

### 论文摘要

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## 一次烧结制备W Mo Ti TiAl系密度梯度材料

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**摘要:** 设计了W Mo Ti TiAl系新型密度梯度材料。分别采用Ni Cu和Fe Al烧结剂, 对W Mo合金和Mo Ti合金进行了低温热压烧结, 讨论了合金中主要组成元素的结合形式。最终通过在1 473 K, 30 MPa, 1h条件下一次烧结, 获得整体致密且平行精度较好的梯度材料, 材料的密度在3.81~17.15 g/cm<sup>3</sup>的较大范围内沿厚度方向呈准连续变化。

**关键字:** W Mo Ti TiAl; 梯度材料; 烧结; 密度

## Preparation of W Mo Ti TiAl system functionally graded material by one step sintering

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**Abstract:** A new kind of material, W Mo Ti TiAl system functionally graded material, was designed. The hot pressing of W Mo and Mo Ti alloys at a low temperature was studied, and the combination form of main elements in the sintered alloys was also discussed. The dense W Mo Ti TiAl system FGM with good parallel precision, was finally obtained through one step sintering at 1 473 K for 1 h under a pressure of 30 MPa, and its density changes quasi continuously in its thickness direction within a wide range of 3.81~17.15g/cm<sup>3</sup>.

**Key words:** W Mo Ti TiAl; functionally graded material; sintering; density

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