



Pb-Sn-Al 复合电极的制备及其性能初步研究

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Fabrication and properties of Pb-Sn-Al laminated composite electrode materials

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摘要 通过在Pb与Al合金之间引入过渡金属Sn,采用热镀膜及热包覆的方法制备出了Pb-Sn-Al层状复合电极材料,对其电阻分布、质量、电极极化曲线、耐蚀性、槽电压等进行了测试分析,结果表明:与传统Pb合金电极相比,其电阻减少24%,质量减小37.6%,电极极化电位降低2.3%,腐蚀损耗降低23.2%,槽电压降低200mV.因此Pb-Sn-Al层状复合电极材料是一种质量小、导电好、耐腐蚀的电极材料,有着重要的开发应用前景.

关键词: 电极材料 层状复合 热浸镀 Pb-Al非混熔体系

Abstract: Pb-Sn-Al laminated composite electrode materials,based on the Pb-Al immiscible alloy system,was developed to the laminated composite electrode materials through the import of Sn as the third element.The difference of physical and electrochemical performance between the composite electrode materials and the Pb-alloy electrodes is compared and the influence of resistivity distribution,mass,polarization curve,corrosion resistance and tank voltage were also investigated.It is found that the Pb-Sn-Al laminated composite electrode showed a better performance.The resistivity,mass,electrode potentials,corrosion rate were reduced by about 24%,37.6%,2.3%,23.2%,respectively.So the Pb-Sn-Al laminated composite electrodes showed a good prospect of exploitation and utilization.

Key words:

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