

Ultramid® A3EG3

Polyamide 66

BASF Corporation

Message:

Ultramid A3EG3 is a 15% glass fiber reinforced injection molding PA66 grade.

Applications

Typical applications include medium stiffness machinery components and housings, as well as electrically insulating parts.

General Information		
UL YellowCard	E36632-531618	E41871-233728
Filler / Reinforcement	Glass Fiber, 15% Filler by Weight	
Features	Good 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	1.24	--	g/cm ³	ASTM D792, ISO 1183
Melt Volume-Flow Rate (MVR) (275°C/5.0 kg)	70.0	--	cm ³ /10min	ISO 1133
Molding Shrinkage - Flow (3.18 mm)	0.55	--	%	
Water Absorption				
Saturation	7.0	--	%	ASTM D570
Saturation, 23°C	7.0	--	%	ISO 62
Equilibrium, 50% RH	2.2	--	%	ASTM D570
Equilibrium, 23°C, 50% RH	2.2	--	%	ISO 62
Mechanical	Dry	Conditioned	Unit	Test Method

Tensile Modulus (23°C)	6000	4500	MPa	ISO 527-2
Tensile Strength				
Break, 23°C	114	--	MPa	ASTM D638
Break, -40°C	156	--	MPa	ISO 527-2
Break, 23°C	130	85.0	MPa	ISO 527-2
Tensile Elongation				
Break, 23°C	3.0	--	%	ASTM D638
Break, 23°C	3.0	10	%	ISO 527-2
Flexural Modulus				
23°C	5170	--	MPa	ASTM D790
23°C	5200	4000	MPa	ISO 178
Flexural Stress (23°C)	180	125	MPa	ISO 178
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179
-30°C	7.0	--	kJ/m ²	
23°C	8.0	11	kJ/m ²	
Charpy Unnotched Impact Strength				ISO 179
-30°C	43	--	kJ/m ²	
23°C	45	70	kJ/m ²	
Notched Izod Impact				
-40°C	53	--	J/m	ASTM D256
23°C	59	--	J/m	ASTM D256
23°C	5.5	14	kJ/m ²	ISO 180
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	2.0E-5	--	cm/cm/°C	ASTM E831
Flow	3.3E-5	--	cm/cm/°C	
Transverse	7.5E-5	--	cm/cm/°C	
RTI Elec				UL 746
0.800 mm	130	--	°C	
1.50 mm	130	--	°C	
3.00 mm	130	--	°C	
RTI Imp				UL 746
1.50 mm	125	--	°C	
3.00 mm	125	--	°C	
RTI Str				UL 746

1.50 mm	125	--	°C	
3.00 mm	125	--	°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	5.50		IEC 60250
Dissipation Factor				IEC 60250
100 Hz	0.014	0.30		
1 MHz	0.023	0.16		
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	0.15		%	
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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