# Monitoring of the microstructure and mechanical properties of the magnesium alloy used for steering wheel manufacturing

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**The article presents the microstructure and mechanical properties of magnesium steering wheels. These steering wheels are manufactured by high pressure die casting. High-pressure die casting (HPDC) is a very good process for making complex mechanical parts out of light metals like magnesium and aluminium alloys. However, in recent times, another light metal has come to the forefront in the quest for lighter vehicles and improved fuel economy. The most commonly used magnesium alloy for die casting automotive components is of the Mg-Al-Mn type. MgAl5Mn is a good purity magnesium alloy with good corrosion resistance, very good mechanical properties and good castability. Mg-Al-Mn based alloys such as MgAl5Mn and MgAl6Mn have better elongation and impact strength than MgAl9Zn, and they are mainly used for auto safety systems like wheel rims and steering wheels. Alloy MgAl5Mn is an alloy with outstanding ductility and energy absorbing properties combined with good strength. This alloy, in the solid state, contains a solid solution α and the intermediate phase Mg17 Al12.**

**Keywords**: magnesium alloy MgAl5Mn, high pressure die casting, structure, mechanical properties

## Acknowledgement

***The paper was supported in part by the Project OP VaVpI Centre for Nanomaterials, Advanced Technologies and Innovation CZ.1.05/2.1.00/01.0005. This article was supported also by the project SGS 28005. The English language in this article was corrected by Richard Hunter, Swallow School of English teacher, Liberec.***

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 Paper number: M201372

Manuscript of the paper received in 2013-07-08. The reviewer of this paper: *Jiri Hruby.*