PAGE 1 - PRODUCT OVERVIEW

亜鉛

亜鉛リボン陽極

Zinc Ribbon Anode

Zinc Alloy Ribbon Sacrificial Anode for Cathodic Protection and AC Mitigation

CONTINUOUS	DISTRIBUTED	TRACEABLE

CathPro Zinc Ribbon Anode consists of a galvanized steel wire core wrapped by extruded high-grade zinc alloy. It is designed for cathodic protection, AC mitigation, grounding, tank ring anode systems, and casing protection applications.

The continuous ribbon form provides a high output-current-to-volume ratio and enables even current distribution along the installed length. Zinc ribbon anodes are easy to cut to length, flexible for field installation, and suitable for long runs around pipelines, storage tanks, grounding systems, and other buried steel structures.

COMPANY	BRAND
Jiaozuo Huayu Magnesium Co., Ltd.	CathPro
DOCUMENT NO.	**REVISION**
CP-DS-ZR-001	Rev. A
DATE	**WEBSITE**
2026-04-29	www.cathprocp.com

PAGE 2 - MATERIAL STRUCTURE

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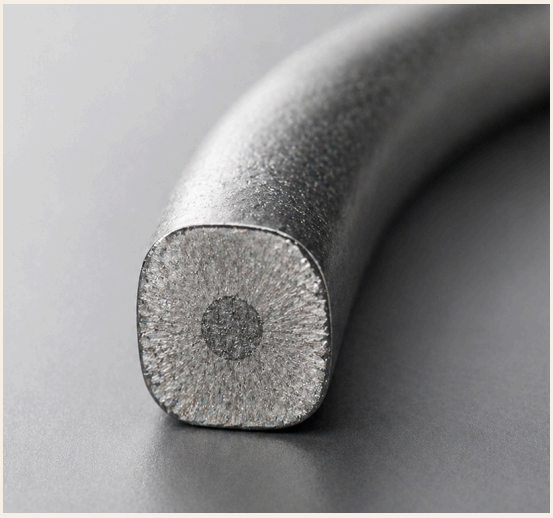
Product Structure

A simple material structure: galvanized steel continuity inside, zinc alloy sacrificial material outside.

Structure and Material Logic

CathPro Zinc Ribbon Anode is typically manufactured with a galvanized steel wire core and extruded zinc alloy outer body. The steel core provides mechanical strength and continuity, while the zinc alloy outer body functions as the sacrificial anode material.

This arrangement keeps the ribbon mechanically stable during handling, installation and long continuous runs, while maintaining a clean sacrificial surface for cathodic protection performance.



Zinc alloy outer body / galvanized steel core wire

Core

Galvanized steel wire for tensile strength and continuity.

Body

Extruded zinc alloy acting as sacrificial anode material.

Form

Continuous ribbon for distributed output along installed length.

PAGE 3 - APPLICATIONS

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Applications

Zinc ribbon anodes are commonly used where distributed current output, flexible installation, and long continuous anode length are required.

Typical Applications

- Buried pipelines
- Above-ground storage tanks
- PCCP pipe systems
- Temporary cathodic protection systems
- Grounding mats for power towers
- AC mitigation systems
- Casing protection
- Tank ring anode systems

Key Features

- High output-current-to-volume ratio
- High current efficiency
- Continuous ribbon formation for even current distribution
- Self-regulating current output
- Excellent tensile strength and hardness
- Easy to cut to required installation length
- Flexible installation performance in cold weather, down to -22°F / -30°C
- Supplied in coils or on spools according to project requirements

Application Areas

Application	Typical Use
Buried Pipeline	Distributed cathodic protection and AC mitigation
Above-ground Storage Tank	Tank ring anode and tank bottom protection
PCCP Pipe	Cathodic protection support for prestressed concrete cylinder pipe systems
Temporary CP System	Temporary protection during construction or commissioning
Grounding Mats	Grounding support near power towers and electrical systems
AC Mitigation	Mitigation of induced AC on buried pipelines
Casing Protection	Localized protection for casing areas

PAGE 4 - TECHNICAL CORE

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Features and Performance

Product performance is organized for engineering, procurement and inspection review.

