

Abstract: In this work were studied effects of the grain refinement on the mechanical properties and the corrosion resistance of magnesium alloys potential for medical applications – AE21 and AE42. Mechanical properties changed after ECAP pressing in consistency with literature data. Enhanced corrosion resistance in AE42 alloy was achieved by the grain refinement. Corrosion layer created on the surface was observed by light and electron microscopy. Effect of the grain size on the character of the corrosion layer was investigated. AE42 alloy is suitable for further investigation as potential biodegradable material. AE21 alloy was excluded from further investigation due to low corrosion resistance even after ECAP treatment.