



Ultramid® A3HG7

BASF Corporation - Polyamide 66

Monday, November 4, 2019

General Information

Product Description

Ultramid A3HG7 is a 35% glass fiber reinforced injection molding PA66 grade.

Applications

Typical applications include machinery components and housings of high stiffness and dimensional stability such as gears, solenoid valve housings, electrical flow heaters, trailing cable attachments, as well as electrically insulating parts.

General

Material Status	• Commercial: Active		
Availability	• Asia Pacific	• Europe	• North America
Filler / Reinforcement	• Glass Fiber, 35% Filler by Weight		
Features	• High Dimensional Stability	• High Stiffness	• Oil Resistant
Uses	• Electronic Insulation • Gears	• Housings • Machine/Mechanical Parts	
Agency Ratings	• EC 1907/2006 (REACH)		
RoHS Compliance	• RoHS Compliant		
Automotive Specifications	• CHRYSLER MS-DB-41 CPN1900 Color: Black • FORD WSK-M4D673-A	• GM GMP.PA66.013 Color: Black • GM GMP.PA66.013 Color: Natural	• GM GMW3038P-PA66-GF35H Color: Natural • GM QK 003014 H Color: Natural
Forms	• Pellets		
Processing Method	• Injection Molding		

ASTM & ISO Properties ¹

Physical	Dry	Conditioned	Unit	Test Method
Density	1.41	--	g/cm ³	ISO 1183
Melt Volume-Flow Rate (MVR) 275°C/5.0 kg	40	--	cm ³ /10min	ISO 1133
Water Absorption Saturation, 73°F	5.0	--	%	ISO 62
Water Absorption Equilibrium, 73°F, 50% RH	1.6	--	%	ISO 62
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus (73°F)	1.67E+6	1.23E+6	psi	ISO 527-2
Tensile Stress (Break, 73°F)	30500	21800	psi	ISO 527-2
Tensile Strain (Break, 73°F)	3.0	5.0	%	ISO 527-2
Flexural Modulus (73°F)	1.45E+6	--	psi	ISO 178
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength -22°F	5.7	--	ft·lb/in ²	ISO 179
73°F	6.2	10	ft·lb/in ²	
Charpy Unnotched Impact Strength -22°F	36	--	ft·lb/in ²	ISO 179
73°F	45	50	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
0.031 in	248	--	°F	
0.06 in	248	--	°F	
0.12 in	248	--	°F	
RTI Imp				UL 746
0.06 in	248	--	°F	
0.12 in	248	--	°F	
RTI Str				UL 746
0.06 in	266	--	°F	
0.12 in	266	--	°F	
Electrical	Dry	Conditioned	Unit	Test Method
Volume Resistivity	1.0E+17	1.0E+12	ohms·cm	IEC 60093
Dielectric Constant (1 MHz)	3.50	5.70		IEC 60250
Dissipation Factor				IEC 60250
100 Hz	0.020	0.30		
1 MHz	0.020	0.15		
Comparative Tracking Index	550	550	V	IEC 60112
Flammability	Dry	Conditioned	Unit	Test Method
Flame Rating				UL 94
0.031 in	HB	--		
0.06 in	HB	--		
0.12 in	HB	--		

Processing Information

Injection	Dry	Unit
Drying Temperature	176	°F
Drying Time	2.0 to 4.0	hr
Suggested Max Moisture	0.12	%
Processing (Melt) Temp	536 to 581	°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.