CELSTRAN® PP-GF40-0455 P10 TITAN BLACK

CELSTRAN® Long Fibre

Material code according to ISO 1043-1: PP

UV-stabilized polypropylene reinforced with 40 weight percent long glass fibers, low emission. The fibers are chemically coupled to the polypropylene matrix. 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.

Application field: Functional/structural parts for automotive

Product information

Resin Identification	PP-LGF40	ISO 1043
Part Marking Code	>PP-LGF40<	ISO 11469

Typical mechanical properties

Tensile modulus	1.31E6	psi	ISO 527-1/-2
Tensile stress at break, 5mm/min	18100	psi	ISO 527-1/-2
Tensile strain at break, 5mm/min	2	%	ISO 527-1/-2
Flexural modulus	1.28E6	psi	ISO 178
Flexural strength	29000	psi	ISO 178
Charpy impact strength, 23°C	30.9	ftlb/in²	ISO 179/1eU
Charpy impact strength, -30°C	27.6	ftlb/in²	ISO 179/1eU
Charpy notched impact strength, 23°C	11.9	ftlb/in²	ISO 179/1eA
Charpy notched impact strength, -30°C	14.7	ftlb/in²	ISO 179/1eA
Izod notched impact strength, 23°C	10.5	ftlb/in²	ISO 180/1A
Poisson's ratio	0.35		

Thermal properties

Melting temperature, 10°C/min	329	°F	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	318	°F	ISO 75-1/-2
Temperature of deflection under load, 8 MPa	275	°F	ISO 75-1/-2

Physical/Other properties

Density	0.044	lb/in³	ISO 1183

Emissions

Emission of organic compounds	30	µgC/g	VDA 277
Odor test	3.5	class	VDA 270

Injection

Drying Recommended	yes	
Drying Temperature	194	°F
Drying Time, Dehumidified Dryer	2 - 3	h
Processing Moisture Content	≤0.2	%
Melt Temperature Optimum	482	°F
Min. melt temperature	446	°F

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Max. melt temperature	518	°F
Max. screw tangential speed	≤0.1	m/s
Mold Temperature Optimum	140	°F
Min. mold temperature	104	°F
Max. mold temperature	158	°F
Back pressure	435	psi

Automotive

OEM	ADDITIONAL INFORMATION
Renault	EP15a, PMR 2020, AS7 Aesthetic Int., No Spec, Special Part Approval, See Your CE Account Manager.

Characteristics

Processing	Injection Molding, Extrusion, Sheet Extrusion, Other Extrusion, Transfer Molding
Special characteristics	U.V. stabilized or stable to weather, Low emissions

