Short Communication

Effect of Passive Film on Cavitation Corrosion Behavior of 316L Stainless Steel

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The effect of passive film on the cavitation erosion-corrosion of 316L stainless steel (316L SS) was investigated via pulse and continuous cavitation modes, open circuit potential (OCP) measurements and scanning electron microscope (SEM). Results demonstrate that the passive film healed rapidly within seconds during pulse cavitation in 3.5 wt. % NaCl solution and played an important role in resisting the cavitation erosion–corrosion. 316L SS exhibition negative synergistic characteristic between cavitation erosion and corrosion due to its optimal repassivation performance in the absence of cavitation erosion.

Keywords: 316L stainless steel; cavitation erosion-corrosion; synergism; electrochemical; passive film

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