

## Characterization of Porous Magnesium Prepared by Powder Metallurgy - Influence of Powder Shape

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Recently, demand for porous biodegradable load-bearing implants, called scaffolds, has been increasing. The interconnected porous structure allows transport of body fluids to healing tissue and ingrowth of new tissue into the implant. From the point of view of mechanical properties, magnesium based materials seem to be very promising for scaffold fabrication. Moreover, magnesium belongs to biodegradable and bioresorbable materials and magnesium ions support growth of bone tissue. In this study we prepared porous magnesium by powder metallurgy using ammonium bicarbonate as a space-holder material and focused on the influence of initial powder shape on sample microstructural, mechanical and corrosion characteristics. Based on obtained results we found out that the usage of spherical initial magnesium powder produced samples with more spherical pores in comparison with those of samples prepared from magnesium chips. Due to these microstructural differences samples prepared from spherical powder achieved higher values of mechanical characteristics.

**Keywords:** Powder metallurgy, porous magnesium, powder size influence.

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