

عنوان مقاله:

Inhibitive Effect of Benzotriazole on the Stress Corrosion Cracking of Copper-based Alloy (Brass) in Ammonia Solutions

محل انتشار:

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خلاصه مقاله:

Copper-Based Alloys are not corrosion resistant in many ammoniacal solutions, so they are used in many applications with kind of precautions. Therefore it is recommended to use them with some corrosion inhibitors especially in cases which the system is under stress. The stress corrosion cracking (SCC) behavior of 70/30 brass in Mattsson's solution containing various concentrations of Benzotriazole was investigated by slow strain rate tests (SSRT) and electrochemical Noise analysis. The results confirmed that the susceptibility of brass to SCC decreased with increasing BTA concentrations. Electrochemical noise analysis showed a peculiar variation in potential during SSRT which can be attributed to the presence of inhibitor in solution. Such behaviors helped to elucidate the mechanism of SCC of the alloy and how it can be protected.

کلمات کلیدی:

SCC, SSRT, EN, Copper Alloy, Inhibitor

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