CELSTRAN® PP-GF20-0553 ECO-B 352 BLACK

CELSTRAN® Long Fibre

Material code according to ISO 1043-1: PP Polypropylene copolymer reinforced with 20weight percent long glass fibers.Black. Low emission. 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.
Celstran ECO-B 352 is a long fibre reinforced thermoplastic (LFRT) with the same properties and performance as standard grades, but produced with sustainability in mind. Using a mass-balance approach, 30% of biogenic feedstocks are used to offset the use of fossil-based raw materials and decrease greenhouse gas emissions. The process will be audited and certified according to the ISCC mass balance approach.

Product information

Resin Identification	PP-LGF20		ISO 1043
Part Marking Code	>PP-LGF20<		ISO 11469

Rheological properties

Molding shrinkage, parallel	0.4	%	ISO 294-4, 2577
Molding shrinkage, normal	0.5	%	ISO 294-4, 2577

Typical mechanical properties

Tensile modulus	682000	psi	ISO 527-1/-2
Tensile stress at break, 5mm/min	12200	psi	ISO 527-1/-2
Tensile strain at break, 5mm/min	2.5	%	ISO 527-1/-2
Flexural modulus	653000	psi	ISO 178
Flexural strength	20300	psi	ISO 178
Charpy impact strength, 23°C	26.6	ftlb/in²	ISO 179/1eU
Charpy impact strength, -30°C	28.5	ftlb/in²	ISO 179/1eU
Charpy notched impact strength, 23°C	9.51	ftlb/in²	ISO 179/1eA
Charpy notched impact strength, -30°C	9.51	ftlb/in²	ISO 179/1eA

Thermal properties

Temperature of deflection under load, 1.8 MPa	318	°F	ISO 75-1/-2
Temperature of deflection under load, 8 MPa	277	°F	ISO 75-1/-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	0.0372	lb/in³	ISO 1183

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Emissions

Emission of organic compounds	30	µgC/g	VDA 277
Thermal desorption analysis of organic emissions	96	µg/g	VDA 278
Odor test	3.5	class	VDA 270

Injection

Drying Recommended	yes	
Drying Temperature	194	°F
Drying Time, Dehumidified Dryer	2 - 3	h
Processing Moisture Content	≤0.2	%
Melt Temperature Optimum	446	°F
Min. melt temperature	392	°F
Max. melt temperature	464	°F
Max. screw tangential speed	≤0.1	m/s
Mold Temperature Optimum	122	°F
Min. mold temperature	86	°F
Max. mold temperature	158	°F
Back pressure	435	psi

Characteristics

Processing	Injection Molding
Special characteristics	High impact or impact modified, Heat stabilized or stable to heat, Low emissions
Sustainability	Bio-Content

Additional information

Processing Notes

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.

