

A Study on Gasification Characteristics of Biomass in an Internal Dual Fluidized Gasifier

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Dual fluidized gasifier such as MILENA of ECN, FICFB of Viena University, Silvagas of Rentech is of great interest due to high heating value of produced gas during the gasification of solid refused fuel. MILENA process is used in this research, which has a bubble fluidised bed of char combustion and a circulating fluidized bed of woody biomass gasification.

The composition of Rettenmayer Beech Chips used as a fuel is obtained from www.phyllis.nl. The gas composition of the produced gas and the flue, and mass and energy balance are evaluated with pseudo-equilibrium model. The test data lead to some relations to explain the indirect biomass gasifier. The relations are also used to calculate the cold gas efficiency of low heating value, a fuel conversion, the overall efficiency to MILENA process.