

Ultramid® A3WG10

Polyamide 66

BASF Corporation

Message:

Ultramid A3WG10 is a 50% glass fiber reinforced and heat aging resistance injection molding PA66 grade.

Applications

Typical applications include industrial articles having very high rigidity.

General Information				
UL YellowCard	E36632-531629	E41871-233742	E41871-101468831	
Filler / Reinforcement	Glass Fiber,50% Filler by Weight			
Features	Good Heat Aging Resistance			
	High Rigidity			
Uses	Industrial Applications			
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)			
	Shear Modulus vs. Temperature (ISO 11403-1)			
	Viscosity vs. Shear Rate (ISO 11403-2)			
Physical	Dry	Conditioned	Unit	Test Method
Specific Gravity	1.55	--	g/cm ³	ASTM D792, ISO 1183
Melt Volume-Flow Rate (MVR) (275°C/5.0 kg)	20.0	--	cm ³ /10min	ISO 1133
Molding Shrinkage - Flow (3.18 mm)	0.10	--	%	
Water Absorption				
Saturation	4.0	--	%	ASTM D570
Saturation, 23°C	4.0	--	%	ISO 62
Equilibrium, 50% RH	1.2	--	%	ASTM D570
Equilibrium, 23°C, 50% RH	1.2	--	%	ISO 62
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus (23°C)	16800	12500	MPa	ISO 527-2
Tensile Strength				
Break, 23°C	230	--	MPa	ASTM D638

Break, 23°C	230	180	MPa	ISO 527-2
Break, 80°C	151	113	MPa	ISO 527-2
Tensile Elongation				
Break, 23°C	2.0	--	%	ASTM D638
Break, 23°C	2.5	3.5	%	ISO 527-2
Flexural Modulus				
23°C	11700	--	MPa	ASTM D790
23°C	15000	--	MPa	ISO 178
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179
-30°C	13	--	kJ/m ²	
23°C	18	25	kJ/m ²	
Charpy Unnotched Impact Strength				ISO 179
-30°C	85	--	kJ/m ²	
23°C	95	100	kJ/m ²	
Notched Izod Impact				ASTM D256
-40°C	100	--	J/m	
23°C	130	--	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	7.0E-6	--	cm/cm/°C	ASTM E831
Flow	1.3E-5	--	cm/cm/°C	
Transverse	5.5E-5	--	cm/cm/°C	
RTI Elec				UL 746
0.800 mm	125	--	°C	
1.50 mm	125	--	°C	
3.00 mm	125	--	°C	
RTI Imp				UL 746
1.50 mm	130	--	°C	
3.00 mm	130	--	°C	
RTI Str				UL 746
1.50 mm	130	--	°C	
3.00 mm	130	--	°C	
Electrical	Dry	Conditioned	Unit	Test Method
Volume Resistivity				
1.50 mm	1.0E+15	1.0E+12	ohms · cm	ASTM D257

--	1.0E+15	1.0E+12	ohms·cm	IEC 60093
Dielectric Constant (1 MHz)	3.80	6.60		IEC 60250
Dissipation Factor				IEC 60250
100 Hz	0.015	0.17		
1 MHz	0.015	0.30		
Comparative Tracking Index	450	450	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	3.45 to 10.3		MPa	
Injection Rate	Fast			

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