



materials



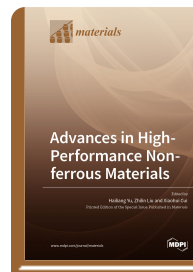
Special Issue Reprint

Advances in High-Performance Non-ferrous Materials

www.mdpi.com/books/reprint/6832

Edited by
Hailiang Yu
Zhilin Liu
Xiaohui Cui

ISBN 978-3-0365-6652-8 (Hardback)
ISBN 978-3-0365-6653-5 (PDF)



Nowadays, there is great pressure on energy conservation and emission reduction. In order to achieve these goals, weight reduction in manufacturing fields, such as the vehicle, marine, and aerospace industries, and microelectromechanical systems is the major trend. Although some structures and parts that require special properties and service conditions must use ferrous materials such as steels due to their superior thermal and wear resistance, there is a desperate need to replace these alloys with non-ferrous materials such as Al alloys, Mg alloys, Ti-based alloys, Cu alloys, and others in order to decrease the operational and maintenance costs. Recently, many new material processing techniques, i.e., irradiation, cryogenic rolling, wet chemical method, induction sintering, liquid/solid casting, heat treatment, electromagnetic hot forming, and five-axis flank milling, have been developed to enhance the performance of non-ferrous materials. Excellent work hardening, fracture toughness, mechanical properties, magnetic properties, and wear resistance could be realized depending on the appropriate application of these new technologies. This Special Issue covers these topics and focuses on the process–structure–properties relationships of high-performance non-ferrous materials.



Order Your Print Copy
You can order print copies at
www.mdpi.com/books/reprint/6832

MDPI Books offers quality open access book publishing to promote the exchange of ideas and knowledge in a globalized world. MDPI Books encompasses all the benefits of open access – high availability and visibility, as well as wide and rapid dissemination. With MDPI Books, you can complement the digital version of your work with a high quality printed counterpart.



Open Access

Your scholarly work is accessible worldwide without any restrictions. All authors retain the copyright for their work distributed under the terms of the Creative Commons Attribution License.



Author Focus

Authors and editors profit from MDPI's over two decades of experience in open access publishing, our customized personal support throughout the entire publication process, and competitive processing charges as well as unique contributor discounts on book purchases.



High Quality & Rapid Publication

MDPI ensures a thorough review for all published items and provides a fast publication procedure. State-of-the-art research and time-sensitive topics are released with a minimum amount of delay.



High Visibility

Due to our global network and well-known channel partners, we ensure maximum visibility and broad dissemination. Title information of books is sent to international indexing databases and archives, such as the Directory of Open Access Books (DOAB), and the Verzeichnis Lieferbarer Bücher (VLB).



Print on Demand and Multiple Formats

MDPI Books are available for purchase and to read online at any time. Our print-on-demand service offers a sustainable, cost-effective and fast way to publish MDPI Books printed versions.