



Effect of using Different Types of Sand on Workability, Mechanical and Durability Performance of High Strength Concrete

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Abstract : A rising need for alteration of conventional construction materials is encountered because of exploitation of the resources. There emerging technologies and alternatives that support change in material such as fine aggregate. The conventional fine aggregate used was river sand, as the crisis for river sand has increased, the alternate fine aggregate with remarkably relative properties of being used. This study mainly focuses on the comparison of parameter of the concrete similar grade of river sand, lateritic sand M-Sand and silica sand. This paper reported that fully replacement of river sand by silica sand, lateritic sand M-Sand. The fully replacement of river sand by alternative sand gives better hardened concrete, durability performance and special property of concrete compare with conventional concrete. The artificial sand such as silica sand, lateritic sand M-Sand, the compressive strength is increased about 33.572%, 30.572% and 27.904% in M20 Grade of concrete. The durability performance is better in silica and sand lateritic sand compare with conventional concrete. M-Sand is poor durability performance.

Key words : cement, concrete, lateritic sand, M – sand, River sand, silica sand, water absorption.

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