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Development of Stabilized Compressed Earth Blocks for Enhanced Thermal Insulation

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Abstract : This study investigates the development of stabilized compressed earth blocks (CEBs) with improved mechanical and thermal properties for sustainable construction. Formulations incorporating sand, low-carbon binders, and miscanthus fibers were evaluated. The earth was characterized through various geotechnical tests. Results indicate that the addition of these components optimizes CEB performance, offering a promising alternative to conventional building materials. The study demonstrates the potential of stabilized CEBs in addressing both environmental concerns and modern construction standards.

Keywords : thermal insulation, compressed earth blocks, instrumentation, simulation
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