Corrosion Behaviour of T92 Steel in NaCl Solution

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In the paper, the effects of NaCl on the corrosion behaviour of T92 steel at room temperature were studied by neutral salt spray test, electrochemical technology and scanning electron microscope. The results show that the corrosion rate of T92 steel continuously increase with the NaCl concentration during the neutral salt spray tests. NaCl promotes the anodic process rather than the cathodic process of the T92 steel in solution. In NaCl solutions with low concentrations, T92 steel undergoes uniform corrosion, whereas its corrosion behaviour will develop into pitting as the concentration of NaCl increase. The formation and development mechanism for the corrosion pitting are also discussed in the paper.

Keywords: T92, salt spray test, electrochemical impedance spectroscopy (EIS), scanning electron microscope (SEM), pitting

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