

PHYSICOMECHANICAL CHARACTERIZATIONS OF SAND CONCRETE: PRE-STRESSED BEAMS AND HOLLOW BRICKS

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The use of the sand concrete makes it possible to carry out a concrete having physico-mechanical properties answering the structural exigences and having economic and environmental advantages compared to the classical concrete. The present study aims to connect the parameters of formulation based on Caquot formula in order to optimize the couple compressive strength/absorption of water under various degrees of hygrometry and on the other hand, more precisely to use the concrete sand in the public works sector in the prefabrication of prestressed beams and hollow bricks. The results showed the importance of the type of formulation used because it takes into account the percentages of fillers of sand which is a co-product (waste) of massive rock crushing. In addition, the use of fillerized sands, which are wastes of crushing basaltic rocks containing a small percentage of fillers, is efficient in the manufacture of prestressed beams. For the hollow bricks, fillerized basalt sand, containing a high percentage of filler, as well as a sand dune give satisfactory results.

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