

# HIGH TEMPERATURE ZINC ANODES

PRODUCT DATA SHEET

# High Temperature Zinc Anodes

It is known that common zinc alloys tends to fail at temperature above 60°C. Above this temperature, zinc alloys can suffer from inter-granular corrosion, especially when buried in saline mud. When at high temperature, common zinc anodes may become ineffective or even detrimental to the steel facility protected by the sacrificial cathodic protection system. The zinc anode suffers passivation and polarity reversal — a dangerous condition in which zinc and steel reverse their natural polarity and steel becomes anodic to zinc, corroding itself to protect the anode.

To meet the demand of anode applications at high temperature, we develop this special anode that can operate successfully at elevated temperatures up to 90°C, where conventional anodes tend to collapse.

## CHEMICAL COMPOSITION

### ■ Temperature $\leq 50^{\circ}\text{C}$

Element		Content (%)
Aluminum	(Al)	0.005% max.
Magnesium	(Mg)	—
Lead	(Pb)	0.003% max.
Iron	(Fe)	0.0014% max.
Copper	(Cu)	0.002% max.
Cadmium	(Cd)	0.003% max.
Total Impurities		—
Zinc	(Zn)	Remainder



### ■ Temperature $50^{\circ}\text{C} \sim 90^{\circ}\text{C}$

Element		Content (%)
Aluminum	(Al)	0.1% ~ 0.25%
Magnesium	(Mg)	0.05% ~ 0.15%
Lead	(Pb)	0.006% max.
Iron	(Fe)	0.002% max.
Copper	(Cu)	0.001% max.
Cadmium	(Cd)	0.001% max.
Total Impurities		0.1% max.
Zinc	(Zn)	Remainder



## ELECTROCHEMICAL PROPERTIES

Temperature	Current Capacity	Closed Circuit Voltage
20°C	800 A.h/kg	-1030 mV
60°C	770 A.h/kg	-1010 mV
80°C	770 A.h/kg	-980 mV
90°C	750 A.h/kg	-950 mV

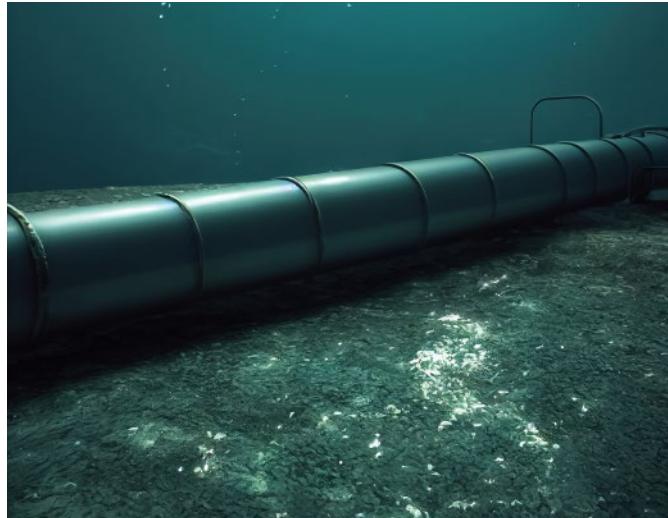
\* The open/closed circuit voltage is with respect to a saturated calomel electrode.



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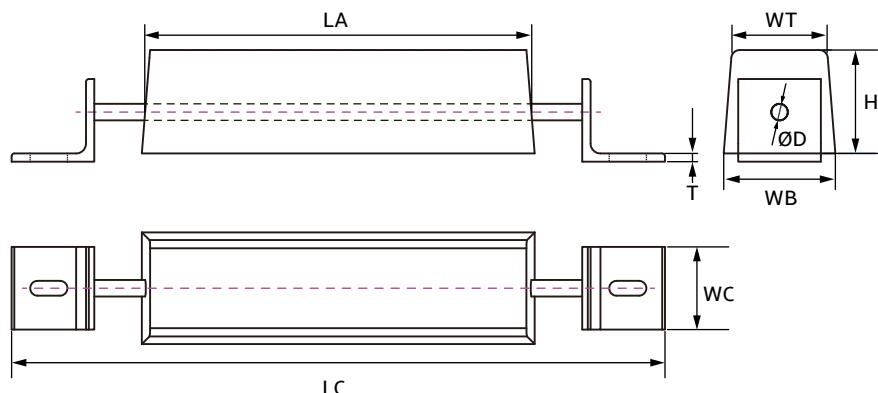
## PRACTICAL APPLICATION

Our high temperature zinc anode is designed for use in tanks intended for the carriage of liquid cargo with high temperature exposure, hot subsea pipelines, heat exchangers.



## SPECIFICATIONS

### ■ Rectangular Type Anode

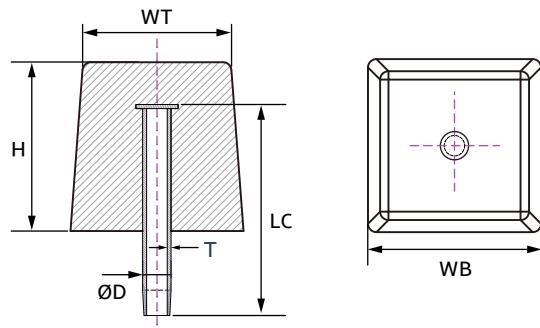


Item No.	Anode Dimensions				Insert Dimensions				Weight	
	Wt	Wb	H	La	ØD	Wc	T	Lc	N.W	G.W
YX-HTZ-R50	115 mm (4.5")	135 mm (5.3")	125 mm (4.9")	465 mm (18.3")	20 mm (0.8")	100 mm (3.9")	10 mm (0.4")	790 mm (31.1")	50.8 kg (112 lbs)	52.2 kg (115.1 lbs)



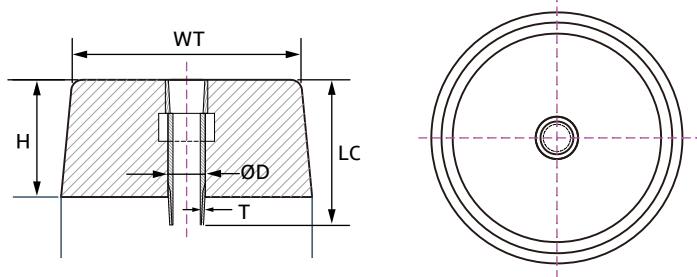
# High Temperature Zinc Anodes

## ■ Square Type Anode



Item No.	Anode Dimensions				Insert Dimensions		Weight	
	Wt	Wb	H	ØD	T	Lc	N.W	G.W
YX-HTZ-S22	115 mm (4.5")	140 mm (5.5")	200 mm (7.9")	33.4 mm (1.3")	4.5 mm (0.2")	250 mm (9.8")	22.2 kg (48.9 lbs)	23 kg (50.7 lbs)
YX-HTZ-S50	175 mm (6.9")	205 mm (8.1")	200 mm (7.9")	33.4 mm (1.3")	4.5 mm (0.2")	250 mm (9.8")	50.5 kg (111.3 lbs)	51.3 kg (113.1 lbs)

## ■ Round Type Anode



Item No.	Anode Dimensions				Insert Dimensions		Weight	
	Wt	Wb	H	ØD	T	Lc	N.W	G.W
YX-HTZ-C26	Ø205 mm (Ø8.1")	Ø225 mm (Ø8.9")	105 mm (4.1")	33.4 mm (1.3")	4.5 mm (0.2")	130 mm (5.1")	26.4 kg (58.2 lbs)	26.8 kg (59.1 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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