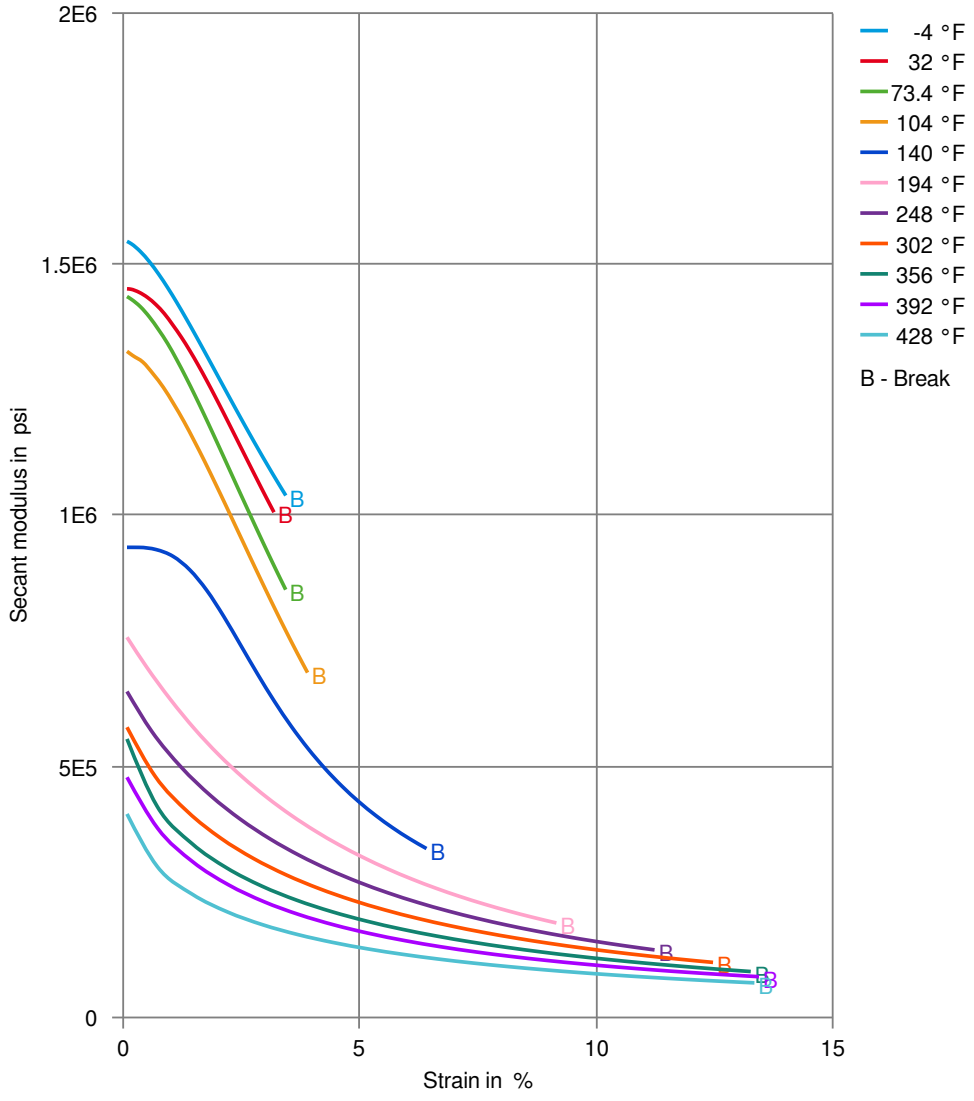
Stress-strain (cond.)



