

CELSTRAN® PP-GF30-05 natural - PP

Description

Material code according to ISO 1043-1: PP Heat stabilized polypropylene copolymer reinforced with 30 weight percent long glass fibers. Natural. The fibers are chemically coupled to the polypropylene matrix. The impact properties are enhanced. The pellets are cylindrical and normally as well as the embedded fibers 11 mm long. (-0501 = heat stabilized,) 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	1120	kg/m ³	ISO 1183

Mechanical properties	Value	Unit	Test Standard
Tensile modulus	6300	MPa	ISO 527-2/1A
Tensile stress at break, 5mm/min	110	MPa	ISO 527-2/1A
Tensile strain at break, 5mm/min	2.3	%	ISO 527-2/1A
Flexural modulus, 23°C	6500	MPa	ISO 178
Flexural modulus, 80°C	4400	MPa	ISO 178
Flexural strength, 23°C	160	MPa	ISO 178
Flexural strength, 80°C	85	MPa	ISO 178
Charpy impact strength, 23°C	70	kJ/m ²	ISO 179/1eU
Charpy impact strength, -30°C	80	kJ/m ²	ISO 179/1eU
Charpy notched impact strength, 23°C	30	kJ/m ²	ISO 179/1eA
Charpy notched impact strength, -30°C	29	kJ/m ²	ISO 179/1eA
Izod impact unnotched, 23°C	55	kJ/m ²	ISO 180/1U
Izod impact unnotched, -30°C	68	kJ/m ²	ISO 180/1U
Puncture energy, +23°C	24	J	ISO 6603-2
Puncture energy, -30°C	21	J	ISO 6603-2

Thermal properties	Value	Unit	Test Standard
DTUL at 1.8 MPa	158	°C	ISO 75-1, -2
DTUL at 8.0 MPa	117	°C	ISO 75-1, -2

Typical injection moulding processing conditions

Pre Drying	Value	Unit	Test Standard
Necessary low maximum residual moisture content	0.2	%	-
Drying time	2	h	-
Drying temperature	90 - 100	°C	-
Temperature	Value	Unit	Test Standard
Feeding zone temperature	20 - 50	°C	-
Zone1 temperature	200 - 220	°C	-
Zone2 temperature	200 - 220	°C	-
Zone3 temperature	220 - 250	°C	-
Zone4 temperature	220 - 250	°C	-
Nozzle temperature	220 - 250	°C	-
Melt temperature	220 - 250	°C	-
Mold temperature	30 - 70	°C	-
Hot runner temperature	230 - 270	°C	-
Pressure	Value	Unit	Test Standard
Back pressure max.	30	bar	-
Speed	Value	Unit	Test Standard
Injection speed	slow	-	-
Screw Speed	Value	Unit	Test Standard
Screw speed diameter, 40mm	50	RPM	-
Screw speed diameter, 55mm	35	RPM	-
Screw speed diameter, 75mm	25	RPM	-

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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.

Longer pre-drying times/storage

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

Characteristics

Product Categories

Glass reinforced, Impact modified

Delivery Form

Pellets