**Protection of immersed structure in marine environment: new perspectives**

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**Abstract**

Structures exposed to marine environment are subject to different degradation due to the interaction between the material and the “corrosive” environment. Marine environment is very complex due to their specific chemistry and biological activities [1]. Different methods and techniques have been developed to improve the durability of structures in marine environment using antifouling paints or cathodic protection. The evolution of the REACH regulation implies the development of new protection solutions. The presentation will be focused on the use of different methods or configuration examples detailed in literature that could be used for structures in harbor area. The first example will be focused on the use of a polymeric envelope that covers the immersed structures or ship hulls and limits the formation of fouling films. This new system was developed in order to limit the hull fairing that is harmfull for the environment and the previous antifouling treatments. The study on the influence of the confined seawater on the durability of the sacrificial anodes was performed. A second example from the literature will be focused on the use of surface treatments in marine applications [2].

[1] **J. Creus**, R. Sabot, Ph. Refait. THEMA’CORR 2007. Communication orale : « corrosion marine et environnement marin », Ecole d’été : Hauteville S/M : 30.09 au 05.10.2007.

[2] S. Bioua & Al. Journal of Solid State Electrochemistry 16 (2012) 633.