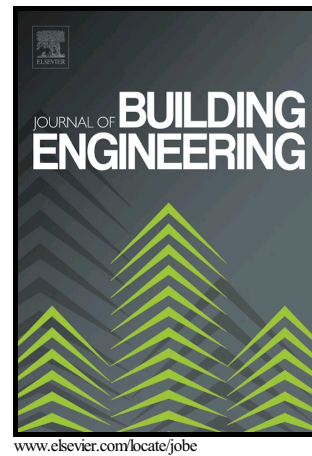


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Experimental heat flux analysis of a solar wall design in Tunisia

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Abstract

The present paper contributes to the strengthening of efforts to encourage the integration of a solar passive system inside buildings, which can provide further heating in winter.

This study is based on experimental results to establish a heat analysis of a Trombe wall. For this purpose, experiments were conducted in Borj Cedria Tunisia on a test cell under real time circumstances to measure the different parameters influencing the Trombe wall operation. We carried out a detailed study leading to the estimation of heat exchanges for the essential Trombe wall features.

Experimental results with predictions based on heat analysis, allow the evaluation of different coefficients of heat exchange in function of climatic data and geometrical dimensions of the wall. The results revealed that the radiation exchange is higher than the convective exchange in the air gap and inside the test room too. The

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