CELSTRAN® PA66-GF50-20 AD3007

CELSTRAN® Long Fibre

Material code according to ISO 1043-1: PA66

Heat stabilized Nylon 66 reinforced by 50 weight percent long glass fibers. The pellets are cylindrical and normally as well as the embedded fibers 11 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-LGF50	ISO 1043
Part Marking Code	>PA66-LGF50<	ISO 11469

Rheological properties

	dry/cond.		
Viscosity number	3650 / *	in³/lb	ISO 307, 1628

Typical mechanical properties

	dry/cond.		
Tensile modulus	2.38E6 / 189000	psi	ISO 527-1/-2
Tensile stress at break, 5mm/min	39900 / 28700	psi	ISO 527-1/-2
Tensile strain at break, 5mm/min	2.3 / 2.3	%	ISO 527-1/-2
Flexural modulus	2.09E6 / 1.67E6	psi	ISO 178
Flexural strength	62400 / 45000	psi	ISO 178
Flexural strain at failure	3 / 2.5	%	ISO 178
Charpy impact strength, 23°C	57.1 / 50.9	ftlb/in²	ISO 179/1eU
Charpy impact strength, -30°C	45.2 / 29.5	ftlb/in²	ISO 179/1eU
Charpy notched impact strength, 23°C	27.1 / 22.8	ftlb/in²	ISO 179/1eA
Charpy notched impact strength, -30°C	24.7 / 20	ftlb/in²	ISO 179/1eA

Thermal properties

	dry/cond.		
Melting temperature, 10°C/min	500 / *	°F	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	496 / *	°F	ISO 75-1/-2
Temperature of deflection under load, 8 MPa	468 / *	°F	ISO 75-1/-2
Coefficient of linear thermal expansion (CLTE), parallel	0.09 / *	E-4/°F	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), normal	0.344 / *	E-4/°F	ISO 11359-1/-2

Physical/Other properties

	dry/cond.		
Density	0.0563 / -	lb/in³	ISO 1183

Injection

Drying Recommended	yes	
Drying Temperature	176	°F
Drying Time, Dehumidified Dryer	2 - 4	h
Processing Moisture Content	≤0.2	%

CELSTRAN® PA66-GF50-20 AD3007

CELSTRAN® Long Fibre

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

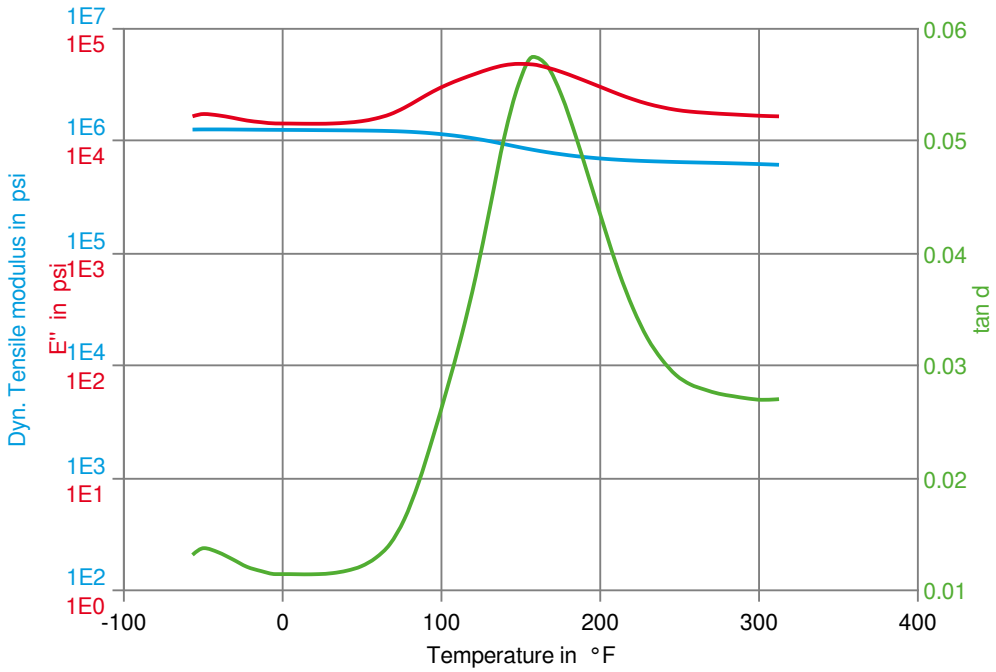
Characteristics

Processing	Injection Molding
Special characteristics	Heat stabilized or stable to heat

