

Gasification of wood using a thermogravimetric analyzer

이인구*, 김재호
한국에너지기술연구원
(samwe04@kier.re.kr*)

Gasification of wood including larch, oak, and apple was conducted using a thermogravimetric analyzer. A major reaction variable was final temperature ranging from 600 to 900 °C. Reaction temperatures were enhanced to the final temperatures at the temperature increasing rate of 20 °C/min under a nitrogen flow environment, and then held at the isothermal conditions for 30 min, followed by isothermal combustions at the air flow rate of 90 ml/min. Thermolysis of the reactants was initiated at temperatures around 100 °C. The temperature range at which the highest reactant reduction rate appeared was different with the feedstocks. A kinetic study of the experimental results obtained at the isothermal gasification conditions was carried out to determine reaction rate constant and activation energy.