CELSTRAN® PP-GF50-0453 P10/10

low emission material
Material code according to ISO 1043-1: PP Heat 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/m²	ISO 179/1eU
Charpy impact strength, -30°C	58	kJ/m²	ISO 179/1eU
Charpy notched impact strength, 23°C	32	kJ/m²	ISO 179/1eA
Charpy notched impact strength, -30°C	33	kJ/m²	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

Flammability

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

Other properties

Density	1340	kg/m³	ISO 1183

VDA Properties

Emission of organic compounds	30	µgC/g	VDA 277
Thermal desorption analysis of organic emissions	43	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	%	
Melt Temperature Optimum	225	°C	Internal
Screw tangential speed	0.1	m/s	

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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: 230-240°C. Mold Temp: 30- 70°C.

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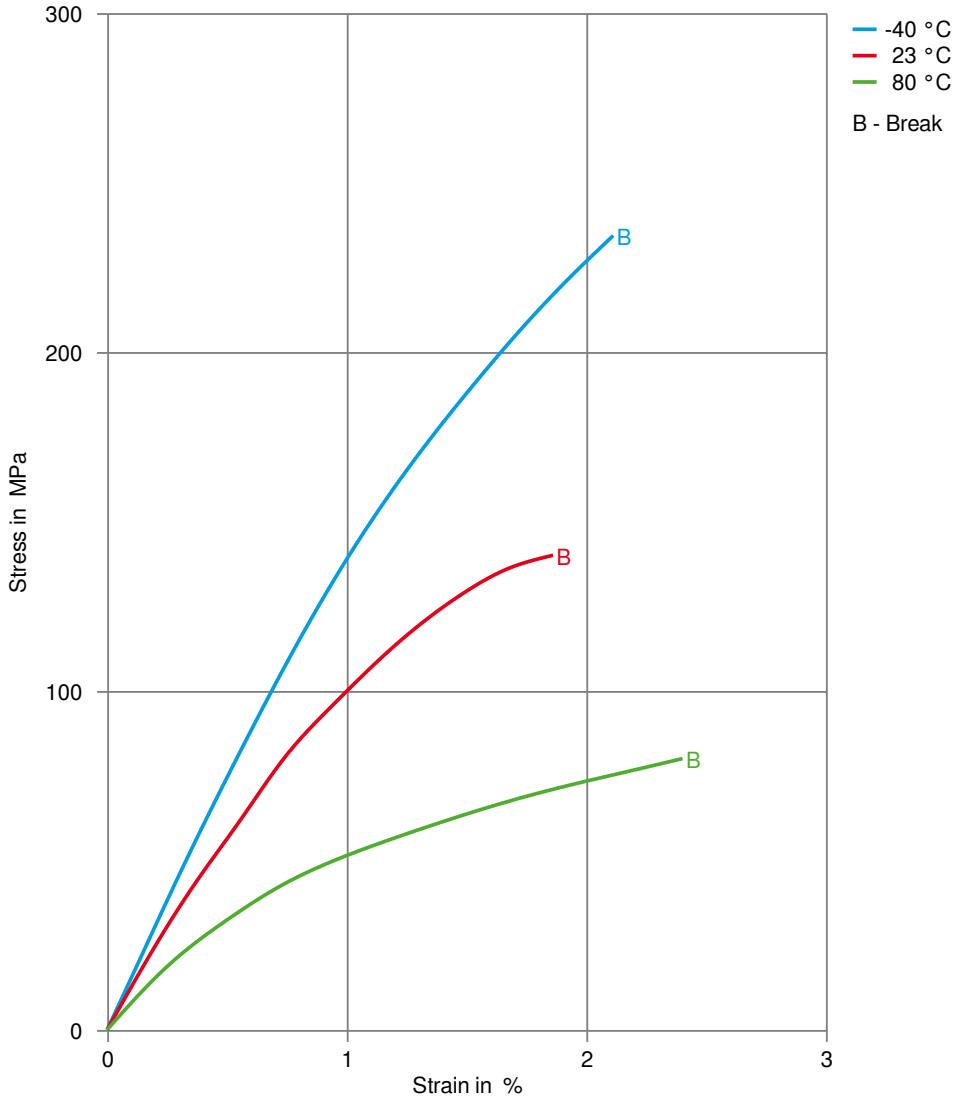
Stress-strain



