

Special Issue

Hybrid Bulk Metal Components

Message from the Guest Editor

In recent years, the requirements for technical components have steadily been increasing. This development is intensified by the desire for products with a lower weight, smaller size, and extended functionality, but also with a higher resistance against specific stresses. Mono-material components, which are produced by established processes, feature limited properties according to their respective material characteristics. Thus, a significant increase in production quality and efficiency can only be reached by combining different materials in a hybrid metal component. In this way, components with tailored properties can be manufactured that meet the locally varying requirements. Through the local use of different materials within a component, for example, the weight or the use of expensive alloying elements can be reduced. The aim of this Special Issue is to cover the recent progress and new developments regarding all aspects of hybrid bulk metal components. This includes fundamental questions regarding the joining, forming, finishing, simulation, and testing of hybrid metal parts.

Guest Editor

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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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