CELSTRAN® PA66-GF60-02 AD3002 BLACK

CELSTRAN® Long Fibre

Material code according to ISO 1043-1: PA66

Heat stabilized Nylon 66 reinforced by 60 weight percent long glass fibers. The pellets are cylindrical and normally as well as the embedded fibers 10 mm long.

Parts molded of CELSTRAN have outstanding mechanical properties such as high strength and stiffness combined with high heat deflection. The notched impact strength is increased at elevated and low temperatures due to the fiber skeleton built in the parts. The long fiber reinforcement reduces creep significantly.

The very isotropic shrinkage in the molded parts minimizes the warpage.

Complex parts can be manufactured with high reproducibility by injection molding.

Can be used for substituting die cast metal with the advantage of Weight reduction, no corrosion problems, no post treatment.

Product information

Resin Identification	PA66-LGF60	ISO 1043
Part Marking Code	>PA66-LGF60<	ISO 11469

Typical mechanical properties

	dry/cond.		
Tensile modulus	3.05E6 / 2.47E6	psi	ISO 527-1/-2
Tensile stress at break, 5mm/min	37400 / 29400	psi	ISO 527-1/-2
Tensile strain at break, 5mm/min	1.5 / 1.6	%	ISO 527-1/-2
Flexural modulus	2.78E6 / 2.32E6	psi	ISO 178
Flexural strength	60900 / 47900	psi	ISO 178
Flexural strain at failure	3 / 3.3	%	ISO 178
Charpy impact strength, 23 °C	47.6 / 39.5	ftlb/in²	ISO 179/1eU
Charpy impact strength, -30 °C	40.4 / -	ftlb/in²	ISO 179/1eU
Charpy notched impact strength, 23 °C	23.8 / 19	ftlb/in²	ISO 179/1eA
Charpy notched impact strength, -30 °C	24.7 / -	ftlb/in²	ISO 179/1eA
Puncture - maximum force, 23 °C	2820 / -	N	ISO 6603-2
Puncture energy, 23 °C	17.6 / -	J	ISO 6603-2

Thermal properties

	dry/cond.		
Temperature of deflection under load, 1.8 MPa	500 / *	°F	ISO 75-1/-2
Temperature of deflection under load, 8 MPa	482 / *	°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), normal	0.333 / *	E-4/°F	ISO 11359-1/-2

Physical/Other properties

	dry/cond.		
Density	0.061 / -	lb/in³	ISO 1183

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

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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 (h is the max. wall thickness of the part in mm)	h^2+2	s
Back pressure	435	psi
Ejection temperature	424	°F

Automotive

OEM	STANDARD	ADDITIONAL INFORMATION
Ford	WSB-M4D680-A	
General Motors	GMW17810P-PA66-GF60	Black (Limited Approval)
Stellantis - Chrysler	MS.50017 / CPN-4329	Technical Black

Characteristics

Processing	Injection Molding
Special characteristics	Heat stabilized or stable to heat

