

Ultramid® A3HG7

Polyamide 66

BASF Corporation

Message:

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 Information				
UL YellowCard		E36632-531625	E41871-233736	
Filler / Reinforcement		Glass Fiber,35% Filler by Weight		
Features		Good Dimensional Stability		
		High Stiffness		
		Oil Resistant		
Uses		Electronic Insulation		
		Gears		
		Housings		
		Machine/Mechanical Parts		
Agency Ratings		EC 1907/2006 (REACH)		
RoHS Compliance		RoHS Compliant		
Forms		Pellets		
Processing Method		Injection Molding		
Physical	Dry	Conditioned	Unit	Test Method
Density	1.41	--	g/cm ³	ISO 1183
Melt Volume-Flow Rate (MVR) (275°C/5.0 kg)	40.0	--	cm ³ /10min	ISO 1133
Water Absorption				ISO 62
Saturation, 23°C	5.0	--	%	
Equilibrium, 23°C, 50% RH	1.6	--	%	
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus (23°C)	11500	8500	MPa	ISO 527-2
Tensile Stress (Break, 23°C)	210	150	MPa	ISO 527-2
Tensile Strain (Break, 23°C)	3.0	5.0	%	ISO 527-2
Flexural Modulus (23°C)	10000	--	MPa	ISO 178
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179
-30°C	12	--	kJ/m ²	

23°C	13	22	kJ/m ²	
Charpy Unnotched Impact Strength				ISO 179
-30°C	75	--	kJ/m ²	
23°C	95	110	kJ/m ²	
Thermal	Dry	Conditioned	Unit	Test Method
Heat Deflection Temperature				
0.45 MPa, Unannealed	250	--	°C	ISO 75-2/B
1.8 MPa, Unannealed	250	--	°C	ISO 75-2/A
Melting Temperature (DSC)	260	--	°C	ISO 3146
CLTE				
Flow	1.7E-5	--	cm/cm/°C	
Transverse	6.5E-5	--	cm/cm/°C	
RTI Elec				UL 746
0.800 mm	120	--	°C	
1.50 mm	120	--	°C	
3.00 mm	120	--	°C	
RTI Imp				UL 746
1.50 mm	120	--	°C	
3.00 mm	120	--	°C	
RTI Str				UL 746
1.50 mm	130	--	°C	
3.00 mm	130	--	°C	
Electrical	Dry	Conditioned	Unit	Test Method
Volume Resistivity	1.0E+15	1.0E+10	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
0.800 mm	HB	--		
1.50 mm	HB	--		
3.00 mm	HB	--		
Injection	Dry	Unit		
Drying Temperature	80.0		°C	
Drying Time	2.0 to 4.0		hr	
Suggested Max Moisture	0.12		%	
Processing (Melt) Temp	280 to 305		°C	
Mold Temperature	80.0 to 90.0		°C	

Injection Pressure	3.50 to 12.5	MPa
Injection Rate	Fast	

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