CORROSION CONTROL ENGINEERING

# Aloline®

Sacrificial Anode, Cathodic Protection, Aluminium Alloys

## DATA SHEET

Revision 1

### Applications:

Jetties, Craypots, Ship Tanks, Semi-submersibles

### Characteristics:

Aloline anodes are cast from special aluminium alloys developed by WWI in conjunction with British Aluminium Co. Ltd. Suitably formulated for the specific applications, they are characterised by lightweight, smooth corrosion pattern, high electrical capacity and stability. Fewer anodes may be used for a given installation compared with other materials and substantially lower cost per installed system is achieved.

### Materials:

Aloline anodes are cast to AS2239 – 2003 alloy A2. Additionally, WWI have developed alloy BA 778 which has been found to be the most reliable material available for the use in hot saline mud. This characteristic makes BA 778 a suitable material for the bracelet anodes applied to offshore pipelines.

Aloline anodes are cast in alloys of aluminium and indium plus additions and have developed specifically for use in sea-water. The materials are very suitable in driving potential and efficiency even in electrolytes of varying conductivity and temperature. In normal sea-water having a resistivity of about 25 ohms cms, approximately 2700 ampere hours of current are provided in each kilogram of alloy which will maintain a potential of -1170mV when measured against a copper/copper sulphate reference half cell. The alloys have a higher driving potential than zinc or aluminium-mercury alloys in common use for cathodic protection purpose and operate successfully in very cold sea-water and at great depths.

### Product Range:

A list of standard anode types is given over, however, we have the facility to supply specialised designed anodes outside this range to suite custom end use requirements.

### Chemical Composition:

| Element | Zinc | Indium | Cadmium | Sillicon | Iron | Magnesium | Titanium | Copper | Tin | Other Impurities each | Other Impurities Total | Aluminium |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Min. | 3.0 | 0.02 | - | - | - | 0.6 | 0.02 | - | - | - | - | remainder |
| Max. | 5.0 | 0.05 | 0.005 | 0.02 | 0.12 | 2.2 | 0.05 | 0.006 | - | 0.02 | 0.05 | remainder |

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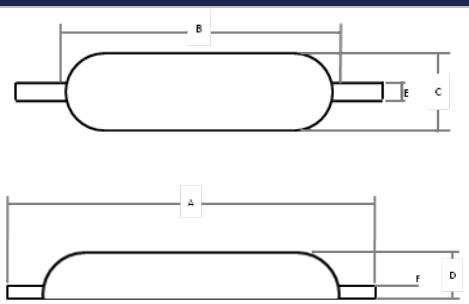
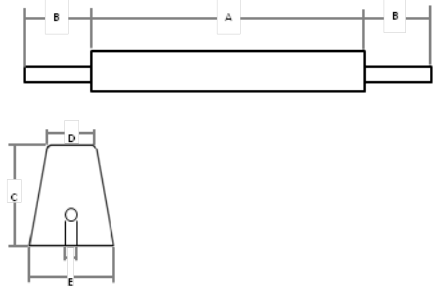
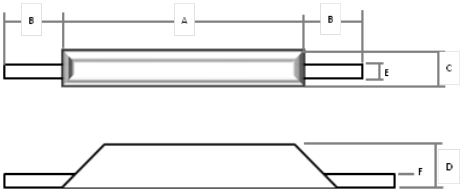
### Aloline Dimensions:

| Shape | Type | A | B | C | D | E | F | Nett Wt. | Gross* Wt. |
|---|---|---|---|---|---|---|---|---|---|
|  | WA1 | 305 | 228 | 75 | 38 | 40 | 5 | 0.95 | 1.14 |
| | WA2 | 355 | 255 | 75 | 32 | 32 | 3 | 1.33 | 1.55 |
| | WA3 | 350 | 270 | 150 | 32 | 40 | 5 | 2.6 | 3.24 |
| | WA5 | 533 | 406 | 150 | 31 | 40 | 5 | 4.5 | 5.2 |
| | WA8 | 778 | 585 | 120 | 35 | 40 | 5 | 6.6 | 7.9 |
| | WA10 | 648 | 546 | 127 | 50 | 40 | 5 | 8.6 | 9.8 |
| | WA11 | 778 | 605 | 125 | 50 | 40 | 5 | 9.9 | 11.2 |
| | WA12 | 648 | 546 | 127 | 64 | 40 | 5 | 10.5 | 11.6 |
| | WA15 | 778 | 615 | 132 | 65 | 40 | 5 | 13.6 | 14.9 |
| | WA16 | 1016 | 914 | 127 | 50 | 40 | 5 | 14.1 | 15.9 |

| Shape | Type | A | B | C | D | E | F | Nett Wt. | Gross* Wt. |
|---|---|---|---|---|---|---|---|---|---|
|  | WA0 | 200 | 100 | 25 | 25 | 25 | 5 | 0.36 | 0.39 |
| | W19-10 | 762 | 228 | 80 | 50 | 63 | 12 | 8.6 | 10.0 |
| | W19-13 | 1016 | 228 | 80 | 50 | 63 | 12 | 11.6 | 13.2 |
| | WA19 | 1524 | 228 | 80 | 50 | 63 | 12 | 17.3 | 19.4 |
| | WA46 | 2375 | 237 | 87 | 82 | 87 | 12 | 46.0 | 48.5 |

| Shape | Type | A | B | C | D | E | F | Nett Wt. | Gross* Wt. |
|---|---|---|---|---|---|---|---|---|---|
|  | WA50 | 762 | 101 | 171 | 152 | 50 | 12 | 46 | 50.5 |
| | WA111 | 1524 | 101 | 171 | 152 | 50 | 12 | 102.03 | 111.12 |
| | WA320 | 1200 | 125 | 332 | 319 | 50 | 12 | 302 | 322 |

**includes weight of m.s. insert*

All dimensions in millimetres and weight in kilograms

**Other Anode Types are available on request**