Additional information

Processing Notes

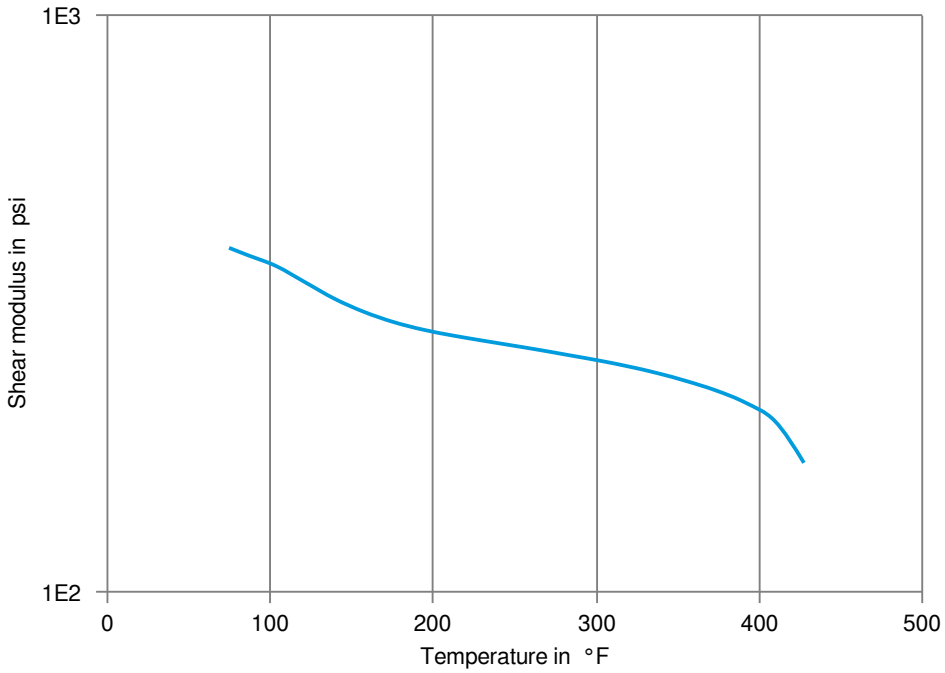
Pre-Drying

CELSTAN PA should in principle be predried. Because of the necessary low maximum residual moisture content the use of dry air dryers is recommended. The dew point should be =< - 30° C. The time between drying and processing should be as short as possible.

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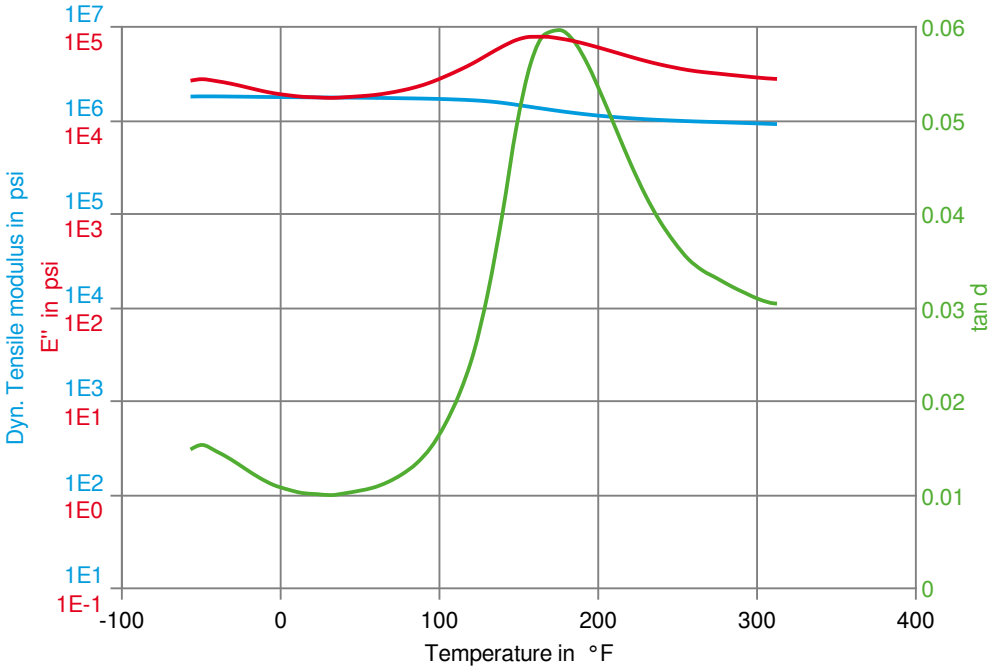
Dynamic Shear modulus-temperature



