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IJCA Proceedings on International Conference
on Quality Up-gradation in Engineering, Science and Technology

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ICQUEST 2015 - Number 8

Year of Publication: 2015

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{bibtex}icquest2886.bib{/bibtex}

Abstract

The use of supplementary cementitious materials is well accepted because of the several improvements possible in the concrete mix, for overall economy. The present work is a support

to use the waste product from steel industry is helpful in cement which also helps to reduce the carbon footprint. In recent years Blast Furnace Slag when replaced with cement has emerged as a major alternative to conventional concrete and has rapidly gain the concrete industry's attention due to its cement savings, energy savings, cost savings, socio-economic and environmental benefits. The present study reports the results of an experimental study, conducted to evaluate the strengths and strength efficiency factors of hardened concrete, by partially replacing the cement by various percentages of ground granulated blast furnace slag. The optimum GGBS replacement as cementitious material is characterized by high compressive strength, low heat of hydration, resistance to chemical attack, better workability, good durability and cost-effective. In this work we are going to study the effects of GGBS on the compressive strength of the cements concrete by replacing cement with GGBS by 10%, 15%, 20%, and 40%. This project work also includes the benefits of using GGBS and its effects on the cement and concrete properties and its durability, and its sustainability.

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Index Terms

Computer Science

Applied Sciences

Keywords

Ground Granulated Blast Furnace Slag Cement Concrete Compressive Strength.