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## Utilization of Ash for AAC and Soil Bricks Industry

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**ABSTRACT** - After independence in India the construction is possible only using soil bricks continuously making house building, offices and apartments. In town the brick sectors in India is unorganized and the soil bricks are used in the process of making bricks AAC blocks using making bricks for construction sustainable growth in construction.

**Keywords:** Cement instead of soil and ash.

### Introduction

What is main factor used for making construction? India is the second largest country in the world which uses soil bricks continuously it always uses soil and ash for making bricks from last seventy years.

Historical places in India using large number of stone construction like Taj Mahal, Kutub Minar, Bibika Makhbara these are the construction in ancient period.

Today such types of stone are available but the population of India increases continuously in India. The stones doesn't made apartments and other construction only because heavy weight of stones apartment requires low weighted material for twenty to fifty floors. We see the condition of agriculture and condition continuous decrease trees are cut down for making furniture door, windows and maximum other wooden articles in daily use.

So AAC blocks are the best solution for making apartments in India.

### Definition of Bricks

A brick is building material used to make walls, pavements and other elements in majority construction. Traditionally the term brick referred to a unit composed of clay. But it is now used to denote any rectangular units laid in mortar. Two basic categories of bricks are fired and non-fired bricks.

### Urban Dictionary: Brick

4 A large quantity of drags packaged in brick shape, especially cocaine. 5 An Brick-definition of brick by the free Dictionary.

The use of soil for making bricks in any type of construction is harmful to the environment. So AAC blocks is the solution for making without soil bricks it is sustainable for environment and low weighted blocks fulfills the needs of common peoples in the society. According to continuous increasing population in India.

### Hypothesis

1. Continuous increasing its efficiency.
2. Trees and forest development without soil is impossible.
3. Making of bricks other than traditional method.

### Objectives

1. To make strong construction.
2. To avoid the soil for making bricks and constructions.
3. To save the soil and land for future generation.
4. To protect the environment by making pollution.

In the period of British in India large number of construction seen with the help of stones. Today these constructions are stronger as compare to soil bricks these types of constructions always seen in India. Designs and shape to create unique Kutub Minar, Bibika Makhbara these are examples of stone construction in India.

Today we see the population of India crossed 125 crores the expected home in India. Maximum population BPL (Below Poverty Line) doesn't have any home and they are willing to get the residence.

### Sustainable ash utilization

The fly ash produced as a by-product of coal combustion in the boiler poses environment challenges and its efficient, sustainable utilization has been of paramount importance to the power industry. According to latest Central Electricity Authority (CEA) data available for 2016-17 almost 169 million tones of fly ash was generated by thermal power plants (TPPs) plants in India.

Government tried to utilize ash 100% through several policies and regularity stipulations be ash utilization level in the country continuous around 60% of overall ash generation. Currently only a few utility has been able to comply with the environment ministries January 2016 notification which had stipulated 100% utilization of ash by Dec 2017.

### Existing Policies

The Ministry of Environment, Forest and Climate Change (MoEFCC) issued the first directive for promoting fly ash utilization in the country back in September 1999. This was subsequently amended with notification issued in 2003, 2009 and 2016, setting targets for fly ash utilization and promoting its use by construction agencies. Notification dated January 25th 2016 stated on the complete utilization of fly ash by thermal power plant (TPP) by end December 2017. In addition, it was specified that power plant developers would bear the entire cost of ash transportation up to a radius of 100 km. for distances off more than 100 km and up to 300 km for road construction projects or for ash based building products. The notification also made it mandatory to use fly ash based products for all government schemes such as The Pradhan Mantri Gram Sadak



Yojana, the Mahatma Gandhi National Rural Employment Guarantee Scheme and the Swachh Bharat Abhiyan.

<https://powerline.net.in> (02.04.2019)

#### Modes of ash utilization

Fly ash is used in the manufacture of bricks and concrete (8.81% in the end use of fly ash in 2016-17) which binds the ash and prevents it from escaping into the environment.

#### Ingredients in making AAC blocks

**Cement-S3-grade ordinary portal cement** - (OPC) from manufacture is required for manufacturing AAC blocks. Cement supplied by plants is not recommended due to variations in quality over different baleens of cement.

**Fly ash or sand**- Fly ash is mixed with water to form fly ash slurry. Slurry thus formed is mixed with other ingredients like lime powder cement, gypsum and aluminum powder in proportionate quality to form blocks.

**Lime stone powder**- Lime powder required for AAC production is acquired by crushing lime stone to fine powder at AAC factory or by directly purchasing it in powder form from a various plants.

**Gypsum**- Gypsum is readily available in the market. <https://www.researchgate.net>

These are some of the ingredients used making AAC blocks 53-grade ordinary portal cement (OPC) used for making strong and low in weightless bricks using different machinery. Fly ash or sand used for making weightless strong bricks. These ash mixed with water to formed is mixed with other ingredients like lime powder cement, gypsum and aluminum powder in proportionate quantity.

#### Advantages of Autoclaved Aerated Concrete

- 1) **Eco-friendly**- AAC reduce at list 30% of environment waste as compared to traditional concrete. There is a decrease of 50% of greenhouse gas emissions.
- 2) **Light weight**- It is 3-4 times lighter than traditional bricks and therefore, easier and cheaper to transport.
- 3) **Energy saver**- It has an excellent property that makes it an excellent insulator.

#### Suggestion

1. It is needed to save land for plantation of trees
2. Further, the need of the increasing agricultural production.
3. Lesser space should be used for making flores.
4. New science and technology should be applied for making bricks other than soil bricks.
5. It is the need of an hour to avoid traditional method of making bricks.

#### Reference

- 1 D.M. Bricks industry Latur city (25.03.2019)
- 2 Definition of bricks from different authors
- 3 <https://enm.wikipedia>wiki>Brick> (31.03.2019)
- 4 <https://www.cdlimsdictionary.com> (31.03.2019)
- 5 AAC blocks production, Bhusawal (25.03.2019)
- 6 <https://powerline.net.in> (02.04.2019)