Ultramid® B3WG6
Polyamide 6

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/cm³	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		
23°C		185	115
Tensile strain at break, %	527		
-40°C		4.0	-
23°C		3.5	8.0
Flexural Strength, MPa	178		
23°C		270	180
Flexural Modulus, MPa	178		
23°C		8,600	5,000

IMPACT	ISO Test Method	Dry	Conditioned
Izod Notched Impact, kJ/m^2	180		
23°C		15	20
Charpy Notched, kJ/m^2	179		
-30°C		11	-
23°C		15	30
Charpy Unnotched, kJ/m^2	179		
-30°C		80	-
23°C		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 270-295°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 ensure uniform melt delivery to the cavity and prevent premature freezing. Surface appearance is directly affected by injection rate.

Note

BASF Corporation

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General Information	Technical Assistance	Web address
800-BC-RESIN	800-527-TECH (734-324-5150)	http://www.plasticsportal.com/usa