

CorrStop

Cathodic Protection Corrosion Survey Corrosion Monitoring PVC Powder Coating Wire Mesh

科 普 防 腐

HuangHua **CorrStop**



阴 极 保 护
Cathodic Protection
涂 塑 护 栏 网



黄骅市瑞晨防腐材料有限公司

Huanghua **Risen CorrStop** Ltd.

电话: 0317-5331690; 13903168421, 传真: 0317-5235822

www.CorrStop.Com Corrtech@126.Com

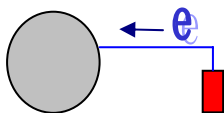
HuangHua Risen CorrStop Ltd.

Economic Development Zone, HuangHua City Hebei China 061100

Tel & Fax: 86-317-5331690; 86-317-5235822; 86-13903168421,

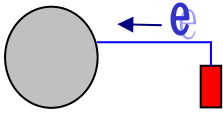
Home Page: www.CorrStop.Com

e-mail: Corrtech@126.com



Main Contents

Company Profile	3
CorrStop Grid Anode	5
Isolating Joints	7
Spark Gap.....	8
Corr-H-Mg-11: Magnesium Anodes (High Potential).....	9
Corr-L-Mg-xxx: Magnesium Anodes (Low Potential).....	10
Corr-Mg-R: Magnesium Anodes (Ribbon)	11
Corr-Al-xxx: CorrStop Aluminum Anodes	12
Corr-Zn-xxx: Zinc Anodes	13
Corr-ground-Zn-cell: Grounding Cell	14
Corr-Si-xxx: High Silicon Cast Iron Anodes.....	15
Corr-MMO-Tub: CorrStop MMO Tubular Anode	17
Corr-MMO-Str: CorrStop Anode Strings	17
Corr-MMO-stds-W: CorrStop Wire Anodes	18
Corr-Stdс Centr: Centralizer.....	18
Corr-Back-C:Back Filling Materials	19
Corr-T/R-A- xxx: Air Cooled Transformer/Rectifier	20
Corr-T/R-O-xxx: Oil Cooled Transformer/Rectifier	20
Corr-cell 802: Permanent CSE Reference Electrodes	20
We manufacture PVC coated wire meshes for fences of high ways and yards.....	21
Typical Projects	21
Customer List	24
NACE CP Instructor.....	25



Company Profile

HuangHua CorrStop is a manufacturer of Cathodic Protection Products. Our products are sold mainly to US and South East Asia market. Along with our development, PVCcoated wire meshes which are used as fences were added to our production capacity. With technical support from some famous international companies, we are still the only company in China that adopts advanced cathodic protection technology such as Grid Anode system for tank bottom CP. We also supply corrosion monitoring, corrosion survey instrument as well.

Tank Bottom Cathodic Protection System Installation in Srilanka .

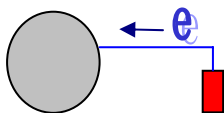
Cathodic Protection System Commissioning in Sudan



Gas Pipeline Cathodic Protection System Installation in India

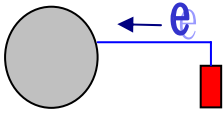
Power Plant in Singapore





Cathodic Protection Technique Training



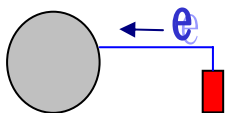


CorrStop Grid Anode

Corr-Tape Anodes and Corr-Stds Bar are made of first class materials and production processes. The substrate is high purity CPTA Titanium, which has well proven mechanical and chemical/corrosion resistance properties, low electrical resistance, making it ideal as the anode for cathodic protection of steel structures in environments such as sand, soil or, concrete. The titanium is coated with an Iridium based Precious Metal Catalyst Coating to suit the specified application environment.

It has been widely used for AST protection.





CorrStop GRID ANODE Materials for Cathodic Protection of Above Surface Tanks

1. CORR-TAPE II ANODE

Coating	Iridium based Noble Metal Oxide
Substrate	Titanium CPTA Gr1
Dimensions	Width 6.4 x thickness 0.64mm
Equivalent radius	2.2mm
Coil length	250/500 ft
Coil weight	3/6 lbs
Surface area	6.6 in ² /ft
Resistance	0.042 Ω per ft
Max CD	42 mA/m
Anode efficiency	150 A.Yr/m ²

2. CORR-STDS BAR

Physical Properties

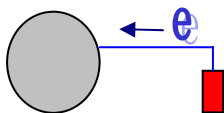
Material	Titanium CP TA Gr1
Dimensions	Width 24mmx thickness 0.5mm
Electrical Resistance	0.013 Ω per ft
Electrical Resistivity	0.000022 Ω -in
Density	0.163 lb/in ³
Tensile Strength	35 kpsi min
Yield strength	25 kpsi min
Hardness	70-80
Equivalent radius	8.0mm

