

Package No: AIP-DSIC-002 Sacrificial Anodes

Package Name: **SACRIFICIAL ANODES**

Scope of Work

Sacrificial anodes are to be fitted in water ballast tanks, condensate tanks, slop tanks, produced water tanks, sea chests, shipside caissons and internal turret moonpool according to the following design condition and MODEC/COP's practice/standard.

Compartment	Protected Area	Material	Type	Water residence	Temperature
Sea chests	All surfaces	Al	Flush-mount	100%	28.23°C
Caisson	Inside surfaces	Al	Flush-mount	100%	28.23°C
Condensate tanks	Bottom plating and up to 2 m and in sumps	Al	Flush mount	100%	50°C
Slop tanks, Produced water tanks	Bottom plating and up to 3 m and in sumps	Zn	Stand-off	100%	80°C
	Other areas			60%	
Water ballast tanks	Bottom and up to 4 m	Zn	Stand-off	100%	28.23°C
	Other areas			60%	
Internal turret moonpool	All surfaces in sea water	Al	Flush-mount	100%	28.23°C

The sacrificial anodes cathodic protection shall be designed according to DNV-RP-B401 and DNVGL-RP-B101. The anodes manufacturing and supply shall be in compliance with DNV-RP-B401. The design life of anodes should be 28 years in-service.

Aluminum anode

Al-Zn-In alloy sacrificial anode material chemical component:

Material chemical component (% weight)						
Zn	In	Cd	Maximum impurities			Al
			Si	Fe	Cu	
2.5~4.5	0.015~0.040	≤0.002	≤0.10	≤0.09	≤0.003	residual

Zinc anode

Zn - Al -Cd alloy sacrificial anode material chemical component:

Material chemical component (% weight)					
Al	Cd	Maximum impurities			Zn
		Fe	Cu	Pb	
0.1~0.5	≤0.07	≤0.005	≤0.005	≤0.006	residual

Anodes calculation Summary

Item Location	Anode dimension (mm)	Anode type	Anode material	Quantity (pcs)	Net weight (t)
Condensate tanks	(110+130)×120×500	Flush mounted	Al-Zn-In	4533	81.594
Slop tanks & Produced water tanks	(80+100)×80×500	Stand-off	Zn-Al-Cd	3388	82.67
Water ballast tanks	(80+100)×80×500	Stand-off	Zn-Al-Cd	57776	1409.734
Sea chests	(80+100)×80×400	Flush mounted	Al-Zn-In	220	1.65
Internal turret moonpool	(110+130)×120×500	Flush mounted	Al-Zn-In	369	6.642
Sub total	Al-Zn-In: 89.886t				
	Zn-Al-Cd: 1492.404t				

All the anodes should be bolted installation type.  
 Manufacture certificate should be provided for anode by vendor.  
 The following standards/rules shall be complied with:  
 DNVGL-RP-B401  
 DNVGL-RP-B101  
 ABS related rules.

Contract Award: Q1 2020; Delivery Q2 2020 all units

**Project Registration**

ConocoPhillips is committed to ensuring Australian Industry full, fair and reasonable opportunity to participate in the Barossa Offshore Project. Expressions of Interest are invited from contractors and suppliers with the relevant capability and capacity to undertake the scope of work.

This is a request for specific expressions of interest. Contractors and suppliers will be considered for prequalification and tender if suitably qualified against this package.

**Note** that an important part of the project registration process is to register an Expression of Interest at the correct Scope level.

Scope level definition:

**Full scope:** Able to produce / supply the entire package.

**Partial scope:** Able to produce / supply one or more of the sub-packages.

All registrations are to be completed via ICN Gateway [BarossaOffshore.icn.org.au](http://BarossaOffshore.icn.org.au). Please contact the ICNNT if registration assistance is required. Contact details: (08) 8922 9422 or [admin@icnnt.org.au](mailto:admin@icnnt.org.au).

Project Website: [ConocoPhillips Australia](http://ConocoPhillips Australia)