

***Making Briquettes Mixed Rice Husk And Water Hyacinth With Adhesive Gum
Resin And Cooking Oil***

Dedy Eko Rahmanto, S.T.P., M.Si.

Muchammad Ariel Rafli

*Study Program of Renewable Energy Engineering
Majoring of Engineering*

ABSTRACT

Energy needs in Indonesia are increasing. Along with the increase in population. The existence of fossil energy used to meet the needs of the Indonesian people every day is running low. One of the uses of renewable energy is briquettes which are sourced from biomass to replace fossil energy. One of the potential biomass is rice husk because of its high cellulose content. Besides rice husks, water hyacinth also has potential as biomass. Because it has a fairly high cellulose content. Generally, the adhesive used is tapioca flour because it has high adhesion. However, tapioca flour is not suitable for use in large quantities because it is contrary to food ingredients. Therefore, it is necessary to use other adhesives, namely gum resin and cooking oil. This study has the aim of knowing the best composition of briquettes from a mixture of rice husks and water hyacinth as raw materials with resin adhesive and used cooking oil. As well as knowing the characteristics of briquettes from a mixture of rice husks and water hyacinth with resin adhesive and used cooking oil. The briquettes were made using the ratio of rice husk and water hyacinth 1:1, 2:1, 1:2, respectively, for resin adhesives and large cooking oil compositions of 11.25%, respectively. The ash content of the briquettes in this study was not in accordance with the Indonesian national standard for charcoal briquettes. However, other parameters have met the Indonesian national standard for charcoal briquettes. The best composition is the ratio of rice husks and water hyacinth 1:1 with a calorific value of 6,603 kcal/gram, water content 6.02%, ash content 8.18%, density 0.89 g/cm³.

Key Words : Briquette, Cooking Oil, Damar Gum, Rice Husk, Water Hyacinth