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Investigation of the crystallinity of suspension plasma sprayed hydroxyapatite coatings

Bingbing Zheng^a, Yifan Luo^a, Hanlin Liao^b, Chao Zhang^{a,*}

^a College of Mechanical Engineering, Yangzhou University, Yangzhou 25127, PR China

^b IRTES-LERMPS, Université de Technologie de Belfort-Montbeliard, Belfort 90000, France

* Corresponding author

Prof. Chao Zhang

College of Mechanical Engineering

Yangzhou University

Huayang West Road 196

Yangzhou 225127, Jiangsu Province

P.R. China

Tel/Fax: +86-514-87436008

Email: zhangc@yzu.edu.cn

zhangchao_cqu@hotmail.com

Abstract

Hydroxyapatite coatings were deposited on stainless steel substrates. The arc current was varied to study its effect on the coating crystallinity. The crystallinity was calculated according to the XRD patterns via Jade 6.0 software and the full width at half maximum (FWHM) of Raman peak at 962 cm^{-1} . The FE-SEM images showed that HA coatings had rod-like nanostructures and agglomerated into microspheres. The XRD patterns indicated that the as-sprayed coatings were composed of HA and some decomposition phases. Micro-Raman spectroscopies demonstrated that the main phase in the coatings was HA. The results showed that the crystallinity was increased

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