CORROSION CONTROL EQUIPMENT

for

UNDERGROUND STORAGE TANKS & PIPING

and

ABOVEGROUND STORAGE TANKS

Clay and Bailey Mfg. Co.

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Foreword

Herein we describe and illustrate Clay and Bailey products designed to assist you in complying with EPA regulations. To be in full compliance with current EPA regulations, products other than what are shown in this catalog are required.

When designing or installing any cathodic protection system, always consult a Corrosion Expert.

CLAY & BAILEY ANODES

We offer a wide range of materials and sizes for use on any Cathodic Protection required installations.

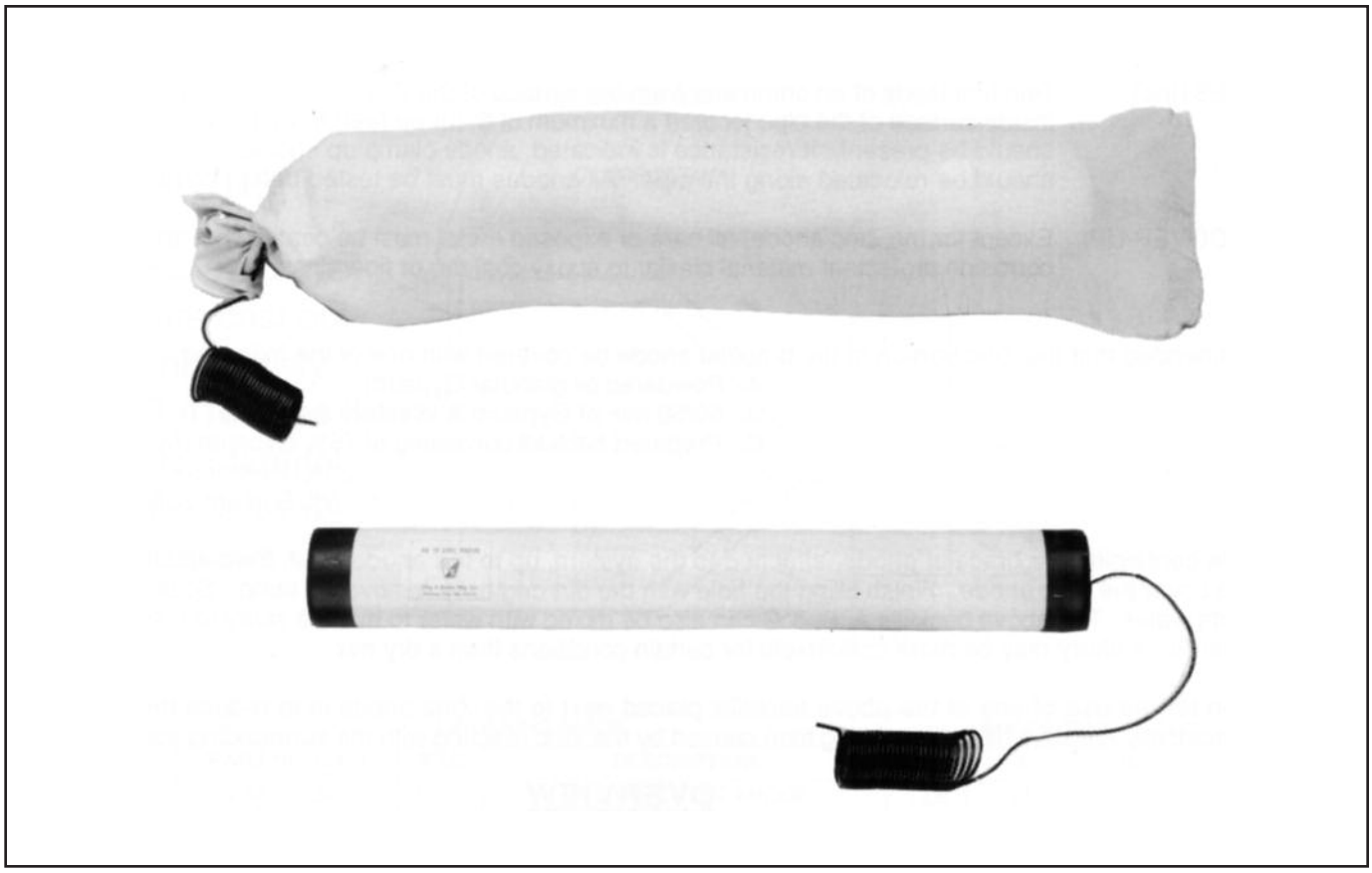
Anodes are available in High Pure Magnesium, our Max Mag classification; and H-1 Grade Magnesium, our Standard classification; and High Pure Zinc. All anode materials meet or exceed the rigorous standards established by Clay & Bailey Quality Assurance Department and Industry Standards.