CELSTRAN® PA66-GF50-20 AD3007

CELSTRAN® Long Fibre

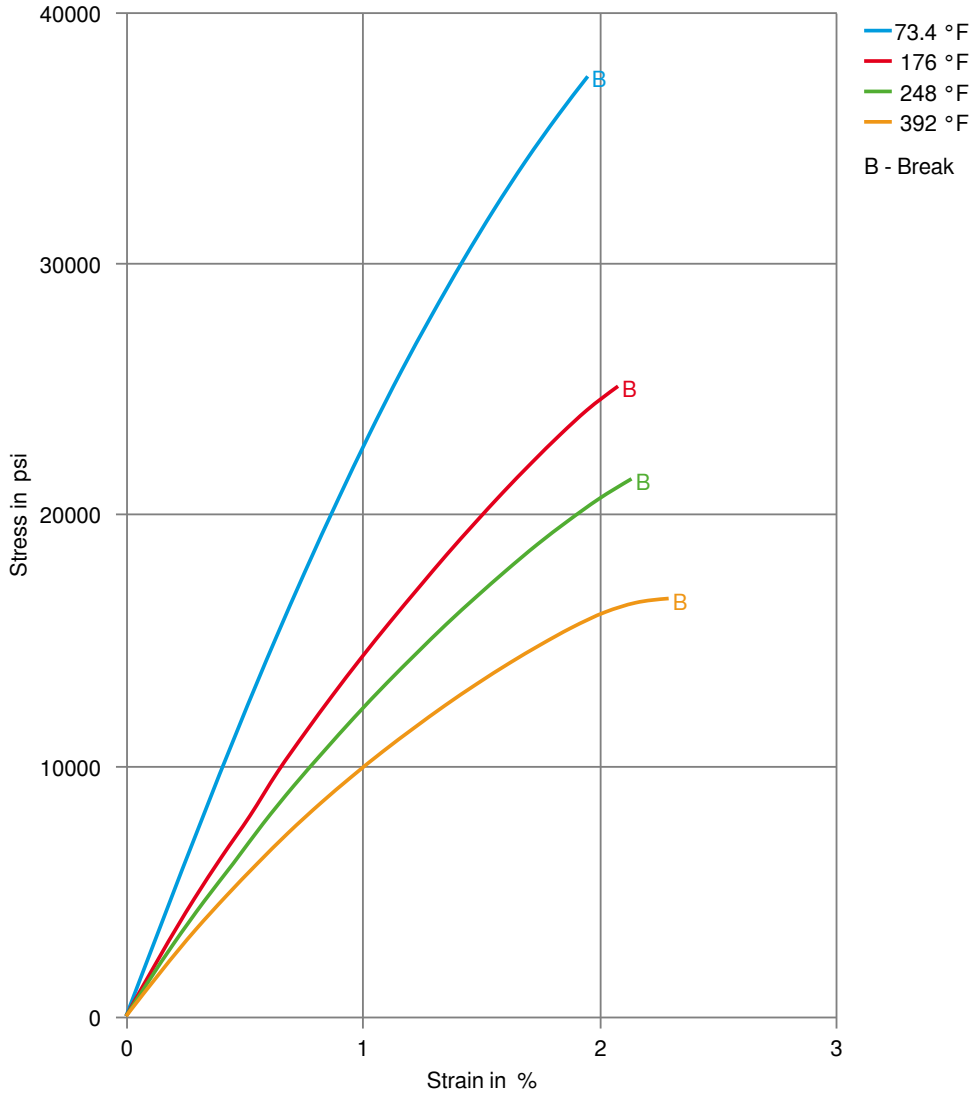
Dynamic Tensile modulus-temperature (dry)



