UNIVERSITI TEKNOLOGI MARA

DESGIN AND ANALYSIS OF 2 IN 1 SAND SIEVING MACHINE

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ABSTRACT

The sand sieving machine successfully improves the process of separating sand mixtures by ensuring the user safety and efficiency. Its innovative design ensures the sand is filtered without risk to the operator, while it's rotating the mixture of sand. This machine also provides optimal power and speed for effective filtration with minimal physical effort. The project has achieved a lot of achievements, including enhanced sustainability, efficiency, and safety. By promoting eco-friendly practices, the machine addresses issues related to energy waste, time consumption, and environmental impact. Thus, it will offer a progressive solution to these challenges.

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CHAPTER ONE
INTRODUCTION

1.1 Background of Study

In Malaysia, sand sieving, a crucial procedure for the building sector, has an impact on social, economic, and environmental sectors. For environmental sectors, this machine can increase the water quality and prevent the sedimentation in water bodies. In economic sectors, this machine can increase the job creation and construction industry.[1]

Sand is frequently used in industry, such as in concrete or as an abrasive. In order to reduce the melting point temperature of the road surface, it is also applied to ice and snowy roads, typically in combination with salt. Seashore erosion can be replaced by sand. Higher purity is needed for some applications than for others. For example, sand used in concrete needs to be free of seashell particles.[2]

Natural sands will eventually be used to create useful materials including zircon, zirconia, LFP, and polymer-based composite fillers. To sort them out, a layered sieve instrument has been created. The purpose of this stacked sand sieve was to replace conventional sieves, which had several drawbacks such as inconsistent speed, inefficient processing times for huge quantities of sand, and significantly higher expenses.[3]

A sand screening machine is a device designed to separate particles of different sizes within a granular material such as sand. It is commonly used in construction and civil engineering projects to ensure that the sand is used in concrete. This machine will improve the efficiency and accuracy of sand particles by separating the size. This is important in construction projects where the quality of the concrete depends on it. In Malaysia, there's many buildings have been build up due to the improvement of economy. So, this project can help the worker or builder easier in saving time and energy. In conclusion, the aim of this project is to enhance the efficiency of working and the accuracy of quality of the sand used.