Product Information

Aug 2017

# Ultramid® B3EG3
## Polyamide 6

We create chemistry

### Product Description

Ultramid B3EG3 is a 15% glass fiber reinforced injection molding PA6 grade for housings with enhanced impact resistance.

### Applications

Typical applications include automotive mirror housings and wheels of moutain bikes.

| PHYSICAL | ISO Test Method | Property Value | |
|---|---|---|---|
| Density, g/cm³ | 1183 | 1.23 | |
| Moisture, % | 62 | | |
| (50% RH) | | 2.3 | |
| (Saturation) | | 7.7 | |
| **RHEOLOGICAL** | **ISO Test Method** | **Dry** | **Conditioned** |
| Melt Volume Rate (275 C/5 Kg), cc/10min. | 1133 | 75 | - |
| **MECHANICAL** | **ISO Test Method** | **Dry** | **Conditioned** |
| Tensile Modulus, MPa | 527 | | |
| 23C | | 5,800 | 3,500 |
| Tensile stress at break, MPa | 527 | | |
| 23C | | 130 | 70 |
| Tensile strain at break, % | 527 | | |
| 23C | | 3.5 | 15 |
| Flexural Modulus, MPa | 178 | | |
| 23C | | 5,200 | 2,500 |
| **IMPACT** | **ISO Test Method** | **Dry** | **Conditioned** |
| Izod Notched Impact, kJ/m² | 180 | | |
| 23C | | 6 | - |
| Charpy Notched, kJ/m² | 179 | | |
| -30C | | 7 | - |
| 23C | | 8 | 20 |
| Charpy Unnotched, kJ/m² | 179 | | |
| -30C | | 45 | - |
| 23C | | 50 | 105 |
| **THERMAL** | **ISO Test Method** | **Dry** | **Conditioned** |
| Melting Point, C | 3146 | 220 | - |
| HDT A, C | 75 | 190 | - |
| HDT B, C | 75 | 215 | - |
| Coef. of Linear Thermal Expansion, Parallel, mm/mm C | | 0.33 X10-4 | - |
| Coef. of Linear Thermal Expansion, Normal, mm/mm C | | 0.75 X10-4 | - |
| **ELECTRICAL** | **ISO Test Method** | **Dry** | **Conditioned** |
| Volume Resistivity (Ohm-m) | IEC 60093 | 1E13 | 1E10 |
| Dielectric Constant (1 MHz) | IEC 60250 | 3.8 | 7 |

BASF Corporation
Engineering Plastics
1609 Biddle Avenue
Wyandotte, MI 48192

General Information: 800-BC-RESIN
Technical Assistance: 800-527-TECH (734-324-5150)
Web address: http://www.plasticsportal.com/usa

| | | | |
|---|---|---|---|
| Dissipation Factor (100 Hz), E-4 | IEC 60250 | 250 | 2,400 |
| Dissipation Factor (1 MHz), E-4 | IEC 60250 | 250 | 2,400 |

| UL RATINGS | UL Test Method | Property Value |
|---|---|---|
| Relative Temperature Index, 0.83mm | UL746B | |
| Electrical, C | | 120 |
| Flammability Rating, 1.5mm | UL94 | HB |
| Relative Temperature Index, 1.5mm | UL746B | |
| Mechanical w/o Impact, C | | 130 |
| Mechanical w/ Impact, C | | 95 |
| Electrical, C | | 120 |
| Flammability Rating, 3.0mm | UL94 | HB |
| Relative Temperature Index, 3.0mm | UL746B | |
| Mechanical w/o Impact, C | | 130 |
| Mechanical w/ Impact, C | | 95 |
| Electrical, C | | 120 |

## Processing Guidelines

**Material Handling**
Max. Water content: 0.15%
Product is supplied in sealed containers and drying prior to molding is not required. If drying becomes necessary, a dehumidifying or desiccant dryer operating at 80C (176F) is recommended. Drying time is dependent on moisture level, however 2-4 hours is generally sufficient. Further information concerning safe handling procedures can be obtained from the Safety Data Sheet. Alternatively, please contact your BASF representative.

**Typical Profile**
Melt Temperature 250-290C (482-554F)
Mold Temperature 80-95C (176-203F)
Injection and Packing Pressure 35-125 bar (500-1500 psi)

**Mold Temperatures**
This product can be processed over a wide range of mold temperatures; however, for applications where aesthetics are critical, a mold surface temperature of 80-95C (176-203F) is recommended.

**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. Minimal back pressure should be utilized to prevent glass breakage. recommended to minimize glass fiber breakage.

**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

## Note

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