

# Ultramid® B3GM35 Q611

## Polyamide 6



### Product Description

Ultramid B3GM35 Q611 is a 40% combined glass-fiber and mineral reinforced injection molding PA6 grade.

### Applications

Typical applications include industrial articles requiring medium rigidity and high dimensional stability.

| PHYSICAL                                             | ISO Test Method | Property Value |             |
|------------------------------------------------------|-----------------|----------------|-------------|
| Density, g/cm                                        | 1183            | 1.48           |             |
| Moisture, %                                          | 62              |                |             |
| (50% RH)                                             |                 | 1.7            |             |
| (Saturation)                                         |                 | 5.7            |             |
| RHEOLOGICAL                                          | ISO Test Method | Dry            | Conditioned |
| Melt Volume Rate (275 C/5 Kg), cc/10min.             | 1133            | 25             | -           |
| MECHANICAL                                           | ISO Test Method | Dry            | Conditioned |
| Tensile Modulus, MPa                                 | 527             |                |             |
| 23C                                                  |                 | 8,000          | 5,000       |
| Tensile stress at break, MPa                         | 527             |                |             |
| 23C                                                  |                 | 120            | 65          |
| Tensile strain at break, %                           | 527             |                |             |
| 23C                                                  |                 | 3              | 12          |
| IMPACT                                               | ISO Test Method | Dry            | Conditioned |
| Charpy Notched, kJ/m <sup>2</sup>                    | 179             |                |             |
| 23C                                                  |                 | 8              | -           |
| -30C                                                 |                 | 6              | -           |
| Charpy Unnotched, kJ/m <sup>2</sup>                  | 179             |                |             |
| 23C                                                  |                 | 50             | -           |
| -30C                                                 |                 | 50             | -           |
| THERMAL                                              | ISO Test Method | Dry            | Conditioned |
| Melting Point, C                                     | 3146            | 220            | -           |
| HDT A, C                                             | 75              | 200            | -           |
| HDT B, C                                             | 75              | 215            | -           |
| Coef. of Linear Thermal Expansion, Parallel, mm/mm C |                 | 0.38 X10-4     | -           |
| ELECTRICAL                                           | ISO Test Method | Dry            | Conditioned |
| Comparative Tracking Index                           | IEC 60112       | 400            | -           |
| Volume Resistivity                                   | IEC 60093       | 1E13           | 1E10        |
| Dielectric Constant (1 MHz)                          | IEC 60250       | 3.9            | 6.2         |
| Dissipation Factor (100 Hz)                          | IEC 60250       | 200            | 200         |
| Dissipation Factor (1 MHz)                           | IEC 60250       | 200            | 200         |

### Processing Guidelines



## Material Handling

Material is supplied in sealed containers and drying prior to molding in a dehumidifying or desiccant dryer is recommended. Drying parameters are dependent upon the actual percentage of moisture in the pellets and typical pre-drying conditions are 2-4 hours at 180F (83C). 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 Material Safety Data Sheet (MSDS), or by contacting your BASF representative.

## Typical Profile

Melt Temperature 270-295 degC (518-563 degF)  
Mold Temperature 80-95 degC (176-203 degF)  
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 80-95 degC (176-203 degF) 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.

## 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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