

Protective properties of zinc coatings on steel in neutral and acid media

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Abstract

Corrosion behavior of zinc-plated steel specimens in neutral salt fog and acid fluid is studied. In the neutral medium, corrosion proceeds nonuniformly according to the heterogeneity of chromate films; the zinc layer gradually passivates and loses the properties of a protective anode. In this case, the protective properties of chromate film, which are ambiguously dependent on both the plating and test conditions, become decisive. Economically and ecologically reasonable ways by which the protective ability of zinc coatings can be enhanced are proposed.
