

# Ultramid® A3HG2

## Polyamide 66



### Product Description

Ultramid A3HG2 is a 10% glass fiber reinforced injection molding PA66 grade.

### Applications

Typical applications include machinery components and housings of medium stiffness, as well as electrically insulating parts.

PHYSICAL	ISO Test Method	Property Value	
Density, g/cm <sup>3</sup>	1183	1.2	
Moisture, %	62		
(50% RH)		2.1	
(Saturation)		7	
RHEOLOGICAL	ISO Test Method	Dry	Conditioned
Melt Volume Rate (275 C/5 Kg), cc/10min.	1133	80	-
MECHANICAL	ISO Test Method	Dry	Conditioned
Tensile Modulus, MPa	527		
23C		4,600	2,600
Tensile stress at break, MPa	527		
23C		100	60
Tensile strain at break, %	527		
23C		3.0	12
Flexural Modulus, MPa	178		
23C		4,480	-
IMPACT	ISO Test Method	Dry	Conditioned
Izod Notched Impact, kJ/m <sup>2</sup>	180		
23C		5.5	-
Charpy Notched, kJ/m <sup>2</sup>	179		
23C		7	9
Charpy Unnotched, kJ/m <sup>2</sup>	179		
23C		30	92
THERMAL	ISO Test Method	Dry	Conditioned
Melting Point, C	3146	260	-
HDT A, C	75	210	-
Coef. of Linear Thermal Expansion, Parallel, mm/mm C		0.33 X10-4	-
Coef. of Linear Thermal Expansion, Normal, mm/mm C		0.75 X10-4	-
ELECTRICAL	ISO Test Method	Dry	Conditioned
Comparative Tracking Index	IEC 60112	550	550
Volume Resistivity (Ohm-m)	IEC 60093	1E13	1E10
Dielectric Constant (1 MHz)	IEC 60250	3.5	5.5
Dissipation Factor (1 MHz), E-4	IEC 60250	140	1,600

**Processing Guidelines**

**Material Handling**

Max. Water content: 0.15%

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 80C (176F) is recommended. Drying time is dependent on moisture level, However 2-4 hours is generally sufficient.

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 Safety Data Sheet. Alternatively, please contact your BASF representative.

**Typical Profile**

Melt Temperature 280-305C (536-581F)

Mold Temperature 80-90C (176-194F)

Injection and Packing Pressure 35-125 bar (500-1500 psi)

**Mold Temperatures**

A mold temperature of 80-90C (176-194F) is recommended, however temperatures of as low as 45C (113F) and as high as 105C (221F) can be used where applicable.

**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**

Although all statements and information in this publication are believed to be accurate and reliable, they are presented gratis and for guidance only, and risks and liability for results obtained by use of the products or application of the suggestions described are assumed by the user. NO WARRANTIES OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE MADE REGARDING PRODUCTS DESCRIBED OR DESIGNS, DATA OR INFORMATION SET FORTH. Statements or suggestions concerning possible use of the products are made without representation or warranty that any such use is free of patent infringement and are not recommendations to infringe any patent. The user should not assume that toxicity data and safety measures are indicated or that other measures may not be required.