

# Ultramid® HMG14 HS BK-102

## Polyamide 66



### Product Description

Ultramid HMG14 HS BK-102 is a 60% glass reinforced, injection molding grade of PA66 offering high strength and stiffness. Due to inherently lower moisture absorption, Ultramid HMG14 HS BK-102 shows improved retention of mechanical properties after moisture conditioning. In addition, molded parts possess an exceptional surface finish.

### Applications

Ultramid HMG14 HS BK-102 was designed for applications requiring very high rigidity and should be considered for components that are constructed with metal.

PHYSICAL	ISO Test Method	Property Value	
Density, g/cm	1183	1.75	
MECHANICAL	ISO Test Method	Dry	Conditioned
Tensile Modulus, MPa	527		
23C		20,200	20,830
Tensile stress at break, MPa	527		
23C		248	220
Tensile strain at break, %	527		
23C		2.5	2.2
Flexural Strength, MPa	178		
23C		383	351
Flexural Modulus, MPa	178		
23C		18,900	19,400
IMPACT	ISO Test Method	Dry	Conditioned
Izod Notched Impact, kJ/m <sup>2</sup>	180		
23C		13	13
-40C		12	11
Charpy Notched, kJ/m <sup>2</sup>	179		
23C		13	15
-30C		12	12
Charpy Unnotched, kJ/m <sup>2</sup>	179		
23C		99	93
-30C		95	85
THERMAL	ISO Test Method	Dry	Conditioned
Melting Point, C	3146	260	-
HDT A, C	75	224	-



## 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.

### Note

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