

论文摘要

中国有色金属学报

ZHONGGUO YOUSEJINSHUXUEBAO XUEBAO

第11卷 第6期 (总第45期) 2001年12月

 [PDF全文下载]  [全文在线阅读]

文章编号: 1004-0609(2001)06-1118-04

钕电解阳极产物的研究

刘奎仁, 陈建设, 魏绪钧

(东北大学 材料与冶金学院, 沈阳 110004)

摘要: 用Orsat气体分析器和色谱质谱联用仪研究了正常电解和发生阳极效应时钕电解的阳极气体成分, 探讨了温度、阳极电流密度等对阳极气体组成的影响, 计算了钕电解的总反应方程式。结果表明, 正常电解时钕电解的阳极气体主要成分为CO, 另有少量CO₂, 气体组成与铝电解有所不同。电解温度升高, CO的相对含量增多, 电流密度增加, CO的相对含量减少。发生阳极效应时, 利用色谱质谱联用仪首次检测出阳极气体中所含氟碳化合物为CF₄。

关键字: 钕电解; 阳极气体; 阳极效应

Analysis of anodic gases in neodymium electrolysis

LIU Kui-ren, CHEN Jian-she, WEI Xu-jun

(School of Materials & Metallurgy, Northeastern University,
Shenyang 110004, P.R.China)

Abstract: The anodic gases composition in neodymium electrolysis in the cases of both normal electrolyzing process and anodic effect happening state was analyzed by means of Orsat analyser and chromatographymass spectrography technique, and the effects of temperature and anodic current density on it were discussed, the final reaction equation was figured out. The results show that the anodic gases consist of large amount of carbon monoxide and some amount of carbon dioxide in normal neodymium electrolysis process, unlike that in aluminum electrolysis. The portion of CO in the gases increases with temperature, but decreases with anodic current density. While an anode effect occurs, using chromatographymass spectrography technique, the fluoride and carbon containing complex compound in the anodic gases was measured to be CF₄.

Key words: neodymium electrolysis; anodic gas; anode effect

版权所有：《中国有色金属学报》编辑部 湘ICP备09001153号

地 址：湖南省长沙市岳麓山中南大学内 邮编： 410083

电 话： 0731-88876765, 88877197, 88830410 传真： 0731-88877197

电子邮箱： f-ysxb@mail.csu.edu.cn