

Date: May 29<sup>th</sup> 2012  
Subject: Cooling water treatment

Engine type: all  
Page 1 of 1

## **Cooling water requirements of modern Diesel engines**

In order to meet the requirements of modern Diesel engines, high-strength materials are used. For cast-iron components, nodular graphite iron materials are used. When exposed to water, this type of material can easily corrode in case no appropriate counter-measures have been taken. Therefore, the operators manual indicates the requirements on the cooling water in chapters "Operating Instructions" paragraph "Commissioning / Cooling Water System", or in older operating manuals in the paragraph "Initial operation / Cooling water system A3.05.09.00". More detailed explanations can be found in the engine documentation chapter "Operating Media", paragraph "Circulating Cooling Water"; or in older operator manuals in paragraph "Regulations and care Cooling Water A4.05.09.00" und "Regulations and care Treatment of cooling water A4.05.09.01"

We have been informed that in single cases, these requirements were not followed correctly, especially during the commissioning of the engines. This can lead to corrosion damages, typically especially pronounced in the area of the cooling water ducts behind the outlet valve seat rings. In a few cases, after short operating time of the engine the damages were such that a repair was not possible anymore and the component had to be exchanged. In some cases, we have also noticed deposits in cooling water chambers which eventually blocked cooling water ducts and led to the failure of components.

In order to avoid such damages, we recommend watching closely the quality of the raw water used and the immediate usage of the correct quality and quantity of corrosion inhibitors, also during the commissioning phase. Check the quality of the cooling water in regular intervals (see operators manual chapter "Operating Media, paragraph Monitoring and Maintenance of the Treated Cooling Water; or in older operator manuals paragraph Regulations and care Treatment of cooling water A4.05.09.01) and make sure that it always complies with the recommended specification.

Never fill your engines with fresh water only.