Product Information

Aug 2020

Ultramid® A3ZG7 HP BK20465
Polyamide 66

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Product Description

Ultramid A3ZG7 HP BK20465 is a 33% glass reinforced, heat stabilized, impact modified PA66 black with a combination of excellent impact resistance, toughness and strength.

PHYSICAL	ISO Test Method	Property Value	
Density, g/cm³	1183	1.33	
Mold Shrinkage, parallel, %	294-4	0.3	
Mold Shrinkage, normal, %	294-4	1.0	
MECHANICAL	**ISO Test Method**	**Dry**	**Conditioned**
Tensile Modulus, MPa	527		
23C		8,480	6,750
Tensile stress at break, MPa	527		
23C		137	107
Tensile strain at break, %	527		
23C		4.5	8.4
Flexural Strength, MPa	178		
23C		235	170
Flexural Modulus, MPa	178		
23C		7,760	6,370
IMPACT	**ISO Test Method**	**Dry**	**Conditioned**
Izod Notched Impact, kJ/m²	180		
-40C		16	15
23C		22	28
Charpy Notched, kJ/m²	179		
-30C		16	15
23C		21	27
Charpy Unnotched, kJ/m²	179		
-30C		106	104
23C		98	97
THERMAL	**ISO Test Method**	**Dry**	**Conditioned**
Melting Point, C	3146	260	-
HDT A, C	75	242	-
HDT B, C	75	260	-

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 prCess. 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)

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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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