MARINFLOC®
A CLEAN SEA

# Service Bulletin

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## Corrosion problems related to high bilge water temperature

*System applicability: Marinfloc CD and TD units*

As described earlier in Service Bulletin no. 01 (2000-03-20), there are some major reasons why corrosion problems occur:

- The system has not been properly backflushed with fresh water after having completed a full bilge water cleaning and discharge operation.
- The chloride content in the treated water has been above 1000 ppm. A high chloride concentration (i.e. >1000 ppm), combined with acidic bilge water with a pH value below 6.0, will further accelerate the corrosion rate.
- The temperature of the bilge water to be treated has been >55 °C.
- Salt water (high Cl content) standing still in the filter stages.

We would like to once again remind about the importance of those reasons. Recently we have encountered a side effect of what can happen if the temperature of the bilge water is more than 55 °C.
The mounted sacrificial anodes (Marinfloc AB´s article no. 15110) mounted in filter steps are exposed to local pitting and need to be replaced. The process occurs very rapidly. What happens is that when a sacrificial anode made by zinc and reinforced by iron is exposed to a corrosive medium which temperature is higher than 55 °C, the polarity of zinc and iron switches, in other words the iron sacrifices before the zinc. If the sacrificial anode only would be made of solid zinc without iron reinforcement, the anode would sacrifice locally and the anode would break. Thanks to the iron reinforcement we are using, the sacrification of the anode will be even along its whole length. But if the temperature is too high, this compensation effect will not work, and local pitting will occur and even the iron reinforcement will break down. If this happens, the anode needs to be replaced.

We would also like to point out the importance of following the maintenance period stated in the manual. The zinc anodes should be checked according to the table below. Before the anode is mounted back in place, please check that the gasket is in proper condition. Do not use thread tape on the anode thread, then the zinc anode risk to be isolated from the filter step structure and will not work.



Marinfloc AB
Industrivägen 10
472 95 Varekil, Sweden

Phone: +46 304 60 63 00
marinfloc@marinfloc.com
www.marinfloc.com

*Every four weeks or after discharged m³ (whichever comes first)*

| CD/TD model | 0.25 | 0.5 | 1.0 | 2.0 | 3.0 | 4.0 | 5.0 |
|---|---|---|---|---|---|---|---|
| **Discharge m³** | 25 | 50 | 100 | 200 | 300 | 400 | 500 |

*Inspection interval of the sacrificial anode*

On the old Marinfloc TD units, it is important to check the flocculation tanks regularly. What happens is that when the system has been in operation for a while, the galvanized surface in the flocculation tanks breaks down and the tank starts to corrode. This is not a rapid process, but it is important to take it in consideration. Our recommendation is to protect the flocculation tanks with sacrificial zinc anodes when the galvanized surface starts to be broken down. To break down the galvanized surface will take everything from 2 to 10 years depending on the water quality treated by the Marinfloc system.

*All previous service bulletins and other important information, e.g. updated lists of approved chemicals and flocculants, can be found on our website www.marinfloc.com*



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