

The Effect of Kfobix Coating on Corrosion

Electrochemical potentiodynamic polarization test was used to determine the effect of Kfobix coating on the rate of corrosion. This method determines the corrosion rate by measuring the current value on the surface on unit time per cm^2 . The more and faster the current per unit area increases, the faster the corrosion occurs.

The instrument used for this test is CorrTest Instrument-CSM310M

3-electrode system is used for this experiment.

Potential difference was between -0.5V and 1.5V and the change rate was 1mV/s .

Reference Electrode: Saturated Ag/AgCl Kalomel electrode

Counter Electrode: Pt

Working Electrode: Sample- The control was AZ91 Mg alloy (containing 9% Zn and 1% Al) and the Kfobix coating was performed on this substrate

Electrolyte: Simulated Body Fluid

The test was performed at 37°C and $\text{pH } 7.4$.

The surface area of the working electrode was 0.5 cm^2 .

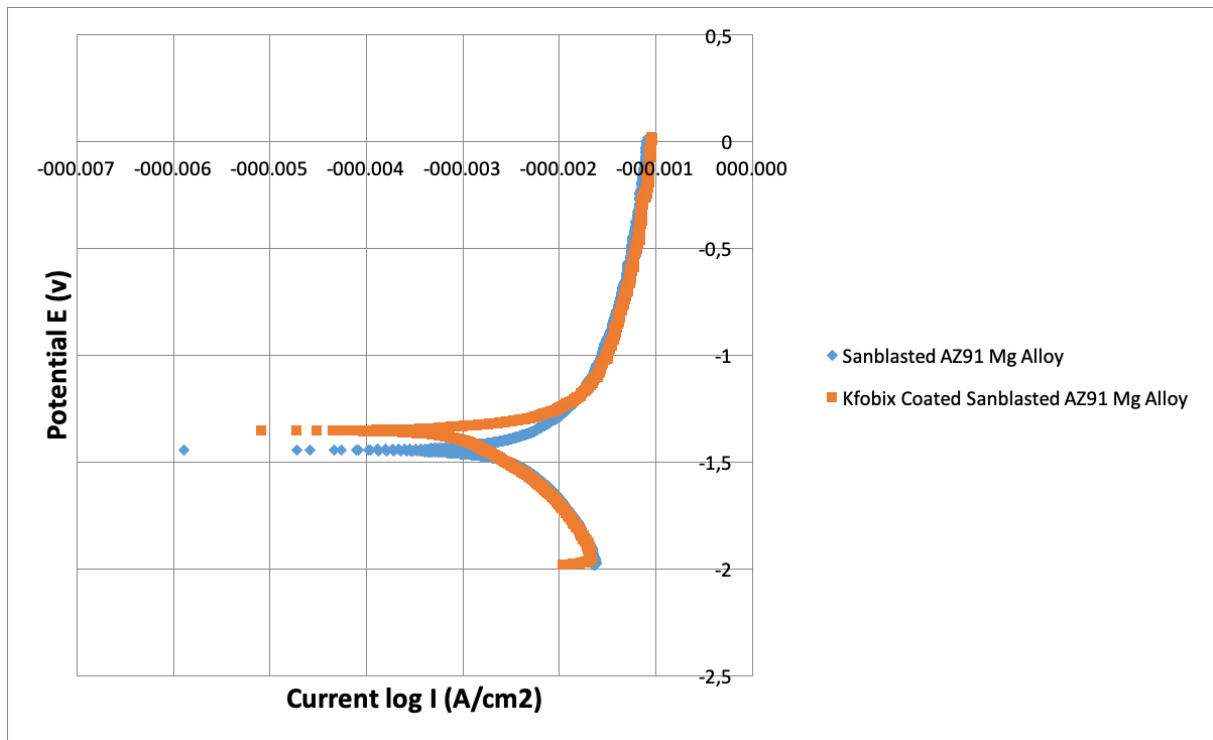


Figure 1. I/E graph of the surfaces

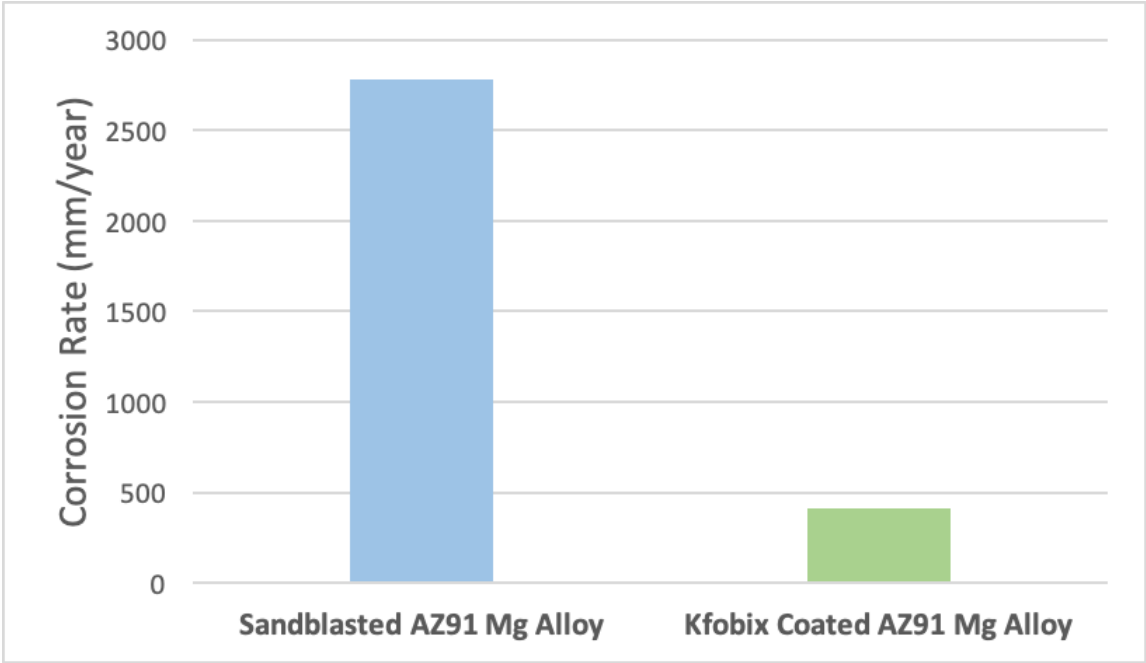


Figure 2. Calculated corrosion rates of the surfaces.