

Special Issue

Aluminum Foams: Fabrication, Properties and Application

Message from the Guest Editor

Aluminum foams are versatile materials with an appealing combination of physical, mechanical, thermal, and acoustic properties. Their high specific stiffness and uniquely lightweight structure, resulting in low specific weight, make them particularly attractive for various industrial applications such as heat sinks, exchangers, chemical beds, scrubbers, filters, and mist eliminators. They are also employed in applications that require vibration and sound absorption. Their non-flammability, temperature stability and recyclability are significant benefits over other materials. This Special Issue aims to collect the latest advances in the field of aluminum foams, covering their fabrication, characterization of properties and applications. We invite contributions on open and closed cell aluminum foams. In addition, cellular materials produced by the infiltration of preforms with liquid aluminum, with pore volume fractions ranging from 50% to 80%, are also considered aluminum foams and are therefore welcome. Particular advances in the fabrication and characterization of aluminum foams are welcome, especially if they lead to their use in new applications.

Guest Editor

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Deadline for manuscript submissions

closed (31 August 2023)



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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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