

UTILIZATION OF AGRICULTURAL WASTES IN CONSTRUCTION INDUSTRY : REVIEW

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ABSTRACT : The use of agricultural waste or waste by product substitutions for cement and aggregate has greatly contributed to sustainable development practices. Rice Husk is a waste product that causes disposal problems. India is the second largest producer of rice in the world and the effective use of rice husk ash in concrete is promising. Rice Husk Ash has good pozzolanic properties and has been used as a highly reactive pozzolanic material which can be blended with Portland cement for the production of durable concrete. Addition of rice husk ash to Portland cement improves the early strength of concrete and forms a calcium silicate hydrate (C-S-H) gel around the cement particles which is highly dense and less porous. Partial replacement of cement by rice husk ash improves the mechanical properties too viz., compressive strength, flexural strength, tensile strength, bond strength, modulus of elasticity and reduces permeability, chloride penetration and chloride diffusion of concrete. Several other materials such as oil palm shell, wheat straw ash, vegetable waste, olive waste ash, sugarcane waste ash, bagasse waste, eucalyptus waste etc. also improve the mechanical properties and durability of concrete. In this paper, a review of the effects of agricultural waste inclusion on the properties of fresh and hardened concrete is presented.

Key Words: Rice husk ash, flexural strength, modulus of elasticity, permeability.