Standard anode sizes are as follows:

High Pure Magnesium:	9#,17#, 24#, 32#, 48#
H-1 Magnesium:	9#, 17#, 32#, 48#
High Pure Zinc-Wire On:	1#, 5#, 8#, 10#, 18#, 30#

All anodes have a plated steel core with a 14' long #12 ga direct burial insulated type THHN attached by silver solder. The anode is packaged in a mixture of 75% Gypsum, 20% Western Bentonite and 5% Sodium Sulphate.

Always consult your Corrosion Expert for your area soil conditions with regard to type, quantity and size of anodes required.



ZINC BRACELET ANODES
SPECIFICATIONS & INSTALLATION

Provide a method to easily install cathodic protection on riser pipes, vent lines, swing joints, fill pipes, or flex tubing ends which are used in fuel dispensing systems. This application is specifically suited to underground tank installations at wholesale or retail gasoline service station installations. Mechanical clamping will achieve a circuit between the anode and the base metal of the pipe without requiring a thermite weld or brazing operation for attachment. Attachment by clamping must satisfy all requirements of attachment as outlined by standard API-1632 of the American Petroleum Institute. The line or flex joint being protected with the anode may also be monitored for anode function. The anodes are available in various sizes to fit pipe sizes from 1 1/2" to 4". The anode is to be of quality Zinc material satisfying ASTM B-418 Type II that will provide protection for new or retrofit applications. Life of the anode is dependent upon the conditions & environment the anode is exposed to. Material certifications must also be available upon request.

INSTALLATION

SOIL TESTING: Soil tests must be performed by a competent corrosion expert well acquainted with the area. Anode data will be based on the worst case corrosion situation at the location under study.

INSTALLER: The Installer must be competent and state licensed in all phases of anode installation and testing. The bracelet Zinc anode will work only as good as the quality of the initial installation.

METHOD OF ATTACHMENT: Scrape or grind surface coating of pipe to be protected to the base metal where V of the anode bolt will make positive electrical contact. Push anode V bolt over pipe or flex connector end, making sure the bolt base makes direct contact with the bare metal. Locate strap over threaded ends and tighten nuts. If anode monitor wire is to be attached, use THW#12 Copper Wire. Attach one bare end of wire around bolt threads between two washers and lock with hex nut.

ANODE TESTING: Run test leads of an ohmmeter from the surface of the Zinc anode to the bare pipe metal or the inside surface of the pipe located a minimum of 3' (three feet) from the anode. Zero resistance should be present. If resistance is indicated, anode clamp up should be checked or the anode should be relocated along the pipe. All anodes must be tested before cover up.

BEFORE COVER UP: Except for the Zinc anode, all bare or exposed metal must be coated with an approved dielectric corrosion protectant material similar to epoxy coal tar, or fiberglass, etc.

It is recommended that the Zinc portion of the bracelet anode be covered with one of the following:

A. Powdered or granular Gypsum
B. 50/50 mix of Gypsum & Western Bentonite
C. Prepared back fill consisting of 75% Gypsum (hydrated)
20% Bentonite
5% Sodium Sulfate (Na2 S04)

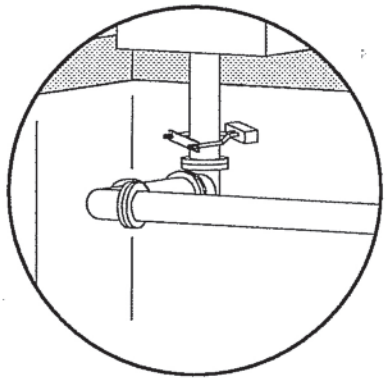
Fill the hole containing the bracelet anode, attached to the system, up to the anode itself, then add the amount of A, B, or C above to cover the Zinc anode. Finish filling the hole with the dirt originally removed & tamp. Soak the area of the buried bracelet with water. The above backfills A, B, & C can also be mixed with water to make a slurry to place in the hole to cover the Zinc anode. A slurry may be more convenient for certain conditions than a dry mix.

The reason for the use of one of the above backfills placed next to the Zinc anode is to reduce the tendency of Zinc to form an electrically resistant fill (an insulating film) caused by the Zinc reacting with the surrounding soil.

