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A Literature Review on Flexural and Shear Behavior of Geopolymer concrete Beam with Carbon Fiber

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Abstract

In 1979 Davidovits introduced the Geopolymer concrete to reduce the use of ordinary Portland cement. The depletion of the ozone layer and global warming issue has increased more awareness of the construction industries to use eco-friendlier materials. The use of Geopolymer technology could reduce the CO2 emission in to the atmosphere, caused by cement industries by about 80%. The use of Geopolymer concrete has started to gain attention in the field of research and construction practices, due to its numerous advantages in using the by-product waste to replace cement and also to reduce the greenhouse gas emission at the time of its production. Fly ash and GGBS which is one of the source materials for Geopolymer binders and also available abundantly in India, but the utilization till date is limited. The recent research about Geopolymer concrete states, that it has the potential to replace the conventional cement based concrete by locally available resources. This paper focuses on presenting a brief historyand also a review of Geopolymer Concrete technology with the aim of introducing the technology and the vast categories of materials that may besynthesizedby alkali activation of alumino silicates.

Keywords:

FlyAsh, GGBS, Carbondioxide, Fibres in concrete, Geopolymer Concrete, NaoH, Strength, Durability and Applications.

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