Product Information **Ultradur®**

B 4406 G6

11/2017 **PBT-GF30 FR(17)**

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Product description

Injection molding grade with 30 % glass fibers for parts requiring enhanced fire resistance (eg potentiometer parts, plug-and-socket connectors, switches).

Abbreviated designation according to ISO 1043-1: PBT FR(17)
CLASSIFICATION ACCORDING TO ISO 7792-1:
Moulding Compound ISO 7792-PBT, MFGHLNR, 11-110, GF30

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 0,8g/cm³.
Ultradur® can be stored for a longer period of time in dry, well vented rooms without causing problems in processing.
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.

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. At temperatures of > 290 °C can be emitted: carbon monoxide, tetrahydrofuran.
Under special fire conditions traces of other toxic substances are possible. Formation of further decomposition and oxidation products depends upon the fire conditions.
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.

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.

BASF SE
67056 Ludwigshafen, Germany

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Product Information

Typical values for uncoloured product at 23 °C[1)]	Test method	Unit	Values[2)]
Properties			
Polymer abbreviation	-	-	**PBT-GF30 FR(17)**
Density	ISO 1183	kg/m³	**1650**
Viscosity number (solution 0,005 g/ml Phenole/1,2 Dichlorbenzol 1:1)	ISO 307, 1157, 1628	cm³/g	**108**
Water absorption, saturation in water at 23°C	similar to ISO 62	%	**0.4**
Moisture absorption, equilibrium 23°C/50% r.h.	similar to ISO 62	%	**0.20**
Processing			
Melting temperature, DSC	ISO 11357-1/-3	°C	**223**
MVR 275 °C/2.16 kg	ISO 1133	cm³/10min	**8**
Melt temperature, injection moulding/extrusion	-	°C	**250 - 275**
Mould temperature, injection moulding	-	°C	**60 - 100**
Molding shrinkage, model-housing 1.5 mm	-	%	**0.5 - 0.6**
Thermal properties			
Deflection temp. 1.8 (HDT A)	ISO 75-1/-2	°C	**205**
Deflection temp. under load 0.45 MPa (HDT B)	ISO 75-1/-2	°C	**220**
Flammability (UL yellow card see attachment)			
GWFI (thickness)	IEC 60695-2-12	°C (mm)	**960 (1)**
Electrical properties			
Relative permittivity (1 MHz)	IEC 60250	-	**3.9**
Dissipation factor (1 MHz)	IEC 60250	E-4	**150**
Volume resistivity	IEC 60093	Ohm*m	**1E14**
Surface resistivity	IEC 60093	Ohm	**1E13**
CTI, solution A	IEC 60112	-	**200**
Mechanical properties			
Tensile modulus	ISO 527-1/-2	MPa	**11300**
Stress at break	ISO 527-1/-2	MPa	**145**
Strain at break	ISO 527-1/-2	%	**2.3**
Charpy unnotched impact strength, 23°C	ISO 179/1eU	kJ/m²	**60**
Charpy unnotched impact strength, -30°C	ISO 179/1eU	kJ/m²	**55**
Charpy notched impact strength, 23°C	ISO 179/1eA	kJ/m²	**10**

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

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UL - Yellow Card

The information presented on the UL Prospector datasheet was acquired by UL Prospector from the producer of the material. UL Prospector makes substantial efforts to assure the accuracy of this data. However, UL Prospector assumes no responsibility for the data values and strongly encourages that upon final material selection, data points are validated with the material supplier.

PROSPECTOR®

Component - Plastics E41871

BASF SE

Performance Materials Europe, E-PME/NQ - H201, Ludwigshafen 67056 DE

B4406 G6(a1), B4406 G6 (o) Q717(a1), B4406 G6 (o) Q717 High Speed(a1)

Polybutylene Terephthalate (PBT) "Ultradur", furnished as pellets

Color	Min. Thk (mm)	Flame Class	HWI	HAI	RTI Elec	RTI Imp	RTI Str
ALL	0.40	V-0	4	1	140	125	125
	0.75	V-0	3	0	140	130	125
	1.5	V-0, 5VA	0	0	140	130	130
	3.0	V-0, 5VA	0	0	140	130	130

Comparative Tracking Index (CTI):	3	Inclined Plane Tracking (IPT) kV:	-
Dielectric Strength (kV/mm):	23	Volume Resistivity (10^xohm-cm):	17
High-Voltage Arc Tracking Rate (HVTR):	2	High Volt, Low Current Arc Resis (D495):	7
Dimensional Stability (%):	0		

(a1) - Virgin and regrind up to 50% by weight have the same basic characteristics to the minimum thickness of 0.75mm except for the 5VA ratings.

(o) - May be replaced by a word indicating color or a word followed with a three to five digit number indicating color.

ANSI/UL 94 small-scale test data does not pertain to building materials, furnishings and related contents. ANSI/UL 94 small-scale test data is intended solely for determining the flammability of plastic materials used in the components and parts of end-product devices and appliances, where the acceptability of the combination is determined by UL.

Report Date: 1985-11-06

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IEC and ISO Test Methods

Test Name	Test Method	Units	Thk (mm)	Value
Flammability	IEC 60695-11-10, IEC 60695-11-20	Class (color)	0.40	V-0 (ALL)
			0.75	V-0 (ALL)
			1.5	V-0, 5VA (ALL)
			3.0	V-0, 5VA (ALL)
Glow-Wire Flammability (GWFI)	IEC 60695-2-12	°C	-	-
Glow-Wire Ignition (GWIT)	IEC 60695-2-13	°C	-	-
IEC Comparative Tracking Index	IEC 60112	Volts (Max)	-	-
IEC Ball Pressure	IEC 60695-10-2	°C	-	-
ISO Heat Deflection (1.80 MPa)	ISO 75-2	°C	-	-

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ISO Tensile Strength	ISO 527-2	MPa	-	-
ISO Flexural Strength	ISO 178	MPa	-	-
ISO Tensile Impact	ISO 8256	kJ/m^2	-	-
ISO Izod Impact	ISO 180	kJ/m^2	-	-
ISO Charpy Impact	ISO 179-2	kJ/m^2	-	-

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