CELSTRAN® PP-GF20-0453 P10/10

CELSTRAN® Long Fibre

Material code according to ISO 1043-1: PP Polypropylene homopolymer reinforced with 20weight percent long glass fibers. Black. The fibers are chemically coupled to the polypropylene matrix. The pellets are cylindrical and normally as well as the embedded fibers 11 mm long. (-0453 = low emission-grade). 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. Application field: Functional/structural parts for automotive

Product information

Resin Identification	PP-LGF20	ISO 1043
Part Marking Code	>PP-LGF20<	ISO 11469

Typical mechanical properties

Tensile modulus	638000	psi	ISO 527-1/-2
Tensile stress at break, 5mm/min	12300	psi	ISO 527-1/-2
Tensile strain at break, 5mm/min	2.4	%	ISO 527-1/-2
Flexural modulus	711000	psi	ISO 178
Flexural strength	18100	psi	ISO 178
Charpy impact strength, 23°C	21.4	ftlb/in²	ISO 179/1eU
Charpy impact strength, -30°C	11.4	ftlb/in²	ISO 179/1eU
Charpy notched impact strength, 23°C	5.71	ftlb/in²	ISO 179/1eA
Charpy notched impact strength, -30°C	7.14	ftlb/in²	ISO 179/1eA

Thermal properties

Melting temperature, 10°C/min	331	°F	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	318	°F	ISO 75-1/-2

Physical/Other properties

Density	0.0372	lb/in³	ISO 1183

Injection

Drying Recommended	yes	
Drying Temperature	194	°F
Drying Time, Dehumidified Dryer	2 - 3	h
Processing Moisture Content	≤0.2	%
Melt Temperature Optimum	446	°F
Min. melt temperature	392	°F
Max. melt temperature	464	°F
Max. screw tangential speed	≤0.1	m/s
Mold Temperature Optimum	122	°F
Min. mold temperature	86	°F
Max. mold temperature	158	°F
Back pressure	435	psi

CELSTRAN® PP-GF20-0453 P10/10

CELSTRAN® Long Fibre

Characteristics

Processing	Injection Molding
Special characteristics	Low emissions

Additional information

Processing Notes

Pre-Drying

It is normally not necessary to dry CELSTRAN PP. However, should there be surface moisture (condensate) on the molding compound as a result of incorrect storage, drying is required. A circulating air drying cabinet can be used for this purpose if the gran

