



Burnt Clay Bricks Vs Fly Ash Bricks Vs ACC/CLC Blocks



By
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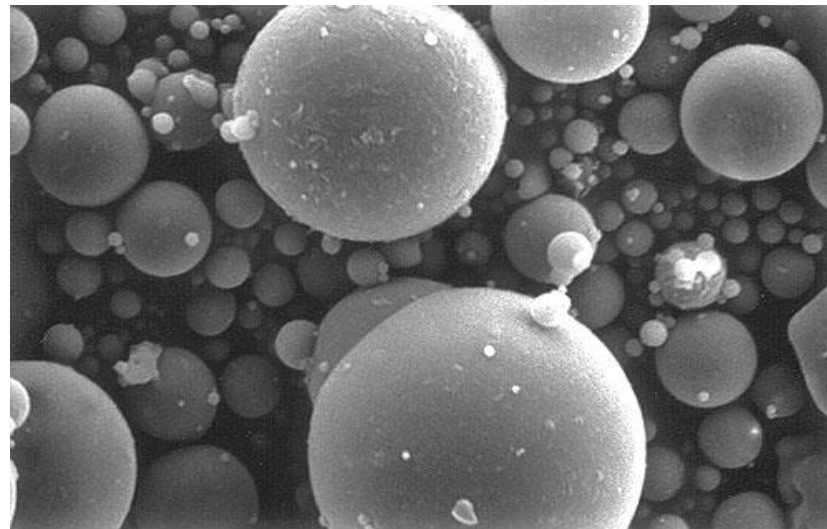


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INTRODUCTION TO FLY ASH

- ▶ **Fine Powdered Product**
 - Generated in **thermal power plants** using pulverized coal or lignite as fuel.
- ▶ **Pozzolanic Nature**
 - Rich in **siliceous or aluminosiliceous compounds**.
 - Reacts with lime in the presence of water to form cementitious compounds.
- ▶ **Particle Characteristics**
 - **Spherical-shaped micro “balls”**.
 - **Finer than cement particles**, improving workability & strength in concrete & bricks.



USES OF FLY ASH

► CEMENT

- RMC:- READY MIXED CONCRETE
- PPC:-PORTLAND POZZOLANA CEMENT



► FLY ASH BRICKS, ACC/CLC BLOCKS

► ROAD AND PAVEMENT CONSTRUCTION





INTRODUCTION TO FLY ASH BRICKS

- ▶ Fly ash bricks are building materials made using **fly ash (a by-product of coal combustion in thermal power plants)**, mixed with cement/gypsum, sand/stone dust, & water
- ▶ Fly ash is a fine, **pozzolanic powder** rich in siliceous and aluminous material, which reacts with lime **to form cementitious compounds**.
- ▶ Fly ash particles are **spherical and finer than cement**, improving workability & strength\
- ▶ Utilize thermal power plant waste as a primary raw material, thereby conserving fertile topsoil for agriculture. They provide an environmentally friendly solution by ensuring proper disposal of fine particulate matter, while also helping to reduce air pollution.





