

Special Issue

Advances in Quench and Tempered Steels

Message from the Guest Editor

When the Q&P process is preceded by thermomechanical rolling comprising controlled rolling in the recrystallization regime, followed by controlled rolling in the no-recrystallization regime, it results in enhanced dislocation density and finer packets and laths of martensite in the transformed microstructure. This leads to enhanced strengthening. To meet the growing challenges, a new optimal Q&P design approach with suitable chemical compositions must be continuously developed. A detailed understanding of the physical metallurgy, and mechanical properties of different-grade steels obtained through different Q&P/Q&T process conditions will be greatly helpful to steel engineers. This Special Issue is dedicated to the alloy design, microstructure, and mechanical properties optimization through a novel process design approach of different-grade high-strength steels such as low-alloy TRIP-aided steels, quenching and partitioning steels, carbide-free bainitic steels, medium Mn steels, etc. Review and research articles on the recent progress on advance rapid tempering process and associated micromechanisms are also highly welcome for this issue.

Guest Editor

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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

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