A concise history of the use of the rammed earth building technique including information on methods of preservation, repair, and maintenance

A Concise History of the Use of the Rammed Earth Building Technique Including Information on Methods of Preservation, Repair, and Maintenance

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Abstract
Pisé de terre or rammed earth is a building technique that has existed for over ten thousand years. Although this technique was first documented for Western Civilization by the Roman Pliny the Elder circa 79 AD, evidence of its use prior to his time is found in China, Europe, and elsewhere. Rammed earth achieved notoriety in the United States during three distinct periods in its history: the Jeffersonian era, the Great Depression, and the Back-to-Nature Movement of the 1970s. In the United States earth buildings are uncommon and usually deemed marginal or fringe. This is true even though at times the U.S. government has been a proponent of alternative building techniques, especially rammed earth. Intended for those interested in material culture, this thesis provides a brief history of rammed earth, articulates its importance to the building record of the United States, and describes methods for its preservation, repair, and maintenance.

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Conclusion

The recent widespread use of rammed earth across the world is an evidence to its success as a building material. The review comprises a study of the current state of the art of rammed earth construction as published in over 200 books, journal and conference papers, scientific reports and other articles. In addition to the literature review recent and historic rammed earth projects in the UK have also been studied and these findings are presented as well. The literature review concludes with a summary of maintenance and repair practices. Notes. A Review of Rammed Earth Construction for DTI Partners in Innovation Project ‘Developing Rammed Earth for UK Housing’ May 2003 Prepared by: Vasilios Maniatidis & Peter Walker Natural Building Technology Group Department of Architecture & Civil Engineering University of Bath Bath BA2 7AY Telephone: 01225 386646 Facsimile: 01225 386691. The soil used for this system requires small quantities of water in order to be adequately compressed. This last fact represents a great difference with other building techniques that use raw earth, in which the moisture of the soil mixture is a most important factor. WIT Transactions on The Built Environment, Vol 118, © 2011 WIT Press www.witpress.com, ISSN 1743-3509 (on-line) doi:10.2495/STR110411.498. Structural Repairs and Maintenance of Heritage Architecture XII. Besides sharing ecological qualities with the other earthen building systems, rammed earth technology has the advantage of its...