

# Ultramid® B3ZG3

## Polyamide 6



### Product Description

Ultramid B3ZG3 is an impact-modified, 15% glass fiber reinforced injection molding PA6 grade.

### Applications

Typical applications include automobile cable conduits.

PHYSICAL	ISO Test Method	Property Value	
Density, g/cm <sup>3</sup>	1183	1.22	
Moisture, %	62		
(50% RH)		2.4	
(Saturation)		7.5	
RHEOLOGICAL	ISO Test Method	Dry	Conditioned
Melt Volume Rate (275 C/5 Kg), cc/10min.	1133	35	-
MECHANICAL	ISO Test Method	Dry	Conditioned
Tensile Modulus, MPa	527		
23C		5,500	2,900
Tensile stress at break, MPa	527		
23C		110	60
Tensile strain at break, %	527		
23C		4.0	18
Flexural Strength, MPa	178		
23C		150	80
Flexural Modulus, MPa	178		
23C		4,500	2,500
IMPACT	ISO Test Method	Dry	Conditioned
Izod Notched Impact, kJ/m <sup>2</sup>	180		
23C		15	29
Charpy Notched, kJ/m <sup>2</sup>	179		
-30C		7	-
23C		16	30
Charpy Unnotched, kJ/m <sup>2</sup>	179		
-30C		55	-
23C		75	110
THERMAL	ISO Test Method	Dry	Conditioned
Melting Point, C	3146	220	-
HDT A, C	75	180	-
HDT B, C	75	200	-
Coef. of Linear Thermal Expansion, Parallel, mm/mm C		0.33 X10-4	-
Coef. of Linear Thermal Expansion, Normal, mm/mm C		0.75 X10-4	-
ELECTRICAL	ISO Test Method	Dry	Conditioned
Volume Resistivity (Ohm-m)	IEC 60093	1E13	1E10

Dielectric Constant (1 MHz)	IEC 60250	3.7	6.2
Dissipation Factor (1 MHz), E-4	IEC 60250	250	2,000

UL RATINGS	UL Test Method	Property Value
Flammability Rating, 0.73mm	UL94	HB
Relative Temperature Index, 0.73mm	UL746B	
Mechanical w/o Impact, C		150
Mechanical w/ Impact, C		115
Electrical, C		150
Flammability Rating, 1.5mm	UL94	HB
Relative Temperature Index, 1.5mm	UL746B	
Mechanical w/o Impact, C		150
Mechanical w/ Impact, C		115
Electrical, C		150
Flammability Rating, 3.0mm	UL94	HB
Relative Temperature Index, 3.0mm	UL746B	
Mechanical w/o Impact, C		150
Mechanical w/ Impact, C		120
Electrical, C		150

**Processing Guidelines**

**Material Handling**

Max. Water content: 0.08%  
 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. Further information concerning safe handling procedures can be obtained from the Safety Data Sheet. Alternatively, please contact your BASF representative.

**Typical Profile**

Melt Temperature 270-295C (518-563F)  
 Mold Temperature 80-95C (176-203F)  
 Injection and Packing Pressure 35-125 bar (500-1800psi)  
 Rear Zone 245-275C (473-527F)  
 Center Zone 260-285C (500-545C)  
 Front Zone 270-295C (518-563F)  
 Nozzle 270-295C (518-563F)

**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 80-95C (176-203F) is required.

**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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