IJARSCT
ISSN (Online) 2581-9429
International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
Impact Factor: 7.301
Volume 3, Issue 2, July 2023

Design and Simulation Study of Production of Syngas from Rice Husk

Laliket Kolate[1], Shubham Mansuk[1], Sanket Mule[1], Suraj Bansode[1] and B. B. Tambe[2]
Department of Chemical Engineering[1,2]
Pravara Rural Engineering College, Loni, Ahmednagar, India

Abstract: *Energy relationship in global politics has become a vital determinant. Biomass especially the rice husk is a very potential source of energy, which can be utilized in a number of ways. In India, there is an abundance of rice production as a result more of the rice husk is easily available and has a higher potential in order to fulfillments the energy requirements. Rice husk can be used to produce the syngas which is an alternative source of energy generation as compared to natural gas. As compared to natural gas, the syngas produced by the rice husk contains lesser amount of sulfur contents. We have worked out at a plant design for the synthesis of kg/h of syngas via 1000 kg/h of rice husk using fluidized bed gasification and we get 820.4kg/hr of Syngas. We have designed gasifier of length 5.94m and 1.32 m diameter having a volume of 8.115 m3. we have designed one shell pass and two tube pass heat exchanger and cyclone separator. We have done simulation of our project using Aspen Plus..*

Keywords: Aspen Plus, Rice Husk, Gasifier

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