Chemical Composition

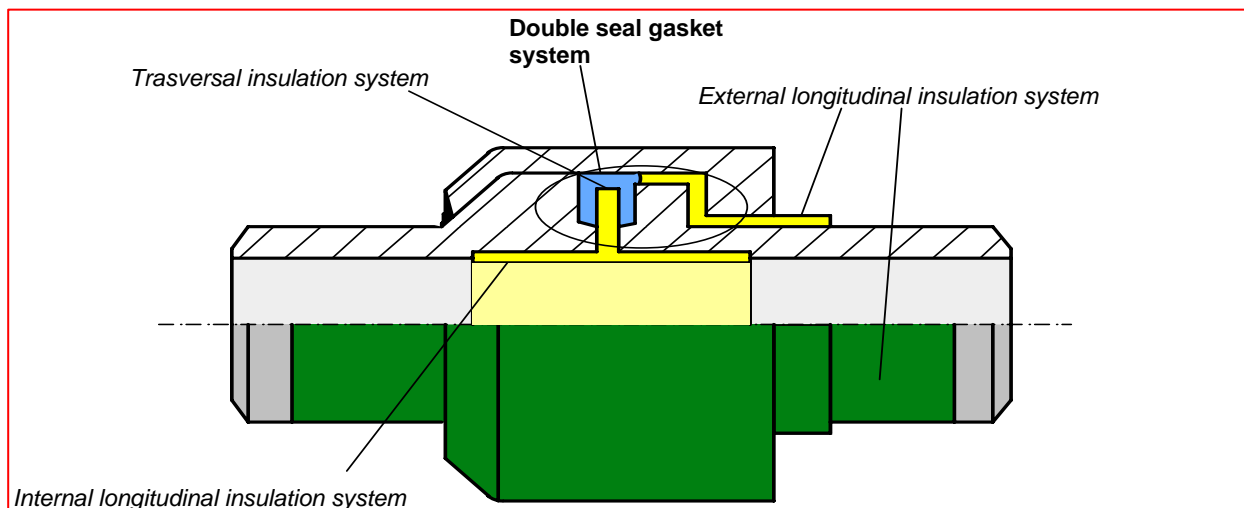
Ni	0.030 % Max
C	0.080 % Max
H	0.015 % Max
Fe	0.200 % Max
O	0.180 % Max
Residuals (each)	0.100 % Max
Residuals (total)	0.400 % Max
Titanium	Remainder

3. CORR-FEEDER CNNT:

Standard Corr Feeder Cnnt is shop fabricated and consists of conductor being exposed at the end of the cable and connected to a 1/4" diameter x 4" long titanium tube. A three inch minimum length of conductor bar shall be resistance welded at two locations to the titanium tube.

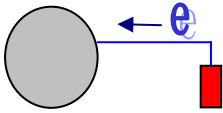


Isolating Joints



The isolating joints are used for sectioning of pipeline so as to prevent current from leaking to foreign structures.

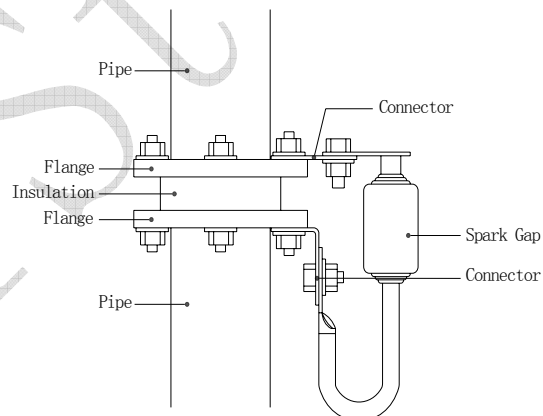
Diameter of the IJ is from 25mm to 1600mm with pressure range of 2.5 MPa to 64 MPa.



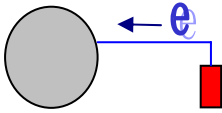
Spark Gap

Characteristic

Installed Type	Aboveground Type
Rated DC breakdown voltage IJP 230	230V
Breakdown voltage tolerance	15%
Lighting impulse current(10/350)	75KA
Nominal discharge current (8/20 us)	100KA
100% standard lightning Spark over voltage (1.2/50)	≤ 2.2 kV
AC spark over voltage (50Hz)	≤ 1 kV
Max. admissible operating voltage	40V AC/DC



It is widely used for Isolating Joint protections



Corr-H-Mg-11: Magnesium Anodes (High Potential)

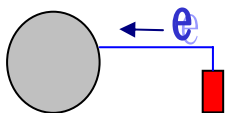
A pure magnesium anode's potential or electrical driving force exceeds aluminum, zinc, and magnesium alloys. It is the choice for high resistance soils where maximum current output is needed. Corr-H-Mg offers maximum electrical driving potential for consistent cathodic protection. The anode can produce more protective DC current for cathodic protection purposes. Efficiency of the anodes is enhanced even further when installed in a backfill of 75% gypsum, 20% bentonite, and 5% sodium sulfate. This special mixture lowers anode-to-earth resistance and allows electrical current to flow more easily to the target structure.



