

MAGNESIUM ANODES UNDERGROUND USE

The Harco Corporation Packaged Magnesium Anodes are the most widely used material for the application of cathodic protection on underground installations.

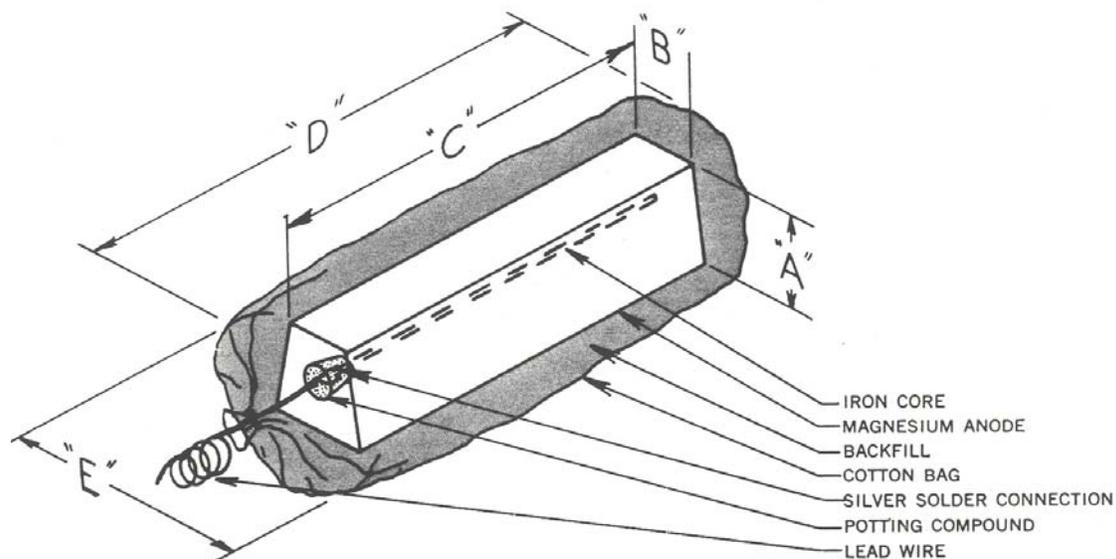
Corrosion is an electrochemical reaction based on universal laws of nature. All metallic structures corrode. It is just a question of how quickly. The job of the corrosion engineer is to slow down or halt this process by using cathodic protection in the form of Magnesium Anodes.

Anodes are typically installed in a vertically augered hole to a depth of 3' to 5' and also 3' to 5' away from the tank. The hole diameter shall be such to easily accommodate the size of the anode. After the hole is augered, the packaged anode is lowered in, and soil is firmly tamped around the package so it is in intimate contact with the package.

Lead wires from the anodes are run underground and are connected to the tank via the anode connectors. Additional lengths of #12 AWG copper wire with Type TW insulation can be used if additional length lead wire is required.

MODEL AND SPECIFICATIONS

MAGNESIUM WEIGHT (IN POUNDS)		A	B	C	D	E	BACKFILL WEIGHT (IN POUNDS)	TOTAL WEIGHT (PER ANODE)
9#	H-1	3"	3"	13.5"	15.5"	6"	15#	24#
17#	H-1	4"	4"	17"	21"	6.5"	25#	42#



**Pollution
Control
Systems, Inc**

5827 Happy Hollow Rd. Suite 1-B
Milford, OH 45150-1830
Tel: (513) 831-1165 Fax: (513) 965-4812
E-mail: Polconsys@aol.com
www.PollutionControlSystem.com

MATERIAL SAFETY DATA SHEET

GARFIELD ALLOYS, INC., 4878 CRAINCRAFT ROAD, CLEVELAND, OHIO 44125
PHONE: 216-587-4843

PRODUCT NAME: Magnesium Alloy Ingot

1. INGREDIENTS:

Aluminum	10% Approx.
Zinc	1% Approx.
Magnesium	Balance

2. PHYSICAL DATA:

BOILING POINT:	2030F
VAP PRESS:	Not Applicable
VAP DENSITY:	Not Applicable
SOL. IN WATER:	Not Applicable
SP. GRAVITY:	1.74
APPEARANCE:	Silver solid.
ODOR:	No odor.
MELTING POINT:	1202F

3. FIRE AND EXPLOSION HAZARD DATA:

FLASH POINT:	None
METHOD USED:	

FLAMMABLE LIMITS

LFL:	Not applicable
UFL:	Not applicable

EXTINGUISHING MEDIA: Melting flux, dry sand, metal extinguishing powder such as gi, met-l-x, etc.

FIRE & EXPLOSION HAZARDS: When heated in air to a temperature near its melting point, magnesium ignites and burns with a white flame. Use of water on molten magnesium will produce hydrogen gas and may cause an explosion.

FIRE-FIGHTING EQUIPMENT: Not available.

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4. REACTIVITY DATA:

STABILITY: (CONDITIONS TO AVOID)

INCOMPATIBILITY: (Specific Materials To AVOID) Acid, Water,
Reacts with acid to form hydrogen gas. In finely divided form,
will react with water and acids to release hydrogen.

HAZARDOUS DECOMPOSITION PRODUCTS:

HAZARDOUS POLYMERIZATION: Will not occur.

5. ENVIRONMENTAL AND DISPOSAL INFORMATION:

ACTION TO TAKE FOR SPILLS/LEAKS: Clean off and use.

DISPOSAL METHOD:

6. HEALTH HAZARD DATA:

EYE: No problem-mechanical injury as from any foreign body.

SKIN CONTACT: No problem-mechanical injury as from any foreign
body.

SKIN ABSORPTION: No problem-not absorbed through the skin
in toxic amounts.

INGESTION: No problem because of physical form. Moderately
toxic if ingested. LD50 for dogs 230-280 mg/kg.

INHALATION: No guide for control known. If dust is generated, it
may be a nuisance. Main hazard is that of fire.

SYSTEMIC & OTHER EFFECTS: Not applicable.

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7. FIRST AID:
- EYES: Mechanical injury only. Irrigation of the eye immediately with water for five minutes is a good safety practice.
- SKIN: No special first aid needed.
- INGESTION: No special first aid needed.
- INHALATION: No special first aid needed.
- NOTE TO PHYSICIAN:
Eyes: Stain for evidence of corneal injury.
8. HANDLING PRECAUTIONS:
- VENTILATION:
- RESPIRATORY PROTECTION: None needed.
- SKIN PROTECTION: Fire-resistant clothing and gloves desirable around melting operations. Use gloves for handling ingot.
- EYE PROTECTION: Not normally necessary.
9. ADDITIONAL INFORMATION:
- SPECIAL PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:
Practice reasonable care in handling scrap. Magnesium or magnesium alloy scrap should be preheated to a minimum temperature of 212F (100C) and preferably to 300F (149C) to eliminate moisture prior to use in any melting operation. Water, either on the surface or entrapped in surface pores, will rapidly change into vapor and may cause a steam or hydrogen explosion.
- MSDS STATUS: New MSDS 18 Sep '80

The Information Herein Is Given In Good Faith, But No Warranty, Expressed Or Implied, Is Made.