

# CELSTRAN® +PP-GF40-04CN15

Polypropylene with 40% ash content

Material code according to ISO 1043-1: PP Polypropylene with 40 weight percent ash content, long glass fibers reinforced, Natural. The fibers are chemically coupled to the polypropylene matrix. The pellets are cylindrical and normally as well as the embedded fibers 10 mm long. Concentrate for blending down on a fiber content of 20-30% 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

## Typical mechanical properties

|  |                      |              |
|--|----------------------|--------------|
| Tensile Modulus                        | 9300 MPa             | ISO 527-1/-2 |
| Stress at break, 5mm/min               | 135 MPa              | ISO 527-1/-2 |
| Strain at break, 5mm/min               | 2 %                  | ISO 527-1/-2 |
| Flexural Modulus                       | 9200 MPa             | ISO 178      |
| Flexural Strength                      | 205 MPa              | ISO 178      |
| Charpy impact strength, 23°C           | 50 kJ/m <sup>2</sup> | ISO 179/1eU  |
| Charpy impact strength, -30 °C         | 50 kJ/m <sup>2</sup> | ISO 179/1eU  |
| Charpy notched impact strength, 23°C   | 32 kJ/m <sup>2</sup> | ISO 179/1eA  |
| Charpy notched impact strength, -30 °C | 36 kJ/m <sup>2</sup> | ISO 179/1eA  |

## Thermal properties

|   |        |                |
|---|--------|----------------|
| Melting temperature, 10°C/min           | 165 °C | ISO 11357-1/-3 |
| Temp. of deflection under load, 1.8 MPa | 158 °C | ISO 75-1/-2    |
| Temp. of deflection under load, 8 MPa   | 138 °C | ISO 75-1/-2    |

## Physical/Other properties

|         |                        |          |
|---------|------------------------|----------|
| Density | 1210 kg/m <sup>3</sup> | ISO 1183 |
|---------|------------------------|----------|

## Injection

|                                 |             |
|---------------------------------|-------------|
| Drying Temperature              | 90 - 100 °C |
| Drying Time, Dehumidified Dryer | 2 h         |
| Processing Moisture Content     | 0.2 %       |
| Screw tangential speed          | 0.1 m/s     |
| Max. mould temperature          | 30 - 70 °C  |
| Back pressure                   | 3 MPa       |
| Injection speed                 | slow        |

## Processing Texts

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.

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