

论文

低碳钢及焊缝硝酸盐露点腐蚀开裂研究

李明, 陈华, 李晓刚等

北京科技大学腐蚀与防护中心, 北京 100083

摘要:

用U形恒应变实验方法,研究了20 g、16MnR、Q235-A 材及焊接材料浸泡在不同浓度硝酸铵溶液中的开裂敏感性,同时也讨论了硫的氧化物对硝酸盐露点腐蚀开裂敏感性的影响.结果表明:焊接材料比基材更易发生硝酸盐露点腐蚀开裂,20 g比16MnR、Q235-A在硝酸盐中有更低的开裂敏感性,硫的氧化物增加了开裂敏感性.在此基础上,还探讨了硝酸盐露点腐蚀开裂的类型和机理.

关键词: 催化裂化装置 硝酸盐

DEW POINT CORROSION CRACKING OF LOW CARBONSTEELS AND THEIR WELD SEAMS IN NITRATE SOLUTIONS

MingLi

Abstract:

Recently,dew point corrosion cracking has been found in catalytic cracking equipments in many refineries.The reasons are thought to be the joint actions of welding residual stress and the gaseous corrosive media of nitrogen oxides,sulphur oxides,water vapor etc.which condensed on the wall of catalytic cracking equipments.In this paper,the susceptibility to stress corrosion cracking (SCC) of steels of 20G,16MnR,Q235-A and their weld seams were studied in various $\text{NH}_4\text{-4NO}_3$ solutions by the U-shaped constant strain method.Based upon experiments the effect of sulphur oxides on the susceptibility to SCC and the cracking mechanism of nitrate dew point corrosion were discussed.The results showed that the susceptibility to nitrate dew point corrosion cracking of the weld seam is higher than that of the relevant matrix,the SCC susceptibility of steel 20G is lower than that of steels 16MnR and Q235-A and that the existence of sulphur oxides increases the SCC susceptibility.

Keywords: catalytic cracking equipments nitrate dew point corrosion cracking weld sulphur oxides

收稿日期 1900-01-01 修回日期 1900-01-01 网络版发布日期 2003-09-25

DOI:

基金项目:

通讯作者: 李明 Email:liming268@sina.com

作者简介:

参考文献:

本刊中的类似文章

1. 韩顺昌, 杨之勇, 李德勤等.催化裂化装置波纹管的失效分析[J]. 腐蚀科学与防护技术, 1999,11(4): 237-240

文章评论

反馈人	<input type="text"/>	邮箱地址	<input type="text"/>
反馈标题	<input type="text"/>	验证码	<input type="text" value="0687"/>
<input type="text"/>			

扩展功能

本文信息

Supporting info

[PDF\(159KB\)](#)

[\[HTML全文\]](#)

[参考文献](#)

服务与反馈

[把本文推荐给朋友](#)

[加入我的书架](#)

[加入引用管理器](#)

[引用本文](#)

[Email Alert](#)

[文章反馈](#)

[浏览反馈信息](#)

本文关键词相关文章

▶ [催化裂化装置](#)

▶ [硝酸盐](#)

本文作者相关文章

▶ [李明](#)

▶ [陈华](#)

▶ [李晓刚等](#)

PubMed

[Article by](#)

[Article by](#)

[Article by](#)