

PREPACKAGED MAGNESIUM ANODES

PRODUCT DATA SHEET



Prepackaged Magnesium Anodes

Our prepackaged magnesium anode is mainly composed of a cast magnesium anode centrally packed in a permeable cotton bag or cardboard tube with highly hygroscopic backfill. Normally, it is firmly wrapped in a PE bag or paper outer lining (usually for shipping purposes) which should be removed prior to installation.

The added backfill helps to decrease the resistance of the anode to the ground, retains moisture and allows for a better efficiency and homogeneous consumption of the anode, thus creating an efficient anode bed.

Environment-friendly Backfill

Our backfill is prepared with the following naturally degradable and recyclable materials according to a certain weight ratio:

- Hydrated Gypsum: 75%
- Bentonite: 20%
- Sodium Sulphate: 5%

The content of harmful elements in the backfill is lower than industrial safety standards, which will not bring any pollution to the surroundings.

- Cadmium(Cd): ≤ 1 ppm
- Arsenicum(As): ≤ 1 ppm
- Mercury(Hg) : ≤ 1 ppm
- Phosphorus(P): ≤ 10 ppm

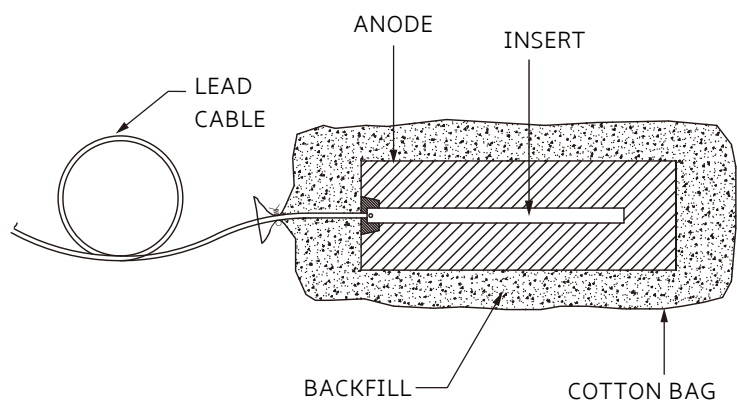
Multiple Cable Options

Our standard lead cable is 10ft. AWG #12 Solid THHN/THWN. PVC/PVC, XLPE/PVC, HMWPE or TW cable can also be supplied with customized sizes, lengths and colours upon request. The cable can be connected by direct brazing, mechanical or welding to ensure high pull strength and low connection resistance.

Easy Installation

Prepackaged anode is appropriate for direct burial. It simplifies the on-site construction process for convenient and fast installation. The original operation at the construction site will be completed in the factory, which effectively ensure the construction and installation quality of the anode ground bed.

■ Anode Packed in Cotton Bag



■ Anode Packed in Cardboard Tube



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CHEMICAL COMPOSITION

Our magnesium anode is casted from high-purity magnesium ingot and advanced technology. There are two alloy types with different electro-potential as below:

■ High Potential

High potential anode is manufactured from 99% pure magnesium, according to ASTM B843-M1C standard.

Element		Content (%)
Aluminum	(Al)	0.010 max.
Manganese	(Mn)	0.500 ~ 1.300
Zinc	(Zn)	—
Silicon	(Si)	0.050 max.
Copper	(Cu)	0.020 max.
Iron	(Fe)	0.030 max.
Nickel	(Ni)	0.001 max.
Single Impurity	(Each)	0.050 max.
Other Impurities	(Total)	0.300 max.
Magnesium	(Mg)	Remainder

■ Standard Potential

Standard potential anode is manufactured in accordance with ASTM B843-AZ63B standard.

