

Ways for Powder Metallurgy and a Mechanical Milling to Be Used In Cementations Materials

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Introduction

India is a country with continental proportions and characteristics, as well as a vast richness of fauna and flora, which gives it a key position in the agricultural product extraction industry. However, one of the current issues is the growing volume of agricultural solid wastes produced by various local production processes, which results in massive environmental liabilities. The use of these agro-industrial wastes in the creation of alternative cementitious materials like mortars and concretes is one technique to successfully manage them. As a result, the purpose of this study is to address the recent advancements, problems, and future prospects of using various solid agro-industrial wastes generated in India and other areas of the world in cementitious materials. Pineapple, sugar cane, açai, coconut, and rice wastes were all investigated and discussed. This paper's discussion is expected to make a significant contribution to the promotion of public policies that permit the real-world application of these wastes in the production of environmentally friendly cementitious materials for civil construction [1-4]. This literature study was conducted to provide an overview of the use of diverse agro-industrial wastes in India, as well as to highlight future research and applications. This study concludes that there is a convergence in the use of wastes in the form of natural fibres in cementitious matrices, mostly through mercerization, which nevertheless has major environmental consequences.

Description

Some of the gaps previously indicated reveal a lack of correlation procedures for fibre type variability and its influence on the matrix, as well as difficulties linked to the progress of other treatment approaches that are limited to a single research. When it comes to the use of ashes, the literature is more consolidated in terms of their integration and behaviour in the cementitious system. In general, the economic and environmental costs of using these wastes are still high, owing to the requirement to process these fibres in developing nations like India, which adds to their poor commercialization. In terms of economic value, the proposal of categorising agro-industrial waste into two types must yet be completed. The first category has a proven economic potential with a large national and worldwide consumer market, while the second type is novel agro-industrial residues, which have a significant scientific research potential in the next years. India has enormous economic and environmental potential in harnessing these natural resources, with the goal of lowering CO₂ emissions into the atmosphere using traditional materials that can even be converted into carbon credits on the international market [5].

Conclusion

In terms of economic value, the proposal of categorising agro-industrial waste into two types must yet be completed. The first category has a proven economic potential with a large national and worldwide consumer market, while the second type is novel agro-industrial residues, which have a significant scientific research potential in the next years. India has enormous economic and environmental potential in harnessing these natural resources, with the goal of lowering CO₂

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Conflict of Interest

The authors declare that they are no conflict of interest.

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