Special Issue

Microstructure and Mechanical Properties of Magnesium Alloy

Message from the Guest Editors

Magnesium alloy is one of the lightest and most commonly used metal structural materials, having a density of about 2/3 that of aluminum and 1/4 that of steel. They have several advantages, such as their low density, high specific strength, high specific stiffness, good heat dissipation and shielding, lack of a pollution effect, excellent casting, cutting performance, and easy recovery. Magnesium alloys are thus known as the engineering material with the most potential for green development and applications. Magnesium alloys are already in use in many fields, including motorcycle manufacturing, bicycle manufacturing, shipbuilding, railway industry, metallurgy, electric power production, chemical industry, and so on. With the development of technology for their preparation, their properties, such as their specific strength, specific stiffness, thermal strength, creep, and other properties, are continuously improved, and its application scope will also be expanded. This Special Issue focuses on the relationships between the structure and properties of magnesium alloys. We invite studies on the microstructure and mechanical properties of magnesium alloys.

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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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