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### Selected materialographical photo



In the paper entitled "Microstructure investigations of cast Zn-Al alloys" by B. Krupińska, Z. Rdzawski, M. Krupiński and K. Labisz on a page 15 the possibility of application of popular modifiers for chosen

types of zinc alloys is presented. The special aim of this work is to determine the influence of alloy modification on the crystallisation kinetics and microstructure of the cast zinc alloy. This research work presents also the investigation results of derivative thermoanalysis performed using the UMSA device. The material used for investigation was the ZnAl8Cu1 alloy. For phase determination there were used electron microscope techniques like SAD diffraction investigations which were carried out on the 200 kV transmission electron microscope. The UMSA (Universal Metallurgical Simulator and Analyser) device allows to determine the specific melting process, influence of the cooling rate on the crystallization of phases and eutectics of the investigated alloys. Cooling rate influences the microstructure and properties of the investigated zinc cast alloys. A change of the crystallization kinetics allows to produce materials with improved properties, which are obtained by: microstructure refinement, reduction or elimination of segregation. Investigations concerning the development of optimal chemical composition and production method of zinc-aluminium alloys with selected rare earth metals with improved properties compared to elements made of alloys with appliance of traditional methods, will contribute to a better understanding of the mechanisms influencing the improvement of functional properties of the new ones. The investigated material can find its use in the foundry industry; an improvement of component quality depends mainly on better control over the production parameters.



# Dear Readers,

July, August and September, is holiday time in Europe every year. On the cover we show the sun and the idyllic scenery. Nowhere is so beautiful in the summer, as in Italy, in Tuscany, in the Chianti region. Not so high hills, vineyards, olive groves, cicadas and very characteristic and usually ancient, powerful distributed architecture. We are pleased that many PT Readers of our JAMME Journal could take advantage of allures of spare days and holidays. As usual we hand over a few next interesting papers.

However, one cannot overcome the impression of complete inactivity. In the first working day of September 2013 were made very important decisions of Authorities of the Association for Computational Materials Science and Surface

Engineering. It was decided that from that moment the Association as an independent non-governmental organisation, changed its seat and started completely self- organizational and publishing activity, without the official patronage of any scientific research institution, in particular the Silesian University of Technology in Gliwice, Poland. One of the reasons is the fact that the number of these scientific institutions in Poland and other countries of the World is much larger, which does not justify favouring any of them. Authorities of the Association, as a JAMME journal publisher, evaluate that it may have a positive impact on the development of the scope of activity and further enhance the achievements and the Society and the Journal in the future. These important decisions are the cause of several days delay in publishing the Journal issue.

We wish nice reading.

Gliwice, in September 2013

Prof. Leszek A. Dobrzanski M Dr hc Editor-in-Chief of the JAMME President of the WAMME President of the ACMSSE