

# Bottom generates electricity. the concept of sustainable development

[Technology](#), [Development](#)



BOTTOM ASH Coalcombustion by-products (CCPs) have been around since man understood thatburning coal generates electricity. The concept of sustainable development onlyreawaken our consciousness to the huge amount of CCPs around us and the needfor proper reutilization than the current method of disposal which has severeconsequences both to man and the environment. Coal bottom ash (CBA) is formedin coal furnaces. It is made from agglomerated ash particles that are too largeto be carried in the flue gases and fail through open grates to an ash hopperat the bottom of the furnace. Bottom ash is mainly comprised of fused coarserash particles.

These particles are quite porous and look like volcaniclava. Bottom ash forms up to 25% of the total ash while the fly ash formsthe remaining 75%. One of the most common uses for bottom ash is as structuralfill.

This thesis presents the result of utilization of waste from thermalpower plants to improve some engineering properties of concrete. Effect of coalbottom ash on the properties of cement mortar such as workability, chemicalcharacteristics and pozzolanic activity are presented. Coal bottom ash (CBA)were utilized in partial replacement for fine aggregates and cement. Theworkability using bottom ash replacement showed that bottom ash has much higherwater absorption ratio as compared to the natural sand since the workabilitydecreased with the increasingly of bottom ash replacement.

1. 2. 1 Advantages ofBAC: More sustainable · Reduces environmental pollution · Later age performance is better · Shrinkage value of concretedecreases · Reasonable and ecologicalbenefits

1. 2. 2 Disadvantages ofBAC: Extended setting time · Slow development

of strength·      Low early age strength·      Workability  
reduces·      Bleeding increases