CELSTRAN® +PP-GF20-05CN05 Black

Polypropylene with 20wt% ash content
Material code according to ISO 1043-1: PP Polypropylene with 20 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	4300	MPa	ISO 527-1/-2
Stress at break, 5mm/min	76	MPa	ISO 527-1/-2
Strain at break, 5mm/min	2.5	%	ISO 527-1/-2
Flexural Modulus	4400	MPa	ISO 178
Flexural Strength	124	MPa	ISO 178
Charpy notched impact strength, 23°C	20	kJ/m²	ISO 179/1eA
Poisson's ratio	0.35		

Physical/Other properties

Density	1020	kg/m³	ISO 1183

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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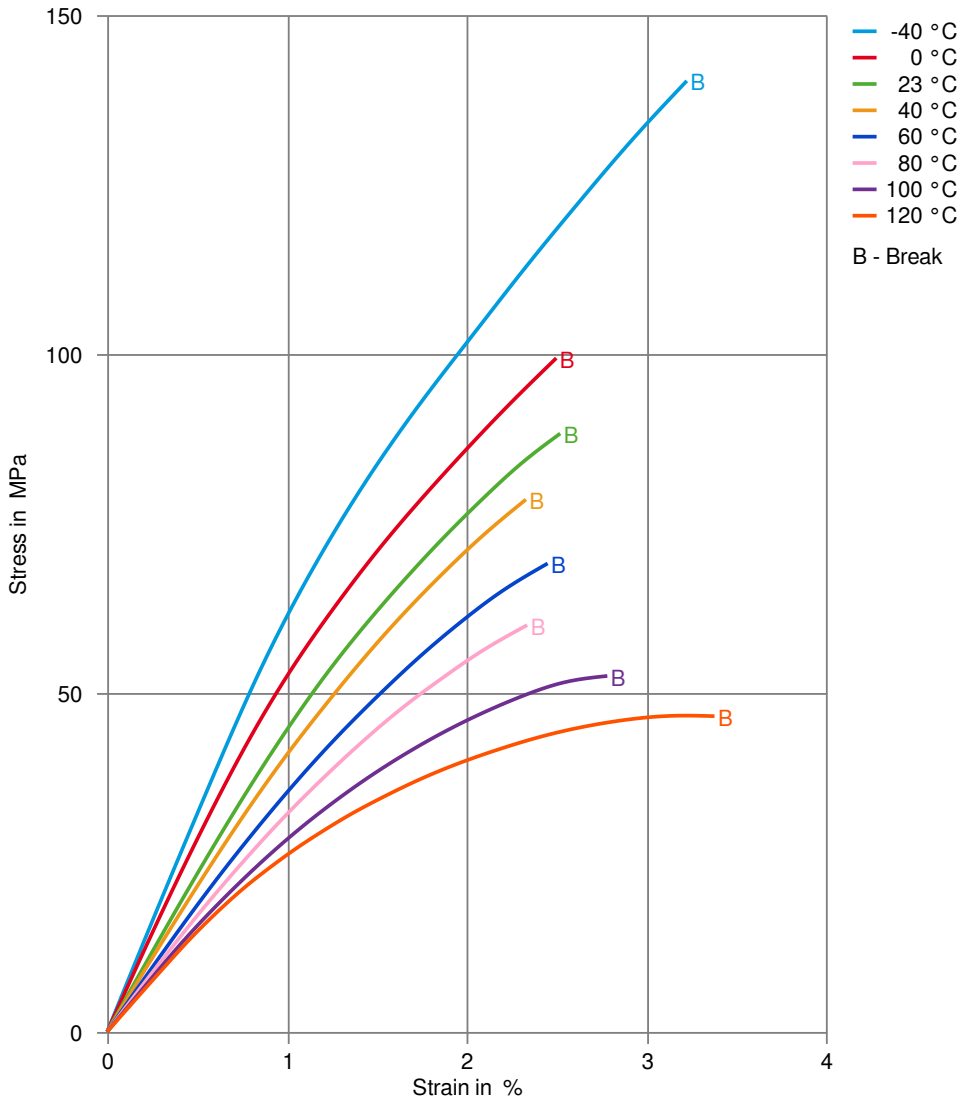
Stress-strain