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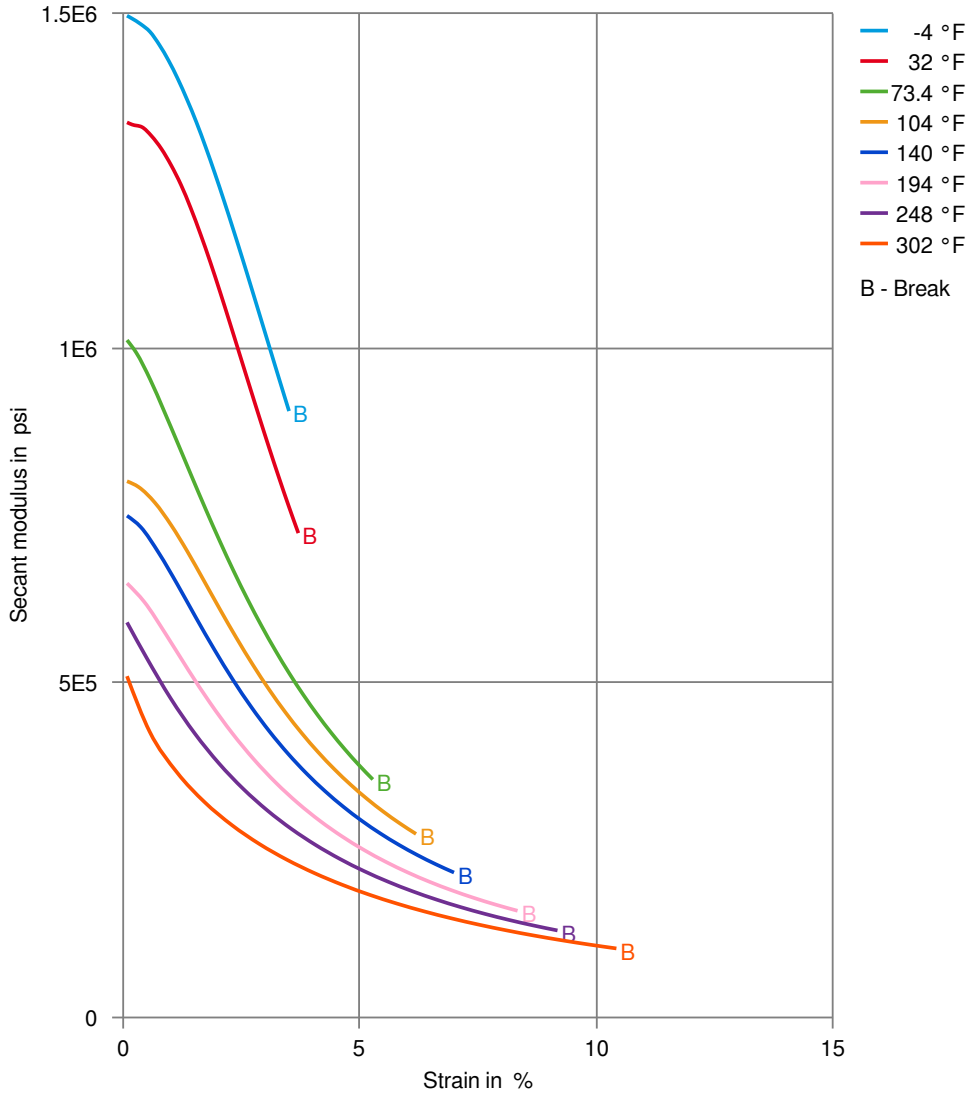
Secant modulus-strain (dry)



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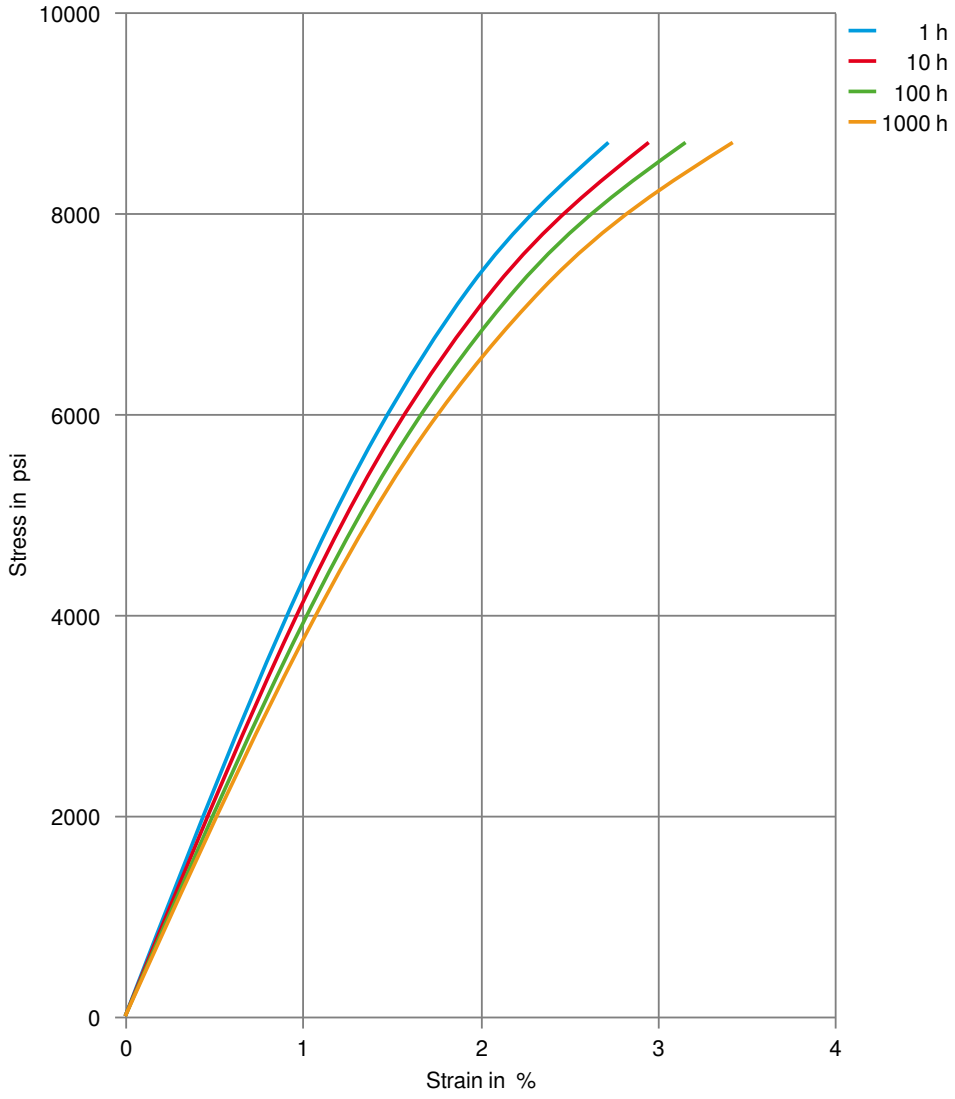
Secant modulus-strain (cond.)



