

# Ultramid® B3WG6

## Polyamide 6 (Nylon 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		
23°C		9,500	6,200
Tensile stress at break, MPa	527		
-40°C		255	-
23°C		185	115
Tensile strain at break, %	527		
23°C		3.5	8
Flexural Modulus, MPa	178		
23°C		8,600	5,000
IMPACT	ISO Test Method	Dry	Conditioned
Izod Notched Impact, kJ/m <sup>2</sup>	180		
23°C		15.5	-
Charpy Notched, kJ/m <sup>2</sup>	179		
23°C		15	30
-30°C		11	-
Charpy Unnotched, kJ/m <sup>2</sup>	179		
23°C		95	110
-30°C		80	-
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	Property Value	
Comparative Tracking Index	IEC 60112	450	

Volume Resistivity	IEC 60093	1E13	
Surface Resistivity	IEC 60093	1E12	
Dielectric Constant (1 MHz)	IEC 60250	3.8	
Dissipation Factor (100 Hz)	IEC 60250	230	
Dissipation Factor (1 MHz)	IEC 60250	230	
<b>UL RATINGS</b>	<b>ISO Test Method</b>	<b>Dry</b>	<b>Conditioned</b>
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	

## Processing Guidelines

### Material Handling

Max. Water content: 0.10%

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, 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 270-295 °C (518-563 °F)

Mold Temperature 80-95 °C (176-203 °F)

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 80-95 °C (176-203 °F) 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 insure uniform melt delivery to the cavity and prevent premature freezing. Surface appearance is directly affected by injection rate.

## Note

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