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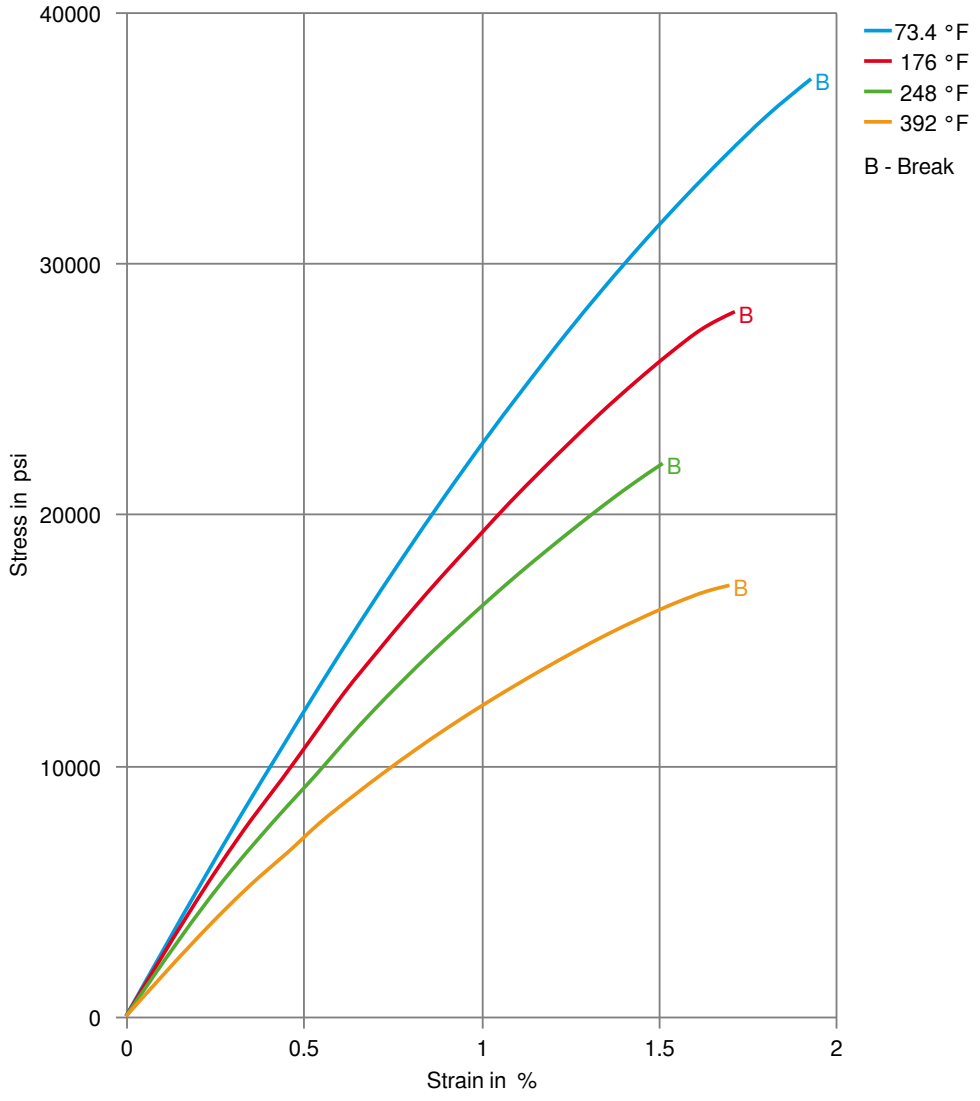
Dynamic Tensile modulus-temperature (dry)



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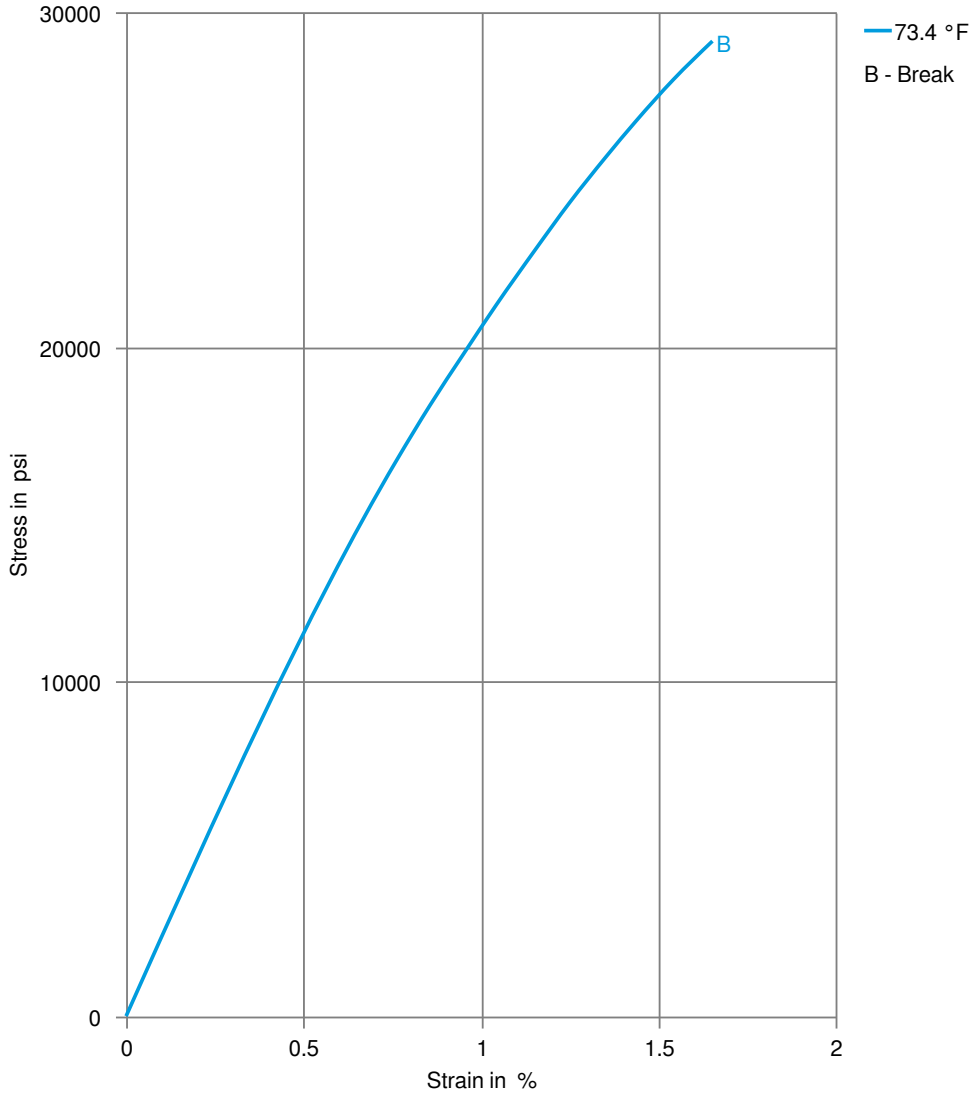
Stress-strain (dry)



