

Wallme Autoclaved Aerated Concrete Blocks

Product Names: WALLME 551-650D Grade 1 & Grade 2 AAC Blocks

Wallme™ 551-650D series Autoclaved Aerated Concrete Blocks (AAC Blocks) are architected to enable building construction with **density range of 551 to 650kg/cubic meter**, providing rich durability to the walls buildings while reducing the dead load of the walls.

The Wallme AAC Blocks are the future-enabled with its low density (weight), compressive strength, thermal insulation qualities for reducing heating and cooling costs, with its ability to dampen mechanical vibration energy reduces noise pollution from outside, its highest fire rating and being made from Flyash helps reduce environmental waste and helps conserve valuable natural resources making it the **most responsible and preferred building wall material**.

Product Overview

The AAC Blocks are often called as innovative building material, Is essentially concrete made of raw material like silica(from Flyash), cement, lime, gypsum and aluminum powder entrained with tiny air bubbles and cured under high pressure and temperature.



Production Process

Wallme AAC manufacturing process starts with fly ash being mixed with water to desired density to form fly ash slurry. Then all raw materials (Flyash slurry, cement, lime and gypsum) are automatically weighed and mixed along with aluminium powder (the expanding agent). The mix is then poured into mould box allowing a chemical reaction that expands the mixture to form small and finely dispersed air bubbles and are allowed to harden. Then the semi-solid material is transported to the cutting machine by steel wires.

Finally the blocks are steam pressure cured in autoclaves for approximately 12 hours, Wallme AAC blocks are removed from the autoclave, and sent to the finished product storage.

Product Specifications

The Wallme **551-650 Density** series of blocks are offered in **two grades** and specifications are given below:

Table 1. Product Specifications GRADE-1 AAC Blocks

Parameter	GRADE-1
Compressive Strength	Greater than 4 N/mm²
Dry Density	551-650 kg/m ³
Bulk Density	~ 700-800 kg/m ³
Moisture Content (%)	20-30%
Drying Shrinkage	0.04%
Thermal Conductivity	>0.2 w/m ² k
Sound Insulation	50 DB(8 inch wall)
Fire Resistance	6 hours(8 inch wall)
Application	High Rise, Premium apartments and villas.
Breakage Tolerance during transport	3%

Table 2. Product Specifications GRADE-2 AAC Blocks

Parameter	GRADE-2
Compressive Strength	Greater than 3 N/mm²
Dry Density	551-650 kg/m ³
Bulk Density	~ 700-800 kg/m ³
Moisture Content (%)	20-30%
Drying Shrinkage	0.04%
Thermal Conductivity	>0.2 w/m ² k
Sound Insulation	50 DB(8 inch wall)
Fire Resistance	6 hours(8 inch wall)
Application	Mid segment apartments and villa projects.
Breakage Tolerance during transport	6%

Note: Grade categories as per IS 2185 (Part 3).

Key Business Benefits for Builders

- Dimensional Accuracy



Wallme AAC Blocks are made to very exacting dimensions, result in smooth walls with a perfect contact among the different elements, enabling builders to save in joints and plastering finishes and achieve optimal structural performance. Dimension tolerances are +/- 2mm.

- Relatively High Strength for Low Density

AAC is up to 3 to 4 times lighter than traditional concrete, representing great advantages in transportation and material handling. AAC is a stable form of silicate hydrate that is cured and strong.

- Ease of Construction/Workability



AAC products are easy to cut, drilled, nail, mill and grooved. This provides higher productivity in hydro-sanitary and electrical installations such as pipes or ducts which can be placed after the structure has been built.