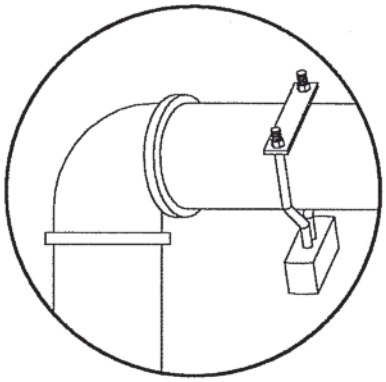
OVERVIEW

These guidelines are for protecting bare or coated steel pipe or steel ends on flex connectors. Always use the most corrosive soil conditions at the job site to determine anode requirements.

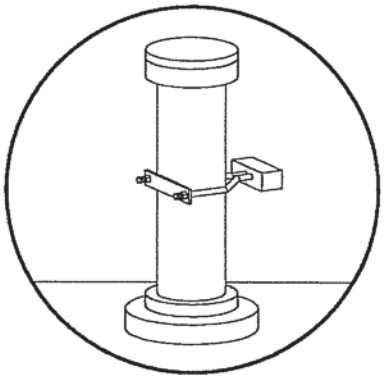
Typical Anode Locations



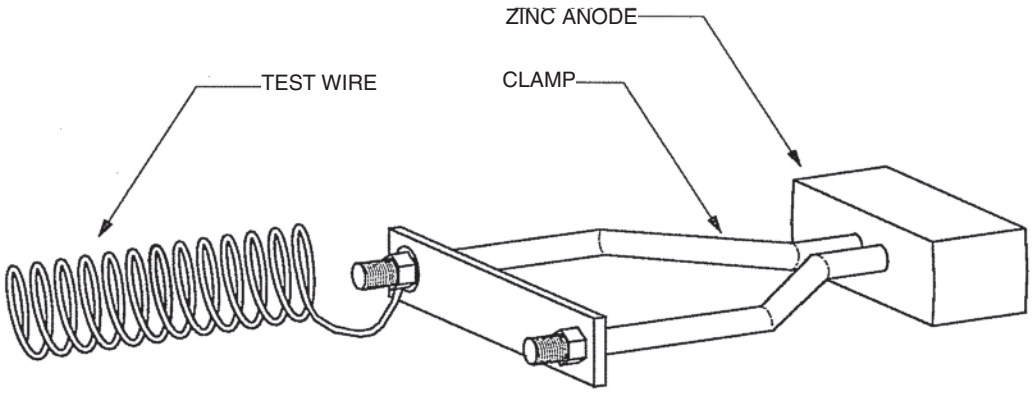
Fuel Lines



Vent Pipes

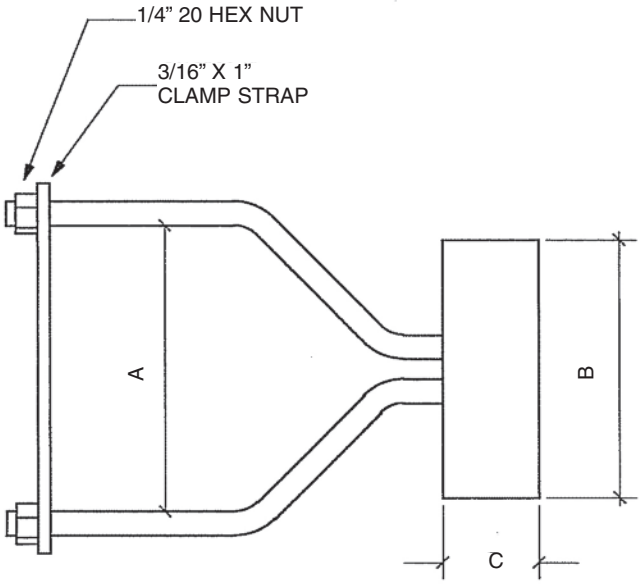


Fill Pipes



Anode Dimensions

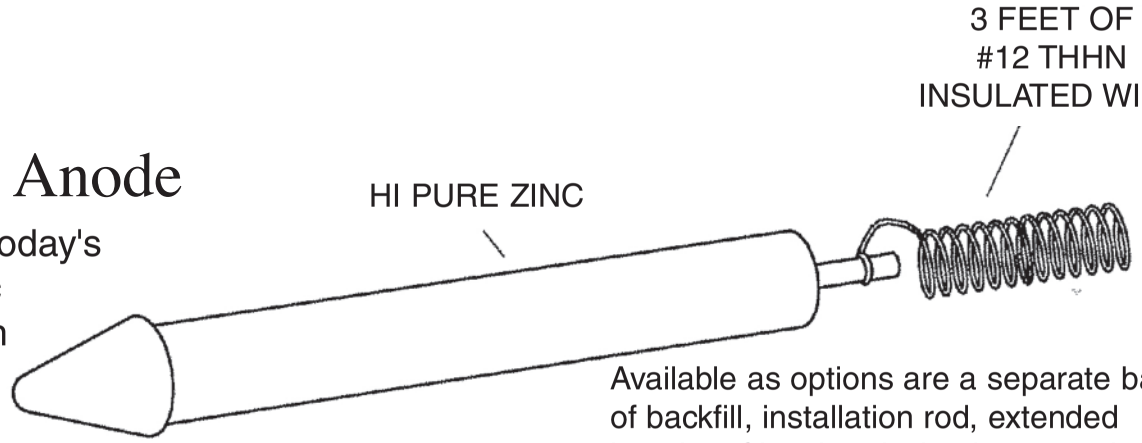
All Clay & Bailey Bracelet Anodes are cast out of quality Zinc, satisfying ASTM B-418 Type II requirements. Material certifications are available upon request.