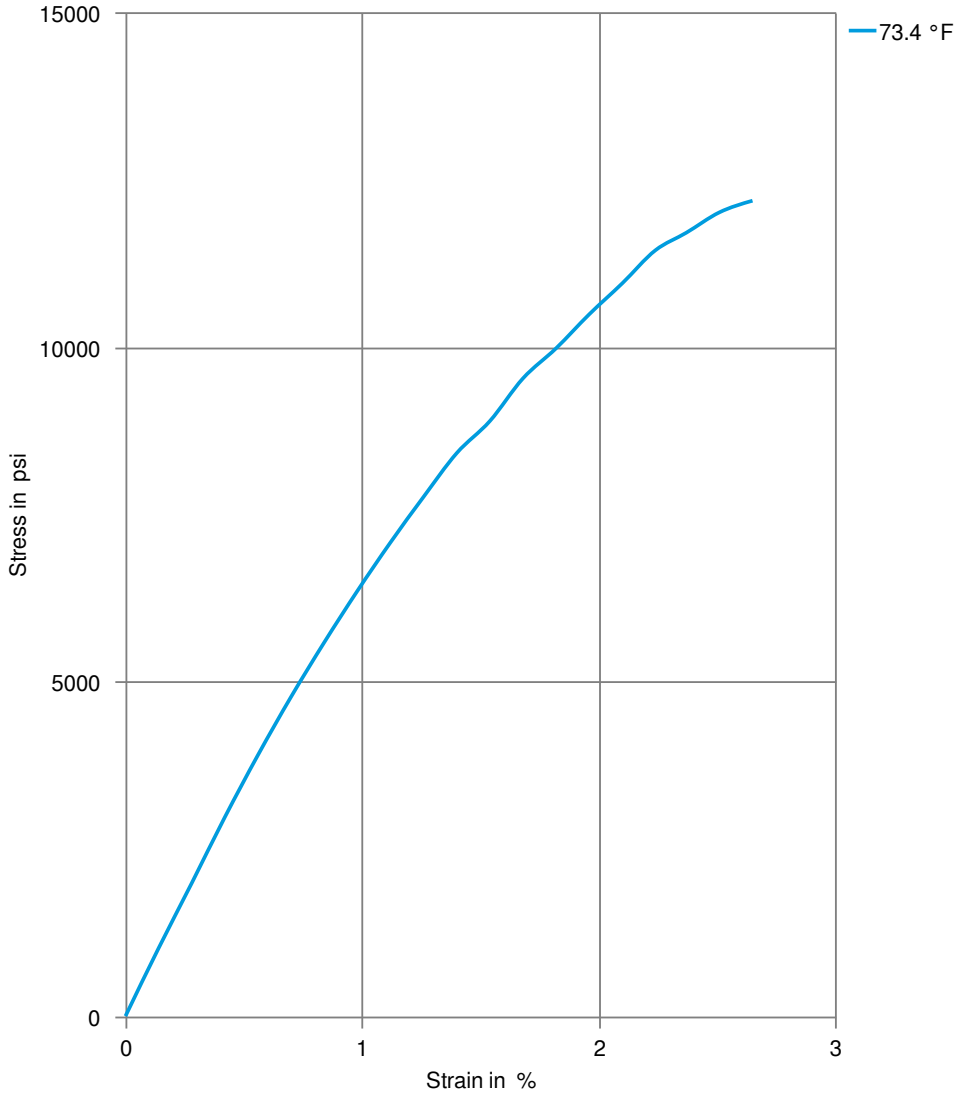
Storage

The product can then be stored in standard conditions until processed.

