CELSTRAN® PP-GF40-0405 P10/10

CELSTRAN® Long Fibre

Material code according to ISO 1043-1: PP UV-stabilized polypropylene reinforced with 40 weight percent long glass fibers. Black. 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-LGF40	ISO 1043
Part Marking Code	>PP-LGF40<	ISO 11469

Typical mechanical properties

Tensile modulus	1.33E6	psi	ISO 527-1/-2
Tensile stress at break, 5mm/min	18900	psi	ISO 527-1/-2
Tensile strain at break, 5mm/min	2	%	ISO 527-1/-2
Flexural modulus	1.31E6	psi	ISO 178
Flexural strength	29000	psi	ISO 178
Charpy impact strength, 23°C	29.5	ftlb/in²	ISO 179/1eU
Charpy impact strength, -30°C	28.5	ftlb/in²	ISO 179/1eU
Charpy notched impact strength, 23°C	11.9	ftlb/in²	ISO 179/1eA
Charpy notched impact strength, -30°C	14.3	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, 0.45 MPa	329	°F	ISO 75-1/-2
Temperature of deflection under load, 8 MPa	275	°F	ISO 75-1/-2

Flammability

Burning Behav. at 1.5mm nom. thickn.	HB	class	IEC 60695-11-10
Thickness tested	0.0591	in	IEC 60695-11-10
UL recognition	yes		UL 94

Physical/Other properties

Density	0.0437	lb/in³	ISO 1183

Injection

Drying Recommended	yes	
Drying Temperature	194	°F
Drying Time, Dehumidified Dryer	2 - 3	h
Processing Moisture Content	≤0.2	%
Melt Temperature Optimum	482	°F
Min. melt temperature	446	°F
Max. melt temperature	518	°F
Max. screw tangential speed	≤0.1	m/s
Mold Temperature Optimum	140	°F

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Min. mold temperature	104	°F
Max. mold temperature	158	°F
Back pressure	435	psi

Characteristics

Processing	Injection Molding, Extrusion, Sheet Extrusion, Other Extrusion, Transfer Molding
Special characteristics	U.V. stabilized or stable to weather