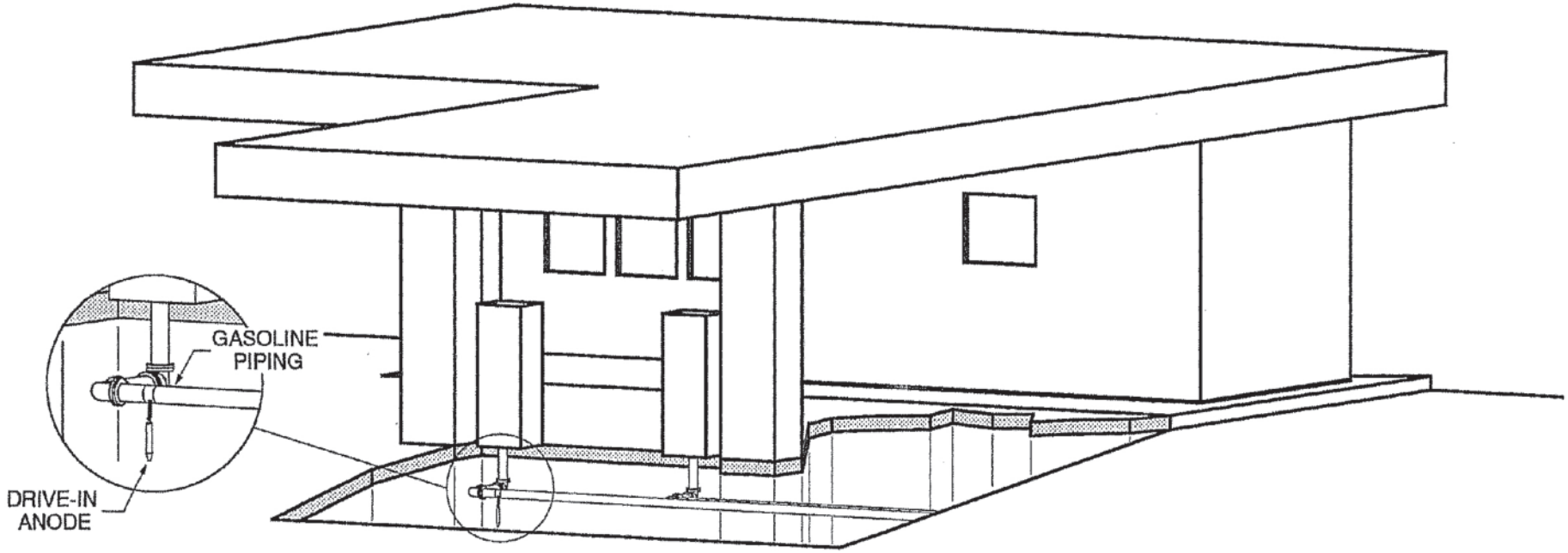
ORDERING GUIDE			ANODE DIMENSIONS			
PART NUMBER	SIZE	DESCRIPTION	WT	A	B	C
CPAN-12-BR15	1 1/2"	ZINC BRACELET ANODE	1 LB	2"	2"	1 1/4"
CPAN-12-BR20	2"	ZINC BRACELET ANODE	1 LB	2 3/8"	2"	1 1/4"
CPAN-12-BR30	3"	ZINC BRACELET ANODE	2 LB	3 1/2"	4"	1 1/2"
CPAN-12-BR40	4"	ZINC BRACELET ANODE	2 LB	4 1/2"	4"	1 1/2"

Hi Pure Zinc Drive-in Anode

An economical solution to one of today's environmental problems - cathodic protection of small areas of carbon steel buried underground.



