

## Possible ways of obtaining an aluminium alloy by non-traditional waste processing of aluminium beverage containers

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The aim of this experiment was to melt down aluminium beverage containers and making use of the recycling process to acquire an aluminium material of a certain chemical composition for another production process with the aim of manufacturing aluminium semi-products and products. The aluminium material extracted in this way was subsequently analysed chemically and metallographically. These experiments were carried out within three casts and in all three cases the batch was formed by 100% of aluminium scrap in the form of finely shredded aluminium cans (Fig.1) and from the point of view of the complex efficiency assessment of the recycling process a calculation of the yield of the acquired aluminium alloy was undertaken. At the same time, considering that the aluminium waste was coated with plastic materials, paper and varnish/lacquer, it was necessary to identify the content and compositions of the substances released in the course of the melting process in the form of gas and assess their possible negative impact on the environment.

**Keywords:** aluminium alloy, beverage containers

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