

Study on electrochemical performance of
the titanium electrode coated with $\text{IrO}_2 \cdot \text{Ta}_2\text{O}_5$

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Abstract : Compared with Pb-Ag electrode and Ti-electrode coated with Ru and Ti , Ti-electrode coated with Ir and Ta has low electrode potential for oxygen evolution and high electro-catalytic activity. If Hg-HgSO₄ electrode was used as the reference electrode during measuring electrode potential for oxygen evolution , measurement error caused by different solution was avoided. Ti-anode coated with Ir and Ta is applicable to electrolyzing at high cell voltage.

Key words : $\text{IrO}_2 \cdot \text{Ta}_2\text{O}_5$ coating ; titanium anode ; electrochemical performance ; electrode 's potential for oxygen evolution



纳米晶稀土贮氢合金

广州有色金属研究院开发的纳米晶稀土贮氢合金材料 ,具有优良的性能 ,适合于制作高容量的普通型及动力型的 Ni/MH 电池 .该合金有适宜的平衡氢压 $p(\text{H}_2)=8.31 \times 10^4 \text{ Pa}$,较低的磁滞 $\lg(p_a/p_d)=0.077$,低的平台斜率 $\lg(p_3/p_{1.5})=0.035$.用该合金制备的模拟电池的 0.2C 放电比容量为 340 mA·h/g .用该合金制备的 AA1800 ,AA2000 电池具有高的重量比能量和体积比能量 .用该纳米晶贮氢合金制备的动力型 Ni/MH 电池 ,其 0.2C 放电比容量为 320 mA·h/g ,10C 放电比容量大于 230 mA·h/g ,高倍率放电能力 HRD 为 80% ,其充放电循环稳定性可与用进口贮氢合金粉制备的动力型电池相媲美 .目前 ,已建成了纳米晶稀土贮氢合金的生产线 .