

Ultramid® TG7S BK-102

Polyamide 6

Product Description

Ultramid TG7S Bk-102 is a 34% glass reinforced, pigmented black, heat stabilized, impact modified PA6 injection molding grade. It was developed to meet the demanding requirements of the first North American seat cushion pan/frame to be made of an engineering plastic as opposed to metal. TG7S BK-102 exhibits improved strength, stiffness and notched impact properties over Ultramid 8333G HI.

Applications

Include cushion seat pan/frame and other automotive seating applications, automotive fan, power tools and trimmer components.

PHYSICAL	ISO Test Method	Property Value	
Density, g/cm	1183	1.38	
RHEOLOGICAL	ISO Test Method	Dry	Conditioned
Melt Volume Rate (235 C/5 Kg), cc/10min.	1133	6	-
MECHANICAL	ISO Test Method	Dry	Conditioned
Tensile Modulus, MPa	527		
23C		9,500	-
Tensile stress at break, MPa	527		
23C		165	-
Tensile strain at break, %	527		
23C		2.5	-
Flexural Modulus, MPa	178		
23C		8,400	-
IMPACT	ISO Test Method	Dry	Conditioned
Izod Notched Impact, kJ/m ²	180		
23C		22	-
-40C		16.6	-
Charpy Notched, kJ/m ²	179		
23C		22	-
THERMAL	ISO Test Method	Dry	Conditioned
Melting Point, C	3146	220	-
HDT A, C	75	208	-
HDT B, C	75	220	-

Processing Guidelines

Material Handling

Max. Water content: 0.08%

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 270-295 degC (518-563 degF)
Mold Temperature 80-95 degC (176-203 degF)
Injection and Packing Pressure 35-125 bar (500-1800psi)
Rear Zone 245-275 degC (473-527 degF)
Center Zone 260-285 degC (500-545 degC)
Front Zone 270-295 degC (518-563 degF)
Nozzle 270-295 degC (518-563 degF)

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 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.

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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