

Experimental Study on Organic Waste Management

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Abstract: This project is focuses on a conceptual design of a conveyor system that can be used to differentiate between metallic and non-metallic materials, as well as to perform transferring of the materials. The project should be started by means of research on metallic waste collecting machines in the market like magnetic conveyor system. A conveyorsystem is mechanical handling equipment that moves materials from one location to another and magnetic pulley has been used to separate metal and non-metal waste. Standard design process flow is to be followed e.g. conceptual design and detailed design to be produced prior to the fabrication. Design of the conveyor is using CATIA Software. The expected result the fully automated conveyor system that can be used for metallic waste management application is described in detail in this project.

Keywords – Neodymium Bar Magnet, Conveyer Belt, CATIA Software

1. Introduction

In this paper selecting the various material for separation of metal from garbage The proper selection of material for the different part of a machine is the main objective. In the fabrication of machine. For a design engineer it is must that he be familiar with the effect, which the manufacturing process and heat treatment have on the properties of materials. The Choice of material for engineering purposes depends upon the following factors:

1. Availability of the materials.
2. Suitability of materials for the working condition in service.
3. The cost of materials.
4. Physical and chemical properties of material.
5. Mechanical properties of material.

2. Aim & Objective

Aim:- Our aim to produce concrete mix design of high strength - near or greater than 20MPa by using of proper proportion of materials & various admixtures.

Following are the objectives to reach our aim.

Objectives:-

1. The objectives of organic waste recycling are to treat the wastes and to reclaim valuable substances present in the wastes for possible reuses.
2. These valuable substances include carbon(C), nitrogen(N), phosphorus (P), and other trace elements present in the wastes.
3. Almost all kinds of organic wastes can be recycled into valuable products according to the technologies.
4. In designing facilities for the handling,treatment and disposal/reuse of these wastes, knowledge of their nature and characteristics is essential for proper sizing and selecting of a suitable technology.

3. Related Work

CHARLES KITTEL, From 1951 to 1978, he worked at the University of California, Berkeley, where he taught and did research in the field of theoretical solid-state physics, a part of condensed-matter physics

K.H.J.BUSCHOW, K.H.J. Buschow Professor Kurt Heinz Jürgen Buschow is a member of the Experimental Physics Department of the University of Amsterdam, where he teaches Magnetism and Magnetic Materials. He studied Physical Chemistry at the Free University of Amsterdam, starting in 1954.

NAN ZHENG, The group's research is focused on the development of green on environmentally sustainable methods for the synthesis of nitrogen-containing compounds utilizing nitrogen-centered radicals.

K.K.TIWARI, Electricity & Magnetism K K Tewari, Electricity & Magnetism K K Tewari Units And Dimensions | Vector Analysis (Algebra) | Vector Differentiation and Integration| Electrostatics : Electric Field | Electrostatics— Electric potential | Capacitors And Dielectrics | Electrometers And Electrostatics Machines | Steady Current | Magnetostatics | The Magnetic Field Due To Steady Currents | Electromagnetic Induction | Practical Applications Of electromagnetic Induction | Dynamics Of Charged Particles Etc..

4. Methodology

Important Criteria:-

Sr no.	components	quantity	rate	cost
1	Conveyer belt	1	1200	1200
2	magnets	25	75	2550
3	Sanitary plate	1	2800	2800
4	Bearing rolls	4	370	1480

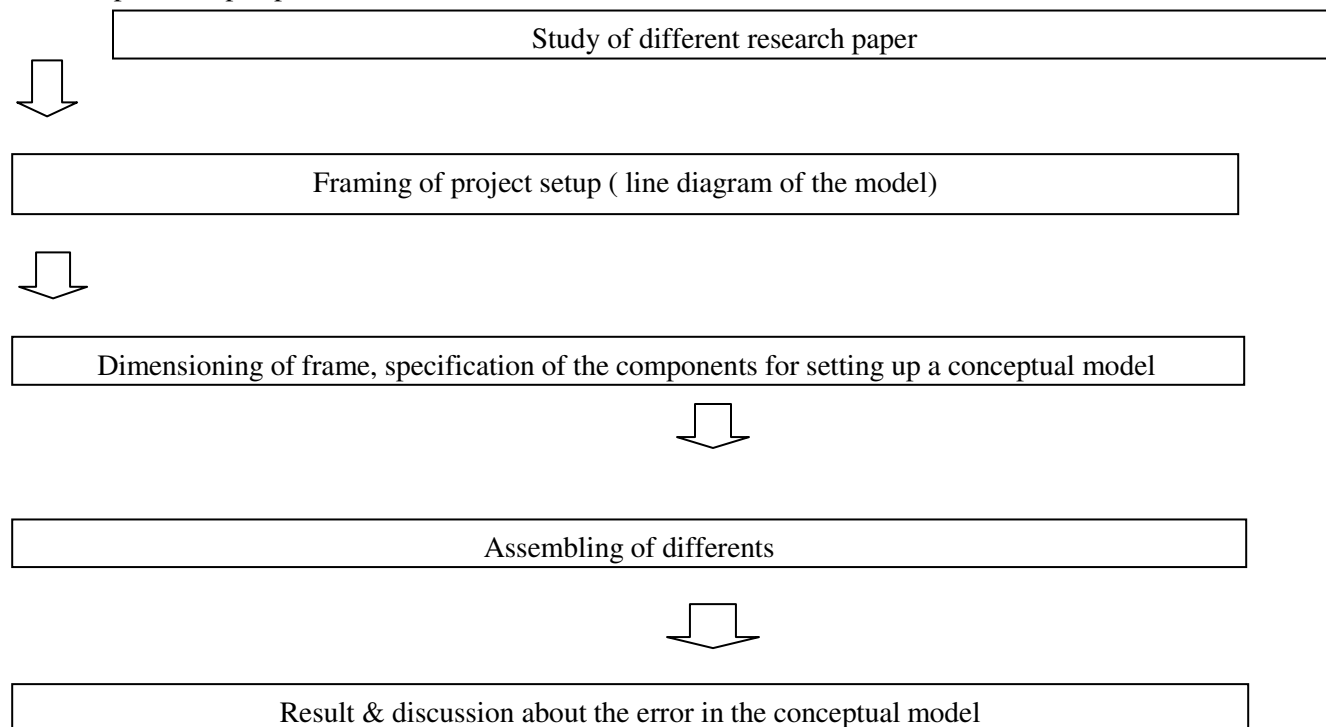
5	Frame structure	1	4500	4500
6	Machining cost	1	1850	1850
total				

We are use to comparing different materials are shown in following

5. Experimental working

When the vehicle will move on shop flour it will collected the ferrous particles from the shop flour using magnetic conveyersystem. The trolley wheels will give drive to the conveyer roller. Once the roller start rotating it will collect the ferrous particle and transport it towards the collecting chamber.

The complete setup is portable & maintenance free.



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