# Celstran® PP-GF30-04 Natural

Polypropylene

Celanese Corporation

## Message:

Polypropylene homopolymer reinforced with 30 weight percent long glass fibers. The fibers are chemically coupled to the polypropylene matrix. The pellets are cylindrical and normally as well as the embedded fibers 10 mm long. (-0403 = 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

| General Information | | | |
|---|---|---|---|
| Filler / Reinforcement | Long glass fiber, 30% filler by weight | | |
| Features | Low warpage<br>Rigidity, high<br>High strength<br>Chemical coupling<br>Homopolymer<br>Impact resistance, good<br>Good creep resistance<br>Low temperature impact resistance | | |
| Uses | Application in Automobile Field | | |
| Appearance | Natural color | | |
| Forms | Particle | | |
| Processing Method | Injection molding | | |
| Resin ID (ISO 1043) | PP | | |
| **Physical** | **Nominal Value** | **Unit** | **Test Method** |
| Density | 1.12 | g/cm³ | ISO 1183 |
| **Mechanical** | **Nominal Value** | **Unit** | **Test Method** |
| Tensile Modulus | 7000 | MPa | ISO 527-2/1A/1 |
| Tensile Stress (Break) | 130 | MPa | ISO 527-2/1A/5 |
| Tensile Strain (Break) | 2.7 | % | ISO 527-2/1A/5 |
| Flexural Modulus (23°C) | 6600 | MPa | ISO 178 |
| Flexural Stress (23°C) | 200 | MPa | ISO 178 |
| **Impact** | **Nominal Value** | **Unit** | **Test Method** |
| Charpy Notched Impact Strength (23°C) | 39 | kJ/m² | ISO 179/1eA |
| **Thermal** | **Nominal Value** | **Unit** | **Test Method** |
| Heat Deflection Temperature | | | |
| 1.8 MPa, not annealed | 158 | °C | ISO 75-2/A |

| | | | |
|---|---|---|---|
| 8.0 MPa, not annealed | 122 | °C | ISO 75-2/C |

| Injection | Nominal Value | Unit |
|---|---|---|
| Drying Temperature | 90 - 100 | °C |
| Drying Time | 4.0 | hr |
| Suggested Max Moisture | 0.20 | % |
| Rear Temperature | 230 - 240 | °C |
| Middle Temperature | 240 - 250 | °C |
| Front Temperature | 250 - 260 | °C |
| Nozzle Temperature | 240 - 270 | °C |
| Processing (Melt) Temp | 240 - 270 | °C |
| Mold Temperature | 30 - 70 | °C |
| Injection Pressure | 60.0 - 120 | MPa |
| Injection Rate | Slow | |
| Holding Pressure | 40.0 - 80.0 | MPa |
| Back Pressure | 0.00 - 3.00 | MPa |

Injection instructions

Manifold Temperature: 240 to 270°CZone 4 Temperature: 260 to 270°CFeed Temperature: 20 to 50°C



## Recommended distributors for this material

### Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519

Phone: +86 13424755533

Email: sales@su-jiao.com

No. 215, Lianhe North Road, Fengxian District, Shanghai, China

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