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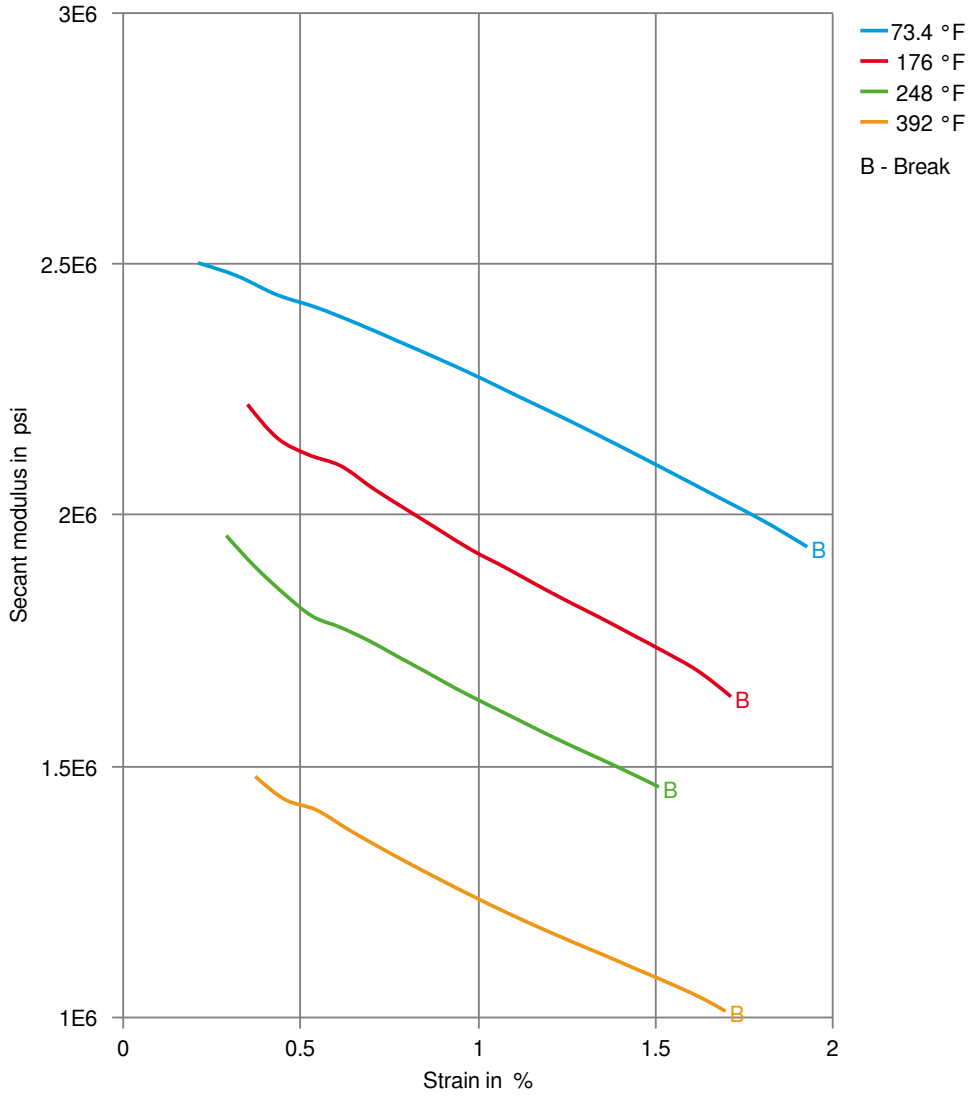
Stress-strain (cond.)



