

عنوان مقاله:

Effect of Cavitation Corrosion on the Electrochemical Behavior of Some Engineering Alloys in Seawater

محل انتشار:

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Cavitation corrosion facility was used to investigate the electrochemical corrosion behavior of carbon steel, Cu-Ni 90/10, Al-Bronze and Monel SOOK in seawater. The work included measurements of free corrosion potentials, and mass loss in presence and absence of cavitation. The cavitation tests were made at a frequency of 20 KHz and at temperatures of 25°C. Cavitation conditions caused an active shift in the free corrosion potential of these alloys. Cavitation also increased the rate of mass loss of these alloys by several orders of magnitude with respect to stagnant conditions. Cavitation made the surface of these alloys very rough, exhibiting large cavity pits in the middle region of the attacked area as revealed by the scanning electron microscope (SEM). Mechanical factors were determined to be the leading cause for metal loss.

کلمات کلیدی:

carbon steel, copper, nickel, Al-Bronze, Monel, seawater, free corrosion potential

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