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Expanded Polystyrene Fly Ash Geopolymer Concrete Structure

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Abstract: *The objective of the project is to study the Strength characteristics of Fly ash-based Geo polymer concrete using Sodium hydroxide and Sodium silicate. Sodium hydroxide gives more advantage using in geo polymer concrete. Fly ash is one of the larger overdoing materials vacant from thermal power plants. Its treatment and disposal were a problem in the prime stages. Investigator commence out a useful method of replacing fly ash for cement in calculated quantities. Presently the percentage of replacement has been increasing. Here an experiment has been conducted to Study the performance of concrete using fly ash as the larger required material without addition of cement. Low calcium fly ash (class F) is preferred as a source material than high calcium fly ash (class C) alkaline liquid Sodium hydroxide and Sodium silicate are used in this project as binders and expanded polystyrene (EPS) used in this project. Given the fact that fly ash is considered as the waste material, fly ash-based Geo polymer concrete using Sodium hydroxide and Sodium silicate. Therefore, cheaper than the Portland cement concrete. The special properties of geo polymer concrete can further enhance the economic benefits.*

Keywords: Expanded Polysterene, Geopolymerization, Potassium Silicate, Normal Mix Design, Wet Density of Geopolymer Concrete