

CELSTRAN® PP-GF40-0455 Soul 4PK Black

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

Typical mechanical properties

Tensile Modulus	9000 MPa	ISO 527-1/-2
Stress at break, 5mm/min	120 MPa	ISO 527-1/-2
Strain at break, 5mm/min	2 %	ISO 527-1/-2
Flexural Modulus	8400 MPa	ISO 178
Flexural Strength	200 MPa	ISO 178
Charpy impact strength, 23°C	60 kJ/m ²	ISO 179/1eU
Charpy impact strength, -30°C	55 kJ/m ²	ISO 179/1eU
Charpy notched impact strength, 23°C	30 kJ/m ²	ISO 179/1eA
Charpy notched impact strength, -30°C	31 kJ/m ²	ISO 179/1eA
Poisson's ratio	0.35	

Thermal properties

Melting temperature, 10°C/min	165 °C	ISO 11357-1/-3
Temp. of deflection under load, 1.8 MPa	160 °C	ISO 75-1/-2
Temp. of deflection under load, 0.45 MPa	162 °C	ISO 75-1/-2
Temp. of deflection under load, 8 MPa	135 °C	ISO 75-1/-2

Flammability

Burning rate, Thickness 1 mm	24 mm/min	ISO 3795 (FMVSS 302)
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Other properties

Density	1220 kg/m ³	ISO 1183
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VDA Properties

