

# Accepted Manuscript

Surface structural heterogeneity of high power plasma-sprayed hydroxyapatite coatings

Bojan R. Gligorijević, Miroljub Vilotijević, Maja Šćepanović, Dragoslav Vidović, Nenad A. Radović



PII: S0925-8388(16)31886-2

DOI: [10.1016/j.jallcom.2016.06.163](https://doi.org/10.1016/j.jallcom.2016.06.163)

Reference: JALCOM 38032

To appear in: *Journal of Alloys and Compounds*

Received Date: 22 April 2016

Revised Date: 8 June 2016

Accepted Date: 16 June 2016

Please cite this article as: B.R. Gligorijević, M. Vilotijević, M. Šćepanović, D. Vidović, N.A. Radović, Surface structural heterogeneity of high power plasma-sprayed hydroxyapatite coatings, *Journal of Alloys and Compounds* (2016), doi: 10.1016/j.jallcom.2016.06.163.

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.

## Surface structural heterogeneity of high power plasma-sprayed hydroxyapatite coatings

Bojan R. Gligorijević<sup>1,\*</sup>, Miroljub Vilotijević<sup>2,3</sup>, Maja Šćepanović<sup>4</sup>, Dragoslav Vidović<sup>5</sup>, Nenad A. Radović<sup>6</sup>

<sup>1</sup>University of Belgrade, Innovation Center of Faculty of Technology and Metallurgy, Karnegijeva 4, 11120 Belgrade, Serbia

<sup>2</sup>University of Belgrade, Vinča Institute of Nuclear Sciences, Mike Petrovića Alasa 12-14, 11001 Belgrade, Serbia

<sup>3</sup>Plasma Jet Co, Braničevska 29, 11000 Belgrade, Serbia

<sup>4</sup>Center for Solid State Physics and New Materials, Institute of Physics, University of Belgrade, Pregrevica 118, 11080 Zemun, Serbia

<sup>5</sup>SPMS-CBC, Nanyang Technological University, 21 Nanyang Link, Singapore 637371

<sup>6</sup>University of Belgrade, Faculty of Technology and Metallurgy, Department of Metallurgical Engineering, Karnegijeva 4, 11120 Belgrade, Serbia

### Abstract

The aim of this work was to examine the dependence of the local surface structure (surface structural heterogeneity) on the local thickness (thickness uniformity) and structure properties along the thickness of hydroxyapatite coatings (HACs) deposited by using the high power (52 kW) laminar plasma jet. For the deposition process, a relatively small size of the feedstock hydroxyapatite powder (HAP) (33  $\mu\text{m}$ ) was used. The HACs were deposited at different stand-off distances (SODs) (80, 100, and 150 mm) without preheating of substrates. The thickness measurements were performed by using the calibrated micrometer and light microscopy (LM). The surface micro-structure was analyzed by using the micro-Raman spectroscopy (MRS),

Download English Version:

<https://daneshyari.com/en/article/7995915>

Download Persian Version:

<https://daneshyari.com/article/7995915>

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