

ABSTRACT

STUDY OF MAKING PAVING BLOCK FROM SOIL, CEMENT AND FLY ASH AS AN ALTERNATIVE PATHWAY

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Paving block is a composition of construction materials made of a mixture of portland cement, water, and aggregates with or without other additives that do not reduce the quality of the concrete. However, the use of cement and sand as an aggregate is often used in the manufacture of paving block in general. One of the efforts to create new innovations in the mixture of paving block material is to try using not only cement as an additive but also adding other additive like fly ash from waste of coal burning in Tarahan power plant of Lampung.

The samples of soil tested in this study was derived from the soil of Karang Anyar, South Lampung. The variation in the levels of the mixture used is 6%, 8% and 10%, the comparison between fly ash and cement is 1:1 with 7 days of curing time without combustion and post-combustion of the paving block sample. Based on the physical properties testing of the original soil, AASHTO classifies the soil samples in group A-7-6 (clay soil), while USCS classifies soil samples as fine-grained soil and belongs to the group of CL

The result of this study indicates that the average value of the compressive strength at 10% blend of the largest post-combustion is equal to 40.77 kg/cm². Thus, in addition to the amount of cement and fly ash, post-combustion treatment also affects the value of compressive strength. However, the value of the average compressive strength of the resulting overall gratuities mix is not eligible as paving block SK-SNI 03-1996 that is a minimum compressive strength of 85 kg/cm². Beside the compressive strength, testing of produced water absorption between 3-9% qualify paving block SK SNI - 03-0691 - 1996.

Keywords: paving block, inorganic clay, compressive strength, water absorption.