

Influence of Portland Cement Brands and Aggregates Sizes on the Compressive Strength of Normal Concrete

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Abstract A good number of building failures have occurred in Nigeria which resulted in the loss of lives and a lot of these failures are attributed to the poor concrete practices used for the execution of these constructions. These have shown that the concrete technology adopted in Nigeria has some issues and requires urgent attention for development and improvement. This study explored methods of improving concrete practices so as to obtain better qualities structures. The research replicated some of the common concrete practices adopted by the construction industry in Nigeria to obtain the compressive strength of normal concrete. Two types of Portland cement brand, Type A and Type and three aggregate sizes (12.5mm, 19mm and 30mm) together with a mixed-size aggregate were utilized for the research. The concrete produced were tested for compressive strength and compared with test results from sites in Lagos Nigeria. The results showed how cement brands and aggregate sizes influence the compressive strength of normal concrete. The results also proved that the common poor quality concrete verified in Nigeria are not properly prepared.