

## عنوان مقاله:

Hydroxyapatite Coating on Stainless Steel ۳۱۶L using Flame Spray Technique

## محل انتشار:

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## خلاصه مقاله:

This study was a preliminary study on flame spray coating with hydroxyapatite (HAp). Coating is one of the technique to improve metal resistance to corrosion. In this study, flame spray coating using HAp was performed on stainless steel ۳۱۶ L as a material for medical devices. This synthetic compound contains elements which are biocompatible and bioactive in human body where they can stick to body tissues or muscles. HAp has been extensively used as a bone substitute because of its crystal structure, biocompatibility and osteoconductive nature. In this study, ۳۱۶L SS was coated by HAp using flame spray method with varied oxygen flowrate and air pressure. The result of this study showed that the air pressure of ۱ bar and oxygen flowrate of ۲۵ l/min had the thickest coating which was ۱۲۳.۵μm and the lowest corrosion rate which was ۰.۰۲۶۱ mm/year. The air pressure of ۳ bar and oxygen flowrate of ۳۵ l/min produced the lowest thickness which was ۳۲.۵μm and the highest corrosion rate which was ۰.۰۷۶۱ mm/year. The use of high air pressure and oxygen flowrate decreased the coating thickness and the corrosion rate. The result revealed that flame spray method was effective to be used to coat HAp on ۳۱۶L SS.

## کلمات کلیدی:

coating, corrosion, Hydroxyapatite, Oxygen flowrate, Air pressure

## لینک ثابت مقاله در پایگاه سیویلیکا:

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