

ABSTRACT

CHANGES OF SLAKED LIME FORMULA IN TRADITIONAL THAI ARCHITECTURE CONSERVATION

This research's objectives are to study change in formulas, preparation process and influences on variation of slaked lime for conservation of Thai architecture with the use of primary and secondary data, field study of slaked lime ingredients in today's market and interview with slaked lime users on site.

The study found that key ingredients of every kind of slaked lime are lime, sand, glue and cellulose. Since there have been a great number of formulas and preparation processes of slaked lime for construction in Thailand, it is difficult to find the ultimate formula or process. There have always been improvements to the formulas and preparation processes of the lime to solve time-consuming and long time to set problems of the traditional formulas. Moreover, artisans must well understand qualifications and limitations of lime use to improve the formulas. Modern-day artisans have tried to find solutions to make the lime set faster and respond to needs of artisans better. Dramatic change of traditional slaked lime formulas happened when cement plant was established for the first time in Thailand causing Portland cement to be widely used due to convenience, quick drying and strength. Moreover, traditional architecture conservation in a certain period focused on using cement and modern materials for architecture restoration which has decreased popularity of slaked lime, entirely made of natural ingredients, over time.

Timing is another key factor affecting use of slaked lime in Thai architecture, selection of raw materials and preparation process of artisans. This means change over time, advancement of technology and construction materials and limitation of time in completing construction process under project timeline. All these result in use of electric appliances, battering and crushing machines and adopting of modern materials to use with traditional ones such as mixing white Portland cement with

slaked lime for bricking and using emulsion copolymer bonding agent to improve cement's efficiency and reduce working period at present.