Typical Applications

High potential anodes with open circuit potential of 1.70V-1.75V CSE can be used to protect most buried metallic structures found in a range of soil resistivities. Because they produce a higher driving voltage than conventional magnesium anodes, they are ideally suited for structures buried in soils with resistivities in excess of 2,000 ohm-cm, or containing numerous corrosion "hot spots".

Corr-H-Mg Anode Chemistry for high potential magnesium anodes	
Aluminum	0.01% max
Manganese	0.50 - 1.3%
Copper	0.02% max
Silicon	0.05% max
Iron	0.03% max
Nickel	0.001% max
Others, each	0.05% max
Magnesium	Remainder
Open circuit potential	-1.70 - -1.75CSE
Current efficiency	>50%
Current capacity	2200A.H/Kg



Corr-L-Mg-xxx: Magnesium Anodes (Low Potential)

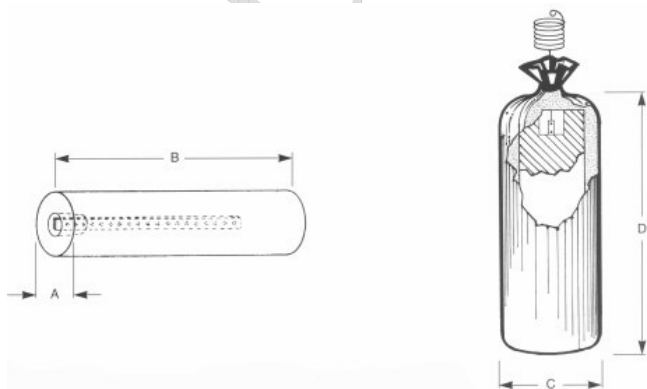
Electrolytic conditions in the soil surrounding a buried structure determine the type of anodes employed in a cathodic protection system. In low-resistivity soil (under 2,000 ohm-cm), CORRSTOP's line of magnesium anodes are the most economical choice. Corr-S-Mg anodes are cast to meet ASTM Standard B80, Alloy AZ63.

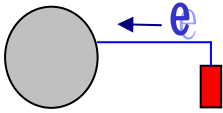
This unique composition allows for even current output and efficient protection. These anodes produce an open circuit potential of 1.53-1.55 volts.

Typical Applications

Corr-S-Mg anodes are recommended for use in low resistivity soils (typically below 2,000 ohm-cm). Because the anodes have a lower driving voltage than high-potential anodes, they are ideally suited for structures where over-protection is of concern. Their lower current output allows these anodes to operate longer than high potential anodes in more conductive environments.

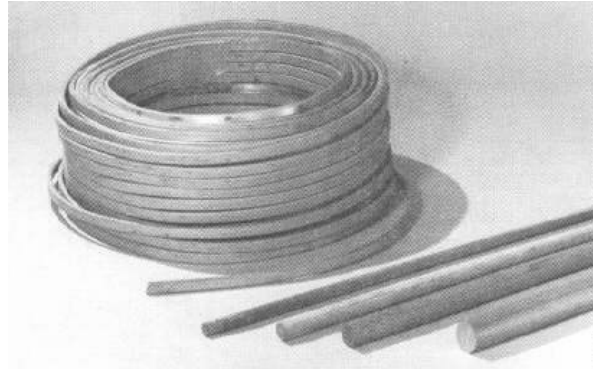
Element	Content %
Aluminum	5.3-6.7
Zinc	2.5-3.5
Manganese	.15 Min.
Silicon	.20 Max.
Copper	.05 Max.
Nickel	.003 Max
Iron	.003 Max.
Impurities	.20 Max.
Magnesium	Remainder





Corr-Mg-R: Magnesium Anodes (Ribbon)

Magnesium anodes have the highest protection capability of any galvanic material. While these anodes are most commonly used in the cast form, certain structures can be more efficiently protected through the use of extruded magnesium configurations. Extruded magnesium anodes have high surface and length ratios in relation to cross sectional size. This allows these anodes to deliver a higher current per weight than standard cast magnesium anodes. By supplying more current, extruded anodes can deliver effective protection to structures buried in high resistivity soils.



CORRSTOP offers a full-line of extruded magnesium anodes in both rod and ribbon forms. Rod anodes are available in an alloy providing 1.4-1.5 volts driving potential (CSE). They are furnished with a variety of connection options and offered in numerous diameters. Ribbon anodes are manufactured in 3/8" x 3/4" flexible coils which can be easily shaped for use on a multitude of protection applications. The ribbon anodes are manufactured in a high potential alloy providing 1.6-1.7 volts driving potential.

Both rod and ribbon anodes are manufactured with a solid steel core in the center of the anode. This core distributes current uniformly through the anode to prevent excessive discharge near the connection end.

