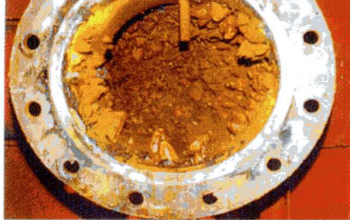


CUPROBAN

electrolytic

anti-fouling and corrosion control system
for sea water pipelines





The problem of fouling!

The problem of fouling is all too familiar to operators of seawater systems on ships, rigs, oil platforms, power stations and elsewhere. Marine growth, such as mollusca, barnacles, mussels, algae and slime enter the seawater system and find a spot where temperature, nutrients, PH factor and other environmental conditions are right for settling and breeding. If this settling is not prevented colonies quickly develop resulting in problems such as turbulence, blocked pipes and impaired heat transfer efficiency not to speak of corrosion of the pipes. Such partially or fully blocked pipes can also lead to dangerous situations, particularly with fire-fighting equipment.

What is worse is, cleaning of such blocked pipes or in many cases replacement of complete sections of the pipeline can be an extremely time consuming and expensive problem.

But luckily it is a problem that can be easily overcome by the use of Cuproban™ Electrolytic anti-fouling and corrosion control systems.



Features of Cuproban™

The new Cuproban™ systems come with some very useful features coupled with proven reliability!

- Modular fully electronic control panel with typically one module controlling one flow line. This makes protection of additional flow lines easily feasible by adding modules!
- Unique ANODE-WEAR feature that gives an indication in the control panel when the anode requires replacement. This will give adequate time for planning a replacement.
 - Unique ANODE-SAVE feature that controls the current to the anode based on there being flow or no-flow in the pipe-line. This considerably increases anode life in cases where flow is intermittent.
 - Pressure tested safety-cap is the sturdiest in the business and can be safely fitted to the sea chest with no worry of failure. It is a specially designed re-usable item that can last the life time of the system!
- Once installed the systems function reliably and efficiently with minimal attention from the crew.

How Does Cuproban™ Work?

The system consists of Copper and Aluminium (or soft iron) anodes strategically located in sea chests or sometimes in-board, but as close to the sea water intake point as possible. One such set of anodes is recommended for each sea water service. The anodes are connected to a control panel that feeds a current to the anodes. This causes the Copper anodes to release Cupric ions and the Aluminium anodes to release aluminium ions that form an aluminium hydroxide 'floc'. The resultant ions and 'floc' produced by the anodes is carried by the sea water, spreads through the pipe work and creates an environment that is distinctly unfriendly to the marine life. Thus any marine life larvae that enter the pipe line will not settle but will pass right through to discharge. An added benefit is that the Aluminium hydroxide 'floc' creates a protective film on the pipelines thereby significantly reducing pipeline corrosion. If the seawater service pipelines, condensers, etc., are of aluminium brass, cupro-nickel, etc., the Aluminium anodes would generally be replaced or supplemented by soft iron anodes. The design and control panel functioning ensures that just the right concentrations of Cupric ions are introduced to keep the pipelines free but not affect the marine life outside the ship after discharge.

The result cleaner pipelines with much longer and trouble free life resulting in lower maintenance and running costs achieved in an environmentally acceptable manner!