Available as options are a separate bag of backfill, installation rod, extended lengths of insulated wire & test stations.

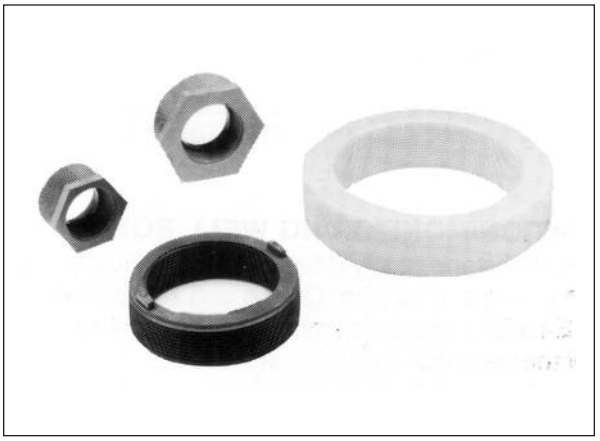


ACCESSORIES

CLAY & BAILEY HAS DESIGNED A WIDE RANGE OF ACCESSORIES TO AID YOUR COMPLIANCE WITH CURRENT EPA REGULATIONS.

NYLON BUSHINGS

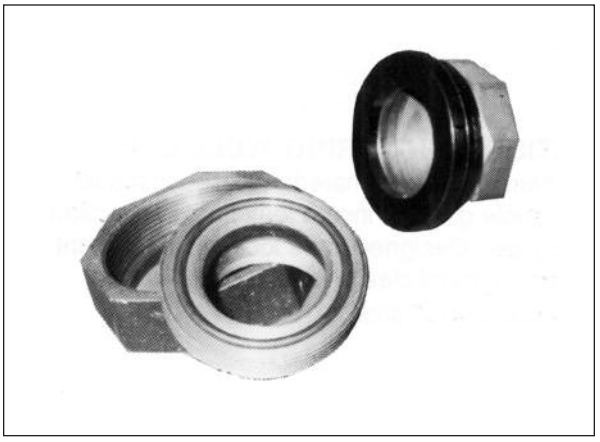
A complete line of high grade, dielectric nylon bushings with sizes from 2" x 1 1/2" to 8" x 6".



CPNB-13-2015
CPNB-13-3020
CPNB-13-5040
CPNB-13-8060

INSULATING UNIONS

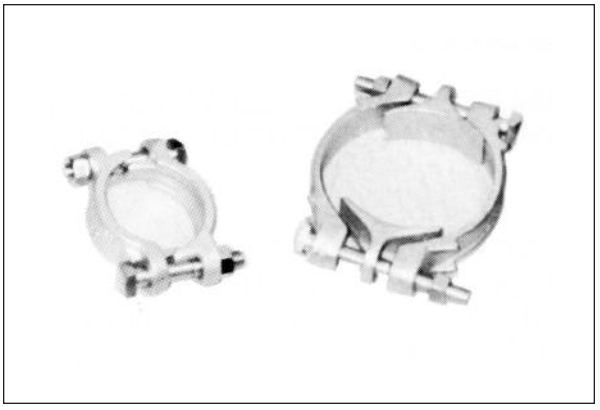
These unions are of high grade malleable iron and are a flat seat "0" ring design. The unions are rated at 600 PSI for long, dependable service. Available in 1 1/2" and 2" sizes.



