

CELSTRAN® PP-GF50-0403 P10/10

50% long glass fiber reinforced PP

Material code according to ISO 1043-1: PP Heat stabilized polypropylene reinforced with 50 weight 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. 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

Typical mechanical properties

Tensile Modulus	11600 MPa	ISO 527-1/-2
Stress at break, 5mm/min	140 MPa	ISO 527-1/-2
Strain at break, 5mm/min	1.8 %	ISO 527-1/-2
Flexural Modulus	12000 MPa	ISO 178
Flexural Strength	220 MPa	ISO 178
Charpy impact strength, 23°C	60 kJ/m ²	ISO 179/1eU
Charpy impact strength, -30°C	58 kJ/m ²	ISO 179/1eU
Charpy notched impact strength, 23°C	32 kJ/m ²	ISO 179/1eA
Charpy notched impact strength, -30°C	33 kJ/m ²	ISO 179/1eA

Thermal properties

Melting temperature, 10°C/min	165 °C	ISO 11357-1/-3
Temp. of deflection under load, 1.8 MPa	158 °C	ISO 75-1/-2
Temp. of deflection under load, 8 MPa	134 °C	ISO 75-1/-2
Coeff. of linear therm. expansion, parallel	15 E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal	77 E-6/K	ISO 11359-1/-2

Flammability

Burning Behav. at thickness h	HB class	UL 94
Thickness tested	2.00 mm	UL 94

Electrical properties

Comparative tracking index	550	IEC 60112
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Other properties

Density	1340 kg/m ³	ISO 1183
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Injection

Drying Temperature	90 - 100 °C
Drying Time, Dehumidified Dryer	2 h
Processing Moisture Content	0.2 %
Screw tangential speed	0.1 m/s
Max. mould temperature	30 - 70 °C



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Back pressure
Injection speed

3 MPa
slow

Additional information

Injection molding

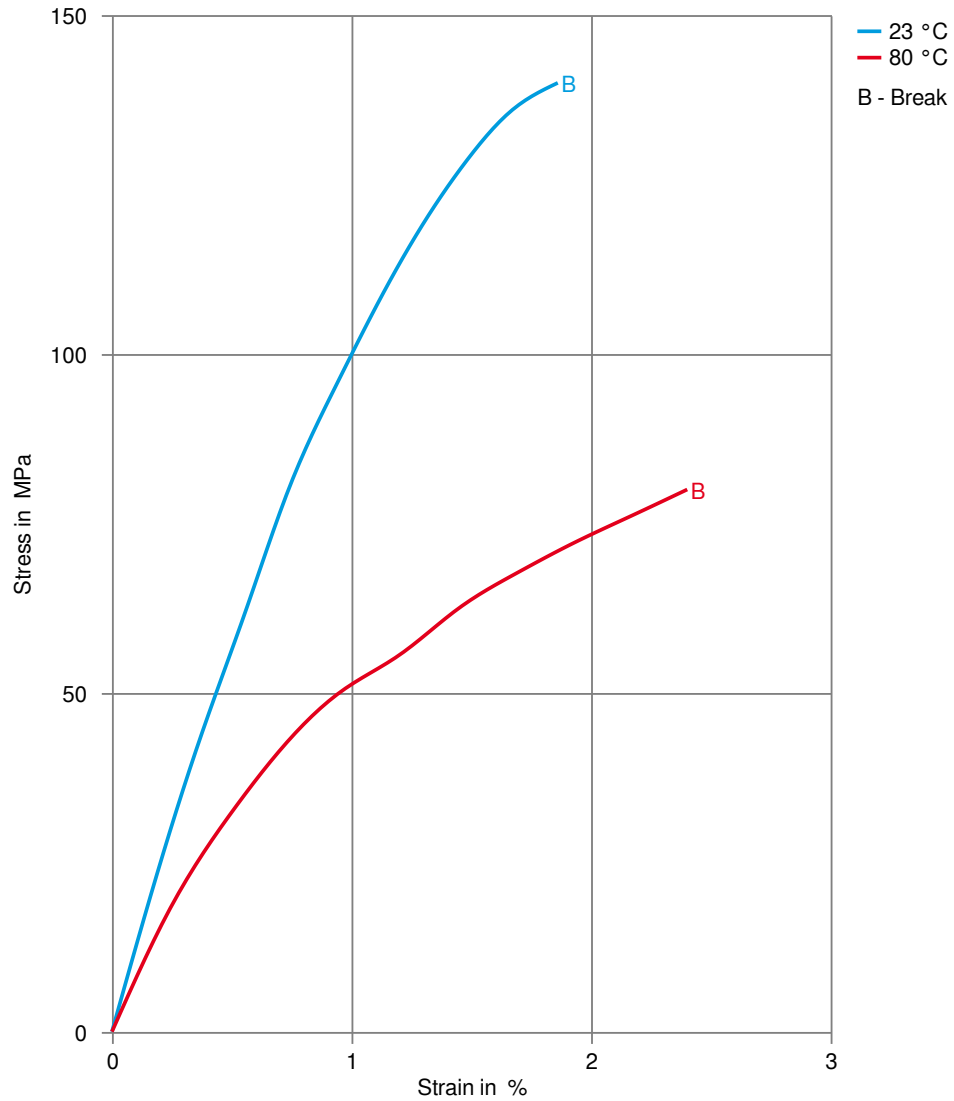
Celstran can be processed on a standard injection molding unit. A general purpose metering screw is recommended with a zone distribution of 40% feed, 40% transition, and 20% metering. A free flowing check ring assembly is recommended.

