Ultramid® B3WG13 HPX BK00102

Polyamide 6

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/cm³	1183	1.74	
MECHANICAL	**ISO Test Method**	**Dry**	**Conditioned**
Tensile Modulus, MPa	527		
23°C		21,400	14,700
Tensile stress at break, MPa	527		
23°C		225	169
Tensile strain at break, %	527		
23°C		2.0	3.4
Flexural Strength, MPa	178		
23°C		379	285
Flexural Modulus, MPa	178		
23°C		21,000	15,500
IMPACT	**ISO Test Method**	**Dry**	**Conditioned**
Izod Notched Impact, kJ/m²	180		
-40°C		12	-
23°C		14	17
Charpy Notched, kJ/m²	179		
-30°C		13	-
23°C		14	18

Charpy Unnotched, kJ/m²	179		
-30°C		88	-
23°C		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 recommmended in applications requiring optimum surface aesthtics. A dehumidifying or desiccant dryer operating at 80°C (176°F) 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 300-320°C (572-608°F)
Mold Temperature 80-95°C (176-203°F)
Injection and Packing Pressure 35-125 bar (500-1500 psi)
Rear Zone 275-300°C (527-572°F)
Center Zone 285-310°C (545-590°F)
Front Zone 300-320°C (572-608°F)
Nozzle 300-320°C (572-608°F)

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 80-95°C (176-203°F) 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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