

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 ³	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		
23°C		3,700	1,100
Tensile stress at yield, MPa	527		
23°C		80	45
Tensile stress at break, MPa	527		
23°C		74	-
Tensile strain at yield, %	527		
23°C		4	15
Flexural Modulus, MPa	178		
23°C		3,000	-
IMPACT	ISO Test Method	Dry	Conditioned
Charpy Notched, kJ/m ²	179		
-30°C		3	-
23°C		3	-
Charpy Unnotched, kJ/m ²	179		
23°C		N	N
THERMAL	ISO Test Method	Dry	Conditioned
Melting Point, °C	3146	220	-
HDT A, °C	75	65	-
HDT B, °C	75	190	-
ELECTRICAL	ISO Test Method	Dry	Conditioned
Comparative Tracking Index	IEC 60112	600	-
Volume Resistivity (Ohm)	IEC 60093	1E13	1E10
Dielectric Constant (1 MHz)	IEC 60250	3.4	6
Dissipation Factor (1 MHz)	IEC 60250	150	2,500
UL RATINGS	UL Test Method	Property Value	
Flammability Rating, 0.75mm	UL94	V-0	
Relative Temperature Index, 0.75mm	UL746B		
Mechanical w/o Impact, °C		95	
Mechanical w/ Impact, °C		75	
Electrical, °C		130	
Flammability Rating, 1.5mm	UL94	V-0	
Relative Temperature Index, 1.5mm	UL746B		
Mechanical w/o Impact, °C		95	
Mechanical w/ Impact, °C		75	
Electrical, °C		130	
Flammability Rating, 3.0mm	UL94	V-0	
Relative Temperature Index, 3.0mm	UL746B		
Mechanical w/o Impact, °C		95	
Mechanical w/ Impact, °C		80	
Electrical, °C		130	

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°C (176°F) 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 240-285°C (464-545°F)

Mold Temperature 65-80°C (149-176°F)

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

Mold Temperatures

A mold temperature of 65-80°C (149-176°F) is recommended, however temperatures of as low as 10°C (50°F) 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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