Available Configurations

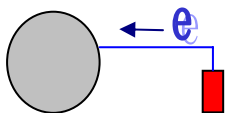


Plain Ends

Ends with Core Wire exposed

Capped Ends

Ends with Lead Wires Attached



Corr-Al-xxx: CorrStop Aluminum Anodes

Galvanic cathodic protection requires the periodic replacement of consumed anodes. In heater treaters and other production vessels, CORRSTOP aluminum anodes make the change-out process easy. These anodes deliver a voltage of 1.05 volts (with respect to a copper sulfate reference cell). The alloy contains nominal percentages of indium, zinc and silicon. This combined with the anode's shape allows CORRSTOP's anodes to offer the best current outputs available. The chemical composition of this anode also has a proven track record for delivering superior protection in produced brines with elevated temperatures.

CorrStop aluminum alloy anodes are available for protection of steel in brackish water and sea water, even at elevated temperatures. Nominal capacity in ambient sea water is 2300 ampere hours/kg. Typical Applications

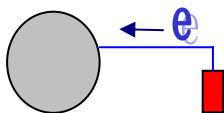


CORRSTOP aluminum anodes are recommended for use in heater-treaters, pressure vessels, oil tanks, barges, or any other type of structure requiring a compact, replaceable aluminum anode.

Element	Content % CorrStop AL III
Zn	2.8-6.5
Si	0.08-0.21 Max.
Hg	-
In	0.01-0.025
Cu	0.006 Max.
Fe	0.12 Max
Other Each	0.02 Max.
Aluminum	Remainder
Electrode Potential (CSE)	-1.05v
Nominal Efficiency	85%
Nominal A.H/kg	2300

The characteristics of the CorrStop AL alloy make it ideal for higher temperature or lower chloride saltwater environments.

Offshore Bracelet Anodes are primarily designed for weld attachment to steel pipes. CorrStop I is not recommended for areas where water flow is restricted. CorrStop III is recommended for any saltwater application but especially in saline mud and lower chloride water environments.



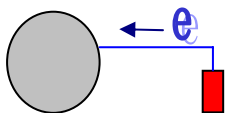
Corr-Zn-xxx: Zinc Anodes

Zinc anodes have been used since the 19th century 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 select soils and brackish waters. CORRSTOP offers standard zinc anodes made to ASTM B-418, Type II standard alloy. These anodes generate an open circuit potential of -1.10 volts (with respect to a Cu/CuSO₄ reference). Made from 99.99% pure high-grade zinc, CORRSTOP zinc anodes offer a 90% current efficiency and deliver a current capacity of 870A.H/Kg. This high purity composition assures the anodes are more resistant to pacifying films.

Element	Content % MIL-A-18001 (ASTM B-418 Type I)	ASTM B-418 Type II
Al	0.1 - 0.5	0.005 max
Cd	0.02 - 0.07	0.003 max
Fe	0.005 max	0.0014 max
Pb	0.006 max	0.003 max
Cu	0.005 max	0.002 max
Zinc	Remainder	Remainder

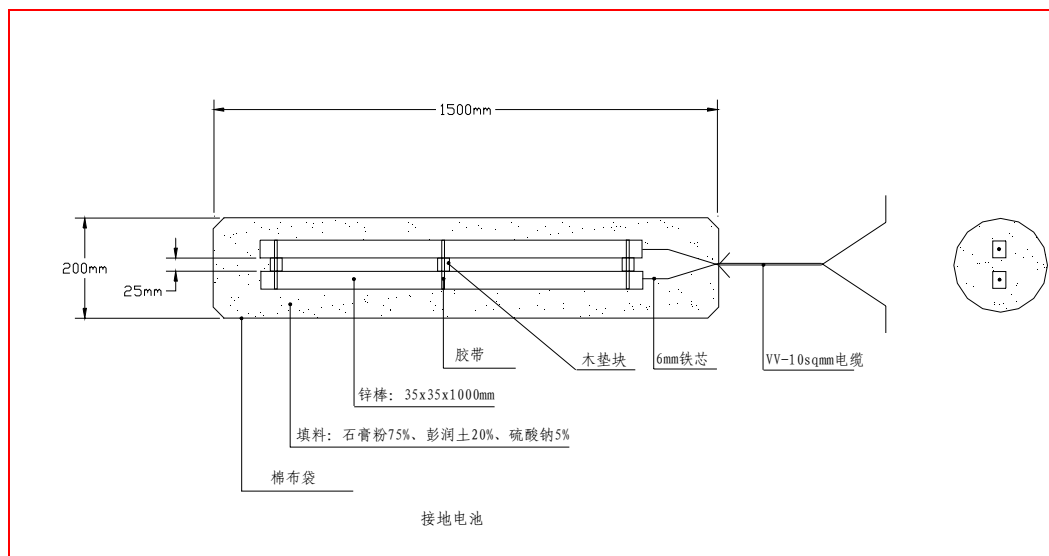
Zinc anodes are recommended for use in soils with resistivities below 1,000 ohm-cm. Because these anodes have a driving voltage less than magnesium, they are most effective on well-coated steel structures requiring minimal current output. Packaged anodes are commonly used as grounding cells on electrical equipment and across insulators on pipelines to limit high voltages. Typical grounding applications include pipelines, power stations, storage tanks, and transmission line towers and cables. Zinc anodes should not be used in extremely alkaline (above 9.2 pH), acidic (below 5 pH), or high temperature (above 50° C) electrolytes.





