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The relevance of adobe for contemporary architecture and Alker

photograph

Ruhi Kafescioğlu
Yeşilkır Sok. 6/3 Selamiçeşme Kızıltoprak Istanbul

ruhikafescioglu@superonline.com

ABSTRACT

A building material used since prehistoric times, adobe continues to be a contemporary building material; its advantageous properties make it a widely used material in wealthy and developing countries alike. As some of its disadvantages are being eliminated and its significance for environmental protection is recognized, adobe has become the subject of further research worldwide. In Turkey, Istanbul Technical University has carried on laboratory and field research and applications of this material since the 1940's.
The paper will expound on the significance of adobe for the contemporary world through a range of examples, and turn to the research on Alker. Alker (gypsum stabilized adobe) has been developed in research projects carried on by the Architecture, Engineering, and Chemistry departments of Istanbul Technical University since 1975. The research has been developed with further projects, and experimental structures have been constructed with four different techniques. The paper will focus on the reasons for stabilization of adobe, advantages of Alker in comparison to other methods of adobe stabilization, and the chemical properties of the adobe, clay, and gypsum combination. The properties of this new material, and the characteristics of structures built with Alker will be explained, and its potential for a variety of uses will be discussed.

KEYWORDS

Alker, stabilization, gypsum, research history