



CEMENT FLY ASH BRICK BY USING SHREDDED WASTE PLASTIC ETC.

¹Iqbal Singh, ² Mr. Satish Parihar

¹Student ²Associate Professor

¹Civil Engineering Department,

¹Rama University, Kanpur, India

Abstract: In this project Fly Ash brick and disposable plastic bottles will be built by using of cement, fly ash, sand and shredded plastic. The manufacturing process uses techniques and equipment similar to those used in the clay brick industry. A common feature of Fly Ash bottle bricks will also be read. These include absorption capacity, initial absorption rate, and fracture modulus, bond strength and durability. The prices for this feature of Fly Ash bottle bricks should be determined and should be compared with those related to clay bricks. New bricks and process are patented and new bricks are named Fly Ash Cement Bottle brick. Fly Ash cement brick bricks are made of fly ash, lime, cement, sand and disposable plastic bottles. These can be used extensively on footpaths and boundary walls for construction activities such as conventional fired bricks. Fly bottle ash bricks are relatively light in weight and stronger than ordinary clay bricks. Since ash and plastic bottles are formed as bulk waste near tropical power plants and debris causing serious environmental problems, their use as a raw material for making bricks will not only create sufficient and useful opportunities. Dump but also help to control pollution on a large scale in the surrounding areas. With a high quality view and eco-friendly environment. This dissertation is about learning about the role of cement in an ash bottle. Brick bottle ash bricks are relatively light in weight and stronger than ordinary clay, Bricks. Fly ash is useful for a product from thermal power stations using crushed coal as fuel and has great pozzolanic activity. The current generation or fly ash and waste plastics in India are hot and waste generating stations with more than 100 million tons per year. This land source can be used to the advantage of making fly ash mortar bricks as an addition to the hot clay bricks that lead to the conservation of natural resources and the improvement of the environment. Considering the growing importance and need of this item, a systematic study based on the facilities and industries used in this project will be conducted. These bricks are suitable for use in stone building such as conventional fired bricks. Production of milled ash-lime bricks has commenced in the country and it is expected that this level will encourage mass production and use..

Index Terms - Fly Ash, Shredded, Waste Plastic Bottles, Cement, Lime, Fine Aggregates.

1. INTRODUCTION

Fly ash Cement plastic bottle brick (FCPB) is part of the construction material. FCPB is a mixture of sand, cement and fly ash. FCPB can be used extensively in all footpaths and boundary wall works such as baked clay bricks. FCPB is lighter in weight and stronger than conventional clay bricks. Because ash and plastic bottles are formed as bulky waste near thermal power plants, waste poses serious environmental problems. Its use as a key material in brick making will not only create sufficient opportunities for its proper and useful disposal but will also help to control pollution on a large scale. Fly ash, cement and sand are mixed with the right amount of water needed to produce a thin layer of cement. The resulting weight is pressed against the bricks of any reduced strength. The current generation of fly ash and waste plastics in India with thermal power stations and waste is more than 100 million tons per year. One kilogram of charcoal burns fly between 250 and 500 grams of ash. Currently 10% of fly ash and 9% used. This land source can be used to the advantage of making fly ash mortar bricks as an addition to the hot clay bricks that lead to the conservation of natural resources and the improvement of the environment.

Description Of Cement Bricks

Fly ash is a useful product from thermal power stations that use charcoal as fuel and has a great pozzolanic function. This land source can be used productively in the manufacture of fly-by-fly fly bricks as an addition to the hot-tempered clay building blocks that lead to the conservation of waste and to the improvement of the environment. Crushed ash-plastic bottle bricks are found in materials that include bulk ash, sand, cement and crushed plastic bottle bricks. Fly ash-plastic bottle bricks are usually made by grinding or combining various raw materials and then molded into bricks and subjected to therapeutic cycles at different temperatures and pressures. Occasionally, if necessary, crushed ground ash or sand is also used in the construction of immature materials. Crushed ground ash or sand is used in molding as a solid material to control water absorption in the final product. So a fly ash-plastic bottle brick is a chemically bonded brick. These bricks are suitable for use in stone building such as conventional fired bricks. The production of bricks to make fly ash-plastic bottles has a new concept and it is expected that this standard will promote its production and be used on a large scale. This standard lays down the essential requirements for fly ash-plastic bottle bricks in order to achieve

uniformity in the construction of these bricks

2. OBJECTIVE

The project is exploring the role of a plastic garbage can in fly ash-cement bricks using Lime, fly ash and cement. Fly Ash-cement, lime, plastic bottle bricks are made from fly ash, cement and sand. These can be used extensively for all building projects such as conventional fired bricks. Objective achieved by combining the following objectives. The main objectives of this study are

- Investigate the strength of fly ash Cement brick materials related to fly ash, cement, lime and plastic waste bin.
- Examine the cost economy for reliable energy compared to fly ash lime brick.
- Check the role of cement in fly ash without using a plastic bottle.

