

Energy Efficiency through Building Envelope in Malaysia and Singapore

ABSTRACT

The optimisation of fossil fuel consumption for generating electricity for building cooling is among the objectives set by most of the countries in the world. Currently, the American and European standards are among the most referred standards in the world for optimising heat transfer through the building envelope. However both standards do not reflect climate specifications of some countries such as those located in the humid tropics. The divergence in the approaches adopted by several Asian countries in minimising the heat transfer through the building envelope added another complexity to the topic. Other complexities are the divergence of European and American standards and the additional issue about the lack of validated weather data (TRY) in the humid tropics such as the case of Malaysia and Singapore. Those and other relevant issues on energy efficiency through the building envelope were addressed in the present article. Additionally a worked example and Excel sheet formulas were developed while considering Malaysian and Singaporean codes. Some recommendations were also suggested in the present article when deemed necessary.