Effect of Immersion Time on the Copper Corrosion in Neutral NaCl Solution

H.X. Liu, B.Y. Hu, Y. Chen*, Y.W. Liu, Y. Xie, L. Zhang, Z.N. Yang*

Department of Chemical Engineering and Safety, Binzhou University, Binzhou, Shandong 256600, China

*E-mail: chen123yu123@163.com (Y. Chen); yangzhongnian@126.com (Z.N. Yang)

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This paper deals with the investigation of the effect of immersion time on copper corrosion in neutral NaCl solution in presence of benzotriazole using electrochemical impedance spectroscopy (EIS) and electrochemical noise analysis (ENA). EIS results indicated that the corrosion process of copper in neutral NaCl solution in presence of benzotriazole can be classified into five steps in our experimental condition. New parameter of corrosion active energy C_{AE} is proposed from EN analysis to further study the effect of immersion time on copper corrosion in neutral NaCl solution in presence of benzotriazole, which almost shows the opposite variation trend with charge transfer resistance with immersion time.

Keywords: inhibition; benzotriazole; electrochemical noise; long-term effect

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