

论文

高压水雾化法制备的高硅铝合金粉末特性

李元元;张大童;夏伟;张文;温利平

华南理工大学机电工程系;广州,510641;华南理工大学机电工程系;广州,510641;华南理工大学机电工程系;广州,510641;华南理工大学机电工程系;广州,510641;华南理工大学机电工程系;广州,510641

摘要: 用高压水雾化法制备高硅铝合金粉末. 并对粉末的特性进行了分析检测. 实验结果表明, 用该方法可制得含氧量低、粒度分布均匀、压制性好的合金粉末与同种合金的铸造试样相比, 粉末的显微组织得到了显著细化, Si相的形态、尺寸及分布得到了明显改善, 其 α -Al基体因合金元素固溶度的提高得到了显著强化

关键词: 高压水雾化 快速凝固 高硅铝合金粉末

PROPERTIES OF A HIGH SILICON ALUMINIUM ALLOY POWDER PREMRED BY HIGH PRESSURE WATER ATOMI ZATION

LI Yuanyuan; ZHANG Datong; XIA Wei;ZHANG Wen; WEN Liping (Mechanical and Electronic Engineering Department, South China University of Technology, Guangzhou 510641)

Abstract: Al-30%Si alloy powder was prepared by high-pressure water atomization, and its oxygen content, particle size, morphology and microstructure were studied. Results show that the water atomization process can prepare fine particle size, even size distribution, low oxygen content powder. Due to rapid solidification, the silicon phases were greatly fined and the base-phase was reinforced, as compared with Al-30%Si cast alloy.

Keywords: high-pressure water atomization rapid solidification high Si-Al alloy powder

收稿日期 1998-01-18 修回日期 1998-01-18 网络版发布日期

DOI:

基金项目:

广东省自然科学基金!950167

通讯作者:

作者简介:

作者Email:

参考文献:

- 1 Zhou J, Duszczyk J.J Mater Sci 1990; 25: 4541
- 2 Zhou J,Duszczyk J, Korevaar B M.J Mater Sci,1991;26: 3041
- 3 唐华生.金属材料研究,1991;17(1): 45(Tang Huasheng.Res Metall Mater,1991; 17(1): 45)
- 4 邱光汉,中南工业大学学报,1995; 25: 484(Qiu Guanghan.J Cent South Uni Technol,1995;25: 484)
- 5 李月珠.快速凝固技术和材料.北京:国防工业出版社,1993: 122(Li Yuezh.Rapidly Solidified Technology and Material.Beijing: National defense Industry Press,1993: 122)%

扩展功能

本文信息

- Supporting info
- PDF(1858KB)
- [HTML全文]
- 参考文献[PDF]
- 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

- 高压水雾化
- 快速凝固
- 高硅铝合金粉末

本文作者相关文章

- 李元元
- 张大童
- 夏伟
- 张文
- 温利平

PubMed

- Article by
- Article by
- Article by
- Article by
- Article by

