



Low Temperature Treatment of Stainless Steel

Guest Editor:

Dr. Francesca Borgioli

Department of Industrial
Engineering (DIEF), Università di
Firenze, via di S. Marta 3, 50139
Firenze, Italy

Deadline for manuscript
submissions:

closed (30 September 2021)

Message from the Guest Editor

Dear Colleagues,

Stainless steels are an important class of iron-based alloys which are employed in different industrial fields owing to their very good corrosion resistance in many environments. The performance of stainless steel components can be further improved upon by means of surface engineering techniques. Low temperature treatments are known as an effective mean of surface modification of stainless steels and they have been applied to all the classes of these alloys. By using environments containing nitrogen and/or carbon at temperatures able to inhibit the formation of chromium compounds, the increase in surface hardness, and thus in wear and fatigue resistance, can be obtained, maintaining or even increasing corrosion resistance. With these treatments, metastable phases, known as expanded austenite or S phase and expanded martensite, form, and their peculiar characteristics have been the subject of much research over recent years.





an Open Access Journal by MDPI

Editors-in-Chief

Prof. Dr. Hugo F. Lopez

Department of Materials Science and Engineering, College of Engineering & Applied Science, University of Wisconsin-Milwaukee, 3200 N. Cramer Street, Milwaukee, WI 53211, USA

Prof. Dr. Yong Zhang

Beijing Advanced Innovation Center of Materials Genome Engineering, State Key Laboratory for Advanced Metals and Materials, University of Science and Technology Beijing, 30 Xueyuan Road, Beijing 100083, China

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.

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), Inspec, CAPlus / SciFinder, and other databases.

Journal Rank: JCR - Q2 (*Metallurgy and Metallurgical Engineering*) / CiteScore - Q1 (Metals and Alloys)

Contact Us

Metals Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland

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

mdpi.com/journal/metals
metals@mdpi.com
[X@Metals_MDPI](https://twitter.com/Metals_MDPI)