

CELSTRAN® PP-GF40-0414 P7/10

PP with 40% ash content

Material code according to ISO 1043-1: PP Heat stabilized polypropylene reinforced with 40 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 7mm 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	9200 MPa	ISO 527-1/-2
Stress at break, 5mm/min	130 MPa	ISO 527-1/-2
Strain at break, 5mm/min	2 %	ISO 527-1/-2
Flexural Modulus	8200 MPa	ISO 178
Flexural Strength	185 MPa	ISO 178
Charpy impact strength, 23°C	62 kJ/m ²	ISO 179/1eU
Charpy impact strength, -30°C	58 kJ/m ²	ISO 179/1eU
Charpy notched impact strength, 23°C	22 kJ/m ²	ISO 179/1eA
Charpy notched impact strength, -30°C	30 kJ/m ²	ISO 179/1eA

Thermal properties

Melting temperature, 10°C/min	166 °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	21 E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal	94 E-6/K	ISO 11359-1/-2

Other properties

Density	1210 kg/m ³	ISO 1183
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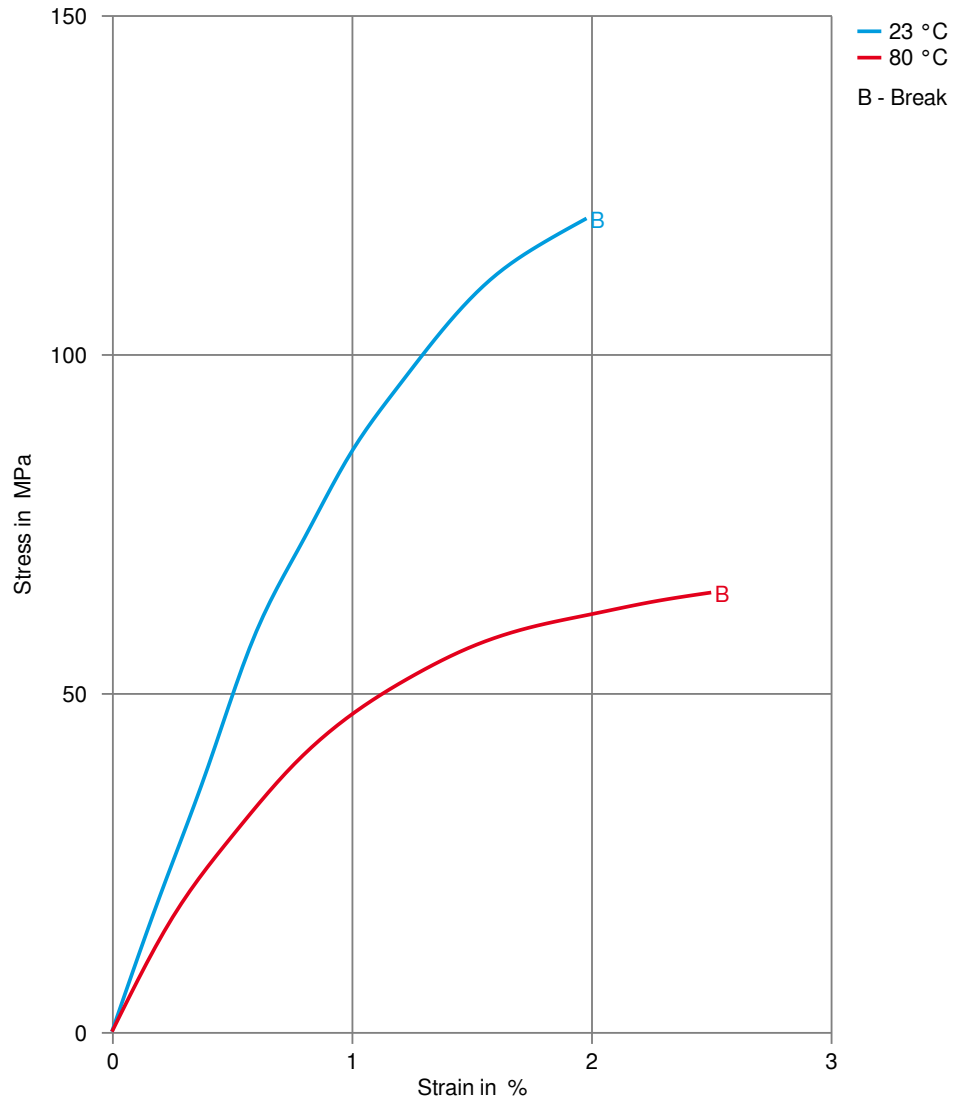
Injection