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

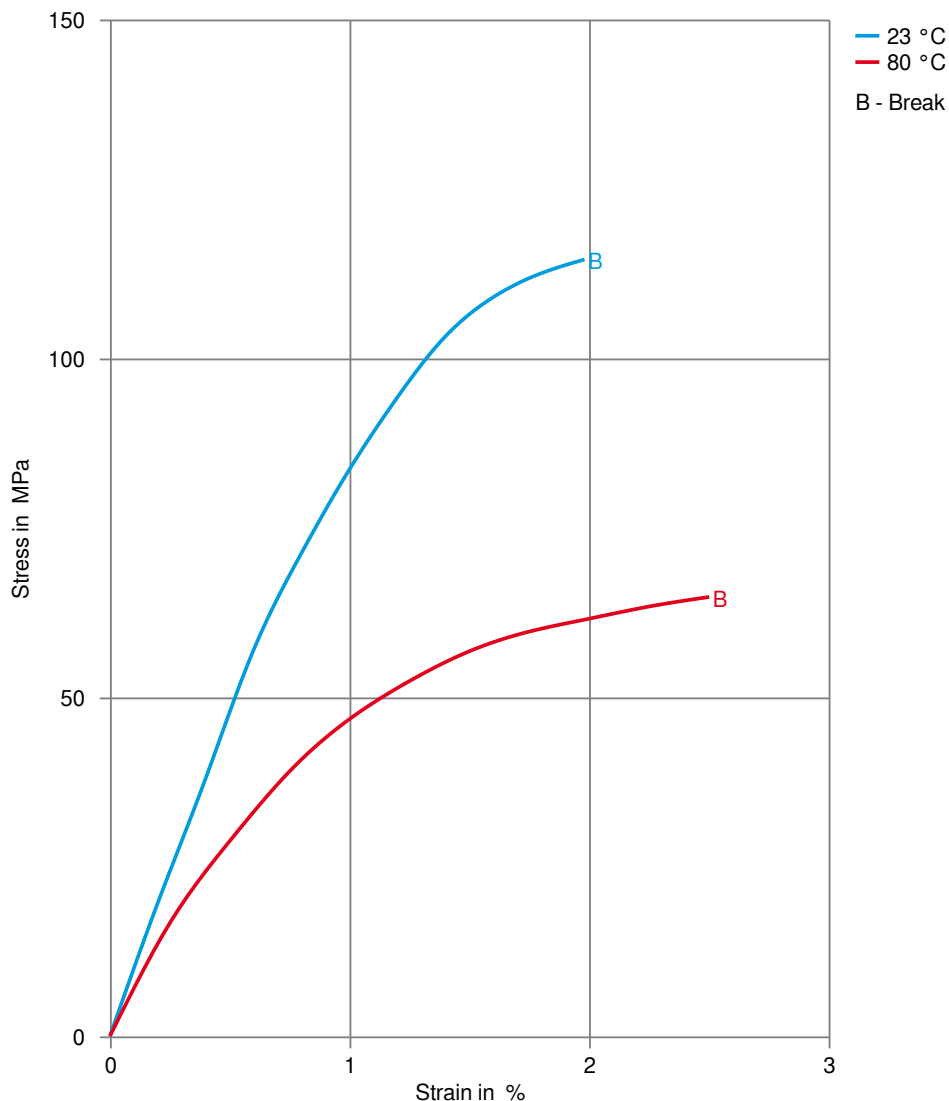


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Injection

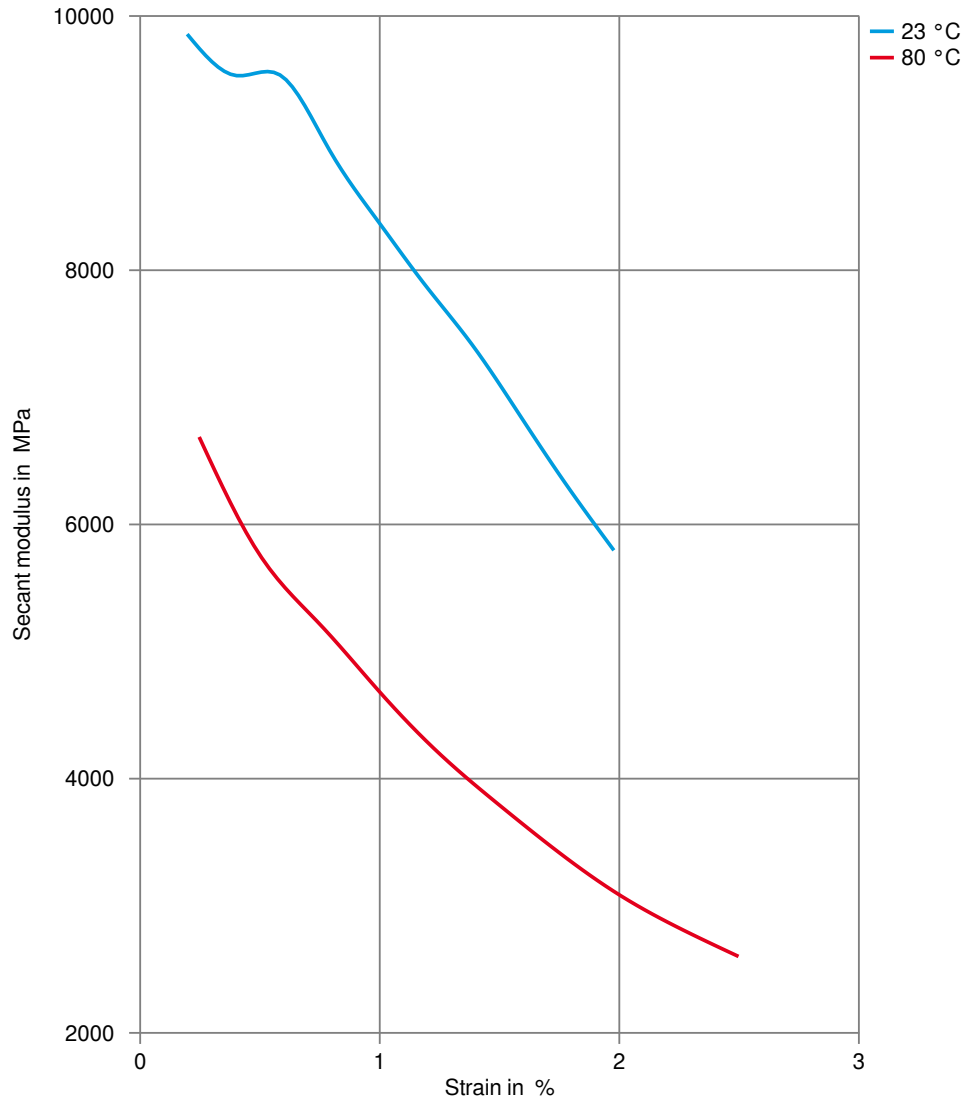
Drying Temperature	90 - 100 °C
Drying Time, Dehumidified Dryer	2 h
Processing Moisture Content	0.2 %
Screw tangential speed	0.1 m/s
Max. mould temperature	30 - 70 °C
Back pressure	3 MPa
Injection speed	slow

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