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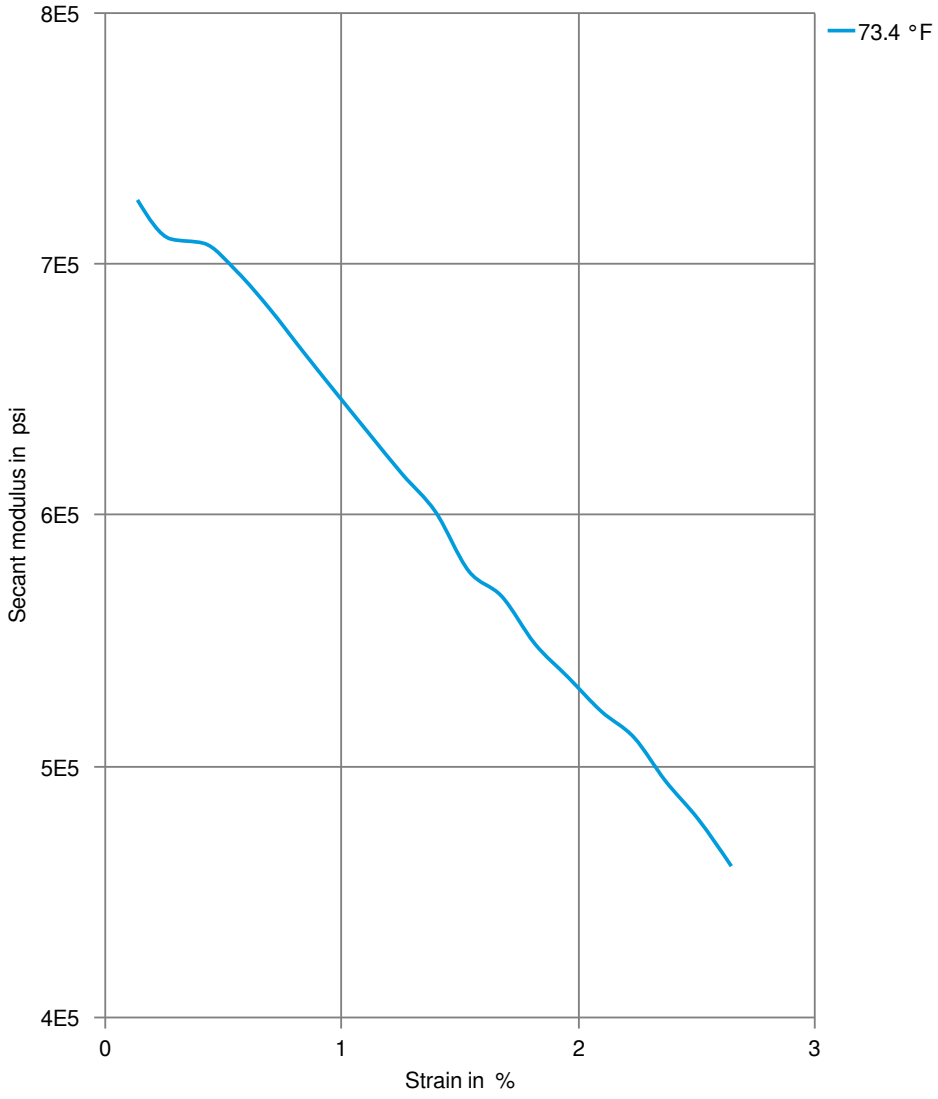
Stress-strain



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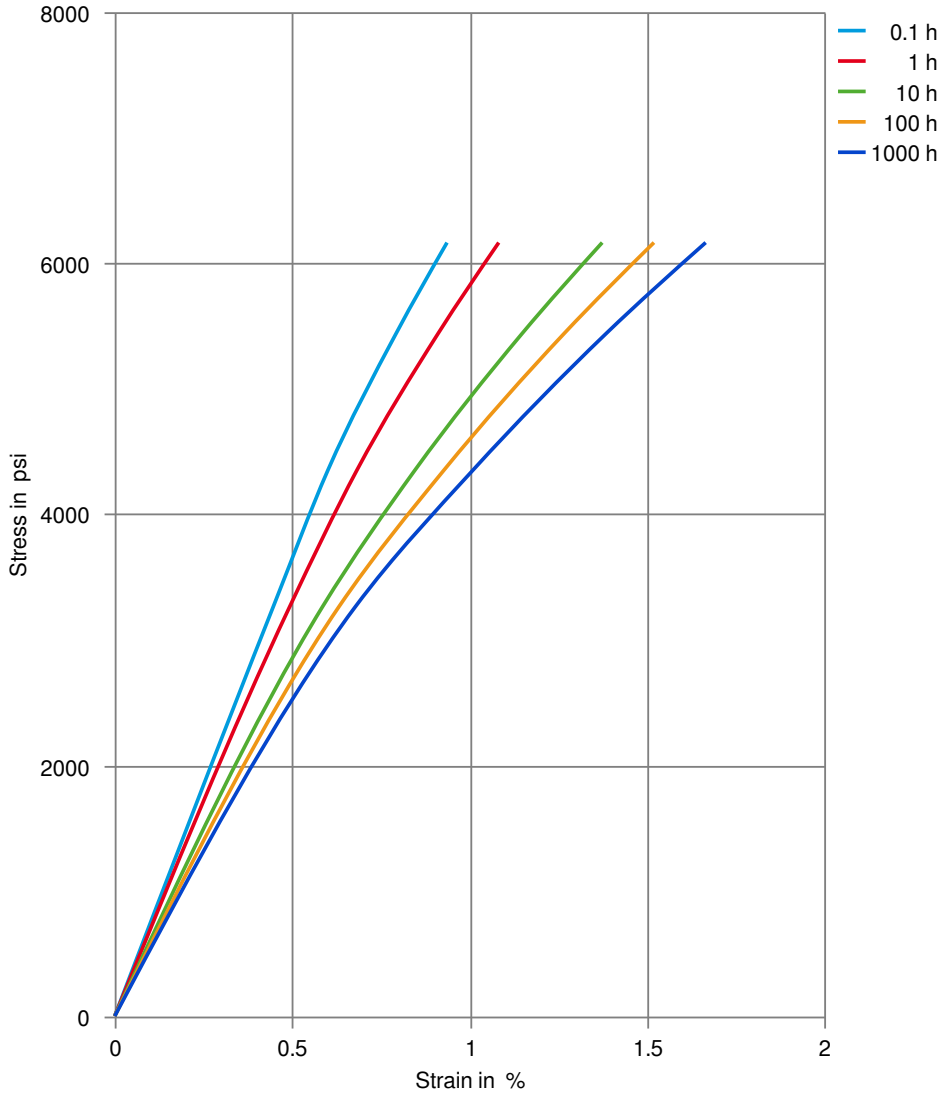
Secant modulus-strain



