

## Lime Based Products as a Maintainable Option for Repair And Restoration of Historic Buildings in India

**Authors :** Adedayo Jeremiah Adeyekun, Samuel Oluwagbemiga Ishola

**Abstract :** This research aims to study the use of traditional building materials for the repair and refurbishment of historic buildings in India and to provide an authentic treatment of historical buildings that will be highly considered by taking into consideration the new standards of rehabilitating process. This can be proven to be an effective solution over modern impervious material due to its compatibility with traditional building methods and materials. For example, their elastoplastic properties allow accommodating movement due to settlement or moisture/temperature changes without cracking. The use of lime also enhances workability, water retention and bond characteristics. Lime is considered to be a natural, traditional material, but it is also sustainable and energy-efficient, with production powered by biomass and emissions up to 25% less than cementitious materials. However, there is a lack of comprehensive data on the impact of lime-based materials on the energy efficiency and thermal properties of traditional buildings and structures. Although lime mortars, renders and plasters were largely superseded by cement-based products in the first half of the 20th century, lime has a long and proven track record dating back to ancient times. This was used by the Egyptians in 4000BC to construct the pyramids. This doesn't mean that lime is an outdated technology, nor is it difficult to be used as a material. In fact, lime has a growing place in modern construction, with increasing numbers of designers choosing to use lime-based products because of their special properties. To carry out this research, some historic buildings will be surveyed and information will be derived from the textbooks and journals related to Architectural restoration.

**Keywords :** lime, materials, historic, buildings, sustainability

**Conference Title :** ICCHBN 2021 : International Conference on Conservation of Historic Buildings with Nanomaterials

**Conference Location :** Auckland, New Zealand

**Conference Dates :** December 01-02, 2021