

A comparative study of compressed earth bricks (ceb's) and sandcrete blocks for building construction

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Abstract

This study examined the production and testing of sandcrete bricks and compressed earth bricks (CEB's) with a view to comparing their strength and moisture content of materials used. Some units of sandcrete bricks and laterite bricks were made using machine vibrated sandcrete brick mould and hydraulic brick making machine respectively. The bricks were tested to determine their moisture content and compressive strength. The results obtained from the tests were compared with the specifications of Nigerian Building and Road Research Institute (2006), Nigerian Building Code (2006), and Nigerian Industrial Standards (2000). The results indicated that the compressive strength of 300×150×170 sandcrete bricks varies from 1.3 N/mm² to 2.6 N/mm², as the curing age increases from 7 to 28 days. For laterite bricks, the strength varies from 1.0N/mm² at 7 days to 2.2N/mm² at 28 days. All the bricks produced satisfied the minimum requirements in terms of compressive strength, by all available codes, but the compressive strength of sandcrete bricks is higher than the CEB's. It was concluded that sandcrete bricks have better strength compare to compressed earth brick, more so compressed earth bricks (CEB's) absorb more water than sandcrete bricks, and sandcrete bricks can be use as substructure (foundation unit). It was recommended among others that sandcrete bricks should be used for foundation of a building.

Keywords: Concrete, Sandcrete bricks, Laterite, Compressed Earth Bricks (CEBs), Building, Compressive strength.

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