INFLUENCES OF PARTICLE SIZE IN IGNITE TIME, BURNING RATE, AND ASH PRODUCE OF COMPACTION ON FIBROUS MATERIAL.

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A thesis submitted in partial fulfillment of the requirement for the award of
Bachelor Engineering (Hons) Mechanical

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MALAYSIA

MAY 2010

ACKNOWLEDGEMENT

In the name of Allah, The Almighty and The Merciful and Blessings. Be upon His Massenger, Prophet Muhammad S.A.W and his companion. I am very thankful to Allah for his divine inspiration guidance and his blessing to me in completing this project report. Firstly, I would like to express my thanks to my dedicated advisor, Mr. Tajuddin b. Md Jahi, for his commitment, guidance and credibility in the preparation stage of this report. His cooperation and advice help me to prepare a well-prepared proposal at last .Lot of appreciation also should goes to Prof. Madya Norazah abd Rahman (lecturer of Faculty Chemical Engineering) and En Rahimi (Material Lab Technician) for his technical support during preparation of sample of this project. Special thanks go to Nur Syaebah, Nor Fadzlina, Karyati Haslinda and Siti Zulaikha for their support during this project. Lastly, I also would like to thanks to my parent and classmate whom give me encouragement and moral support to complete of this final project.

ABSTRACT

Incense is a wood based material that commonly known as one of the therapies that have been use since ancient time. Incense is available in various forms such as stick, cone, powder and pellet. In this project, the burning parameter such as lighting, burning rate and ash production for wood fibrous material have been studied. Particle size and some physical properties such as density were examined in order to determine their effect on the burning characteristic. Moisture content is a major factor in the processing wood because it influence physical and mechanical of wood. The value of the moisture content and density vary with the process of compaction to form into pellet size and after drying in environment temperature. Particle size that has been used in 53 um, 90 um and 150 urn.. The ignition time was estimated by noting the time from when the igniting flame was applied and burning rate was calculated by using distance move by char front (mm) divided by time (s). Weight of sample, in particular relates to the lighting and burning rate. Increase in weight shows decrease in burning rate and increase in ignition time. Increase in moisture content shows increase in ignition time and burning rate. Ash production is observed for every sample after burning in term of weight and colour of ash. Other method are been used to identify burning characteristic using TGA. These observations are explained in order to identify the best properties in incense production.

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