CPIU-13-2000

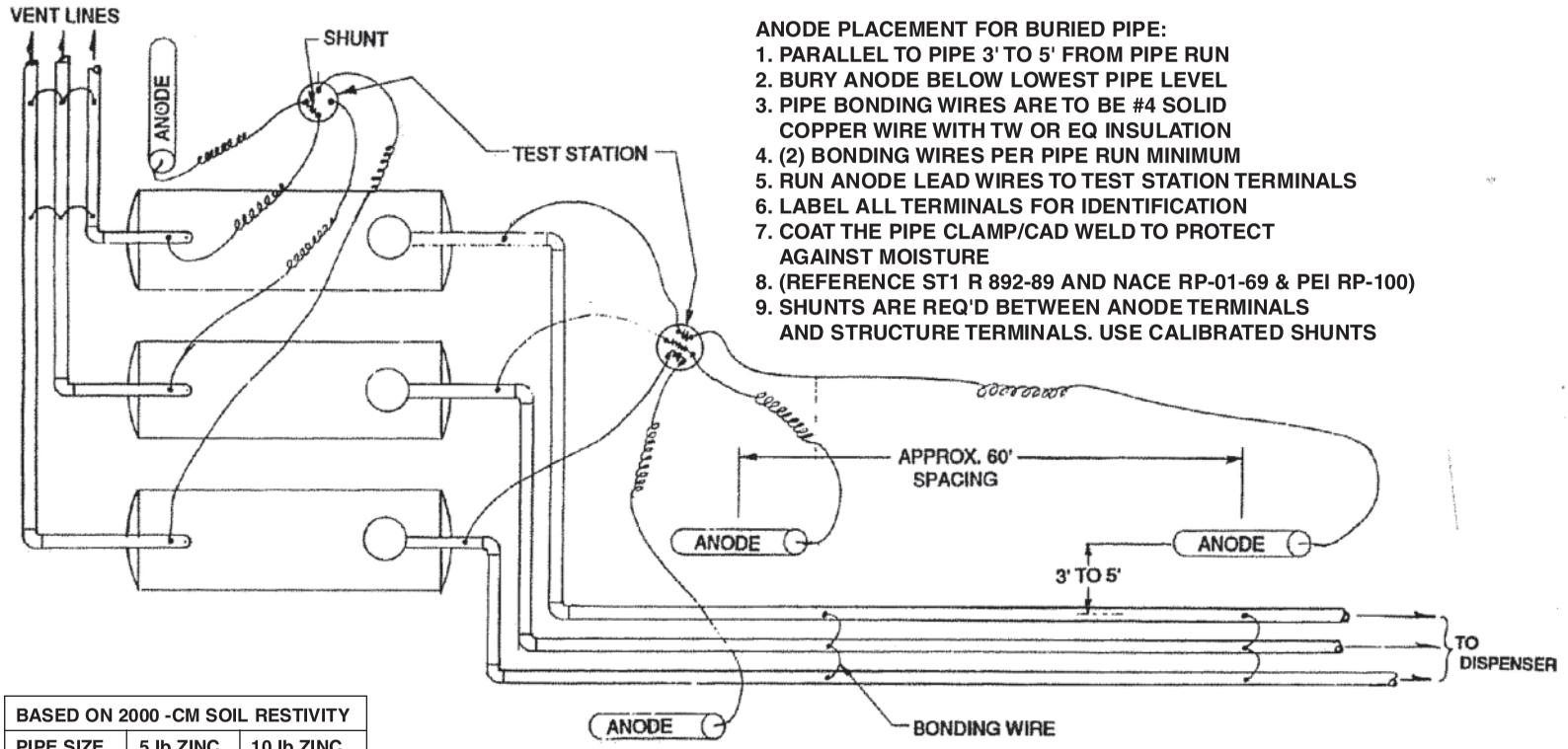
GROUNDING CLAMPS

Constructed of high quality ductile iron with zinc plating. Adjusts to provide a secure fit with sufficient surface for good wire connection. Available in 1", 1 1/2", 2", 4" sizes.



