

Improvement of properties of Mg construction alloys - importance of microstructure

M.Sc. Eng. **Piotr Drzymała**

Supervisor: Associate Professor **Jan Bonarski**, D.Sc., Ph.D

The goal of the PhD thesis is the improvement of structural properties of magnesium alloys AZ31 and AZ91, through the creation of certain microstructural conditions. The main topic of the paper will examine the impact of thermomechanical strengthening of molded magnesium alloys for improvement of their properties and selection of treatment parameters, ensuring optimum ratio of improved mechanical properties to the degree of deformation. This method of treatment is particularly interesting because the dominant industrial process for producing Mg alloys is die casting. Elimination of defects in materials, such as porosity, will extend the application of magnesium alloys to more responsible constructions.