

# Fibers, Ciment, and Lime in Earth Construction Materials: A Review

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## Abstract

This review examines the integration of fibers, cement, and lime in earth construction materials, highlighting their roles in enhancing the mechanical, thermal and durability properties of these sustainable building materials. The use of natural fibers has been a traditional practice in earth construction, providing reinforcement to raw earth and lime-based mortars. The review discusses various types of fibers and their effects on the physical, thermal, mechanical, and hygrothermal properties of earth-based composites. Additionally, it explores the benefits of incorporating cement and lime as stabilizers, which improve the compressive strength and durability of earth materials. By analyzing existing literature, the review identifies optimal compositions and treatment methods that enhance the performance of compressed earth blocks and other earth construction techniques, ultimately promoting more sustainable building practices.

## Keywords

Natural Fibers, Mechanical Properties, Thermal Performance, Durability, CEB, Adobe