## Valorization of the Algerian Plaster and Dune Sand in the Building Sector

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**Abstract :** The need for thermal comfort of buildings, with the aim of saving energy, has always generated a big interest during the development of methods, to improve the mode of construction. In the present paper, which is concerned by the valorization of locally abundant materials, mixtures of plaster and dune sand have been studied. To point out the thermal performances of these mixtures, a comparative study has been established between this product and the two materials most commonly used in construction, the concrete and hollow brick. The results showed that optimal mixture is made with 1/3 plaster and 2/3 dune sand. This mortar achieved significant increases in the mechanical strengths, which allow it to be used as a carrier element for buildings, of up to two levels. The element obtained offers an acceptable thermal insulation, with a decrease the outer-wall construction thickness.

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