Element		Content (%)
Aluminum	(Al)	5.300 ~ 6.700
Manganese	(Mn)	0.150 ~ 0.700
Zinc	(Zn)	2.500 ~ 3.500
Silicon	(Si)	0.100 max.
Copper	(Cu)	0.020 max.
Iron	(Fe)	0.003 max.
Nickel	(Ni)	0.002 max.
Single Impurity	(Each)	0.050 max.
Other Impurities	(Total)	0.300 max.
Magnesium	(Mg)	Remainder

ELECTROCHEMICAL PROPERTIES

■ High Potential

The high driving voltage means greater protection can be delivered from fewer anodes. Therefore, it is capable to be used in dry or sandy areas where resistivities exceeding 2,000 Ω .cm, or for structures containing numerous corrosion hot-spots.

Technical Measurement	Performance
Open Circuit Voltage	1.70 ~ 1.75 Volts
Closed Circuit Voltage	1.58 ~ 1.62 Volts
Current Capacity	1100 A.h/kg (500 A.h/lbs)
Current Efficiency	50% min.

■ Standard Potential

The zinc and aluminum elements lower the cost of the anode, but they also lower the driving potential. It is ideal for soil conditions where resistivity is under 20 Ω .m.

Technical Measurement	Performance
Open Circuit Voltage	1.50 ~ 1.55 Volts
Closed Circuit Voltage	1.45 ~ 1.50 Volts
Current Capacity	1230 A.h/kg (550 A.h/lbs)
Current Efficiency	55% min.

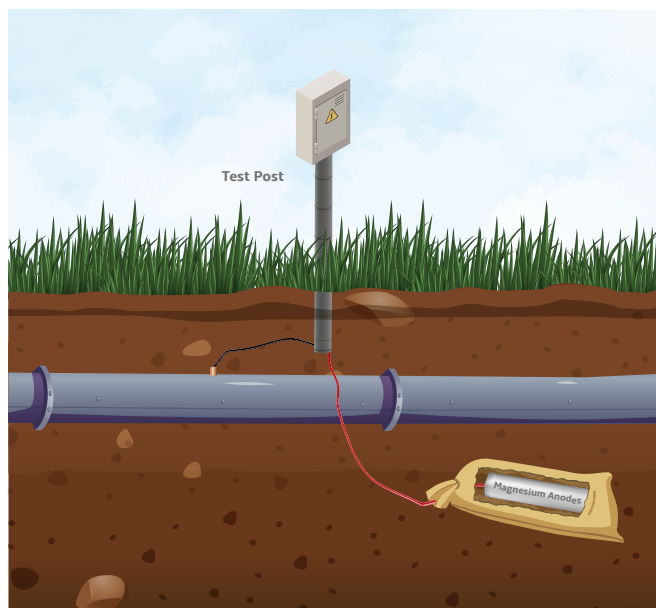
* The open/closed circuit voltage is with respect to a saturated calomel electrode.



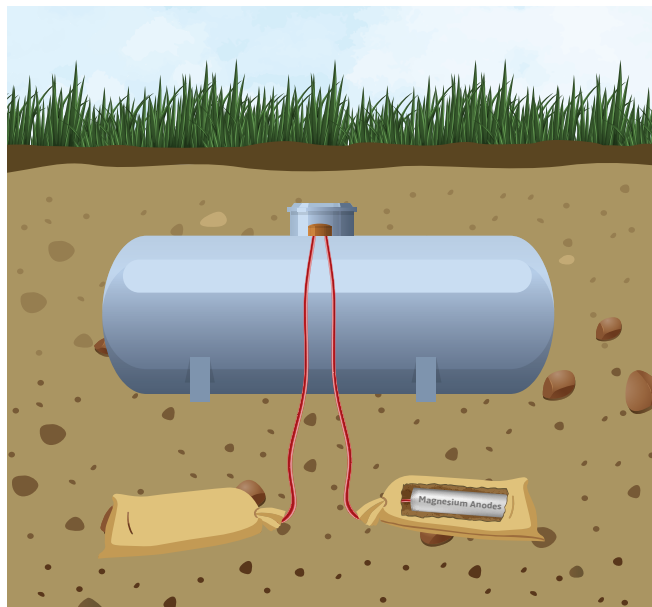
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PRACTICAL APPLICATION

