Celanese
The chemistry inside innovation™

CELSTRAN® +PP-GF30-05CN01/10

PP with 30 % ash content - impact modified copolymer
Material code according to ISO 1043-1: PP Polypropylene with 30 weight percent ash content, long glass fibers reinforced, Black. Impact modified, copolymer. 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	6000	MPa	ISO 527-1/-2
Stress at break, 5mm/min	95	MPa	ISO 527-1/-2
Strain at break, 5mm/min	2.4	%	ISO 527-1/-2
Flexural Modulus	6000	MPa	ISO 178
Flexural Strength	150	MPa	ISO 178
Charpy impact strength, 23°C	60	kJ/m²	ISO 179/1eU
Charpy impact strength, -30°C	70	kJ/m²	ISO 179/1eU
Charpy notched impact strength, 23°C	25	kJ/m²	ISO 179/1eA
Charpy notched impact strength, -30°C	24	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	156	°C	ISO 75-1/-2
Temp. of deflection under load, 8 MPa	124	°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	1110	kg/m³	ISO 1183

Injection

Drying Temperature	90 - 100	°C	
Drying Time, Dehumidified Dryer	2	h	
Processing Moisture Content	0.2	%	
Melt Temperature Optimum	250	°C	Internal
Screw tangential speed	0.1	m/s	
Max. mould temperature	30 - 70	°C	
Back pressure	3	MPa	
Injection speed	slow		

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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: 210-270°C. Mold Temp: 30- 70°C.

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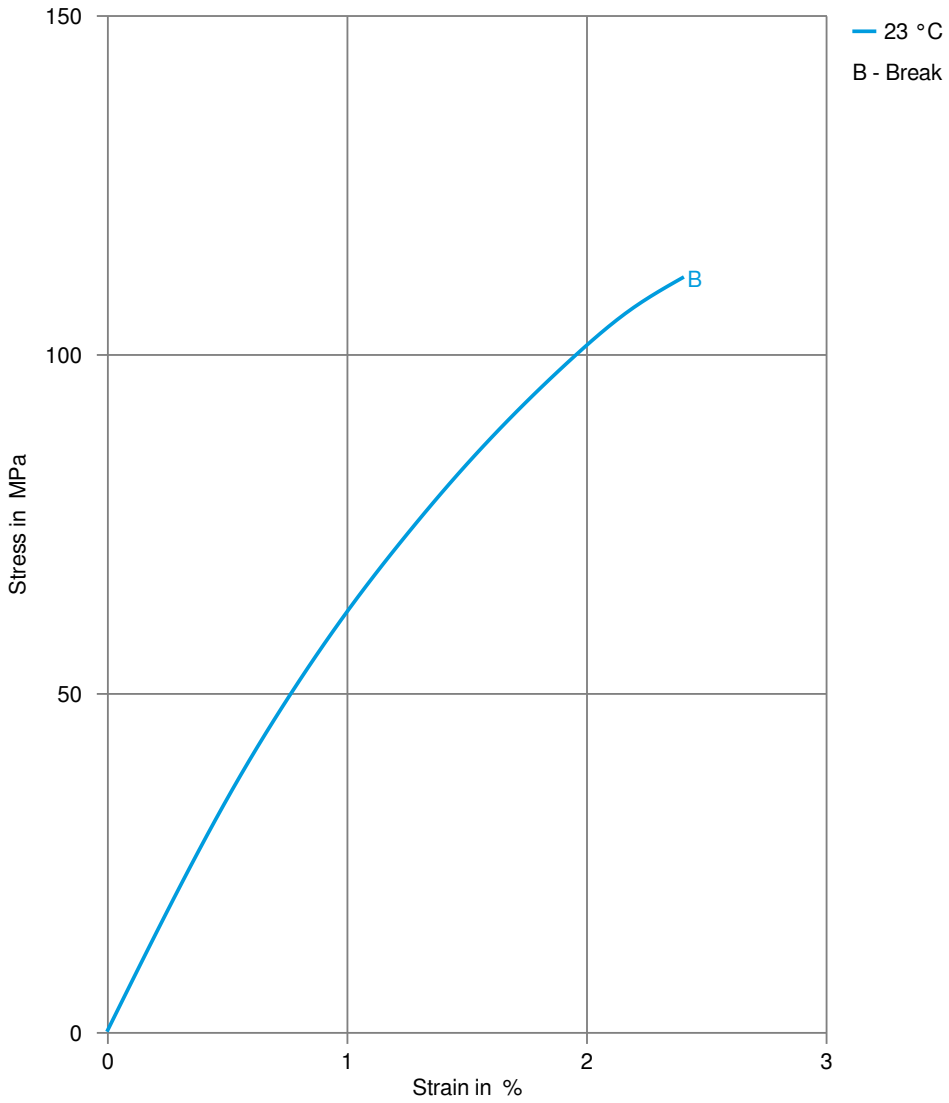
Stress-strain



