Product Information

Ultramid® B3WG6
Polyamide 6

BASF
The Chemical Company

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	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		
23C		3.5	8
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^2	180		
23C		15	20
Charpy Notched, kJ/m^2	179		
23C		15	30
-30C		11	-
Charpy Unnotched, kJ/m^2	179		
23C		95	110
-30C		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**	**Dry**	**Conditioned**
Volume Resistivity	IEC 60093	1E13	1E10

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Dielectric Constant (1 MHz)	IEC 60250	3.8	6.8
Dissipation Factor (1 MHz)	IEC 60250	230	2,200

UL RATINGS	UL Test Method	Property Value
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
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 Material Safety Data Sheet (MSDS), or by contacting your BASF representative.

Typical Profile
Melt Temperature 270-295 degC (518-563 degF)
Mold Temperature 80-95 degC (176-203 degF)
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 degC (176-203 degF) 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