


Article


Mechanical properties on high performance concrete by replacing the cement by flyash, silica fume and metakaolin

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Abstract

Concrete is probably the most extensively used construction material in the world. The addition of mineral admixture in cement has dramatically increased along with the development of concrete industry, due to the consideration of cost saving, energy saving, environmental protection and conservation of resources. High Performance Concrete (HPC) is the latest development in concrete. It has become more popular these days and is being used in many prestigious projects. The utilization of calcined clay, in the form of high reactivity metakaolin and silica in concrete has received considerable attention in recent years. The present paper deals with the study of compressive strength of M60 grade HPC mixes incorporating different percentages of high reactivity metakaolin and silica fume by weight of cement along with some suitable super plasticizer. The results of the study indicate that the strength study of HPC mixes improved by incorporating metakoalin and silica fume up to a desirable content of 15% and 5% respectively by weight of cement.

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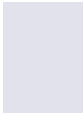
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Mechanical and durability properties of high performance concretes containing supplementary cementitious materials