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Characterization of Titanium -Niobium Alloys by Powder Metallurgy as Implant

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Abstract

In this study, Ti-(x) Nb (at. %) master alloys (x:10, 20 and 30) were fabricated following a standard powder metallurgy route and were sintered at 1200 ˚C for 6h, under 300 MPa by powder metallurgy method. Effect of the Nb concentration in Ti matrix and porosity level was examined experimentally. For metallographic examination, the alloys were analyzed by optical microscopy and energy dispersive spectrometry analysis. In addition, X-ray diffraction was performed on the alloys to determine which compound formed in the microstructure. The compression test was applied to the alloys to understand mechanical behaviours of the alloys. According to Nb concentration in Ti matrix, the β phase increased. Also, porosity level played a crucial role on the mechanical performance of the alloys.

Biography

Eyyup Murat Karakurt has completed his Master degree at the age of 26 years from Adiyaman University. He is the research assistant of Brunel University London. He has published more than 5 papers in reputed journals Presenting author details Full name: Eyyup Murat Karakurt Contact number: 07392716434 Category: Oral presentation.

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