

# ANODE ALLOY SELECTION

## ALUMINIUM ANODE ALLOYS

The key feature for good quality aluminium alloys is to manufacture using only high purity aluminium ingot with specified levels of impurities. Impalloy's standard aluminium alloy compositions are given below. Other compositions to customers' particular formulations can also be produced.

### Chemical Composition (wt%)

Element	IMPALLOY III		IMPALLOY III-S		IMPALLOY III-CW	
	Min%	Max%	Min%	Max%	Min%	Max%
Zn	2.8	6.5	3.0	5.5	4.75	5.75
In	0.010	0.020	0.016	0.040	0.016	0.020
Si		0.12		0.10	0.08	0.12
Fe		0.12		0.09		0.06
Cu		0.006		0.005		0.003
Cd		0.002		0.002		0.002
Ti		0.025		0.02		0.02
Others (each)		0.02		0.02		0.02
Others (total)		0.05		0.05		0.05
Al	remainder		remainder		remainder	

Impalloy III is a general purpose alloy used for relatively short life anodes such as may be used for ships hull and tank anodes.

Impalloy III-S has become widely accepted for use in applications requiring long life such as offshore pipelines, sub-sea structures and marine terminals. This alloy generally conforms to that specified in ISO15589-2 and Norsok M-503.

Impalloy III-CW is commonly specified by some Oil & Gas Operators for use in deepwater applications.

Impalloy will be pleased to advise on alloy selection for individual applications. Alternatively, we can manufacture formulations to customer specifications.



## ZINC ANODE ALLOYS

### Chemical Composition (wt%)

Element	US MIL A-18001K ASTM B 418 Type I		ASTM B 418 Type II	
	Min%	Max%	Min%	Max%
Al	0.1	0.5		0.005
Cd	0.025	0.07		0.003
Fe		0.005		0.0014
Pb		0.006		0.003
Cu		0.005		0.002
Others (total)		0.10		
Zn	remainder		remainder	

US MIL A-18001K is the internationally accepted and preferred alloy for general use in sea water, brackish waters and other saline solutions. It may also be used in low resistivity, salt-laden sediments and soils. This alloy is used in Impalloy's C-SENTRY range of anodes for the marine industry.

The ASTM Type II alloy is more appropriately used for anodes in potable waters and in other environments.

Impalloy will be pleased to advise on alloy selection for individual applications. Alternatively, we can manufacture formulations to customer specifications.

### Agency

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