Corr-ground-Zn-cell: Grounding Cell

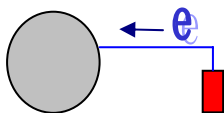
Two Zinc Type II anodes separated with 25mm insulating spacers, cathodic protection cable crimped securely to each anode. Both anodes centered in one cloth bag and surrounded with low resistance backfill



Zinc anodes provide a very simple, cost effective, maintenance free method of corrosion control for buried or immersed metals such as iron, steel, aluminum, copper, etc. It is especially useful for unattended applications; those where other cathodic protection systems requiring monitoring, frequent maintenance or an external power source cannot be possible.

Applications

- External areas of steel pipe, especially in difficult environments such as below grade in rocky and mountainous terrain, thawed zones in permafrost.
- Interior bottom areas of oil storage tanks where salt water settles out.
- Exterior bottom of ASTs.
- Interstitial spaces between old, corroded and new storage tank bottoms.
- In the limited space between inner and outer casings of wells of various kinds.
- For grounding steel tower footings of overhead power systems.
- To provide cathodic protection as well as to dissipate induced AC current on coated steel pipe.
- For personal safety as well as corrosion protection. To ground valves and test stations of pipelines which are subject to induced AC current and fault currents.



Corr-Si-xxx: High Silicon Cast Iron Anodes

The consumption rate of High Silicon Cast Iron anodes has been found to be between 0.4 and 2.5 kgs per ampere-year. For anodes of the same chemistry and microstructure, variance in consumption is primarily due to the chemical and physical characteristics of the anode environment. The consumption rate does not appear to be significantly affected by current density (amperes per unit area of anode surface). The use of coke breeze around the anode in soil ground beds will tend to lower the consumption rate. A generally accepted design guideline for anodes buried in coke breeze is 0.35 kg per amp-year.

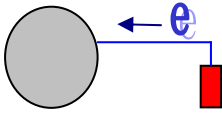
Current Density Limitations

The maximum stable current density of discharge may be limited by the environment regardless of the anode type. In free flowing water or in very wet soil ground beds, there is very little restriction on current density. However, anodes buried in clay soils tend to suffer "electro-osmotic drying", a phenomenon of magnitude directly proportional to current density. For any particular soil with electro osmotic characteristics there will tend to be a critical maximum current density at the anode soil (or coke breeze to soil) interface, above which progressive drying occurs, with corresponding increases in anode-soil resistance. Drying is usually reversible by increasing soil moisture and/or lowering current density.

As a guideline to minimization of electro-osmotic drying in groundbeds installed in clay soils, use of the following design maxima has resulted in stability of 90 to 95 percent of beds in areas of high osmotic drying potential.

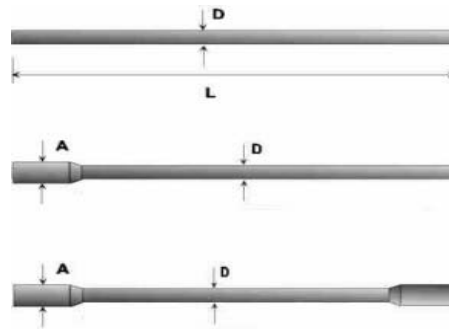
Average soil resistivity along groundbed, Ohm-cm	Maximum Amps per anode in a coke breeze column, 12" OD by 60" long	Equivalent current density on surface of coke breeze column, Milliamps/sq ft
Less than 1000	2.00	127 (see note)
1000 - 1500	1.75	111 (see note)
1500 - 2000	1.50	96
2000 - 3000	1.25	80
Over - 3000	1.00	64

Note: For greater success, limit current density to less than 1000 mA/sqm ft for soils of less than 1500 ohm cm resistivity.



Composition

Silicon	14.00 - 14.75%
Chromium	3.25 - 5.00%
Manganese	0.75-1.5% max
Carbon	0.70 -1 .10%
Copper	0.50% max
Molybdenum	0.20% max



Cannistered anodes are primarily designed for special applications such as wet, marshy areas or soil conditions where caving is likely to occur. Benefits such as reduced installation costs and convenience of handling make the canister attractive for standard applications also.

