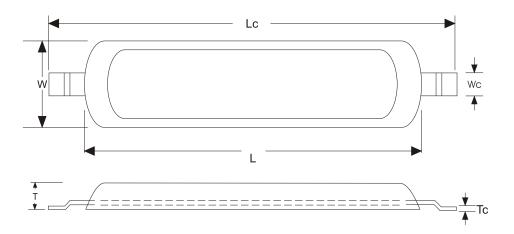


Hull Anodes

Aluminium Anodes have long been used in the fight against corrosion. Application for aluminium anodes include ship hulls, tank interiors, offshore structures, submerged pipelines, piers, pilings and a number of other similar applications.

EPS laboratory is fully equipped with state-of-the-art equipment. All products are tested and inspected prior to shipping. Chemical analysis are run on each heat prior to casting.

EPS aluminium anodes can be manufactured with a wide variety of core configurations, to accommodate different anode specifications and applications.



Anode Type	Alloy Wt. Kg	Gross Wt. Kg	L (mm)	W (mm)	T (mm)	Lc (mm)	Wc (mm)	Tc (mm)
EPS 18 AHA	1.5	1.8	150	150	25	250	25	6
EPS 14 AHA	1.0	1.4	235	70	35	335	25	6
EPS 33 AHA	2.5	3.3	428	80	40	548	32	6
EPS 62 AHA	5.0	6.2	650	90	45	770	32	6
EPS 91 AHA	7.5	9.1	785	100	50	905	38	6
EPS 115 AHA	10.0	11.5	725	120	60	845	38	6



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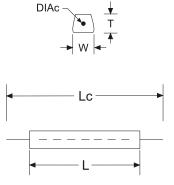
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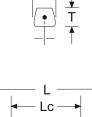
**Ballast Tank Anodes** 

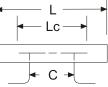
## Aluminium Anodes

Anode	Alloy Wt.	Gross Wt.	L	W	Т	Lc	DIAc
Туре	Kg	Kg	(mm)	(mm)	(mm)	(mm)	(mm)
EPS 62 AT	5.0	6.2	1000	44	44	1300	12
EPS 112 AT	10.0	11.2	1000	62	62	1300	12
EPS 170 AT	15.0	17.0	1000	76	76	1300	16
EPS 220 AT	20.0	22.0	1000	87	87	1300	16
EPS 282 AT	25.0	28.2	1000	98	98	1300	20
EPS 332 AT	30.0	33.2	1000	107	107	1300	20



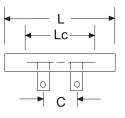
Anode Type	Alloy Wt. Kg	Gross Wt. Kg	L (mm)	W (mm)	T (mm)	Lc (mm)	C (mm)
EPS 58 ATW	5.0	5.8	1000	44	44	700	300
EPS 108 ATW	10.0	10.8	1000	62	62	700	300
EPS 166 ATW	15.0	16.6	1000	76	76	700	300
EPS 216 ATW	20.0	21.6	1000	87	87	700	300
EPS 275 ATW	25.0	27.5	1000	98	98	700	300
EPS 325 ATW	30.0	32.5	1000	107	107	700	300





Anode Type	Alloy Wt. Kg	L (mm)	W (mm)	T (mm)	Lc (mm)	C (mm)
EPS 58 ATB	5.0	1000	44	44	700	300
EPS 108 ATB	10.0	1000	62	62	700	300
EPS 166 ATB	15.0	1000	76	76	700	300
EPS 216 ATB	20.0	1000	87	87	700	300
EPS 275 ATB	25.0	1000	98	98	700	300
EPS 325 ATB	30.0	1000	107	107	700	300



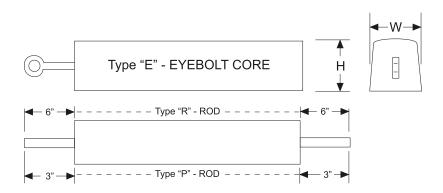




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**Pier & Piling Anodes** 



Anode	Nom. Wt	W	н	L	Core
Туре	Kg	(mm)	(mm)	(mm)	Туре
EPS 108 AP	108.9	254	254	610	E,P, or R
EPS 794 AP	79.4	178	178	914	33
EPS 544 AP	54.4	254	254	305	33
EPS 544 AP	54.4	178	178	610	33
EPS 544 AP	54.4	127	127	1219	33
EPS 454 AP	45.4	107	107	152	33
EPS 408 AP	40.8	178	178	457	33
EPS 408 AP	40.8	127	127	914	33
EPS 272 AP	27.2	178	178	305	33
EPS 272 AP	27.2	127	127	610	33
EPS 272 AP	27.2	107	107	985	33
EPS 136 AP	13.6	76	76	864	33

Unless otherwise specified, the following steel core size will be supplied:

Type "E" - ½" Eyebolt Type "P" - STD 3/4" Pipe Type "R" - ½"Dia. Rod

Special anode size available on request.

