

Ultramid® A3Z

Polyamide 66

BASF Corporation

Message:

An impact-modified and stabilized injection moulding grade for components and housings with good low temperature impact resistance.

General Information		
UL YellowCard	E36632-531635	E41871-233757
Additive	Impact modifier	
Features	Impact modification	
	Low temperature impact resistance	
	Oil resistance	
Uses	Shell	
Agency Ratings	EC 1907/2006 (REACH)	
RoHS Compliance	RoHS compliance	
Forms	Particle	
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
Density	1.06	--	g/cm ³	ISO 1183
Apparent Density	0.70	--	g/cm ³	
Melt Volume-Flow Rate (MVR) (275°C/10.0 kg)	38.0	--	cm ³ /10min	ISO 1133
Water Absorption				ISO 62
Saturated, 23°C	6.7 - 7.7	--	%	ISO 62
Equilibrium, 23°C, 50% RH	2.0 - 2.6	--	%	ISO 62
Mold Shrinkage - constrained ¹	0.85	--	%	
Automotive Materials (> 1.00 mm)	Passed	--		FMVSS 302
Polymer Abbreviation	PA66-I	--		
Screw Speed			mm/sec	
Mechanical	Dry	Conditioned	Unit	Test Method

Tensile Modulus	1900	850	MPa	ISO 527-2
Tensile Stress (Yield)	48.0	40.0	MPa	ISO 527-2/50
Tensile Strain (Yield)	5.0	18	%	ISO 527-2/50
Nominal Tensile Strain at Break	45	> 50	%	ISO 527-2/50
Tensile Creep Modulus ² (1000 hr)	--	450	MPa	ISO 899-1
Flexural Modulus	1750	--	MPa	ISO 178
Flexural Stress	64.0	--	MPa	ISO 178
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179/1eA
-30°C	31	--	kJ/m ²	ISO 179/1eA
23°C	90 kJ/m ²	No Break		ISO 179/1eA
Charpy Unnotched Impact Strength (23°C)	No Break	No Break		ISO 179/1eU
Notched Izod Impact				ISO 180/A
-30°C	29	50	kJ/m ²	ISO 180/A
23°C	90 kJ/m ²	No Break		ISO 180/A
Thermal	Dry	Conditioned	Unit	Test Method
Heat Deflection Temperature				
0.45 MPa, not annealed	125	--	°C	ISO 75-2/B
1.8 MPa, not annealed	60.0	--	°C	ISO 75-2/A
Melting Temperature	260	--	°C	ISO 11357-3
CLTE - Flow (23 to 80°C)	7.0E-5 - 1.0E-4	--	cm/cm/°C	ISO 11359-2
Specific Heat	1700	--	J/kg/°C	
Thermal Conductivity	0.33	--	W/m/K	DIN 52612
Electrical	Dry	Conditioned	Unit	Test Method
Surface Resistivity	--	1.0E+12	ohms	IEC 60093
Volume Resistivity	4.0E+14	1.0E+12	ohms·cm	IEC 60093
Relative Permittivity (1 MHz)	3.10	3.60		IEC 60250
Dissipation Factor (1 MHz)	0.016	0.070		IEC 60250
Comparative Tracking Index (Solution A)	600	--	V	IEC 60112
Flammability	Dry	Conditioned	Unit	Test Method
Flame Rating (1.60 mm)	HB	--		UL 94
Injection	Dry	Unit		
Drying Temperature	80.0		°C	
Drying Time	4.0		hr	
Suggested Max Moisture	0.15		%	
Hopper Temperature	80.0		°C	
Rear Temperature	290		°C	

Middle Temperature	290	°C
Front Temperature	290	°C
Nozzle Temperature	290	°C
Processing (Melt) Temp	280 - 300	°C
Mold Temperature	60.0 - 80.0	°C

Injection instructions

Residence Time : <10 min

NOTE

1. Test box with central gating, dimensions of base (107*47*1,5) mm, processing condition: TM = 290°C, TW = 60°C
2. strain <= 0.5%, 23°C

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