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Thermal comfort and energy solutions for a better residential environment in Malaysia (Article)

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Abstract

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In hot-humid Malaysia, there are around five million units of housing. Among these, the medium-density terraced are the most built. However, little emphasis was given to designing for thermal comfort and energy efficiency. Consequently, air-conditioning is ubiquitous with ever-rising residential energy consumption. This paper studied passive design systems to improve living conditions and conserve energy through orientation and insulation parameters for terraced housing. Utilizing a triangulation of methods to correlate between thermal comfort and energy performance, findings from the questionnaire survey, data monitoring and computer simulation contended that with the passive design strategies minimum thermal comfort is attainable and energy savings predicted. © 2015 by Malaysia Institute of Planners (MIP).

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