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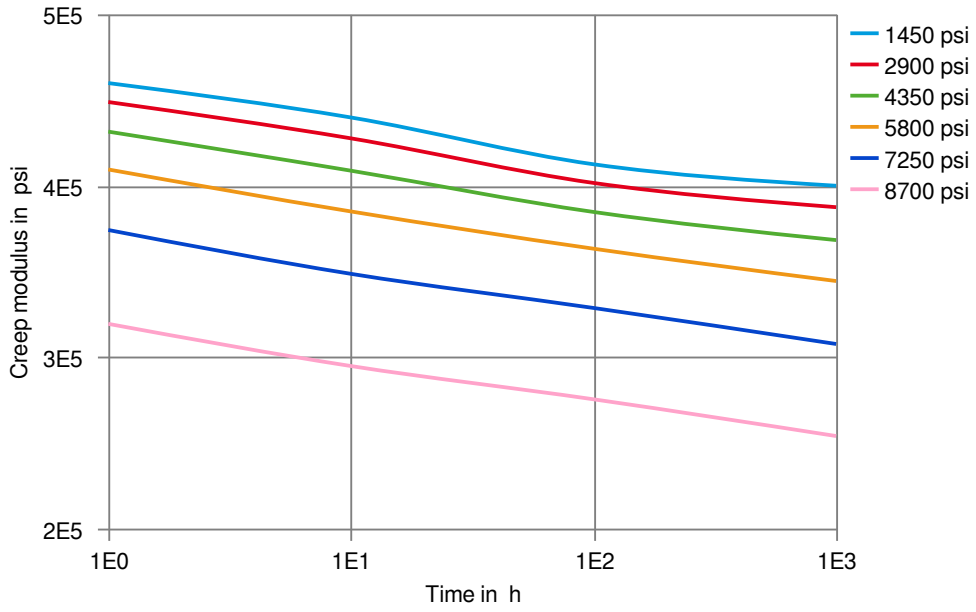
Stress-strain (isochronous) 284 °F (dry)



