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Study of the Behavior of Copper Immersed in Sea Water of the Bay of Large Agadir by Electrochemical Methods

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Abstract : Seawater has chemical and biological characteristics making it particularly aggressive in relation to the corrosion of many materials including copper and steels low or moderate allies. Note that these materials are widely used in the manufacture of port infrastructure in the marine environment. These structures are exposed to two types of corrosion including: general corrosion and localized corrosion caused by the presence of sulfite-reducing micro-organisms. This work contributes to the study of the problematic related to bacterial contamination of the marine environment of large Agadir and evaluating the impact of this pollution on the corrosion resistance of copper. For the realization of this work, we conducted monthly periodic draws between (October 2012 February 2013) of seawater from the Anza area of the Bay of Agadir. Thus, after each sampling, a study of the electro chemical corrosion behavior of copper was carried out. Electro chemical corrosion parameters such as the corrosion potential, the corrosion current density, the charge transfer resistance and the double layer capacity were evaluated. The electro chemical techniques used in this work are: the route potentiodynamic polarization curves and electro chemical impedance.

Keywords : Bay of Agadir, microbial contamination, seawater (Morocco), corrosion, copper
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