

عنوان مقاله:

Surface Mechanical Coating of Fe Plate with Ni and Cu powders by Mechanical Alloying Method

محل انتشار:

دهمین همایش مشترک و پنجمین کنفرانس بین المللی انجمن مهندسی مواد و متالورژی و انجمن علمی ریخته گری ایران (سال: 1395)

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نویسندگان:

Iman Farahbakhsh - Shirvan Center, University of Applied Science and Technology, Shirvan, Iran

Abbas Sabahi Namini - Department of Materials Engineering, Sahand University of Technology, Tabriz, Iran

Babak Mazinani - Department of Materials Engineering, Malayer University, Malayer, Iran

Zohre Ahmadi - Department of Materials Science and Engineering, University of Tabriz, Tabriz, Iran

خلاصه مقاله:

A new coating process is offered to produce a coating layer on Fe plate by the mechanical milling process. In this paper, the Cu and Ni were applied over a steel substrate in the room temperature and under the environment atmosphere using the crushing balls in different milling times for samples (Ni-30% Cu) in order to make coat. Bilateral entrance of nickel and copper elements during milling causes Ni-Cu solid solution to be made and the composite coat to be created over the samples surface. The microstructure properties of coat surface by use of varied analyses such as: field emission scanning electron microscope (FESEM), energy dispersive X-ray spectroscopy, surface roughness and friction analyses showed that the coat layer thickness reach to 100 micrometres. X-ray diffraction results proved the solid solution formation of nanocrystals

کلمات کلیدی:

Mechanical milling, Ni-Cu nanostructure solid solution, FESEM, Milling time

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