

论文摘要

中国有色金属学报

ZHONGGUO YOUSEJINSHUXUEBAO XUEBAO

第11卷 第5期 (总第44期) 2001年10月

 [PDF全文下载]  [全文在线阅读]

文章编号: 1004-0609(2001)05-0791-05

合金元素对Al-Cu合金热裂倾向的影响

李元元, 郭国文, 张卫文, 罗宗强

(华南理工大学 机电系, 广州 510640)

摘要: 为寻求一种低热裂倾向的高强韧铸造铝合金材料, 研究了Cu, Zr和V 3种元素对Al-Cu合金热裂倾向的影响。结果表明, V明显降低材料的热裂倾向; Zr含量低时轻微增大合金的热裂倾向, 含量高时强烈增大热裂倾向; 在4.5%~5.5%范围内Cu增大热裂倾向。Zr和V对合金热裂倾向的不同影响在于V主要存在于晶内, 而Zr则部分存在于晶界。

关键字: 热裂; Al-Cu合金; Zr; V

Effects of alloying elements on hot tearing trends of Al-Cu alloy

LI Yuan-yuan, GUO Guo-wen, ZHANG Wei-wen, LUO Zong-qiang

(Department of Mechatronic Engineering, South China University of Technology, Guangzhou 510640, P.R.China)

Abstract: In order to search a high strength, high toughness alloy with low hot tearing trend, effects of alloying elements copper, zirconium and vanadium on hot tearing trends of Al-Cu alloy were studied. Results show that vanadium can reduce the hot tearing trend evidently; zirconium increases hot tearing trend slightly in low content and strongly in high content; copper increases hot tearing trend with a medium degree in the range of 4.5%~5.5%. Different effects of zirconium on hot tearing trends lie on that vanadium locates in the inner of crystal cell but part of zirconium locates on the interface of the crystal cell.

Key words: hot tearing; Al-Cu alloy; zirconium; vanadium

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