ABSTRACT

THE EFFECTS OF CURING TIME ON PAVING BLOCK’S STRENGTH USING CLAY, CEMENT AND SAND MATERIALS AFTER BURNING FOR THE ROAD ENVIRONMENT

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Paving block pavement construction is environmentally friendly, has good compressive strength properties, can withstand load within certain limits, and easy in installation work. Paving blocks made of a mixture of portland cement or adhesive material like hydrolysis, water, and aggregates with or without other ingredients. In this study the process of manufacture, it will be tested using a mixture of clay, portland cement, and sand. Moreover, curing the paving block is expected to increase the strength of paving block with low budget but produce good quality to be used.

Soil samples were tested in this study are derived from Karang Anyar, South Lampung. Variations in content of the mixture used were 6%, 8%, and 10% cement and 5% sand on every variation of cement from 7 days, 14 days, and 28 days curing time as well as the burning treatment and no-burn combustion paving block samples. Based on the results of physical testing native soil, USCS soil samples classify as fine-grained soil and included in the CL group.

The results of this study is paving block that using clay, cement, and sand does not meet ISO paving block. However, the addition of additives and curing can increase the physical and mechanical properties of the soil. This is proved by the increasing value of the optimum moisture content and density of the mixture. For the compressive strength of paving blocks without and with burning process are best shown in the addition of a mixture of 10% with 28 days curing time.

Keywords: Paving blocks, clay, compressive strength, curing time