



ceramics



Special Issue Reprint

Innovative Manufacturing Processes of Silicate Materials

www.mdpi.com/books/reprint/11216

Edited by

Maurice Gonon

Sandra Abdelouhab

Gisèle Lecomte-Nana

ISBN 978-3-7258-4548-4 (Hardback)

ISBN 978-3-7258-4547-7 (PDF)



Modern industries seek materials that combine high performance, cost-efficiency, and sustainability. Addressing these needs requires a holistic view that includes raw materials, compositions, microstructures, processing methods, and material architectures.

Silicate-based materials—such as ceramics, glasses, glass-ceramics, and geopolymers—exhibit diverse mechanical, chemical, electrical, and biological properties. Their versatility makes them vital in sectors such as the automotive, aerospace, electronics, energy, and healthcare fields. Product performance is strongly influenced by the raw material selection and processing techniques. Thus, innovation in manufacturing—targeting specific microstructures and architectures—is key to expanding the applications of silicate materials in advanced technologies.

This Special Issue highlights the adaptability and growing potential of silicate-based materials. From structural ceramics and refractories for harsh conditions to breakthroughs in additive manufacturing, environmental solutions, and photonic systems, these contributions reveal the close link between composition, processing, and function. Embracing both established and emerging approaches—such as geopolymers and nanoengineering—they offer fresh insights to drive future research and industrial progress in ceramic science.



Order Your Print Copy

You can order print copies at

www.mdpi.com/books/reprint/11216

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.