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PERFORMANCE IMPROVEMENT OF EARTH-BASED BUILDING MATERIALS BY ADDING DOMESTIC SUGAR – AN EXPERIMENTAL STUDY

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Abstract:

Recent statistics indicates that approximately one third of the world's population lives in buildings constructed of earth based materials. Among the long inventory of traditional construction materials, raw earth has always had an important ranking position, easily justified by its own physical and chemical properties: it is ecological, recyclable, abundant and economic. The incorporation of different organic materials (including biopolymers) in earth-based building materials in order to improve the material behaviour is an applied building procedure. In the presented paper saccharose (a disaccharide with a high water solubility and water binding capacity) was used and the structural performance was investigated through compression tests. The specimens were prepared with varying the liquid phase, sugar percentage and curing period. Based on the results of this experimental work, proposals for stabilizing existing earth construction are made.

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