

Drive-In Magnesium Anode

A Drive-In Magnesium Anode is a prefabricated anode used for the cathodic protection (CP) of underground steel structures. It employs a magnesium alloy as the active material—typically the AZ63B standard-potential type, with the M1C/HP high-potential type available for high-resistivity or dry soil conditions. The anode is formed into an extruded rod that sacrificially corrodes to protect pipelines or risers.

A steel core runs through the entire length of the rod, providing mechanical strength and a current path. The bottom end is shaped into a spike or 45° beveled tip for easier driving into the ground. The top is fitted with a hexagonal steel head and a threaded UHMW PE driving cap to withstand hammer impact during installation. An insulated copper wire is connected to the head. On site, the supplied stainless steel hose clamp secures the wire to a cleaned surface of the protected structure, ensuring a reliable electrical connection.



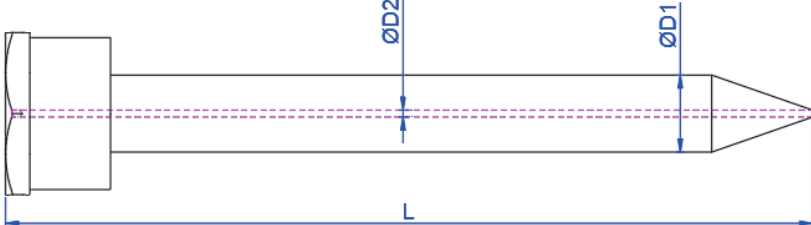
APPLICATIONS

1. Cathodic protection for gas service entrance and risers.
2. Tracer wire (utility locating wire) terminal grounding/protection in the utility industry.
3. Auxiliary sacrificial protection for buried steel components such as solar mounting structures and grounding grids.
4. Localized cathodic protection (CP) reinforcement for other small buried metal structures.

KEY FEATURES

1. Small in size
2. Easy to install
3. More negative potential

PRODUCT SPECIFICATIONS

Product Standard Sizes					
					
Item No.	Anode Weight	Mg Rod $\Phi D1$	Steel Core $\Phi D2$	L	Potential selection
DR0.5	0.5 lb / 0.23 kg	$\Phi 0.84"$ / 21.5 mm	$\Phi 2.0$ –3.4mm	$\Phi 12"$ / 305 mm	AZ63B/M1C
DR1.0	1.0 lb / 0.46 kg	$\Phi 1.32"$ / 33.5 mm	$\Phi 3.4$ –4.8mm	$\Phi 12"$ / 305 mm	AZ63B/M1C
DR1.5	1.5 lb / 0.69 kg	$\Phi 1.32"$ / 33.5 mm	$\Phi 3.4$ –4.8mm	$\Phi 18"$ / 458 mm	AZ63B/M1C

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