CPGG-09-1500
CPGC-09-4000

SUGGESTED INSTALLATION PIPE

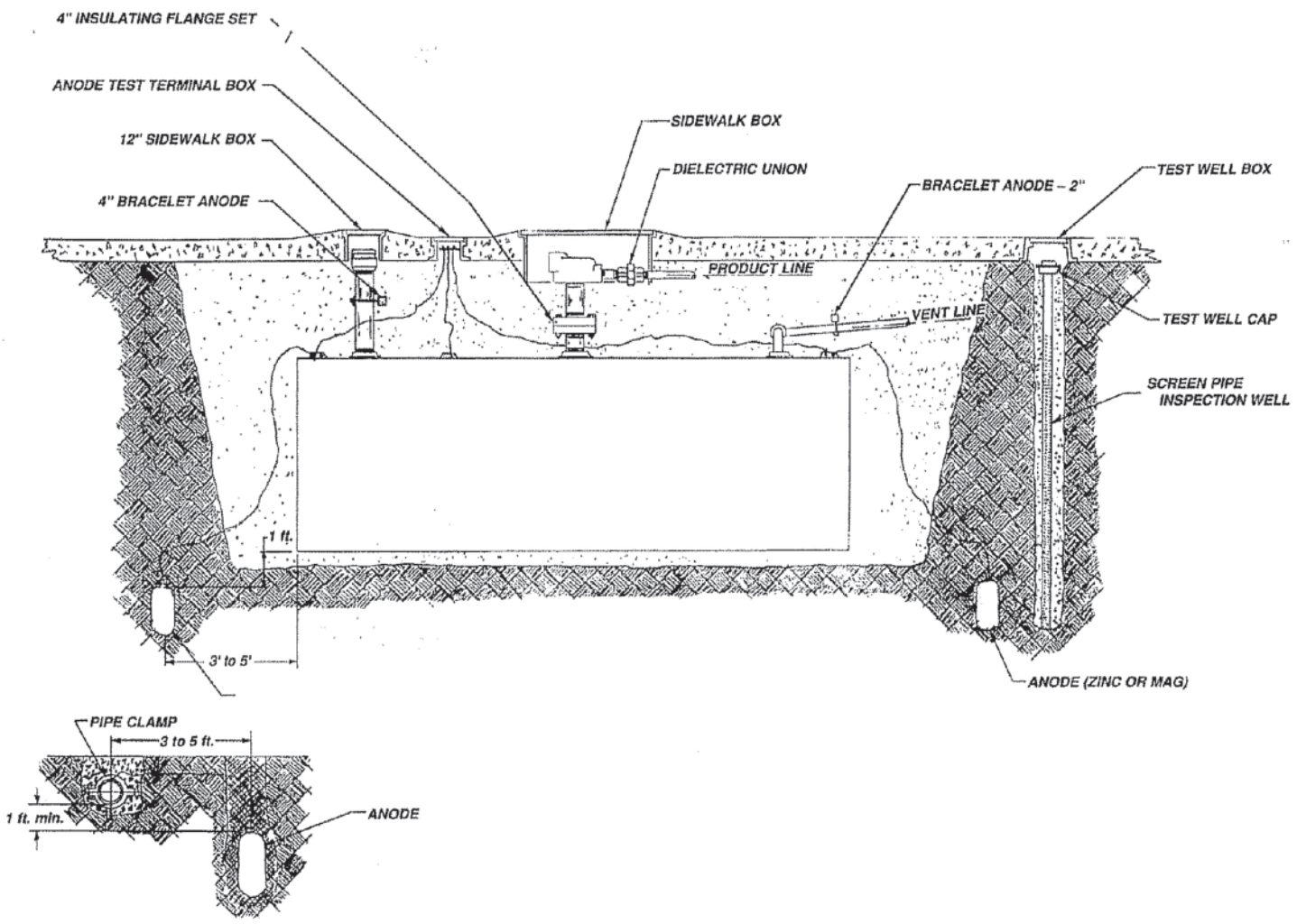


ANODE PLACEMENT FOR BURIED PIPE:

1. PARALLEL TO PIPE 3' TO 5' FROM PIPE RUN
2. BURY ANODE BELOW LOWEST PIPE LEVEL
3. PIPE BONDING WIRES ARE TO BE #4 SOLID COPPER WIRE WITH TW OR EQ INSULATION
4. (2) BONDING WIRES PER PIPE RUN MINIMUM
5. RUN ANODE LEAD WIRES TO TEST STATION TERMINALS
6. LABEL ALL TERMINALS FOR IDENTIFICATION
7. COAT THE PIPE CLAMP/CAD WELD TO PROTECT AGAINST MOISTURE
8. (REFERENCE ST1 R 892-89 AND NACE RP-01-69 & PEI RP-100)
9. SHUNTS ARE REQ'D BETWEEN ANODE TERMINALS AND STRUCTURE TERMINALS. USE CALIBRATED SHUNTS