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NYLON RESIN

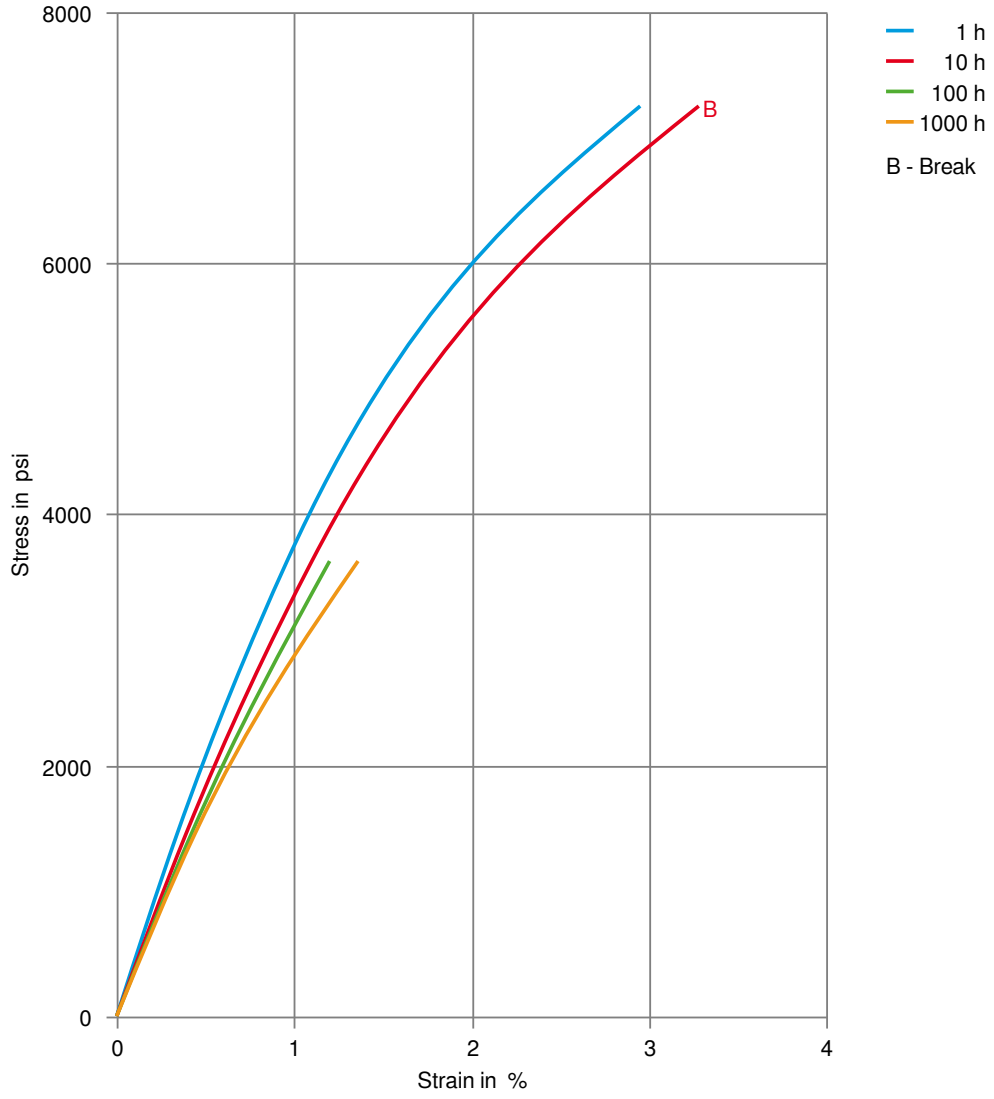
Creep modulus-time 284 °F (dry)



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NYLON RESIN

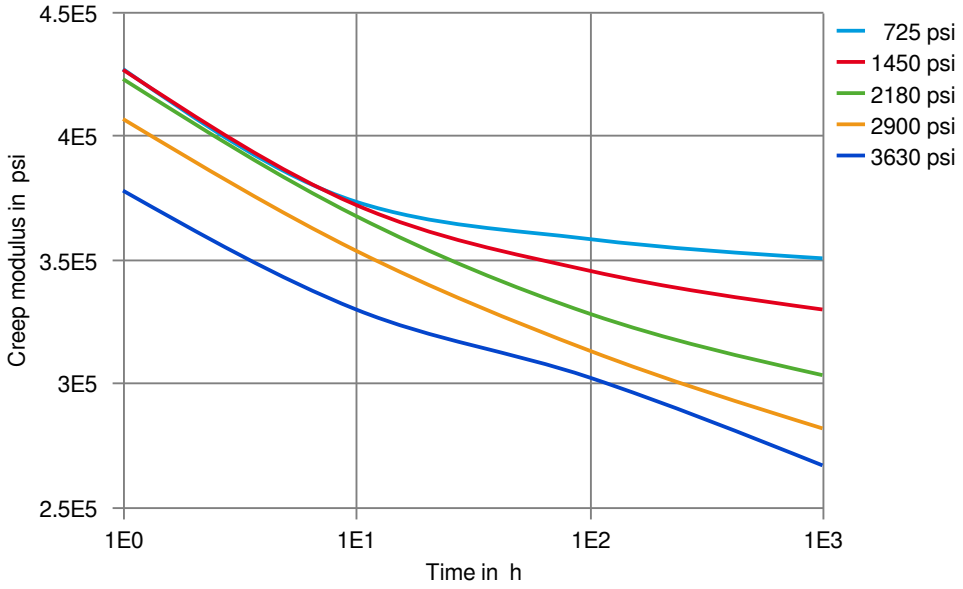
Stress-strain (isochronous) 356 °F (dry)