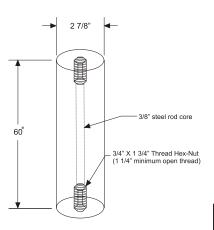
Note: Internal Cores are All Continuous Mild Steel



ELECTRO PROTECTION SERVICES INDIA (P) LTD (AN ISO 9001:2008 CERTIFIED COMPANY)



Heater Treater Anodes



Core Type 3/4" Threaded Rod 1/2" Eyebolt

3/4" Coupling

Special anode size available on request.

Anode Type	"L" Dimensions	Anode Weight
Anoue Type	(mm)	Kg
EPS-A 3" Dia. x 30	762	8.4
EPS-A 3" Dia. X 60	1524	16.8
EPS-A 3.625" Dia. x 60	1524	25.0

### EPS-A-HS-47

### EPS-A-HFT-44

Bowling Ball

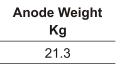
Anode supplied with 1" sch 80 Half Collar

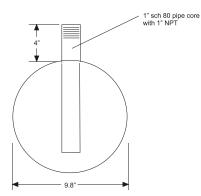
Anode supplied with 1" sch 80 Half Collar

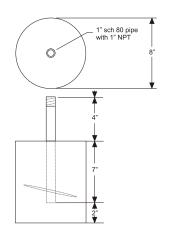
**Anode Weight** 

Kg

20









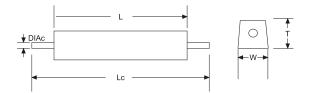
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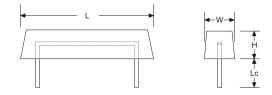


Platform/Structural Anodes

Through aluminium anodes are used to protect ship hulls, rudders and ballast tanks, their increased capacity and long life make them more suitable for offshore platform and jetty installations with high current requirement.

EPSIPL offer aluminium anodes for offshore application in a wide range of size shapes, with specially designed cores for various installation, giving high utilization factors. Aluminium anodes weighting more than 500 kgs, for cathodic protection of offshore platforms, form a part of our prestigious ranges of special anodes for such applications.





Stand - off core from Anode sides

#### Stand - off core from Anode Bottom

Anode	Alloy Wt.	Gross Wt.	L	W	т	Lc	DIAc
Туре	Kg	Kg	(mm)	(mm)	(mm)	(mm)	(mm)
EPS 308 AOA	35.0	38.0	1320	102	102	1624	20
EPS 720 AOA	68.0	72.0	1525	133	127	1829	20
EPS 1260 AOA	119.0	126.0	1550	184	159	1854	25
EPS 1700 AOA	148.0	170.0	2440	160	162	2744	50
EPS 2610 AOA	230.0	261.0	2337	216	191	2641	75
EPS 3060 AOA	240.0	306.0	2750	207	207	3054	112
EPS 3910 AOA	330.0	391.0	2440	252	244	2744	112

### Stand - off core from Anode sides

### Stand - off core from Anode Bottom

Anode	Alloy Wt.	Gross Wt.	L	W	T	Lc	Core
Type	Kg	Kg	(mm)	(mm)	(mm)	(mm)	Type
EPS 5900 AOA		590.0	2850.0	275.0	275.0	310.0	4" Sch. 80
EPS 6400 AOA		640.0	3048.0	283.0	283.0	310.0	pipe

Note : 1. All weight and dimensions are normal.

- 2. Non-standard anodes of other weights or dimensions with special core are also available on request.
- 3. Above sizes of aluminium anodes are also supplied to customer's requirements.



