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DEPARTMENT OF CIVIL ENGINEERING

A PROJECT REPORT ON

"STRENGTH AND ELASTICITY OF COMPOSITE MORTAR"

(SPONSORED BY K. S. C. S. T)

Under the Guidance of

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ABSTRACT

The versatility of mortar as building material pushed the research into improving properties of rather old mortar. The demand for improved properties of mortars like strength, workability and modulus of elasticity increased was facilitated by the introduction of different ingredients like lime, soil, and stone dust.

There is no single mortar mix which can satisfy all the requirements in all the situations. Therefore this project mainly deals with study of strength and elasticity of mortar by varying the proportions of the ingredients. Different trials have been done with different water content.

Project involves studying the properties of mortar in two different states such as fresh state and hardened state. These properties include parameters that characterize the nature of the material and are necessary in the design of masonry and these properties include workability, compressive strength and modulus of elasticity of mortar. Workability of fresh mortar is determined by Flow table test. For the analysis of compressive strength, mortar cubes of size 70.6 x 70.6 x 70.6mm were prepared and cured. They were tested for 7 and 28 days strength in compression testing machine. For modulus of elasticity of mortar, prisms of size 150x150x300mm were casted and cured. They were tested for 28 days, from which deflection is determined. All these tests were conducted on different proportion mortar and they were compared.