

# CELSTRAN® DEV PP-GF50-0405E Black

## 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 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	12000 MPa	ISO 527-1/-2
Tensile stress at break, 5mm/min	140 MPa	ISO 527-1/-2
Tensile strain at break, 5mm/min	1.7 %	ISO 527-1/-2
Flexural modulus	12500 MPa	ISO 178
Flexural strength	230 MPa	ISO 178
Flexural strain at failure	2.5 %	ISO 178
Charpy impact strength, 23°C	75 kJ/m <sup>2</sup>	ISO 179/1eU
Charpy impact strength, -30°C	85 kJ/m <sup>2</sup>	ISO 179/1eU
Charpy notched impact strength, 23°C	28 kJ/m <sup>2</sup>	ISO 179/1eA
Charpy notched impact strength, -30°C	30 kJ/m <sup>2</sup>	ISO 179/1eA
Poisson's ratio	0.33 <sup>[C]</sup>	

[C]: Calculated

### Thermal properties

Melting temperature, 10°C/min	165 °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	138 °C	ISO 75-1/-2
Coefficient of linear thermal expansion (CLTE), parallel	16.5 E-6/K	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), normal	75.9 E-6/K	ISO 11359-1/-2

### Physical/Other properties

Density	1340 kg/m <sup>3</sup>	ISO 1183
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### Injection

Back pressure	3 MPa
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### Characteristics

Processing	Injection Moulding
Delivery form	Pellets
Special characteristics	Light stabilised or stable to light, U.V. stabilised or stable to weather

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### 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

### Automotive

OEM  
Mercedes-Benz  
VW Group

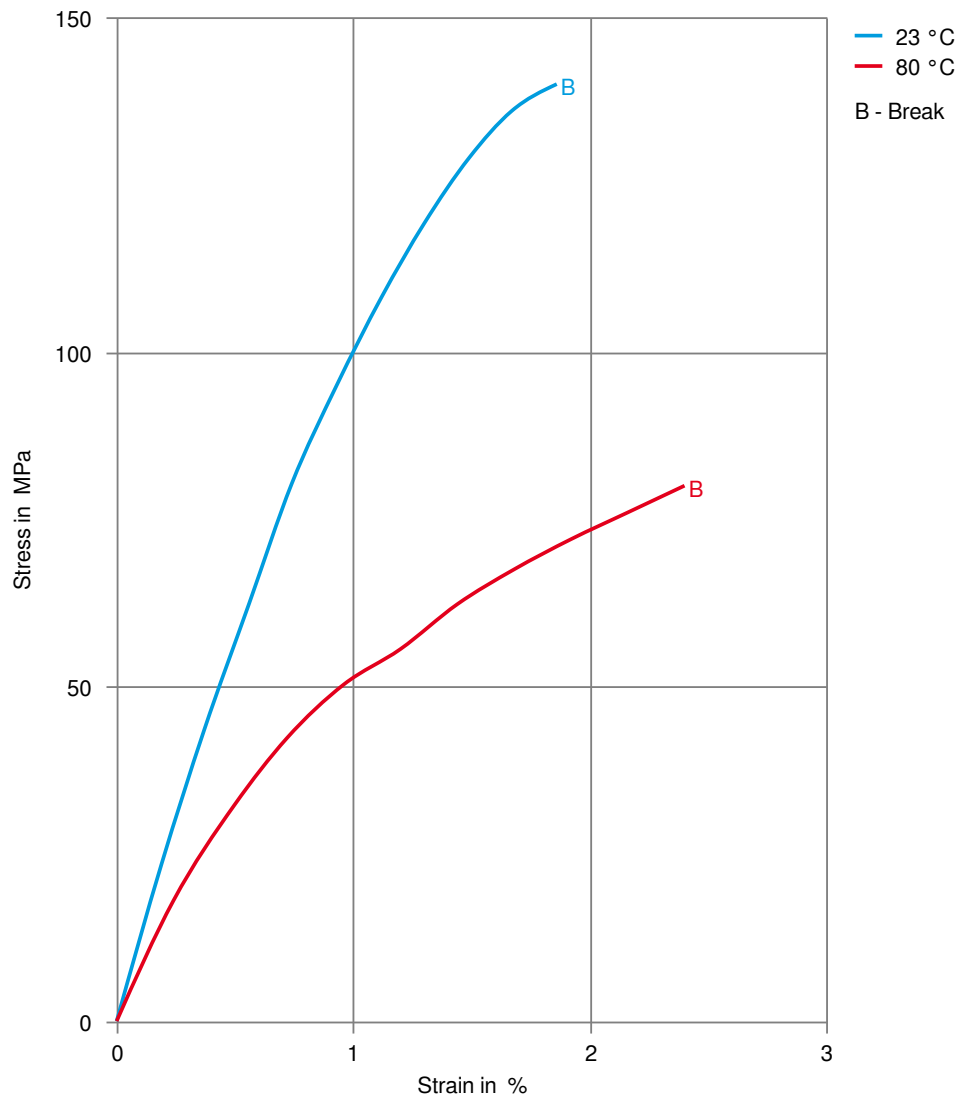
STANDARD  
DBL 5416  
No Spec, special part approval

