

## Application of Heritage Clay Roof Tiles in Malaysia's Government Buildings: Conservation Challenges

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**Abstract :** The use of clay roof tiles was spread out through Asia and Europe, including Malaysia, since the early 17th Century. Most of the common type of clay roof tiles are used in a flat and rectangular shape, measurement, styles, and characteristics through each tradition and interest, including responsive to the climate. Various types of heritage clay roof tiles were used in Malaysia's Government Buildings dated 1865, 1919, 1936, and so forth, which mostly were imported from India, France, and Italy. Until now, these heritage clay roof tiles are still found throughout Malaysia, including the 'Interlocking' clay roof tile type. This study is to investigate and overview the existence of heritage clay roof tiles used in Malaysia; the 'interlocking' type with 'lip' and 'hooks', through literature reviews as desktop study besides carried out a preliminary observation on various sites and interviews. From the literatures, the last production and used of the local heritage clay roof tiles in Malaysia dated in mid 1900s in Batu Arang, Selangor. The brick factory was abandoned since early 2000s. Although the modern 'Interlocking' type were produced to duplicate its form, pattern, and size of the original one, they still facing the problem to blend and merged, which end up dismantling the original version, or replacing one to one condition and even replaced overall with the modern materials. This is quite contradicting with the basic principles of building conservation and had become a challenge. Initial findings from the preliminary observation on site in various state in Malaysia shows some evidence that the heritage clay roof tiles are still intact and been used. Some of them might change to modern roof materials such as metal deck, probably due to easy maintenance and cheaper. Also, some are still struggling to maintain and retain its looks and authenticity of the roof while facing the increasing of material cost. Those improper alteration and changes made is due to lack of knowledge among the owner and end user. Various aspect needs to be considered in order to sustain its usage and its original looks by looking at the proper maintenance aspects of the heritage clay roof tiles to prolong the building life for future generation preferences.

**Keywords :** challenges, clay, interlocking, maintenance

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