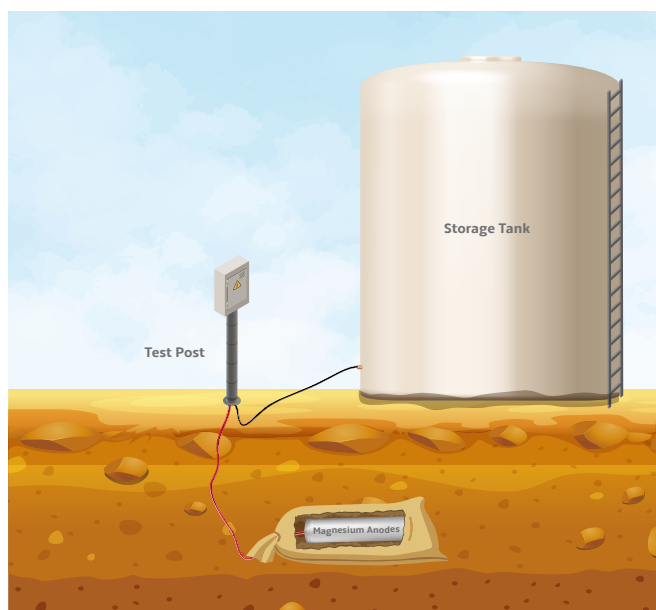
Magnesium anodes are economical solutions that can be used for land application, especially for buried structures with high resistivity of environment. They are generally applied in the sacrificial anode cathodic protection (SACP) system of onshore pipelines, underground storage tanks (USTs), external bottom of aboveground tanks, etc. Bare magnesium anode is usually comes in copper cable with certain type of insulation and prepacked in a linen bag containing a rapid wetting, moisture-retaining backfill, which reduces the electrolyte resistivity adjacent to the anode for improved performance.



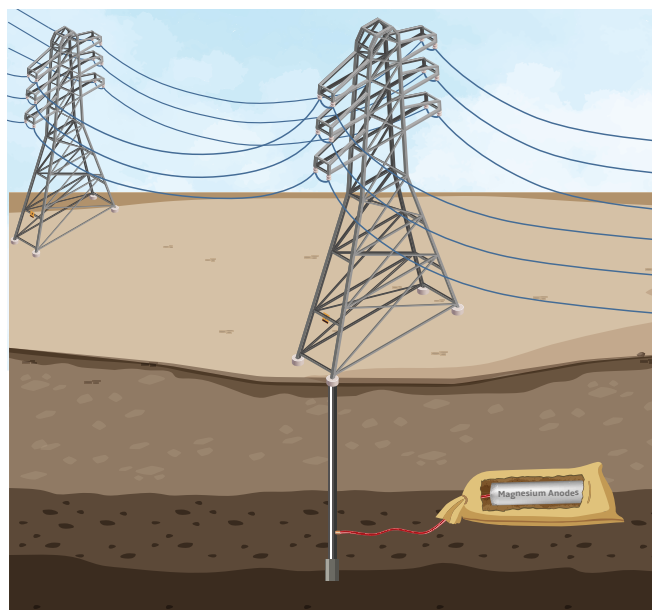
Protect the external surface of buried metallic transmission pipelines



Protect the external surface of underground steel propane tank



Protect the outer surface of aboveground storage tank floor



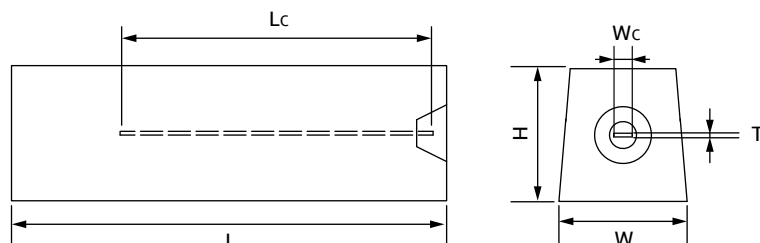
Protect the steel pylon foundations which are in direct contact with the soil



