

Prepackaged Magnesium Anode

Prepackaged Magnesium Anodes are integrated cathodic protection assemblies combining a magnesium alloy anode core with specialized encapsulation materials. This pre-assembled configuration incorporates the anode, backfill materials, and connection components, eliminating on-site assembly steps and reducing installation time by 30–50%

The engineered backfill formulation (e.g., gypsum powder + bentonite) maintains a humid microenvironment around the anode, decreasing ground resistance by 15–40% and enhancing current output efficiency by $\geq 20\%$. Simultaneously, the backfill isolates soil contaminants (e.g., chlorides, sulfides), reducing anode consumption rates by 25–35% and extending service life to 15–30 years in typical soil environments.



KEY FEATURES

1. High construction convenience
2. Maintenance cost is low
3. Fill in package material optimization performance
4. Scope of application is extensive
5. Environmental protection and safety

APPLICATIONS

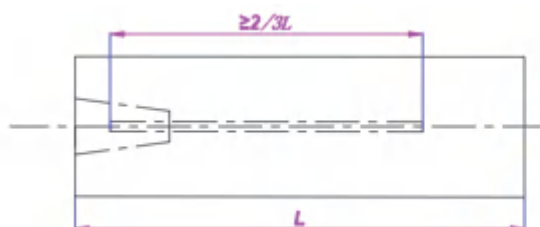
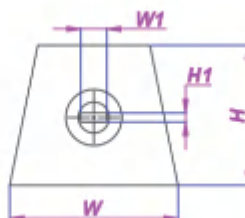
1. Water Storage Tank Protection
2. Refinery Water Pipe Protection
3. Long Transmission Pipeline Protection

PRODUCT SPECIFICATIONS

Chemical Composition			
High Potential		Standard Potential	
Accordance with ASTM B843-M1C standard		Accordance with ASTM B843-AZ63B standard	
Element	Content(%)	Element	Content(%)
Al	≤ 0.010	Al	5.300~6.700
Mn	0.500~1.300	Mn	0.150~0.700
Zn	-	Zn	2.500~3.300
Si	≤ 0.050	Si	≤ 0.100
Cu	≤ 0.020	Cu	≤ 0.020
Fe	≤ 0.030	Fe	≤ 0.030
Ni	≤ 0.001	Ni	≤ 0.002
Single Impurity(Each)	≤ 0.050	Single Impurity(Each)	≤ 0.050
Other Impurity(Total)	≤ 0.300	Other Impurity(Total)	≤ 0.300
Mg	Remainder	Mg	Remainder

Electrochemical Properties

High Potential		Standard Potential	
It is suitable for high resistivity environments (soil resistivity>3000 Ω.cm), such as dry sandy soil, gravel layers, etc.		It is suitable for medium resistivity environments (20 to 100 Ω.m), such as ordinary soil, fresh water or slightly saline-alkali land.	
Technical Measurement	Performance	Technical Measurement	Performance
Open Voltage (-V)(Vs SCE)	1.70~1.75	Open Voltage (-V)(Vs SCE)	1.50~1.55
Closed Voltage (-V)(Vs SCE)	1.58~1.62	Closed Voltage (-V)(Vs SCE)	1.45~1.50
Actual Capacitance	1100A.h/kg	Actual Capacitance	1230A.h/kg
Efficiency(%)	≥50	Efficiency(%)	≥55



Type	Anode Dimensions(W x H x L) /mm		Insert Dimensions		Prepackaged Size/mm		Weight/kg	
	High Potential	Standard Potential	W1/mm	H1/mm	Diameter	Length	N.W	G.W
B3S3	86.3 x 76 x 120	86.3 x 76 x 115	14	1.5	160	300	1.4	8.5
B5S3	86.3 x 76 x 204	86.3 x 76 x 198	14	1.5	160	350	2.3	10
B9S3	86.3 x 76 x 365	86.3 x 76 x 345	14	1.5	160	550	4.1	16
B17S3	86.3 x 76 x 680	86.3 x 76 x 650	14	1.5	160	800	7.7	23
B32S5	117 x 127 x 563	117 x 127 x 535	20	2.0	195	700	14.5	30
B48S5	117 x 127 x 845	117 x 127 x 820	20	2.0	200	1000	21.8	45
B60S4	102 x 102 x 1485	102 x 102 x 1515	20	2.0	190	1650	27.3	68



Type	Anode Dimensions($\Phi D \times L$)/mm		Insert Dimensions		Prepackaged Size/mm		Weight/kg	
	High Potential	Standard Potential	W1/mm	H1/mm	Diameter	Length	N.W	G.W
BR50	$\Phi 114 \times 288$	$\Phi 114 \times 275$	25	2	160	480	5	13.5
BR100	$\Phi 114 \times 565$	$\Phi 114 \times 545$	25	2	175	710	10	25
BR145	$\Phi 146 \times 505$	$\Phi 146 \times 475$	25	2	200	650	14.5	30
B50R8	$\Phi 203 \times 406$	$\Phi 203 \times 395$	25	2	280	580	22.7	52



Type	Anode Dimensions($W \times H \times L$)/mm		Insert Dimensions		Prepackaged Size/mm		Weight/kg	
	High Potential	Standard Potential	W1/mm	H1/mm	Diameter	Length	N.W	G.W
B14D2	70 x 76 x 850	70 x 76 x 85	14	1.5	140	950	6.36	22
B17D2	86.3 x 67 x 1210	86.3 x 67 x 1188	14	1.5	140	1350	7.7	31
B17D3	89 x 95 x 645	89 x 95 x 610	14	1.5	160	780	7.7	22
B17D4	102 x 108 x 525	102 x 108 x 405	14	1.5	190	680	7.7	28
B20D2	70 x 76 x 1524	70 x 76 x 1495	20	2.0	140	1650	9.1	38
B32D5	140 x 146 x 498	140 x 146 x 472	20	2.0	200	680	14.5	30
B40D3	103 x 90 x 1480	103 x 90 x 1450	20	2.0	160	1600	18.2	40