Product Information
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Ultramid® B3ZG6
Polyamide 6

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Product Description

Ultramid B3ZG6 is an impact-modified, 30% glass fiber reinforced injection molding PA6 grade for industrial items having very high impact strength and rigidity.

Applications

Typical applications include automotive airbag housings and half-shells for suitcases.

PHYSICAL	ASTM Test Method	Property Value	
Specific Gravity	D-792	1.33	
Mold Shrinkage (1/8" bar, in/in)		0.003	
Moisture, %	D-570		
(50% RH)		2	
(Saturation)		6.2	
MECHANICAL	**ASTM Test Method**	**Dry**	**Conditioned**
Tensile Strength, Break, MPa (psi)	D-638		
23°C (73°F)		138 (20,000)	-
Elongation, Break, %	D-638		
23°C (73°F)		3.6	-
Flexural Modulus, MPa (psi)	D-790		
23°C (73°F)		7,860 (1,140,000)	-
IMPACT	**ASTM Test Method**	**Dry**	**Conditioned**
Notched Izod Impact, J/M (ft-lbs/in)	D-256		
-40°C (-40°F)		139 (2.6)	-
23°C (73°F)		192 (3.6)	-
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, 0.73mm	UL94	HB	
Relative Temperature Index, 0.73mm	UL746B		
Mechanical w/o Impact, °C		150	
Mechanical w/ Impact, °C		115	
Electrical, °C		150	
Flammability Rating, 1.5mm	UL94	HB	
Relative Temperature Index, 1.5mm	UL746B		
Mechanical w/o Impact, °C		150	
Mechanical w/ Impact, °C		115	
Electrical, °C		150	
Flammability Rating, 3.0mm	UL94	HB	
Relative Temperature Index, 3.0mm	UL746B		
Mechanical w/o Impact, °C		150	
Mechanical w/ Impact, °C		120	
Electrical, °C		150	
ELECTRICAL	**ASTM Test Method**	**Dry**	**Conditioned**
Volume Resistivity, 1.5 mm	D-257	1E13	1E10

Processing Guidelines

Material Handling
Max. Water content: 0.08%
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 however 2-4 hours is generally sufficient. Further information concerning safe handling procedures can be obtained from the 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 (500-1800psi)
Rear Zone 245-275°C (473-527°F)
Center Zone 260-285°C (500-545°C)
Front Zone 270-295°C (518-563°F)
Nozzle 270-295°C (518-563°F)

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 required.

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
Engineering Plastics
1609 Biddle Avenue
Wyandotte, MI 48192

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

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