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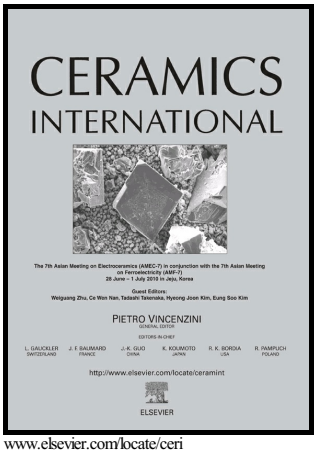

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Preparation of nickel coating on ZTA particles by electroless plating

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Abstract

With the aim to effectively improve the interface between ZrO_2 toughened Al_2O_3 (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