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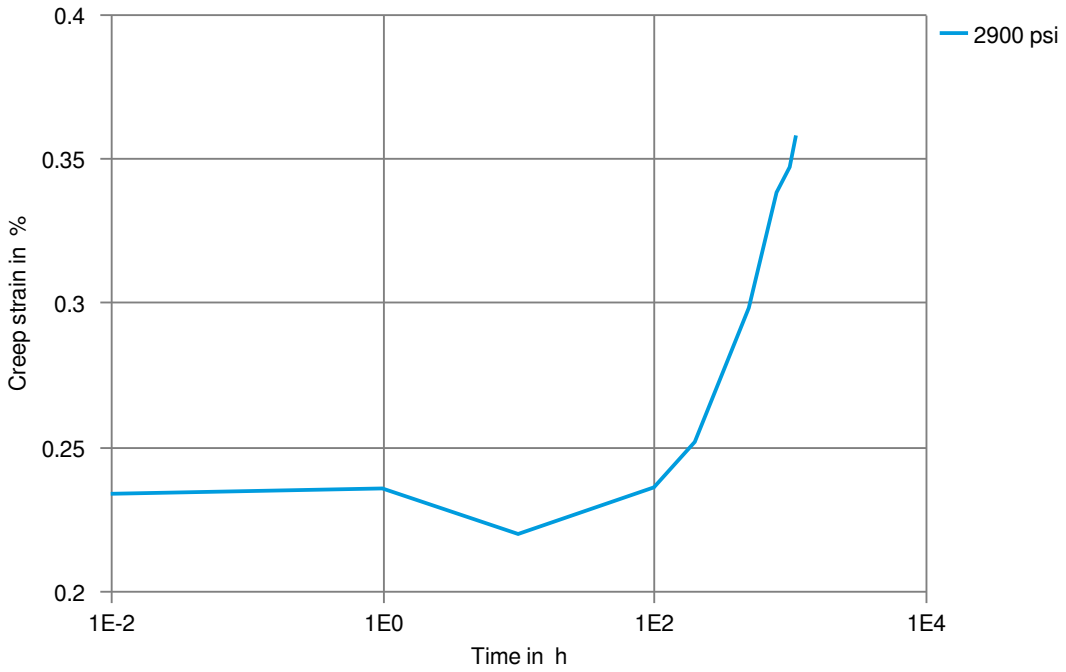
Creep modulus-time 356°F (dry)



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NYLON RESIN

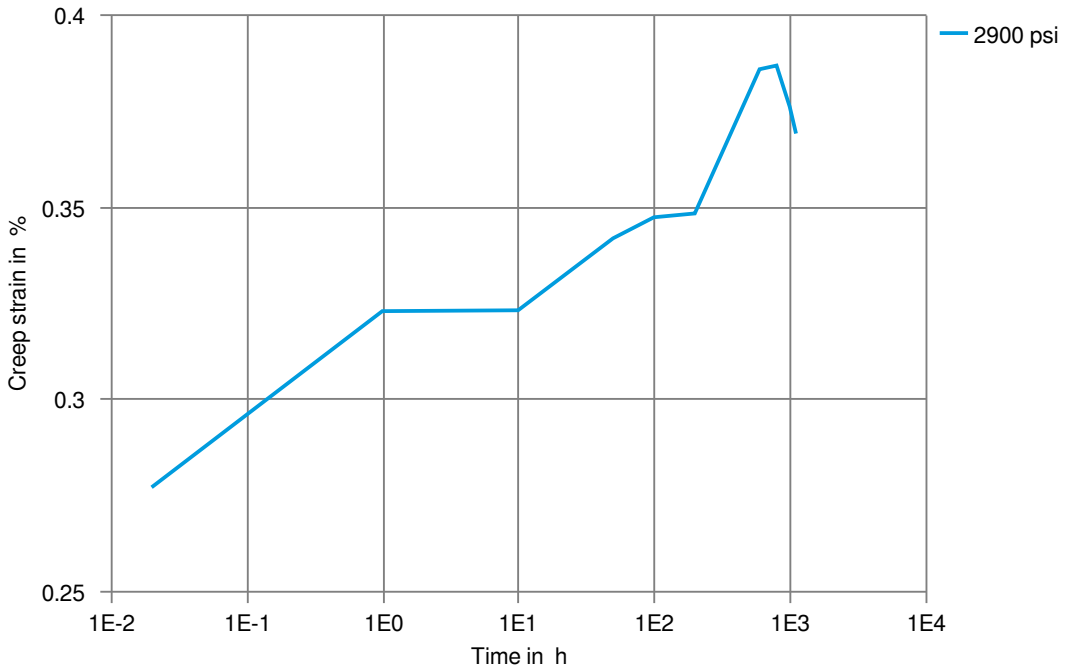
Creep strain-time 73.4 °F (dry)



