

ABSTRACT

THE STUDY OF THE STRENGTH A PAIR OF BRICKS AFTER BURNT USING ADDITIVE OF WOOD SAWDUST

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The Increasing construction in Indonesia and the number of population which is increasing every year must be supported by better economy growth. Thus, the construction materials will continue to increase to support the needs of infrastructure construction. To support the development and growth, then brick as a construction material will be needed. One of the method that can be used to improve the quality of the soil material is to use mixing ingredients (additives) such as sawdust to facilitate the combustion process and as a pore-forming on bricks. Based on the explanation above , it is necessary to do an objective study of making bricks, so that sawdust can be used as an right mix alternative in the manufacture of bricks, in the hope of sawdust waste is not wasted, but it can add power to brick and can produce bricks with good quality.

Soil samples were tested in this study is a fine-grained soil from the Yosomulyo village, East Metro District, Metro City. Variations in the levels of the mixture used is 5%, 10%, 15% and 20%, with a curing time of 14 days as well with post-combustion treatment on the brick. Based on the results of physical testing of the original soil, USCS classified the soil samples as fine-grained soil and included in the ML group.

This study used additive materials, such as wood sawdust mixture, on the mixture of 5% level, red brick experienced an escalation compared to bricks that are not mixed with additive materials. At the levels of a mixture of 10%, 15% and 20%, bricks decreased, both in terms of compressive strength and quality of bricks. So, in a mixture of 10%, 15% and 20%, the brick is not recommended for use as a building material because it does not fit to the requirements of SNI 15-2094-2000 and water absorption rate is only 15% the level of compliance with the standards between 14% to with 18%.

Keywords: bricks, fine-grained soil, compressive strength, water absorption