CORROSION CONTROL ENGINEERING

DATA SHEET

Magnesium Anodes®

Sacrificial Anode, Cathodic Protection

Revision 1

Applications:

Magnesium anodes are suitable for pipelines, service station tanks, hot water systems and water storage tanks. Ideal for structures requiring temporary cathodic protection.

Characteristics:

Magnesium anodes have a driving potential with respect to steel and are free from passivation. Since they are light in weight compared with volume, a large surface area is in contact with the electrolyte.

Materials:

The composition of magnesium alloy includes Aluminium, Manganese and Zinc. The proportions of these constituents are varied to produce the standard M3 alloy to AS2239 – 2003 or the M1 high Potential Magnesium alloy.

Where anodes are buried in soil, they can be packaged with gypsum bentonite backfill in accordance with Australian Standards AS2239-2003, or client requirements.

Product Range:

A list of standard anode types is shown below, however, Corrosion Control Engineering have the ability to manufacture specialised and designed anodes outside this range to suit customer requirements.

Chemical Composition:

Designation M3

Element	Aluminium	Zinc	Manganese	Silicon	Iron	Copper	Nickel	Calcium	Other Impurities each	Other Impurities Total	Magnesium	Element
Min.	5.3	2.5	0.25	-	-	-	-	-	-	-	remainder	Min.
Max.	6.7	3.5	0.40	0.05	0.03	0.05	0.003	0.04	-	0.30	remainder	Max.

Designation M1

In the range 0.50 to 0.80%, the percentage of manganese is required to be at least 0.5+ (60 x % aluminium)

Element	Aluminium	Zinc	Manganese	Silicon	Iron	Copper	Nickel	Calcium	Other Impurities each	Other Impurities Total	Magnesium	Element
Min.	-	-	0.50	-	-	-	-	-	-	-	remainder	Min.
Max.	0.1	0.2	1.30*	0.05	0.03	0.02	0.001	0.04	0.05	0.30	remainder	Max.

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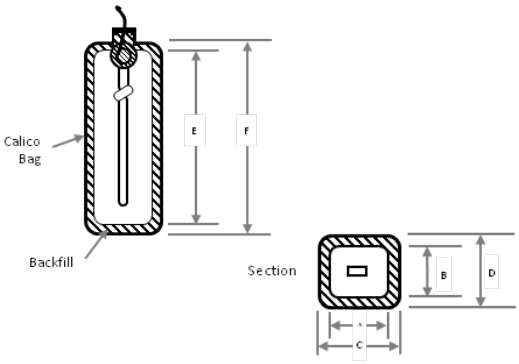
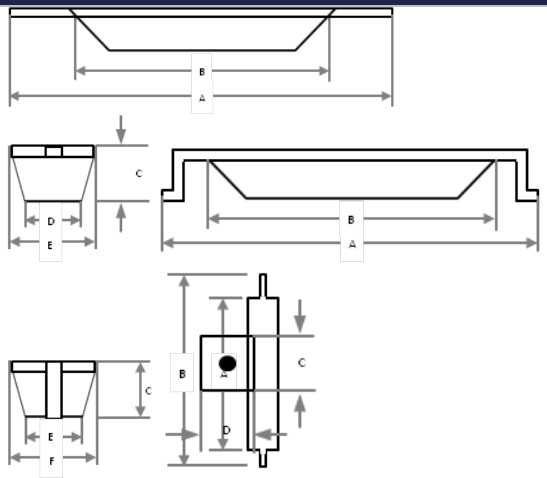
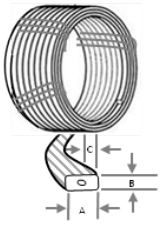
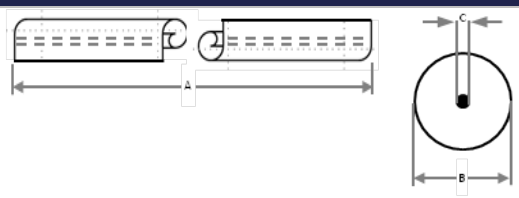
Magnesium Dimensions:

Shape	Type	A	B	C	D	E	F	Nett Wt.	Gross* Wt.
	**Packaged Magnesium Anodes**								
	WM5P	76	89	180	190	430	530	4.5	9.0
	WM10P	100	112	200	215	520	620	10.0	14.5
	WM20P	140	140	240	240	610	710	18.0	27.2
	Gypsum Bentonite Sodium Backfill & Cable Attacment to AS22390 –2003 5m of 7/1.04 (6mm²) PVC insulated able attached & encapsulated to anode insert								
	Unpackaged Magnesium Anodes with Cable								
	WM5	76	89			430		4.5	
	WM10	100	112			520		10.0	
	WM20	140	140			610		18.0	
	Anodes can be supplied without Cable attachment								

Shape	Type	A	B	C	D	E	F	Nett Wt.	Gross* Wt.
	WM4R	460	305	57	75	150		3.2	3.7
	WM4RB	469	305	57	100	75	150	3.2	3.7
	WM4	750	950	50	50	12		3.13	4.65
	WM8	1500	1956	50	50	12		6.26	7.99

Shape	Type	A	B	C	D	E	F	Nett Wt.	Gross* Wt.
	**Ribbon Anodes**								
	WMR-RIB	19	9.5	3					0.35/m
	Available to coil lengths up to 305m long with our without cable attachment.								

Shape	Type	A	B	C	D	E	F	Nett Wt.	Gross* Wt.
	**High Potential Anodes**								
		Length							
	WMR21	3000	21	3					0.61/m
	WMR33	3000	33	3					0.9kg/m

**includes weight of m.s. insert*

All dimensions in millimetres and weight in kilograms

Other Anode Types are available on request