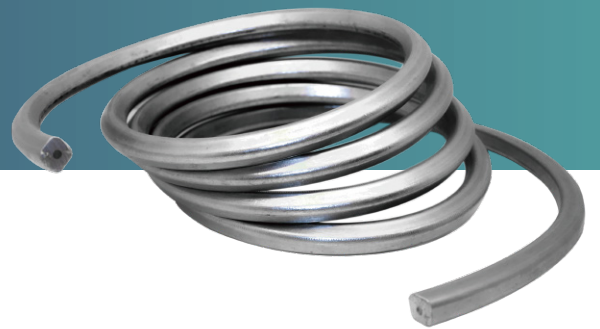




ZINC RIBBON ANODES



50 YEARS EXPERIENCE IN CATHODIC PROTECTION



JENNINGS ANODES

ZINC RIBBON ANODES

DATA SHEET

With a steel wire core firmly bonded to the zinc outer shell, our ribbon anode ensures an even corrosion pattern and reliable electrical efficiency. It is especially ideal for remote applications, wells with limited space between inner and outer casings, or narrow spaces where the anode needs to be wound around the protected structure.

■ Quality Substrate Material

Our ribbon anode is made from special high grade (SHG) zinc ingots with 99.995% purity. It is produced according to ASTM-B418 Type I / Type II standards. The high-purity composition ensures the anode material is more resistant to passive films. Type I is generally used in seawater or brackish water, while Type II is used in underground and fresh water applications.

■ High Current Output

Due to continuous ribbon formation, zinc ribbon anode can provide even distribution of current density to the cathode. Its self-regulating current output will not cause nor magnify stray currents present. With more than 90% current efficiency, its performance meets the highest industry standards.

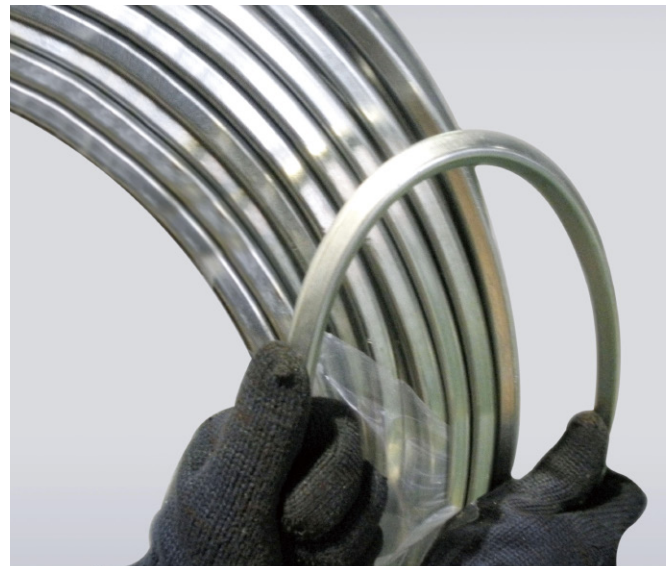
■ Low Temperature Tolerance

Our zinc ribbon anode is designed to perform optimally in challenging cold weather (-22°F/-30°C) environments, such as thawed zones in permafrost.

APPLICATIONS

This zinc ribbon anode is used in a variety of applications, including

- Cathodic protection of underground long-distance coated pipelines with low current requirements, generally in soils of 2000 ohm-cm or less with prepared gypsum-clay backfill;
- Cathodic protection of secondary exterior bottom on above-ground storage tanks
- Cathodic protection of secondary exterior bottom on above-ground storage tanks
- A.C. mitigation on pipelines
- A.C. mitigation grounding mats
- Grounding steel tower footings of overhead power systems



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CHEMICAL COMPOSITION

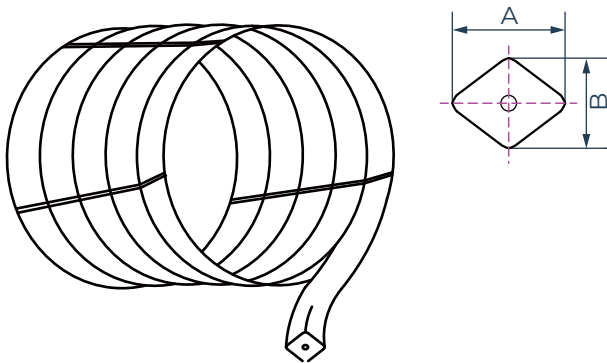
Element \ Standard	ASTM – B418 Type I	ASTM – B418 Type II
Aluminum (Al)	0.1% ~ 0.5%	0.005% max.
Lead (Pb)	0.006% max.	0.003% max.
Iron (Fe)	0.005% max.	0.0014% max.
Copper (Cu)	0.005% max.	0.002% max.
Cadmium (Cd)	0.025% ~ 0.07%	0.003% max.
Total Impurities	0.1% max.	0.1% max.
Zinc (Zn)	Remainder	Remainder

ELECTROCHEMICAL PROPERTIES

Technical Measurement	ASTM – B418 Type I	ASTM – B418 Type II
Open Circuit Voltage (-V)	1.05 min.	1.10 min.
Closed Circuit Voltage (-V)	1.00 min.	1.05 min.
Current Capacity	354 A.h/lbs (780 A.h/kg)	335 A.h/lbs (740 A.h/kg)
Current Efficiency	95%	90%
Consumption Rate	24.8 lbs/A.y (11.2 kg/A.y)	26.2 lbs/A.y (11.9 kg/A.y)

* The open/closed circuit voltage is with respect to a saturated calomel electrode.

SPECIFICATIONS



Item No.	Cross Section		Core Diameter	Length	Unit Weight
	A	B			
JA-ZR-Super	1" (25.4 mm)	1 1/4" (31.75 mm)	0.185" (4.7 mm)	100 ft. (30.5 m)	2.4 lbs/ft. (3.57 kg/m)
JA-ZR-Plus	5/8" (15.88 mm)	7/8" (22.22 mm)	0.135" (3.43 mm)	200 ft. (61 m)	1.2 lbs/ft. (1.785 kg/m)
JA-ZR-Standard	1/2" (12.7 mm)	9/16" (14.28 mm)	0.13" (3.3 mm)	500 ft. (152.5 m)	0.6 lbs/ft. (0.893 kg/m)
JA-ZR-Small	11/32" (8.73 mm)	13/32" (10.32 mm)	0.115" (2.92 mm)	1000 ft. (305 m)	0.25 lbs/ft. (0.372 kg/m)

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	ASTM E536	NACE TM0190	NACE SP0387 / Foundry ITP
Testing Content	Chemical Analysis	Circuit Potential / Current Capacity / Current Efficiency	Surface Appearance / Weight & Dimensions / Steel Core / Resistance between Steel Core and Anode
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.

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.	Coil Size	Coil Length	Weight		Coil Qty (per 20ft. container)
			N.W.	G.W.	
JA-ZR-Super	35.0" x 18.0" (880 x 460 mm)	100 ft. (30.5 m)	240 lbs (109 kg)	278 lbs (126 kg)	48
JA-ZR-Plus	25.5" x 16.0" (650 x 410 mm)	200 ft. (61 m)	240 lbs (109 kg)	273 lbs (124 kg)	96
JA-ZR-Standard	19.0" x 14.0" (480 x 360 mm)	500 ft. (152 m)	300 lbs (136 kg)	326lbs (148 kg)	96
JA-ZR-Small	19.0" x 14.0" (480 x 360 mm)	1000 ft. (305 m)	250 lbs (113.5 kg)	278 lbs (126 kg)	96



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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