Celanese
The chemistry inside innovation™

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/m³	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/m²	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	-