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**TITLE OF PROJECT:** Experimental Study on Concrete Using Fumed Silica  
And Graphene oxide

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**ABSTRACT (150-300 words):**

**This paper presents an experimental study on the use of Fumed Silica (FS) and Graphene Oxide (GO) in concrete. These nanomaterials have been shown to enhance the mechanical and durability properties of concrete. Initially, using the Indian Standard guidelines, the concrete mixes were designed to achieve a Quality Concrete of compressive strength 30 MPa using conventional OPC concrete. This study investigates on the effects of adding these nanomaterials on the compressive strength, flexural strength, split tensile strength and thermal conductivity of concrete. The results demonstrate that the addition of these nanomaterials improves the mechanical properties of concrete. This suggests that Fumed Silica and Graphene Oxide have the potential to be used as additives in concrete to enhance its properties and durability, while in this study fumed silica has been used as a partial replacement for cement. The replacement of cement with fumed silica not only improved strength of the concrete, but also improved the insulating properties of the concrete. The findings of this study contribute to the knowledge of how nanomaterials can be utilized to improve the performance of concrete, which could have practical applications in the construction industry**

**KEYWORDS:** Graphene Oxide (GO); Fumed Silica (FS); Nanomaterials; Mechanical and Durability properties

**CATEGORY:** Concrete Technology and Building Materials