Product Information

Aug 2013

# Ultramid® B3U Q721
## Polyamide 6

BASF The Chemical Company

### Product Description

Ultramid B3U Q721 is an injection molding grade, flame-retardant, free from halogen and phosphorus, and UL94 V0 approved. Technical molded parts are used for electrical engineering.

| PHYSICAL | ISO Test Method | Property Value | |
|---|---|---|---|
| Density, g/cm | 1183 | 1.17 | |
| Moisture, % | 62 | | |
| (50% RH) | | 2.5 | |
| (Saturation) | | 0.10 | |
| **RHEOLOGICAL** | **ISO Test Method** | **Dry** | **Conditioned** |
| **MECHANICAL** | **ISO Test Method** | **Dry** | **Conditioned** |
| Tensile Modulus, MPa | 527 | | |
| 23C | | 3,700 | 1,100 |
| Tensile stress at yield, MPa | 527 | | |
| 23C | | 80 | 45 |
| Tensile stress at break, MPa | 527 | | |
| 23C | | 74 | - |
| Tensile strain at yield, % | 527 | | |
| 23C | | 4 | 15 |
| Flexural Modulus, MPa | 178 | | |
| 23C | | 3,000 | - |
| **IMPACT** | **ISO Test Method** | **Dry** | **Conditioned** |
| Charpy Notched, kJ/m$^2$ | 179 | | |
| 23C | | 3 | - |
| -30C | | 3 | - |
| Charpy Unnotched, kJ/m$^2$ | 179 | | |
| 23C | | N | N |
| **THERMAL** | **ISO Test Method** | **Dry** | **Conditioned** |
| Melting Point, C | 3146 | 220 | - |
| HDT A, C | 75 | 65 | - |
| **ELECTRICAL** | **ISO Test Method** | **Dry** | **Conditioned** |
| Comparative Tracking Index | IEC 60112 | 600 | - |
| Volume Resistivity | IEC 60093 | 1E13 | 1E10 |
| Dielectric Constant (1 MHz) | IEC 60250 | 3.4 | 6 |
| Dissipation Factor (1 MHz) | IEC 60250 | 150 | 2,500 |

### 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 80 degC (176 degF) is recommended. Drying time is dependent on moisture level, but 2-4 hours is generally sufficient. Further information concerning safe handling procedures can be obtained from the Material Safety Data Sheet. Alternatively, please contact your BASF representative.

ASF Corporation
ngineering Plastics
509 Biddle Avenue
yandotte, MI 48192

**Typical Profile**
Melt Temperature 240-285 degC (464-545 degF)
Mold Temperature 65-80 degC (149-176 degF)
Injection and Packing Pressure 35-125 bar (500-1500 psi)

**Mold Temperatures**
A mold temperature of 65-80 degC (149-176 degF) is recommended, but temperatures of as low as 10 degC (50 degF) 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.

**Fill Rate**
Fast fill rates are recommended to ensure uniform melt delivery to the cavity and prevent premature freezing.

## Note



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