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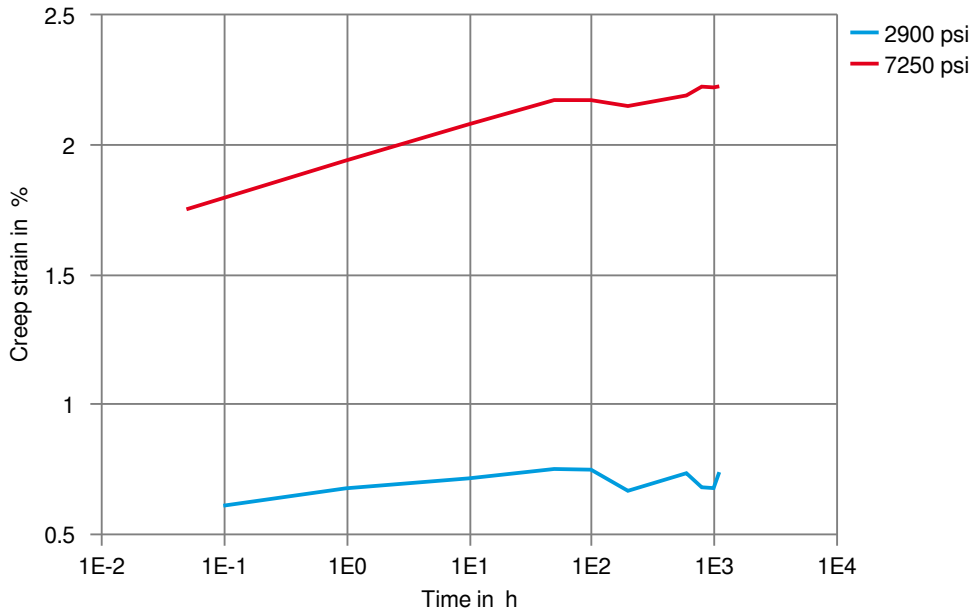
Creep strain-time 73.4 °F (cond.)



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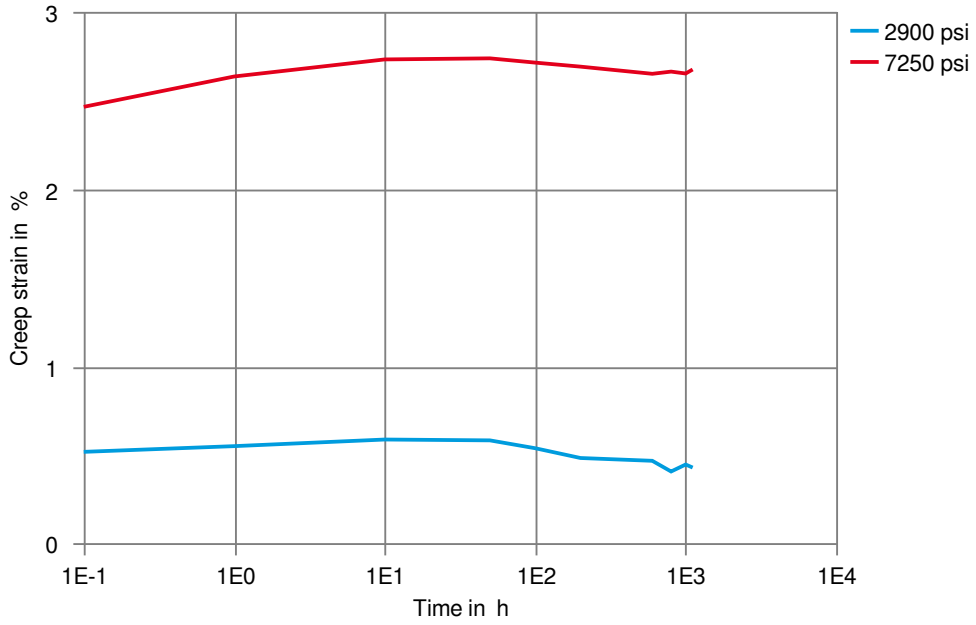
Creep strain-time 194 °F (dry)



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NYLON RESIN

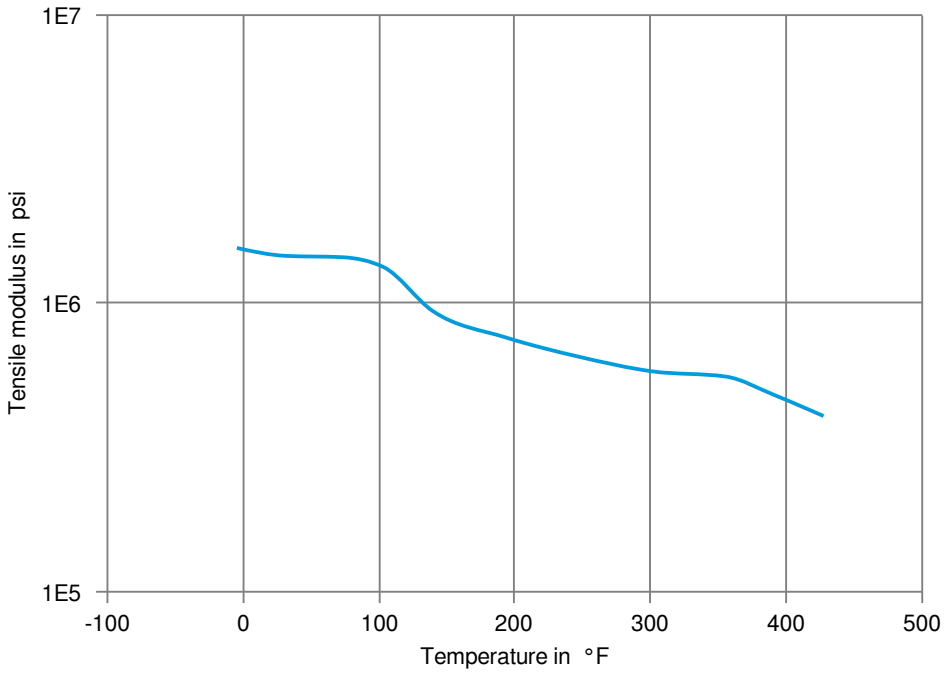
Creep strain-time 194 °F (cond.)



