CELSTRAN® PP-GF60-0453 HF Black

Material code according to ISO 1043-1: PP Polypropylene with 60 weight percent ash content, long glass fibers reinforced, low emission. Concentrate, 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	14700	MPa	ISO 527-1/-2
Stress at break, 5mm/min	135	MPa	ISO 527-1/-2
Strain at break, 5mm/min	1.2	%	ISO 527-1/-2
Flexural Modulus	14300	MPa	ISO 178
Flexural Strength	255	MPa	ISO 178
Charpy impact strength, 23°C	68	kJ/m²	ISO 179/1eU
Charpy impact strength, -30°C	80	kJ/m²	ISO 179/1eU
Charpy notched impact strength, 23°C	41	kJ/m²	ISO 179/1eA
Charpy notched impact strength, -30°C	35	kJ/m²	ISO 179/1eA

Thermal properties

Melting temperature, 10°C/min	168	°C	ISO 11357-1/-3
Temp. of deflection under load, 1.8 MPa	151	°C	ISO 75-1/-2

Other properties

Density	1430	kg/m³	ISO 1183

VDA Properties

Emission of organic compounds	30	µgC/g	VDA 277
Thermal desorption analysis of organic emissions	115	µg/g	VDA 278
Odour	3.5	class	VDA 270

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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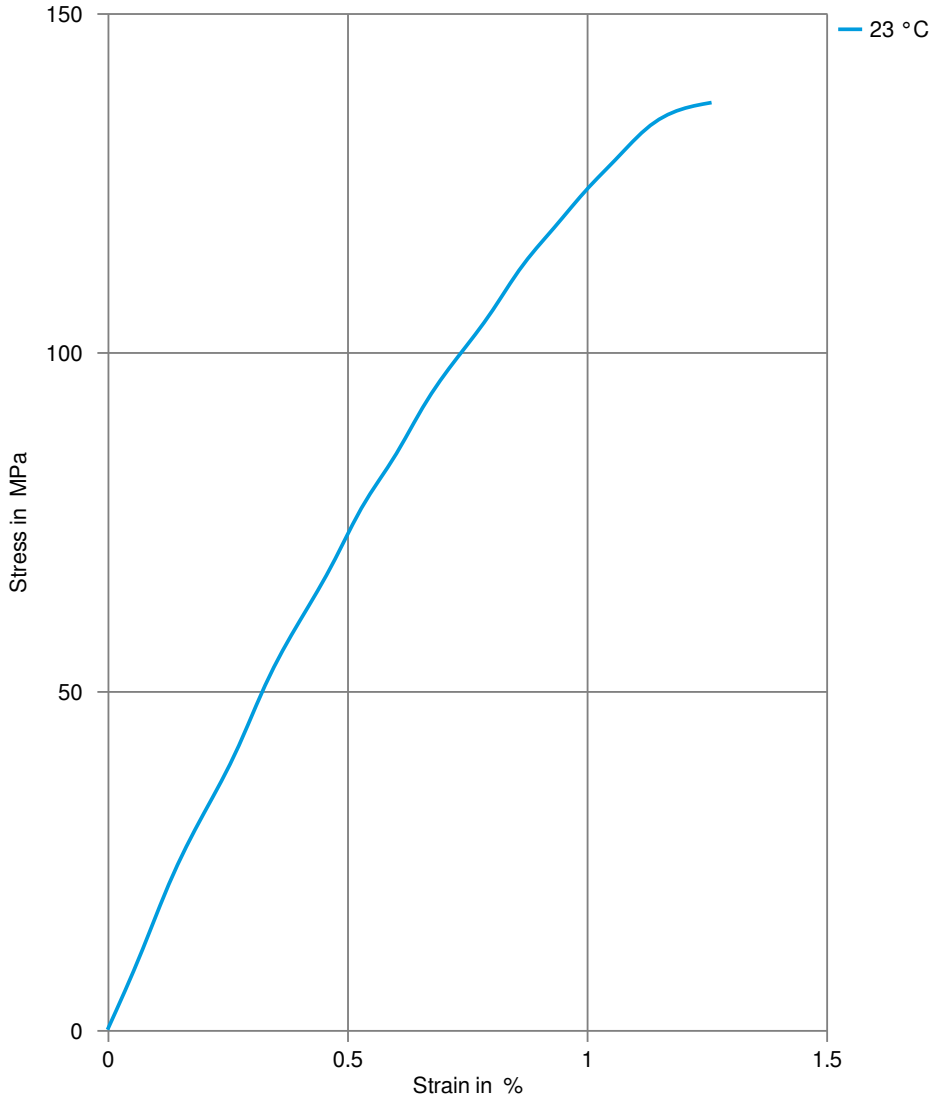
Stress-strain



