

Designing Trays for Rasa-Rasa Stand in D'dieuland Area of Kawasan Wisata Punclut Based on Material Aspect

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Abstract Delivering food is an activity that is often found in restaurants or recreation areas in which sell food. In this activity, it needs attention because they have to walk with the heart so as not to spill and have to walk quickly when visitors are crowded. The case study discusses the Rasa-Rasa Stand located at D'dieuland, where D'dieuland uses the environment so it has a steep road because it is on a slope in Ciumbeleit. The purpose of this study is to improve the quality of food in terms of safety, comfort, and food when delivering food. This study uses qualitative methods that are supported by observational data, documentation, interviews, and analysis. The food utensils presented will be designed in terms of ingredients while this material can be used outdoors and in places with heavy media to be able to support the activities of the waiter when delivering food comfortably.

Keywords : Tray, Spill Out, Rasa-Rasa Stand

1. Introduction

Recreation is an activity that is needed after a week full of routines such as school and work. In Bandung, there are many recreational areas, one of which is D'dieuland, which is located on the slope of the peak of Ciumbeleit.

In general, in recreational areas selling food, this is to support the wishes of visitors. Recreational places like D'dieuland that utilize natural conditions have steep places that are suitable for play activities in nature but increase the risk for presenters when carrying food. When visitors are crowded, the streets that must be crossed to become narrow and the number of orders increases so that they have to move faster. The Rasa-Rasa Stand is a food seller that provides a package menu with a maximum of 12 dishes including dry and wet food. At present, the presenter of Rasa-rasa is unable to bring dry food and wet food at the same time because the

capacity of the used food equipment now only amounts to 4-5 plates at a time while the average order in one table reaches 7 plates.

Food utensils will be designed to be used in outdoor and steep areas while remaining safe for carrying food. Reducing the risk of exposure to dust/dirt, reducing the risk of food bumping and spilling, able to bring soup and dry food in one delivery, and easy to use because the presenter can maintain balance when walking.

Innovations that can be developed and applied to food utensils are strong, lightweight, non-slippery and can be used outdoors.

2. Literatur Review

1.) Material Definition

Material definition in Product Design book 3 (Bram Palgunadi, 2008: 261) In the book 'Dictionary of English - Indonesian' by Jhon M. Echols and Hasan Shadily, the term 'material' means material, material, tools.

In product design, the material is a very important aspect because it can affect the process, strength, vision, and even the price of a product so that people involved in the design and production process must understand the material they use

2.) Material Characteristic

A. Plastic

Plastics are a large and diverse group of synthetic materials that are made by assisting or printing in certain forms. Plastics can be divided into 2 groups, namely thermoplastics and thermosets. (Syamsul Hadi, 2016: 3). Here are the types of plastic-based on types according to library.pom.go.id:

1. PET / PETE

PET / PETE Polyethylene terephthalate has clear, strong, solvent resistant, gas, and water-resistant properties soften at 80 ° C and in everyday life is usually used for beverage bottles, ketchup/sambal bottles, biscuit trays, cooking oil, peanut butter jams.

2. HDPE

HDPE High-Density Polyethene is hard to semi-flexible, resistant to chemicals and moisture, permeable to gases, waxy surfaces, opaque, easy to tint, process and coated, soften at a temperature of 75 ° C. Especially used for liquid milk bottles and juices, plastic caps, ice cream containers, plastic bags.

3. PVC

Polyvinyl Chloride has a strong, hard nature, can be clear, the shape can be changed with a solvent, infect at 80 ° C. Examples of using bottles of juice, vegetable oil, food wrap.

4. LDPE

LDPE has an easy to process, strong and flexible, impermeable air, waxy surface, not clear but translucent light, softens at a temperature of 70 ° C. Examples of the use of shopping bags (crackle), bread bags and fresh food, bottles that can be stored.

5. PP

Polypropylene has a hard but flexible, strong, waxy surface, not clear but translucent, resistant to chemicals, heat, and oil can soften at 40 ° C. Examples of use of biscuit wrappers, potato chips bags, cereal crates, packaging adhesive tapes, straws, mineral water cups.

6. PS

Polystyrene has a rigid, brittle, opaque, easily formed, softened at 95 ° C. Examples of using frozen food containers, spoons, forks.

7. Others

Others are plastic materials such as PCs, acrylic copolyester. It has a hard, clear, thermally very stable nature. Examples of using gallons of mineral water, baby milk bottles.

B. Bamboo

Bamboo is an important ingredient, as an ordinary wood substitute for villagers. The types of bamboo that are durable are petung bamboo, gombong bamboo, andong bamboo, friend's bamboo, apus bamboo (rope). Bamboo has disadvantages that are easily cleaved, flammable, sensitive to termites but this deficiency can be overcome by immersing it in a solution of preservatives. (Heinz Frick, 1980: 203-204)

3. Research Method

This study uses a qualitative method. The method used by paying attention and taking from the perspective of the people involved. And to collect data, 3 ways will be used, namely observation, interviews, and documentation.

Observations were made to find out the process carried out in the field by the method taken. Interviews were also conducted for participants to find out information received directly by participants. The documentation contains images to perfect the results of observations and interviews in the field.

