

The Importance of the Physical and Energetic Properties of Straw Briquettes

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Abstract

In the paper shown the importance of the physical and energetic properties of straw briquettes. The density is much than the firewood. The value of density obtained is 1184 kg/m³. The porosity is very low and as a result the flame produced during combustion is more dense than that produced by the burning. The value of Gross calorific is 19619 kJ/kg, and 19767 kJ/kg for net calorific value. The ash of content is 5.8%. Straw briquettes are considered a much better wooden fuel so the advantages are: improvement of physical characteristics, shrink storage volume 12:1, improvement burning behaviour with a much higher calorific compared to wood (1 ton of briquettes = 5 cubic meters of wood), increasing the volume of energy density in relation to the consumption of material, very few scrap after combustion and boilers much clean, easy in manipulation, contains no additives or chemical liants, burn almost without smoke, no CO₂ emissions, during combustion doesn't cane the flame. Biomass is the most important source of renewable energy which will play an important role in world energy. The role of the use of energy resources in biomass become all the more important as energy development and independence strategies target 20% renewable sources by 2020. At the moment, the use of biomass provider about 5% of total energy consumption at European level, and in countries Sweden, Austria, biomass provide 15-20%.



Biography:

Spirchez Cosmin is lecturer since 2017 at Faculty of Wood Engineering, Transilvania University of Brasov. Has published over 90 articles and 5 books. Responsible and member in the research projects. Participant at exhibitions in wood industry field (Hanovra-Germany, Bucharest, Brasov).

Speaker Publications:

1. Aurel Lunguleasa, Cosmin Spirchez, Octavia Zeleniuc Evaluation of the calorific values of wastes from some tropical wood species, July 2020 Maderas: Ciencia y Tecnologia 22



2. Pavlo Bekhta, Emilia-Adela Salca, Aurel Lunguleasa. Some properties of plywood panels manufactured from combinations of thermally densified and non-densified veneers of different thicknesses in one structure December 2019 Journal of Building Engineering.
3. Dumitrascu Adela-Eliza, Aurel Lunguleasa, Emilia-Adela Salca, Valentina Doina Ciobanu. Evaluation of Selected Properties of Oriented Strand Boards Made from Fast Growing Wood Species,
4. Aurel Lunguleasa, Nadir Ayrimis, Cosmin Spirchez, Catalin Croitoru. Increasing the Calorific Properties of Sawdust Waste from Pellets by Torrefaction.

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