

Ultramid® TG7S

Polyamide 6

Product Description

Ultramid TG7S is a 34% glass reinforced, 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 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	1.37	
MECHANICAL	ISO Test Method	Dry	Conditioned
Tensile stress at break, MPa	527		
-40C		251	-
23C		170	-
80C		97	-
121C		77	-
Tensile strain at break, %	527		
23C		3.3	-
Flexural Modulus, MPa	178		
23C		8,400	-
IMPACT	ISO Test Method	Dry	Conditioned
Izod Notched Impact, kJ/m ²	180		
23C		26	-
-40C		18	-
Charpy Notched, kJ/m ²	179		
23C		23	-
THERMAL	ISO Test Method	Dry	Conditioned
Melting Point, C	3146	220	-
HDT A, C	75	203	-

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

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.

