Characterization of Composite Material with Magnesium Matrix Prepared by Powder Metallurgy

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Magnesium is biocompatible metal with mechanical properties similar to the bone tissue. Therefore it is suitable metal for biodegradable implants. There are high demands on mechanical and corrosion properties of materials for such use. Pure magnesium is usually characterized by poor properties which have to be improved. Properties are usually enhanced by alloying elements. However those elements are usually not biocompatible. Alternative way to improve both mechanical and corrosion properties is using composite materials. Reinforcement should improve mechanical properties and reduce corrosion rate by barrier effect. In present work, composite material with magnesium matrix and $CaCO_3$ reinforcement was prepared. The structure, hardness, compressive mechanical properties and corrosion properties are characterized.

Keywords: Magnesium, composite, mechanical properties, corrosion.

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