

Assessment of monitored energy use and thermal comfort conditions in mosques in hot-humid climates

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ABSTRACT

In harsh climatic regions, buildings require air-conditioning in order to provide an acceptable level of thermal comfort. In many situations buildings are over cooled or the HVAC system is kept running for a much longer time than needed. In some other situations thermal comfort is not achieved due to improper operation practices coupled with poor maintenance and even lack it, and consequently inefficient air-conditioning systems. Mosques represent one type of building that is characterized by their unique intermittent operating schedule determined by prayer times, which vary continuously according to the local solar time. This paper presents the results of a study designed to monitor energy use and thermal comfort conditions of a number of mosques in a hot-humid climate so that both energy efficiency and the quality of thermal comfort conditions especially during occupancy periods in such intermittently operated buildings can be assessed accurately.

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