CELSTRAN® PA66-GF50-20 AD3007

CELSTRAN® Long Fibre

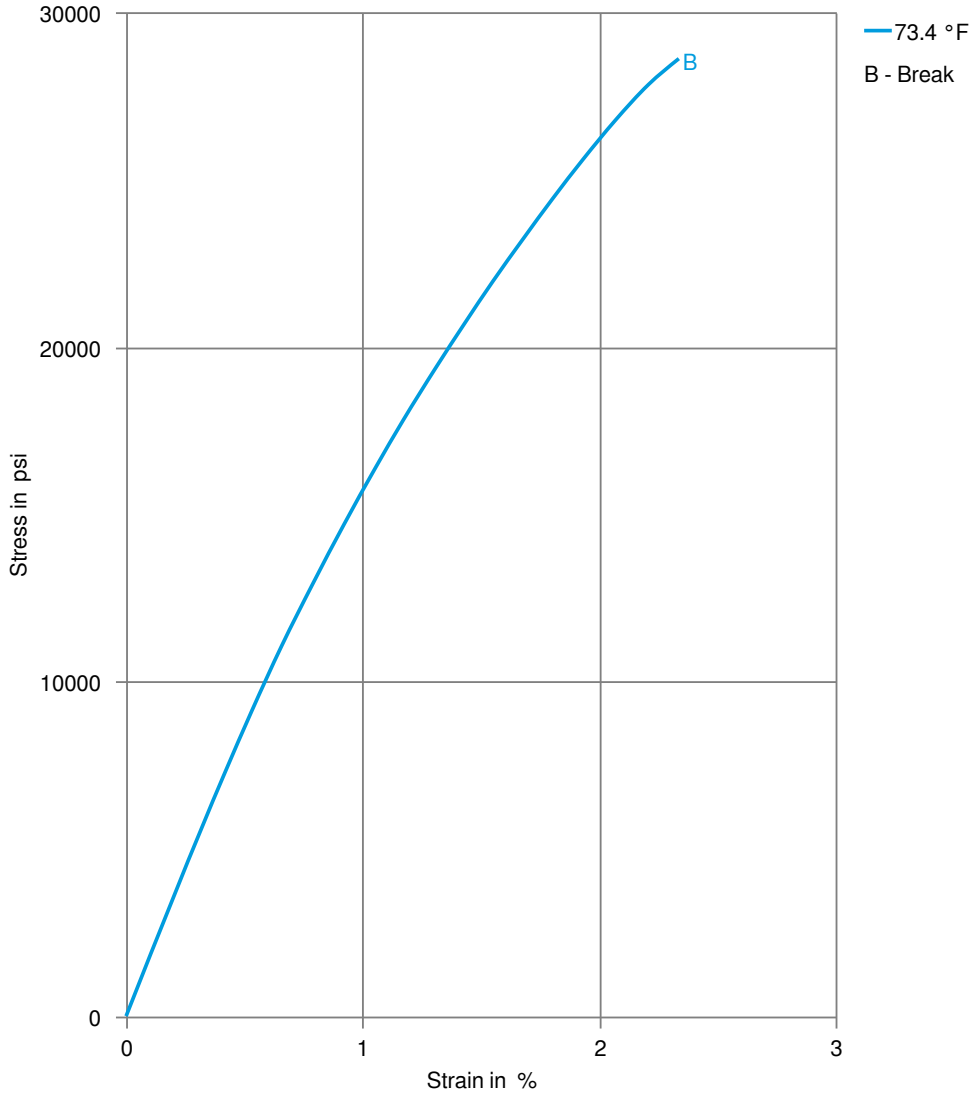
Stress-strain (dry)



