CELSTRAN® PP-GF50-0455 P10/10

CELSTRAN® Long Fibre

Material code according to ISO 1043-1: PP Heat and light 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

Product information

Resin Identification	PP-LGF50	ISO 1043
Part Marking Code	>PP-LGF50<	ISO 11469

Typical mechanical properties

Tensile modulus	1.68E6	psi	ISO 527-1/-2
Tensile stress at break, 5mm/min	20300	psi	ISO 527-1/-2
Tensile strain at break, 5mm/min	1.8	%	ISO 527-1/-2
Flexural modulus	1.74E6	psi	ISO 178
Flexural strength	31900	psi	ISO 178
Flexural strain at failure	2.6	%	ISO 178
Charpy impact strength, 23°C	28.5	ftlb/in²	ISO 179/1eU
Charpy impact strength, -30°C	27.6	ftlb/in²	ISO 179/1eU
Charpy notched impact strength, 23°C	15.2	ftlb/in²	ISO 179/1eA
Charpy notched impact strength, -30°C	15.7	ftlb/in²	ISO 179/1eA

Thermal properties

Melting temperature, 10°C/min	329	°F	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	316	°F	ISO 75-1/-2
Temperature of deflection under load, 8 MPa	280	°F	ISO 75-1/-2
Coefficient of linear thermal expansion (CLTE), parallel	0.10	E-4/°F	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), normal	0.453	E-4/°F	ISO 11359-1/-2

Flammability

Burning Behav. at thickness h	HB	class	IEC 60695-11-10
Thickness tested	0.0394	in	IEC 60695-11-10

Physical/Other properties

Density	0.0484	lb/in³	ISO 1183

Emissions

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

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Injection

Drying Recommended	yes	
Drying Temperature	194	°F
Drying Time, Dehumidified Dryer	2	h
Processing Moisture Content	≤0.15	%
Melt Temperature Optimum	518	°F
Min. melt temperature	482	°F
Max. melt temperature	554	°F
Max. screw tangential speed	≤0.1	m/s
Mold Temperature Optimum	158	°F
Min. mold temperature	140	°F
Max. mold temperature	176	°F
Back pressure	435	psi

Automotive

OEM	STANDARD
General Motors	GMW16272P-PP-GF50
Li Auto	Q/LiA5310050
SAIC Motor	SMTC 5 310 041

Characteristics

Processing	Injection Molding
Special characteristics	Light stabilized or stable to light, U.V. stabilized or stable to weather, Low emissions

Additional information

Injection molding

Preprocessing

PP&PE drying requirements: 2 hrs. @94° C.
A dehumidifier or desiccant dryer is recommended.

Processing

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: 260-290°C.
Mold Temp: 40- 70°C.