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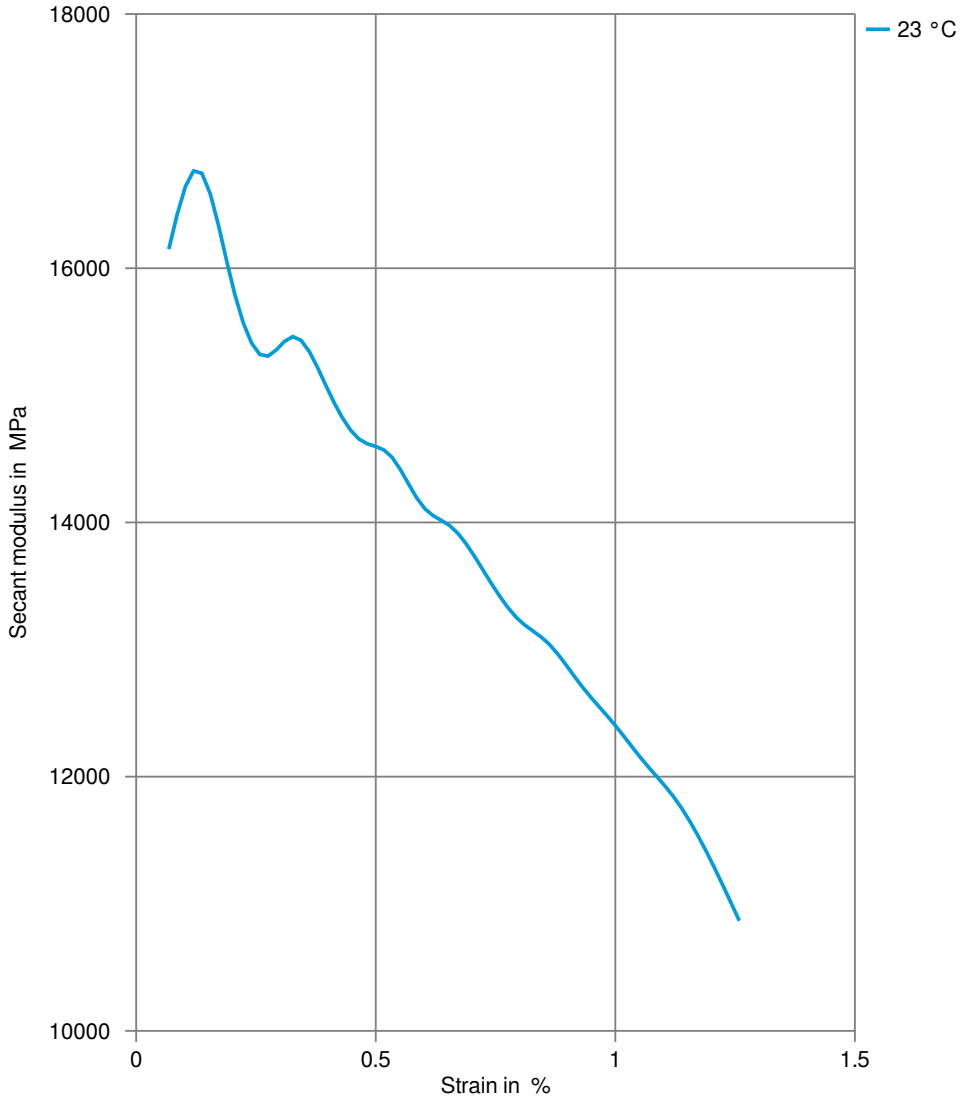
Secant modulus-strain



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Processing Texts

Pre-drying	It is normally not necessary to dry CELSTRAN PP. However, should there be surface moisture (condensate) on the molding compound as a result of incorrect storage, drying is required.
Longer pre-drying times/storage	The product can then be stored in standard conditions until processed.