

# CELSTRAN® PP-GF50-0455 P10/10

UV stabilized, low emission

Material code according to ISO 1043-1: PP Heat and light stabilized polypropylene reinforced with 50 weight percent long glass fibers. Black. The product has low emissions. 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 <sup>2</sup>	ISO 179/1eU
Charpy impact strength, -30 °C	58 kJ/m <sup>2</sup>	ISO 179/1eU
Charpy notched impact strength, 23°C	32 kJ/m <sup>2</sup>	ISO 179/1eA
Charpy notched impact strength, -30 °C	33 kJ/m <sup>2</sup>	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	138 °C	ISO 75-1/-2
Coeff. of linear therm. expansion, parallel	18 E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal	82 E-6/K	ISO 11359-1/-2

## Flammability

Burning Behav. at thickness h	HB class	UL 94
Thickness tested	1.00 mm	UL 94

## Other properties

Density	1340 kg/m <sup>3</sup>	ISO 1183
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## VDA Properties

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



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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
Back pressure	3 MPa
Injection speed	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.

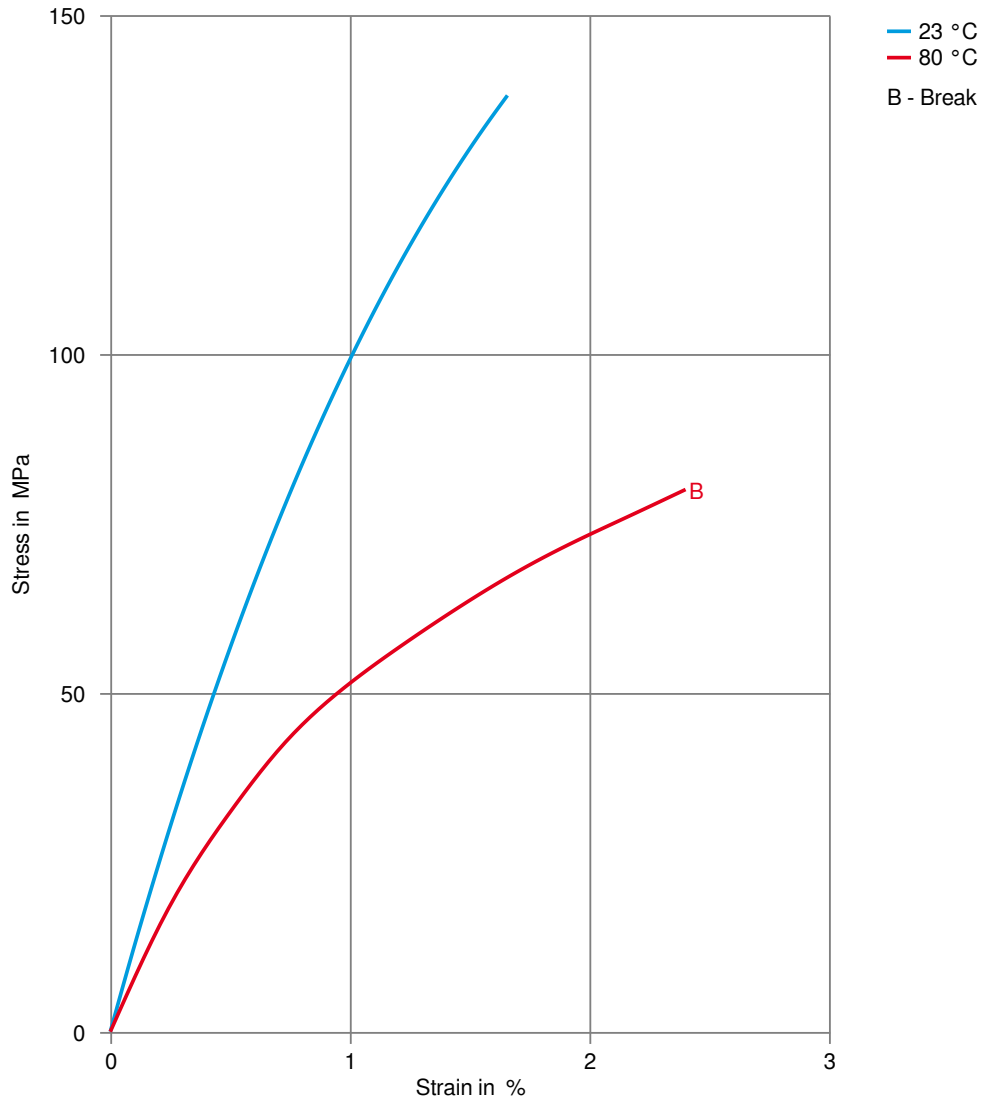
Melt Temp: 260-290°C.

