



metals



Special Issue Reprint

Advances in Processing and Mechanical Behavior in Lightweight Metals and Alloys

www.mdpi.com/books/reprint/4466

Edited by
Claudio Testani

ISBN 978-3-0365-2273-9 (Hardback)

ISBN 978-3-0365-2274-6 (PDF)



Lightweight metals and alloys have represented for many years the most suitable solution for many high-tech applications, including sport equipment and automotive components where alternate movements required low inertia. Aerospace has probably been the sector where most of the potential of aluminum and titanium resides. The term light alloy is focused on materials based on aluminum, titanium, and magnesium systems, including the intermetallic-reinforced matrices. Nevertheless, the processing of light alloys has always been faced with low-formability and narrow-thermal processing windows with respect to the steel family. Thanks to researchers' creativity, new processes have been invented based on complex forming steps, i.e., gas-superplastic diffusion bonding, or hot isostatic postprocessing to overcome this drawback and obtain net-shape or near-net shape components. What is the new frontier of processing? What are the innovative thermal treatments to improve the toughness and fatigue limits? Further, what about the properties that are possible to reach with innovative additive forming processes, based on powder metallurgy? These are only a few of the pending questions in the field. This Special Issue is intended to provide a wide set of articles on various aspects of light alloy processing innovation and characterization. The idea is to collect a wide range of articles focused on light alloy characterization, including innovative metallurgy solution correlated with mechanical property effects. Innovation on production methods, including those based on powder metallurgy and performance in final products, is desired.



Order Your Print Copy
You can order print copies at
www.mdpi.com/books/reprint/4466

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.