

# STURDINESS PERFORMANCE OF CONCRETE INCORPORATING HYPO SLUDGE AS A SELF- CURING CATALYST

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**ABSTRACT:** Every year in the world approximately 1000 tonnes of solid waste are generated from industries and demolition of structures. Recently many of the solid waste materials are replaced as construction materials such as fly ash, glass powder, construction and demolition wastes, silica fume, copper slag, E-waste, quarry dust, bottom ash, rice husk ash, wood pulp, waste rubber, granite industry waste etc...The utilization of industrial waste generated from paper mills as a self-curing agent in the form of paper pulp. Basically, high absorptive materials, such as lightweight aggregate, superabsorber polymers, wood-derived fibres and powders etc., are increasingly being investigated for use as an internal curing agent in cement-based materials. Recently many of the solid waste materials are replaced as construction materials such as fly ash, glass powder, construction and demolition wastes, silica fume, copper slag, E-waste, quarry dust, bottom ash, rice husk ash, wood pulp, waste rubber, granite industry waste etc. In this present work, out of above-mentioned waste materials paper, sludge low-cost materials and easily available from the paper mill is used as the self-curing agent. The pulp and paper industry generates a large volume of wastes. A trail has been made with paper sludge as an internal curing agent with different sludge ratios. This project presents the paper sludge concrete (PSC) with different water sludge ratio and two different curing conduction 1) Air-dry or self-curing, 2) steam curing & 3) Full water or normal laboratory curing. The mechanical properties like compressive strength, split tensile strength, flexural strength results shows that the PSC was good when compared with conventional concrete.

**Keywords**— Paper sludge, Hypo sludge, Industrial Waste, Self-curing agent, Internal Curing.

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