

Evaluation on Adobe External Walls Based on the Life Cycle Costs



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ABSTRACT

External walls are the building elements that occupy a significant percentage of the building envelope. Choosing of the exterior wall material is an important matter for minimizing both the construction costs and any costs that arise during the usage process, especially in housing buildings. Adobe offers an economic option of exterior wall both in terms of construction and usage, as it can be produced without being processed in the factory, supply of raw material is easy, and heat permeability is low. This study establishes the stratification models at section order in the event of usage of adobe primarily as the exterior wall material and other principal materials in a building typology with a housing function. And then, the criteria that affect the cost in terms of the exterior wall material during the building construction and usage process were set forth. The cost data of the exterior wall options determined in accordance with the cost criteria were calculated. In conclusion, all exterior wall options were evaluated by comparison based on the construction and usage cost data.

Keywords: External wall, adobe wall, building life cycle cost.