3. LITERATURE REVIEW

- i. **Sumathi A. [2015]^[3]**: The study was conducted to find the optimum mix percentage of fly ash brick. However the brick specimen of size 230mm x 110mm x 90mm were cast for different mix percentage of Fly ash (15 to 50%), Gypsum (2%), Lime (5 to 30%) and Quarry dust (45 to 55%). The mechanical properties such as compressive strength were studied for different mix proportions, at different curing ages. From the results it was inferred that, among the seven proportions the maximum optimized compressive strength is obtained for optimal mix percentage of Flyash-15% Lime-30% Gypsum-2% Quarry dust-53% as 7.91 N/mm².
- ii. **Anubhav Rai [2014]^[2]** In this paper I found 'FALGCSD' Bricks with various combinations of fly ash and other ingredients and named 'FALGCSD' bricks, meaning FLYASH, LIME, GYPSUM, CEMENT, STONE DUST Bricks. These bricks are better in cost and strength compared to conventional clay bricks. Energy and cost are affected by the difference in the amount of fly ash and other ingredients in these bricks. Different percentages of ingredients in "FALGCSD" bricks affect the Power and Cost of bricks.
- iii. **Yogesh Gowda [2014]^[8]**: Another attempt at bricklaying was accomplished through industrial use of products such as class F fly ash, cane dust and sludge lime as essential ingredients, the results are as follows. Maximum Pressure Effect was reached when the percentage of Fly ash ash and Granite dust was 55 and 25 respectively for both treatment modalities namely, minimal healing and medical immersion. Samples of completely immersed bricks produce a higher trend of Pressure Strength compared to a sample of partially treated bricks. The Water-Absorption Efficiency of These Bricks is low compared to clay bricks.
- iv. **Nitin S. Naik [2014]^[5]** Brickmaking involved the burning of bricks using charcoal. The various structures of these bricks were studied by various researchers who found that these bricks could be used in the construction of low-cost houses near the thermal power plant. The bond of cement with fly ash and 90% phosphor gypsum content provides better compression strength and 28.22% water absorption is therefore suitable for use in the construction industry. When subjected to high Sulphate concentrations, cement bonds that provide low water absorption showed a very low energy dissipation.
- v. **Aakash Suresh Pawar [2014]^[1]**: Mixing various elements of wall fly ash (5-50% by weight, average dry fly ash and wet clay, 5% per step) this will be from 16 bricks. Each part is made. Bricks made of fly ash had a pressure of more than 5 N / mm². Some important features of fly ash bricks have been explored. The results are an indication of the efficient operation of Fly ash Bricks as the carrying elements. This type of brick uses 15% for mixing fly ash and 85% clay. It therefore provides a large area for dumping fly ash in a highly efficient, efficient and effective way. This effect is better compared to lime bricks and clay bricks. The edges of Fly ash Bricks are good compared to lime and clay bricks.
- vi. **Ravi Kumar, Vandana Patyal [2014]^[7]**: Efforts have been made to study the behavior of fly ash bricks by taking different concentrations of fly ash, cement, lime, gypsum and sand. Three types of fly ash bricks at different percentage of cement such as 3%, 5% and without cement are designed and performed various tests such as pressure test, water absorption test, efflorescence, weight test, structural test to compare with ordinary bricks. In experimental studies it is found that the compression strength of a fly ash containing 5% cement is 152.1 kg / cm² which is higher than that of standard I class bricks by approximately 40%.

4. EXPECTED RESULTS

- Waste plastic bottles, ubiquitous and easy to assemble, for use in bricks.
- Waste Plastics brick bottles can help reduce pollution & make the environment clean and healthy.
- Disposal of plastic bottles, sand bricks reduces the culture of clay making bricks.
- Plastic bottle waste, sand bricks provide brick selection to customers at affordable prices.
- These bricks are friendly and reduce pollution.
- Not in problem use on boundary walls.

- These bricks have good water absorption properties.

5. CONCLUSION

In this work we see that the materials used are cement, fly ash, lime, sand, plastic bottles. Acquired high pressure forces. Review paper used for this project flies with ashes and plastic used in various locations. In this project fly cement bricks, fly ash, plastic, fly ash are used. This usually reduces agricultural and environmental pollution. These bricks are lightweight and easy to move any & compact strength. The project focuses on green technology, sustainable construction and ecofriendly environment in the community.

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