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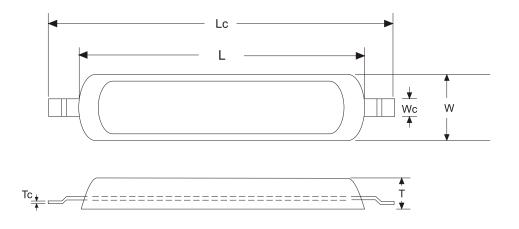
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**Hull Anodes** 

Since 1924, Zinc blocks have been used as sacrificial anodes to prevent corrosion of the copper cladding on the hulls of british warships.

Modern zinc anodes used for cathodic protection are cast from high purity zinc (99.995 %) alloyed with aluminium and silicon to combat impurities and cadmium to give uniform dissolution with loose distensible corrosion products. The most widely used specification for zinc anodes is US Mil Spec 18001J and ASTM B 418 Type I are the most widely used, for cathodic protection.



Anode	Alloy Wt.	Anode Wt.	L	w	Т	Lc	Wc	тс
Туре	Kg	Kg	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)
EPS 43 ZHA	4.0	4.3	300	75	25	400	25	6
EPS 70 ZHA	6.2	7.0	250	70	50	350	25	6
EPS 88 ZHA	7.8	8.8	300	90	40	400	32	6
EPS 165 ZHA	15.0	15.5	500	70	60	620	38	6
EPS 306 ZHA	29.0	30.6	520	130	60	650	50	6
EPS 336 ZHA	32.0	33.6	600	125	60	740	50	6
EPS 400 ZHA	38.4	40.0	650	150	55	800	50	12

### Zinc Hull Anodes



ELECTRO PROTECTION SERVICES INDIA (P) LTD (AN ISO 9001:2008 CERTIFIED COMPANY)

Plot No:6, Cauvery Street, Guruswamy Nagar Extn., Sembakkam, Chennai 600 073. Phone : 91 44 22780677 / 22781745, Fax : 91 44 22780688

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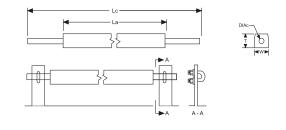
Email: sales@epsipl.com, Website : www.epsipl.com



### Zinc Tank Anodes

Anodes contain straight galvanized steel core rod for direct welding or assembly to two flat bars with "U" bolts as shown.

Anode	Alloy Wt.	Gross Wt.	L	w	т	Lc	DIAc
Туре	Kg	Kg	(mm)	(mm)	(mm)	(mm)	(mm)
EPS 105 ZT	9.5	10.5	533	51	51	987	12
EPS 227 ZT	21.2	22.7	1220	51	51	1674	12
EPS 270 ZT	25.4	27.0	1220	54	54	1674	16
EPS 320 ZT	30.4	32.0	1220	60	60	1674	16
EPS 466 ZT	45.0	46.6	1220	76	76	1674	16
EPS 520 ZT	50.0	52.0	1525	70	70	1979	20



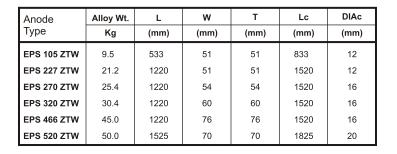
### **EPS - ZTB Bolt-on Series**

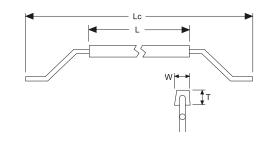
The core contains of two galvanized steel flat bars welded to a mild steel rod. Anodes can be clamped welded or bolted ballast structure

Anode Type	Wt Kg	W (mm)	T (mm)	L (mm)	C (mm)
EPS-123-ZTB	12.3	36	36	1219	610
EPS-227-ZTB	22.7	51	51	1219	610
EPS-272-ZTB	27.2	51	51	1524	914
EPS-318-ZTB	31.8	64	64	1219	610
EPS-454-ZTB	45.4	64	64	1524	914

**EPS - ZTW Welded-on Series** 

# φ Bolt-on Clamp-or Hardware Sold Separately

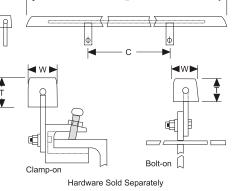






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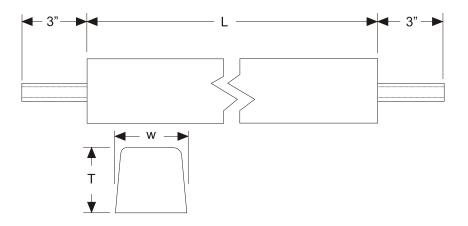




