THE EFFECT OF ADDITIONING CaO *OF BLOOD COCKLE SHELL* (*Anadara granosa*) *POWDER ON THE QUALITY OF BRICKS*

ABSTRACT

This research uses blood cockle shells that have been in a furnace and in powder form as a brick mixture. The CaO content in blood cockle shell powder as a hydraulic material can improve the quality of bricks. Brick quality includes tests of shape and size, density, air content, air absorption and compressive strength of the bricks. The brick compressive strength test sample is in the shape of a cube with dimensions of 5 cm x 5 cm and the other test sample is rectangular in shape with dimensions of 23 cm x 11 cm x 5 cm. The composition of blood cockle shell powder varies from 0%, 25% and 50%. Based on the test results obtained for each test parameter, namely density values of 2.45 g/cm3, 1.95 g/cm3, and 1.60 g/cm3. The water content values of the bricks are 21.22%, 18.2%, 16.94% respectively. with absorption of 23.6%, 17.72%, 12.45% respectively. So the higher the CaO content, the lighter the brick, the lower the water content and the higher the density of the brick. The optimum compressive strength obtained by each mixture of 0.25, 50% CaO was 2.637 N/mm², 3.072 N/mm² and 2.970 N/mm². Optimum compressive strength was obtained in a mixture of 25% CaO.

Keywords: blood cockle shell bricks, CaO

PENGARUH PENAMBAHAN CaO SERBUK CANGKANG KERANG DARAH *(Anadara granosa)* TERHADAP KUALITAS BATU BATA

ABSTRAK

Penelitian ini memanfaatkan limbah cangkang kerang darah yang telah di furnace dan berbentuk serbuk sebagai bahan campuran batu bata. Kandungan CaO yang terdapat di dalam serbuk cangkang kerang darah sebagai bahan hidrolis mampu meningkatkan kualitas batu bata. Kualitas batu bata meliputi uji bentuk dan ukuran, densitas, kadar air, penyerapan air serta kuat tekan pada batu bata. Sampel uji kuat tekan batu bata berbentuk kubus dengan dimensi 5 cm x 5 cm dan sampel uji lainnya berbentuk persegi panjang dengan dimensi 23 cm x 11 cm x 5 cm. Komposisi serbuk cangkang kerang darah bervariasi 0%, 25% dan 50%. Berdasarkan hasil pengujian diperoleh masing-masing uji parameternya yaitu nilai densitas 2,45 g/cm^3, 1,95 g/cm^{3,} dan 1,60 g/cm^3. Nilai kadar air batu bata masing-masing sebesar 21,22%, 18,2%, 16,94%. dengan penyerapan masing-masing sebesar 23,6%, 17,72%, 12,45%. Sehingga semakin banyak kadar CaO maka semakin ringan batu batanya dan semakin kecil kadar airnya serta semakin tinggi kerapan batu batanya. Kuat tekan optimum diperoleh masing masing campuran 0,25,50% CaO antara lain 2,637 N/mm², 3,072 N/mm² dan 2,970 N/mm². Kuat tekan optimum diperoleh pada campuran CaO 25%.

Kata kunci : batu bata cangkang kerang darah, CaO