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Casting and Manufacturing Processes of Aluminium

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Message from the Guest Editors

Cast materials are used in most of our products, ranging from simple household appliances to advanced products, such as cars, lorries, and aircraft.

Increasing requirements for lighter, stiffer, and stronger materials are moving the boundaries for material performance further. Aspects critical to delivering an improved performance are the alloy content and the microstructure, especially in light weight alloys, including aluminium alloys.

Accordingly, this Special Issue, titled “Casting and Manufacturing Processes of Aluminum”, is intended to review and present the cutting-edge state-of-the-art developments in the production of high quality aluminium alloy castings, including other manufacturing processes involved in the production of castings, such as machining, heat treatment, and hot isostatic pressing. The latest developments in the various aspects of the creation of high-performance microstructures in aluminum are included. Finally, the effect of the processing and structure on the performance of aluminium castings, as well as the applicability of traditional and modern approaches for fatigue design, will be addressed.



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Special Issue



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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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