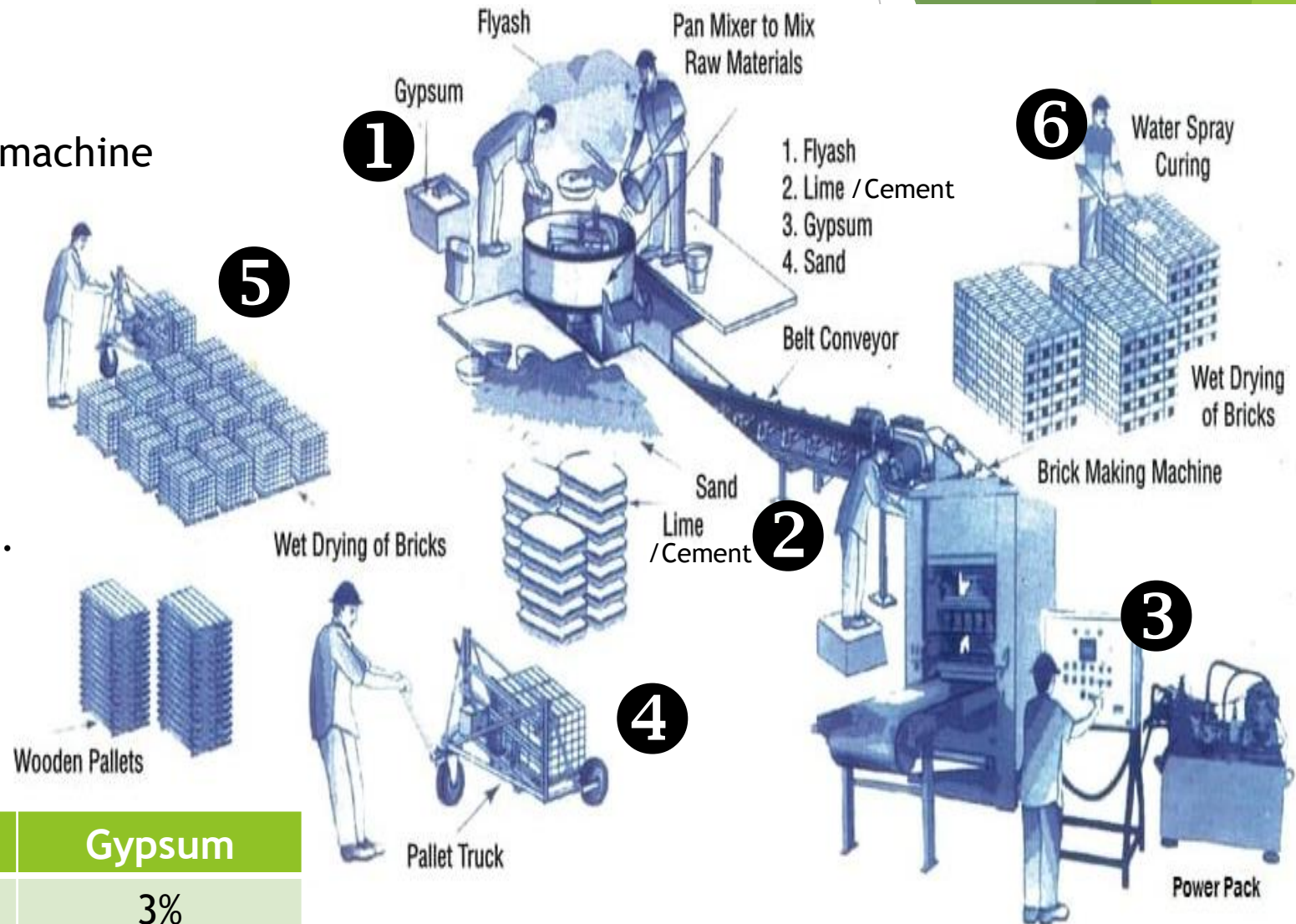
FEATURES OF FLY ASH BRICKS

- ▶ Size 230 X 110 X 70/75, 190X 90 X 90, 200 X 100 X 100 [MM]
- ▶ Confirming to IS code 12894:2002,16720:2018
- ▶ Compressive strength more than 100 Kg/cm²
- ▶ Uniform Shape and Size
- ▶ More Durable with time
- ▶ Water Absorption less than 20%
- ▶ Less Mortar consumption & saving in plaster cost



MANUFACTURING PROCESS OF FLY ASH BRICKS

- ❶ Raw Material Mixing
- ❷ Mixed Material Movement to molding machine
- ❸ Compressing RM at high pressure
- ❹ Material movement via Pallet tuck
- ❺ Wet Drying of Bricks at Pallets.
- ❻ Stacking of Bricks and Water Spraying.
- ❼ Transportation to site
- ❽ Tentative Full Dry Brick Composition



Fly Ash	Lime/Cement	Dust	Gypsum
67%	15%	15%	3%



COMPARISSION OF FLY ASH BRICKS

FEATURE	FLY ASH BRICKS	BURNT CLAY BRICKS	ACC/CLC BLOCKS
Eco-Friendliness	✓ Uses waste, saves soil	✗ Consumes topsoil, polluting	✓ Energy-efficient, but needs chemicals
Strength	✓ High (Above M10)	⚠ Moderate (M5~M7.5)	✗ Lower (M2~M5)
Durability	✓ Long-lasting	⚠ Prone to dampness	✗ Brittle
Cost	✓ Low overall	⚠ Moderate	✗ Higher
Water Absorption	✓ Low	⚠ Moderate	⚠ Moderate
Thermal Insulation	⚠ Moderate	✗ Poor	✓ Excellent
Ease of Use	✓ Traditional masonry	✓ Traditional masonry	⚠ Needs skilled labor

Conclusion:

- Fly ash bricks are the best choice when balancing **eco-friendliness, cost, and strength**.
- Burnt clay bricks are outdated due to environmental damage and irregularity.
- AAC/CLC blocks excel in insulation but are costlier and less durable.

ADVANTAGES OF FLY ASH BRICKS FROM POWER BRICKS CORPORATION



► Environment-Friendly:

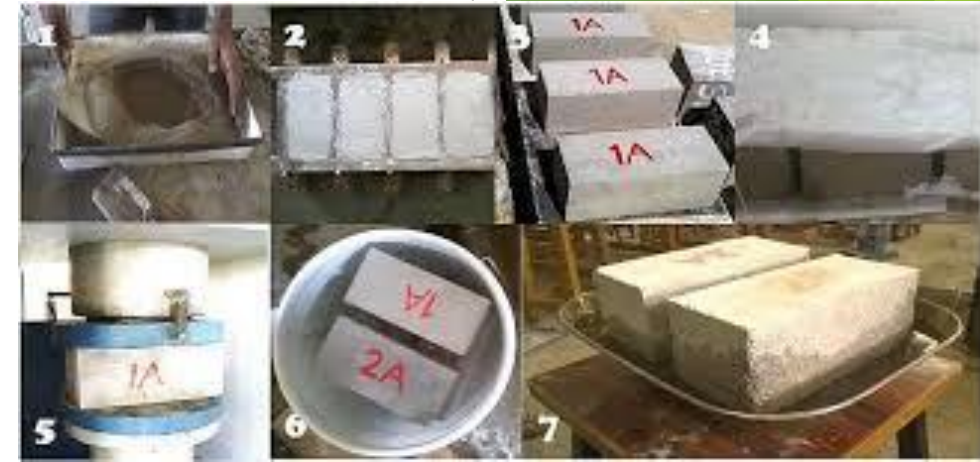
- Made from industrial waste (fly ash), reducing pollution.
- Prevents the destruction of topsoil unlike clay bricks.
- Lower carbon footprint—no need for high-temperature kilns.
- High Strength & Durability

► High compressive strength [M10]:

- Less breakage during transport $\leq 1\%$
- Resistant to moisture, pests, and fire.

► Uniform Size & Better Finish

- Machine-made → accurate dimensions.
- Reduced mortar and plaster consumption.
- Faster and cleaner construction.



► Low Water Absorption

- Less than 20% as per IS code 12894 & 16720
- Minimizes issues like dampness and efflorescence.

► Cost-Effective

- Lower construction cost due to less mortar and finishing material.
- Long-term savings due to durability being a high reactive silica

► Thermal & Sound Resistance

- Provides decent insulation.
- Enhances comfort within buildings.



THANK

YOU !