Prepackaged Magnesium Anodes

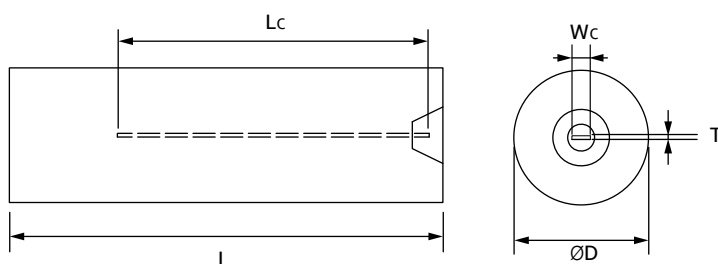
SPECIFICATIONS

■ Square Shape Anode



Item No.	Anode Dimensions (W x H x L)		Insert Dimensions		Prepackaged Size		Weight	
	High Potential	Standard Potential	Wc	T	Diameter	Length	N.W	G.W
YX-MG-B3S3	86.3 x 76 x 120 mm (3.4" x 3" x 4.7")	86.3 x 76 x 115 mm (3.4" x 3" x 4.5")	14 mm (0.6")	1.5 mm (0.06")	160 mm (6.3")	300 mm (11.8")	1.4 kg (3.1 lbs)	8.5 kg (18.7 lbs)
YX-MG-B5S3	86.3 x 76 x 204 mm (3.4" x 3" x 8")	86.3 x 76 x 198 mm (3.4" x 3" x 7.8")	14 mm (0.6")	1.5 mm (0.06")	160 mm (6.3")	350 mm (13.8")	2.3 kg (5 lbs)	10 kg (22 lbs)
YX-MG-B9S3	86.3 x 76 x 365 mm (3.4" x 3" x 14.4")	86.3 x 76 x 345 mm (3.4" x 3" x 13.6")	14 mm (0.6")	1.5 mm (0.06")	160 mm (6.3")	550 mm (21.7")	4.1 kg (9 lbs)	16 kg (35.3 lbs)
YX-MG-B17S3	86.3 x 76 x 680 mm (3.4" x 3" x 26.8")	86.3 x 76 x 650 mm (3.4" x 3" x 25.6")	14 mm (0.6")	1.5 mm (0.06")	160 mm (6.3")	800 mm (31.5")	7.7 kg (17 lbs)	23 kg (50.7 lbs)
YX-MG-B32S5	117 x 127 x 563 mm (4.6" x 5" x 22.2")	117 x 127 x 535 mm (4.6" x 5" x 21")	20 mm (0.8")	2 mm (0.08")	195 mm (7.7")	700 mm (27.6")	14.5 kg (32 lbs)	30 kg (66.1 lbs)
YX-MG-B48S5	117 x 127 x 845 mm (4.6" x 5" x 33.3")	117 x 127 x 820 mm (4.6" x 5" x 32.3")	20 mm (0.8")	2 mm (0.08")	200 mm (7.9")	1000 mm (39.4")	21.8 kg (48.1 lbs)	45 kg (99.2 lbs)
YX-MG-B60S4	102 x 102 x 1485 mm (4" x 4" x 58.5")	102 x 102 x 1515 mm (4" x 4" x 59.6")	20 mm (0.8")	3 mm (0.12")	190 mm (7.5")	1650 mm (65")	27.3 kg (60 lbs)	68 kg (150 lbs)

■ Circular Shape Anode

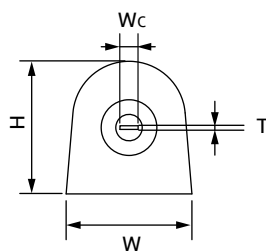
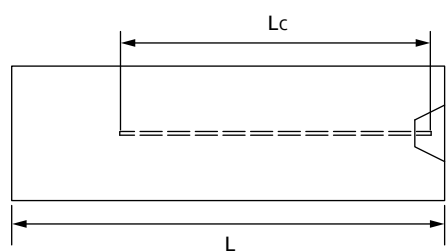


