

Termite Brick Temperature and Relative Humidity by Continuous Monitoring Technique

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Abstract : For the intention of reducing energy consumption, a proposed construction brick was made of imitation termite mound soil referred here as termite brick (TB). To calculate the thermal performance, a real case model was constructed by using this biomimetic brick for testing purposes. This paper aims at investigating the thermal performance of this brick during different climatic months. Its thermal behaviour was thoroughly studied over the course of four months by using continuous method (CMm). The main parameters were focused on temperature and relative humidity. It was found that the TB does not perform similarly in all four months and/or in all orientations. Each four-month model study was deeply analyzed. By using the CMm method, the model was also examined. The measuring period shows generally that internal temperature and internal humidity are higher in the roof within 2 degrees and lowest at north wall orientation. The relative humidity was also investigated systematically. The paper reveals more interesting findings.

Keywords : building material, continuous monitoring, orientation, wall, temprature

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