

UNIVERSITI TEKNOLOGI MARA

**THE CHARACTERISTIC OF
SAYONG PAPERCLAY SLIP FOR ARTWORK**

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Thesis submitted in fulfillment
of the requirements for the degree of

Master of Art & Design

Faculty of Art and Design

August 2013

AUTHOR'S DECLARATION

I declare that the work in this thesis was carried out in accordance with the regulations of Universiti Teknologi MARA. It is original and is the result of my own work, unless otherwise indicated or acknowledged as referenced work. This thesis has not been submitted to any other academic institution or non-academic institution for any other degree or qualification.

I, hereby, acknowledge that I have supplied with the Academic Rules and Regulations for Post Graduate, Universiti Teknologi MARA, regulating the conduct of my study and research.

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ABSTRACT

In this case study, Sayong paper clay slip used is produced by the combination of local Sayong clay and paper pulp in producing ceramic output through casting technique. The purpose of this research is to develop knowledge regarding the character of Sayong paper clay slip and to find out the capability of the slip producing an output. The process involved from preparing Sayong clay slip and Sayong paper clay slip until casting output is produced. Apart of Sayong Clay as main material test, three types of paper pulp which is copy print paper, tissue paper and news print paper will be use in this research. The research involved a series of laboratory test which is rheology test, clay body test after slip casting process and practical test of casting output. The result of basic Sayong clay slip will be the benchmark through out analyzing the character of Sayong Paper Clay and the casting output. From the conducted experiment, dried paper pulp content used up to 4% is capable to produce casting output. In rheology test, it is shown that Sayong paper clay slip had low density but high fluidity level and capable to keep slip liquidity in particular time. The shrinkage, strength, weight loss and water absorption of clay body out put is fluctuated according to the percentage of paper pulp. Practical test on casting output proved that the increment of paper pulp content produced more rough texture on the surface and uneven thickness of an output. From the clay body test, the result also showed that all three types of paper pulp used does not giving any large impact towards the character of casting slip. Sayong paper clay slip is capable to produce ceramics product through casting technique. However it is limited to hollow casting technique only because of its physical texture.

ACKNOWLEDGEMENT

First, thanks to Allah for giving me strength, blessing, perseverance and good health which enabled me to complete this study.

I dedicate my appreciations to Prof Madya Dr. Siti Halijjah bt. Sharif, Dean of Institute of Graduate studies, Associate Professor Dr. Mustaffa Halabi b. Hj. Azahari, Dean of Faculty Art and Design, Dr. Adzrool Idzwan Hj. Ismail, Dr. Rosita bt. Mohd Tajuddin, Coordinator Post Graduate Studies (Research) And also Professor Ir. Dr. Hajah Zainab bt. Mohamed, Rector, University Teknologi Mara Perak for their support.

I would like to express my sincere gratitude to my supervisor Prof. Madya Kamaruddin b. Kamsah, for his guidance, support and care, especially in regards to the theoretical development of this work. I am also grateful to Dr. Ing. Oskar Hasdinor b. Hassan for a useful suggestion and idea for improvements. It has been my great pleasure to Mr. Aizuddin b. Mohamad Naser, Pegawai Ehwal Ekonomi, Unit Teknikal, Perbadanan Kemajuan Kraftangan Malaysia, Mr. Ibrahim b. Mohd Dom, from Techno Ceramics Sdn. Bhd., Tuan Haji Kori b. Mohd and Mr Hamdan b. Mohamed from Pusat Penyelidikan Mineral Ipoh, for their advice throughout the technical sections of the work and information about local clay. Without their help, this thesis would never have been completed.

I wish to express my thanks to Mr Suhaimi Tular, for his very valuable comments on this thesis. Special thanks go to the following people: Mr. Zawawi and Mr. Mohd. Hafis Shaari, local ceramics entrepreneur for their cooperation in getting the main source (Sayong Clay) and the information of local clay process. I also dedicate my thanks to all other members of staff who assisted, even though I am not mentioning all their names here.

Finally, I wish my special thank to my wife, Siti Noraini bt. Sheikh Abdullah, my son Mohammad Ammar Haziq and Mohammad Adib Harith and also to my father, Mohd Raffie b. Jamari and my mother, Saadiah bt. Jelani who give me great support, understanding and endless love.

CHAPTER ONE

INTRODUCTION AND OBJECTIVE

Sayong clay is well known locally. It is commonly found by the river banks in Kampung Kepala Bendang, Kuala Kangsar, Perak. It has long been used by villagers to make ceramic products such as clay pots, water jars, and large earthenwares. In the last few decades, many researches and experimental approaches had been carried out to mix clay and paper. This mixture had improved the quality of clay outputs. Takashi Doi (in Taha, 1997) reported that fiber content, such as plant fiber, animal fur and human hair, found in the world's oldest earthenwares, such as in Jomon pottery (dated 10,500 BC), make breakage difficult. Hoppers (in Rhodes, 2000) also reported Pre-Columbian American pots that contain hairy fiber, found through microscopic examination, show greater dry strength and prevent the pots from cracking. Fiber clay has body strength in the green ware state better than that in basic clay (Kim Jeoung Ah, 2006; Juvonen, 1997; Lightwood, 2000; Pitelka, 2001; and Hay, 2006). Fiber content in clay burn at 232°C leaves pores between ceramic particles (Gault, 2005). The results of light weight paper clay were also shared in researches and practical approaches by Kim Jeoung Ah (2006), Juvonen (1997), Hay (2006), Gault (2005) and Pitelka (2001). It is believed that paper clay can enhance both the quality and the quantity ceramic artwork production. It is found that very minimum of documented research was made for paper clay mixture in the local ceramics development. In this case study, most of the references were from external sources. En Ismail Ibrahim (2008), a designer in the Unit Pembangunan Teknikal Produk, Perbadanan Kemajuan Kraftangan Malaysia, Cawangan Perak (PKKM Perak) said that specific research on paper clay and paper clay slip on local clay or Sayong clay had never been done officially and recorded. A research on Sayong paper clay slip is chosen due to the successful paper clay researches that were carried out previously. The aim of this study is to contribute better understanding in combining paper and Sayong clay slip. A series of experiments and tests were carried out to this effect.