

Ultradur® B 4520 PRO

PBT (Polybutylene Terephthalate)



Product Description

Ultradur B 4520 PRO is an unfilled injection molding PBT grade.

PHYSICAL	ISO Test Method	Property Value
Density, g/cm	1183	1.30
Viscosity Number, cm/g	1628	120
Moisture, %	62	
RHEOLOGICAL	ISO Test Method	Property Value
Melt Volume Rate (250 C/2.16 Kg), cc/10min.	1133	25
MECHANICAL	ISO Test Method	Property Value
Tensile Modulus, MPa	527	
23C		2,600
Tensile stress at yield, MPa	527	
23C		60
Tensile stress at break, MPa	527	
Tensile strain at yield, %	527	
23C		10.8
Nominal strain at break, %	527	
23C		30
Flexural Strength, MPa	178	
Flexural Modulus, MPa	178	
IMPACT	ISO Test Method	Property Value
Izod Notched Impact, kJ/m ²	180	
Charpy Notched, kJ/m ²	179	
23C		4.5
Charpy Unnotched, kJ/m ²	179	
23C		228
-30C		140
THERMAL	ISO Test Method	Property Value
Melting Point, C	3146	223
HDT A, C	75	55

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

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