

Ultramid® B3ZG6

Polyamide 6



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		
23C (73F)		138 (20,000)	-
Elongation, Break, %	D-638		
23C (73F)		3.6	-
Flexural Modulus, MPa (psi)	D-790		
23C (73F)		7,860 (1,140,000)	-
IMPACT	ASTM Test Method	Dry	Conditioned
Notched Izod Impact, J/M (ft-lbs/in)	D-256		
-40C (-40F)		139 (2.6)	-
23C (73F)		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, 1.5mm	UL94	HB	
Relative Temperature Index, 1.5mm	UL746B		
Mechanical w/o Impact, C		150	
Mechanical w/ Impact, C		115	
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 degC (176 degF) 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 degC (518-563 degF)
Mold Temperature 80-95 degC (176-203 degF)
Injection and Packing Pressure 35-125 bar (500-1800psi)
Rear Zone 245-275 degC (473-527 degF)
Center Zone 260-285 degC (500-545 degC)
Front Zone 270-295 degC (518-563 degF)
Nozzle 270-295 degC (518-563 degF)

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 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

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