

Ultramid® 8231G HS BK-106

Polyamide 6



Product Description

Ultramid 8231G HS BK-106 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-106 is ideally suited for more demanding performance applications such as washers, gears, engine and motor parts, chutes, and higher temperature environments.

PHYSICAL	ASTM Test Method	Property Value	
Specific Gravity	D-792	1.23	
Mold Shrinkage (1/8" bar, in/in)		0.005	
Moisture, %	D-570		
(24 Hour)		1.4	
(50% RH)		2.3	
(Saturation)		8.1	
MECHANICAL	ASTM Test Method	Dry	Conditioned
Tensile Strength, Break, MPa (psi)	D-638		
23C (73F)		118 (17,100)	-
Elongation, Break, %	D-638		
23C (73F)		2.9	-
Flexural Modulus, MPa (psi)	D-790		
23C (73F)		4,940 (716,000)	-
Rockwell Hardness, R Scale	D-785	121	-
IMPACT	ASTM Test Method	Dry	Conditioned
Notched Izod Impact, J/M (ft-lbs/in)	D-256		
23C (73F)		43 (0.8)	-
Drop Weight Impact, ft-lbs, 23C	BASF Drop Weight Impact Test	2	-
THERMAL	ASTM Test Method	Dry	Conditioned
Melting Point, C(F)	D-3418	220 (428)	-
Coef. of Linear Thermal Expansion, mm/mm C (in/in F)	E-831	0.5 X10-4	-

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

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