

Determination of Protective Potential in the Zero Charge Corrosion Protection System

Abstract

Zero charge corrosion protection, ZCCP, is a new invention in the field of corrosion protection. It applies alternating current, AC, mode while the protective potential to ensure that the metal exposed in the corrosive environment still does not exist in any of the previous works of literature. The study was conducted by the voltage scanning within corrosion potential, E_{corr} , and polarized potential, $E_{impressed}$, using potentiostat. It was carried out by examining the behavior of the current flow in the circuit. The experimental results found that the protective potential for maximum protection in the ZCCP system is 0 mV. By keeping the AC metal potential at 0 mV, the surface will not acquire any charges, hence the corrosion reaction will be inhibited.