

Ultramid® A3UG5

Polyamide 66



Product Description

Ultramid A3UG5 is a 25% glass reinforced injection molding halogen and red-phosphorous-free, flame retardant PA66 grade. It meets the UL 94 V-0 rating at 0.75 mm thickness.

PHYSICAL	ISO Test Method	Property Value	
Density, g/cm	1183	1.39	
Mold Shrinkage, parallel, %	294-4	0.4	
Mold Shrinkage, normal, %	294-4	1.2	
Moisture, %	62		
(50% RH)		2.2	
(Saturation)		6.9	
RHEOLOGICAL	ISO Test Method	Dry	Conditioned
Melt Volume Rate (275 C/5 Kg), cc/10min.	1133	27	-
MECHANICAL	ISO Test Method	Dry	Conditioned
Tensile Modulus, MPa	527		
23C		9,500	-
Tensile stress at break, MPa	527		
23C		135	-
80C		92	74
Tensile strain at break, %	527		
23C		2.6	-
IMPACT	ISO Test Method	Dry	Conditioned
Charpy Unnotched, kJ/m ²	179		
23C		60	-
THERMAL	ISO Test Method	Dry	Conditioned
Melting Point, C	3146	260	-
ELECTRICAL	ISO Test Method	Dry	Conditioned
Comparative Tracking Index	IEC 60112	600	-
UL RATINGS	UL Test Method	Property Value	
Flammability Rating, 1.5mm	UL94	V-0	
Relative Temperature Index, 1.5mm	UL746B		
Mechanical w/o Impact, C		65	
Mechanical w/ Impact, C		65	
Electrical, C		120	

Processing Guidelines

Material Handling

Max. Water content: 0.05%



Special handling and safety precautions must be used when processing this grade of material. Please contact your BASF Technical Service Representative for details. Product is supplied in moisture barrier packaging. However, further drying is typically required. 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 Technical Service representative.

Typical Profile

Melt Temperature 285-300 degC (545-572 degF)

Mold Temperature 80-90 degC (176-194 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 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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