

# Ultramid® B3WG6

## Polyamide 6

### Product Description

Ultramid B3WG6 is a 30% glass fiber reinforced, heat stabilized injection molding PA6 grade.

### Applications

Typical applications include automotive manifolds and pedals.

PHYSICAL	ISO Test Method	Property Value	
Density, g/cm <sup>3</sup>	1183	1.36	
Moisture, %	62		
(50% RH)		2.1	
(Saturation)		6.6	
RHEOLOGICAL	ISO Test Method	Dry	Conditioned
Melt Volume Rate (275 C/5 Kg), cc/10min.	1133	50	-
MECHANICAL	ISO Test Method	Dry	Conditioned
Tensile Modulus, MPa	527		
23C		9,500	6,200
Tensile stress at break, MPa	527		
23C		185	115
Tensile strain at break, %	527		
-40C		4.0	-
23C		3.5	8.0
Flexural Strength, MPa	178		
23C		270	180
Flexural Modulus, MPa	178		
23C		8,600	5,000
IMPACT	ISO Test Method	Dry	Conditioned
Izod Notched Impact, kJ/m <sup>2</sup>	180		
23C		15	20
Charpy Notched, kJ/m <sup>2</sup>	179		
-30C		11	-
23C		15	30
Charpy Unnotched, kJ/m <sup>2</sup>	179		
-30C		80	-
23C		95	110
THERMAL	ISO Test Method	Dry	Conditioned
Melting Point, C	3146	220	-
HDT A, C	75	210	-
HDT B, C	75	220	-
Coef. of Linear Thermal Expansion, Parallel, mm/mm C		0.23 X10-4	-
Coef. of Linear Thermal Expansion, Normal, mm/mm C		0.65 X10-4	-
ELECTRICAL	ISO Test Method	Dry	Conditioned

Volume Resistivity (Ohm-m)	IEC 60093	1E13	1E10
Dielectric Constant (1 MHz)	IEC 60250	3.8	6.8
Dissipation Factor (1 MHz), E-4	IEC 60250	230	2,200

UL RATINGS	UL Test Method	Property Value
Relative Temperature Index, 0.75mm	UL746B	
Electrical, C		130
Flammability Rating, 1.5mm	UL94	HB
Relative Temperature Index, 1.5mm	UL746B	
Mechanical w/o Impact, C		130
Mechanical w/ Impact, C		90
Electrical, C		130
Flammability Rating, 3.0mm	UL94	HB
Relative Temperature Index, 3.0mm	UL746B	
Mechanical w/o Impact, C		130
Mechanical w/ Impact, C		95
Electrical, C		130

**Processing Guidelines**

**Material Handling**

Max. Water content: 0.15%  
 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 Safety Data Sheet (MSDS), or by contacting your BASF representative.

**Typical Profile**

Melt Temperature 270-295C (518-563F)  
 Mold Temperature 80-95C (176-203F)  
 Injection and Packing Pressure 35-125 bar (500-1500 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 80-95C (176-203F) 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**

## Note

Although all statements and information in this publication are believed to be accurate and reliable, they are presented gratis and for guidance only, and risks and liability for results obtained by use of the products or application of the suggestions described are assumed by the user. NO WARRANTIES OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE MADE REGARDING PRODUCTS DESCRIBED OR DESIGNS, DATA OR INFORMATION SET FORTH. Statements or suggestions concerning possible use of the products are made without representation or warranty that any such use is free of patent infringement and are not recommendations to infringe any patent. The user should not assume that toxicity data and safety measures are indicated or that other measures may not be required.