

## GROUNDING PRODUCTS



**Zinc Grounding Cell**

### Applications

Zinc Grounding Cells are used for AC Mitigation. This is used to bleed off AC from the structures, which are subject to induced AC. Zinc Grounding cell can be installed at high voltage O/H crossing or parallelism locations.

### Information

Zinc Grounding Cells consist of one, two or four Standard Zinc electrodes separated with 1" Insulating Spacers (for more than 1 electrode). Nominal resistance of a two electrode Grounding Cell in wet area is 0.2 to 0.6 Ohm. Nominal Resistance of a four electrode cell is one fourth to one half that of a two electrode cell. The Grounding Cells are packed in standard backfill (75% Gypsum, 20% Bentonite and 5% Sodium Sulphate) either in a unit of one, two or four.

### Composition (ASTM B 418 TYPE 1)

ELEMENT	CONTENT(%)
Cu	0.005 max
Al	0.10 - 0.50
Fe	0.005 max
Cd	0.025 to 0.07
Pb	0.006 max
Zn	Remainder
Potential	-1.05 Volts w.r.t Ag / AgCl
Capacity	780 amps Hr./Kg.

Zinc grounding cells help to bleed off unwanted voltages. They reduce the danger of shock on a steel structure, arcing and burning of insulated joints. Zinc grounding cells form an unavoidable part of any induced AC power mitigation, protection of IJ's and IF's, earthing of a structure, etc.

### Polarization Cell Replacement (PCR)

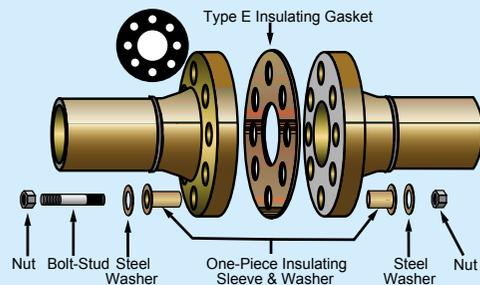
PCR is a solid-state device designed to simultaneously provide DC decoupling and AC continuity/grounding when used with cathodically protected structures, such as pipelines, tanks, grounding systems, and cable casings. The PCR has very high AC fault current and lightning surge current ratings. Polarization cell replacement (PCR) are used in conjunction with grounding cells.

### Isolation Flange Kits and Surge Arrestor

Isolation Flange Kits are used in flanges to isolate the protected and un-protected sides of the pipeline. It consists of a non-metallic gasket, washer, sleeve and metallic washer. Surge Arrestors are used to bypass the surges between isolated structures and protect the insulating materials.



**Polarization Cell Replacement (PCR)**



**Isolation Flange Kit**

### Standard Zinc Grounding Cells

MODEL	NET WEIGHT	GROUNDING CELL DIMENSION (L x W x D) (MM)	GROSS WEIGHT
BTZN - 180 G	8.1 Kg.	37 x 37 x 915	32.0 Kg.
BTZN - 330G	14.9 Kg.	37 x 37 x 1524	44.7 Kg.
BTZN - 570G	25.7 Kg.	760 x 65 x 75	55.2 Kg.
BTZN - 600G	27.2 Kg.	51 x 51 x 1524	58.9 Kg.

### Surge Arrestor



## ZINC RIBBON

### Information

Zinc has proven to be an excellent Anode Material for Cathodic Protection and grounding. To overcome the small impurities which are always present in the base material, conventional Zinc Alloys contain Aluminium.

Zinc Anodes have been in use for decades to protect Steel Structures from Corrosion. Today, these anodes are still widely utilized and have proven to be an effective choice for preventing corrosion in selected soils and brackish waters, as a grounding electrode for AC mitigation applications.

### Electro Chemical Properties

Open Circuit Potential (-v) 1.05 w.r.t Ag/AgCl, Current Capacity (Amp - hr / lb) - 372, Galvanic Efficiency (%) = 90 - 95

### Features

- High Current Output to volume ratio.
- Easily conforms to any Cathode length or configuration.
- Will not cause nor magnify stray currents.
- Generally used in soils of 1000 ohm cm or less with prepared Gypsum-Clay Backfill.
- The Ribbon for AC mitigation is laid parallel to the cross country pipeline, laid as mats and in spiral for localised grounding

### Applications

- External areas of Steel Pipe
- Grounding of cross country pipelines
- Tag bottom Cathodic protection of above grade storage tank.
- Interstitial spaces between old, corroded and new Storage Tank Bottoms.
- In the limited space between Casing and Carrier Pipes.
- In the limited space between inner and outer Casings of Wells of various kinds.

Product Size	Plus	Standard	Small
Cross Section Inches (mm)	5/8" x 7/8" (15.88 x 22.22)	1/2" x 9/16" (12.7 x 14.28)	11/32" x 13/32" (8.73 x 10.32)
Pounds / Foot (Kg / m)	1.2 (1.79)	0.6 (0.89)	0.25 (0.372)
Dia. of wire core Inch (mm)	0.135 (3.43)	0.130 (3.30)	0.115 (2.92)
Standard coil length Feet (mm)	200 <sup>+20</sup> (61-0) <sup>+6.1</sup>	500 <sup>+30</sup> (152-0) <sup>+9</sup>	1000 - 0 <sup>+50</sup> (305-0) <sup>+15</sup>
Standard coil ID Inch (cm)	36 (91.44)	12 (30.5)	12 (30.5)
Packaging	Steel banded open coil	Wooden Reels	

## GROUNDING PRODUCTS



*Zinc Ribbon*