Short Communication

Influence of *Pseudomonas aeruginosa* and Sulfate-reducing bacteria composite on the corrosion behavior of brass

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In this paper, electrochemical methods such as open circuit potential(OCP) and electrochemical impedance spectroscopy(EIS) were used to assess the corrosion behavior of brass in sterile water and media containing *Pseudomonas Aeruginosa*, sulfate-reducing bacteria and their bacteria composite, respectively. The results showed that corrosion occurred to some extent in all the media. The corrosion rate of brass in the *Pseudomonas Aeruginosa* system is lower than that in the sulfate-reducing bacteria system. Especially in single *Pseudomonas Aeruginosa* system, the open circuit potential and total impedance value were comparatively higher than those in the other systems. In addition, the acceleration of corrosion in the composite system began from the 3rd day, later than that in the single sulfate-reducing bacteria system, indicating that the presence of *Pseudomonas Aeruginosa* might inhibit the activity of sulfate-reducing bacteria.

Keywords: Microbiologically influenced corrosion (MIC); Sulfate-reducing bacteria; *Pseudomonas aeruginosa*; Electrochemical impedance spectroscopy (EIS)

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