Special Issue

Heat-Resistant Steels for Supercritical and Ultra-Supercritical Boiler

Message from the Guest Editor

In order to increase the thermal efficiency of fossil-fired power plants and reduce coal consumption and pollutant emissions, the steam parameters of thermal power units must be increased, an issue which is based on the continuous breakthrough of heat-resistant steels. Some heat-resistant materials with excellent properties have been developed to ensure long-term safe operation of supercritical and ultra-supercritical thermal power units. The service environment of boiler tubes in supercritical and ultra-supercritical units is particularly severe, which involves high-temperature, high-pressure and various corrosive environments. Heat-resistant steels for boilers are required to possess excellent high-temperature properties, chemical properties, etc. Heat-resistant steels for boilers have become one of the key materials in supercritical and ultra-supercritical thermal power units. In this Special Issue, we welcome articles that focus on heat-resistant steels for supercritical and ultra-supercritical boilers. Potential topics include the microstructure, properties, processing, service performance, life prediction, etc., of these materials.

Guest Editor

Prof. Dr. Lihui Zhu

School of Materials Science and Engineering, Shanghai University, Shanghai 200444, China

Deadline for manuscript submissions

closed (30 September 2022)

Metals

an Open Access Journal by MDPI

Impact Factor 2.5
CiteScore 5.3

mdpi.com/si/105606

Metals
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
metals@mdpi.com

mdpi.com/journal/metals

Metals

an Open Access Journal by MDPI

Impact Factor 2.5
CiteScore 5.3

mdpi.com/journal/metals

About the Journal

Message from the Editor-in-Chief

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.

Editor-in-Chief

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

Author Benefits

High Visibility:

indexed within Scopus, SCIE (Web of Science), Inspec, Ei Compendex, CAPlus / SciFinder, and other databases.

Journal Rank:

JCR - Q2 (Metallurgy and Metallurgical Engineering) / CiteScore - Q1 (Metals and Alloys)

Rapid Publication:

manuscripts are peer-reviewed and a first decision is provided to authors approximately 18 days after submission; acceptance to publication is undertaken in 2.6 days (median values for papers published in this journal in the first half of 2025).

MDPI