



# MAGNESIUM DRIVE-IN ANODES



CELEBRATED ENTERPRISE IN CATHODIC PROTECTION



JENNINGS ANODES



# MAGNESIUM RIBBON ANODES

## DATA SHEET

Our drive-in anode is made from an extruded magnesium rod assembled with a hexagonal nut, a threaded mounting clamp and 3 feet of #12 AWG TW solid wire. The end of the anode is machined to a spike shape or a 45-degree clean cut for easy “drive-in” installation with no pre-digging. One man can install it in minutes using only a hammer and screwdriver. The stainless-steel clamp is an optional addition for easy connection with the protected structure.

### ■ Quality Substrate Material

Our magnesium drive-in anode is manufactured under the ASTM B843-M1C standard for high potential or ASTM B843-AZ63B standard for standard potential.

Standard Element	High Potential (ASTM B843-M1C)	Standard Potential (ASTM B843-AZ63B)
Aluminum (Al)	0.01% max.	5.30% ~ 6.70%
Manganese (Mn)	0.50% ~ 1.30%	0.15% ~ 0.70%
Zinc (Zn)	—	2.5% ~ 3.5%
Silicon (Si)	0.05% max.	0.1% max.
Copper (Cu)	0.02% max.	0.02% max.
Iron (Fe)	0.03% max.	0.03% max.
Nickel (Ni)	0.001% max.	0.02% max.
Other Impurity(each)	0.05% max.	0.05% max.
Total Impurities	0.30% max.	0.30% max.
Magnesium (Mg)	Remainder	Remainder



### ■ Different Electro-potential Options

A standard potential anode has a nominal corrosion potential of -1.55 volts (relative to a Cu/CuSO<sub>4</sub> reference electrode). It is ideal for soil conditions where resistivity is under 20  $\Omega$ ·cm.

High potential magnesium anodes have higher open circuit voltage and driving potential. It produces an open circuit potential of negative 1.7~1.75 volts, which is 20~30% greater than is typically found with conventional magnesium anodes. This yields more current output and achieves a greater efficiency — reaching a sufficient cathodic protection level whilst maintaining a lower consumption of the anodes. They are ideally suited for structures buried in soils with resistivities exceeding 2,000  $\Omega$ ·cm, or for structures containing numerous corrosion clusters.

Technical Measurement	High Potential (ASTM B843-M1C)	Standard Potential (ASTM B843-AZ63B)
Open Circuit Voltage (-V)	1.70 ~ 1.75	1.50 ~ 1.55
Closed Circuit Voltage (-V)	1.58 ~ 1.62	1.45 ~ 1.50
Current Capacity	500 A.h/lbs (1100 A.h/kg)	550 A.h/lbs (1230 A.h/kg)
Current Efficiency	50% min.	55% min.

\* The open/closed circuit voltage is with respect to a copper sulfate electrode.



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## APPLICATIONS

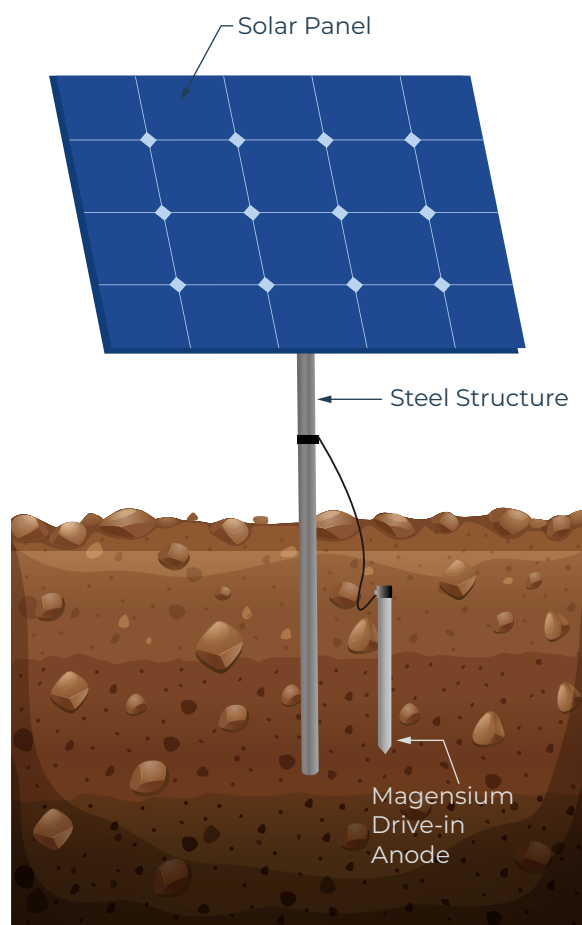
It is widely used for the cathodic protection of buried steel structures.

- Solar panel support bracket
- Gas service entrance piping
- Gas distribution risers
- Other specialty applications

## SPECIFICATIONS



Item No.	Weight	Diameter	Length
JA-MG-DR0.5	0.5 lbs (0.23 kg)	0.84" (21.5 mm)	12" (305 mm)
JA-MG-DR1.0	1.0 lbs (0.46 kg)	1.32" (33.5 mm)	12" (305 mm)
JA-MG-DR1.5	1.5 lbs (0.69 kg)	1.32" (33.5 mm)	18" (458 mm)



**Notes:** All dimensions and weights are nominal. The parameter provided is subject to variation in material compositions and Jennings Anodes foundry tolerance.

## TESTING DETAILS

We employ ISO 9001:2015 quality management system and rigorous internal testing standards to ensure the optimum lifespan and performance of our Anodes. Each anode is labelled with a unique serial number for quality tracking.

Technical Measurement	Chemical Composition	Electrochemical Performance	Physical Properties
Testing Standard	ATSM B843	ATSM G97	Foundry ITP
Testing Content	Chemical Analysis	Circuit Potential Current Capacity Current Efficiency	Surface Finish Dimension & Weight
Equipment	Optical Emission Spectrometer OBLF QSN 750	Electrochemical Analyzer EPI 200	Calibrated Digital Measuring Devices

\* Third party testing is conducted by customer's special request at extra charge.

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### PACKAGING INFORMATION

We have strict packing protocols to guarantee safe delivery of our products. Clear shipping marks and documentation make delivery acceptance straightforward and simple.

Item No.	Anode Qty (per pallet)	Pallet Dimensions (L x W x H)	Weight	
			N.W.	G.W.
JA-MG-DR0.5	500	25" x 14" x 22" (630 x 350 x 570mm)	276 lbs (125 kg)	309 lbs (140 kg)
JA-MG-DR1.0	500	24" x 35" x 18" (620 x 880 x 450mm)	661 lbs (300 kg)	728 lbs (330 kg)
JA-MG-DR1.5	500	35" x 35" x 18" (880 x 880 x 450mm)	838 lbs (380 kg)	893 lbs (405 kg)

**Remarks:** Custom packing is available upon request.





## Worldwide Service Network

Our worldwide network of sales and service centers can provide immediate advice and assistance on the complete range of products.

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