

# Ultramid® A3ZG3 HP BK20465

## Polyamide 66



### Product Description

Ultramid A3ZG3 HP BK20465 is a 14% glass fiber reinforced, heat stabilized, impact modified, injection molding PA66 grade.

PHYSICAL	ISO Test Method	Property Value	
Density, g/cm <sup>3</sup>	1183	1.19	
Mold Shrinkage, parallel, %	294-4	0.72	
Mold Shrinkage, normal, %	294-4	1.20	
MECHANICAL	ISO Test Method	Dry	Conditioned
Tensile Modulus, MPa	527		
23C		5,130	3,550
Tensile stress at break, MPa	527		
23C		105	69
Tensile strain at break, %	527		
23C		3.9	11
Flexural Strength, MPa	178		
23C		165	111
Flexural Modulus, MPa	178		
23C		4,590	3,150
IMPACT	ISO Test Method	Dry	Conditioned
Izod Notched Impact, kJ/m <sup>2</sup>	180		
-40C		5.8	5.8
23C		14	19
Charpy Notched, kJ/m <sup>2</sup>	179		
-30C		5.6	5.6
23C		14	18
Charpy Unnotched, kJ/m <sup>2</sup>	179		
-30C		72	79
23C		71	80
THERMAL	ISO Test Method	Dry	Conditioned
Melting Point, C	3146	260	-
HDT A, C	75	240	-
HDT B, C	75	258	-

### Processing Guidelines

#### Material Handling

Nylon 66 materials must be properly dried in order to provide parts with optimum strength and toughness. Nylon 66 materials are hygroscopic and will become degraded by excessive moisture during the injection molding process. For unopened bag/box, dry at 60C (140F) for 1-2 hours. For material exposed to the atmosphere, if additional drying is needed, dry at 66C (150F) or until the moisture level is between 0.04 - 0.20%.

#### Typical Profile

Melt Temperature: 288-305C (550-581F)

Mold Temperature: 60-100C (140-212F)

Injection Pressure: 35-125 MPa (5000-18000 psi)

Back Pressure: 0-0.35 MPa (0-50 psi)  
Screw RPM 40-80  
Screw Compression Ratio:3:1-4:1

### **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 60-100C (140-212F) 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.

### **Fill Rate**

Fast fill rates are recommended to ensure uniform melt delivery to the cavity and prevent premature freezing.

### **Note**

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