

## Dispersion of Mechanical Properties of Commercial Aluminum Alloys within Their Material Standards

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**Material standards of commercial alloys are key documents for casting producers as well as for their customers. Compliance with the prescribed chemical composition of alloys should be the basis for achieving their constant and reproducible properties. Material standards, however, in many cases tolerate contents of alloying elements within a relatively wide range, which can lead to very significant differences in mechanical properties of alloys. The differences in behavior of selected aluminum alloys with chemical composition on the lowest and highest contents of alloying elements prescribed by their material standard are documented in this paper. Significant differences in properties of alloys with chemical composition at lower and upper limits given by their material standards were found. These differences were further enhanced after heat treatment of alloys.**

**Keywords:** Aluminum alloys, Mechanical properties, Material standards

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