

# Ultramid® B3U Q721

## Polyamide 6

### 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 <sup>2</sup>	179		
23C		3	-
-30C		3	-
Charpy Unnotched, kJ/m <sup>2</sup>	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.



## 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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