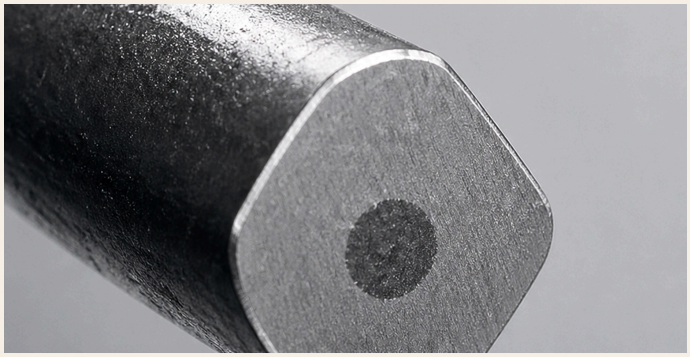
Product Features

Feature	Description
Continuous Ribbon Form	Provides distributed current output along the installed length
High Current Efficiency	Designed for efficient sacrificial anode performance
Even Current Distribution	Ribbon geometry helps distribute current density more evenly
Self-regulating Output	Current output adjusts according to environmental and electrical conditions
Mechanical Strength	Steel core improves tensile strength and handling performance
Field Flexibility	Product can be cut to length and installed in trenches, rings, or grounding layouts
Cold-weather Flexibility	Suitable for installation in cold environments down to -22°F / -30°C

Field Installation Character

Ribbon geometry supports distributed current output, flexible routing, and practical cut-to-length installation while the steel core supports handling strength during layout and connection work.

CUT TO LENGTH	CONTINUOUS RUN	COLD FIELD USE



Close-up material surface and steel-core cross section

PAGE 5 - ELECTROCHEMICAL PROPERTIES

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Electrochemical Properties

Electrochemical values are retained as technical reference values for specification review.

780

A·h/kg current capacity for ASTM B418 Type I.

95%

Current efficiency for ASTM B418 Type I.

-30° C

Flexible installation performance in cold weather.

Electrochemical Properties

Alloy / Standard	Open Circuit Potential	Closed Circuit Potential	Current Capacity	Consumption Rate	Current Efficiency
ASTM B418 Type I	1.05 V Min.	1.00 V Min.	354 A·h/lb / 780 A·h/kg	24.8 lb/A·yr	95%
ASTM B418 Type II	1.10 V Min.	1.05 V Min.	335 A·h/lb / 740 A·h/kg	26.2 lb/A·yr	90%

Note: Final electrochemical requirements shall be confirmed according to the applicable project specification, purchase order, and inspection requirements.

PAGE 6 - CHEMICAL COMPOSITION

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Chemical Composition

ASTM B418 composition reference for zinc anode alloy review.

Chemical Composition

ASTM B418 Zinc Anode Alloy Composition

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

Type I

Aluminum-cadmium zinc alloy reference where higher current capacity and current efficiency values are required by specification.

Type II

High-purity zinc alloy reference with tighter maximum limits for aluminum, cadmium, iron, lead, and copper.

Zn

Zinc remains the balance material for both listed ASTM B418 alloy references.

Note: Chemical composition can be controlled according to ASTM B418, customer specifications, or project-specific requirements. Material certificates can be supplied upon request.

PAGE 7 - STANDARD SPECIFICATIONS

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Standard Specifications

Common zinc ribbon anode models are arranged for quick model selection.

