



Studies in Corrosion Performance of Iron in Presence of Variable Acidic Concentration Medium

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ABSTRACT

Iron is one of the most common materials used in the construction of industry for its relatively low cost paired with an acceptable corrosion resistance. Nevertheless, the early failure of a number of structures around the world that use iron as reinforcement has raised some controversy on the understanding of the corrosion behaviour of iron. The purpose of this paper was to study the effect of variable H_2SO_4 , HCl and HNO_3 concentration on the corrosion performance of iron and to study the influence and mechanism of SO_4^{2-} , Cl^- and NO_3^- ions. The study investigated the passivity of iron by the potentiodynamic polarization method in acidic solution and the weight loss method. Furthermore, the corrosion strength of Iron that exposed to acidic solutions for a specific duration of time. The surfaces were analyzed using photographs of iron plate.

Keywords: Iron Corrosion, Weight loss, Potentiodynamic curve, Acidic solutions.