- Construction Time Saved/Speed of Construction



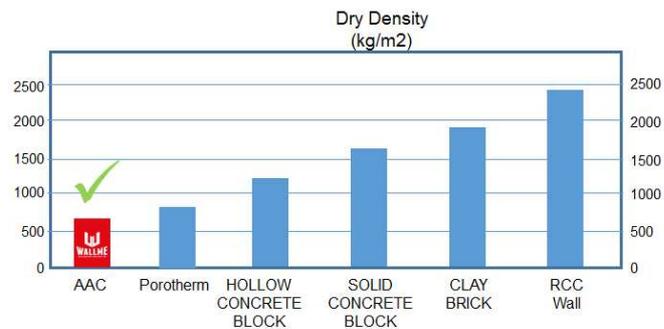
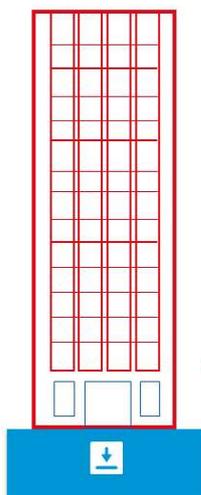
Wallme lightweight blocks are faster to construct with and generally require less labour compared to traditional construction techniques and products. The speed and ease of wall assembly minimizes labor costs. Advantages of faster construction performance on AAC.

- Speed and Labor Cost Savings
- 1/3 or 1/4 the weight of traditional concrete
- Foundation sizes minimized
- Support structure minimized
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- Appearance

Autoclaved aerated concrete is light grey colored. It contains many tiny air pockets (similar to those in aerated chocolate bars) that can be clearly seen when looked at closely.

- Reduced Dead Load(Structural benefits)



~60% reduction in dead load of walls(compared to concrete blocks)

Low Density(weight) of the block influences the size and weight of the foundation, since a traditional wall weighs two to three times as much as its AAC counterpart hence steel and concrete could be used accordingly.

Key Business Benefits for Inhabitants:

- Improved Fire Resistance



AAC is inorganic, incombustible and does not explode; it is thus well suited for fire-rated applications.

With the highest fire rating in the industry, Wallme AAC blocks are our building systems offer the best fire safety available.

AAC has proven to remain fully intact and withstand the stress of fire for up to 6 hours without any impairment to its stability. Even under intense heat

Advantages of fire behaviour on Wallme AAC.

- Fire Safety- up to 6 hours
- Not flammable.

- **Superior Thermal Insulation:**



AAC has very good thermal insulation qualities relative to other masonry and for reducing heating and cooling costs “AAC is the solution”.

Due to the aerated (tiny air pockets) structure of the material and its unique combination of thermal insulation and thermal mass heating and cooling costs are reduced and helps improve indoor air quality.

In summer the heat stored in the wall during the day is returned to the outside during the hours of the night. The interior remains cool and pleasant. In winter, the phenomenon is reversed and removes the unpleasant sensation of cold wall.

Advantages of Thermal on AAC.

- Operational life time energy savings.
- Ability to store heat or cold.
- Great performance in R-Value
- Less raw material usage per square foot
- LEED credits

- **Better Sound Insulation:**



AAC with its porous structure can provide exceptional sound insulation.

Its porous structure and high surface mass, coupled with its ability to dampen mechanical vibration energy, greatly reduces outside noise pollution and the indoor echo effect in empty rooms, providing a quieter, more comfortable interior for the occupants.

As with all masonry construction, care must be taken to avoid gaps and unfilled joints that can allow unwanted sound transmission.

Thin joint (3mm) AAC block adhesive gives better sound insulation compared to AAC walls built with conventional cement sand mortar (10mm) joint.

- **Termite Resistance:**



The raw material used in AAC does not harbour or encourage termites.

Environmental Benefits



AAC products or building solutions may have lower embodied energy per square meter than a concrete alternative.

In addition, AAC's much higher insulation value reduces heating and cooling energy consumption for the inhabitants.

Waste pieces from electrical and plumbing grooves and damaged pieces can be used to fill sunken slabs there by cutting down on construction debris and dumping/landfills.

Wallme AAC and green building attributes:

- Thermal power plant by-product used as Raw Material for making AAC blocks.
- Recyclable, inert & non-toxic
- Excellent life-cycle cost.
- Durable, natural finish options.
- Supports LEED credits.

Summary and Conclusion:

As builders strive to lower cost of construction and increase their workers productivity with innovative building material, more innovations solutions are required. The Wallme AAC Blocks offers a new range of building material solutions with benefits for builders and inhabitants.

Ordering Information:

To place an order, please visit wallme.in or call you local sales representative or our authorized dealers near you.