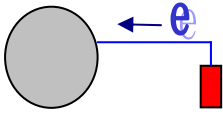
Features:

- Flexibility of anode selection (Graphite, Cast Iron, or Mixed Metal Oxide)
- Top end cap is recessed for coiled lead wire protection during shipment
- Anodes are centered while the coke breeze is carefully vibration tamped to insure good compaction and proper coverage
- Coke breeze is high quality metallurgical grade backfill or petroleum coke backfill

Canister Size

4" x 84"
5" x 54"
6" x 72"
6" x 84"
6" x 96"
8" x 72"
8" x 84"
8" x 96"
10" x 84"
10" x 96"
12" x 84"
12" x 96"





Corr-MMO-Tub: CorrStop MMO Tubular Anode

CORRSTOP MMO anodes utilize an innovative and patented design: a titanium base with a mixed metal oxide conductive coating. This coating forms a solid solution with the titanium substrate and is an excellent electronic conductor.

The mixed oxides are formed on the surface through a process of thermal decomposition, creating an oxide film which is typically anhydrous and almost insoluble in acids. Thermal control of this process causes the mixed oxides to recrystallize, further increasing their chemical stability.

CORRSTOP Tubular Anodes are designed for application in:



- Groundbeds
- Deep
- Shallow Vertical
- Horizontal
- Open Hole
- Marine
- Marine
- Sea Water
- Brackish Water
- Mud
- Freshwater

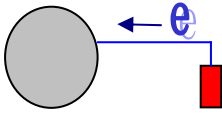
Corr-MMO-Str: CorrStop Anode Strings

A CORRSTOP "anode string" is comprised of electrical cable threaded through one or more tubular anodes. Electrical connection between the anode and cable is via a patented, mechanical crimping process. The crimp connection is likewise utilized to seal the anode around the cable at both ends.

Since only a single cable lead protrudes from the hole, the junction box is eliminated when using a CORRSTOP® string - reducing the cost of materials and labor.

String assemblies are also available in a looped configuration with two tails, or as multiple, staggered strings for system redundancy and maximum current distribution throughout the groundbed.

Like any impressed current anode, proper groundbed design is paramount to optimum, low resistance performance. CORRSTOP recommends the use of quality, conductive, carbonaceous backfill, a vent pipe and Centralizers, suitable cable, and good design practices and understanding.



Corr-MMO-stds-W: CorrStop Wire Anodes

CORRSTOP® Wire Anodes are designed for application in:

- Canistered Anodes
- Continuous Horizontal Groundbeds
- Discontinuous Horizontal Groundbeds
- Shallow Vertical Groundbeds
- Above Ground Storage Tanks
- Underground Storage Tanks
- Natural Water
- Electrical Cable Shielding
- Water Storage Tanks
- Water Treatment Equipment

CORRSTOP wire anodes are copper cored titanium wire with a mixed metal oxide coating. The mixed metal oxide is a crystalline, electrically-conductive coating that activates the titanium and enables it to function as an anode.

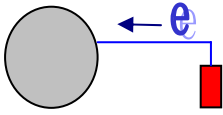
CORRSTOP wire anodes are manufactured in two diameters, 1.5 millimeter and 3.0 millimeter. When applied on titanium, the coating has an extremely low consumption rate measured in terms of milligrams per year. As a result of this low consumption rate, the wire diameter remains nearly constant during the life of the anode. Current output can reach 820mA/m.

Corr-Stds Centr: Centralizer

Maximize Anode Current Output Minimize Resistance. The purpose of an impressed current anode in a groundbed is to electronically conduct current to the coke column. In order for this to work, it is critical that the anode be surrounded by well compacted carbonaceous backfill.

In the installation of CORRSTOP tubular anodes, a common practice is to "tape" the anodes to the vent pipe - feeding a single assembly down the hole. However, this can result in the anode being too close to the vent pipe to allow the backfill to fill around the entire anode surface during pumping operations. To make matters worse, the non-conductive vent pipe can serve to shield portions of the anode in contact with it - resulting in uneven current discharge of the anode.

An Engineered Practice



To attach the CORRSTOP tubular anodes to the vent pipe, yet allow sufficient spacing between the anode and the vent pipe, engineers at CORRSTOP have developed the centralizer. The centralizer's dual function is to centralize the anode in the hole, and at the same time, provide 1" of separation between the anode and the vent pipe.

Corr-Back-C:Back Filling Materials

Impressed current cathodic protection is an effective method for defending buried metallic structures against corrosion attack. While some of the anodes used for this type of protection can operate without a backfill, the use of a backfill will greatly enhance performance.