Melt Temp: 260-290°C.
Mold Temp: 40- 70°C.



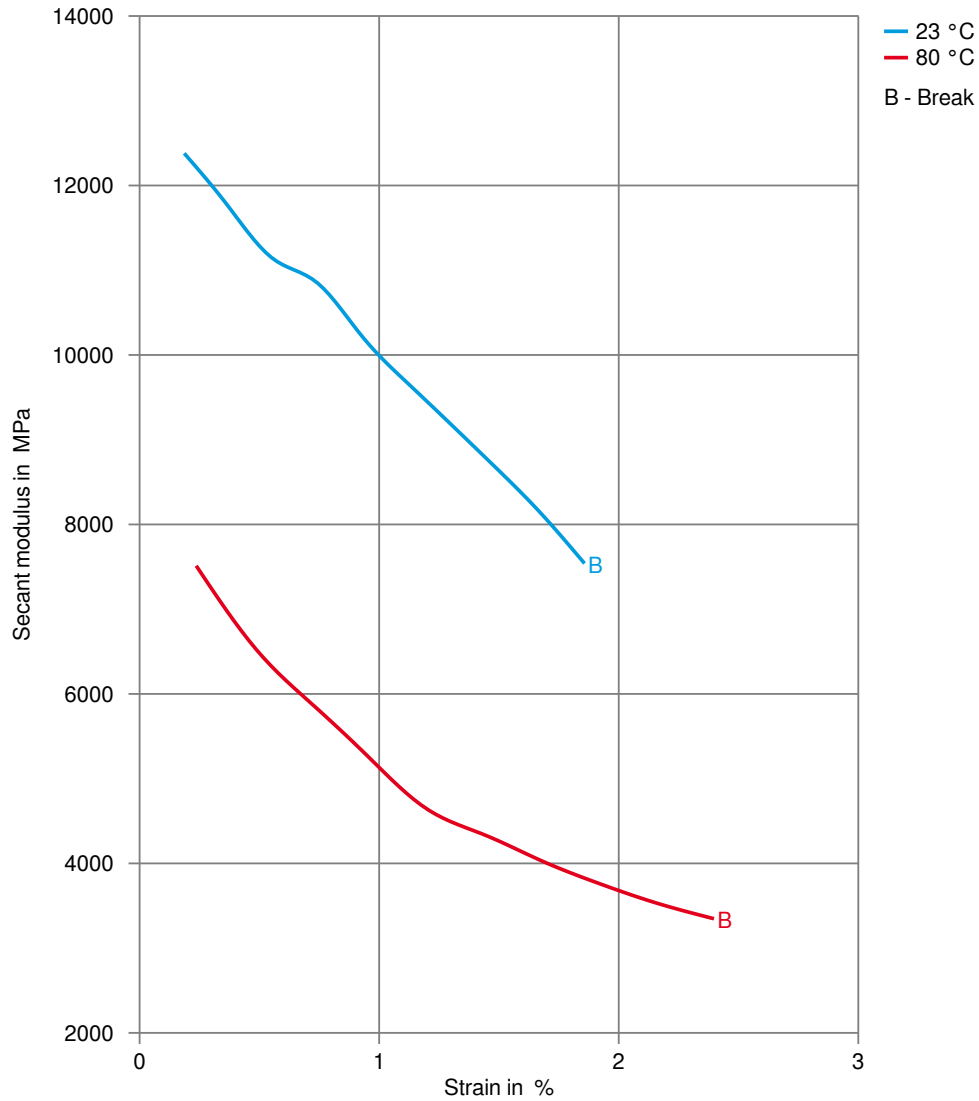
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Stress-strain



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Secant modulus-strain



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Processing Texts

Pre-drying

It is normally not necessary to dry CELSTRAN PP

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Melt Temp: 260-290°C.

Mold Temp: 40- 70°C.

Injection molding Preprocessing

PP&PE drying requirements: 2 hrs. @94° C.
A dehumidifier or desiccant dryer is recommended.

Other Approvals

Other Approvals

OEM	Specification	Additional Information
Mercedes-Benz Group (Daimler)	DBL 5416	MBN 10506 (Kalahari)
Li Auto	Q/LiA5310050	2021 (V2)

