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LOW CARBON IN THE REUSE OF PORTLAND CEMENT BAGS: A TEN-YEAR REVIEW

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Abstract

The building sector is responsible for disposing vast amounts of bags contaminated with Portland cement, which is not a noble solid waste for recycling and has a significant cost and environmental impact. There are still relatively few studies establishing destinations that meet the various feasibility criteria, but the number has increased gradually in recent years. This study aimed to analyze the final destination of residual cement bags and their possible reuse, separating documents with and without indexing in the Scopus database, highlighting the identification of the type of cement bag that emits the most carbon dioxide (CO₂) in its life cycle, as well as the improvement of technical and environmental performance in more than 10 new materials where cement bags were reused replacing natural resources by up to 50% and a recent diagnosis on the problem of bags contaminated with Portland cement, including systematic bibliometric information. If Portland cement continues to be transported in bags, this work presents some of the alternatives that have been proposed for a cleaner production.

Key words: cement bag reuse, cement industry, cleaner production, solid waste

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