

UNIVERSITI TEKNOLOGI MARA

**THE DEVELOPMENT OF
PORTABLE GAS KILN DESIGN FOR
SMALL ITEM CERAMIC PRODUCT**

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ABSTRACT

Firing is an essential process in every ceramic production by using a high heat atmosphere to harden the pot body. The development of kiln design gradually expands in order to make varieties of products. However, these circumstance needs professional for handling the firing procedure in a mass production. These challenges lead to a significant problem occurs for society to make their own ceramic product individually. The research objectives is to build a small and portable kiln design for beginners group of society and to create a simple guideline for helping the young ceramic entrepreneur in handling the firing procedure individually. The researcher conducted experiments, interviews, and observation among the focus group of expert and beginners in ceramic industry in Malaysia. The data are obtained from the analysed quantitative and qualitative method in the research. The results achieved produced a low-temperature kiln building requires design templates, cutting prepared material, assembles interior parts and secured with clips and brackets. To operate the kiln design, there were six basic steps to perform firing procedure; open space area, arranging props and refractory bats, loading in the product to be fire, assemble component to sources of heat, placing burner towards fire hole and lastly is turning on the fire and control the firing heat.

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CHAPTER ONE

INTRODUCTION

1.1 BACKGROUND OF STUDY

Entrepreneur in Malaysia currently has increasing because Malaysian government is encouraging people to start their own business. This can help increasing their standard of living. There is an organization built to help in starting business for example Small Medium Enterprise Corporation (SME Corp.) is an organization for helping the beginners in industry to start up their business. This corporation supports them in promoting and marketing their business in a legal customs from small industries to the mainstream economy level (SMEECorp, 2014). Thus, this situation also enhancing the Malaysia's Ceramic Industry to grow. To create a business in ceramic there are a few important requirement particularly for the beginners to build the business.

In Ceramic industries there are classified into two production, there are mass production and small production. However, for the beginners in ceramic business, they may focus on small production as a startup business. Malaysian Handicraft Development Corporation in Kuala Kangsar, Perak offers to beginners a placed for them to operate their business (Kraftangan, 2015). From there it is an advantage for the beginners to learn the ceramic business procedure by learning how to make a ceramic product using tools and equipment provided by them. Example of equipment provided by this corporation are, a studio for ceramic production, kiln for firing the product, and machines for ceramic pottery. However, the equipment have to be share with other small company who also newly starting their business. The facilities are made not to be owned but only rented by them because the main purpose of the facilities are to share by other people to produce ceramic products. This can be seen as a problems for the beginners because they may encounter a few difficulties in setting up their ceramic business. Furthermore, the location of Malaysian Handicraft Development Corporation in Kuala Kangsar, Perak (Perak Branch) might be far from the location of a certain ceramic beginners to start their business.

Apart from Kuala Kangsar area, Sabak Bernam also has the potential to produce a ceramic product. Sabak Bernam has actively produced a paddy agriculture. This