



DEEP TECH 2M

# BOOK OF ABSTRACTS

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## Density measurement of ZA-27 and A356 alloy based nanocomposites using analytical balance

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### Abstract

Nanocomposites made of Za-Al alloy and A356 alloy are used in various industrial applications. In the scope of this research, analytical balance KERN YDB-03 was used in order to measure density of prepared blocks obtained from ZA-27 and A356 alloys. Therefore, the experiment was done by measuring the mass in two different ways (solid sample and when the sample is immersed in distilled water). The difference in measured mass can be used to obtain the density of material. Difference between experimental (measured) density and theoretical density the porosity of material was determined. The porosity indicates whether the material acquisition technology (komposcasting method) is performed well or needs to be improved and indicates on presence of some imperfections within the nanocomposite structure.

Komposcasting method for obtaining mentioned material has very spread utilization. Casting is well known method to experiment with material characteristics. The porosity of material is closely related to the structural imperfections of obtained and examined nanocomposites based on ZA27 and A356 alloy. The contribution of this work is based on the quantification of mentioned imperfections by calculating porosity by measuring density of prepared samples which is compared to the theoretically obtained results. The application of these nanocomposites is crucial for many different industry areas (electronic industry, aviation industry, as well as in the car industry).