Additional information

Processing Notes

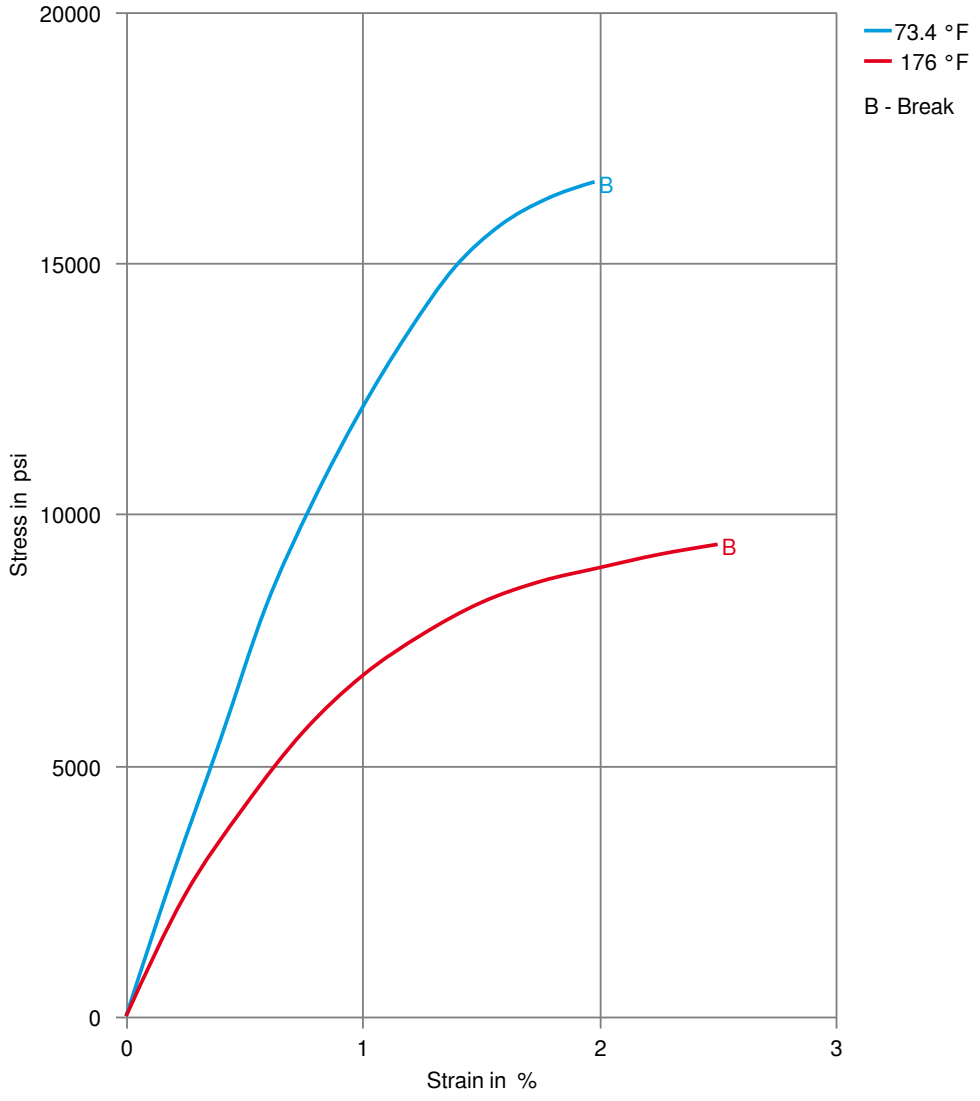
Pre-Drying

It is normally not necessary to dry CELSTRAN PP

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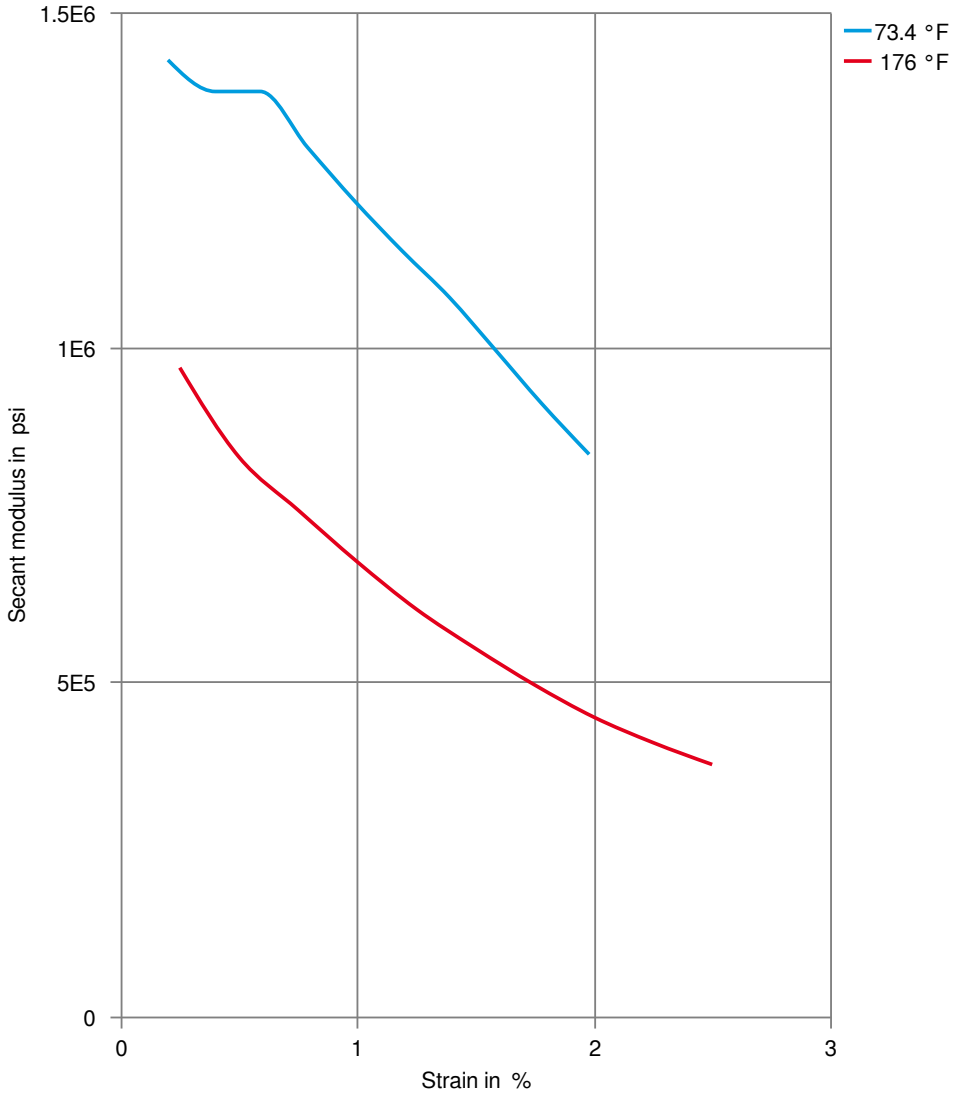
Stress-strain



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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.
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