Special Issue

Microstructure, Mechanical Properties and Wear Performance of High-Strength Steels

Message from the Guest Editors

As concerns over low carbon emissions and fuel saving have become more prominent, the development of high/ultra-high strength steels is of great significance. The third generation of advanced high-strength steels, such as nano-structure bainite steel, Q&P steel and medium manganese steel, have been designed to provide an improved combination of strength and ductility and some are increasingly applied in industrial production. Investigations into the microstructure, mechanical properties and wear performance of high-strength steels have been widely conducted. However, advanced high-strength steels still face some challenges. For example, the improvement of mechanical properties normally requires the addition of expensive alloying elements. Going forward, research on the microstructure, mechanical properties and wear performance of high-strength steels should be intensified in order to maximize strength and ductility as well as wear performance and promote industrial production.

Guest Editors

Prof. Dr. Guang Xu

State Key Laboratory of Refractories and Metallurgy, Wuhan University of Science and Technology, Wuhan 430081, China

Dr. Man Liu

State Key Laboratory of Refractories and Metallurgy, Wuhan University of Science and Technology, Wuhan 430081, China

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

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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

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