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INNOVATION IN ACTION: TURNING IDEAS INTO REALITY

Chapter 56
Improving Student Life with EZ.B Shoe Dryer

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ABSTRACT

In the monsoon season, people have trouble drying their shoes. Additionally, most people dry their shoes under a fan or behind a fridge. Some people stuff and stuff their shoes with newspaper. Users, especially students, expect the new shoe dryer machine to solve this problem quickly. Students' daily lives inspired our idea. According to brief interviews and questionnaires, many Generation Z students have multiple pairs of trainers and prefer shoes over sandals. They sweat and stink their shoes, especially if they play sports or outdoors. We introduce EZ.B then. Our invention's prototype is a compact shoe rack that holds 2–4 pairs. It quickly and uniformly dries shoes and reduces odour. Despite its size and cost, it is ideal for dormitories and family homes where multiple students can use it. Based on student needs and challenges, this project introduces a new product concept. EZ.B is practical, convenient, and has great potential, especially among young, eager customers.

Key Words: EZ.B, Shoe Dryer, Students

1. INTRODUCTION

Over a day, individuals have consistently encountered difficulties in drying shoes promptly. The EZ.B shoe dryer may just require a brief duration to effectively dry shoes. Utilise this EZ.B while seeking to dry shoes quickly and safely. The purpose of the EZ.B create is to provide a convenient location for individuals to keep and dry their shoes in various conditions. The shoe dryer can be stored anywhere as it operates on a power bank. From the aforementioned remark, it can be inferred that the simple shoe dryer EZ.B serves a significant function as a tool for facilitating the transfer of objects for individuals, hence

alleviating any associated difficulties. The equipment is also potent and silent, utilising thermal action to circulate warm air through footwear, eliminating moisture and odour while safeguarding against harm to boots and shoes. The Shoe Dryer is suitable for several types of footwear, including leather, canvas, vinyl, rubber, plastics, and others. Available in propane variants for residential or outdoor applications, they effectively eliminate moisture, perspiration, and odour from any footwear overnight. Additionally, it enhances foot comfort and wellness.

2. LITERATURE REVIEW

A literature review is an aggregation of contemporary and historical research on a product requiring enhancement to address specific issues. This will allow us to develop superior products compared to those presently available. The study analysed the components, substances, and methodologies employed. The fundamental aim of this research is to ascertain whether the product aligns with consumer preferences and desires, or the opposite. The study employs survey methodologies, observational techniques, and product analysis. Furthermore, data was gathered from many sources, including internet browsing, scientific research, and interviews. A multitude of information is evaluated and referenced. The inquiry may uncover vulnerabilities and advantages of the subjects. We evaluate all advantages and disadvantages to develop a superior, functional product that aligns with consumer requirements. The study presents both advantages and disadvantages. Establishing client demands will resolve all challenges.

2.1 Material of the Shoe Rack

Polypropylene is a prevalent thermoplastic polymer recognised for its adaptability and resilience. It is synthesised via the polymerisation of propylene and is extensively utilised in diverse applications, including packaging, automotive, and textile sectors. Polypropylene is a partly crystalline, non-polar substance exhibiting excellent resistance to chemicals and elevated temperatures. Essential Characteristics and Utilisations:

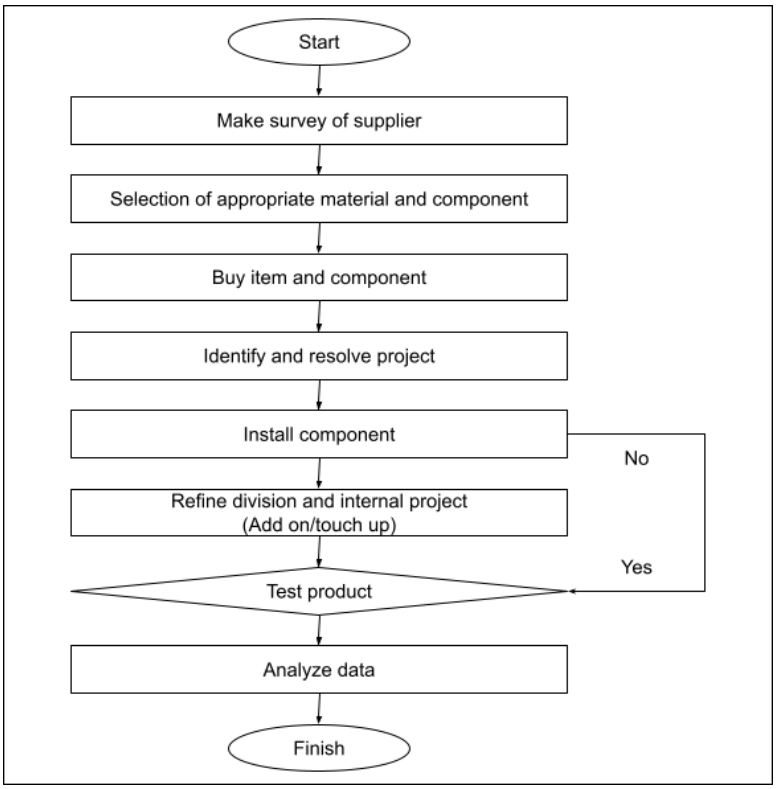
- Versatile: Polypropylene may be fabricated into films, fibres, and diverse forms.
- Robust: It provides substantial strength, puncture resistance, and chemical resistance.
- Heat Resistant: Polypropylene exhibits a high heat distortion temperature, rendering it appropriate for applications involving elevated temperatures.
- Lightweight: Polypropylene possesses a low density, rendering it a lightweight material.
- Packaging: Extensively utilised for the containment of food, beverages, and various products owing to its moisture and gas impermeability.
- Additional Applications: Encompasses medical gadgets, electrical components, and assorted consumer products.

3. METHODOLOGY

The purpose of this study is to determine if the shoe dryer machine we developed can reduce the burden of drying shoes and conserve user time. This chapter also elucidates the criteria for form selection and its influencing elements. This chapter will offer a comprehensive explanation of the study methodology employed for this project.

To guarantee the efficacy of this shoe dryer project, it must be regularly monitored and handled periodically. Our shoe drier can dry several types of footwear, including athletic shoes, leather shoes, school shoes, and further styles, regardless of size. Moreover, manually drying shoes is challenging as it is contingent upon weather conditions, resulting in incomplete drying of the shoe components and the release of an unpleasant odour. Consequently, we developed a shoe dryer that alleviates the burdens of human existence.

3.1. FLOW CHART METHODOLOGY



4. RESULTS & DISCUSSION

Moreover, this Shoe Dryer Machine possesses distinct specifications and design. This project has demonstrated the capacity to address contemporary societal challenges. Nevertheless, the idea will require revisions regarding wiring and material usage in the future. The efficiency

and functionality of this project are the primary aspects that require action. Furthermore, the efficacy of this shoe dryer machine is quite pleasant to users in all respects. This shoe drier is not prone to brittleness and is exceptionally durable due to the high-quality materials utilised and robust installation, ensuring longevity.

5. CONCLUSION AND RECOMMENDATION

The EZ.B shoe dryer is a compact, portable device designed to help students dry their shoes quickly and efficiently. Designed to accommodate 2-4 pairs of shoes, it operates on a power bank and uses thermal action to circulate warm air through footwear, eliminating moisture and odour. The device is suitable for various types of footwear and is available in propane variants for residential or outdoor use. The EZ.B is designed to be practical, convenient, and has great potential, especially among young, eager customers. The shoe dryer is made of polypropylene, a thermoplastic polymer known for its adaptability and resilience. The device is designed to reduce the burden of drying shoes and conserve user time, but requires regular monitoring and maintenance.

REFERENCES

WebMD Editorial Contributor. (2025, January 22). What to know about the toxicity of polypropylene. WebMD. https://www.webmd.com/a-to-z-guides/what-to-know-about-the-toxicity-of- polypropylene.

M. R. Adnan. (November, 2007). Development of Simple Shoe Dryer Apparatus. FYP Report, Faculty of Mechinical Engineering, University Malaysia Pahang. http://umpir.ump.edu.my/id/eprint/2222/1/MOHD_RIDZWAN_BIN_ADNAN.PDF

Contributors to Wikimedia projects. (2024, November 5). Polypropylene. Simple English Wikipedia, the Free Encyclopedia. https://simple.wikipedia.org/wiki/Polypropylene#:~:text=Polypropylene%20(PP)%2C%20or%20polypropene,packaging%2C%20or%20many%20other%20shapes.&text=Except%20where%20otherwise%20noted%2C%20data,F%5D%2C%20100%20kPa).&text=As%20a%20plastic%20it%20can,billion%20(%E2%82%AC47.4%20billion).

Polypropylene (PP): Understand the key benefits and applications. (n.). https://www.protolabs.com/materials/polypropylene/