"STUDIES ON STABILIZED ADOBE BLOCK FOR LOW ENERGY MASONARY BUILDINGS"

A Project Report submitted to

DEPARTMENT OF CIVIL ENGINEERING
THE NATIONAL INSTITUTE OF ENGINEERING
MYSORE-570008

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ABSTRACT

This project seeks to bring out the technology of ADOBE as a sustainable and energy efficient method of construction. Adobe is one of the oldest sustainable building materials in the world. It is strong in dry condition but loses structural integrity when exposed to moisture. Chemicals such as cement are added to the adobe mix to prevent it from disintegrating in the wet state. Once the chemical is mixed the bricks thus prepared are known as stabilized adobe bricks.

This project has been done using cement as a stabilizer, varying it in the following two proportions:

- **7% by weight of soil**
- **10% by weight of soil**

Various tests are then performed on adobe bricks so as to prove their worth as an effective replacement for other masonry units.

The latter part of the project consists of design of a typical G+1 residential building using adobe bricks. Also, we calculate the embodied energy of the bricks and bring about a comparison with other locally available materials.