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THE EFFECT OF USING LIGHT BRICK PPOWDER AS A PARTIAL REPLACEMENT OF SAND ON THE COMPRESSIVE STRENGHT OF CONCRETE

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ABSTRACT

Concrete is a very important material used in the construction sector. In this study, concrete was made using lightweight brick powder as a substitute, which is known to contain high SiO2 lightweight bricks. This study used light brick powder of 0%, 5%, 10%, and 15% by weight of sand. For the dimensions of the specimens used are cylinders measuring 15 x 30 cm with a concrete age of 7, 14 and 28 days, for a slump value of 60-100 cm. Concrete mix planning using SNI 03-2834-2000 method. The test carried out is the compressive strength test of concrete. For each variation, 3 test objects were made, so that the total is 36 test objects. From the research results, normal concrete obtained a compressive strength of 25.10 MPa, concrete with a mixture of 5% light brick dust was 16.80 MPa, concrete with a mixture of 10% light brick powder was 16.99 MPa, concrete with a mixture of 15% light brick powder of 16.04 MPa. The lowest percentage has the highest compressive strength, because the absorption of light brick powder to water will increase as light brick powder increases, the binding capacity of light brick powder with concrete mix will decrease due to the high absorption power of light brick powder.

Keywords**:** *compressive strenght, concrete, light brick powder*

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