

Ultramid® A3XZG5

Polyamide 66



Product Description

Ultramid A3XZG5 is an impact-modified, 25% glass fiber reinforced injection molding PA66 grade with improved flame retardance. Flame retardant based on red phosphorus.

Applications

Typical applications include components with high stiffness, dimensional stability and enhanced impact strength such as electrical switches.

PHYSICAL	ISO Test Method	Property Value	
Density, g/cm ³	1183	1.32	
Moisture, %	62		
(50% RH)		1.2	
(Saturation)		5	
MECHANICAL	ISO Test Method	Dry	Conditioned
Tensile Modulus, MPa	527		
23C		6,500	4,500
Tensile stress at break, MPa	527		
23C		105	70
Tensile strain at break, %	527		
23C		6.0	11
Flexural Modulus, MPa	178		
23C		5,500	-
IMPACT	ISO Test Method	Dry	Conditioned
Charpy Notched, kJ/m ²	179		
23C		25	30
Charpy Unnotched, kJ/m ²	179		
23C		90	100
THERMAL	ISO Test Method	Dry	Conditioned
Melting Point, C	3146	260	-
HDT A, C	75	240	-
HDT B, C	75	250	-
ELECTRICAL	ISO Test Method	Dry	Conditioned
Dielectric Constant (1 MHz)	IEC 60250	3.8	-
Dissipation Factor (1 MHz), E-4	IEC 60250	200	300
UL RATINGS	UL Test Method	Property Value	
Flammability Rating, 0.75mm	UL94	HB	
Relative Temperature Index, 0.75mm	UL746B		
Mechanical w/ Impact, C		115	
Electrical, C		120	
Flammability Rating, 1.5mm	UL94	V-0	
Relative Temperature Index, 1.5mm	UL746B		
Mechanical w/o Impact, C		130	
Mechanical w/ Impact, C		115	

Electrical, C		120
Flammability Rating, 3.0mm	UL94	V-0/5VA
Relative Temperature Index, 3.0mm	UL746B	
Mechanical w/o Impact, C		130
Mechanical w/ Impact, C		115
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 80C (176F) is recommended. Drying time is dependent on moisture level, however 2-4 hours is generally sufficient. Further information concerning safe handling procedures can be obtained from the Safety Data Sheet. Alternatively, please contact your BASF Technical Service representative.

Typical Profile

Melt Temperature 285-300C (545-572F)

Mold Temperature 80-90C (176-194F)

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 80-95C (176-203F) 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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