Additional information

Processing Notes

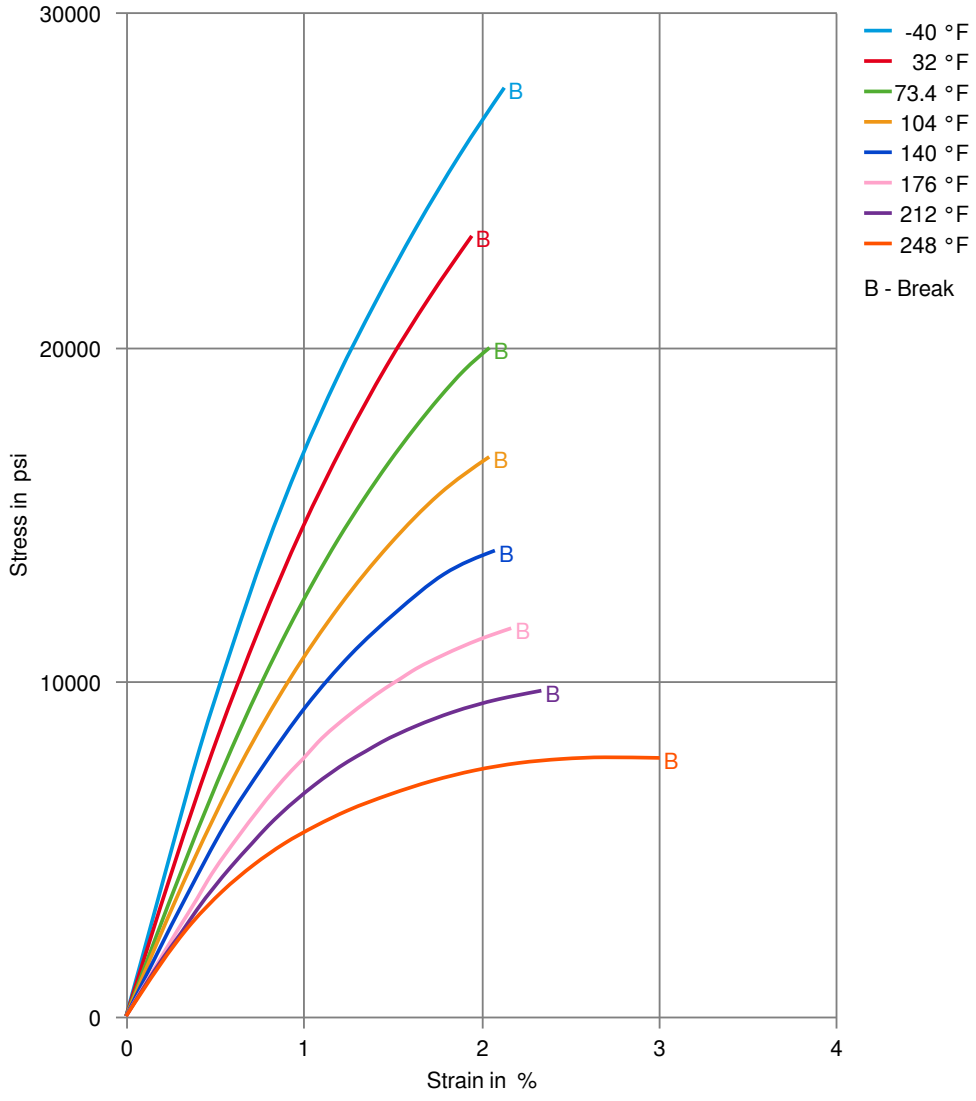
Pre-Drying

It is normally not necessary to dry CELSTRAN PP

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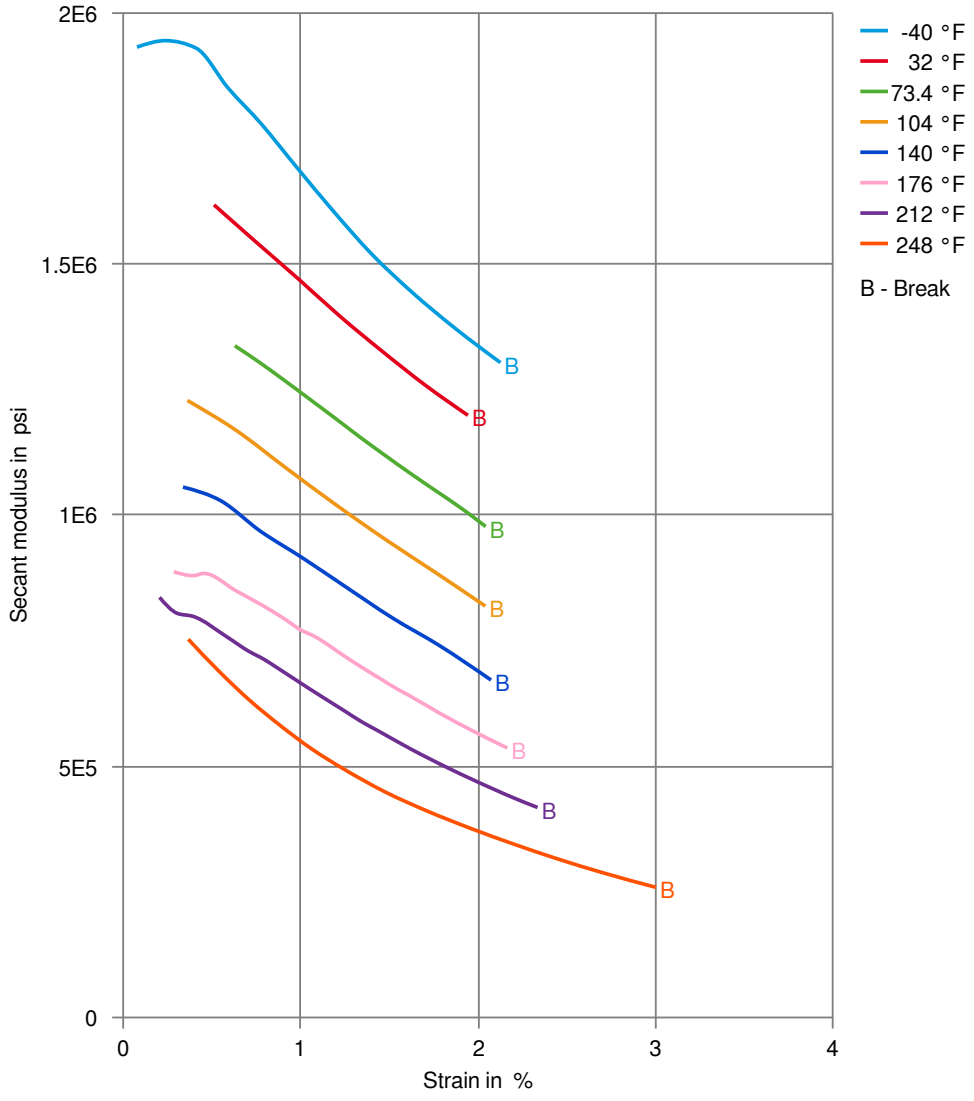
Stress-strain



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Secant modulus-strain



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