Product Information

Ultradur®
B 4300 G6
03/2014
PBT-GF30

Product description

Easy flowing injection molding grade with 30 % glass fibers; for rigid, tough and dimensionally stable technical parts (e.g. windshield wiper arms, printed circuit boards PCBs, housing, consoles, contact carriers, covers).

Abbreviated designation according to ISO 1043-1: PBT
CLASSIFICATION ACCORDING TO ISO 7792-1:
Moulding Compound ISO 7792-PBT, MGHLNR, 11-100, GF30

Product safety

Ultradur® melts are stable at temperatures up to 280°C and do not give rise to hazards due to molecular degradation or the evolution of gases and vapors. Like all thermoplastic polymers, however, Ultradur decomposes on exposure to excessive thermal stresses, e.g. when it is overheated or as a result of cleaning by burning off. In such cases gaseous decomposition products are formed. Decomposition accelerates above 350°C small quantities of aldehydes and saturated and unsaturated hydrocarbons are also formed. When Ultradur® is properly processed and there is adequate suction at the die no risks to health are to be expected.

Further safety information see safety data sheet of individual product.
Safety data sheet could be ask for at the Ultra-Infopoint under tel: 0621/60-78780 or fax:0621/60-78730.

Physical form and storage

Standard packaging includes the 25-kg-bag and the 1000 kg octabin (octagonal container). Other forms of packaging are possible subject to agreement. All containers are tightly sealed and should be opened only immediately prior to processing. Further precautions for preliminary treatment and drying are described in the processing section of the brochure. The bulk density is about 0.7 to 0.8 g/cm³.

Under normal conditions Ultradur can be stored for unlimited periods. Even at elevated temperatures, e.g. 40°C in air, and under the action of sunlight and weather no decomposition reactions occur. Ultradur should generally have a moisture content of less than 0.04% when being processed.

In order to ensure reliable production, therefore, pre-drying should generally be the rule and the machine should be loaded via a closed conveyor system. Appropriate equipment is commercially available. Pre-drying is also for the addition of batches, e.g. in the case of inhouse pigmentation.

In order to prevent the formation of condensed water, containers stored in unheated rooms must only be opened when they have attained the temperature prevailing in the processing area. This can possibly take a very long time. Measurements have shown that the interior of a 25-kg bag originally at 5°C had reached the temperature of 20°C in the processing area only after 48 hours.

Note

The data contained in this publication are based on our current knowledge and experience. In view of the many factors that may affect processing and application of our product, these data do not relieve processors from carrying out their own investigations and tests; neither do these data imply any guarantee of certain properties, nor the suitability of the product for a specific purpose. Any descriptions, drawings, photographs, data, proportions, weights etc. given herein may change without prior information and do not constitute the agreed contractual quality of the product. It is the responsibility of the recipient of our products to ensure that any proprietary rights and existing laws and legislation are observed.

In order to check the availability of products please contact us or our sales agency.
## Product Information

### Typical values for uncoloured product at 23 °C¹)

<table>
<thead>
<tr>
<th>Properties</th>
<th>Test method</th>
<th>Unit</th>
<th>Values²)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Polymer abbreviation</strong></td>
<td>-</td>
<td>-</td>
<td>PBT-GF30</td>
</tr>
<tr>
<td><strong>Density</strong></td>
<td>ISO 1183</td>
<td>kg/m³</td>
<td>1.30</td>
</tr>
<tr>
<td><strong>Filler content:</strong> Glass fiber (GF), glass balls (GB), Mineral (M)</td>
<td>-</td>
<td>%</td>
<td>GF30</td>
</tr>
<tr>
<td><strong>Viscosity number (solution 0.005 g/ml Phenole/1,2 Dichlorbenzol 1:1)</strong></td>
<td>ISO 307, 1157, 1628</td>
<td>cm³/g</td>
<td>105</td>
</tr>
<tr>
<td><strong>Water absorption, equilibrium in water at 23°C</strong></td>
<td>similar to ISO 62</td>
<td>%</td>
<td>0.4</td>
</tr>
<tr>
<td><strong>Moisture absorption, equilibrium 23°C/50% r.h.</strong></td>
<td>similar to ISO 62</td>
<td>%</td>
<td>0.20</td>
</tr>
</tbody>
</table>

### Processing

- **Melt volume-flow rate MVR at 250 °C and 2.16 kg**
- **Melting temperature, DSC**
- **Melt temperature, Injection moulding/Extrusion**
- **Mould temperature, Injection moulding**
- **Moulding shrinkage, free, longitudinal (plate with film gate 150*150*3 mm³)**
- **Moulding shrinkage, free, transverse (plate with film gate 150*150*3 mm³)**
- **Moulding shrinkage (parallel)**
- **Moulding shrinkage (normal)**

### Flammability

- **Burning Behav. at 1.6 mm nom. thickn.**
- **Burning Behav. at thickness d = 0.4 mm**
- **Automotive materials (thickness d>= 1mm)**
- **Flammability by electrical sources of ignition, Method BH, d = 4 mm**

### Mechanical properties

- **Tensile modulus**
- **Stress at break**
- **Strain at break**
- **Tensile creep modulus, 1000 h, strain <= 0.5%, 23°C**
- **Charpy unnotched impact strength (23°C)**
- **Charpy unnotched impact strength (-30°C)**
- **Charpy notched impact strength (23°C)**
- **Flexural strength**
- **Ball indentation hardness at 961 N and 30 s**

### Thermal properties

- **HDT A (1.80 MPa)**
- **HDT B (0.45 MPa)**
- **Max. service temperature (short cycle operation)**
- **Temperature index at 50% loss of tensile strength after 20000 h**
- **Temperature index at 50% loss of tensile strength after 5000 h**
- **Coefficient of linear thermal expansion, longitudinal (23-80)°C**
- **Thermal conductivity**
- **Specific heat capacity**

### Electrical properties

- **Relative permittivity (100Hz)**
- **Relative permittivity (1 MHz)**
- **Dissipation factor (100Hz)**
- **Dissipation factor (1 MHz)**
- **Volume resistivity**
- **Surface resistivity**
- **Comparative tracking index, CTI, test liquid A**
- **Comparative tracking index, CTI M, test liquid B**

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¹) If product name or properties don't state otherwise.
²) The asterisk symbol "*" signifies inapplicable properties.
³) = passed