

论文

堆焊结构界面区附近的微观组织结构、氢扩散富集与开裂行为研究

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中国科学院金属腐蚀与防护研究所金属腐蚀与防护国家重点实验室;沈阳,110015,抚顺石化公;中国科学院金属研究所辽宁省材料与氢重点实验室;沈阳,110015;抚顺石化公司设备研究所;抚顺,113008;中国科学院金属腐蚀与防护研究所金属腐蚀与防护国家重点实验室;沈阳,110015

摘要: 利用高压釜充氢及微区测氢实验,研究了堆焊结构界面区附近的微观组织结构、氢扩散富集及开裂行为之间的关系. 实验结果表明,界面处的氢分布与微观组织结构相对应:剥离过程是多点原沿晶开裂的过程,剥离裂纹的形核、扩展与界面区附近的显微组织密切相关. 并有四种类型:剥离裂纹不会扩展进入母材.

关键词: 堆焊结构界面 微观组织 氢扩散 氢致开裂

MICROSTRUCTURE,DIFFUSION ACCUMULATION OF HYDROGEN AND CRACKING BEHAVIOR IN THE INTERFACE BETWEEN CLADDING AND BASE METALL

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Abstract: The relationships among the microstructure, diction accUmulatinn of hydrogen and hydrogen induced crabbing behavir of the interfaCe were investigated. The eXperimental cults saal that the hydrogen distribution in the interfaCe is corresponding to its ndcrostructure,the behavior of by~n induced cracking may expressed by the theory of molecular hydrogen PreSSure. The paths where hydrogen disbonding cracks nucleated and propagated were classal into four typeS, the disbonding cracks would not penetrate into the base metal.

Keywords: cladding/matris interface microstructure hydrogen diffusion hydrogen in duced cracking

收稿日期 1998-06-18 修回日期 1998-06-18 网络版发布日期

DOI:

基金项目:

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