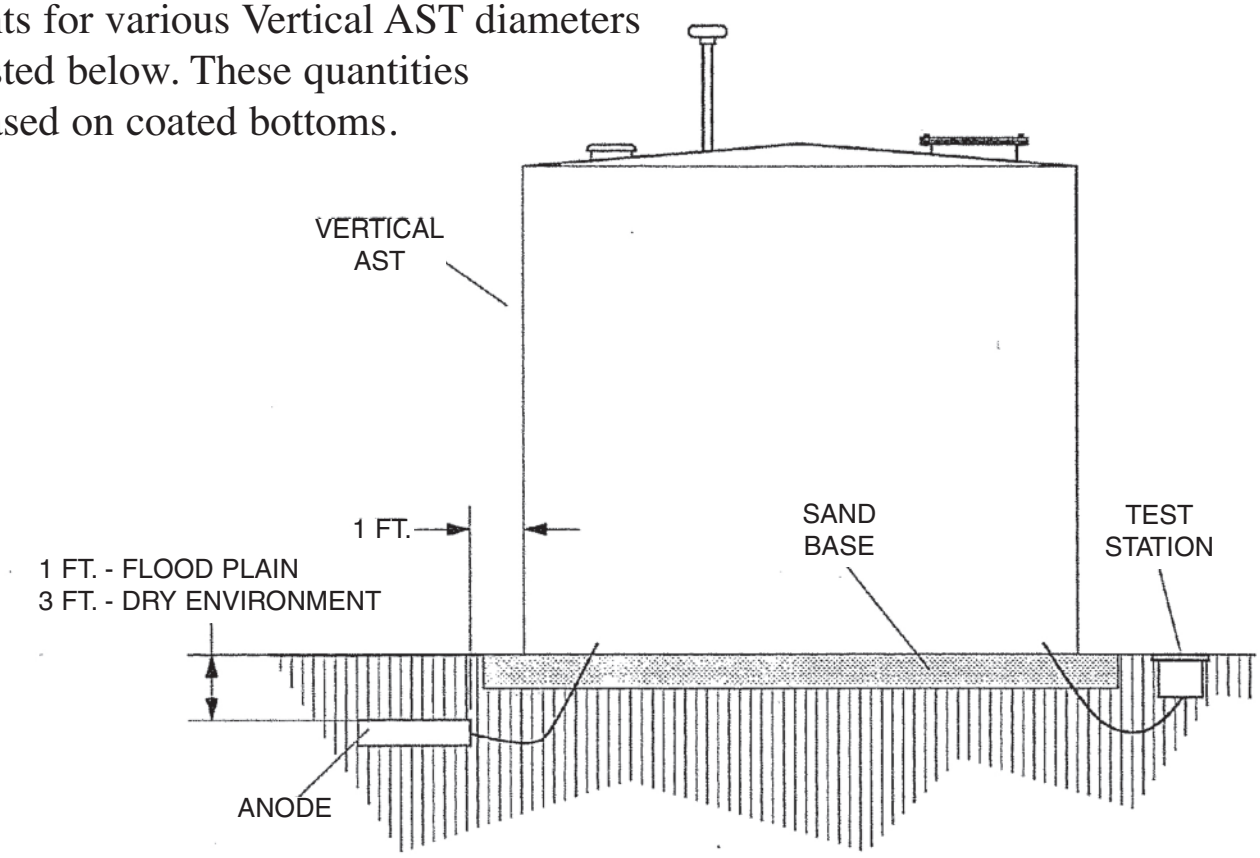
BASED ON 2000 -CM SOIL RESTIVITY		
PIPE SIZE	5 lb ZINC	10 lb ZINC
1" BARE	50'	100'
2" BARE	30'	60'
1" COATED	206'	410'
2" COATED	120'	240'

SUGGESTED INSTALLATION TANK



CORROSION PROTECTION FOR ASTs

Protecting ASTs from corrosion with sacrificial anodes could greatly extend the life of the tank. Even with a sand base. corrosion can still occur on the tank bottom. Over time. damage could lead to leakage and clean up costs, not to mention possible EPA fines. Minimum anode quantities & VERTICAL weights for various Vertical AST diameters are listed below. These quantities are based on coated bottoms.



Tank Bottom Diameter	Quantity of Anodes	Weight/type
6’	1	10# Zinc Hi-Pure
8’	1	10# Zinc Hi-Pure
10’	2	10# Zinc Hi-Pure
12’	2	10# Zinc Hi-Pure

Based on average soil conditons, coated tank bottoms

PART # / ORDERING GUIDE

Clay & Bailey Mfg. Co.
Product/Service Information

C & B Zinc SHG Internal Weld-on Anode

Clay & Bailey introduces the economical solution to preventing internal corrosion of Underground and Aboveground Storage

the C&B Zinc SHG Internal Weld-on Anode.

Part # STI-12-XXXX

The C & B Zinc SHG Internal Weld-on Anode is available in a variety of sizes, configurations and weights. The standard configurations are rectangular and round having 2.5 LBS to 10 LBS of Zinc SHG with welding tabs for easy installation.

We can manufacture custom designs to your requirements.

Give us a call @ 1-800-821-6583 for pricing and lead time.

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Thanks for the opportunity to earn your business

NOTES

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