

PREDICTION OF PRODUCER GAS COMPOSITION FROM COAL GASIFICATION USING CYCLE TEMPO

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ABSTRACT

Coal gasification in Indonesia is currently being promoted to meet the needs of electrical energy. Early prediction of the gas composition resulting from the gasification process is needed in development of gasification system. In this study, a simulation of the gasification process of low-rank coal was carried out using cycle tempo. The simulation aims to predict the gas composition of low-rank coal gasification by varying the air-fuel ratio. The variations of the air-fuel ratio were in between of 1.25 to 1.5. The simulation results present the maximum fraction of combustible gas of CO, H₂, and CH₄ was 21.25 %; 19.31 %, and 3.15 % respectively. The difference between simulation and experimental results has a similar trend with the literature.

KEYWORDS: *Gasification, Coal, Simulation, equilibrium, Combustible Gas*

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