



Microstructural Evolution and Mechanical Properties of Aluminum Alloys

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Message from the Guest Editors

Aluminum alloy is one of the most widely used metal materials in many industries, and its output is increasing every year. Aluminum alloys are widely used as structural materials in the aerospace field due to their low density, corrosion resistance, good thermal and electrical conductivity, and good mechanical properties. In order to further analyze the mechanical properties of aluminum alloys, we need to study the microstructure and its evolution of aluminum alloys, determined by the composition of aluminum alloys, the production technology of the preparation process, and the heat treatment process.

Recently, various strengthening mechanisms, including dislocation strengthening, grain refinement strengthening, and precipitation strengthening, have been proposed to improve the mechanical properties of aluminum alloys. In this Special Issue, we plan to explore the effects of different production techniques on the mechanical properties and microstructure evolution of aluminum alloys, as well as the effect of heat treatment on their composition and mechanical properties.

We welcome scholars from all over the world to participate in our Special Issue and share research results.





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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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