

ABSTRAK

Pengaruh penambahan bentonit terhadap kualitas briket dari campuran tongkol jagung dan daun jati pada penelitian ini menghasilkan briket yang memenuhi standart sebagai bahan bakar alternatif. Pada penelitian ini dilakukan penjemuran, karbonisasi, penggilingan, pencampuran, pencetakan dan pengeringan. briket yang telah dibuat kemudian diuji untuk mengetahui karakteristik kimia dan mekanik. Pengujian yang diterapkan adalah uji kadar air, kadar abu, kadar volatil, kadar karbon dan kuat tekan. Variasi yang digunakan pada penelitian ini dengan menambahkan bentonit agar memberikan pengaruh terhadap kualitas briket yang dibuat, variasi penambahan bentonit dilakukan 4 kali percobaan dengan 0%, 10%, 20%, 30%, 40%. Dengan masing masing penelitian menguji kadar air, kadar abu, kadar volatil, kadar karbon dan kuat tekan. Adapun hasil tertinggi yang diperoleh dari pengujian kadar air adalah dari variasi bentonit 40% sebesar 13,03% dan air terendah tanpa bentonit sebesar 10,79% kadar abu tertinggi pada bentonit 40% sebesar 22,41% dan kadar abu terendah tanpa bentonit sebesar 4,86%, kadar volatile tertinggi pada bentonit 10% sebesar 32,22% dan terendah pada bentonit 20% sebesar 25,29%, kadar karbon tertinggi pada perlakuan tanpa bentonit 0% sebesar 55,78% dan terendah bentonit 40% sebesar 36,16%, kuat tekan tertinggi pada variasi bentonit 40% sebesar 135,82(N/cm²) dan kuat tekan terendah pada perlakuan tanpa bentonit 0% sebesar 39,79(N/cm²). Kualitas briket yang dibuat pada penelitian ini tidak memenuhi standar (SNI 01-6235-2000) untuk kadar air, kadar volatil dan kadar karbon terikat.

Kata Kunci : Briket, bentonite. Kadar air, kadar abu, volatil, *carbon*, kuat tekan

ABSTRACT

The effect of adding bentonite to the quality of briquettes from a mixture of corn cobs and teak leaves in this study produced briquettes that met the standards as an alternative fuel. In this research, drying, carbonization, milling, mixing, printing and drying were carried out. The briquettes that have been made are then tested to determine the chemical and mechanical characteristics. The tests applied were tests for water content, ash content, volatile content, carbon content and compressive strength. Variations used in this study by adding bentonite to influence the quality of the briquettes made, variations in the addition of bentonite were carried out 4 trials with 0%, 10%, 20%, 30%, 40%. With each study testing the water content, ash content, volatile content, carbon content and compressive strength. The highest results obtained from testing the water content were from the 40% bentonite variation of 13.03% and the lowest water without bentonite was 10.79%, the highest ash content was at 40% bentonite at 22.41% and the lowest ash content without bentonite was 4.86%, the highest volatile content was in 10% bentonite at 32.22% and the lowest at 20% bentonite at 25.29%, the highest carbon content was in the treatment without 0% bentonite at 55.78% and the lowest at 40% bentonite at 36.16%, the highest compressive strength was in the 40% bentonite variation of 135.82(N/cm²) and the lowest compressive strength was in the treatment without 0% bentonite of 39.79(N/cm²). The quality of the briquettes made in this study did not meet the standards (SNI 01-6235-2000) for water content, volatile content and bound carbon content

Keywords: Briquettes, bentonite. Moisture content, ash content, volatiles, carbon, compressive strength

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