Use Of Cowdung With Clayey Soil To Produce Sustainable Bricks.

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Abstract : *Cow dung is the undigested residue of plant matter which has passed through the gut of animals.It is rich in minerals like Potassium, Magnesium, Sodium, and Manganese and is comprised of organic matters Cow dung can be used to manufacture bricks which are eco-friendly and much cheaper. The method of producing traditional bricks from the kiln is costly and causes pollution. The cow dung was added as a reinforcing agent in different proportions. The proportion which gives the best result can be used. Due to the use of cow dung can cause less pollution to the surrounding. The compression test outcome suggests that the strengths of the bricks decrease with increasing cow dung content.*

Keywords:Cowdung , replacement, construction material, compressive test, eco-friendly

• INTRODUCTION

It is well known that sustainable development, one of the most important issues in the world at present days, involves building our communities in such a way that we can all live comfortably without consuming all of our resources, we make an impact on the environment through how we survive our lives. In recent years, the use of solid waste derived from agricultural products in the manufacture of bricks has been the focus of researchers in the construction materials sector. The addition of agricultural materials to brick is at present a frequent practice. Several attempts have been made to reduce the rising cost of bricks production in developing countries with very little success. There is the need to seek alternatives to conventional brick and to seriously consider the utilization of industrial and agricultural by-products as feedstock for the brick industry to produce brick. When some of these by-products will be added for partial replacement will in the supplement to upgrade the properties of Bricks also generate income and Employment. The problem of disposal of these byproducts is minimized and the amount of green gases released into the atmosphere through burning processes is also greatly reduced.

Objective: 1.To obtain a sustainable brick which can be use to build a house.
2.To obtain brick which generate less pollution and at cheaper rate.

• RESEARCH METHODOLOGY

With the help of mould we have to prepare a sustainable cow dung brick . The ingredients used to make brick are clay , cow dung, grass, lime and water First we have to make mould then prepare a mixture of cow dung, grass, clay and water as per the proportion fixed.And then it is kept to dry for 21 days As the brick is dried we can perform a various test on it like compressive strength test, colour test, weight test, Hardness test, shape and size, soundness test, durability test and make our results

Preparation of mould

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Preparation of mixture

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Mixture of cow dung, lime & water

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Placed it for drying for 21 days

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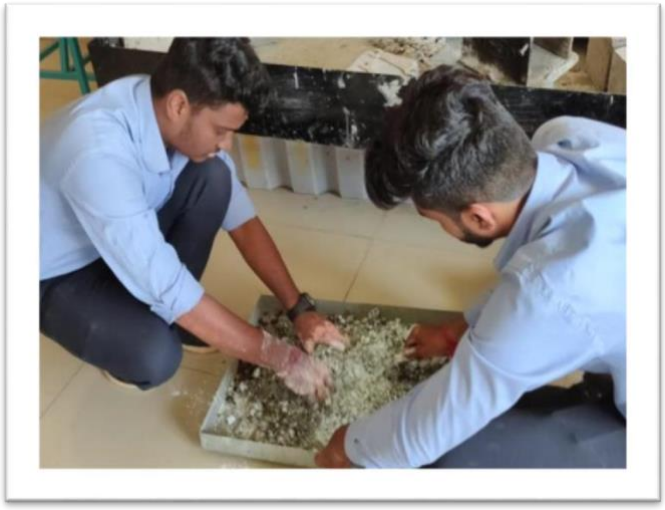
Perform various tests



- **Hardness test on brick**

Hardness Test is a simple test. A good brick is more resistance to abrasion. Sharp object scratches the surface of bricks and if there is no impression on brick then it's a Hard Brick.

- **Durability test**

The Durability test is by dropping the brick from a height of one meter on a flat hard surface.

- **Structure**

It's a physical test for bricks for its size, shape, and color. Brick possess standard shape, uniform size, plain surfaces and sharp edges. It is rectangular in shape and copper color. The standard size of a good quality Brick is 19cm x 9cm x 9cm. And it tests for voids, cracks, and any other foreign matters present in it.

- **Temperature Effect**

Today most of the modern house floor is made of marbles or diverse kinds of stones. These elegant looking marbles or stones are highly heat resistant and are always cold in nature. Hence, its very hard to walk on them barefooted, especially in winter seasons.

When cow dung dries, it becomes as solid as cement. Also, it is a very poor conductor of moisture and maintains warmness inside the walls. What does this mean? It means balanced temperatures during winters and summers, ensuring walking barefooted doesn't make one prone to cold or fever. The walls that are also coated with cow-dung stay warm in winters and cold in summers.

References:

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Conclusion:

The strength of the soil cow dung mixture decreases as the percentage of cow dung content increases. This brick is environmental friendly. Healthwise also it has a lot of benefits.