



Ultramid® A3X2G7

BASF Corporation - Polyamide 66

Monday, November 4, 2019

General Information

Product Description

Ultramid A3X2G7 is a 35% glass fiber reinforced injection molding PA66 grade with improved flame retardance and enhanced long-term stability. Flame retardant based on red phosphorus; very high stiffness and strength; outstanding mechanical and electrical properties.

General

Material Status	• Commercial: Active
Availability	• Asia Pacific • Europe • North America
Filler / Reinforcement	• Glass Fiber, 35% Filler by Weight
Additive	• Flame Retardant [Red phosphorus]
Features	• Flame Retardant • Good Stability • High Strength • Good Electrical Properties • High Stiffness • Oil Resistant
Agency Ratings	• EC 1907/2006 (REACH)
RoHS Compliance	• RoHS Compliant
Forms	• Pellets
Processing Method	• Injection Molding

ASTM & ISO Properties ¹

Physical	Dry	Conditioned	Unit	Test Method
Density	1.45	--	g/cm ³	ISO 1183
Melt Volume-Flow Rate (MVR) 275°C/5.0 kg	25	--	cm ³ /10min	ISO 1133
Molding Shrinkage				ISO 294-4
Across Flow	1.1	--	%	
Flow	0.34	--	%	
Water Absorption				ISO 62
Saturation, 73°F	4.4 to 5.0	--	%	
Water Absorption				ISO 62
Equilibrium, 73°F, 50% RH	1.0 to 1.4	--	%	
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus (73°F)	1.60E+6	1.23E+6	psi	ISO 527-2
Tensile Stress (Break, 73°F)	23200	17400	psi	ISO 527-2
Tensile Strain (Break, 73°F)	3.0	4.0	%	ISO 527-2
Flexural Modulus (73°F)	1.33E+6	--	psi	ISO 178
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179
-22°F	4.8	--	ft·lb/in ²	
73°F	6.7	8.6	ft·lb/in ²	
Charpy Unnotched Impact Strength				ISO 179
-22°F	31	--	ft·lb/in ²	
73°F	33	33	ft·lb/in ²	
Notched Izod Impact Strength				ISO 180
73°F	6.2	9.5	ft·lb/in ²	

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Thermal	Dry	Conditioned	Unit	Test Method
Heat Deflection Temperature 66 psi, Unannealed	482	--	°F	ISO 75-2/B
Heat Deflection Temperature 264 psi, Unannealed	482	--	°F	ISO 75-2/A
Melting Temperature (DSC)	500	--	°F	ISO 3146
CLTE - Flow	9.4E-6	--	in/in/°F	
CLTE - Transverse	3.6E-5	--	in/in/°F	
RTI Elec				UL 746
0.016 in	230	--	°F	
0.030 in	239	--	°F	
0.06 in	239	--	°F	
0.12 in	239	--	°F	
RTI Imp				UL 746
0.016 in	239	--	°F	
0.030 in	239	--	°F	
0.06 in	239	--	°F	
0.12 in	239	--	°F	
RTI Str				UL 746
0.030 in	266	--	°F	
0.06 in	266	--	°F	
0.12 in	266	--	°F	
Electrical	Dry	Conditioned	Unit	Test Method
Volume Resistivity	1.0E+15	1.0E+12	ohms·cm	IEC 60093
Electric Strength	840	760	V/mil	IEC 60243-1
Dielectric Constant (1 MHz)	3.60	5.00		IEC 60250
Dissipation Factor (1 MHz)	0.020	0.20		IEC 60250
Comparative Tracking Index	600	--	V	IEC 60112
Flammability	Dry	Conditioned	Unit	Test Method
Flame Rating				UL 94
0.030 in	V-0	--		
0.06 in	V-0	--		
0.12 in	V-0	--		

Processing Information

Injection	Dry	Unit
Drying Temperature	176	°F
Drying Time	2.0 to 4.0	hr
Suggested Max Moisture	0.050	%
Processing (Melt) Temp	545 to 572	°F
Mold Temperature	176 to 194	°F
Injection Pressure	508 to 1810	psi
Injection Rate	Fast	

Notes

¹ Typical properties: these are not to be construed as specifications.