Product Information

Aug 2013

Ultramid® A3X2G5
Polyamide 66

BASF The Chemical Company

Product Description

Ultramid A3X2G5 is a 25% glass fiber reinforced injection molding PA66 grade with improved flame retardance and enhanced long-term performance. Flame retardant based on red phosphorus; outstanding mechanical and electrical properties.

PHYSICAL	ISO Test Method	Property Value	
Density, g/cm	1183	1.34	
Moisture, %	62		
(50% RH)		1.4	
(Saturation)		6	
RHEOLOGICAL	**ISO Test Method**	**Dry**	**Conditioned**
Melt Volume Rate (275 C/5 Kg), cc/10min.	1133	40	-
MECHANICAL	**ISO Test Method**	**Dry**	**Conditioned**
Tensile Modulus, MPa	527		
23C		8,500	6,000
Tensile stress at break, MPa	527		
-40C		196	-
23C		140	100
Tensile strain at break, %	527		
23C		3	4.5
IMPACT	**ISO Test Method**	**Dry**	**Conditioned**
Charpy Notched, kJ/m^2	179		
23C		13	17
-30C		10	-
Charpy Unnotched, kJ/m^2	179		
23C		65	70
-30C		60	65
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		0.3 X10-4	-
Coef. of Linear Thermal Expansion, Normal, mm/mm C		0.7 X10-4	-
ELECTRICAL	**ISO Test Method**	**Dry**	**Conditioned**
Comparative Tracking Index	IEC 60112	550	550
Volume Resistivity	IEC 60093	1E13	1E10
Dielectric Constant (1 MHz)	IEC 60250	3.7	5
Dissipation Factor (1 MHz)	IEC 60250	200	1,000
Dielectric Strength, KV/mm	IEC 60243-1	33	30
UL RATINGS	**UL Test Method**	**Property Value**	
Flammability Rating, 1.5mm	UL94	V-0	

ASF Corporation
ngineering Plastics
509 Biddle Avenue
yandotte, MI 48192

Relative Temperature Index, 1.5mm	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 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