Special Issue

Novel Insights into Wrought Magnesium Alloys

Message from the Guest Editors

Magnesium (Mg) and its alloys are currently the lightest structural metals in engineering applications, with characteristics of high specific strength/stiffness, good damping performance, and excellent electromagnetic shielding performance. Also, it is an important material selection for lightweight components in aerospace, defense, and military industries. At present, many high-end manufacturing industries have put forward the demands for the use of Mg alloys with uniform high strength and toughness. It has been proven an effective method to prepare Mg alloys with high comprehensive mechanical properties through fine-grained strengthened mechanisms by plastic deformation. Furthermore, the mechanical properties of Mg alloys can be further improved by regulating the size/distribution of the second phase and weakening the texture.

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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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