Celanese
The chemistry inside innovation™

CELSTRAN® PP-GF40-0453 ECO-B 352 BLACK

CELSTRAN® Long Fibre

Material code according to ISO 1043-1: PP Heat stabilized polypropylene reinforced with 40 weight percent long glass fibers, low emission grade. 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.
Celstran ECO-B 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-LGF40	ISO 1043
Part Marking Code	>PP-LGF40<	ISO 11469

Typical mechanical properties

Tensile modulus	9200	MPa	ISO 527-1/-2
Tensile stress at break, 5mm/min	130	MPa	ISO 527-1/-2
Tensile strain at break, 5mm/min	2	%	ISO 527-1/-2
Flexural modulus	9000	MPa	ISO 178
Flexural strength	200	MPa	ISO 178
Charpy impact strength, 23°C	62	kJ/m²	ISO 179/1eU
Charpy impact strength, -30°C	60	kJ/m²	ISO 179/1eU
Charpy notched impact strength, 23°C	25	kJ/m²	ISO 179/1eA
Charpy notched impact strength, -30°C	30	kJ/m²	ISO 179/1eA
Poisson's ratio	0.34[C]		

[C]: Calculated

Thermal properties

Melting temperature, 10°C/min	166	°C	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	158	°C	ISO 75-1/-2
Temperature of deflection under load, 8 MPa	134	°C	ISO 75-1/-2

Physical/Other properties

Density	1210	kg/m³	ISO 1183

VDA Properties

Emission of organic compounds	30	µgC/g	VDA 277
Thermal desorption analysis of organic emissions	56	µg/g	VDA 278
Odour	3.5	class	VDA 270

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Injection

Drying Temperature	100	°C
Drying Time, Dehumidified Dryer	2	h
Processing Moisture Content	≤0.2	%
Melt Temperature Optimum	225	°C
Screw tangential speed	≤0.0982	m/s
Min. mould temperature	30	°C
Max. mould temperature	70	°C
Hold pressure range	40 - 80	MPa
Back pressure	3	MPa

Characteristics

Processing	Injection Moulding, Extrusion, Sheet Extrusion, Other Extrusion, Transfer Moulding
Delivery form	Pellets
Special characteristics	Heat stabilised or stable to heat, Low emissions
Sustainability	Bio-Content

Additional information

Processing Notes

Pre-Drying

It is normally not necessary to dry CELSTRAN PP

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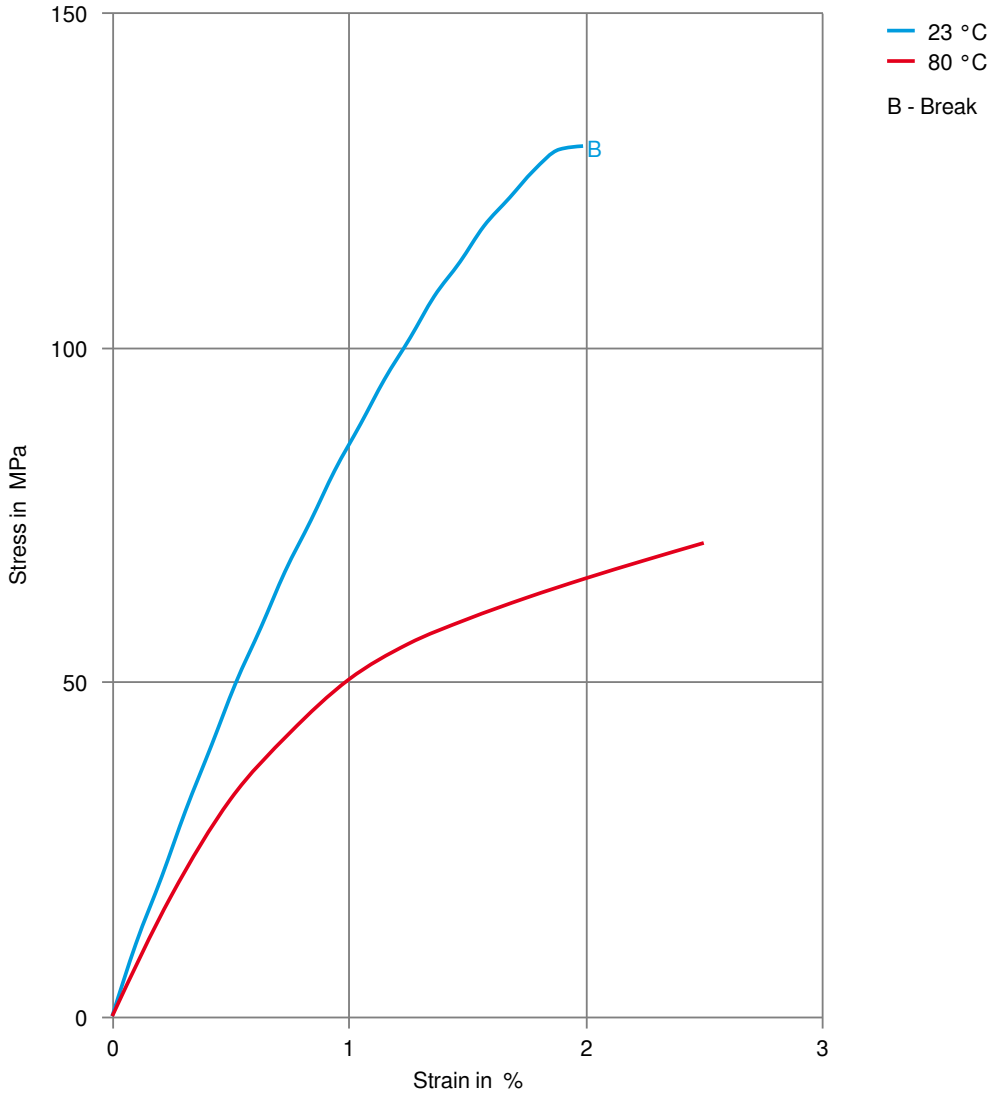
Stress-strain



