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# Coupled heat and moisture transfer in hollow concrete block wall filled with compressed straw bricks

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## Highlights

- (1) The boundary conditions at one side of tested wall have a series changes.
- (2) Heat and humidity gradient effect hygrothermal properties of tested wall greatly.
- (3) Compressed straw bricks improve hygrothermal properties of tested wall.
- (4) Software is proposed to simulate heat and moisture transfer in multilayer wall.
- (5) Experiments on energy-saving wall are conducted with our designed instrument.

**Abstract:** Coupled heat and moisture transfer has a severe influence on building envelop durability. This phenomenon has more concerns as the rapid development of new moisture buffering materials. In this paper, a detailed description of hollow concrete block filled with compressed straw bricks is presented. In order to reveal heat and moisture coupling mechanism of the multilayer energy-saving wall, a series of tests

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