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**Use of bottom ash as fine aggregate in manufacturing concrete paving blocks**

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The disposal of bottom ash that is generated in huge quantities from thermoelectric power plants is a major problem globally in general and Sri Lanka in particular. Several attempts exist to augment its beneficial use. An attempt has been made to utilize this material for manufacturing concrete paving blocks. This paper presents an experimental study carried out to investigate the potential of using bottom ash (the coarser material, which falls into furnace bottom in modern large thermal power plants and constitute about 20% of total ash content of the coal fed in the boilers) as a partial substitute material for fine aggregate (sand) in the production of concrete paving blocks for road paving. Paving blocks were casted by replacing bottom ash with sand in percentages of 0%, 25%, 50%, 75%, and 100%. The physical and mechanical properties (compressive strength, unpolished slip resistance value, water absorption and density) of paving blocks with fine aggregate (sand) replaced by various percentages of bottom ash were evaluated. The test results demonstrate that the concrete paving block with 25% of sand by weight replaced by bottom ash achieved the standard values of properties as prescribed by the Sri Lankan Standards 1425 part1:2011, specification for concrete paving blocks Part 1 requirements. The results of this experimental study suggest that the bottom ash can be applied as a partial substitute for fine aggregate in the production of concrete paving blocks. Therefore, the study will help reduce the usage of depleting sand deposits and minimize environmental degradation by making use of bottom ash.