

Accepted Manuscript

Research paper

The Magnetic and Structural Properties of AlNiCo-8 Alloy Particles Synthesized by CaH_2 Reduction

Huazhong Liu, Wenxuan He, Chunxia Luo

PII: S0009-2614(18)30705-X

DOI: <https://doi.org/10.1016/j.cplett.2018.08.078>

Reference: CPLETT 35908

To appear in: *Chemical Physics Letters*

Received Date: 7 August 2018

Revised Date: 27 August 2018

Accepted Date: 28 August 2018

Please cite this article as: H. Liu, W. He, C. Luo, The Magnetic and Structural Properties of AlNiCo-8 Alloy Particles Synthesized by CaH_2 Reduction, *Chemical Physics Letters* (2018), doi: <https://doi.org/10.1016/j.cplett.2018.08.078>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.



The Magnetic and Structural Properties of AlNiCo-8 Alloy Particles Synthesized by CaH₂ Reduction

Huazhong Liu^{ab*}, Wenxuan He^b, Chunxia Luo^b

^aSchool of Mathematical and Physical Sciences, Huanggang Normal University, Huanggang, China

^bDepartment of Basic Courses, Wuhan Donghu University, Wuhan, China

Abstract:

AlNiCo-8 alloys were synthesized by annealing a mixture of Al/Ni/Co/Cu/Fe/Ti oxides and CaH₂ in an inert gas environment. In four parallel experiments, the annealing temperature was controlled as 500, 600, 700 and 800 °C, respectively. The magnetic properties were investigated by VSM. The results showed when the temperature was below 700 °C, a higher reduction temperature was beneficial to both crystallization and magnetic properties. However, when the temperature was above 700 °C, all oxides were reduced, and a further increased temperature did not bring much extra benefits on crystallization or magnetic properties.

Keywords: AlNiCo; Magnetic materials; CaH₂; Reduction; Nanocrystalline materials; X-ray techniques.

*Corresponding author: huazhongliu02@gmail.com (H. Liu).

Download English Version:

<https://daneshyari.com/en/article/10135392>

Download Persian Version:

<https://daneshyari.com/article/10135392>

[Daneshyari.com](https://daneshyari.com)