

# Technical information

## TEREZ<sup>®</sup> GT2 400 H GL60

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60% long glas fiber reinforced Polyarylamide.

TER Plastics  
POLYMER GROUP



## TECHNICAL DATA SHEET

### Product text

For molded parts with high impact load, stiffness and flexural strength. Granule length 10 - 14 mm.

| Properties                                        | Value  | Unit              | Test method         |
|---------------------------------------------------|--------|-------------------|---------------------|
| Density                                           | 1,7700 | g/cm <sup>3</sup> | ISO 1183            |
| Impact strength Charpy (Notched 23°C), dry        | 36     | kJ/m <sup>2</sup> | ISO 179             |
| Impact strength Charpy (Notched 23°), conditioned |        | kJ/m <sup>2</sup> | ISO 179             |
| Impact strength Charpy (Notched -30°C), dry       |        | kJ/m <sup>2</sup> | ISO 179             |
| Impact strength Charpy 23°C, dry                  | 70     | kJ/m <sup>2</sup> | ISO 179             |
| Impact strength Charpy (23°), conditioned         |        | kJ/m <sup>2</sup> | ISO 179             |
| Impact strength Charpy -30°C, dry                 |        | kJ/m <sup>2</sup> | ISO 179             |
| Tensile-modulus, dry                              | 25000  | MPa               | ISO 527             |
| Tensile-modulus, conditioned                      |        | MPa               | ISO 527             |
| Tensile stress at break, dry                      | 280    | MPa               | ISO 527             |
| Tensile stress at break, conditioned              |        | MPa               | ISO 527             |
| Elongation at break, dry                          | 1,60   | %                 | ISO 527             |
| Elongation at break, conditioned                  |        | %                 | ISO 527             |
| HDT 1,80 MPa                                      | 240    | °C                | ISO 75              |
| Melting point                                     | 240    | °C                | ähnlich ISO 11357-3 |
| Burning Behav. at thickness h                     | HB     | class             | UL 94               |
| Thickness tested                                  | 1,6    | mm                | UL 94               |
| UL recognition                                    |        |                   | UL 94               |
| Water absorption                                  |        | %                 | ähnlich ISO 62      |
| Moisture absorption                               | 1,30   | %                 | ähnlich ISO 1110    |

## PROCESSING DATA SHEET

### Processing guidelines for injection molding of TEREZ GT2 400 H GL60

The processing data sheet provides guidelines about processing as well as pre-drying.

#### MATERIAL PREPARATION

##### Storage

Store in a dry place protected from direct sunlight. Avoid all sources of ignition like extreme heat, sparks, or open flame.

##### Drying

For the manufacturing of mechanically and optically optimal injection molding parts, we recommend following pre-drying conditions according to the table below. If the container is open (wet granules), the drying time can be extended accordingly.

##### Dry air dryer

|             |             |
|-------------|-------------|
| Temperature | 110°C       |
| Time        | 6 - 8 hours |
| Due point   | -40°C       |

##### Residual moisture

<= 0.05% (recommended)  
max. 0.1% (standard)

### MACHINE REQUIREMENTS

#### PROCESSING

In the injection unit and the cavity there is a significant shortening of the glass fiber. In general, extreme shearing forces on the molding compounds are to be avoided. In comparison to the processing of short glass fiber reinforced molding compounds, a reduction of the screw speed, the injection pressure, the injection speed and the back pressure is recommended.

#### Recommended screw configuration

TEREZ LFT molding compounds can be processed on most conventional injection molding machines. It is possible to use the conventional 3-zone universal screws. The L / D ratio should be 18 - 22 D and the compression ratio should be 2.1 - 2.5: 1. The granulate feed should be cut as deep as possible for optimal granulate transport. Mixing elements on the screw are to be avoided. For the processing of the long glass fiber reinforced TEREZ LFT the use of wear protected screws and cylinders is recommended.

## PROCESSING DATA SHEET

### Recommended temperature setting

Depending on the selected TEREZ LFT-Type, at least three separate adjustable heating zones should be able to generate cylinder temperatures of up to 360 ° C. A separate nozzle heater is necessary. The cylinder flange must be tempered. Processing with an open nozzle is useful, as it is very aerodynamic and durable due to their structure. Needle valve nozzles on the cylinder are not recommended. Melt temperatures should be set at the same level as comparable short fiber compounds.

#### Processing temperatures

|        |             |
|--------|-------------|
| Hopper | 80 - 120°C  |
| Center | 280 - 310°C |
| Nozzle | 270 - 310°C |

### Mold temperatures

Higher mold temperatures result in lower-stress injection-molded parts, better surfaces, better embedding of the glass fibers, higher degrees of crystallization and less shrinkage. The hoses and fittings used for tool temperature control must be designed for the required temperatures.

#### Mold temperature

|       |             |
|-------|-------------|
| Temp. | 120 - 140°C |
|-------|-------------|

### Residence time

You should try to keep the residence time short, especially at high temperatures to avoid material degradation.

#### Residence times in the cylinder

max. 265 °C / 10 min.

### Instructions for cleaning

The aggregate can be cleaned by using low MFI polypropylene. You can also use standard cleaning granulate.