

## **Performance Analysis of a Coated Porous Medium Burner for Cogeneration (Book Chapter)**

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### **Abstract:**

The cogeneration concept can be applied to various heat producing generating systems, one of the popular choices is the burner. The popular way in which heat energy can be converted into electrical energy is by adopting thermoelectric (TE) cells. TE cells can perform better if a porous media burner can be involved instead of conventional burners. The present work took butane as source of fuel, and the equivalence ratio was varied to the best possible extend. The range to get a stable flame was found from 0.16 lpm to 0.25 lpm. The unit to measure the flow rate of both butane and air was kept at lpm (liter per minute). The burner was more of portable in nature, and the maximum amount of power it can produce was upto 0.5 W. In addition, coating of the porous media was on the factors which was used to enhance the conversion efficiency by 0.45%, while thermal efficiency was noted about 57%. With this data it was made acceptable that coating can be a good way to improve the burner performance.

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