CELSTRAN® PA66-GF50-20 AD3007

CELSTRAN® Long Fibre

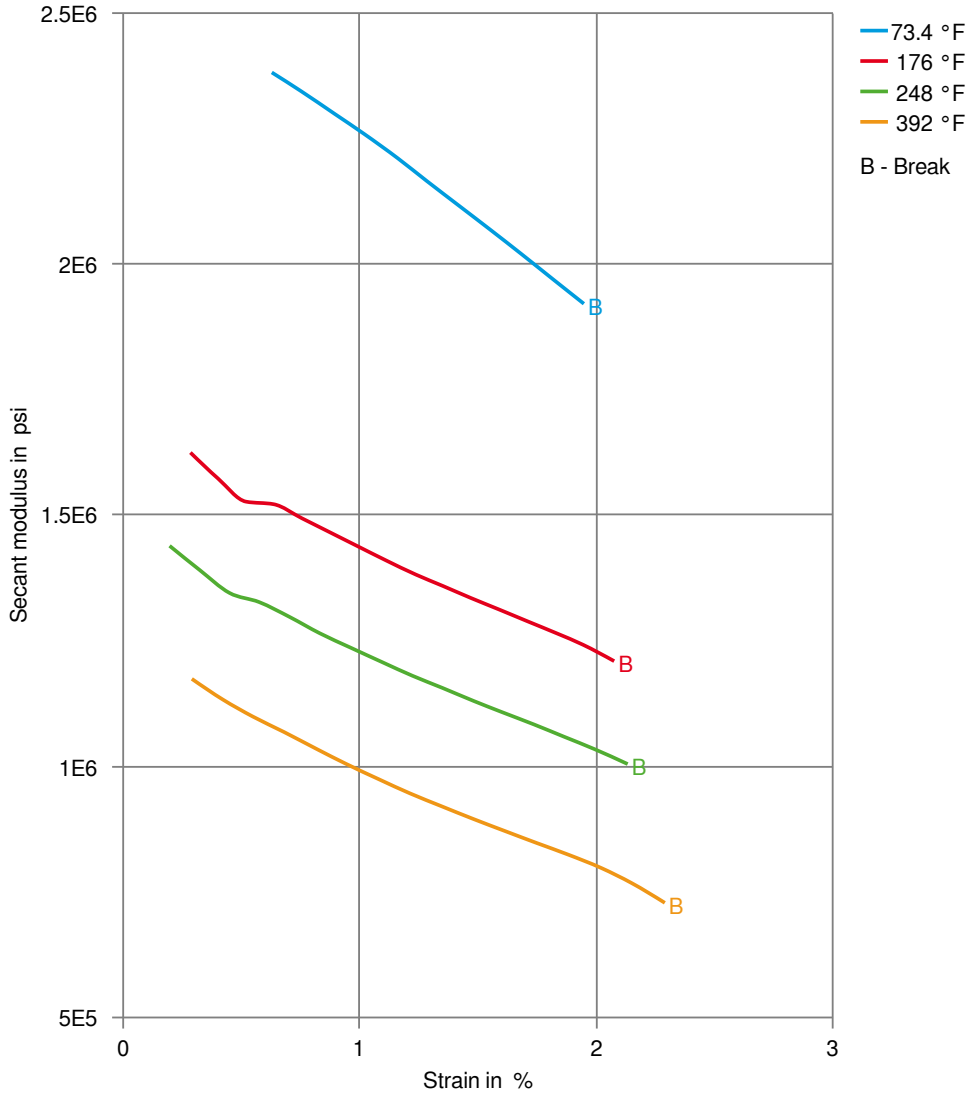
Stress-strain (cond.)



