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**CELSTRAN® PP-GF40-04 Black - PP**


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**Description**


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Material code according to ISO 1043-1: PP Polypropylene Homopolymer 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. (-0414 = heat stabilized, -0405 = UV-stabilized, -0453/-0455 = low emission) 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

Physical properties	Value	Unit	Test Standard
Density	1210	kg/m <sup>3</sup>	ISO 1183

Mechanical properties	Value	Unit	Test Standard
Tensile modulus	9200	MPa	ISO 527-2/1A
Tensile stress at break, 5mm/min	130	MPa	ISO 527-2/1A
Tensile strain at break, 5mm/min	2	%	ISO 527-2/1A
Flexural modulus, 23°C	9000	MPa	ISO 178
Flexural modulus, 80°C	6400	MPa	ISO 178
Flexural strength, 23°C	200	MPa	ISO 178
Flexural strength, 80°C	120	MPa	ISO 178
Charpy impact strength, 23°C	62	kJ/m <sup>2</sup>	ISO 179/1eU
Charpy impact strength, -30°C	60	kJ/m <sup>2</sup>	ISO 179/1eU
Charpy notched impact strength, 23°C	25	kJ/m <sup>2</sup>	ISO 179/1eA
Charpy notched impact strength, -30°C	30	kJ/m <sup>2</sup>	ISO 179/1eA

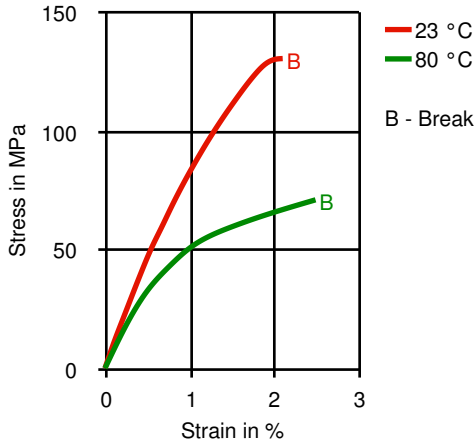
Thermal properties	Value	Unit	Test Standard
Melting temperature, 10°C/min	162	°C	ISO 11357-1/-3
DTUL at 1.8 MPa	158	°C	ISO 75-1, -2
DTUL at 8.0 MPa	128	°C	ISO 75-1, -2

Test specimen production	Value	Unit	Test Standard
Injection Molding, melt temperature	250	°C	ISO 294
Injection Molding, mold temperature	70	°C	ISO 294
Injection Molding, injection velocity	80	mm/s	ISO 294
Injection Molding, pressure at hold	83	MPa	ISO 294

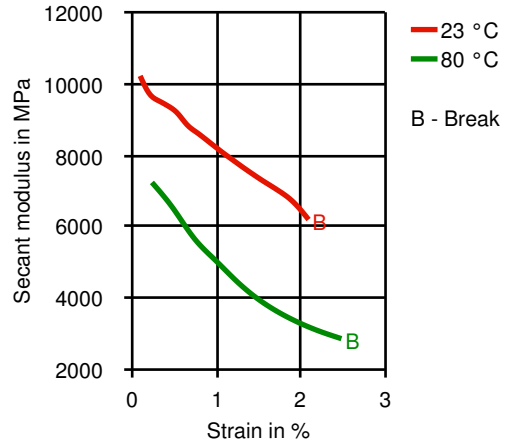
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**Diagrams**

**Stress-strain**



**Secant modulus-strain**



**Typical injection moulding processing conditions**

	Value	Unit	Test Standard
<b>Pre Drying</b>			
Necessary low maximum residual moisture content	0.2	%	-
Drying time	2	h	-
Drying temperature	90 - 100	°C	-
<b>Temperature</b>			
Feeding zone temperature	20 - 50	°C	-
Zone1 temperature	210 - 230	°C	-
Zone2 temperature	220 - 240	°C	-
Zone3 temperature	230 - 250	°C	-
Zone4 temperature	230 - 250	°C	-
Nozzle temperature	230 - 250	°C	-
Melt temperature	230 - 250	°C	-
Mold temperature	30 - 70	°C	-
Hot runner temperature	230 - 270	°C	-
<b>Pressure</b>			
Back pressure max.	30	bar	-
<b>Speed</b>			
Injection speed	slow	-	-
<b>Screw Speed</b>			
Screw speed diameter, 40mm	50	RPM	-
Screw speed diameter, 55mm	35	RPM	-
Screw speed diameter, 75mm	25	RPM	-

**Other text information**

**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. A circulating air drying cabinet can be used for this purpose if the gran

**Longer pre-drying times/storage**

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

**Characteristics**

**Product Categories**

Glass reinforced

**Delivery Form**

Pellets