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ABSTRACT

Control of degradation rate remains the primary issue in osteosynthesis applications of magnesium (Mg). To improve the corrosion behavior and bioactivity of Mg, bioglass (BG, 45S5) was selected as the filler to reinforce pure Mg. For the first time, the bioglass reinforced Mg (BG/Mg) composites were fabricated by the microwave sintering method to reduce the possible chemical reactions between bioglass and Mg. Measurements of mechanical properties reveal that the as-prepared BG/Mg composites demonstrate significantly higher microhardness, better compressive and flexural properties than pure Mg and that the BG/Mg composite with 10 wt% bioglass has the best mechanical properties among all composite samples. Immersion tests in

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