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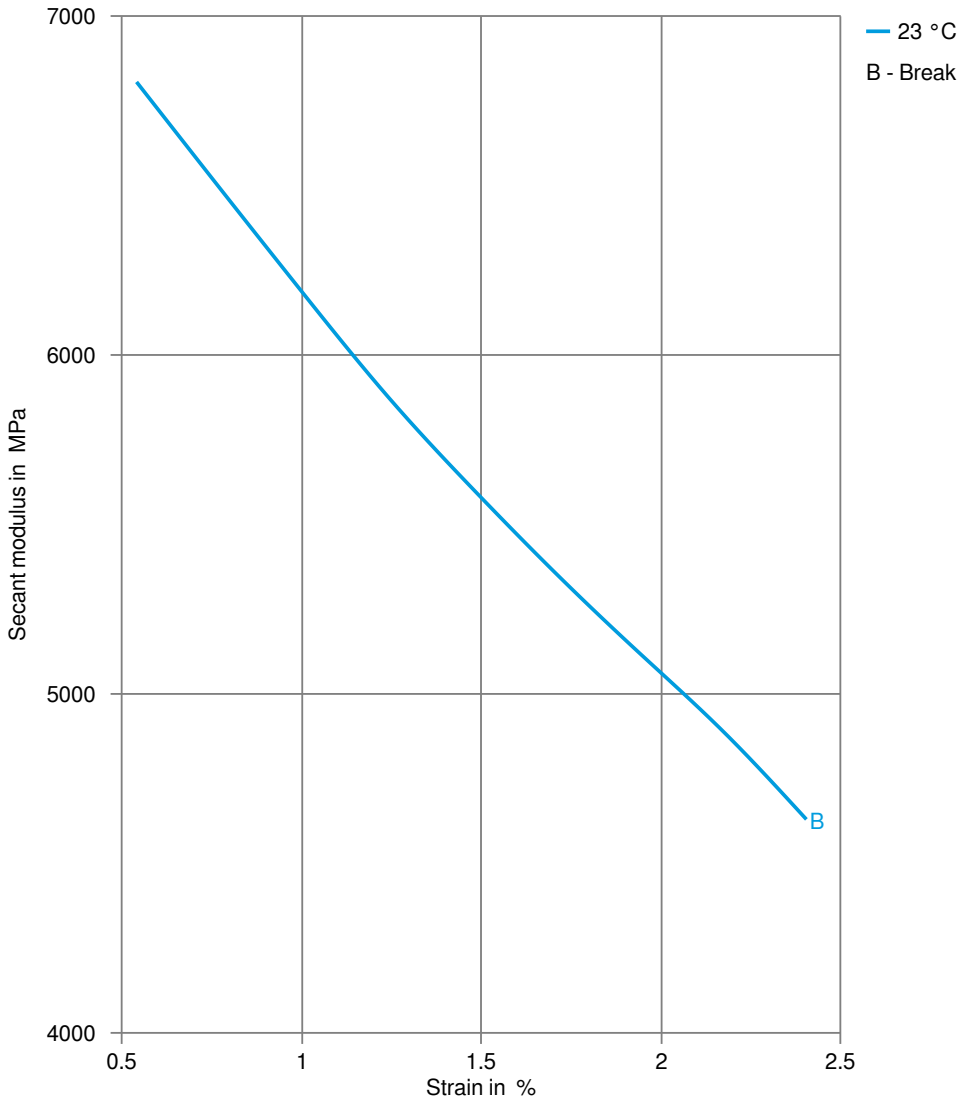
Secant modulus-strain



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Processing Texts

Pre-drying	It is normally not necessary to dry CELSTRAN PP. However, should there be surface moisture (condensate) on the molding compound as a result of incorrect storage, drying is required. MATERIAL HANDLING: The best transfer method for Celstran materials is a typical pneumatic system with a filter, although filterless systems are also available. With any system, smooth inner walls are preferred. Too many turns (recommended to use long radius turns), too small size of conveying pipes (recommended diameter >=2 inches), and too high conveying speed (recommended conveying speed <= 16m/s) will cause excessive loose fibers accumulation and even blockage. We recommend periodic checks and cleaning of the screen filter in the air conveying system to maintain consistent air flow.
Longer pre-drying times/storage	The product can then be stored in standard conditions until processed.
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: 210-270°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
Evergrande Auto	EGW.PL.1502-PP-LGF30	
Li Auto	Q/LiA5310050	2021 (V2)