Short Communication

Pitting Resistance of the Modified 13Cr Martensitic Stainless Steel in Chloride Solution

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In this study, the influence of molybdenum (Mo) and nickel (Ni) on the pitting resistance of the 13Cr martensitic stainless steels was investigated. X-ray diffraction analysis was performed to analyze the phases formed in the steels. The corrosion studies of 13Cr steels were performed in the 3.5% NaCl solution by cyclic polarization and electrochemical impedance spectroscopy. The corrosion product was studied by SEM and EDX analysis. The results revealed that the addition of Mo and Ni improved the corrosion resistance of 13Cr martensitic stainless steel in the 3.5% NaCl solution.

Keywords: martensitic stainless steel, 13chromium, molybdenum, nickel, corrosion, pitting, chloride, polarization, SEM-EDS

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