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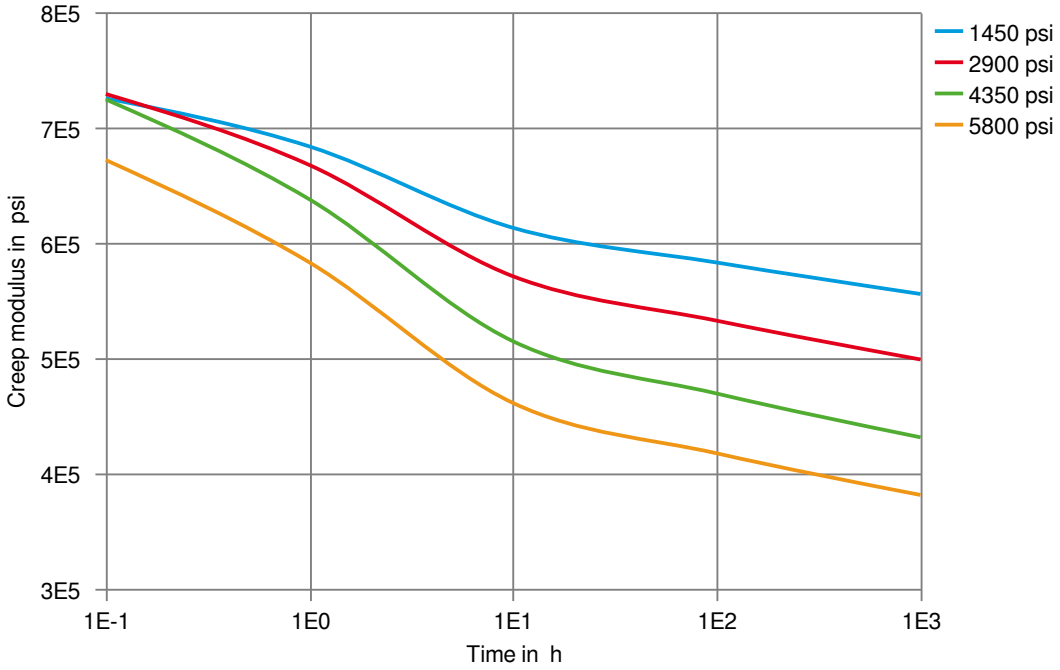
Stress-strain (isochronous) 73.4 °F



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Creep modulus-time 73.4 °F



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