

CELSTRAN® PP-GF20-05CN05 Black - PP

Description

Material code according to ISO 1043-1: PP Polypropylene with 20 weight percent ash content, long glass fibers reinforced, Black copolymer. The fibers are chemically coupled to the polypropylene matrix. The pellets are cylindrical and normally as well as the embedded fibers 10 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.

Physical properties	Value	Unit	Test Standard
Density	1030	kg/m ³	ISO 1183
Mechanical properties	Value	Unit	Test Standard
Tensile modulus	4700	MPa	ISO 527-2/1A
Tensile stress at break, 5mm/min	88	MPa	ISO 527-2/1A
Tensile strain at break, 5mm/min	2.8	%	ISO 527-2/1A
Flexural modulus, 23°C	4800	MPa	ISO 178
Flexural strength, 23°C	145	MPa	ISO 178
Charpy notched impact strength, 23°C	24	kJ/m ²	ISO 179/1eA

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	210 - 230	°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 - 250	°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	-