

CORROSION PROTECTION OF AEROSPACE GRADE MAGNESIUM ALLOY ELEKTRON 43™ FOR USE IN AIRCRAFT CABIN INTERIORS

Sarah S. Baillio

Magnesium alloys exhibit desirable properties for use in transportation technology. In particular, the low density and high specific strength of these alloys is of interest to the aerospace community. However, the concerns of flammability and susceptibility to corrosion have limited the use of magnesium alloys within the aircraft cabin. This work studies a magnesium alloy containing rare earth elements designed to increase resistance to ignition while lowering rate of corrosion. Specimens underwent salt spray testing and the corrosion products were examined using energy dispersive spectroscopy. Three surface conditions were considered: Bare, trivalent chromate coated, and powder coated. Scanning electron microscopy was utilized to analyze the surface after salt spray testing.