**Pier & Piling Anodes** 

Several different steel cores are available in this anode series. When ordering specify which of the following cores is desired:

- **Type "E"** <sup>1</sup>/<sub>2</sub>" diameter eyebolt in anodes weighing up to 80 Kgs; 3/4" over 80 Kgs.
- **Type "p"** 3/4" standard pipe in anodes weighing less than 100 Kgs; 1" pipe 100 Kgs. And up.
- **Type "R"** <sup>1</sup>/<sub>2</sub>" diameter rod in anodes weighing up to 80 Kgs; 1" over 80 Kgs.



Anode Type	Wt Kg	W (mm)	T (mm)	L (mm)	Core Type
EPS 227 ZP	22.7	51	51	1219	E.R
EPS 454 ZP	45.4	76	76	1118	E.P.R
EPS 680 ZP	68.0	102	102	914	E.P.R
EPS 1134 ZP	113.4	229	229	305	E.P.R
EPS 1134 ZP	113.4	102	102	1524	E.P.R
EPS 1701 ZP	170.1	178	178	762	E.P.R
EPS 2268 ZP	226.8	229	29	610	E.P.R

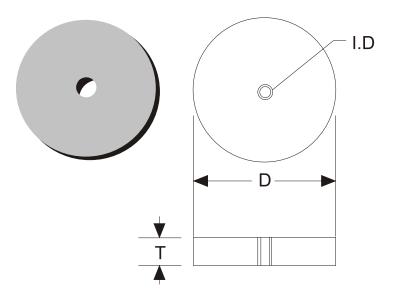
\* Pipe core for this anode is 3/4\* standard pipe.



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These circular anodes conform to the latest modification of ASTM B 418 Type II



Anode Type	Alloy Wt. Dia.(D)		T	Insert (I.D)
	Kg	(mm)	(mm)	mm
EPS-33-ZHEA	3.3	150	25	22
EPS-57-ZHEA	5.7	100	100	22
EPS-60-ZHEA	6.0	125	70	22
EPS-65-ZHEA	6.5	150	50	22
EPS-110-ZHEA	11.0	125	85	22
EPS-115-ZHEA	11.5	200	50	22
EPS-135-ZHEA	13.5	150	100	22

- Note: 1. All weight and dimensions are normal.
  - 2. Non-standard anodes of other weights or dimensions with special core are also available on request.
  - 3. Above sizes of Zinc anodes are also supplied to customer's requirements.



Corrosion Specialist

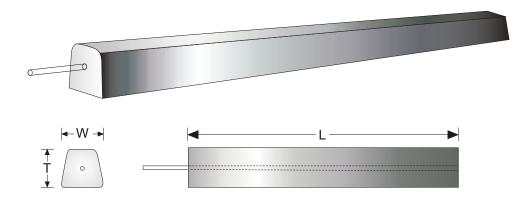
ELECTRO PROTECTION SERVICES INDIA (P) LTD (AN ISO 9001:2008 CERTIFIED COMPANY)



Soil Anodes

Composition : Soil zinc anodes are made from 99.99% pure Special high grade zinc. This alloy conforms to the composition of ASTM B-418-95 Type II.

EPSIPL zinc anodes for underground use are produced in a variety of sizes and weights. All of the following anode size are supplied with 1/4" galvanized mild steel core. The standard core extends 4" out one end. Anodes can be supplied bare or packed with the anode tail cable



Anode Type	Wt	W	Т	L	Pkg	Dia.	L
Туре	Kg	(mm)	(mm)	(mm)	kg	(mm)	(mm)
EPS 23 ZS	2.3	36	36	223	9	127	381
EPS 54 ZS	5.4	36	36	610	18	127	762
EPS 68 ZS	6.8	51	51	381	16	127	533
EPS 82 ZS	8.2	36	36	914	25	127	1000
EPS 100 ZS	10.0	45	45	750	40	150	1000
EPS 136 ZS	13.6	51	51	762	30	127	1000
EPS 200 ZS	20.0	60	60	800	50	127	1295
EPS 210 ZS	21.0	45	45	1500	55	127	1676