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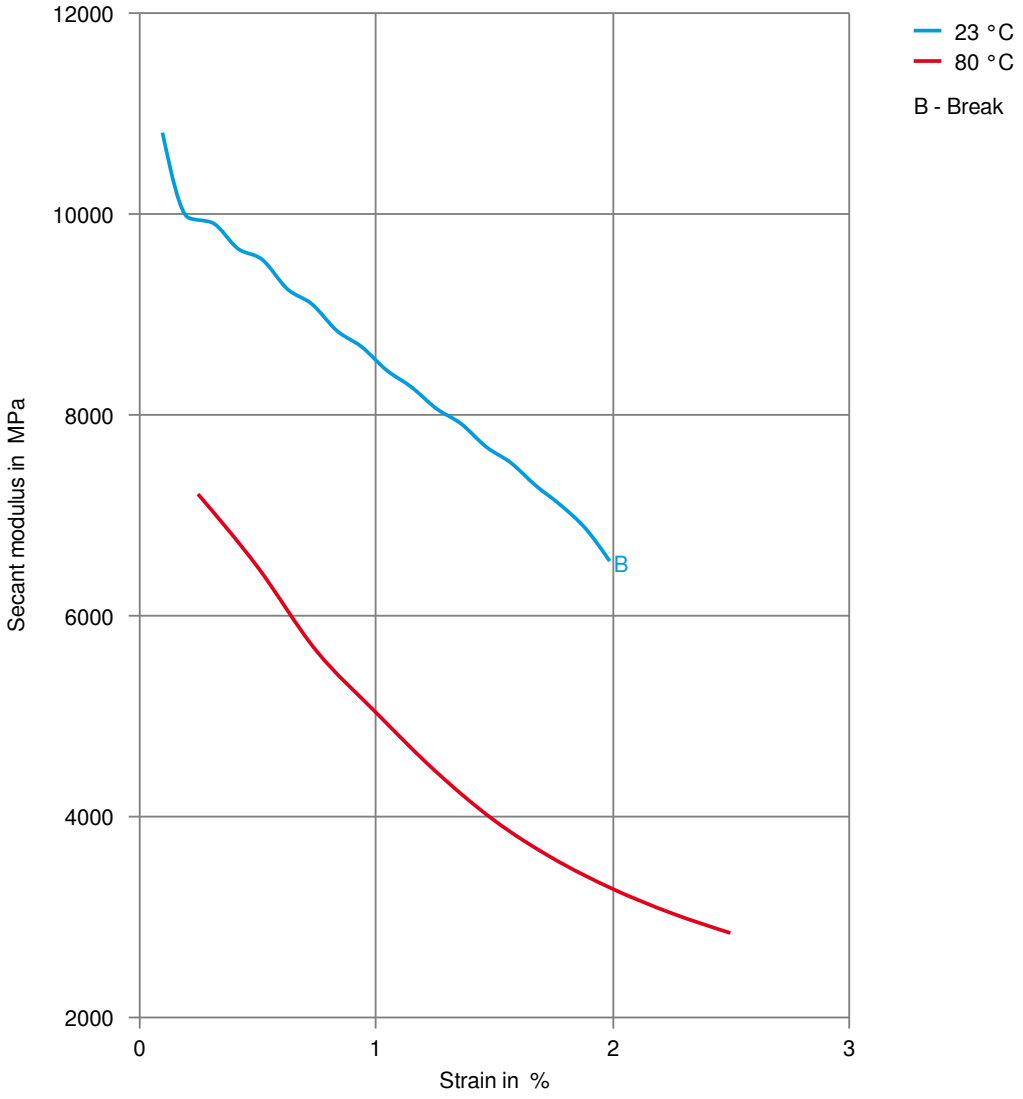
Secant modulus-strain



Revised: 2024-11-19 Source: Celanese Materials Database