Backfill is recommended for use around impressed current anodes. It performs the following functions:

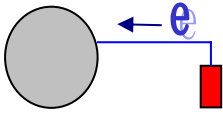
Lowers anode-to-soil resistance

- Eliminates gas blocking (when vented) - maintains low resistance
- Permits use of higher operating currents per anode
- Eliminates high drain points and resulting selective attack on anodes
- Greatly extends life of groundbed



Calcined Petroleum Coke

- | | |
|-------------------------|----------------|
| (1) Size: | 1-10mm |
| (2) Real desity | 2.06—2.10g/cm3 |
| (3) ASH | <0.5% |
| (4) Volatility | <0.5% |
| (5) Carbon | >98.5%-99.5% |
| (6) Moisture | <0.3% |
| (7) Powder resistivity: | <0.5 Ohm.cm |
| (8) Sulphur | <0.5% |
| (9) Packing: | 25kg bag |



Corr-T/R-A- xxx: Air Cooled Transformer/Rectifier

Hheavy-duty transformer with 15% over-design for reserve capacity. Silicon diodes protected by surge suppressors and current limiting fuses.

Simplified design reduces manufacturing costs, which provides an economical rectifier ideally suited to most applications. Rectifier components are mounted on chassis panel for easy removal.

- The T/R is potential controlled output; constant current out put and constant voltage output.
- Set potential : -0.50 - -3.00 V CSE
- Ripple voltage. : $\leq \pm 15\text{mV}$
- Surge absorber circuit and output lighting arrester
- Air cooled pad mounted.
- Ref. cell controlled constant potential output c/w manual override.

Corr-T/R-O-xxx: Oil Cooled Transformer/Rectifier

The Universal oil-cooled rectifier is a heavy-duty, rugged rectifier designed to operate under severe conditions. The cabinet is constructed of minimum 11-gauge material reinforced with external fins for added strength and cooling. All units are equipped with hinged lid, lid brace and heavy-duty draw pull latches as standard features.

Explosion-proof models for Class 1, Group D environments comply with UL Standard 698.

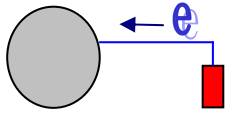
Corr-cell 802: Permanent CSE Reference Electrodes

Permanent CSE Reference Electrodes for Underground and Concrete Encased Applications (Space-Age Porous Ceramic)

Features

- Greater surface area than other standard electrodes allows greater accuracy readings.
- Electrode does not dry out in arid soils. Moisture content change in soil has no effect on electrode
- Copper-copper sulfate electrodes are equipped with advanced chloride ion trap to prevent chloride contamination.
- Stable and with a design life of 10years. Prepackaged.





CorrStop

Cathodic Protection Corrosion Survey Corrosion Monitoring PVC Powder Coating Wire Mesh

We manufacture PVC coated wire meshes for fences of high ways and yards.



Galvanized Wire Mesh



Galvanized Wire Mesh



PVC Coated Wire Mesh



PVC Coated Wire Mesh



PVC Coated Wire Mesh for Transmission Rail Way



Wire Mesh for Station

Typical Projects

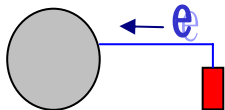
HuangHua Risen CorrStop Ltd.

Economic Development Zone, HuangHua City Hebei China 061100

Tel & Fax: 86-317-5331690; 86-317-5235822; 86-13903168421,

Home Page: www.CorrStop.Com

e-mail: Corrtech@126.com



CorrStop

Cathodic Protection Corrosion Survey Corrosion Monitoring PVC Powder Coating Wire Mesh



H.C. Feng

*is a member in good standing
of the Association*

September 1996

David M. Adkins
Executive Director



美国防腐蚀工程师协会会员证



美国防腐蚀工程师协会 2 级证



坦桑尼亚供水管道阴极保护
Cathodic Protection System Design in Tanzania



印度东气西输管道工程防腐补口
India East to West Gas Pipeline Joint Coating



储罐阴极保护网状阳极系统安装
MMO Grid System for Tank Bottom CP



叙利亚管道腐蚀检测
Pipeline Corrosion Survey in Syria

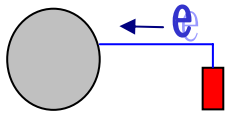
HuangHua Risen CorrStop Ltd.

Economic Development Zone, HuangHua City Hebei China 061100

Tel & Fax: 86-317-5331690; 86-317-5235822; 86-13903168421,

Home Page: www.CorrStop.Com

e-mail: Corrtech@126.com



中-哈石油管道阴极保护监理
Cathodic Protection Supervision for China-Kazakstan



格-拉管道阴极保护系统改造
Ge-La Pipeline CP Retroffiting



阴极保护用整体式绝缘接头
Monolithic Isolating Joints



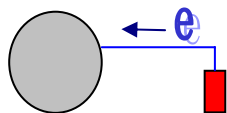
长效硫酸铜参比电极
Permanent Cu/CuSO₄ Reference Cell



