

Experimental Study on Effects of Addition of Rice Husk on Coal Gasification

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Abstract : In this experimental study, effects of addition of rice husk on coal gasification in a bubbling fluidized bed gasifier, operating at atmospheric pressure with air as gasifying agent, are reported. Rice husks comprising of 6.5% and 13% by mass are added to coal. Results show that, when rice husk is added the methane yield increases from volumetric percentage of 0.56% (with no rice husk) to 2.77% (with 13% rice husk). CO and H₂ remain almost unchanged and CO₂ decreases with addition of rice husk. The calorific value of the synthetic gas is around 2.73 MJ/Nm³. All performance indices, such as cold gas efficiency and carbon conversion, increase with addition of rice husk.

Keywords : bubbling fluidized bed reactor, calorific value, coal gasification, rice husk

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