

## **Corrosion Resistance by Sodium Metavanadate for AZ91D Magnesium Alloy**

### **Abstract**

An oxide film was prepared on AZ91D magnesium alloy by anodizing in solution containing sodium metavanadate ( $\text{NaVO}_3$ ). The corrosion resistance of the substrate was investigated at a fixed current density  $10 \text{ mA/cm}^2$  for 5 mins with different concentration of solution in the range of 0 – 1.0 g/l. The surface morphology, phase structure and corrosion resistance of oxide film were studied by optical microscope, scanning electron microscope (SEM) and energy dispersive spectrometry (EDS) and X-ray diffractometer (XRD), potentiodynamic polarization technique and corrosion test.

**Keywords;** Corrosion resistance;AZ91D magnesium alloy;Sodium metavanadate