

Ultramid® 8233G HS BK-102

Polyamide 6



Product Description

Ultramid 8233G HS BK-102 is a heat stabilized, black pigmented, 33% glass fiber reinforced PA6 injection molding compound. The higher glass fiber reinforcement results in excellent strength, stiffness, high temperature performance and dimensional stability with a high resistance to creep under load. The heat stabilizer system extends properties at elevated temperatures. It offers easy processing and good aesthetics. It maintains its inherent chemical resistance to greases, oils and hydrocarbons. It is suited for metal replacement.

Applications

Ultramid 8233G HS BK-102 is generally recommended for applications such as chain saw, power tool housings, weed trimmer components, gears, automotive window hardware, under hood applications including cables, fittings, cooling fans, electrical connectors and coil bobbins.

PHYSICAL	ISO Test Method	Property Value	
Density, g/cm	1183	1.39	
Moisture, %	62		
(24 Hour)		1.1	
(50% RH)		1.8	
(Saturation)		6.4	
MECHANICAL	ISO Test Method	Dry	Conditioned
Tensile Modulus, MPa	527		
-40C		10,300	-
23C		10,200	5,600
80C		4,820	-
121C		4,010	-
Tensile stress at break, MPa	527		
-40C		230	-
23C		170	99
80C		90	-
121C		70	-
Tensile strain at break, %	527		
23C		3	7
Flexural Strength, MPa	178		
23C		245	130
Flexural Modulus, MPa	178		
23C		8,500	5,200
IMPACT	ISO Test Method	Dry	Conditioned
Charpy Notched, kJ/m ²	179		
23C		10	-
-30C		10	-
Charpy Unnotched, kJ/m ²	179		
23C		65	-
THERMAL	ISO Test Method	Dry	Conditioned
Melting Point, C	3146	220	-



HDT A, C	75	205	-
HDT B, C	75	215	-
UL RATINGS		UL Test Method	Property Value
Flammability Rating, 1.5mm		UL94	HB
Relative Temperature Index, 1.5mm		UL746B	
Mechanical w/o Impact, C			140
Mechanical w/ Impact, C			115
Electrical, C			140

Processing Guidelines

Material Handling

Material is supplied in sealed containers and drying prior to molding in a dehumidifying or desiccant dryer is recommended. Drying parameters are dependent upon the actual percentage of moisture in the pellets and typical pre-drying conditions are 2-4 hours at 180F (83C). Recommended moisture levels for achieving optimum surface qualities and mechanical properties is 0.05% - 0.12%. Further information concerning safe handling procedures can be obtained from the Material Safety Data Sheet (MSDS), or by contacting your BASF representative.

Typical Profile

Melt Temperature 270-295 degC (518-563 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.

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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