Mold Temp: 40- 70°C.



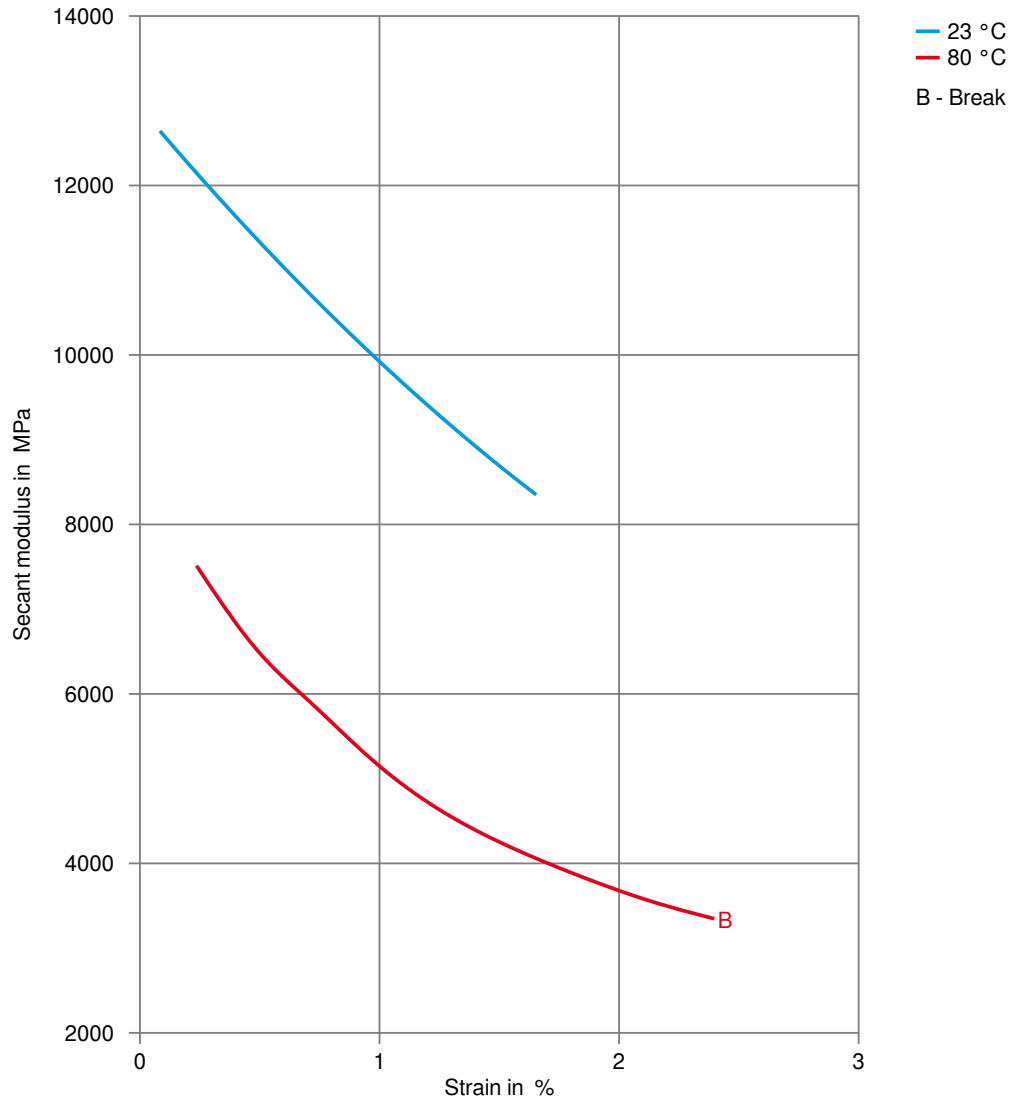
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## Stress-strain



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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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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
GM	GMW16272P-PP-GF50
Li Auto	Q/LiA5310050
SAIC Motor	SMTC 5 310 041