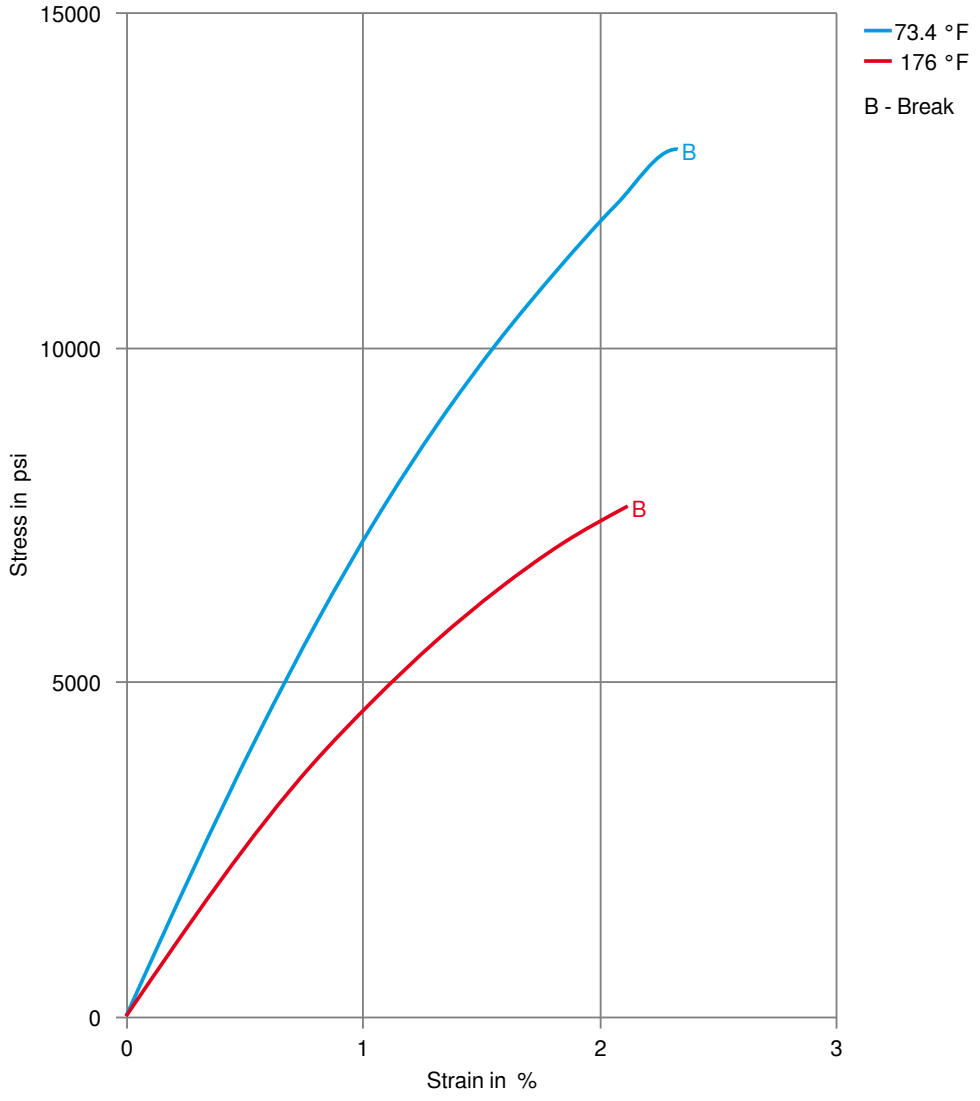
Storage

The product can then be stored in standard conditions until processed.

CELSTRAN® PP-GF20-0453 P10/10

CELSTRAN® Long Fibre

Stress-strain

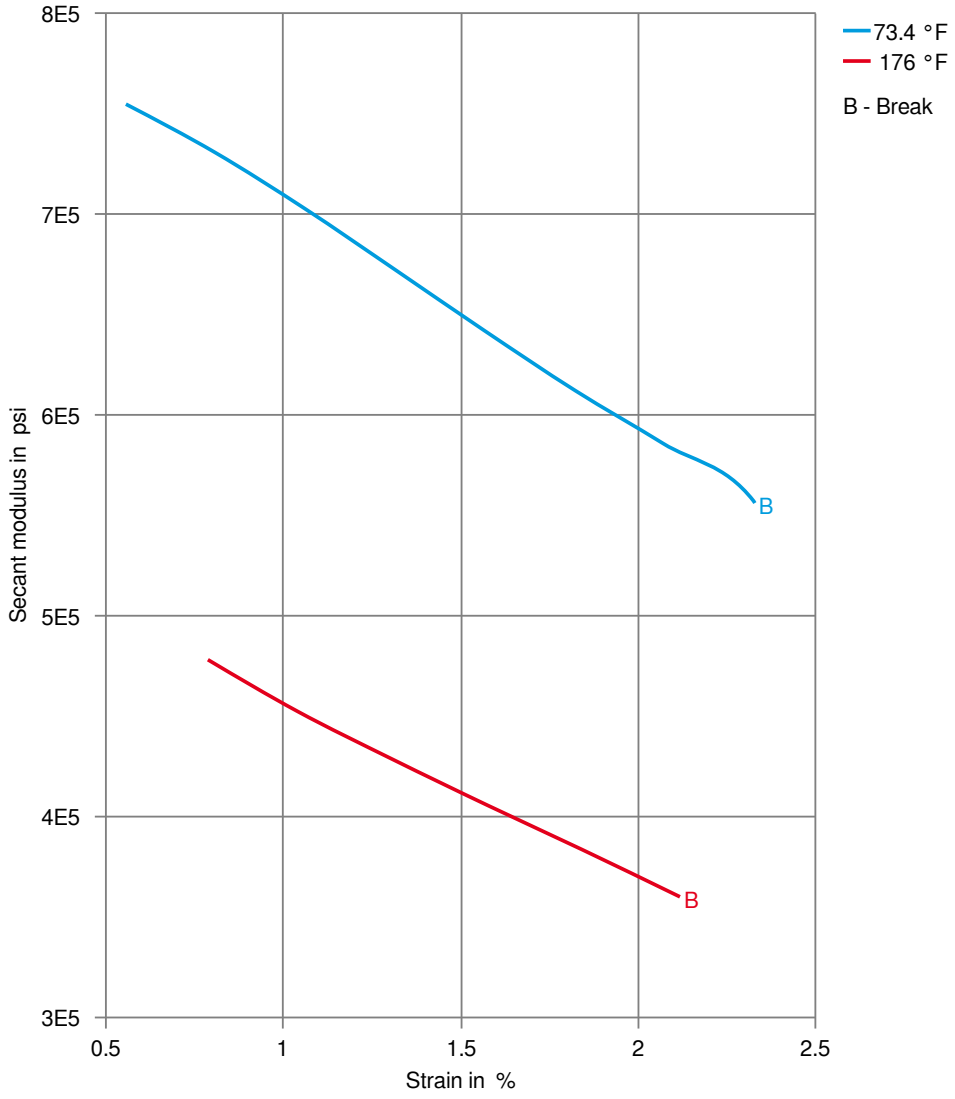


Revised: 2025-07-10 Source: Celanese Materials Database

CELSTRAN® PP-GF20-0453 P10/10

CELSTRAN® Long Fibre

Secant modulus-strain



Revised: 2025-07-10 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.