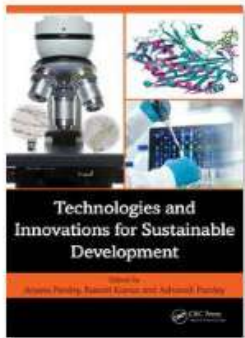


Home > Bioscience > Biotechnology > Technologies and Innovations for Sustainable Development



Book

# Technologies and Innovations for Sustainable Development

Edited By Anjana Pandey, Rakesh Kumar, Ashutosh Pandey

Edition	1st Edition
First Published	2025
eBook Published	13 March 2025
Pub. Location	Boca Raton
Imprint	CRC Press
DOI	<a href="https://doi.org/10.1201/9781003487012">https://doi.org/10.1201/9781003487012</a>
Pages	240
eBook ISBN	9781003487012
Subjects	Bioscience, Engineering & Technology



Share



Citation

You do not have access to this content currently. Please click 'Get Access' button to see if you or your institution have access to this content.

GET ACCESS

PREVIEW PDF

To purchase a print version of this book for personal use or request an inspection copy >>

GO TO ROUTLEDGE.COM

Obtain Rights & Permissions for this content.

RIGHTS & PERMISSIONS

## ABSTRACT

## RELATED BOOKS

Chapter 8 | 14 pages

### Utilization of Waste BOF Slag in Porous Concrete Pavement to Enhance Sustainability

By Arijit Kumar Banerji, Abhishek Kumar, Subhajit Banerjee, Koushik Nayek, Sabyasachi Ghosh, Ravi Kumar

GET ACCESS

#### Abstract ^

With the growing concern for environmental sustainability, there is a critical need to explore innovative approaches that minimize waste generation and maximize resource efficiency in construction practices. Porous concrete pavement, widely used in transportation infrastructure, presents an opportunity to integrate sustainable materials and techniques for a greener future. This study explores the use of Basic Oxygen Furnace (BOF) slag as a sustainable alternative to aggregates in porous concrete pavement, aiming to enhance sustainability in construction practices. Different proportions of BOF slag (0%, 25%, 50%, 75%, and 100%) were used to replace aggregates, and the properties of the waste material were examined to assess its suitability. Mechanical properties and permeability of the resulting porous concrete pavement were analysed to gauge effectiveness in storm-water management and urban flooding reduction. Experimental results highlight the potential of BOF slag in porous concrete mixtures, particularly with 50% substitution, which produced satisfactory hardened characteristics. Overall, the study demonstrates that incorporating waste BOF slag enhances mechanical properties and improves permeability and drainage performance in porous concrete pavement, aligning with efforts to promote environmental sustainability in construction.

Back to Top

Chapter 9 | 18 pages