

عنوان مقاله:

Fabrication of Porous Segments Using Ti-6Al-4V Chips for Orthopaedic Applications

محل انتشار:

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خلاصه مقاله:

Different methods have been evaluated for manufacturing the porous Ti6Al4V alloys according to decreasing stress shielding phenomenon and increasing mechanical compatibility between the metallic components and the host tissue. For this purpose, in this work Ti6Al4V alloy chips were pressed under 400 MPa pressure and then samples were categorized and heated into two groups at 1000 and 1150 under a vacuum about 10-4 mbar. The results implied a porosity about 35%, significant reduction of density in prepared segments comparing to bulk ones and a reduction in the elasticity modulus and better matching with the host cancellous bone tissue. According to the results one can expect to manufacture porous Ti6Al4V orthopaedic and dental implants using the discussed method.

کلمات کلیدی:

Hard Tissue Replacement, Ti6Al4V, Chips of Alloy, Orthopaedic Implant

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