

In wrought Mg alloys, their hexagonal closed packed structure together with a pronounced basal texture lead to anisotropy of mechanical properties. This bachelor thesis is focused on understanding the influence of previous deformation with further relaxation and/or additional heat treatment on deformation behaviour of the extruded Mg-Zn-Ca alloy. The significant influence of twins formed after pre-compression on mechanical properties was investigated. Evolution of microstructure, especially a formation of twins, is observed by light and scanning electron microscopy. The acoustic emission technique is used to determine active deformation mechanisms: dislocation slip and twinning. The results can be used for developing Mg alloys with enhanced properties.