

## Parkway Products Thixomolded® AM50A Magnesium

Category : Metal , Nonferrous Metal , Magnesium Alloy

### Material Notes:

Thixomolding® is a fabrication technique, similar to injection molding, that uses magnesium alloys as the "resin" instead of plastic. Solid magnesium alloy pellets are fed into the machine, heated to high temperatures and injected into a closed die / mold. Parts from the machine usually need no additional machining, finishing or puttying. Information provided by Parkway Products.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Parkway-Products-Thixomolded-AM50A-Magnesium.php](http://www.lookpolymers.com/polymer_Parkway-Products-Thixomolded-AM50A-Magnesium.php)

Physical Properties	Metric	English	Comments
Density	1.77 g/cc	0.0640 lb/in <sup>3</sup>	
Porosity	0.0 - 1.1 %	0.0 - 1.1 %	
	0.0 - 1.10 %	0.0 - 1.10 %	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell E	74	74	
Tensile Strength, Ultimate	200 MPa	29000 psi	
Tensile Strength, Yield	110 MPa	16000 psi	
Elongation at Break	10 %	10 %	
Modulus of Elasticity	44.8 GPa	6500 ksi	
Poissons Ratio	0.35	0.35	
Shear Modulus	17.0 GPa	2470 ksi	calculated
Impact Test	9.49 J	7.00 ft-lb	

Thermal Properties	Metric	English	Comments
CTE, linear	25.9 µm/m-°C	14.4 µin/in-°F	
	@Temperature 21.1 °C	@Temperature 70.0 °F	
Specific Heat Capacity	1.05 J/g-°C	0.250 BTU/lb-°F	
Thermal Conductivity	62.0 W/m-K	430 BTU-in/hr-ft <sup>2</sup> -°F	
Melting Point	621 °C	1150 °F	
Deflection Temperature at 1.8 MPa (264 psi)	>= 371 °C	>= 700 °F	

Component Elements Properties	Metric	English	Comments
Aluminum, Al	4.4 - 5.4 %	4.4 - 5.4 %	
Copper, Cu	<= 0.010 %	<= 0.010 %	
Iron, Fe	<= 0.0040 %	<= 0.0040 %	
Magnesium, Mg	94.8 %	94.8 %	As Remainder
Manganese, Mn	0.26 - 0.60 %	0.26 - 0.60 %	
Nickel, Ni	<= 0.0020 %	<= 0.0020 %	
Other, each	<= 0.020 %	<= 0.020 %	
Silicon, Si	<= 0.10 %	<= 0.10 %	
Zinc, Zn	<= 0.22 %	<= 0.22 %	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.0000120 ohm-cm	0.0000120 ohm-cm	

Descriptive Properties	Value	Comments
Across Parting Line Dimensions	+ 0.0015 in	Tolerance (0 - 10 in <sup>2</sup> )
	+ 0.0025 in	Tolerance (11 - 20 in <sup>2</sup> )
	+ 0.004 in	Tolerance (21 - 50 in <sup>2</sup> )
	+ 0.006 in	Tolerance (51 - 100 in <sup>2</sup> )
Flatness Across Largest Dimension	+/- 0.001 in	Tolerance (each inch beyond 1 in)
	+/- 0.002 in	Tolerance (0 - 3 in)
Ignition Temperature at One Atmosphere	>900°F	
Linear Dimension in same Die Half	+/- 0.0005 in	Tolerance (0 to 1 in)
	+/- 0.0010 in	Tolerance (each inch beyond 1 in)
Mil 117B Salt Spray Corrosion	4.7 Mills per Year	
Moving Die Component Tolerances	+ 0.004 in	Tolerance (0 - 10 in <sup>2</sup> )
	+ 0.006 in	Tolerance (11 - 20 in <sup>2</sup> )
	+ 0.008 in	Tolerance (21 - 50 in <sup>2</sup> )
	+ 0.010 in	Tolerance (51 - 100 in <sup>2</sup> )

Descriptive Properties	Value	Comments
Shielding Effectiveness 0.020" thk	>88 dB	100MHz
Surface Finish	32 RMS or better	
Thickness	0.015 - 2.0 in	
UL94 Flame Exposure Results	DNB	

## Contact Songhan Plastic Technology Co.,Ltd.

Website : [www.lookpolymers.com](http://www.lookpolymers.com)

Email : [sales@lookpolymers.com](mailto:sales@lookpolymers.com)

Tel : +86 021-51131842

Mobile : +86 13061808058

Skype : lookpolymers

Address : United North Road 215,Fengxian District, Shanghai City,China