Item No.	Anode Dimensions (ØD x L)		Insert Dimensions		Prepackaged Size		Weight	
	High Potential	Standard Potential	Wc	T	Diameter	Length	N.W	G.W
YX-MG-BR50	Ø114 x 288 mm (Ø4.5" x 11.3")	Ø114 x 275 mm (Ø4.5" x 10.8")	25 mm (1")	2 mm (0.08")	160 mm (6.3")	480 mm (18.9")	5 kg (11 lbs)	13.5 kg (29.8 lbs)
YX-MG-BR100	Ø114 x 565 mm (Ø4.5" x 22.2")	Ø114 x 545 mm (Ø4.5" x 21.5")	25 mm (1")	2 mm (0.08")	175 mm (6.9")	710 mm (28")	10 kg (22 lbs)	25 kg (55.1 lbs)
YX-MG-BR145	Ø146 x 505 mm (Ø5.75" x 19.9")	Ø146 x 475 mm (Ø5.75" x 18.7")	25 mm (1")	2 mm (0.08")	200 mm (7.9")	650 mm (25.6")	14.5 kg (32 lbs)	30 kg (66.1 lbs)
YX-MG-B50R8	Ø203 x 406 mm (Ø8" x 16")	Ø203 x 395 mm (Ø8" x 15.6")	25 mm (1")	2 mm (0.08")	280mm (11")	580mm (22.8")	22.7kg (50 lbs)	52kg (114.5 lbs)
YX-MG-BR273	Ø114 x 1524 mm (Ø4.5" x 60")	Ø114 x 1450 mm (Ø4.5" x 57.1")	25 mm (1")	2 mm (0.08")	175 mm (6.9")	1650 mm (65")	27.3 kg (60 lbs)	58 kg (127.9 lbs)



