



Ultramid® A3EG6

BASF Corporation - Polyamide 66

Monday, November 4, 2019

General Information

Product Description

Ultramid A3EG6 is a 30% glass fiber reinforced injection molding PA66 grade for machinery components and housings of high stiffness and dimensional stability.

Applications

Typical applications include such as lamp socket housings, cooling fans, insulating profiles for aluminium window frames, and electrical insulation parts.

General

Material Status	• Commercial: Active		
Availability	• Asia Pacific	• Europe	• North America
Filler / Reinforcement	• Glass Fiber, 30% Filler by Weight		
Features	• High Dimensional Stability	• High Stiffness	• Oil Resistant
Uses	• Electrical Parts • Electronic Insulation	• Housings • Machine/Mechanical Parts	
Agency Ratings	• EC 1907/2006 (REACH)		
RoHS Compliance	• RoHS Compliant		
Automotive Specifications	• CHRYSLER MS-DB-41 CPN4213 Color: Natural • FORD WSK-M4D642-A	• GM QK 001167 Type A Color: Natural • GM QK 003013 Color: Natural	
Forms	• Pellets		
Processing Method	• Injection Molding		

ASTM & ISO Properties ¹

Physical	Dry	Conditioned	Unit	Test Method
Density / Specific Gravity	1.36	--		ASTM D792
Density	1.36	--	g/cm ³	ISO 1183
Melt Volume-Flow Rate (MVR)				ISO 1133
275°C/5.0 kg	40	--	cm ³ /10min	
Molding Shrinkage - Flow (0.125 in)	3.0E-3	--	in/in	
Water Absorption (Saturation)	5.5	--	%	ASTM D570
Water Absorption				ISO 62
Saturation, 73°F	5.5	--	%	
Water Absorption				ASTM D570
Equilibrium, 50% RH	1.7	--	%	
Water Absorption				ISO 62
Equilibrium, 73°F, 50% RH	1.7	--	%	
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus (73°F)	1.45E+6	1.04E+6	psi	ISO 527-2
Tensile Strength (Break, 73°F)	27000	--	psi	ASTM D638
Tensile Stress				ISO 527-2
Break, -40°F	34500	32900	psi	
Break, 73°F	27600	18900	psi	
Tensile Elongation (Break, 73°F)	3.0	--	%	ASTM D638

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Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Strain				ISO 527-2
Break, -40°F	3.2	3.0	%	
Break, 73°F	3.0	5.0	%	
Flexural Modulus (73°F)	1.25E+6	943000	psi	ISO 178
Flexural Stress (73°F)	40600	30500	psi	ISO 178
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179
-22°F	5.2	--	ft·lb/in ²	
73°F	6.2	10	ft·lb/in ²	
Charpy Unnotched Impact Strength				ISO 179
-22°F	33	--	ft·lb/in ²	
73°F	40	48	ft·lb/in ²	
Notched Izod Impact				ASTM D256
-40°F	1.7	--	ft·lb/in	
73°F	2.1	--	ft·lb/in	
Thermal	Dry	Conditioned	Unit	Test Method
Deflection Temperature Under Load				ASTM D648
66 psi, Unannealed	482	--	°F	
Heat Deflection Temperature				ISO 75-2/B
66 psi, Unannealed	482	--	°F	
Deflection Temperature Under Load				ASTM D648
264 psi, Unannealed	482	--	°F	
Heat Deflection Temperature				ISO 75-2/A
264 psi, Unannealed	482	--	°F	
Peak Melting Temperature	500	--	°F	ASTM D3418
Melting Temperature (DSC)	500	--	°F	ISO 3146
CLTE - Flow	5.6E-6	--	in/in/°F	ASTM E831
CLTE - Flow	1.4E-5	--	in/in/°F	
CLTE - Transverse	3.6E-5	--	in/in/°F	
RTI Elec				UL 746
0.030 in	248	--	°F	
0.06 in	248	--	°F	
0.12 in	248	--	°F	
0.24 in	248	--	°F	
RTI Imp				UL 746
0.06 in	248	--	°F	
0.12 in	248	--	°F	
0.24 in	248	--	°F	
RTI Str				UL 746
0.06 in	266	--	°F	
0.12 in	266	--	°F	
0.24 in	266	--	°F	
Electrical	Dry	Conditioned	Unit	Test Method
Volume Resistivity (0.0591 in)	1.0E+15	1.0E+12	ohms·cm	ASTM D257
Volume Resistivity	1.0E+15	1.0E+12	ohms·cm	IEC 60093
Dielectric Constant (1 MHz)	3.50	5.60		IEC 60250
Dissipation Factor				IEC 60250
100 Hz	0.014	0.23		
1 MHz	0.014	0.16		

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Electrical	Dry	Conditioned	Unit	Test Method
Comparative Tracking Index	550	550	V	IEC 60112
Flammability	Dry	Conditioned	Unit	Test Method
Flame Rating				UL 94
0.06 in	HB	--		
0.12 in	HB	--		
0.24 in	HB	--		

Processing Information			
Injection	Dry Unit		
Drying Temperature	176	°F	
Drying Time	2.0 to 4.0	hr	
Suggested Max Moisture	0.15	%	
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.