

Characterization of Different Additives of Sintered Cobalt F-75 Alloy in Biomaterial Applications

Abstract

A Co-Cr-Mo (ASTM CoF-75) alloy is normally used because of their good in physical, mechanical, wear and as well as biocompatibility. In order to obtain similarity chemical structure of bone, addition of HAP or TCP into CoF-75 alloy is required. The samples were fabricated using powder metallurgy (P/M) technique under pressure of 350 MPa and sintered at 1200 °C under argon atmosphere. The results on the effect of different additives were studied in terms of shrinkage, bulk density, apparent porosity and microstructural analysis.

Keywords; Cobalt-Chromium-Molybdenum (Co-Cr-Mo), Hydroxyapatite (HAP), Powder Metallurgy Technique, Tricalcium Phosphate (TCP)