Product Information **Ultradur®**

B 4330 G6 HR

09/2016 **PBT-I-GF30**

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Product description

Injection-moulding grade containing 30% glass-fibres, for rigid,tough and dimensionally stable technical parts, used in applications with highest demands on hydrolysis resistance such es automotive connectors and housings for electronic units under the hood.
The black colored product Ultradur® B4330 G6 HR BK15045 has a LS coloration (Laser Sensitive) and can be marked with Nd:YAG lasers.

Abbreviated designation according to ISO 1043-1: PBT-I-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. 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.

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.

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-I-GF30**
Density	ISO 1183	kg/m³	**1490**
Filler content: Glass fiber (GF), glass balls (GB), Mineral (M)	-	%	**GF30**
Viscosity number (solution 0,005 g/ml Phenole/1,2 Dichlorbenzol 1:1)	ISO 307, 1157, 1628	cm³/g	**108**
natural	-	-	**+**
black	-	-	**+**
Water absorption, equilibrium 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**
Halogen content (Cl, Br, I)	Schoeniger IC	mg/kg	**< 100**
Processing			
Melt volume-flow rate MVR at 275 °C and 2.16 kg	ISO 1133	cm³/10min	**7**
Melting temperature, DSC	ISO 11357-1/-3	°C	**223**
Melt temperature, Injection moulding/Extrusion	-	°C	**250 - 280**
Mould temperature, Injection moulding	-	°C	**60 - 100**
Molding shrinkage (parallel)	ISO 294-4	%	**0.50**
Molding shrinkage (normal)	ISO 294-4	%	**1.10**
Flammability			
Burning Behav. at 1.6 mm nom. thickn.	IEC 60695-11-10	class	**HB**
Burning Behav. at thickness d = 0.75 mm	IEC 60695-11-10	class	**HB**
Mechanical properties			
Tensile modulus	ISO 527-1/-2	MPa	**8500**
Stress at break	ISO 527-1/-2	MPa	**120**
Strain at break	ISO 527-1/-2	%	**3.4**
Charpy unnotched impact strength (23°C)	ISO 179/1eU	kJ/m²	**74**
Charpy unnotched impact strength (-30°C)	ISO 179/1eU	kJ/m²	**65**
Charpy notched impact strength (23°C)	ISO 179/1eA	kJ/m²	**14**
Charpy notched impact strength (-30°C)	ISO 179/1eA	kJ/m²	**8**
Flexural strength	ISO 178	MPa	**190**
Flexural modulus	ISO 178	MPa	**7860**
Thermal properties			
HDT A (1.80 MPa)	ISO 75-1/-2	°C	**205**
HDT B (0.45 MPa)	ISO 75-1/-2	°C	**220**
Max. service temperature (short cycle operation)	-	°C	**210**
Coefficient of linear thermal expansion, longitudinal (23-80)°C	ISO 11359-1/-2	E-6/K	**20 - 40**
Specific heat capacity	-	J/(kg*K)	**1250**
Electrical properties			
Volume resistivity	IEC 60093	Ohm*m	**1E14**
Surface resistivity	IEC 60093	Ohm	**1E15**
Comparative tracking index, CTI, test liquid A	IEC 60112	-	**400**

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

BASF SE

67056 Ludwigshafen, Germany

Ultradur® B 4330 G6 HR

UL - Yellow Card

Component - Plastics **E41871**

BASF SE

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

B4330G6 HR

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

Color	Min Thk (mm)	Flame Class	HWI	HAI	RTI Elec	RTI Imp	RTI Str
NC, BK	0.8	HB	-	-	75	75	75
	3.0	HB	-	-	75	75	75

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

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: 2015-12-08
Last Revised: 2016-01-04

IEC and ISO Test Methods

Test Name	Test Method	Units	Thk (mm)	Value
Flammability	IEC 60695-11-10	Class (color)	0.8	HB75 (NC, BK)
			3.0	HB40 (NC, BK)
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	-	-
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	-	-