

## Investigation on Strength Properties of Concrete Using Industrial Waste as Supplementary Cementitious Material

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**Abstract :** The use of industrial waste in making concrete reduce the consumption of natural resources and pollution of the environment. These materials possess problems of disposal and health hazards. An attempt has been made to use paper and thermal industrial wastes such as lime sludge and flyash. Present investigation is aimed at the utilization of Lime Sludge and Flyash as Supplementary Cementitious Materials (SCM) and influence of these materials on strength properties of concrete. Thermal industry waste fly ash is mixed with lime sludge and used as a replacement to cement at different proportions to obtain the strength properties and compared with ordinary concrete prepared without any additives. Grade of concrete prepared was M<sub>25</sub> designed according to Indian standard method. Cement has been replaced by paper industry waste and fly ash in different proportions such as 0% (normal concrete), 10%, 20%, and 30% by weight. Mechanical properties such as compressive strength, splitting tensile strength and flexural strength were assessed. Test results indicated that the use of lime sludge and Fly ash in concrete had improved the properties of concrete. Better results were observed at 20% replacement of cement with these additives.

**Keywords :** supplementary cementitious materials, lime sludge, fly ash, strength properties

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