ELECTRO PROTECTION SERVICES INDIA (P) LTD

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Corrosion Specialist



Zinc Specialty Anodes

#### Zinc Caps

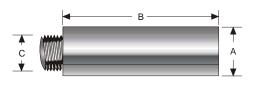
Zinc Caps are installed on buried or submerged valve and flange bolts where corrosion is contemn. These cast caps are made to install directly to the bolt to assist in corrosion protection



Thread Size	EPS part No.
7/16"	EPS 10 ZC
1/2"	EPS 15 ZC
5/8"	EPS 20 ZC
3/4"	EPS 25 ZC
7/8"	EPS 30 ZC
1"	EPS 35 ZC
1-1/8*	EPS 40 ZC
2"	EPS 45 ZC

#### **Zinc Series**

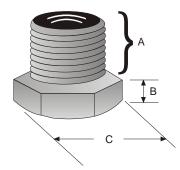
"Pencil" anodes for small surface area applications. Custom sizes available.



Model	А	В	Description
EPS 375 ZP	1" - 6"	375	Specify thread size desired
EPS 500 ZP	1" - 6"	500	Specify thread size desired
EPS 625 ZP	1" - 6"	625	Specify thread size desired
EPS 750 ZP	1" - 6"	750	Specify thread size desired
EPS 1050 ZP	1" - 6"	1050	Specify thread size desired

#### **Brass Retaining Plugs**

Used with ZRN pencil anodes.



Model	А	В	С	*Internal Thread
EPS 250 BRP	1/4"	.3125*	.625*	3/8-16* NC
EPS 375 BRP	3/8"	.3125*	.75*	3/8-16* NC
EPS 500 BRP	1/2"	.375*	.1*	3/8-16* NC
EPS 750 BRP	3/4"	.375*	1.25*	5/8-11* NC
EPS 1000 BRP	1"	.500*	1.50*	3/4* NC

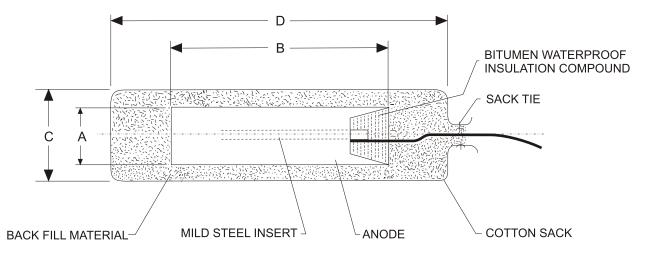


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**Cylindrical Anodes** 



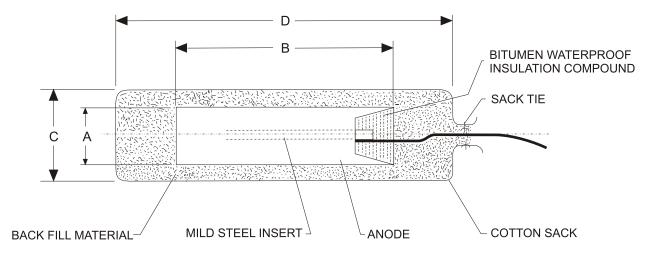
	Anode Di	mensions	Anode	Packaged I	Dimensions	Gross
Anode	' <b>A</b> '	'B'	Weight	"C'	'D'	weight
Туре	(mm)	(mm)	Kg	(mm dia)	(mm)	Kg
EPS 10C MG	50 dia	300	1.0	80	350	2.3
EPS 30C MG	75 dia	400	3.0	110	500	8
EPS 45C MG	80 dia	527	4.5	115	600	10
EPS 64C MG	80 dia	750	6.4	115	850	20
EPS 85C MG	90 dia	715	7.7	115	1200	20
EPS 100C MG	100 dia	750	10.0	150	920	25
EPS 150C MG	120 dia	780	15.0	180	950	30
EPS 200C MG	120 dia	1040	20.0	180	1260	50
EPS 250C MG	150 dia	835	25.0	200	1050	65
EPS 300C MG	200 dia	563	30.0	UNPACKED TYPE		
EPS 600C MG	300 dia	500	60.0	UNI	PACKED TY	′PE

- Note: 1. All weights and dimensions are normal.
  - 2. Non-standard anodes of other weights or dimensions with special cores are also available on request.
  - 3. Above sizes of magnesium anodes are also supplied to customers requirements.



