

论文

钢铁材料在海水中阴极氧还原反应研究进展

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摘要:

概括地介绍了海水中溶解氧在钢铁材料表面上的还原机理,综述了钢铁材料表面氧化膜、生物膜、海水中离子对氧还原反应的影响,总结了应用于氧还原反应研究中的测试方法。

关键词: 阴极氧还原反应 钢铁 海水 研究进展

RESEARCH DEVELOPMENT ON CATHODIC OXYGEN REDUCTION ON STEEL IN SEAWATER

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Abstract:

Oxygen reduction reaction (ORR) on steel surface in seawater plays an important role in the corrosion process of steel. The reaction mechanism of oxygen reduction on steel was summarized. The influence of the oxide film, the biofilm on the surface of steel and anion/cation in seawater on the oxygen reduction reaction were reviewed. Moreover, the experimental techniques applied to study the oxygen reduction were summarized.

Keywords: cathodic oxygen reduction reaction steel seawater research development

收稿日期 2007-08-09 修回日期 2007-11-14 网络版发布日期 2009-01-25

DOI:

基金项目:

国家自然科学基金面上项目(40876041)、国家科技支撑计划项目(2007BAB27B01)、中国科学院创新工程重要方向项目(KZCX2-YW210)

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