Use of Aruwakkalu Sand for Medium Strength Concrete

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Cement, sand, and aggregate are the basic needs for any construction industry. Sand is a prime material used for preparation of mortar and concrete. Now a day's due to the excessive use of sand mining from the rivers for the construction industry river erosion has occurred. Due to this government has implemented several rules and regulations which leads to a shortage of river sand. Due to this cost of river sand has increased. The non-availability and the high cost of river sand will affect the construction industry, hence there is a need to find the new alternative material to replace the river sand, such that excess river erosion and harm to environment is prevented. Many researchers are finding different materials to replace the river sand and one of the major materials found was quarry stone dust. This project is reviewed the suitability of using Aruwakkalu sand, which is a waste product of most of cement industries Limestone quarry in preparation of concrete. Recently natural sand is becoming a very costly material because of its demand in the construction industry. Due to this condition this research aimed for cheap and easily available alternative material to natural sand. Concrete designs were prepared according to BRE mix design. The river sand have been proportionately with Aruwakkalu sand and prepared several designs for grade 25 and casted the cubes. After soaking for 7 days, it was observed that 100% Aruwakkalu sand used Cube shows the highest strength than river sand used concrete designs. Strength wise there is no hesitation of using Aruwakkalu sand. But the salt concentration needs to be considered.

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