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A REVIEW OF HEAT AND MOISTURE PERFORMANCE OF ATTIC ROOFS

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Abstract:

Energy efficiency and hygrothermal performance are some of the main considerations that need to be taken into account during designing and construction of attic roof system. A number of studies have been conducted on building durable and energy efficient attic roofs over the past nine decades. Most of these studies recommend ventilating an attic space as an ideal solution to avoid mould growth and to reduce heating/cooling load of the system. Others studies strongly argued that not every attic space necessarily needs ventilation. This paper reviews the existing body of knowledge on the moisture and energy performances of both practices in different climatic regions. In addition, the effects of insulation, radiant and vapour barriers on both energy savings and moisture contents in the attic structure are revisited. Finally, the emerging technologies which have been recently introduced to enhance the performance of an attic roof are discussed.

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