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Study On Hybrid Eco-Friendly Bricks: A Review

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Abstract— Concrete, metal, and brick are the most widely used materials in construction, and most bricks are the most widely used. Due to the use of partially masonry walls, a large number of building blocks is required. Especially in the last 10 years, there has been a great demand in the building materials industry due to the scarcity of building materials due to population growth, and the challenge for civil engineers is to turn waste into building materials and useful building materials. Recycling this waste like any other natural resource can lead to depletion of natural resources. Protection of renewable resources; improve health care, reduce environmental stress, and reduce waste disposal costs. In considering the use of this waste, this treaty considers the reuse of various materials in bricks. This work introduces the evaluation of the strength of the brick wall from the combination of bricks**.**

Keywords—Eco-friendly bricks, Plastic, Waste, Material and Fly ash bricks.

❖ INTRODUCTION

With the increasing popularity of lightweight and inexpensive building materials for housing in the construction industry, how to achieve this by utilizing the environment and keeping the requirements of the materials mentioned in the standard. You need to check if you can. Recycling waste from industrial and agricultural activities as building materials seems to be a viable option not only for this problem of pollution, but also for the problem of the economic structure of buildings. The main goal of sustainable waste management is to increase recycling capacity and reuse. The most common waste are metals and plastics, which are abundant in the world. Therefore, the use of this waste is very important both from environmental conditions and sustainability. Building materials as an alternative to traditional materials such as bricks, bricks, tiles, gravel, clay, cement, lime, soil, wood and paints. Thermal power plants are the main source of energy in India. 65% of the energy consumed in India comes from hydropower.

Distribution of ash production increases with domestic content. Figure 1 below shows that in 2010 FA production reached 160 million tons in India and FA consumption was less than 50 million tons. This means that FA use in Japan accounts for about 35% of total ash production. The optimal combination of ash has been researched to produce high quality bricks. Different parameters of the bricks were examined under the condition of the IS code and the recommended experiments were performed.

❖ EASE OF USE

Building materials play an important role in the national economy. We turned from rock to brick and now we can use the best brick in the world called "ECOLOGICAL HYBRID THIEF". These bricks can be used for almost all clay-fired brick applications.The building materials play a major role in our national economy. From stones, we have shifted to bricks and now more advanced compressed stabilized earth bricks can be used which are also called as “HYBRID ECO-FRIENDLY BRICKS”.

These bricks can be used for applications of Burnt Clay Bricks.

A. The main purpose of this study is to reduce the amount of waste and clay.

B. The purpose of this study is to check the use of different waste out of ingredients to streaming the mood's buildings.

C. The main purpose of this work is to increase the methods very well.

D. The system associated with how men and women are using this job.

E. Use the waste that has a great problem in our country.

❖ REVIEW OF LITERETURE

1. **BINIS DESAI (THE RECYCLE MAN OF INDIA):- May 16, 2017 —** Binis Desai seeks to create technology that recycles Western products into industrial waste to make building materials sustainable, "said Binis Desai, an innovator and builder of Western materials and bricks. Says.
2. **MICHELLE PEREIRA BABISK**: - In particular, the construction industry is considered the proudest part of waste recycling. Much research has been done on how to combine waste from various industries into common building materials such as bricks.
3. **VIVEK GUPTA**: - State-of-the-art technology to expand the scale of the industry using waste for unburned bricks.
4. **M DONDI (2009)**: - Explore industries and cities to recycle brick work. Check the use of TV funnel and glass and PC glass scraps mixed with clay, dry the sample at 100 ° C and then heat to 900 ° C. You can see that adding 2% glass waste to the clay body does not you do. It will cause a big change in the technical performance of stone-fired bricks. However, more than 5% of damage can compromise the safety of machine tools and fires. The results of the leaching test showed no significant environmental pollution.

5. **JOBAER AHMAD SAJU** :- Bricks have played an important role in construction and construction for thousands of years because of their beautiful properties such as durability.

6. **Perez JA et al. (1996)**:- The construction industry says it is becoming increasingly popular using environmentally friendly, inexpensive and lightweight building materials. For this reason, it is necessary to regularly monitor material requirements and explore how to achieve them by making use of the environment. The use of industrial waste and agricultural waste as natural resources for construction is the right solution for an economic system of waste development and management in an environmental context.

7. **Kulkarni et al. (2013)**:- Replacing 10% powder ash, such as bagasse ash with brick ash, provides almost the same compressive strength as traditional fly ash bricks and reduces brick manufacturing costs. The main advantage of ash brick is that it can reduce the weight of the earthquake and reduce waste disposal, so that overcoming the problem can reduce environmental damage.

