

Ultramid® 8231G HS BK-102

Polyamide 6



Product Description

Ultramid 8231G HS BK-102 is a black pigmented heat stabilized, 15% glass fiber reinforced PA6 injection molding compound. The glass fiber reinforcement enhances performance such as strength, stiffness and heat deflection temperature. The heat stabilizer system extends the properties at elevated temperatures. It also has excellent chemical resistance to greases, oils and hydrocarbons.

Applications

Ultramid 8231G HS BK-102 is ideally suited for more demanding performance applications such as safety helmet parts, washers, gears, engine and motor parts, chutes, and higher temperature environments.

PHYSICAL	ISO Test Method	Property Value	
Density, g/cm	1183	1.23	
Moisture, %	62		
(24 Hour)		1.4	
(50% RH)		2.3	
(Saturation)		8.1	
MECHANICAL	ISO Test Method	Dry	Conditioned
Tensile Modulus, MPa	527		
-40C		6,880	6,900
23C		6,130	3,100
80C		2,450	2,300
121C		2,020	1,800
Tensile stress at break, MPa	527		
-40C		150	150
23C		130	60
80C		60	30
121C		50	40
Tensile strain at break, %	527		
23C		3	20
Flexural Strength, MPa	178		
23C		160	65
Flexural Modulus, MPa	178		
23C		4,770	2,210
IMPACT	ISO Test Method	Dry	Conditioned
Charpy Notched, kJ/m ²	179		
23C		4	-
Charpy Unnotched, kJ/m ²	179		
23C		31	-
THERMAL	ISO Test Method	Dry	Conditioned
Melting Point, C	3146	220	-
HDT A, C	75	196	-
HDT B, C	75	210	-



UL RATINGS	UL Test Method	Property Value
Flammability Rating, 1.5mm	UL94	HB
Relative Temperature Index, 1.5mm	UL746B	
Mechanical w/o Impact, C		105
Mechanical w/ Impact, C		105
Electrical, C		130

Processing Guidelines

Material Handling

Max. Water content: 0.15%

Product is supplied in sealed containers and drying prior to molding is not required. If drying becomes necessary, a dehumidifying or desiccant dryer operating at 80 degC (176 degF) is recommended. Drying time is dependent on moisture level, but 2-4 hours is generally sufficient. Further information concerning safe handling procedures can be obtained from the Material Safety Data Sheet. Alternatively, please contact your BASF representative.

Typical Profile

Melt Temperature 250-290 degC (482-554 degF)

Mold Temperature 80-95 degC (176-203 degF)

Injection and Packing Pressure 35-125 bar (500-1500 psi)

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 degC (176-203 degF) 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.

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

Although all statements and information in this publication are believed to be accurate and reliable, they are presented gratis and for guidance only, and risks and liability for results obtained by use of the products or application of the suggestions described are assumed by the user. NO WARRANTIES OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE MADE REGARDING PRODUCTS DESCRIBED OR DESIGNS, DATA OR INFORMATION SET FORTH. Statements or suggestions concerning possible use of the products are made without representation or warranty that any such use is free of patent infringement and are not recommendations to infringe any patent. The user should not assume that toxicity data and safety measures are indicated or that other measures may not be required.

