

Ultradur® B 4500 FC

PBT (Polybutylene Terephthalate)



Product Description

Ultradur B 4500 FC is a general-purpose food contact grade injection molding PBT grade.

PHYSICAL	ISO Test Method	Property Value
Density, g/cm	1183	1.30
Viscosity Number, cm/g	1628	130
Moisture, %	62	
(50% RH)		0.25
(Saturation)		0.5
RHEOLOGICAL	ISO Test Method	Property Value
Melt Volume Rate (250 C/2.16 Kg), cc/10min.	1133	19
MECHANICAL	ISO Test Method	Property Value
Tensile Modulus, MPa	527	
23C		2,500
Tensile stress at yield, MPa	527	
23C		55
Tensile strain at yield, %	527	
23C		3.7
Nominal strain at break, %	527	
23C		>50
Flexural Strength, MPa	178	
23C		85
Ball Indentation, MPa	2039-1	130
Tensile Creep Modulus (1000h), MPa	899	1,200
IMPACT	ISO Test Method	Property Value
Charpy Notched, kJ/m ²	179	
23C		6
Charpy Unnotched, kJ/m ²	179	
23C		290
THERMAL	ISO Test Method	Property Value
Melting Point, C	3146	223
HDT A, C	75	65
Coef. of Linear Thermal Expansion, Parallel, mm/mm C		1.4 X10-4
ELECTRICAL	ISO Test Method	Property Value
Comparative Tracking Index	IEC 60112	550
Volume Resistivity	IEC 60093	1E14
Surface Resistivity	IEC 60093	1E13
Dielectric Constant (100 Hz)	IEC 60250	3.3
Dielectric Constant (1 MHz)	IEC 60250	3.3
Dissipation Factor (100 Hz)	IEC 60250	10
Dissipation Factor (1 MHz)	IEC 60250	200



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 degC (212-248 degF) at 4 hours drying time is recommended. Further information concerning safe handling procedures can be obtained from the Material Safety Data Sheet. Alternatively, please contact your BASF representative.

Typical Profile

Melt Temperature 250-270 degC (482-518 degF)

Mold Temperature 40-80 degC (104-176 degF)

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

Mold Temperatures

This product can be processed over mold temperatures of 40-80 degC (104-176 degF), although 80 degC (176 deg F) will result the best surface.

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

Although all statements and information in this publication are believed to be accurate and reliable, they are presented gratis and for guidance only, and risks and liability for results obtained by use of the products or application of the suggestions described are assumed by the user. NO WARRANTIES OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE MADE REGARDING PRODUCTS DESCRIBED OR DESIGNS, DATA OR INFORMATION SET FORTH. Statements or suggestions concerning possible use of the products are made without representation or warranty that any such use is free of patent infringement and are not recommendations to infringe any patent. The user should not assume that toxicity data and safety measures are indicated or that other measures may not be required.

