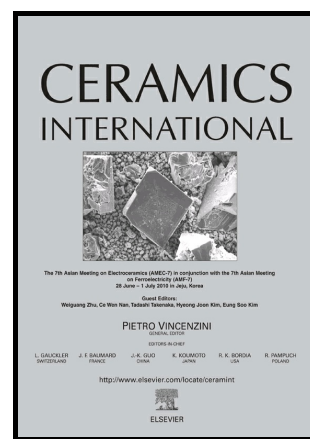


Preparation of nickel coating on ZTA particles by electroless plating

Lei Fan, Qiang Wang, Peng Yang, Huahui Chen, Haiping Hong, Wanting Zhang, Jie Ren



www.elsevier.com/locate/ceri

PII: S0272-8842(18)30607-2
DOI: <https://doi.org/10.1016/j.ceramint.2018.03.055>
Reference: CERI17692

To appear in: *Ceramics International*

Received date: 25 January 2018
Revised date: 3 March 2018
Accepted date: 7 March 2018

Cite this article as: Lei Fan, Qiang Wang, Peng Yang, Huahui Chen, Haiping Hong, Wanting Zhang and Jie Ren, Preparation of nickel coating on ZTA particles by electroless plating, *Ceramics International*, <https://doi.org/10.1016/j.ceramint.2018.03.055>

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 galley proof before it is published in its final citable 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.

Preparation of nickel coating on ZTA particles by electroless plating

Lei Fan^{a*}, Qiang Wang^a, Peng Yang^a, Huahui Chen^a, Haiping Hong^b, Wanting Zhang^a, Jie Ren^a

^aDepartment of Materials Science and Engineering, China University of Mining and Technology (Beijing),

Beijing 100083, China

^bDepartment of Material and Metallurgical Engineering, South Dakota School of Mines and Technology,

Rapid City, SD 57701, USA

*Corresponding author at: Department of Materials Science and Engineering, China University of Mining and Technology (Beijing), Beijing 100083, China. Tel.: +86 10 62339081; fax: +86 10 62339081. 109047@cumt.edu.cn (L. Fan).

Abstract

With the aim to effectively improve the interface between ZrO₂ toughened Al₂O₃ (ZTA) particles and metal matrix, nickel was deposited on the surface of ZTA particles by electroless plating method. Formation mechanism of nickel coating and effects of the solution pH, loading capacity of ZTA particles and temperature on the nickel deposition were investigated. Microstructures, thickness and element distributions of nickel coating were analyzed by X-ray diffraction (XRD), scanning electron microscopy (SEM) and energy-dispersive X-ray spectroscopy (EDS). The results showed that the nickel was successfully deposited on the surface of ZTA particles by electroless plating without

Download English Version:

<https://daneshyari.com/en/article/7886687>

Download Persian Version:

<https://daneshyari.com/article/7886687>

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