

ABSTRACT

ANALYSIS THE EFFECT OF ADDITIVE MATERIALS ADDITION ON WOOD BRIQUETTE TOWARDS HEAT ENERGY

Adding additives to wood briquettes can be used as a solution for people to make briquettes with higher quality and competitiveness. Additives can strengthen the structure of the briquette so that it does not break easily so that it does not require high pressure, wood briquettes become easier to make, and affect the heating value produced. In this study, cassava starch, potato starch, and dried leaves were used as additives, where each additive was varied by 10%, 20%, and 30% of the mass of wood briquettes. This study aims to determine the effect of different compositions of additive ingredients on the heating value of wood briquettes produced with two methods namely bomb calorimeter and gasification stove. The results of the heating value of the bomb calorimeter show the heating value of pure teak wood briquettes has the highest heating value of 4690 calories / gram and the smallest heating value is the heating value of wood briquettes with 30% potato starch additive, which is 4498 calories / gram. The results of the heating value with a gasification stove obtained wood briquettes with 20% potato starch additives have the highest heating value of 3144 calories / gram and the longest flame time which is 871 seconds.

Key words: Wood briquettes, additives, bomb calorimeters, gasification stove.