

Ultradur® B 4520 High Speed Polybutylene Terephthalate (PBT)



Product Description

Ultradur B 4520 High Speed is an unfilled, easy flowing, injection molding PBT grade.

Applications

Ultradur B 4520 High Speed is designed for connectors and other technical parts.

PHYSICAL	ISO Test Method	Property Value
Density, g/cm ³	1183	1.30
Viscosity Number, cm ³ /g	1628	115
Mold Shrinkage, parallel, %	294-4	1.8
Mold Shrinkage, normal, %	294-4	1.9
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	50
MECHANICAL	ISO Test Method	Property Value
Tensile Modulus, MPa	527	
23C		2,200
Tensile stress at yield, MPa	527	
23C		50
Tensile strain at yield, %	527	
23C		3.5
Nominal strain at break, %	527	
23C		>50
IMPACT	ISO Test Method	Property Value
Charpy Notched, kJ/m ²	179	
23C		4
Charpy Unnotched, kJ/m ²	179	
23C		190
THERMAL	ISO Test Method	Property Value
Melting Point, C	3146	223
HDT A, C	75	55
HDT B, C	75	130

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 100-120C (212-248F) at 4 hours drying time is 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 250-270C (482-518F)

Mold Temperature 40-80C (104-176F)

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

Mold Temperatures

This product can be processed over mold temperatures of 40-80C (104-176F), although 80C (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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