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	ASTM Test Method	Property Value	
Specific Gravity	D-792	1.36	
Mold Shrinkage (1/8" bar, in/in)		0.003	
Moisture, %	D-570		
(50% RH)		2.1	
(Saturation)		6.6	
MECHANICAL	**ASTM Test Method**	**Dry**	**Conditioned**
Tensile Strength, Break, MPa (psi)	D-638		
23C (73F)		179 (26,000)	-
Elongation, Break, %	D-638		
23C (73F)		3.3	-
Flexural Modulus, MPa (psi)	D-790		
23C (73F)		8,280 (1,200,000)	-
IMPACT	**ASTM Test Method**	**Dry**	**Conditioned**
Notched Izod Impact, J/M (ft-lbs/in)	D-256		
-40C (-40F)		107 (2.0)	-
23C (73F)		134 (2.5)	-
THERMAL	**ASTM Test Method**	**Dry**	**Conditioned**
Melting Point, C(F)	D-3418	220 (428)	-
Heat Deflection @ 264 psi (1.8 MPa) C(F)	D-648	207 (404)	-
Heat Deflection @ 66 psi (.45 MPa) C(F)	D-648	220 (428)	-
Coef. of Linear Thermal Expansion, mm/mm C (in/in F)	E-831	0.1 X10-4	-
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	
ELECTRICAL	**ASTM Test Method**	**Dry**	**Conditioned**
Volume Resistivity, 1.5 mm	D-257	1E13	1E10

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