

# Ultramid® A3HG6 HR BK23591

## Polyamide 66



### Product Description

Ultramid A3HG6 HR BK23591 is a 30% glass reinforced, pigmented black, injection molding PA66 grade. It offers good resistance to hydrolysis.

### Applications

Typical applications include automotive radiator mounting frame.

PHYSICAL	ISO Test Method	Property Value	
Density, g/cm	1183	1.37	
Moisture, %	62		
(50% RH)		1.7	
(Saturation)		5.5	
RHEOLOGICAL	ISO Test Method	Dry	Conditioned
Melt Volume Rate (275 C/5 Kg), cc/10min.	1133	25	-
MECHANICAL	ISO Test Method	Dry	Conditioned
Tensile Modulus, MPa	527		
23C		10,000	6,800
Tensile stress at break, MPa	527		
-40C		240	231
23C		190	120
Tensile strain at break, %	527		
23C		3.2	5.4
Flexural Strength, MPa	178		
23C		275	200
Flexural Modulus, MPa	178		
23C		8,700	5,800
Ball Indentation, MPa	2039-1	225	175
IMPACT	ISO Test Method	Dry	Conditioned
Izod Notched Impact, kJ/m <sup>2</sup>	180		
23C		13	20
Charpy Notched, kJ/m <sup>2</sup>	179		
23C		11	16
-30C		9	-
Charpy Unnotched, kJ/m <sup>2</sup>	179		
23C		80	90
-30C		65	-
THERMAL	ISO Test Method	Dry	Conditioned
Melting Point, C	3146	260	-
HDT A, C	75	250	-
HDT B, C	75	250	-
Coef. of Linear Thermal Expansion, Parallel, mm/mm C		0.25 X10-4	-



Coef. of Linear Thermal Expansion, Normal,  
mm/mm C

0.65 X10-4

-

<b>ELECTRICAL</b>	<b>ISO Test Method</b>	<b>Dry</b>	<b>Conditioned</b>
Volume Resistivity	IEC 60093	1E13	1E10
Dielectric Constant (1 MHz)	IEC 60250	3.5	5.6
Dissipation Factor (100 Hz)	IEC 60250	140	2,300
<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		65	
Mechanical w/ Impact, C		65	
Electrical, C		65	

## 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.

