Product Information

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Ultramid® 8233G HS
Polyamide 6

BASF The Chemical Company

Product Description

Ultramid 8233G HS is a heat stabilized, 33% glass fiber reinforced PA6 injection molding compound offering excellent strength, stiffness, high temperature performance and dimensional stability. It is also available in non-heat stabilized (Ultramid 8233G) and/or pigmented versions.

Applications

Ultramid 8233G HS is generally recommended for applications such as power tool housings, weed trimmer components, gears, automotive housings and under hood applications.

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		10,500	11,600
23C		10,100	5,840
80C		4,430	4,300
121C		3,550	3,400
Tensile stress at break, MPa	527		
-40C		283	255
23C		185	125
80C		110	80
121C		83	60
Tensile strain at break, %	527		
23C		3.5	6
Flexural Strength, MPa	178		
23C		260	130
Flexural Modulus, MPa	178		
23C		8,200	5,200
IMPACT	**ISO Test Method**	**Dry**	**Conditioned**
Izod Notched Impact, kJ/m^2	180		
23C		10	-
-40C		8.5	-
Charpy Notched, kJ/m^2	179		
23C		15	-
-30C		10	-
Charpy Unnotched, kJ/m^2	179		
23C		88	-
THERMAL	**ISO Test Method**	**Dry**	**Conditioned**
Melting Point, C	3146	220	-

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HDT A, C	75	205	-
HDT B, C	75	215	-
Coef. of Linear Thermal Expansion, Parallel, mm/mm C		0.21 X10-4	-
Coef. of Linear Thermal Expansion, Normal, mm/mm C		0.7 X10-4	-

ELECTRICAL	ISO Test Method	Dry	Conditioned
Volume Resistivity	IEC 60093	>1E13	-
Dielectric Constant (100 Hz)	IEC 60250	4.2	-
Dielectric Constant (1 MHz)	IEC 60250	3.6	-
Dissipation Factor (100 Hz)	IEC 60250	200	-
Dissipation Factor (1 MHz)	IEC 60250	200	-
Dielectric Strength, KV/mm	IEC 60243-1	44	-

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

Note

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