CELSTRAN® PA66-GF50-20 AD3007

CELSTRAN® Long Fibre

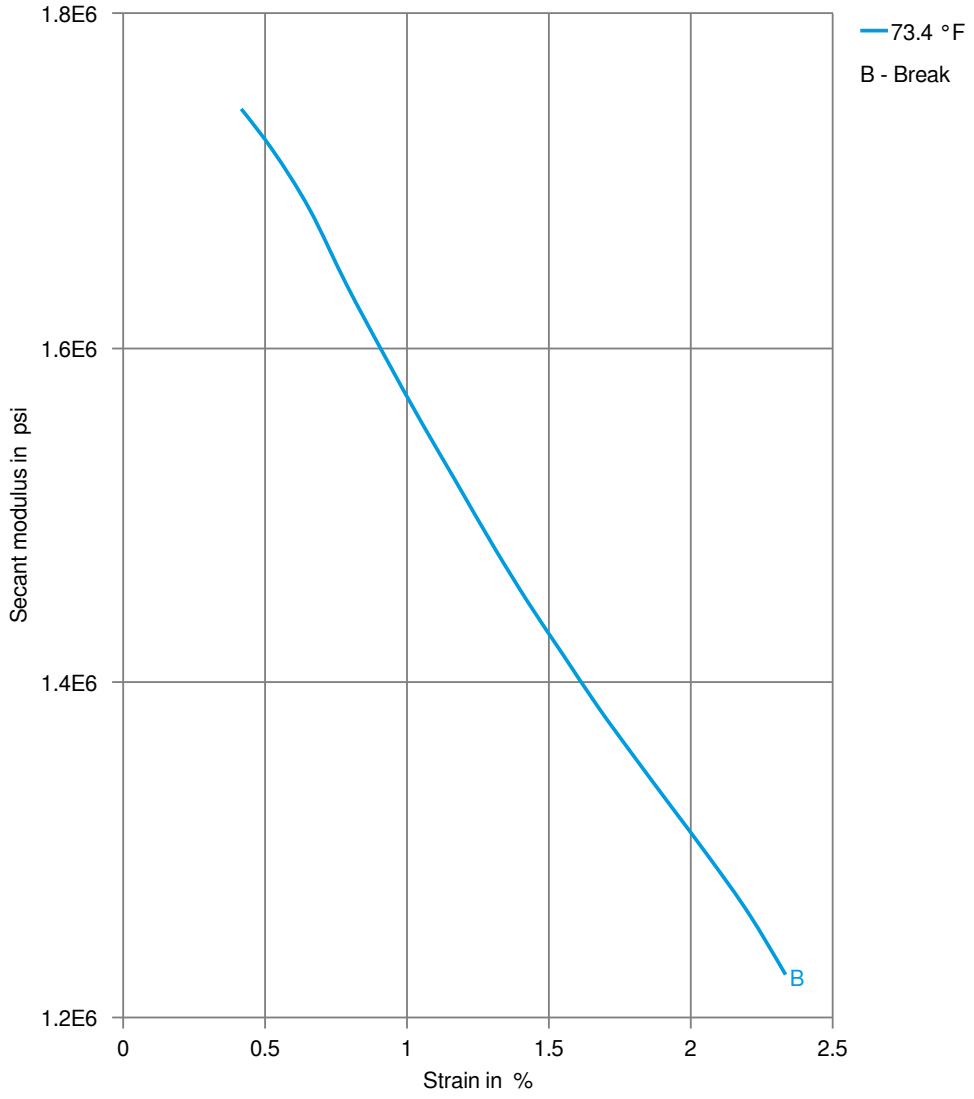
Secant modulus-strain (dry)



CELSTRAN® PA66-GF50-20 AD3007

CELSTRAN® Long Fibre

Secant modulus-strain (cond.)



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

NOTICE TO USERS: Values shown are based on testing of laboratory test specimens and represent data that fall within the standard range of properties for natural material. These values alone do not represent a sufficient basis for any part design and are not intended for use in establishing maximum, minimum, or ranges of values for specification purposes. Colorants or other additives may cause significant variations in data values. Properties of molded parts can be influenced by a wide variety of factors including, but not limited to, material selection, additives, part design, processing conditions and environmental exposure. Other than those products expressly identified as medical grade (including by MT® product designation or otherwise), Celanese's products are not intended for use in medical or dental implants. Regardless of any such product designation, any determination of the suitability of a particular material and part design for any use contemplated by the users and the manner of such use is the sole responsibility of the users, who must assure themselves that the material as subsequently processed meets the needs of their particular product or use. To the best of our knowledge, the information contained in this publication is accurate; however, we do not assume any liability whatsoever for the accuracy and completeness of such information. The information contained in this publication should not be construed as a promise or guarantee of specific properties of our products. It is the sole responsibility of the users to investigate whether any existing patents are infringed by the use of the materials mentioned in this publication. Moreover, there is a need to reduce human exposure to many materials to the lowest practical limits in view of possible adverse effects. To the extent that any hazards may have been mentioned in this publication, we neither suggest nor guarantee that such hazards are the only ones that exist. We recommend that persons intending to rely on any recommendation or to use any equipment, processing technique or material mentioned in this publication should satisfy themselves that they can meet all applicable safety and health standards. We strongly recommend that users seek and adhere to the manufacturer's current instructions for handling each material they use, and entrust the handling of such material to adequately trained personnel only. Please call the telephone numbers listed for additional technical information. Call Customer Services for the appropriate Materials Safety Data Sheets (MSDS) before attempting to process our products.
Copyright © 2026 Celanese or its affiliates. All rights reserved.
Celanese®, registered C-ball design and all other trademarks identified herein with ®, TM, SM, unless otherwise noted, are trademarks of Celanese or its affiliates.