

## **Suitability of Limestone and Red Sand in Aruwakkalu to Produce Paving Blocks Used in Class A and Class B Roads**

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Paving blocks are used as a top layer of road structures to replace asphalt. Concrete paving slabs are usually made by mixing materials such as Portland cement or other bonding materials, water and aggregates. Compared to other pavements such as concrete or asphalt, there is an increasing demand for paving blocks. The advantages of paving blocks include environmental friendliness, aid in soil conservation, fast completion time, easy installation and maintenance, aesthetic beauty and low cost. This research aims to prepare paving blocks using Aruwakkalu red sand and lime stone as coarse aggregates and fine aggregates instead of stone aggregates and river sand. Samples were prepared using a mixture of limestone and red sand using cement: fine aggregate: coarse aggregate mixing ratio of 1:2:2. The maximum compressive strength of 60.1 MPa in 28 days of curing time for grade 50 mix design. Trial mixes were cast and tested for compression after 7 days and 28 days of curing time. Paving blocks are mix designed as per the DOE concrete mix design method. Quantities of constituents were estimated for characteristic compressive strengths of 40 N/mm<sup>2</sup> and 50 N/mm<sup>2</sup>. 40 N/mm<sup>2</sup> was selected for the class B roads and 50N/mm<sup>2</sup> was selected for the class A roads.

**Keywords:** *Aruwakkalu Red Sand, Aruwakkalu Limestone, Paving Blocks*