

## BEHAVIOUR OF PEAT-ADDED COMPOSITE BRICKS IN LOW COST BUILDING CONSTRUCTION

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**Abstract:** Composite building materials, developed locally with available peat soil for low cost housing construction, have great potential for application in the construction industry based on their engineering properties. Peat land comprises about 30 million hectares, about five to eight percent of the total world surface area. Utilizing available peat and taking significant advances of compressed stabilization technologies, peat brick may be environmentally affable compare to the conventional building materials. Present study deals with the development of peat bricks, evaluation of its behavior and its application on construction industry. Experimental studies for physical and mechanical behaviour of peat bricks are performed. Production of peat, siliceous sand and cement solid bricks to the role of various types of constructional applications has been investigated. The development needs, potential usages and applications of peat bricks in the country Malaysia have been explored. The simplicity in technology incorporated in peat bricks give flexibility and easy transfer of knowledge between different stakeholders in the building industry. The compressive strength and unit weight significantly reduce and water absorption values upturn with increased replacement of peat as aggregate. The effect of 54% volumetric replacement with peat does not exhibit any sudden brittle fracture even beyond the ultimate loads and a comparatively smooth surface are found. Application of peat and sand as newly brick substances appears to be a doable solution not only in environment but also to the economic design of buildings. Present peat brick concept can be used for building construction in an affordable manner.