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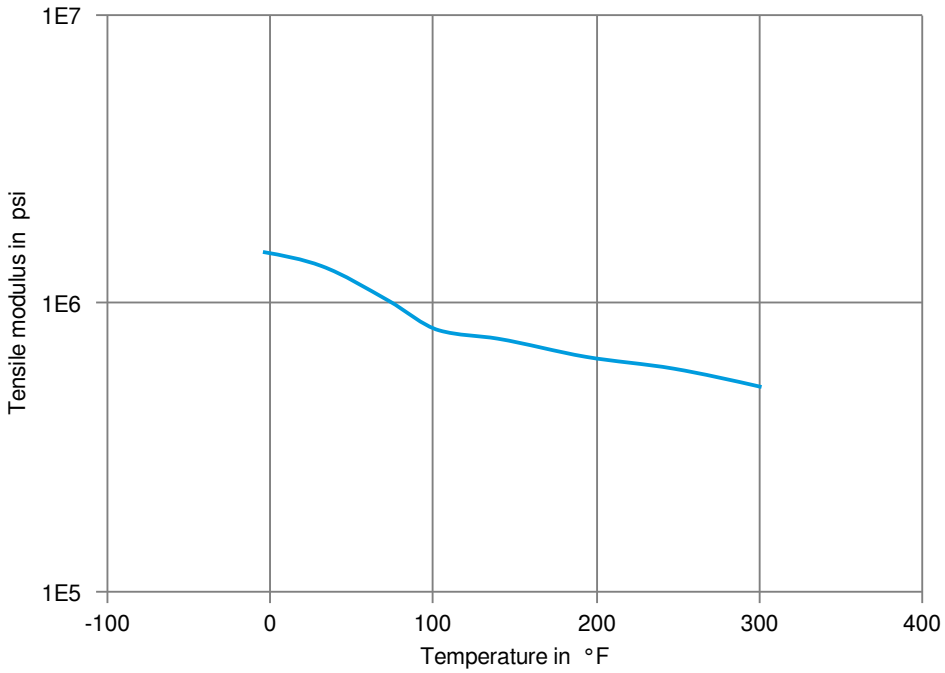
Tensile modulus-temperature (dry)



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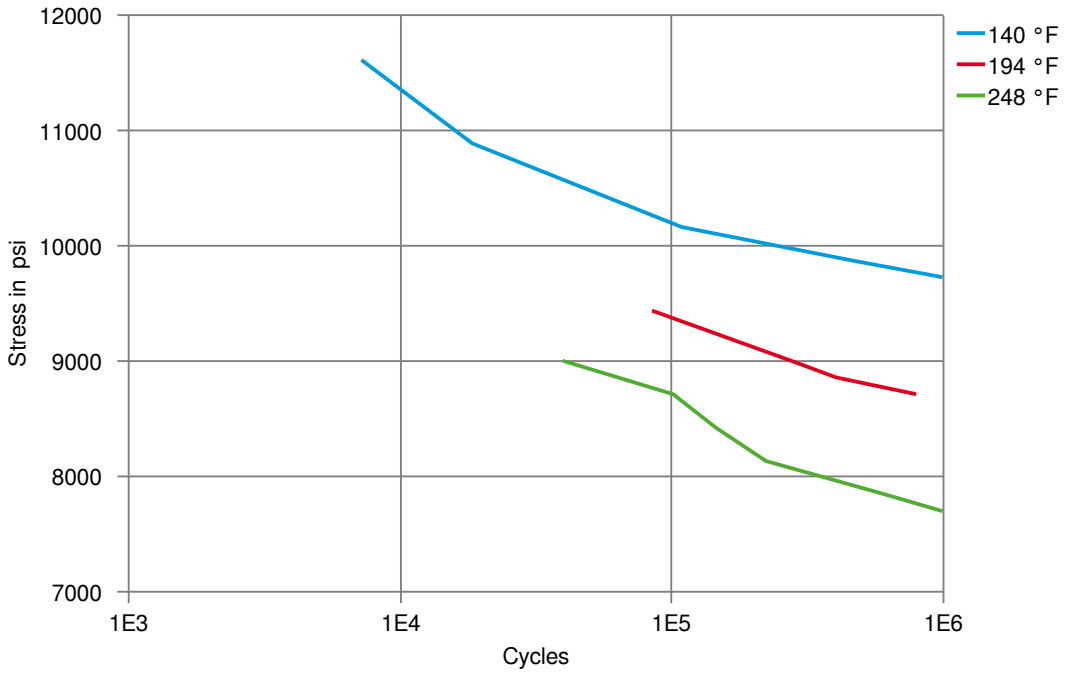
Tensile modulus-temperature (cond.)



