

Ultradur[®] B 4040 G11 HMG BK15029

Polybutylene Terephthalate/Polyethylene Terephthalate (PBT/PET)

Ultradur B 4040 G11 HMG BK15029 (formerly Ultradur HMG12 BK15029) is a 55% glass fiber reinforced PBT+PET grade. In addition to high stiffness it offers exceptional dimensional stability.

Applications

Typical applications include automotive exterior components such as mirror brackets and wiper arms.

PHYSICAL	ISO Test Method	Property Value
Density, g/cm ³	1183	1.81
MECHANICAL	ISO Test Method	Property Value
Tensile Modulus, MPa	527	
23°C		21,000
Tensile stress at break, MPa	527	
23°C		163
Tensile strain at break, %	527	
23°C		1.3
Flexural Modulus, MPa	178	
23°C		19,200
IMPACT	ISO Test Method	Property Value
Izod Notched Impact, kJ/m²	180	
-40°C		11
23°C		10
Charpy Notched, kJ/m²	179	
23°C		10

Charpy Unnotched, kJ/m²	179	
23°C		47
THERMAL	ISO Test Method	Property Value
Melting Point, °C	3146	223
HDT A, ° C	75	207
HDT B, ° C	75	219

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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