

论文

含La医用316L不锈钢在生理盐水中的腐蚀行为

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摘要:

利用阳极极化曲线研究了含La医用316L不锈钢在37℃生理盐水中的腐蚀行为.结果表明: La含量对316L不锈钢的耐蚀性具有重要影响, 随La含量降低, 极化曲线的钝化区变宽, 钝化电流密度则基本维持在同一水平.当含La医用316L不锈钢中La含量为0.04mass%时, 其耐蚀性与医用316L相当, La含量为0.01mass%时, 其耐蚀性最好, 而La含量为0.08mass%时, 其耐蚀性最差.含La医用316L不锈钢在生理盐水中的腐蚀行为主要源于La元素影响其钝化膜的形成.

关键词: 医用316L不锈钢 La 点蚀

CORROSION OF THE La ADDED MEDICAL 316L STAINLESS STEEL IN PHYSIOLOGICAL SALINE

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Abstract:

The corrosion of the La added medical 316L stainless steel in physiological saline at 37°C was studied by measurement of anodic polarization curves. The results showed that the La content in 316L stainless steel greatly affects the corrosion behavior. The passive current densities were almost the same while the passive regions became wider with decrease of La content in the steel. The corrosion resistance of the 316L stainless steel with 0.04 mass% La was equivalent to the 316L steel, with 0.01% La better, and 0.08% La worse. The study shows that the corrosion behavior of the La added 316L stainless steel is mainly due to the effect of La on the formation of passive film.

Keywords: medical 316L stainless steel La pitting

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