Special Issue

Today and Tomorrow of Processing Techniques for Metal Powders: Properties and Applications

Message from the Guest Editors

Currently, there is a greater awareness and promotion of the moderate use of raw materials, while there is a need to manufacture complex and customized products with high performance in service. Powder metallurgical techniques often represent a great advance in this challenge. High precision homogeneous products and final components, with high performance in service, without porosity or with controlled porosity, can be processed using powder metallurgical techniques. In addition, the use of these techniques can provide an economic advantage and significant energy and material savings, from the production of large series of small parts of high geometric complexity. For this reason, these are technologies of today and tomorrow, whose benefits we should expand and exploit as far as possible. This Special Issue focuses on recent advances in metal powder processing techniques, including powder metallurgy, metal injection moulding, additive manufacturing, sinter-forging, any technique that improves the sintered material properties, and so on. It also seeks to expand knowledge about new routes and applications for metal powder processing.

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Deadline for manuscript submissions

closed (30 April 2023)



Metals

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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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