

Recent progress on corrosion resistant PEO Coatings on Mg alloy

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Abstract: Poor corrosion resistance is a critical factor that limits the wide range of applications for Mg and its alloys. In the present study, various kinds of corrosion inhibitors and plasma electrolytic oxidation (PEO) coatings were used and fabricated to tune and increase the corrosion performance of Mg surfaces. The influence of inhibitor on the morphology and chemical composition of the corrosion product layer was investigated to disclose the underlying inhibition mechanism. Inhibitor loaded nano/micro-containers were produced and subsequently incorporated into PEO coatings to enhance the corrosion resistance of Mg alloy.