

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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Product description

Glass fiber reinforced thermoplastic tape for use in structural applications which is made out of PA6 and roving glass. Processing by thermoforming and overmolding processes.

Physical form and storage

The product is supplied in the form of spools. Standard packaging are spools in cardboard containers. The tapes should be dried prior to processing.

Product safety

In case processing is done under conditions as recommended (cf. processing data sheet) melts are thermally stable and do not generate hazards by molecular degradation or the evolution of gases and vapors. Like all thermoplastic polymers the product decomposes on exposure to excessive thermal load, e.g. when it is overheated or as a result of cleaning by burning off. The tapes as delivered should be handled using stable gloves due to possible sharp edges and carbon fiber exposure on the edges.

Note

The data contained in this publication are based on our current knowledge and experience. In view of the many factors that may affect processing and application of our product, these data do not relieve processors from carrying out their own investigations and tests; neither do these data imply any guarantee of certain properties, nor the suitability of the product for a specific purpose. Any descriptions, drawings, photographs, data, proportions, weights etc. given herein may change without prior information and do not constitute the agreed contractual quality of the product. It is the responsibility of the recipient of our products to ensure that any proprietary rights and existing laws and legislation are observed. In order to check the availability of products please contact us or our sales agency.

Ultratape B3EG12 UD01 black Exp.



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Preliminary Datasheet ³⁾

Typical values for uncoloured product at 23 °C ¹⁾	Test method	Unit	Values ²⁾
Properties			
Polymer abbreviation	-	-	PA6-GF60
Density	ISO 1183	g/cm ³	1.72
Fiber content, wt	ISO 1172	%	60
Thickness		mm	0.25 / *
Mechanical properties			
			dry / cond.
Tensile modulus	ISO 527-4	GPa	33 / -
Stress at break	ISO 527-4	MPa	770 / -
Strain at break	ISO 527-4	%	2.4 / -
Flexural modulus	ISO 14125	GPa	32 / -
Flexural strength	ISO 14125	MPa	970 / -

Footnotes

- 1) If product name or properties don't state otherwise.
- 2) The asterisk symbol "*" signifies inapplicable properties.
- 3) The typical values of preliminary datasheets are not statistically firm.

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