Prepackaged Magnesium Anodes

D-Shape Anode



Item No.	Anode Dimensions (W x H x L)		Insert Dimensions		Prepackaged Size		Weight	
	High Potential	Standard Potential	Wc	T	Diameter	Length	N.W	G.W
YX-MG-B5D2	70 x 76 x 310 mm (2.8" x 3" x 12.2")	70 x 76 x 305 mm (2.8" x 3" x 12.0")	14 mm (0.6")	1.5 mm (0.06")	127 mm (5")	450 mm (17.7")	2.3 kg (5 lbs)	8.2 kg (18.1 lbs)
YX-MG-B5D3	89 x 95 x 190 mm (3.5" x 3.7" x 7.5")	89 x 95 x 180 mm (3.5" x 3.7" x 7.1")	14 mm (0.6")	1.5 mm (0.06")	160 mm (6.3")	300 mm (11.8")	2.3 kg (5 lbs)	9 kg (19.8 lbs)
YX-MG-B9D2-1	63.5 x 66 x 650 mm (2.5" x 2.6" x 25.6")	63.5 x 66 x 640 mm (2.5" x 2.6" x 25.2")	14 mm (0.6")	1.5 mm (0.06")	130 mm (5.1")	810 mm (31.9")	4.1 kg (9 lbs)	25 kg (55.1 lbs)
YX-MG-B9D2	70 x 76 x 545 mm (2.8" x 3" x 21.5")	70 x 76 x 540 mm (2.8" x 3" x 21.3")	14 mm (0.6")	1.5 mm (0.06")	140 mm (5.5")	690 mm (27.2")	4.1 kg (9 lbs)	16 kg (35.3 lbs)
YX-MG-B9D3	89 x 95 x 345 mm (3.5" x 3.7" x 13.6")	89 x 95 x 325 mm (3.5" x 3.7" x 12.8")	14 mm (0.6")	1.5 mm (0.06")	160 mm (6.3")	550 mm (21.7")	4.1 kg (9 lbs)	16 kg (35.3 lbs)
YX-MG-B14D2	70 x 76 x 850 mm (2.8" x 3" x 33.5")	70 x 76 x 815 mm (2.8" x 3" x 32.1")	14 mm (0.6")	1.5 mm (0.06")	140 mm (5.5")	950 mm (37.4")	6.36 kg (14 lbs)	22 kg (48.5 lbs)
YX-MG-B17D2	63.5 x 67 x 1210 mm (2.5" x 2.6" x 47.6")	63.5 x 67 x 1188 mm (2.5" x 2.6" x 46.8")	14 mm (0.6")	1.5 mm (0.06")	140 mm (5.5")	1350 mm (53.1")	7.7 kg (17 lbs)	31 kg (68.3 lbs)
YX-MG-B17D3	89 x 95 x 645 mm (3.5" x 3.7" x 25.4")	89 x 95 x 610 mm (3.5" x 3.7" x 24")	14 mm (0.6")	1.5 mm (0.06")	160 mm (6.3")	780 mm (30.7")	7.7 kg (17 lbs)	22 kg (48.5 lbs)
YX-MG-B17D4	102 x 108 x 525 mm (4" x 4.3" x 20.7")	102 x 108 x 405 mm (4" x 4.3" x 16")	20 mm (0.8")	3 mm (0.12")	190 mm (7.5")	680 mm (26.8")	7.7 kg (17 lbs)	28 kg (61.7 lbs)
YX-MG-B20D2	70 x 76 x 1524 mm (2.8" x 3" x 60")	70 x 76 x 1495 mm (2.8" x 3" x 58.9")	14 mm (0.6")	1.5 mm (0.06")	140 mm (5.5")	1650 mm (65")	9.1 kg (20 lbs)	38 kg (83.8 lbs)
YX-MG-B32D5	140 x 146 x 498 mm (5.5" x 5.7" x 19.6")	140 x 146 x 472 mm (5.5" x 5.7" x 18.6")	20 mm (0.8")	2 mm (0.08")	200 mm (7.9")	680 mm (26.8")	14.5 kg (32 lbs)	30 kg (66 lbs)
YX-MG-B40D3	103 x 90 x 1480 mm (4.1" x 3.5" x 58.3")	103 x 90 x 1450 mm (4.1" x 3.5" x 57.1")	20 mm (0.8")	2 mm (0.08")	160 mm (6.3")	1600 mm (63")	18.2 kg (40 lbs)	40 kg (88 lbs)
YX-MG-B48D5	140 x 146 x 750 mm (5.5" x 5.7" x 29.5")	140 x 146 x 710 mm (5.5" x 5.7" x 28")	20 mm (0.8")	2 mm (0.08")	205 mm (8.1")	960 mm (37.8")	21.8 kg (48 lbs)	45 kg (99.2 lbs)
YX-MG-B60D4	112 x 112 x 1524 mm (4.4" x 4.4" x 60")	114 x 114 x 1485 mm (4.5" x 4.5" x 58.5")	20 mm (0.8")	3 mm (0.12")	190 mm (7.5")	1650 mm (65")	27.3 kg (60 lbs)	68 kg (150 lbs)

Note: All dimensions and weights shown above are nominal. The information provided is subject to change without notice.





Industrial Corrosion Control Solutions Provider

Established in 2003, YUXI has over a 20-year heritage of innovation in corrosion control science and technology. We're a spirited team of ambitious thinkers and pioneer sheeps with a common goal in mind: protect our clients' assets from corrosion with cost-saving measures.

We have the most comprehensive catalog of cathodic protection materials including anodes, transformer rectifiers, backfills, coatings, etc. Our anodes and supplies are manufactured to strict quality standards through an ISO 9001 quality management system and are guaranteed to offer excellent performance in the industry.



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