ABSTRACT

THE INFLUENCE OF CURING TIME TOWARD PAVING BLOCKS STRENGTH USING CLAY MATERIALS WITH LIME AND FLY ASH AS AN ADDITIONAL MATERIALS

By

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Paving blocks is an element of the building for the manufacture of building construction, especially for pavement yard, neighborhood streets and parking lot because it has a 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 materials. However, the researcher using clay materials with lime and fly ash as an additional materials. In this study, the curing of the paving blocks were expected to increase the strength of paving blocks so can produce a relatively inexpensive paving blocks, but have a good quality that can be used by the public.

Soil samples were tested in this study are derived from clay Karang Anyar, South Lampung area. Variations in the mixture content that used were 6%, 8%, and 10%, ratio between lime and fly ash is 1 : 1 and conducted from 7 days, 14 days, and until 28 days curing time by burning paving block and without burning paving block samples. Based on the results of physical testing original soil, USCS soil samples classified as soft-grained soil and belong the CL group.

The results of the research showed that the manufacture of paving blocks using the clay materials with additive materials such as lime and fly ash did not fulfill SNI paving block. However, in general the addition of the additive materials can increase the physical and mechanical properties of the soil. It was proved by the increasing value of the density of the mixture. For the compressive strength of paving blocks without and with burning process were best shown in the addition of a mixture of 10% content with curing time to 28 days.

Key words: paving blocks, clay soil, compressive strength, curing time