测试电缆连接用铜焊机、焊钉
Pin Brazing Unit and Pins

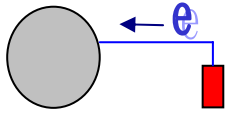


塑料测试桩接线帽
Test Station Head



Customer List

日期	用户	工程量 (储量)	地点
1996 年 10 月	威宏石化仓储码头有限公司	6x5000 m ³ 6x10,000 m ³	广东惠州
1999 年 05 月	燕山石化公司	2x100,000 m ³	北京房山区
1999 年 09 月	渤海石油 SZ36-1	2x20,000 m ³ 4x50,000 m ³	辽宁绥中镇
1999 年 11 月	中石化管道储运公司	1x50,000 m ³	河北河间
1999 年 12 月	塔指呀哈油田	1x3000 m ³	新疆塔中
2000 年 06 月	燕山石化公司	2x100,000 m ³	北京房山区
2000 年 09 月	中石化管道储运公司	2x50,000 m ³	山东东营
2000 年 11 月	辽河油田	1x2000 m ³	辽河油田
2001 年 04 月	齐华润石化有限公司	1x100,000 m ³	山东青岛
2001 年 06 月	中石化管道储运公司	1x50,000 m ³	山东东营
2001 年 07 月	中石化管道储运公司	2x50,000 m ³	山东临邑
2001 年 10 月	中油兰-成-渝管道	2x20000 m ³ 10x10000 m ³	兰州 重庆
2001 年 11 月	延长油矿油品管输工程	5x10000 m ³	延安姚店
2002 年 02 月	中油燃料油股份有限公司	3x30000 m ³ 2x20000 m ³	温州洞头县小门岛
2002 年 04 月	新疆油田公司	2x50000 m ³	新疆克拉玛依
2002 年 06 月	玉门油田	3x5000 m ³	甘肃玉门
2002 年 06 月	CYLON PETROLEUM CORPORATION	29x10000 m ³ 3x5000 m ³	斯里兰卡科伦波
2002 年 07 月	塔里木油田	4x50000 m ³	新疆轮南
2002 年 09 月	青海油田	3x30,000 m ³	青海省格尔木
2002 年 09 月	Philips China Inc.	明珠号油轮	河北省秦皇岛三海关
2002 年 10 月	大港油田公司	4x20,000 m ³	天津大港区
2003 年 03 月	西北油田公司	2x10,000 m ³	新疆塔河
2003 年 08 月	延长油矿	1x20,000 m ³	延安姚店
2003 年 11 月	中石油管道研究院	1x3000 m ³	广东湛江
2003 年 10 月	苏丹 GNPOC 防腐工程师阴极保护培训	2 期	河北廊坊市
2004 年 05 月	渤海石油 S36-1 二期工程	2x50,000 m ³	辽宁绥中镇
2004 年 06 月	格拉管道阴极保护系统改造	1200km	青海-西藏
2004 年 06 月	克拉油田桑南阴保工程	2x20,000 m ³	新疆库尔勒
2004 年 08 月	国家石油战略储备库镇海基地	10x100,000 m ³	浙江-宁波
2004 年 09 月	中石油锦州石化公司	2x100,000 m ³	辽宁锦州港
2004 年 11 月	冀东油田	5000 m ³	河北迁安
2004 年 11 月	中石油华北石化公司	6x10,000 m ³	河北任丘
2005 年 01 月	中油天然气股份公司	3x20,000 m ³	广东湛江
2005 年 02 月	中油管道公司	2x50,000 m ³	新疆阿拉山口
2005 年 03 月	中油大港集团公司	3x20,000 m ³	天津大港
2005 年 09 月	华北油田	4x50,000	河北任丘市
2005 年 10 月	哈中原油管道阴极保护设计、安装监理	900km	哈撒克斯坦-中国
2005 年 11 月	利比亚西部管道阴极保护调试	2x525km	利比亚美丽塔
2006-2008. 01	管道局印度东气西输管道工程(阴极保护、防腐补口协调、管理)	1038km	印度
2008 年 06 月	辽阳化纤工程有限公司	6 x20,000 m ³	辽宁盘锦
2008 年 08 月	中石油东北销售分公司	6x30,000; 2x20,000 m ³	黑龙江大庆市
2008 年 08 月	中石油管道局莫桑比克贝拉油库	7x10,000 m ³	莫桑比克贝拉港



NACE CP Instructor

April 10 , 2009

Mr. Feng Hong Chen
Huang Hua Risen CorrStop Ltd.
Room 503, shang Dujinmao
Xin Hua Road
Lang Fang Hebei
CHINA



Dear Mr. Feng:

Congratulations on your approval as an instructor for the NACE Cathodic Protection Level 1 Program. Your contract, as well as the course materials you will require in your capacity as a NACE instructor, is being shipped to you under separate cover. An Instructor name badge is being made for you and will be sent when completed.

We look forward to having you on the instructor team. Please contact me should you have any questions, or if I may be of further assistance.

Sincerely,

Karla Smith
Sr. Manager, Education
Karla.smith@nace.org
281-228-6230

cc: O. Moghissi, Chairman
Instructor and Peer Quality Subcommittee