Product Information

Aug 2020

Ultradur[®] B 4040 G3 FR BK5830 Q605

Polybutylene Terephthalate/Polyethylene Terephthalate (PBT/PET)



Product Description

Ultradur B 4040 G3 FR BK5830 Q605 is a 15% glass filled, pigmented black, injection molding, flame retarded PBT+PET product. The product is intended for household 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/cm ³ | 1183 | 1.56 |
| RHEOLOGICAL | ISO Test Method | Property Value |
| Melt Volume Rate (265 C/2.16 Kg), cc/10min. | 1133 | 36 |
| MECHANICAL | ISO Test Method | Property Value |
| Tensile stress at break, MPa | 527 | |
| 23C | | 90 |
| Tensile strain at break, % | 527 | |
| 23C | | 1.7 |
| Flexural Strength, MPa | 178 | |
| 23C | | 139 |
| Flexural Modulus, MPa | 178 | |
| 23C | | 6,080 |
| IMPACT | ISO Test Method | Property Value |
| Charpy Notched, kJ/m ² | 179 | |
| 23C | | 4.7 |
| Charpy Unnotched, kJ/m ² | 179 | |
| 23C | | 23 |
| THERMAL | ISO Test Method | Property Value |
| Melting Point, C | 3146 | 223 |
| 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 |
| Processing Guidelines | | |
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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

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