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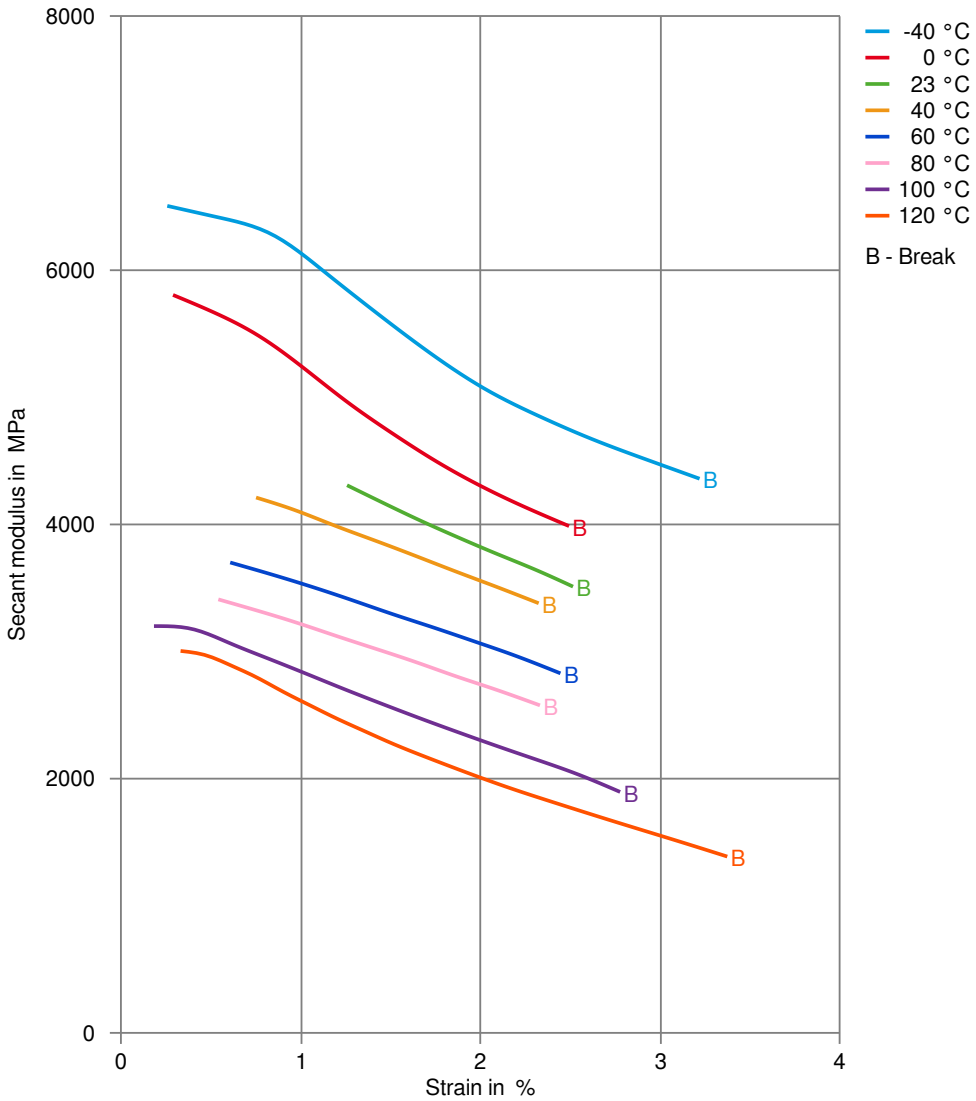
Secant modulus-strain



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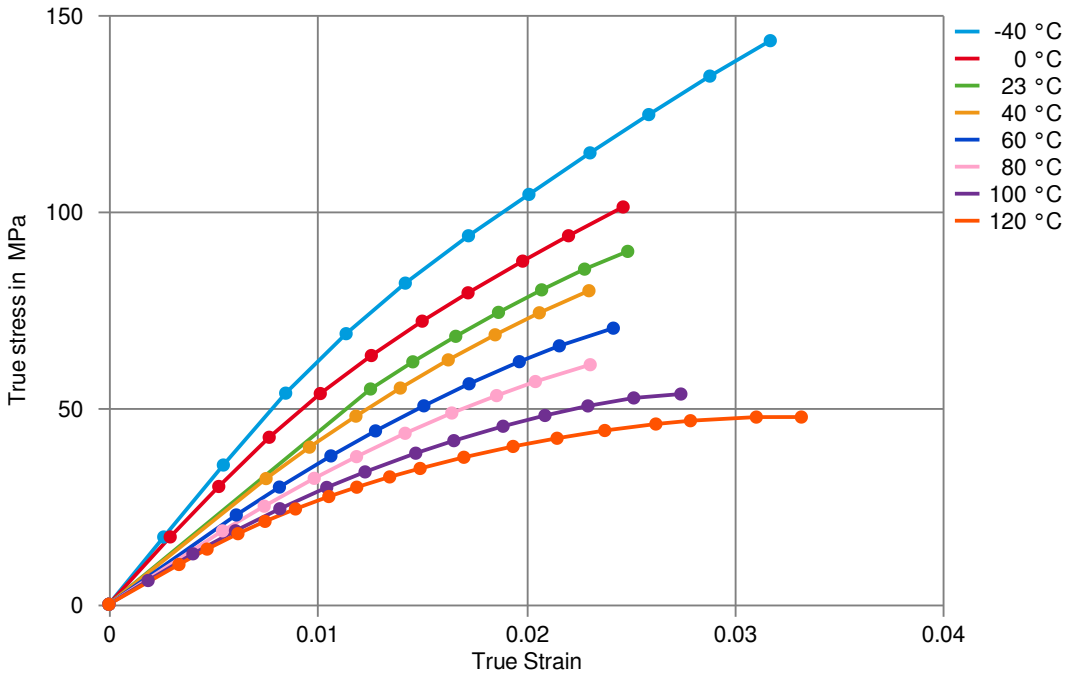
True stress-strain



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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 Preprocessing	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.

Other Approvals

Other Approvals

OEM	Specification	Additional Information
Evergrande Auto	EGW.PL.1501-PP-LGF20	
Li Auto	Q/LiA5310050	2021 (V2)

Revised: 2023-08-16 Source: Celanese Materials Database