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
Back pressure	3 MPa
Injection speed	slow



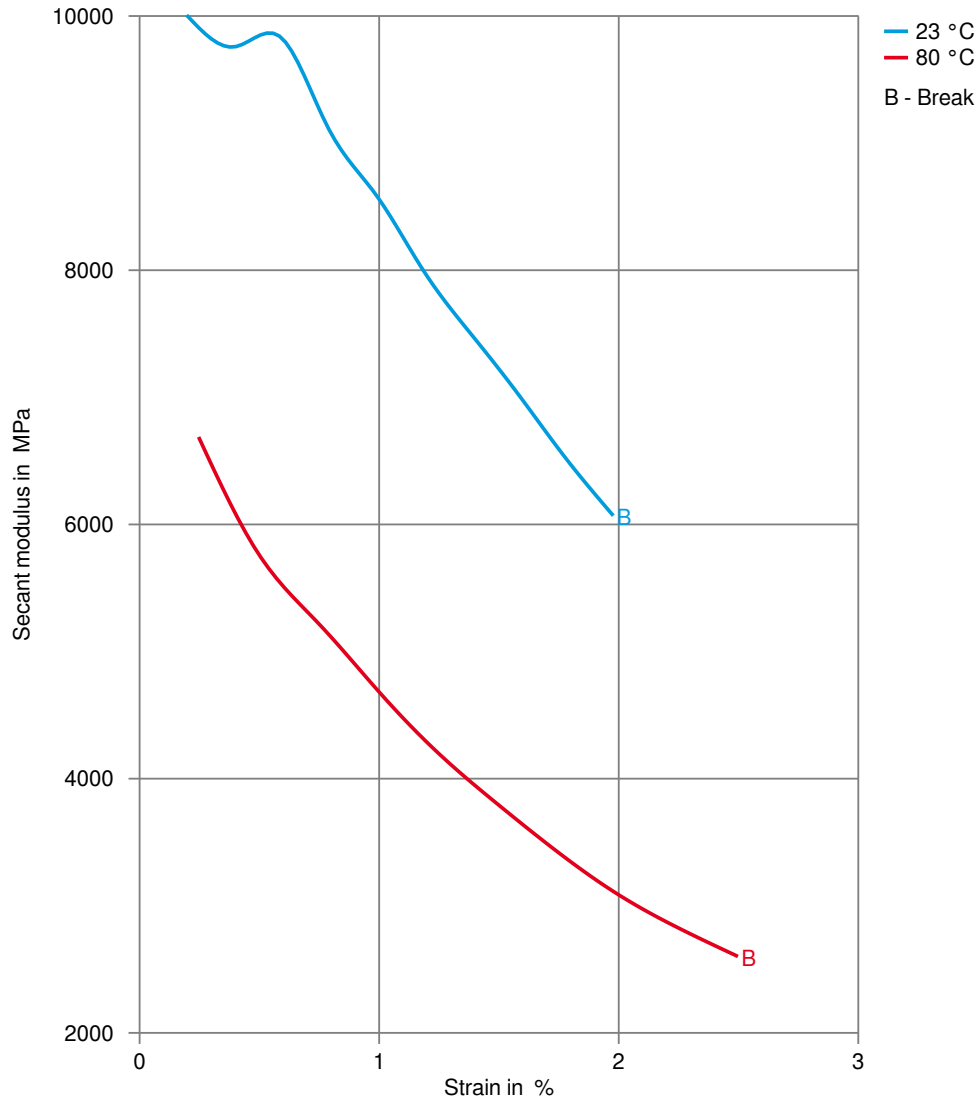
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Stress-strain



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Secant modulus-strain



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Processing Texts

Pre-drying

It is normally not necessary to dry CELSTRAN PP

