

# Ultramid® 8233G HS

## Polyamide 6



### Product Description

Ultramid 8233G HS is a heat stabilized, 33% glass fiber reinforced PA6 injection molding compound offering excellent strength, stiffness, high temperature performance and dimensional stability. It is also available in non-heat stabilized (Ultramid 8233G) and/or pigmented versions.

### Applications

Ultramid 8233G HS is generally recommended for applications such as power tool housings, weed trimmer components, gears, automotive housings and under hood applications.

PHYSICAL	ISO Test Method	Property Value	
Density, g/cm	1183	1.39	
Moisture, %	62		
(24 Hour)		1.1	
(50% RH)		1.8	
(Saturation)		6.4	
MECHANICAL	ISO Test Method	Dry	Conditioned
Tensile Modulus, MPa	527		
-40C		10,500	11,600
23C		10,100	5,840
80C		4,430	4,300
121C		3,550	3,400
Tensile stress at break, MPa	527		
-40C		283	255
23C		185	125
80C		110	80
121C		83	60
Tensile strain at break, %	527		
23C		3.5	6
Flexural Strength, MPa	178		
23C		260	130
Flexural Modulus, MPa	178		
23C		8,200	5,200
IMPACT	ISO Test Method	Dry	Conditioned
Izod Notched Impact, kJ/m <sup>2</sup>	180		
23C		10	-
-40C		8.5	-
Charpy Notched, kJ/m <sup>2</sup>	179		
23C		15	-
-30C		10	-
Charpy Unnotched, kJ/m <sup>2</sup>	179		
23C		88	-
THERMAL	ISO Test Method	Dry	Conditioned
Melting Point, C	3146	220	-

HDT A, C	75	205	-
HDT B, C	75	215	-
Coef. of Linear Thermal Expansion, Parallel, mm/mm C		0.21 X10-4	-
Coef. of Linear Thermal Expansion, Normal, mm/mm C		0.7 X10-4	-

<b>ELECTRICAL</b>	<b>ISO Test Method</b>	<b>Dry</b>	<b>Conditioned</b>
Volume Resistivity	IEC 60093	>1E13	-
Dielectric Constant (100 Hz)	IEC 60250	4.2	-
Dielectric Constant (1 MHz)	IEC 60250	3.6	-
Dissipation Factor (100 Hz)	IEC 60250	200	-
Dissipation Factor (1 MHz)	IEC 60250	200	-
Dielectric Strength, KV/mm	IEC 60243-1	44	-

<b>UL RATINGS</b>	<b>UL Test Method</b>	<b>Property Value</b>
Flammability Rating, 1.5mm	UL94	HB
Relative Temperature Index, 1.5mm	UL746B	
Mechanical w/o Impact, C		140
Mechanical w/ Impact, C		115
Electrical, C		140

## Processing Guidelines

### Material Handling

Max. Water content: 0.10%

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 (500-1500 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

## Note

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