

Ultramid® 8333G HI

Polyamide 6



Product Description

Ultramid 8333G HI is a 33% glass reinforced, impact modified PA6 injection molding compound developed for applications requiring improved dry as molded toughness in combination with a balance of strength, stiffness and excellent moldability/surface aesthetics. It is also available in heat stabilized (Ultramid 8333G HI HS) and/or pigmented versions.

Applications

Ultramid 8333G HI is generally recommended for application such as front wheel chair wheels, bicycle wheels, power tool housings, chain saw housings, clips and fasteners, hose clamps and window hardware.

PHYSICAL	ISO Test Method	Property Value	
Density, g/cm	1183	1.34	
Moisture, %	62		
(24 Hour)		0.9	
(50% RH)		1.5	
(Saturation)		5.5	
MECHANICAL	ISO Test Method	Dry	Conditioned
Tensile Modulus, MPa	527		
-40C		9,200	-
23C		9,300	4,610
121C		2,660	-
Tensile stress at break, MPa	527		
23C		145	90
Tensile strain at break, %	527		
23C		3.5	6
Flexural Strength, MPa	178		
23C		215	120
Flexural Modulus, MPa	178		
23C		7,200	5,030
IMPACT	ISO Test Method	Dry	Conditioned
Izod Notched Impact, kJ/m ²	180		
23C		21	-
-40C		14	-
Charpy Notched, kJ/m ²	179		
23C		20	-
-30C		10	-
Charpy Unnotched, kJ/m ²	179		
23C		78	-
THERMAL	ISO Test Method	Dry	Conditioned
Melting Point, C	3146	220	-
HDT A, C	75	205	-
HDT B, C	75	220	-



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Coef. of Linear Thermal Expansion, Parallel, mm/mm C	0.24 X10-4	-
Coef. of Linear Thermal Expansion, Normal, mm/mm C	0.84 X10-4	-
ELECTRICAL	ISO Test Method	Dry
Comparative Tracking Index	IEC 60112	600
Volume Resistivity	IEC 60093	>1E13
Dielectric Constant (100 Hz)	IEC 60250	3.6
Dielectric Constant (1 MHz)	IEC 60250	3.4
Dissipation Factor (100 Hz)	IEC 60250	100
Dissipation Factor (1 MHz)	IEC 60250	100
Dielectric Strength, KV/mm	IEC 60243-1	43
UL RATINGS	UL Test Method	Property Value
Flammability Rating, 1.5mm	UL94	HB
Relative Temperature Index, 1.5mm	UL746B	
Mechanical w/o Impact, C		140
Mechanical w/ Impact, C		85
Electrical, C		105

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.



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Note

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