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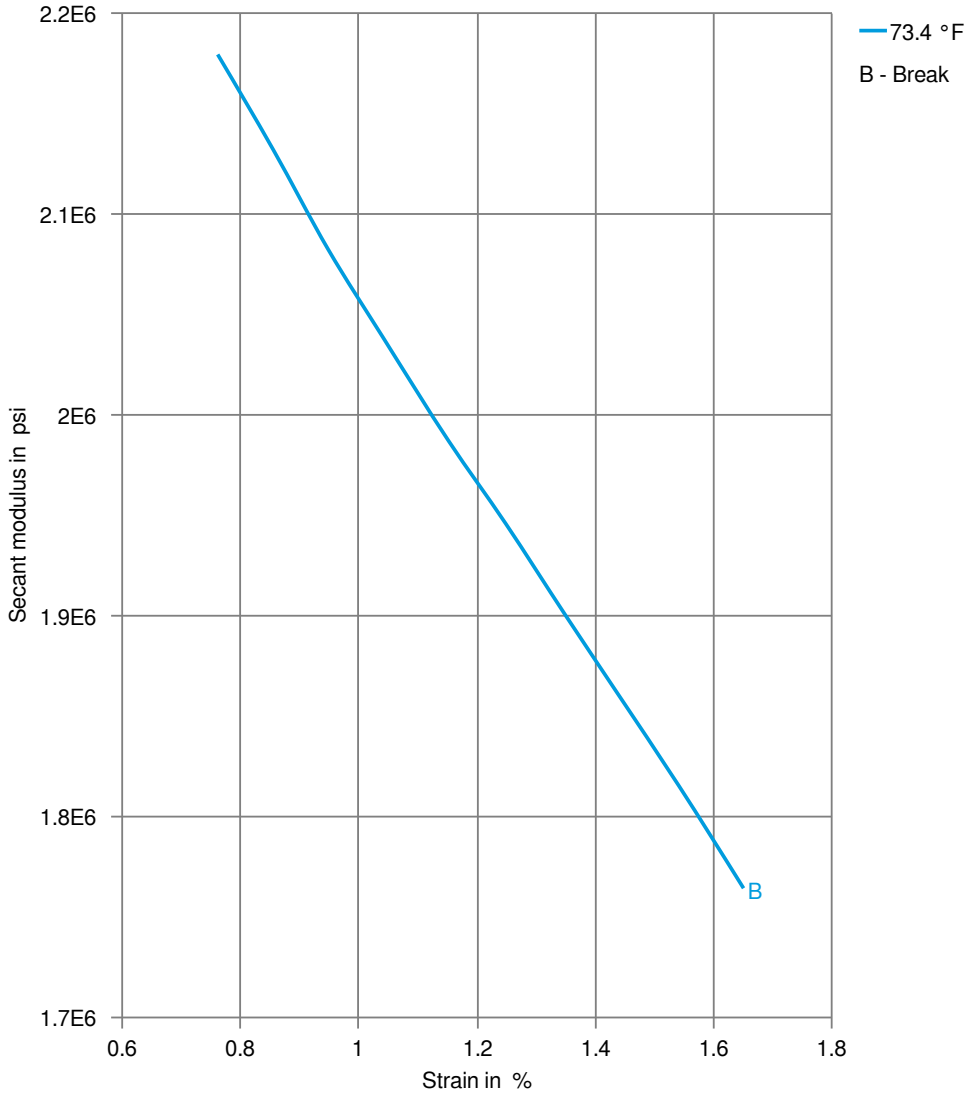
Secant modulus-strain (dry)



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Secant modulus-strain (cond.)



Revised: 2025-05-15 Source: Celanese Materials Database

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