Common Zinc Ribbon Anode Models

CathPro Model	Cross Section	Unit Weight	Steel Core Diameter	Standard Coil Length
CP-ZR-Super	1 in x 1-1/4 in 25.40 x 31.75 mm	2.4 lb/ft 3.570 kg/m	0.185 in 4.70 mm	100 ft 30.5 m
CP-ZR-Plus	5/8 in x 7/8 in 15.88 x 22.22 mm	1.20 lb/ft 1.785 kg/m	0.135 in 3.43 mm	200 ft 61 m
CP-ZR-Standard	1/2 in x 9/16 in 12.70 x 14.28 mm	0.60 lb/ft 0.893 kg/m	0.130 in 3.30 mm	500 ft 152 m
CP-ZR-Small	11/32 in x 13/32 in 8.73 x 10.32 mm	0.25 lb/ft 0.372 kg/m	0.115 in 2.92 mm	1000 ft 305 m

Heavy

CP-ZR-Super and CP-ZR-Plus cover larger cross sections and higher unit weights for heavier output requirements.

Standard

CP-ZR-Standard provides a balanced reference size for pipeline, tank, and grounding applications.

Small

CP-ZR-Small supports compact layouts and longer standard coil length where routing space is limited.

Note: Model names may be adjusted according to customer requirements. Custom dimensions, steel core diameters, coil lengths, coil weights, and packing methods are available upon request.

PAGE 8 - ORDERING INFORMATION

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Ordering Information

Required quotation details for selecting the correct zinc ribbon anode specification.

Ordering Information

To confirm the correct zinc ribbon anode specification, please provide the following information when requesting a quotation:

01 Required model or cross-section size

02 Alloy type: ASTM B418 Type I, ASTM B418 Type II, or project-specific alloy

03 Steel core diameter requirement

04 Coil length or total quantity

05 Required packing method: coil, wooden spool, steel spool, pallet, or export wooden case

06 Application: AC mitigation, grounding, tank ring anode, casing protection, or pipeline CP

07 Required inspection documents and certification requirements

08 Destination port and delivery terms

> For faster quotation review, confirm the alloy standard, dimensional requirement, coil or packing preference, inspection documents, and delivery terms in the same request.

PAGE 9 - QUALITY CONTROL & DOCUMENTS

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Quality Control and Documents

Inspection and documentation information for production control and shipment review.

Quality Control

CathPro applies controlled inspection during production and before shipment to ensure the zinc ribbon anode meets the confirmed purchase specification.

Inspection Items

Inspection Item	Control Purpose
Chemical Composition	To verify zinc alloy material conformity
Width and Thickness	To confirm dimensional consistency
Unit Weight	To confirm ribbon weight per length
Steel Core Diameter	To confirm mechanical continuity and core size
Surface Condition	To check appearance, extrusion quality, and visible defects
Coil Length / Coil Weight	To confirm delivery quantity
Packing Condition	To confirm export suitability and handling protection
Label and Marking	To support traceability and project identification

Available Documents

- Chemical composition report
- Dimension inspection record
- Unit weight inspection record
- Surface condition inspection record
- Packing inspection record
- Certificate of conformity
- Material test certificate upon request

PAGE 10 - PACKING, HANDLING & COMPANY INFORMATION

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Packing and Contact

Final delivery, handling and company information are presented as a clean closing page of the datasheet.

Packing Options

Zinc ribbon anodes can be supplied in different packing forms according to transportation and installation requirements.

Available Packing Forms

- Coil packing
- Wooden spool
- Steel spool
- Palletized packing
- Export wooden case
- Project-specific labeling and marking

The packing method should be selected according to coil weight, shipping method, site handling conditions, and customer requirements.

Handling and Storage

- Store in a dry and ventilated area before installation.
- Avoid strong mechanical impact during transportation and handling.
- Keep product identification labels visible for traceability.
- Avoid contamination of the zinc surface before installation.
- Follow project-approved installation procedures and connection requirements.

Company Information

Jiaozuo Huayu Magnesium Co., Ltd.
Brand: CathPro
Product Category: Cathodic protection materials and sacrificial anodes

For technical inquiries, quotation requests, drawings, project specifications, or documentation requirements, please contact CathPro for support.

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Revision History

Revision	Date	Description
Rev. A	2026-04-29	Initial release