

### 论文摘要

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## Ni-Ti-Nb宽滞后记忆合金的机械加工<sup>①</sup>

郑玉峰<sup>1</sup>, 韩荣第<sup>1</sup>, 蔡伟<sup>1</sup>, 赵连城<sup>1</sup>, 张廷华<sup>2</sup>

(1. 哈尔滨工业大学433信箱, 哈尔滨150001;  
2. 佳木斯工学院二系, 佳木斯154007)

**摘要:** 用正交试验法研究了Ni-Ti-Nb合金在小同切削速度、进给量和切削深度下的机械加工性能。结果表明: 切削速度、进给量、切削深度对切削力和平均切削温度的影响基本上与45钢相同; 切削时宜用K类硬质合金刀具最佳切削速度为40m/min。

**关键字:** Ni-Ti-Nb合金 机械加工 高温拉伸行为

## THERMAL FORGING OF Al-Si POWDER PREFORM

Powder Metallurgy Research Institute,

(Central South University of Technology, Changsha 410083)

**Abstract:** A Thermal forging for a series of Al-Si alloy powder preforms was investigated, and the mechanical properties and wear resistance of the alloys were presented. The results showed that the forging billet might reach 99 per cent theoretical density when silicon content was not beyond 30%. Primary silicon crystal had fine and homogeneous distribution without needle or large plate shape. Tensile strength of Al-10Si-2Cu-1Mg and Al-15Si-2Cu-1Mg were 284~324MPa and 304~333MPa, hardness (HB) 124~128 and 122~124, respectively, higher than relative alloys without Cu and Mg.

**Key words:** Al-Si powder thermal powder forging mechanical property wear resistance

