



Heat Treatment of Additive Manufacturing-Processed Alloys

Guest Editors:

Prof. Dr. Paolo Fino

DISAT - Department of Applied
Science and Technology,
Politecnico di Torino, 10129
Turin, Italy

Dr. Alessandra Martucci

DISAT - Department of Applied
Science and Technology,
Politecnico di Torino, 10129
Turin, Italy

Deadline for manuscript
submissions:

20 August 2024

Message from the Guest Editors

Metal additive manufacturing, commonly referred to as AM, creates 3D metal parts layer by layer using a digital design model. Due to the nature of AM processes, the resulting parts could be characterised by heterogeneous microstructures and a high level of internal stress. In order to modify the part microstructure and relieve any residual stresses present, enabling parts to achieve properties comparable to or even better than their conventionally manufactured counterparts, post-processing heat treatment may be required.

However, the heat treatments of AM alloys are different from those adopted after conventional processes and therefore require an ad hoc study, thus leading to a time-consuming procedure.

The aim of this Special Issue is to collect the most innovative heat treatments with a critical analysis of their effects on microstructural features, thermophysical properties and mechanical behaviour of the treated alloy. In addition, this Special Issue also focuses on the development of new alloys that do not require post-processing treatments, with an emphasis on the stability of these materials when working at high temperatures.





an Open Access Journal by MDPI

Editor-in-Chief

Prof. Dr. Maryam Tabrizian

1. Department of Biomedical Engineering, Faculty of Medicine and Health Sciences, McGill University, Montreal, QC H3A 2B6, Canada

2. Faculty of Dentistry and Oral Health Sciences, McGill University, 3640 Rue University, Montreal, QC H3A 0C7, Canada

Message from the Editor-in-Chief

Materials (ISSN 1996-1944) was launched in 2008. The journal covers twenty-five comprehensive topics: biomaterials, energy materials, advanced composites, advanced materials characterization, porous materials, manufacturing processes and systems, advanced nanomaterials and nanotechnology, smart materials, thin films and interfaces, catalytic materials, carbon materials, materials chemistry, materials physics, optics and photonics, corrosion, construction and building materials, materials simulation and design, electronic materials, advanced and functional ceramics and glasses, metals and alloys, soft matter, polymeric materials, quantum materials, mechanics of materials, green materials, general. *Materials* provides a unique opportunity to contribute high quality articles and to take advantage of its large readership.

Author Benefits

Open Access: free for readers, with article processing charges (APC) paid by authors or their institutions.

High Visibility: indexed within Scopus, SCIE (Web of Science), PubMed, PMC, Ei Compendex, CaPlus / SciFinder, Inspec, Astrophysics Data System, and other databases.

Journal Rank: JCR - Q2 (*Metallurgy & Metallurgical Engineering*) / CiteScore - Q2 (*Condensed Matter Physics*)

Contact Us

Materials Editorial Office
MDPI, St. Alban-Anlage 66
4052 Basel, Switzerland

Tel: +41 61 683 77 34
www.mdpi.com

mdpi.com/journal/materials
materials@mdpi.com
[X@Materials_Mdpi](https://twitter.com/Materials_Mdpi)