

Ultradur® B 4300 G3

Polybutylene Terephthalate (PBT)

Ultradur B 4300 G3 is an easy flowing injection molding PBT with 15% glass fiber reinforcement for rigid, tough, and dimensionally stable parts.

Applications

Typical applications include timer dials, toggles, knobs, parts for thermostats, oven-door handles, toaster housings and grills.

PHYSICAL	ISO Test Method	Property Value
Density, g/cm ³	1183	1.42
Viscosity Number, cm ³ /g	1628	111
Moisture, %	62	
(50% RH)		0.2
(Saturation)		0.4
RHEOLOGICAL	ISO Test Method	Property Value
Melt Volume Rate (250 °C/2.16 Kg), cc/10min.	1133	22
MECHANICAL	ISO Test Method	Property Value
Tensile Modulus, MPa	527	
23 °C		6,000
Tensile stress at break, MPa	527	
23 °C		93
Tensile strain at break, %	527	
23 °C		4.0
Flexural Modulus, MPa	178	
23 °C		4,800
IMPACT	ISO Test Method	Property Value

Izod Notched Impact, kJ/m²

180

23°C

5.8

THERMAL

ISO Test Method

Property Value

Melting Point, °C

3146

223

HDT A, °C

75

183

HDT B, °C

75

220

Coef. of Linear Thermal Expansion, Parallel,
mm/mm °C0.4 X10⁻⁴

ELECTRICAL

ISO Test Method

Property Value

Volume Resistivity (Ohm-m)

IEC 60093

>1E13

Surface Resistivity (Ohm)

IEC 60093

1E13

Dielectric Constant (100 Hz)

IEC 60250

3.7

Dielectric Constant (1 MHz)

IEC 60250

3.7

Dissipation Factor (100 Hz), E-4

IEC 60250

12

Dissipation Factor (1 MHz), E-4

IEC 60250

150

UL RATINGS

UL Test Method

Property Value

Flammability Rating, 0.75mm

UL94

HB

Relative Temperature Index, 0.75mm

UL746B

Electrical, °C

130

Flammability Rating, 1.5mm

UL94

HB

Relative Temperature Index, 1.5mm

UL746B

Mechanical w/ Impact, °C

105

Electrical, °C

130

Flammability Rating, 3.0mm

UL94

HB

Relative Temperature Index, 3.0mm

UL746B

Mechanical w/o Impact, °C

140

Mechanical w/ Impact, °C

105

Processing Guidelines

Material Handling

Max. Water content: 0.04%

To ensure optimum part performance, this product must be dried prior to molding and maintained at a moisture level of less than 0.04%. Dehumidifying or desiccant dryers operating at 100-120°C (212-248°F) for 4 hours drying time are recommended. Further information concerning safe handling procedures can be obtained from the Safety Data Sheet. Alternatively, please contact your BASF representative.

Typical Profile

Melt Temperature 250-270°C (482-518°F)

Mold Temperature 60-100°C (140-212°F)

Injection and Packing Pressure 35-125 bar (500-1500 psi)

Mold Temperatures

This product can be processed over mold temperatures of 60-100°C (140-212°F); however, for optimizing surface appearance, dimensional stability and part performance, mold surface temperatures of at least 80°C (176°F) are preferred.

Pressures

Injection pressure controls the filling of the part and should be applied for 90% of ram travel. Packing pressure affects the final part and can be used effectively in controlling sink marks and shrinkage. It should be applied and maintained until the gate area is completely frozen off.

Back pressure can be utilized to provide uniform melt consistency and reduce trapped air and gas. A maximum of 10 bar (145 psi) is recommended due to the risk of excessive shear.

Fill Rate

Fast fill rates are recommended to ensure uniform melt delivery to the cavity and prevent premature freezing. Surface appearance is directly affected by injection rate.

Note

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