

## ABSTRACT

The study on bricks without combustion is needed to create an environmental friendly bricks, using coconut husk ash, clay and cement as an adhesive.

Study sites in BulotadaaBarat village, SipatanaSub-district. Materials used are a mixture of cement, clay and coconut husk ash, made four different samples with different mixtures in which 10% of cement and coconut husk ash (5%, 10% and 15%), clay, and water after was dried for 28 days and then coated with mortar and dried at room temperature for 2 weeks, ready to be compressive strength and water absorption test.

The results obtained, the physical volume shrinkage of 0%, 5%, 10% and 15% at 5.46%, 5.10%, 5% and 4.69% with the lowest volume shrinkage occurs in a mixture of 15% at 4.69% , while the compressive strength of the addition of coconut husk ash at 0%, 5%, 10% and 15% at 5.46%, 5.10%, 5% and 4.69%, where the highest compressive strength achieved in the percentage use of coconut husk ash at 5% amounted to 45.638 kg/cm<sup>2</sup> and water absorption of 0%, 5%, 10% and 15% at 15.505%, 13.456%, 14.686% and 16.014% with the lowest water absorption at 5% as many as 13.456%.

*Keywords: coconut husk ash, brick without combustion, compressive strength test, water absorption test*

## INTISARI

Penelitian batatanpapembakaransangatdiperlukanuntukmenciptakanbatu bata yang ramahlingkungan, denganmemanfaatkanlimbahabusabutkelapa,tanahliat dan semensebagai perekat.

Lokasi penelitian di kelurahan Bulotadaa Barat, Kecamatan Sipata. Bahan campuran yang digunakan berupa semen, tanah liat dan abu sabut kelapa yang telah dibakar,dibuatempatmacam sampeldengankomposisicampuranberbeda dimana semen 10% dan abu sabut kelapa (5%,10% dan 15%), tanah liat, dan air setelah itu dikeringkan selama 28 hari kemudian dilapisi mortar dan dikeringkan dalam suhu ruang selama 2 minggu, siap diuji kuat tekan dan penyerapan air.

Hasil penelitiandiperoleh,penyusutan volume sifat fisik 0%,5%,10% dan 15% sebesar 5,46%, 5,10%, 5% dan 4,69% dimanapenyusutan volume terendah terjadi pada campuran 15% sebesar 4,69%, sedangkan kuat tekan pada penambahan abu sabut kelapa pada 0%, 5%,10% dan 15% sebesar 5,46%, 5,10%, 5% dan 4,69%, dimana kuat tekan tertinggi dicapai pada persentasi pemakaian abu sabut kelapa pada 5% sebesar 45,638kg/cm<sup>2</sup>dan penyerapan air pada 0%, 5%, 10% dan 15% sebesar 15,505%, 13,456%, 14,686% dan 16,014% dimanapenyusutanterendah pada 5% sebesar 13,456%.

**Kata kunci** :abusabutkelapa, batatanpabakar, pengujiankuat tekan, pengujianpenyerapan air.



