

Abstract

Ballast tanks on board vessels are provided with a protective coating against corrosion. Before a manufacturer can sell his coating, the coating must pass a corrosion exposure test. There are many different tests available, all with different features. In this research several test methods, as well as different evaluation methods are compared. We conclude that coatings are assessed by tests that are not completely representative to what is really happening inside of a ballast tank. On top of that, the different testing methods require a varying range of criteria.

In this research, three different testing methods are performed. At first, the fog/dry cycle test and the fully submerged test are reviewed separately. In the next stage, both methods are combined and evaluated. The combination of these tests is named AMACORT CIFD-01. The samples are exposed alternately to both of the previous mentioned testing methods. This combination is essential since both processes take place within the ballast tank. Thereby resulting in the most accurate representation of the sustainability of the coating. Afterwards, we find that the existing test methods give divergent results. After evaluating the AMACORT CIFD - 01 test method, we obtain results that show that it is indeed a combination of the individual tests.