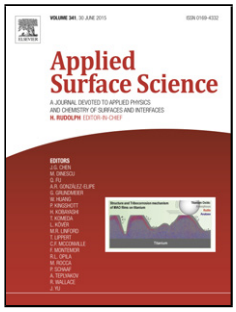

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PII: S0169-4332(17)31918-9
DOI: http://dx.doi.org/doi:10.1016/j.apsusc.2017.06.263
Reference: APSUSC 36463

To appear in: *APSUSC*

Received date: 2-11-2016
Revised date: 15-6-2017
Accepted date: 25-6-2017

Please cite this article as: Ji-Min Yu, Han-Cheol Choe, Mg-containing Hydroxyapatite Coatings on Ti-6Al-4V Alloy for Dental Materials, Applied Surface Sciencehttp://dx.doi.org/10.1016/j.apsusc.2017.06.263

Mg-containing Hydroxyapatite Coatings on Ti-6Al-4V Alloy for Dental Materials

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Highlights

► In this study, Mg-containing hydroxyapatite coatings on Ti-6Al-4V alloy for dental materials was investigated.

► The porous irregular surface, and pore size and number of pore decreased as Mg concentration increased.

► The number of particles was increased from the internal surface of pores, as Mg content increased.

► [Mg+Ca]/P molar ratio in PEO films decreased with Mg content and crystallite size of anatase increased with Mg concentration.

Abstract

In this study, Mg-containing hydroxyapatite coatings on Ti-6Al-4V alloy for dental materials were researched using various experimental instruments. Plasma electrolytic oxidation (PEO) was performed in electrolytes containing Mg (symbols of specimens: CaP, 5M%, 10M%, and 20M%) at 280 V for 3 min. The electrolyte used for PEO was produced by