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Tensile Fatigue, 10Hz, R=0.1 @ 0in (dry)



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Chemical Media Resistance

Acids

- ✔ Acetic Acid (5% by mass), 23°C
- ✔ Citric Acid solution (10% by mass), 23°C
- ✔ Lactic Acid (10% by mass), 23°C
- ✘ Hydrochloric Acid (36% by mass), 23°C
- ✘ Nitric Acid (40% by mass), 23°C
- ✘ Sulfuric Acid (38% by mass), 23°C
- ✘ Sulfuric Acid (5% by mass), 23°C
- ✘ Chromic Acid solution (40% by mass), 23°C

Bases

- ✘ Sodium Hydroxide solution (35% by mass), 23°C
- ✔ Sodium Hydroxide solution (1% by mass), 23°C
- ✔ Ammonium Hydroxide solution (10% by mass), 23°C

Alcohols

- ✔ Isopropyl alcohol, 23°C
- ✔ Methanol, 23°C
- ✔ Ethanol, 23°C

Hydrocarbons

- ✔ n-Hexane, 23°C
- ✔ Toluene, 23°C
- ✔ iso-Octane, 23°C

Ketones

- ✔ Acetone, 23°C

Ethers

- ✔ Diethyl ether, 23°C

Mineral oils

- ✔ SAE 10W40 multigrade motor oil, 23°C
- ✔ SAE 10W40 multigrade motor oil, 130°C
- ✔ SAE 80/90 hypoid-gear oil, 130°C
- ✔ Insulating Oil, 23°C
- ✔ Motor oil OS206 304 Ref.Eng.Oil, ISP, 135°C
- ✔ Automatic hypoid-gear oil Shell Donax TX, 135°C
- ✔ Hydraulic oil Pentosin CHF 202, 125°C

Standard Fuels

- ✔ ISO 1817 Liquid 1 - E5, 60°C
- ✔ ISO 1817 Liquid 2 - M15E4, 60°C
- ✔ ISO 1817 Liquid 3 - M3E7, 60°C
- ✔ ISO 1817 Liquid 4 - M15, 60°C
- ✔ Standard fuel without alcohol (pref. ISO 1817 Liquid C), 23°C
- ✔ Standard fuel with alcohol (pref. ISO 1817 Liquid 4), 23°C
- ✔ Diesel fuel (pref. ISO 1817 Liquid F), 23°C
- ✔ Diesel fuel (pref. ISO 1817 Liquid F), 90°C
- ✔ Diesel fuel (pref. ISO 1817 Liquid F), >90°C

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Salt solutions

- ✔ Sodium Chloride solution (10% by mass), 23°C
- ✘ Sodium Hypochlorite solution (10% by mass), 23°C
- ✔ Sodium Carbonate solution (20% by mass), 23°C
- ✔ Sodium Carbonate solution (2% by mass), 23°C
- ✘ Zinc Chloride solution (50% by mass), 23°C

Other

- ✔ Ethyl Acetate, 23°C
- ✘ Hydrogen peroxide, 23°C
- ✔ DOT No. 4 Brake fluid, 130°C
- ✔ DOT No. 4 Brake fluid, 120°C
- ✔ Ethylene Glycol (50% by mass) in water, 108°C
- ✔ 1% nonylphenoxy-polyethyleneoxy ethanol in water, 23°C
- ✔ 50% Oleic acid + 50% Olive Oil, 23°C
- ✔ Water, 23°C
- ✔ Water, 90°C
- ✘ Phenol solution (5% by mass), 23°C
- ✔ Coolant Glysantin G48, 1:1 in water, 125°C

Symbols used:

✔ possibly resistant
Defined as: Supplier has sufficient indication that contact with chemical can be potentially accepted under the intended use conditions and expected service life. Criteria for assessment have to be indicated (e.g. surface aspect, volume change, property change).

✘ not recommended - see explanation
Defined as: Not recommended for general use. However, short-term exposure under certain restricted conditions could be acceptable (e.g. fast cleaning with thorough rinsing, spills, wiping, vapor exposure).

Revised: 2026-08-12 Source: Celanese Materials Database

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