

Characteristics of Rice Husk Briquettes with Adhesive Gum Resin and Cooking

Oil

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ABSTRACT

The use of fossil fuels as an energy source is increasing along with the increase in population. Dependence on the use of fossil fuels will cause fossil fuel reserves to be depleted. Therefore we need an alternative energy that is renewable and environmentally friendly, namely biomass. Briquette is a fuel that has a solid form and comes from the remnants of organic matter. One of the suitable wastes to be used as alternative energy is rice husk. In making briquettes, an adhesive is needed. The adhesives used to make briquettes are resin and used cooking oil. This study aims to determine the characteristics of rice husk briquettes using resin adhesive and used cooking oil. These briquettes are made in a ratio (rice husk: resin: cooking oil) 65%: 17.5%: 17.5%, 60%: 20%: 20%, and 55%: 22.5%: 22.5 %. The results of the research that have the appropriate characteristics of briquettes or closest to the quality standard of charcoal briquettes according to SNI 01-6235-2000 are found in the SDJ1 variation having a water content of 2.07% while the SDJ3 variation has an ash content of 18.66%, briquette density of 0.79 gr/cm³, the combustion rate is 0.42 g/s, the density of kamba is 0.3931 gr/cm³ and the calorific value is 4.135,52 cal/gr. This proves that charred rice husks can be used as raw materials in the manufacture of briquettes with resin adhesive and used cooking oil which can be used as a substitute for tapioca flour adhesives.

Key Words : Briquettes, Rice Husk, Gum Resin, Cooking Oil