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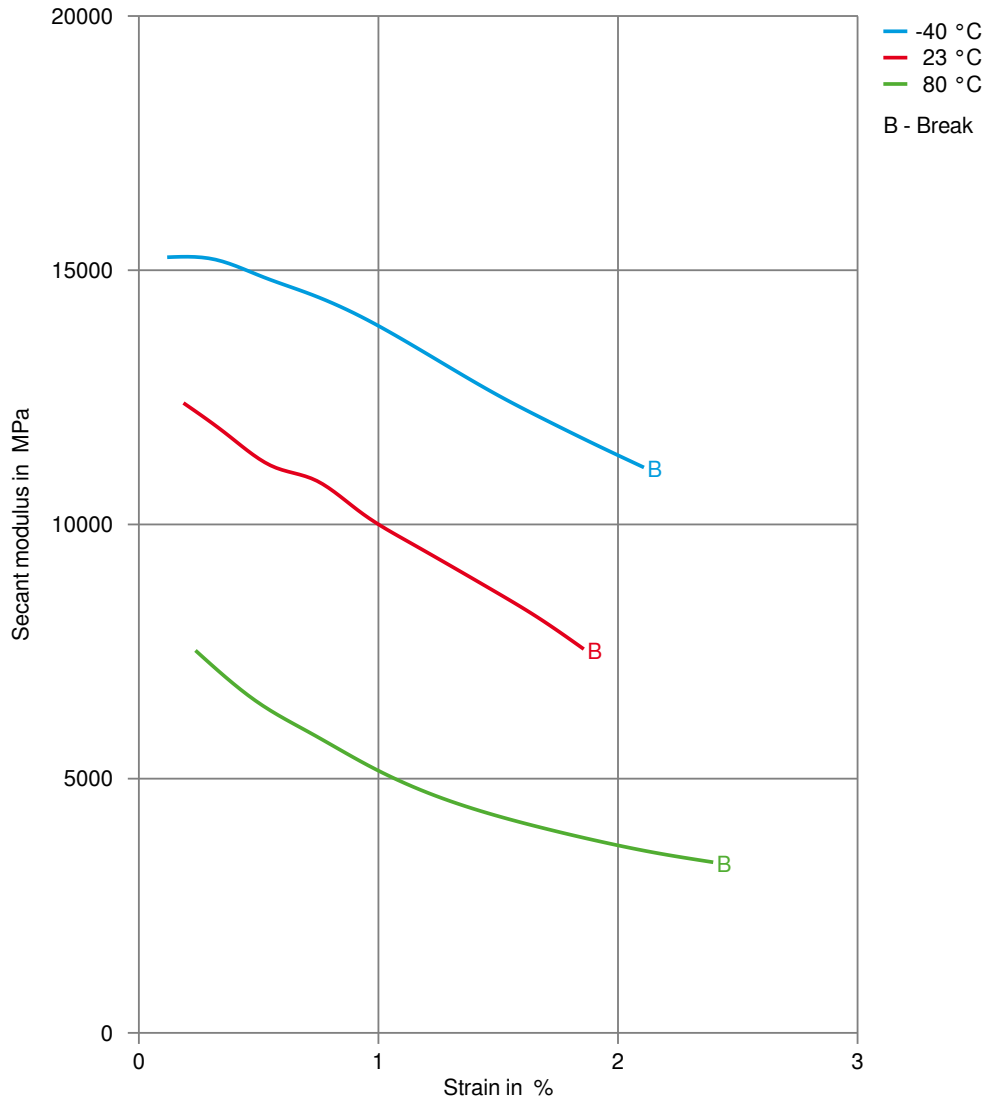
Secant modulus-strain



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Processing Texts

Pre-drying	It is normally not necessary to dry CELSTRAN PP
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: 230-240°C. Mold Temp: 30- 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
Bosch	N28 BN09-GF024	Natural & Black
GM	GMW15890P-PP-GF50-Type 50	
GM	GMW16272P-PP-GF50	
Stellantis - Chrysler	CPN 5157	
Li Auto	Q/LiA5310050	