



Mechanical Behaviour of Austenitic Stainless Steels

Guest Editors:

Prof. Dr. Antonio Mateo

1. Department of Materials Science and Engineering, Universitat Politècnica de Catalunya, 08034 Barcelona, Spain

2. Center for Research in Structural Integrity, Micromechanics and Reliability of Engineering Materials, CIEFMA, Avda. Eduard Maristany, 10-14 08019 Barcelona, Spain

Dr. Gemma Fargas

CIEFMA—Department of Materials Science and Engineering, Universitat Politècnica de Catalunya, Escola d'Enginyeria de Barcelona Est (EEBE), Eduard Maristany 10-14, 08019 Barcelona, Spain

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Message from the Guest Editors

Stainless steels were discovered more than a century ago. They are high-alloy steels that have excellent corrosion and heat resistance, combined with their good mechanical properties over a wide range of temperatures.

Concerning their mechanical properties, the austenitic crystals are face-centered cubic, which makes them very tough and ductile, and also very versatile. Their engineering scale response to mechanical loading, both during processing and in service, is highly dependent on their crystallographic texture and on microstructural features, particularly martensitic induced transformation. Nowadays, thanks to advanced characterization tools such as FIB, EBSD, and nano-indentation, a deeper insight into the micro-mechanisms that determine the mechanical behavior is possible.

In this Special Issue, an open-access forum is provided for publishing original papers that investigate various aspects of the mechanical behaviour of austenitic stainless steels, including both research and review papers, informing readers about the latest ongoing research and development activities, from prior history to the current state-of-the-art.





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Editor-in-Chief

Prof. Dr. Alessandra Toncelli

Department of Physics, University
of Pisa, 56126 Pisa, PI, Italy

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

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