



**COMBUSTION ANALYSIS OF AGRICULTURE SOLID WASTE
(PALM FIBER)**

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ABSTRACT

Combustion impacts many aspects in our daily life especially deal with the utilization of energy. The chemical reaction during the oxidation of the fuel that released a larger quantity of energy is called combustion. In combustion familiar fuels used are primarily consists of hydrogen and carbon. The fossil fuel availability decreases from day to day, so in this project a different source of energy is analyzed that is biomass fuel. Biomass fuel is one of the fuels that can be renewable. For this project the biomass fuel used in the analysis is the palm fiber. In this project, the analysis consists the behaviour of combustion process that includes the temperature, air supply and weight of fuel need, gas composition before and after reaction, product after the combustion process and energy release. There are also some modifications in this project such as in chimney installation, piping, and installation of airflow measuring devices. Lastly the recommendations for future used are included in this report for the future student whose is enthusiastic with combustion engineering.

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CHAPTER I

INTRODUCTION

1.0 Introduction

For this first chapter it is to introduce the objective for doing this project, significant of project and the scope of the project. The objective of the project is the main important thing in order to ensure the project has a target to be achieved. The significance of the project is more to what is this project for and the scope of the project is to limit the work progress on the project. The methodology is the work procedure or guideline in order to complete this report from the collection of data until documentation.

1.1 Objective

The objectives for this project are listed below:

- a) To study specifically the behavior of combustion process for *Palm Fiber* including energy release and gas emission.
- b) To get the optimum process that is best suited with the combustion of *Palm Fiber* including the controlling of the air supply, controlling the amount of fuel need for complete combustion and temperature distribution.