ADDITIONAL INFORMATION  
(5416.90)

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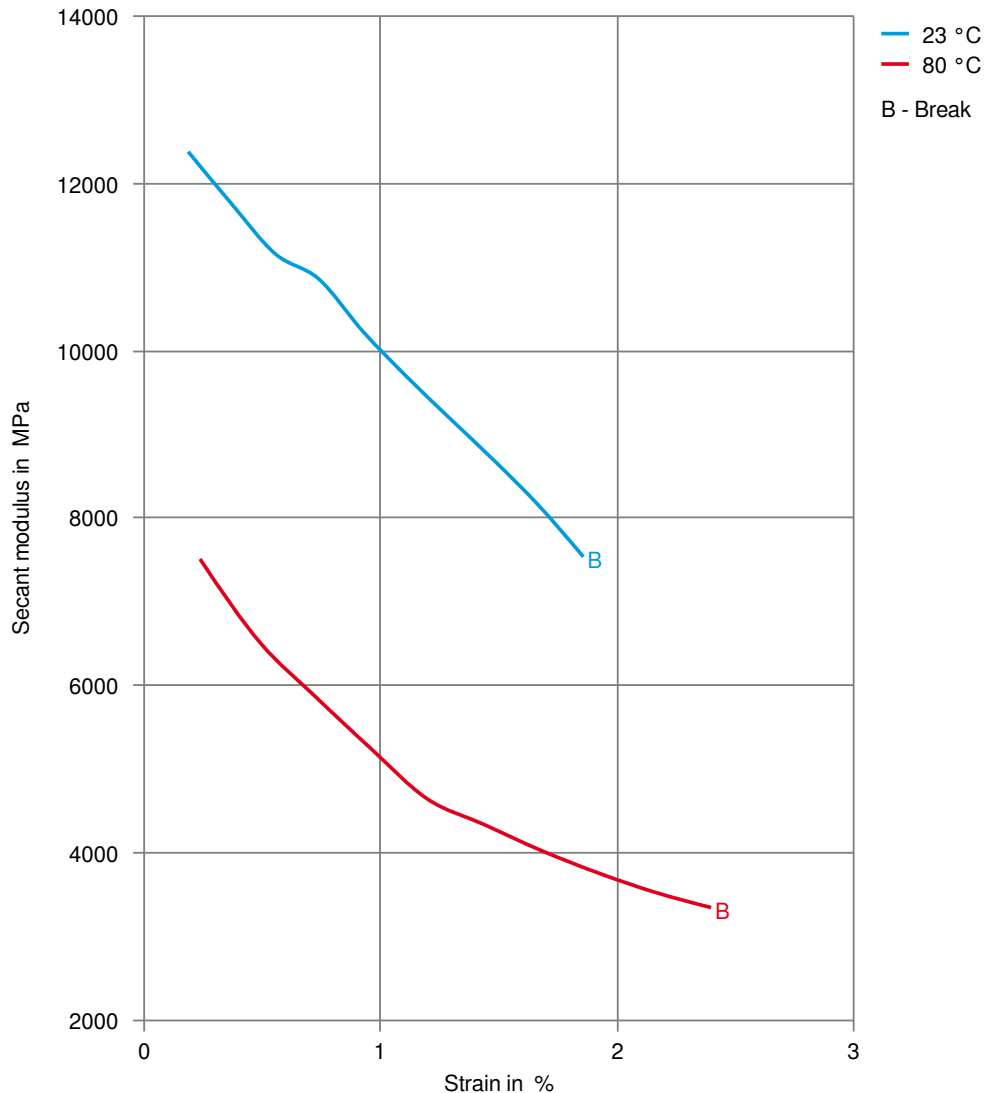
### Stress-strain



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### Secant modulus-strain



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