Product Information

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Ultramid® A3EG3
Polyamide 66

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Product Description

Ultramid A3EG3 is a 15% glass fiber reinforced injection molding PA66 grade.

Applications

Typical applications include medium stiffness machinery components and housings, as well as electrically insulating parts.

PHYSICAL	ISO Test Method	Property Value	
Density, g/cm³	1183	1.24	
Moisture, %	62		
(50% RH)		2.2	
(Saturation)		7	
RHEOLOGICAL	**ISO Test Method**	**Dry**	**Conditioned**
Melt Volume Rate (275 C/5 Kg), cc/10min.	1133	70	-
MECHANICAL	**ISO Test Method**	**Dry**	**Conditioned**
Tensile Modulus, MPa	527		
23C		6,000	4,500
Tensile stress at break, MPa	527		
-40C		156	-
23C		130	85
Tensile strain at break, %	527		
-40C		2.6	-
23C		3.0	10
Flexural Strength, MPa	178		
23C		180	125
Flexural Modulus, MPa	178		
23C		5,200	4,000
IMPACT	**ISO Test Method**	**Dry**	**Conditioned**
Izod Notched Impact, kJ/m²	180		
23C		5.5	14
Charpy Notched, kJ/m²	179		
-30C		7	-
23C		8	11
Charpy Unnotched, kJ/m²	179		
-30C		43	-
23C		45	70
THERMAL	**ISO Test Method**	**Dry**	**Conditioned**
Melting Point, C	3146	260	-
HDT A, C	75	250	-
HDT B, C	75	250	-
Coef. of Linear Thermal Expansion, Parallel, mm/mm C		0.33 X10-4	-

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Coef. of Linear Thermal Expansion, Normal, mm/mm C		0.75 X10-4	-

ELECTRICAL	ISO Test Method	Dry	Conditioned
Comparative Tracking Index	IEC 60112	550	550
Volume Resistivity (Ohm-m)	IEC 60093	1E13	1E10
Dielectric Constant (1 MHz)	IEC 60250	3.5	5.5
Dissipation Factor (100 Hz), E-4	IEC 60250	140	3,000
Dissipation Factor (1 MHz), E-4	IEC 60250	230	1,600

UL RATINGS	UL Test Method	Property Value
Flammability Rating, 0.8mm	UL94	HB
Relative Temperature Index, 0.8mm	UL746B	
Electrical, C		130
Flammability Rating, 1.5mm	UL94	HB
Relative Temperature Index, 1.5mm	UL746B	
Mechanical w/o Impact, C		125
Mechanical w/ Impact, C		125
Electrical, C		130
Flammability Rating, 3.0mm	UL94	HB
Relative Temperature Index, 3.0mm	UL746B	
Mechanical w/o Impact, C		125
Mechanical w/ Impact, C		125
Electrical, C		130

Processing Guidelines

Material Handling
Max. Water content: 0.15%
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 80C (176F) is recommended. Drying time is dependent on moisture level, However 2-4 hours is generally sufficient. 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 Safety Data Sheet. Alternatively, please contact your BASF representative.

Typical Profile
Melt Temperature 280-305C (536-581F)
Mold Temperature 80-90C (176-194F)
Injection and Packing Pressure 35-125 bar (500-1500 psi)

Mold Temperatures
A mold temperature of 80-90C (176-194F) is recommended, however temperatures of as low as 45C (113F) and as high as 105C (221F) can be used where applicable.

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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