Product Information

Aug 2020

Ultradur® B 4040 G3 FR BK7696

Polybutylene Terephthalate/Polyethylene Terephthalate (PBT/PET)

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Product Description

Ultradur B 4040 G3 FR BK7696 is a 15% glass filled, pigmented black, injection molding, flame retarded PBT+PET product. The product is intended for house hold appliances where good chemical resistance, heat resistance and flame retardancy are required. The product also exhibits good surface appearance.

Applications

Applications include oven and range top components, exterior parts for deep fryers, toasters, coffee machines, steam irons and cooker knobs and handles.

PHYSICAL	ISO Test Method	Property Value
Density, g/cm³	1183	1.56
RHEOLOGICAL	**ISO Test Method**	**Property Value**
Melt Volume Rate (265 C/2.16 Kg), cc/10min.	1133	28
MECHANICAL	**ISO Test Method**	**Property Value**
Tensile Modulus, MPa	527	
23C		7,000
Tensile stress at break, MPa	527	
23C		87
Tensile strain at break, %	527	
23C		1.5
Flexural Modulus, MPa	178	
23C		6,800
IMPACT	**ISO Test Method**	**Property Value**
Charpy Notched, kJ/m²	179	
23C		5
Charpy Unnotched, kJ/m²	179	
23C		22
THERMAL	**ISO Test Method**	**Property Value**
Melting Point, C	3146	220
HDT A, C	75	157
UL RATINGS	**UL Test Method**	**Property Value**
Flammability Rating, 1.5mm	UL94	V-0/5VA
Relative Temperature Index, 1.5mm	UL746B	
Mechanical w/o Impact, C		130
Mechanical w/ Impact, C		130
Electrical, C		140
Flammability Rating, 3.0mm	UL94	V-0/5VA
Relative Temperature Index, 3.0mm	UL746B	
Mechanical w/o Impact, C		130
Mechanical w/ Impact, C		130
Electrical, C		140

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Processing Guidelines

Material Handling
Max. Water content: 0.015%
To ensure optimum part performance, this product must be dried prior to molding and maintained at a moisture level of less than 0.015%. 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 240-275C (464-527F)
Mold Temperature 60-100C (140-212F)
Injection and Packing Pressure 35-125 bar (500-1500 psi)

Mold Temperatures
This product can be processed over mold temperatures of 60-100C (140-212F); however, for optimizing surface appearance, dimensional stability and part performance, mold surface temperatures at least 80C (176F) 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