

C616041 : MAJOR MECHANICAL ENGINEERING
KEY WORD:

INCINERATOR / SOLID WASTE / SINGLE COMBUSTION CHAMBER.

MIRAYUTH THONGSONGSANG : STUDY AND DESIGN OF A SOLID WASTE
SINGLE COMBUSTION CHAMBER INCINERATOR. THESIS ADVISOR :

ASSO. PROF. SOMSRI CHONGRUNGREONG, Ph.D., 187 pp. ISBN 974-635-436-1.

This research aimed at studying and designing a solid waste single combustion chamber incinerator with 50 kg/h and determining performance of the incinerator.

The research waste consisted of leaves and papers with two feeding rates, 25 and 50 kg/h, were tested as any percentages of excess air (%EA) and each of the feeding time was held constant (t = 10 min.).

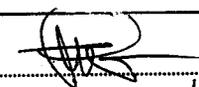
From the experiment, it was found that :

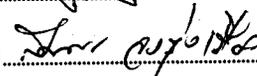
1. The incinerator thermal efficiency which is obtained from a combustion of leaves is superior to a combustion of paper and a peak performance is occurred in a range of 40% to 80% excess air. Also, the thermal efficiency at a feeding rate with 25 kg/h is greater than 50 kg/h.
2. A composition of carbon monoxide (CO) in the flue gas which is obtained from a combustion of leaves is smaller than a combustion of paper. Also, its composition at a feeding rate with 25 kg/h is smaller than 50 kg/h.
3. The total heat loss due to conduction through any walls of the incinerator is very much more smaller than the heat of flue gas at the end of the stack.
4. The average hot gas temperature in the combustion chamber is much smaller than adiabatic temperature.

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สาขาวิชา

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ลายมือชื่อนิสิต..... 

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ลายมือชื่ออาจารย์ที่ปรึกษาร่วม.....