Processing Notes

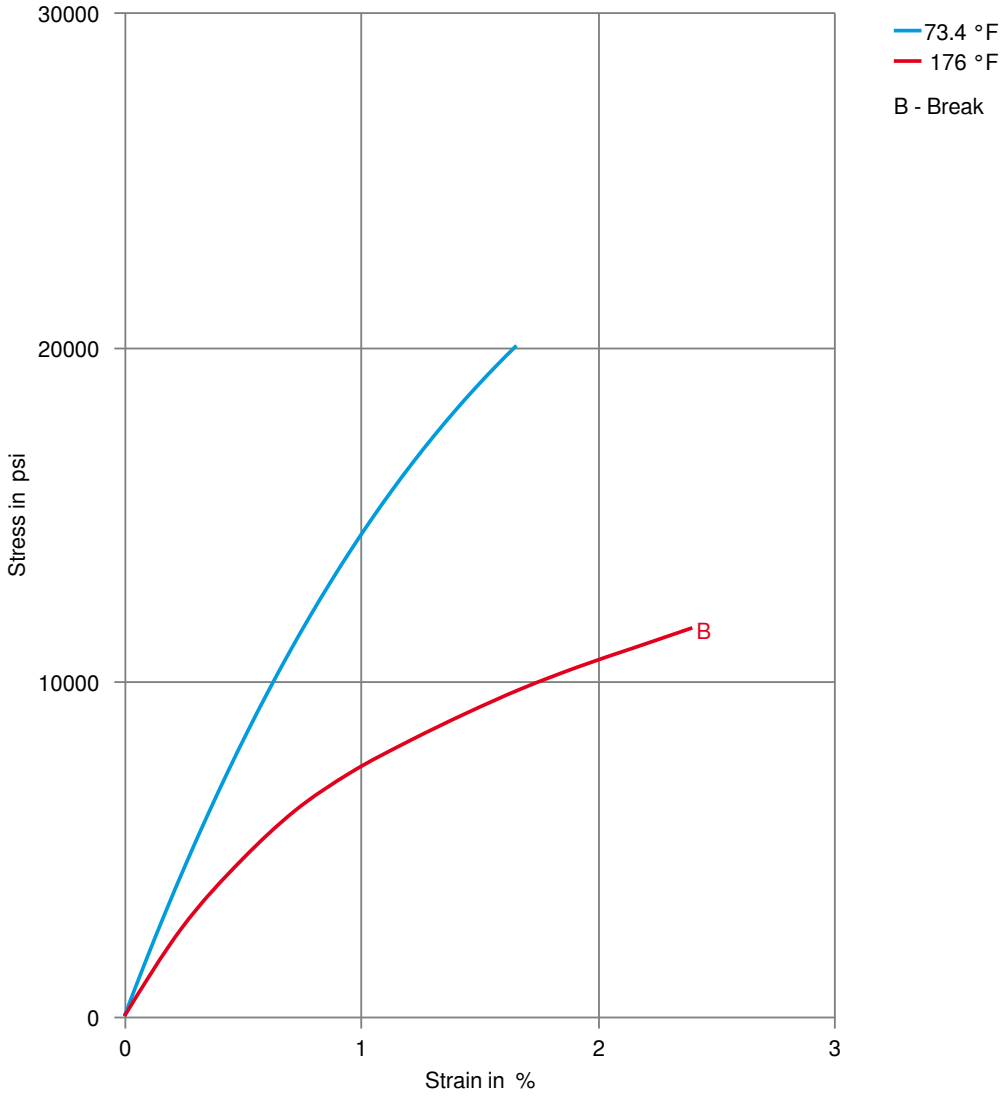
Pre-Drying

It is normally not necessary to dry CELSTRAN PP

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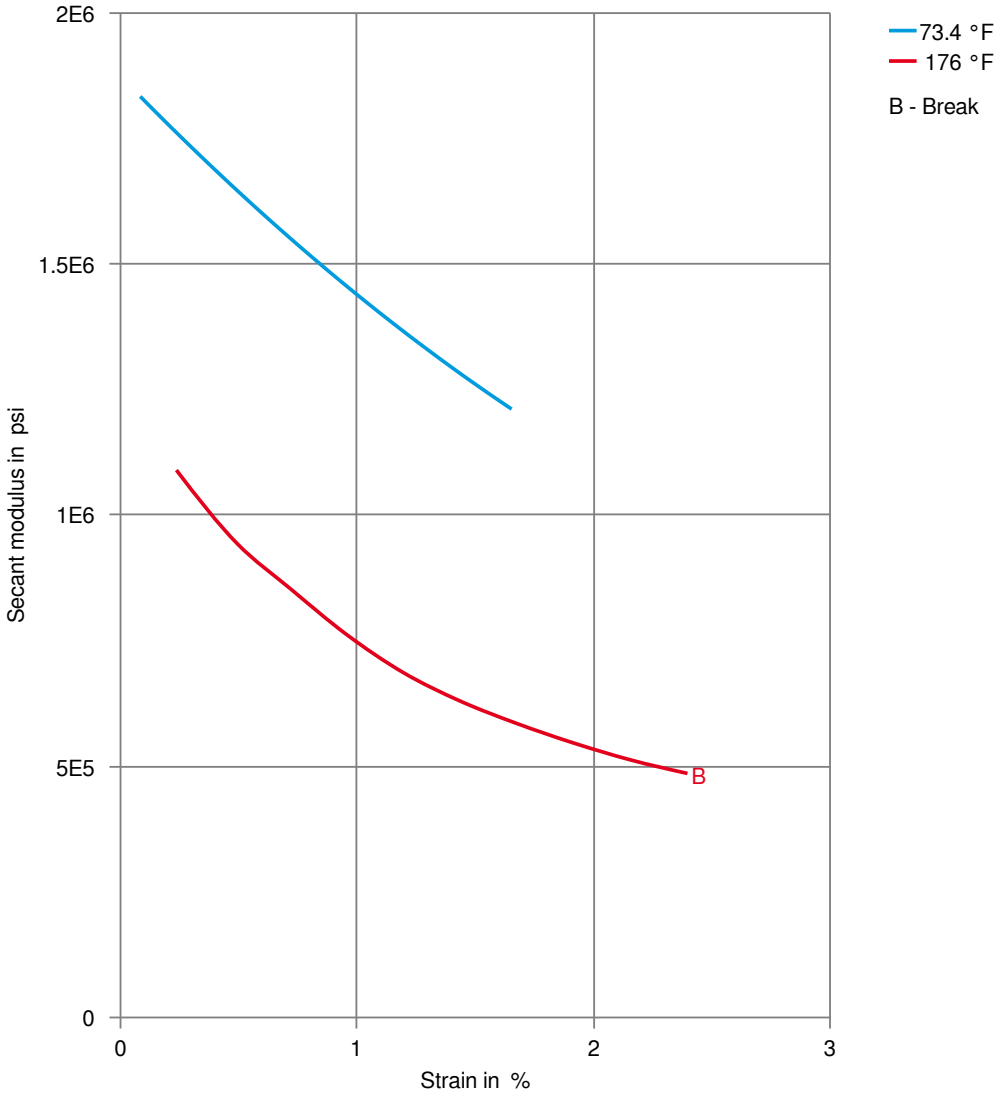
Stress-strain



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Secant modulus-strain



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