

Ultramid® A3EG6

Polyamide 66

BASF Corporation

Message:

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 Information				
UL YellowCard		E36632-531620	E41871-233730	
Filler / Reinforcement		Glass Fiber,30% Filler by Weight		
Features		Good 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		
Forms		Pellets		
Processing Method		Injection Molding		
Multi-Point Data		Creep Modulus vs. Time (ISO 11403-1)		
		Isochronous Stress vs. Strain (ISO 11403-1)		
		Isothermal Stress vs. Strain (ISO 11403-1)		
		Secant Modulus vs. Strain (ISO 11403-1)		
		Viscosity vs. Shear Rate (ISO 11403-2)		
Physical	Dry	Conditioned	Unit	Test Method
Specific Gravity	1.36	--	g/cm ³	ASTM D792, ISO 1183
Melt Volume-Flow Rate (MVR) (275°C/5.0 kg)	40.0	--	cm ³ /10min	ISO 1133
Molding Shrinkage - Flow (3.18 mm)	0.30	--	%	
Water Absorption				
Saturation	5.5	--	%	ASTM D570
Saturation, 23°C	5.5	--	%	ISO 62
Equilibrium, 50% RH	1.7	--	%	ASTM D570

Equilibrium, 23°C, 50% RH	1.7	--	%	ISO 62
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus (23°C)	10000	7200	MPa	ISO 527-2
Tensile Strength				
Break, 23°C	186	--	MPa	ASTM D638
Break, -40°C	238	227	MPa	ISO 527-2
Break, 23°C	190	130	MPa	ISO 527-2
Tensile Elongation				
Break, 23°C	3.0	--	%	ASTM D638
Break, 23°C	3.0	5.0	%	ISO 527-2
Flexural Modulus (23°C)	8600	6500	MPa	ISO 178
Flexural Stress (23°C)	280	210	MPa	ISO 178
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179
-30°C	11	--	kJ/m ²	
23°C	13	22	kJ/m ²	
Charpy Unnotched Impact Strength				ISO 179
-30°C	70	--	kJ/m ²	
23°C	85	100	kJ/m ²	
Notched Izod Impact				ASTM D256
-40°C	91	--	J/m	
23°C	110	--	J/m	
Thermal	Dry	Conditioned	Unit	Test Method
Deflection Temperature Under Load				
0.45 MPa, Unannealed	250	--	°C	ASTM D648, ISO 75-2/B
1.8 MPa, Unannealed	250	--	°C	ASTM D648, ISO 75-2/A
Peak Melting Temperature	260	--	°C	ASTM D3418, ISO 3146
CLTE				
Flow	1.0E-5	--	cm/cm/°C	ASTM E831
Flow	2.5E-5	--	cm/cm/°C	
Transverse	6.5E-5	--	cm/cm/°C	
RTI Elec				UL 746
0.750 mm	120	--	°C	
1.50 mm	120	--	°C	
3.00 mm	120	--	°C	
6.00 mm	120	--	°C	
RTI Imp				UL 746
1.50 mm	120	--	°C	
3.00 mm	120	--	°C	

6.00 mm	120	--	°C	
RTI Str				UL 746
1.50 mm	130	--	°C	
3.00 mm	130	--	°C	
6.00 mm	130	--	°C	
Electrical	Dry	Conditioned	Unit	Test Method
Volume Resistivity				
1.50 mm	1.0E+13	1.0E+10	ohms·cm	ASTM D257
--	1.0E+13	1.0E+10	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		
Comparative Tracking Index	550	550	V	IEC 60112
Flammability	Dry	Conditioned	Unit	Test Method
Flame Rating				UL 94
1.50 mm	HB	--		
3.00 mm	HB	--		
6.00 mm	HB	--		
Injection	Dry	Unit		
Drying Temperature	80.0		°C	
Drying Time	2.0 to 4.0		hr	
Suggested Max Moisture	0.15		%	
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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