8. **Pitroda J.R. et al .(2013):-** It has been found that concrete formed by melting and replacing fine particles with sand results in an increase in compressive strength as the amount of melted sand increases. In this study, replacing 60% of the particles by melting sand resulted in high compressive strength. As a result, price volatility decreased by 3.5% and sand exchange was 60%. This reflects the economics of cement produced by replacing waste sand.

❖ MATERIAL AND METHODOLOGY

Material:- Mix this material with rubber, cement, sand and water. We use overnight to reduce costs and some items to increase strength and durability.

Methodology :-

• Examine the size of the brick and its materials for its design.

• Garbage, oil, dishes and other accessories.

• Evaluate the materials used to make bricks.

• Use standardized quality assurance standards, classifications and measures.

• After brick and curing when / when needed.

• Brick master: -

1. Drinking water,
2. Resistance test,
3. Toughness test,
4. Health test,
5. Characteristics and sizes ...

Waste is an unwanted or useless substance resulting from human activity in a residential, industrial, or commercial area. These can be categorized in this way.

- Biodegradable waste
- Recyclable waste
- Inert waste
- Electrical and electronic waste
- Hazardous waste
- Biomedical waste

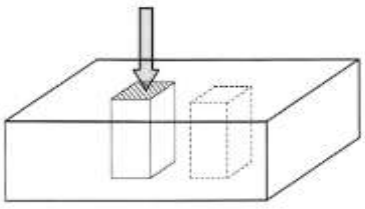
PLASTIC: -

Not all plastics are recyclable. There are 4 types of plastic which are commonly recycled

- Polyethylene (PE) - both high density and low-density polyethylene
- Polyvinyl chloride (PVC)
- Polystyrene (PS)
- Polypropylene (PP)

Compression Testing Procedure

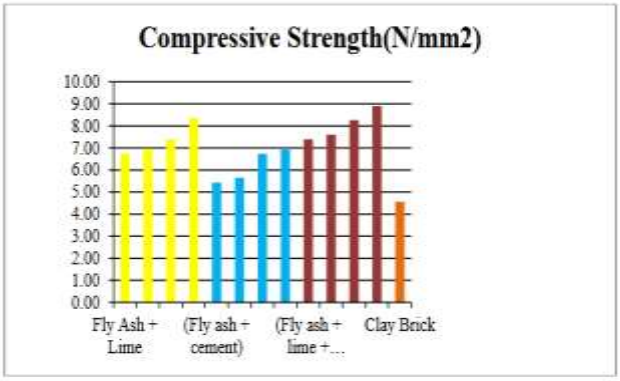
In the compression test, the test portion is cut from the brick and tested using a suitable bed frame or bracket. This is a typical load-bearing comparison for building materials under die furniture (such as walls and domes). Small samples were found mostly, with a cross section of 30 mm x 30 mm and a height of 30 mm. All products are grinded using a grinding machine to ensure that the top of the load is properly aligned. The pressure tests were carried out at the Instron Universal Test Model 3369 which is available at the Akure Engineering Development Center in Nigeria. The metal frame is equipped with a storage capacity of up to 50 kN and is integrated with a software-based computer system. The metal plate is crushed to form a landscape. Plate The plate features a straight mount made of solid steel that allows initial alignment with the sample holder, simplifying the load capacity used along the center of the sample and limiting the properties of the product. Because it is there, no impact is generated. .. The instron software is designed to capture all data during testing.



(Fig. 1 Figure diagram showing the brick cutting test method and the compression test method)

Water Absorption Test

IS: 3495 (Part 2): Test time of bricks after being immersed in cold water for 24 hours according to the system established in 1976, drinking water should not exceed 20%.



(Fig.2: Compressive Strength)

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❖ CONCLUSION

Create bricks using ashes and environmental materials. 20-30% of the ash used in making bricks helps to increase the compressive strength. Brick ash reduces the cost of brick products. We re-examined the various types of damage that are currently being recycled in the manufacture of bricks. Review the impact of these residues on brick properties. Improving performance in terms of making greener bricks and more economical offers an economic option to design green buildings that do not consume energy sources and do not emit waste.

Research has shown that paper towels are economical and environmentally friendly, have high tensile strength, tensile strength, high tensile strength and very low tensile strength. They can have painted walls, sections, sidewalks, interior design, concealers, and other small features to use. Due to its low compressive strength, it cannot be used as a large load carrier for large processes.

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