

# 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	ASTM Test Method	Property Value	
Specific Gravity	D-792	1.2	
Mold Shrinkage (1/8" bar, in/in)		0.008	
Moisture, %	D-570		
(50% RH)		2.1	
(Saturation)		7	
MECHANICAL	ASTM Test Method	Dry	Conditioned
Tensile Strength, Break, MPa (psi)	D-638		
23C (73F)		100 (14,500)	-
Elongation, Break, %	D-638		
23C (73F)		3	-
Flexural Modulus, MPa (psi)	D-790		
23C (73F)		4,480 (650,000)	-
IMPACT	ASTM Test Method	Dry	Conditioned
Notched Izod Impact, J/M (ft-lbs/in)	D-256		
23C (73F)		53 (1.0)	-
THERMAL	ASTM Test Method	Dry	Conditioned
Melting Point, C(F)	D-3418	260 (500)	-
Heat Deflection @ 264 psi (1.8 MPa) C(F)	D-648	210 (410)	-
ELECTRICAL	ASTM Test Method	Dry	Conditioned
Volume Resistivity, 1.5 mm	D-257	1E13	1E10

### Processing Guidelines

#### Material Handling

Max. Water content: 0.12%

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 280-305 degC (536-581 degF)

Mold Temperature 80-90 degC (176-194 degF)

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

#### Mold Temperatures



A mold temperature of 80-90 degC (176-194 degF) is recommended, but temperatures of as low as 45 degC (113 degF) and as high as 105 degC (221 degF) 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.

