CELSTRAN® PA66-CF40-02 AF3004 NATURAL

CELSTRAN® Long Fibre

Celstran® PA66-CF40-02 is a 40% long carbon fiber 66 polyamid. This material imparts excellent impact and extremely high modulus properties that exceed that of short carbon fiber PA66. High heat distortion temperatures and good chemical resistance makes Celstran PA66 the perfect product for metal replacement applications

Product information

Resin Identification	PA66-LCF40	ISO 1043
Part Marking Code	>PA66-LCF40<	ISO 11469

Typical mechanical properties

Tensile modulus	4.48E6	psi	ISO 527-1/-2
Tensile stress at break, 5mm/min	42600	psi	ISO 527-1/-2
Tensile strain at break, 5mm/min	1	%	ISO 527-1/-2
Flexural modulus	3.77E6	psi	ISO 178
Flexural strength	66000	psi	ISO 178
Charpy notched impact strength, 23 °C	10.9	ftlb/in²	ISO 179/1eA

Thermal properties

Temperature of deflection under load, 1.8 MPa	500	°F	ISO 75-1/-2

Physical/Other properties

Density	0.0484	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	572	°F
Min. melt temperature	545	°F
Max. melt temperature	599	°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)	h²+2	s
Ejection temperature	419	°F

Characteristics

Processing	Injection Molding
Special characteristics	Increased electrical conductivity, Heat stabilized or stable to heat, Light weight

