

Product Information

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Ultradur® B 4300 G4 FC PBT (Polybutylene Terephthalate)


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Product Description

Ultradur B 4300 G4 FC is a easy flowing injection molding food contact PBT with 20% glass fiber reinforcement for rigid, tough, and dimensionally stable parts.

PHYSICAL	ISO Test Method	Property Value
Density, g/cm³	1183	1.45
Viscosity Number, cm³/g	1628	107
Mold Shrinkage, parallel, %	294-4	0.43
Mold Shrinkage, normal, %	294-4	1.16
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	14
MECHANICAL	ISO Test Method	Property Value
Tensile Modulus, MPa	527	
23°C		7,000
Tensile stress at break, MPa	527	
23°C		115
Tensile strain at break, %	527	
23°C		3.5
Flexural Strength, MPa	178	
23°C		170
IMPACT	ISO Test Method	Property Value
Charpy Notched, kJ/m²	179	
23°C		6
Charpy Unnotched, kJ/m²	179	
-30°C		54
23°C		58
THERMAL	ISO Test Method	Property Value
Melting Point, °C	3146	223
HDT A, ° C	75	205
HDT B, ° C	75	220
Coef. of Linear Thermal Expansion, Parallel, mm/mm °C		0.35 X10-4
ELECTRICAL	ISO Test Method	Property Value
Comparative Tracking Index	IEC 60112	300
Volume Resistivity (Ohm)	IEC 60093	1E14
Surface Resistivity (Ohm-m)	IEC 60093	1E13
Dielectric Constant (100 Hz)	IEC 60250	3.7
Dielectric Constant (1 MHz)	IEC 60250	3.7
Dissipation Factor (100 Hz)	IEC 60250	12
Dissipation Factor (1 MHz)	IEC 60250	150

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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