4. Analysis

1) Analysis of Material Properties

Table: Analysis of Material Properties

Source : Personal Data

No.	Parameter	Information
1	Strong	The strong properties of the material are needed to hold the load on products that will carry a maximum of 5 kg of food
2	Lightweight	Lightweight properties of the material needed to reduce the burden on food waiters
3	does not absorb stains	Non-absorbing properties are needed to keep this product from getting dirty easily
4	Non-slippery	Non-slippery properties are useful in some parts such as the Handle, the inner partitions (in direct contact with the plate) and footwear on the product
5	Easy to clean	Needed to get ease in caring for the product

2) Image Chart

Image charts have 4 characteristics, where all four of these characteristics have different characters. These characteristics are Function, Modern, Traditional and visual. To facilitate the process of determining the design which will be produced according to needs.

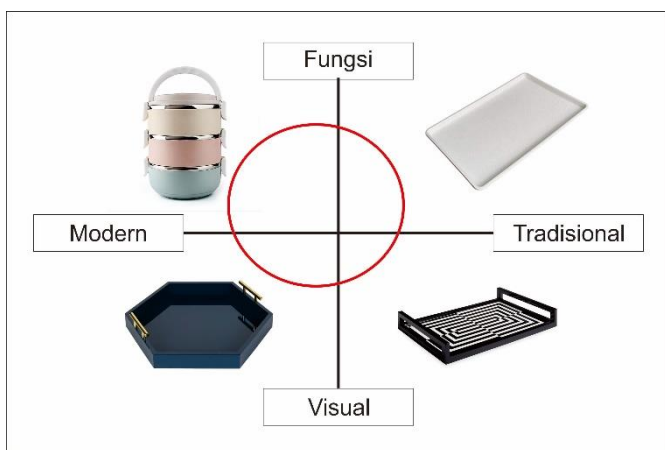


Figure 1 Image Chart

Food serving equipment that will be designed according to the needs that is functional and modern priority. With a little traditional touch to align with the food to be served.

3) Blocking System

Blocking system is a picture of a product that is colored differently in each part, serves to make it easier to find out the parts that are in the product. Here are the parts that are in the foodservice that is being designed:

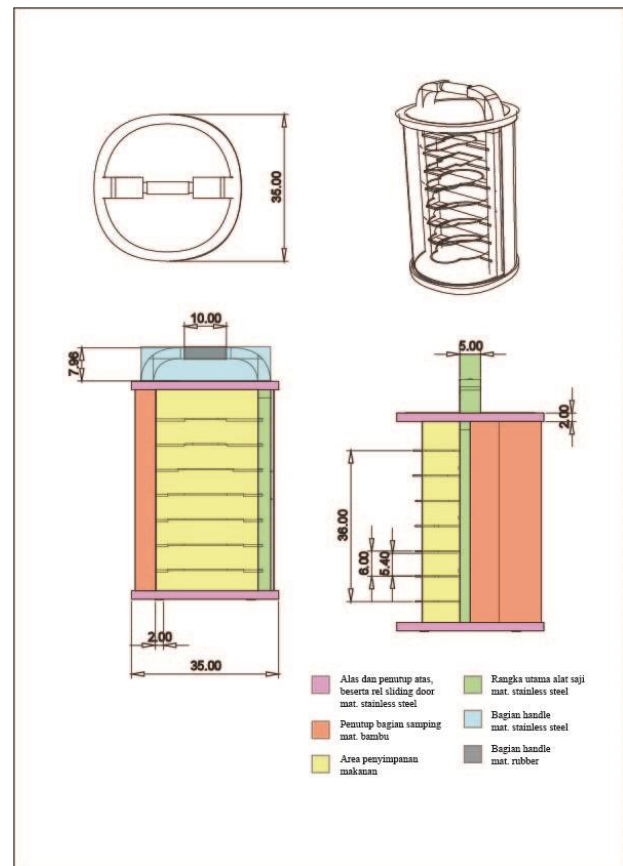


Figure 2 Blocking Area

5. Conclusion

Based on the results of the discussion on the design of food serving tools the conclusions on this product are:

A. Design Considerations

1. Forms are recommended to adopt from the form of a basket, shelves, and boxes because they are adapted to the parameters of the design requirements.
2. The handle is recommended to use material made of plastic which is dipped in polyurethane liquid to get a rough texture and not slippery like rubber. Because plastic

is a material that is strong, lightweight, does not absorb stains, water or oil. Then it is equipped with a rubber foam material that is not slippery and soft so it is easy to hold. The recommended type of plastic is HDPE.

3. The inner partition is recommended to use food-grade HDPE plastic material because this plastic is strong enough to lift to 5 kg and ring so that the plate is not easily shifted and spilled. Plastic is a material that is easy to clean just need to be wiped with a dry or wet cloth.
4. The cover of a food serving is recommended to use bamboo material because the food sold by the stand Rasa-rasa is a famous food originating from Sunda.
5. At the foot of the food serving, it is recommended to use plastic. The strength of the plastic material is very sufficient with a maximum load of 7 kg including the weight of the serving device itself.

B. Design Limits

Design limits are needed to clarify anything that does not cover the design process. Here are the limitations of the food serving design:

1. Meal utensils are designed to carry food in large areas, outdoor environmental conditions, and terraces.
2. The product is designed only to help waiters make it easier when carrying food without having to arrange/clamp between plates in a tray.
3. The average order of food is 7 servings of dishes or weighing 2.5 kg.

C. Purpose of Design

1. Security on food serving devices is increased to reduce the risk of food falling, spilling or getting dirt.
2. This food stall is designed for a wide, terraced (uneven) area, and outdoor following environmental conditions in D'ieuland.
3. Able to bring food with an average amount or the equivalent of 7 servings of food stand menu Rasa-rasa.

4. To help summarize the work of the Stand Taste-Taste waiter by being able to bring food with an average portion amount

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