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Additional information

Processing Notes

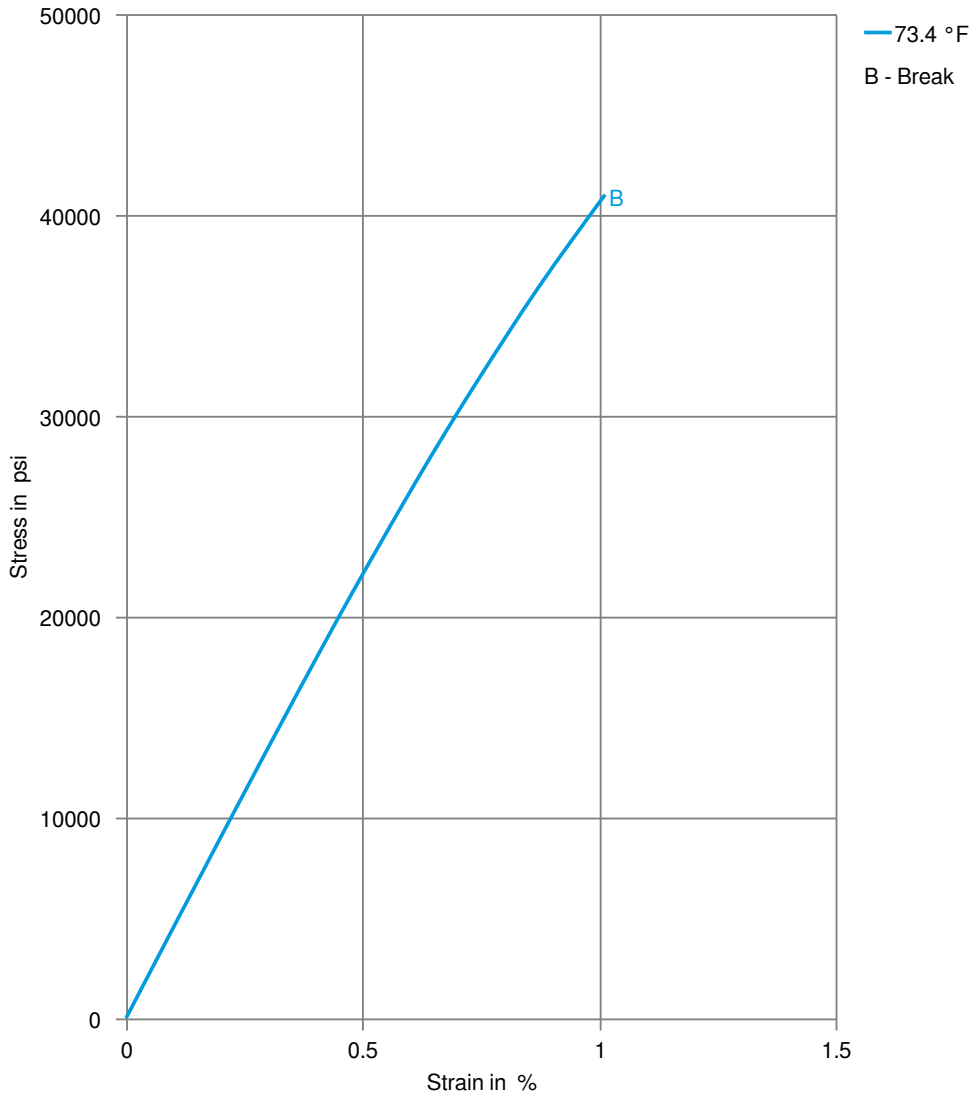
Pre-Drying

CELSTRAN 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.

Storage

Note: Material can be over dried and may discolor.

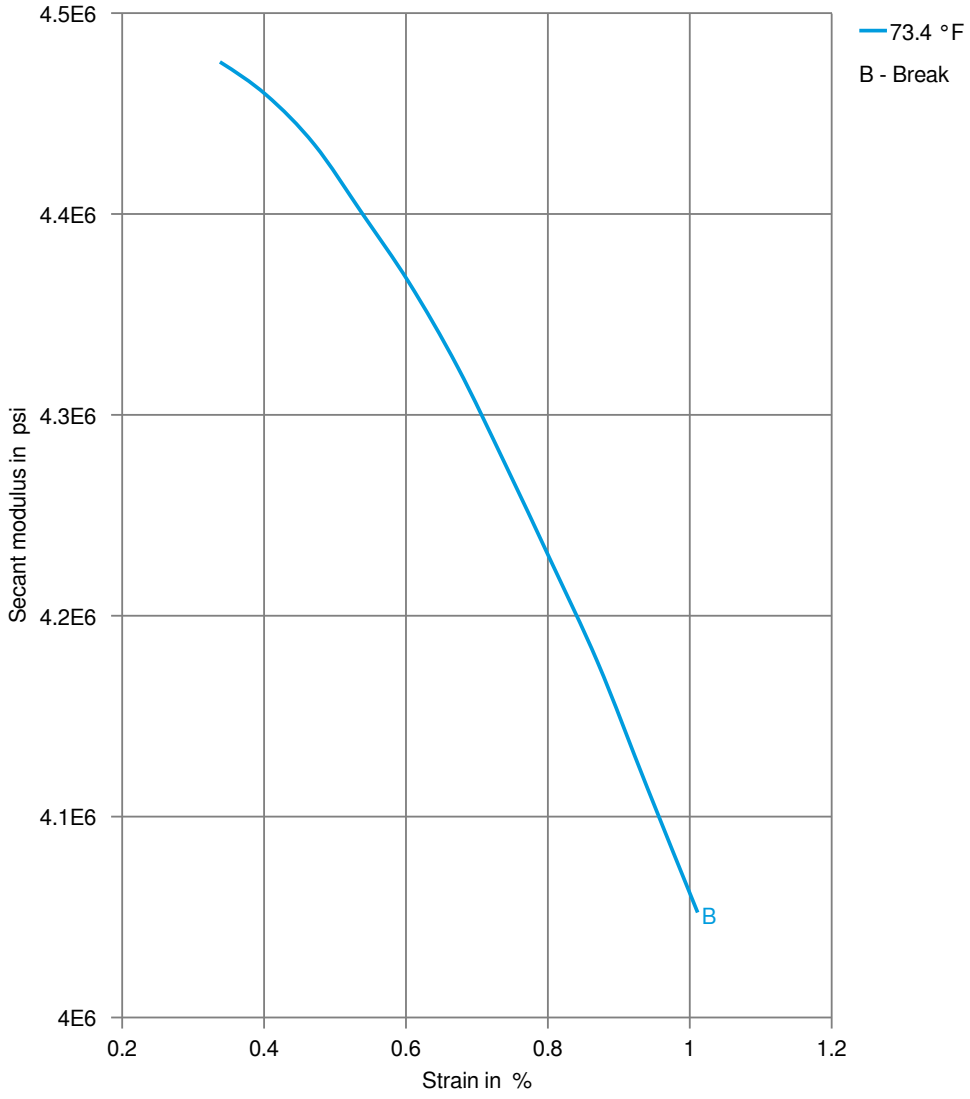
Stress-strain



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Secant modulus-strain



Revised: 2025-07-11 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.
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