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	Anode Di	mensions Anode		Packaged I	Dimensions	Gross
Anode	'A'	'B'	Weight	'C'	'D'	weight
Туре	(mm)	(mm)	Kg	(mm)	(mm)	Kg
EPS 10R MG	50 X50	238	1.3	80	350	2.3
EPS 30R MG	55 X 50	585	3.0	90	670	5.8
EPS 50R MG	70 X 70	600	5.0	110	690	9.7
EPS 75R MG	80 X 80	690	7.5	130	780	15.0
EPS 100R MG	100 X 100	590	10.0	180	670	21.6
EPS 150R MG	100 X 100	885	15.0	180	1040	28.6
EPS 200R MG	125 X 125	755	20.0	200	920	40.1
EPS 250R MG	150 X 150	652	25.0	220	780	50.3
EPS 340R MG	200 X 200	500	34.0	UNPACKED TYPE		
EPS 600R MG	250 X 250	572	60.0	UN	PACKED TY	ΈE

- Note: 1. All weights and dimensions are normal.
  - 2. Non-standard anodes of other weights or dimensions with special cores are also available on request.
  - 3. Above sizes of magnesium anodes are also supplied to customers requirements.

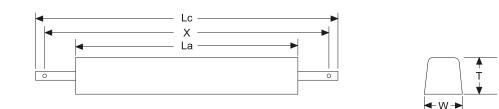


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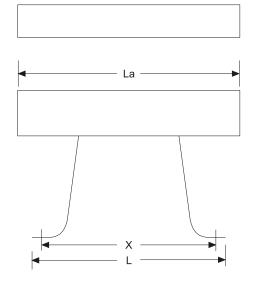


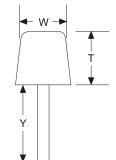
**Tank Anodes** 

In this series the anodes contain cast - in longitudinal, galvanized steel cores  $1/4' \ge 1/2''$ . Two elongated mounting holes  $1 1/6'' \ge 1/2''$  are provided.



Anode	Nom. Wt	w	т	La	Lc	X
Туре к	Kg	(mm)	(mm)	(mm)	(mm)	(mm)
EPS 163 MT	16.3	102	102	711	965	914
EPS 236 MT	23.6	127	127	737	965	914
EPS 240 MT	24.0	178	178	406	610	559





Anode	Nom. Wt	W	т	L	Lc	Х	Y
Туре	Kg	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)
EPS 259 MT	25.9	178	178	406	533	483	203

Data on other tank anode sizes, weight and core configurations available on request.



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Water Heater Anodes

Anodes Rods are designed to protected the tank of a water heater by reducing internal corrosion. Periodic replacement of the anode rod prolongs the tank life. the anode rod includes a hex head for easy installation.

Anode Rods attract corrosive elements in water, so they attack the anode rod rather than the interior of your water heater's tank. Simply remove the plastic drain plug and insert the anode rod. When replacement is necessary, unscrew the old one and insert the new one.

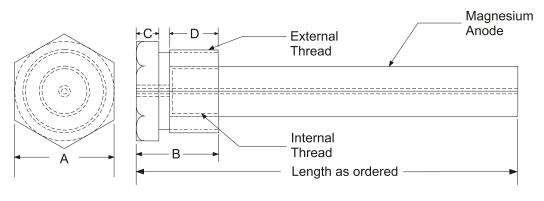
#### **Chemical Composition**

Aluminium	2.5 - 3.5%
Manganese	0.2 - 1%
Zinc	0.7 - 1.3%
Silicon	0.05%
Copper0.01%	0.01%
Nickel	0.001%
Iron	0.002%
Magnesium	balance



#### Water Heater Anodes Welded Screw - On Caps

Anode Diam.	Internal Thread	External Thread	A (in)	B (in)	C (in)	D (in)
0.500	1/4 - 18 NPT	3/4 - 14 NPT	1.060	0.81	0.19	0.63
0.675, O.700, 0.75	3/8 - 18 NPT	3/4 - 18 NPT	1.060	0.87	0.19	0.63
0.840, 0, 900	1/2 - 14 NPT	3/4 - 14 NPT	1.060	0.87	0.19	0.63
1.050	3/4 - 14 NPT	1 - 11 ½ NPT	1.310	1.19	0.38	1.00
1.315	1 - 11 ½ NPT	1 1/4 - 11 ½ NPT	1.813	1.19	0.44	1.00





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