THERMAL PERFORMANCE OF NATURALLY - VENTILATED TEST BUILDING WITH ROOF INSULATION AND CEILING INSULATION

By

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ABSTRACT

This study is to evaluate the benefit of naturally – ventilation test building with insulated roof and insulated ceiling. The experimental were conducted inside the Twin Energy Efficiency Test Cells in the campus of Universiti Teknologi MARA, Shah Alam Selangor, Malaysia. Two test buildings, named as Test Cell A and Test Cell B, with identical building design and constructions were used. Test Cell A is a control unit while Test Cell B was installed with the insulation. The data collected outdoor temperature, indoor temperature and relative humidity. Based on the present study it was found that in a naturally – ventilation building, it is better to install the insulation at the ceiling. The range of temperature and relative humidity do not fall within the comfort range according to the ASHRAE 55 standard.