



Microstructure and Mechanical Properties of Aluminum Alloys

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Message from the Guest Editor

Aluminum alloys are currently one of the most widespread structural materials used in all industries. This is caused by the fact that aluminum alloys have a low density, high electrical conductivity, thermal conductivity, corrosion resistance, and good mechanical properties. The complex of mechanical properties of aluminum alloys is determined by their microstructure, which, in turn, depends on the composition, technology for producing the alloy, and its heat treatment.

In this Special Issue, we will consider different technologies for producing cast and wrought aluminum alloys and their influence on the formation of structure and mechanical properties. We will also cover the influence of crystallization and solidification processes on alloys' structure, the influence of heat treatment on phase composition, and the properties of alloys. Attention will also be paid to resource-efficient technologies for the production and processing of aluminum alloys and their effect on the properties of cast products. A separate section will also be devoted to 3D modeling, digital technologies, and software packages.





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Message from the Editorial Board

Metallic materials play a vital role in the economic life of modern societies; contributions are sought on fresh developments that enhance our understanding of the fundamental aspects related to the relationships between processing, properties and microstructure – disciplines in the metallurgical field ranging from processing, mechanical behavior, phase transitions and microstructural evolution, nanostructures, as well as unique metallic properties – inspire general and scholarly interest among the scientific community.

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