

Ultramid® A3HG7 BK00565

Polyamide 66



Product Description

Ultramid A3HG7 BK00565 is a 35% glass fiber reinforced, pigmented black injection molding PA66 grade.

Applications

Typical applications include machinery components and housings of high stiffness and dimensional stability such as gears, solenoid valve housings, electrical flow heaters, trailing cable attachments, as well as electrically insulating parts.

| PHYSICAL | ISO Test Method | Property Value | |
|--|-----------------|----------------|-------------|
| Density, g/cm ³ | 1183 | 1.40 | |
| RHEOLOGICAL | ISO Test Method | Dry | Conditioned |
| Melt Volume Rate (235 C/5 Kg), cc/10min. | 1133 | 29 | - |
| MECHANICAL | ISO Test Method | Dry | Conditioned |
| Tensile Modulus, MPa | 527 | | |
| 23C | | 11,300 | - |
| Tensile stress at break, MPa | 527 | | |
| 23C | | 193 | - |
| Tensile strain at break, % | 527 | | |
| 23C | | 2.8 | - |
| Flexural Strength, MPa | 178 | | |
| 23C | | 287 | - |
| Flexural Modulus, MPa | 178 | | |
| 23C | | 10,500 | - |
| IMPACT | ISO Test Method | Dry | Conditioned |
| Izod Notched Impact, kJ/m ² | 180 | | |
| -40C | | 9.5 | - |
| 23C | | 12 | - |
| Charpy Notched, kJ/m ² | 179 | | |
| -40C | | 9.5 | - |
| 23C | | 12 | - |
| Charpy Unnotched, kJ/m ² | 179 | | |
| -30C | | 61 | - |
| 23C | | 77 | - |
| THERMAL | ISO Test Method | Dry | Conditioned |
| Melting Point, C | 3146 | 260 | - |
| HDT A, C | 75 | 253 | - |
| HDT B, C | 75 | 263 | - |

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. Recommended moisture levels for achieving optimum surface qualities and mechanical properties is 0.05% - 0.12%. Further information concerning safe handling procedures can be obtained from the Safety Data Sheet. Alternatively, please contact your BASF representative.

Typical Profile

Melt Temperature 280-305C (536-581F)

Mold Temperature 80-90C (176-194F)

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

Mold Temperatures

A mold temperature of 80-90C (176-194F) is recommended, however temperatures of as low as 45C (113F) and as high as 105C (221F) can be used where applicable.

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.

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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