MUSSEL SHELL SOUVENIR DESIGN PROJECT FOR WILDLIFE FRIENDS FOUNDATION

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ABSTRACT

Nowadays recycling is one of the issues that is getting much attention. In this research, the researcher focuses on the study of bringing soil mixed and slit from a wastewater treatment in an industrial process ,and mussel shells, left from food processing, to be recycled and used more usefully. After doing some research and experiments, the researcher found out that soil mixed and slit from a wastewater treatment in an industrial process and mussel shells can make ceramic clays. Thus, the researcher used those recycled clays to create a souvenir ceramic ware for birds. It is a way of turning waste to be useful and also adding some value to products which are benefits for ceramic industries in Thailand in terms of circular supplies use, cost reduction and environmental conservation.

Keywords: Slit from a wastewater treatment in an industrial process, Mussel shells, Ceramic

INTRODUCTION

These days waste disposal is returning to be oneof the interesting issues. There are various types of waste such as industrial waste, electronic waste, hazardous waste and food waste which have many different processes to get rid of. But the major problemis the destruction of waste causes environmental pollution and also over budget issues. It was observed that industrial waste and food waste are increasing which slit, found in industrial waste, can be developedto be ceramic clays. For food wasted, it was found thata large number of mussel shells were discarded from the meat for sale with no plan to manage and left themthere. Thus, the researcher decided to combine mussel shells with soil mixed and some slit from industry to create ceramic clays for manufacturing a souvenir ceramic ware for birds.

Therefore, this research reveals a study of bringing soil mixed and slit from a wastewater treatment in an industrial process and mussel shells to be recycled and used to produce ceramic clays that cancreate a souvenir ceramic ware for birds, to add value of wasted product, to reduce cost of production, and torecycle for maximum benefits.

OBJECTIVE

For creating a souvenir ceramic ware for birds from ceramic clays which are made from soilmixed, slit from a wastewater treatment in an industrial process, and mussel shells left from foodfishery products processing.

METHODOLOGY

Studying the procedure of making ceramic fora souvenir ceramic ware for birds, methods to recycle soil mixed, slit from a wastewater treatment in anindustrial process and mussel shells, from articles, researches and others to observe ceramic clay's development.

Sub-Section 1

Body preparation; soil mixed, slit from a wastewater treatment in an industrial process, and mussel shells.

Sub-Section 2

Mix them with Biaxial Blend technique,mold and burn at the temperature 1200 ℃ to find the right proportions. Use a casting molding in the next procedure.

Sub-Section 3

Design is the process of designing productsto be produced which must have creative ideas, knowledge of raw materials, forming methods andproduction processes.

Sub-Section 4

There are many methods of forming ceramicproducts, each method must be appropriate and consistent with the characteristics and properties of each type of clay which are formed by hand, by machine and by casting.

Sub-Section 5

Process of drying the product. After forming products, it must be left to fully dry by air or drying machine. When products are completely dry, some products must be polished again before being burned.

Sub-Section 6

BiscuitFiring is the process of drying ceramic products at a temperature of 750 ℃. – 1,250℃. The firing temperature range depends on the typeof product.

RESULTS

The experiment shows a body of ceramic claymade from soil mixed, slit from a wastewater treatment in an industrial process and mussel shells combined together.

Figure 1
shows some slit from wastewater treatment process in an water supply industry, burnt at temperature 700 °C-1200°C

Figure 2
shows levigated mussel shells

The design process

Figure 3
shows sketch design

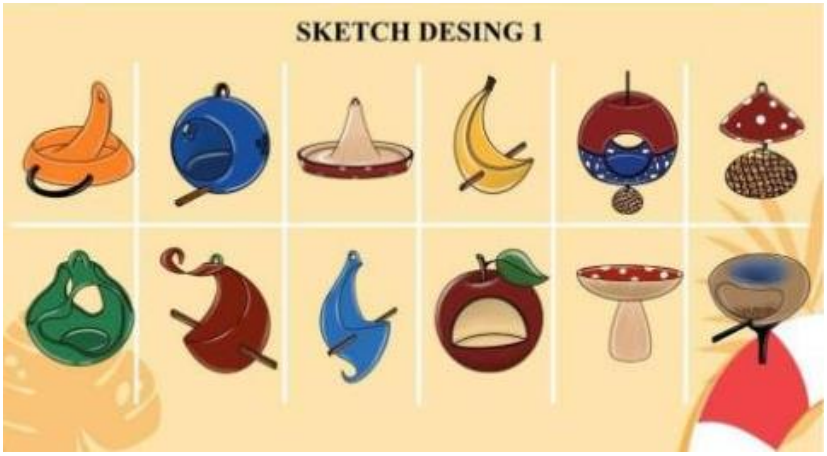

Figure 4
shows final design

Actual products

Figure 5
shows model products after coating

CONCLUSION AND FUTURE WORK

The result shows that soil mixed, slit from a wastewater treatment in an industrial process and mussel shells have benefits from ceramic industry in Thailand in terms of circular supplies use, cost reduction and environmental conservation including value addition in processed waste as well.

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