

Ultramid® B3WG13 HPX

BK00102

Polyamide 6



Product Description

Ultramid B3WG13 HPX BK00102 is a 63% glass reinforced, injection molding, high modulus nylon designed to have high strength and stiffness for metal replacement applications. It also has excellent moldability and outstanding surface appearance.

PHYSICAL	ISO Test Method	Property Value	
Density, g/cm ³	1183	1.74	
MECHANICAL	ISO Test Method	Dry	Conditioned
Tensile Modulus, MPa	527		
23C		21,400	14,700
Tensile stress at break, MPa	527		
23C		225	169
Tensile strain at break, %	527		
23C		2.0	3.4
Flexural Strength, MPa	178		
23C		379	285
Flexural Modulus, MPa	178		
23C		21,000	15,500
IMPACT	ISO Test Method	Dry	Conditioned
Izod Notched Impact, kJ/m ²	180		
-40C		12	-
23C		14	17
Charpy Notched, kJ/m ²	179		
-30C		13	-
23C		14	18
Charpy Unnotched, kJ/m ²	179		
-30C		88	-
23C		95	104
THERMAL	ISO Test Method	Dry	Conditioned
Melting Point, C	3146	220	-
HDT A, C	75	215	-

Processing Guidelines

Material Handling

Max. Water content: 0.12%

Although Product is supplied in sealed containers, drying is recommended in applications requiring optimum surface aesthetics. A dehumidifying or desiccant dryer operating at 80C (176F) is recommended. Drying time is dependent on moisture level, however 2-4 hours is generally sufficient. Recommended water content for molding is 0.08%-0.12%. Further information concerning safe handling procedures can be obtained from the Safety Data Sheet. Alternatively, please contact your BASF representative.

Typical Profile

Melt Temperature 300-320C (572-608F)

Mold Temperature 80-95C (176-203F)

Injection and Packing Pressure 35-125 bar (500-1500 psi)
Rear Zone 275-300C (527-572F)
Center Zone 285-310C (545-590F)
Front Zone 300-320C (572-608F)
Nozzle 300-320C (572-608F)

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 80-95C (176-203F) is required.

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. recommended to minimize glass fiber 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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