

# CELSTRAN® TPU-GF50-01 AD3002 BLACK

## CELSTRAN® Long Fibre

50% long strand fiber glass reinforced thermoplastic polyurethane

### Product information

|                      |             |           |
|----------------------|-------------|-----------|
| Resin Identification | TPU-LGF50   | ISO 1043  |
| Part Marking Code    | >TPU-LGF50< | ISO 11469 |

### Typical mechanical properties

|                                      |                      |              |
|--------------------------------------|----------------------|--------------|
| Tensile modulus                      | 14300 MPa            | ISO 527-1/-2 |
| Tensile stress at break, 5mm/min     | 195 MPa              | ISO 527-1/-2 |
| Tensile strain at break, 5mm/min     | 1.7 %                | ISO 527-1/-2 |
| Flexural modulus                     | 13400 MPa            | ISO 178      |
| Flexural strength                    | 320 MPa              | ISO 178      |
| Charpy notched impact strength, 23°C | 47 kJ/m <sup>2</sup> | ISO 179/1eA  |
| Izod notched impact strength, 23°C   | 66 kJ/m <sup>2</sup> | ISO 180/1A   |
| Poisson's ratio                      | 0.33 <sup>[C]</sup>  |              |

[C]: Calculated

### Thermal properties

|   |       |             |
|---|-------|-------------|
| Temperature of deflection under load, 1.8 MPa | 96 °C | ISO 75-1/-2 |
|---|-------|-------------|

### Physical/Other properties

|         |                        |          |
|---------|------------------------|----------|
| Density | 1630 kg/m <sup>3</sup> | ISO 1183 |
|---------|------------------------|----------|

### Characteristics

|                         |                    |
|-------------------------|--------------------|
| Processing              | Injection Moulding |
| Delivery form           | Pellets            |
| Special characteristics | Low Warpage        |

### Additional information

Injection molding

### Preprocessing

Polyurethane material drying requirements: 4 hrs. @80° C.  
A dehumidifier or desiccant dryer is recommended.

### Processing

Celstran can be processed on a standard injection molding unit.  
A general purpose metering screw is recommended with a zone distribution of 40% feed, 40% transition, and 20% metering.  
A free flowing check ring assembly is recommended.

Melt Temp: 260-265°C.  
Mold Temp: 70- 75°C.

Processing Notes

### Pre-Drying

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CELSTRAN TPU should in principle be predried. Because of the necessary low maximum residual moisture content the use of dry air dryers is recommended. The dew point should be  $\leq -30^{\circ}\text{C}$ . The time between drying and processing should be as short as possible