

Reinforcing adobe as a building material and applicable building model proposal for rural areas;



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Abstract

Adobe structures offer a number of advantages such as providing a high level of physical comfort conditions, low initial costs and low lifecycle costs. These characteristics of adobe structures make them an alternative technology for pursuing sustainable construction. Despite their advantages, adobe-structures have some shortcomings. Adobe is brittle and it has a low compressive and tensile strength. Besides this, low water resistance is its weakest feature. Up to now, a great loss has been seen due to the earthquakes. A huge number of people living in adobe structures have lost their lives and there have been great damages on these buildings. This research addresses shortcomings of adobe structures. It explores alternative ways of increasing compression strength, toughness, flexibility and water resistance of the adobe blocks. It concludes with proposing an alternative house design.

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