The Influence and Mechanism of Corrosion on AZ31B Magnesium Alloy in 1,2-propanediol Engine Coolant

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Corrosion mechanism of AZ31B magnesium alloys in 1,2-propanediol coolant has been studied using polarization curves, EIS, SEM and SEM- EDS. Magnesium alloy can be formed a stable and tight protective film in foundation liquid, which can easily be destroyed in the simulation solution. Little change in temperature on magnesium alloy reaction mechanism. But serious hydrogen evolution reaction occurs at high temperament on magnesium alloy surface in basis solution.

Keywords: Magnesium alloys; polarization curves; EIS; 1,2-propanediol coolant

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