

## AAC PLANT



India's leading **Make in India** manufacturer of superb quality Fully Automatic AAC Plants established in chennai

INDIA'S CONSTRUCTION MACHINERY MANUFACTURER

## » OUR MISSION

We strive actively to deliver resource-efficient, convenient and high-quality engineering technologies for the digital future.





## ABOUT POWEROL

Autoclaved aerated concrete (AAC) plants and expertise for the manufacturing of AAC panels and blocks are developed and manufactured by Powerol, a renowned leader in this field. We design and manufacture the fully automatic AAC plants & automation systems owing to our highly experienced team's decades of experience and operations all over India.

The comprehensive, core technology, plant services, and industry solutions are a few of our services. We serve as your long-term technological partner and walk you through every stage of designing, construction, and operation of your AAC factory.

-  GREENFIELD PROJECTS
-  UPGRADATION & MODERNIZATION
-  AMC, REPAIR & MAINTENANCE
-  CONSULTATION & EXPERTISE



-  The Mould box & Cutting Line design provides an excellent quality & finish
-  Long-term collaborations in the technology
-  Global reach and influence through initiatives
-  An approach to the vertical market for engineering, machinery, AAC production, and AAC construction solutions
-  Comprehensive construction solution for the residential, commercial, and industrial sectors





# AUTOCLAVED AERATED CONCRETE



## MATERIAL AND ENERGY EFFICIENCY

AAC is a fantastic thermal and acoustic insulation because of the air pores in the material. Depending on the density being employed, the thermal conductivity values range from 0,18 to 0,24 W/mK. The cost of heating and cooling can be reduced by about 30% owing to this low thermal conductivity rating

AAC products have densities ranging from 550 to 850kg/m<sup>3</sup> and non load bearing as well as load bearing capacity of 3 to 7 N/mm<sup>2</sup>. It is a very resource-efficient and environmentally friendly building material because the volume of the finished product is three times that of the raw materials utilised.

In addition, AAC is a non-toxic substance that makes it the green building material for buildings that have been awarded the Leadership in Energy and Environmental Design (LEED) and Green Star certifications.

## A PERFECT CONCRETE MATERIAL

Building materials that are lightweight, sturdy, and long-lasting include autoclaved aerated concrete (AAC). Since 1929, when aerated concrete production first began, it has grown to become one of the most used building materials worldwide. Today, AAC is widely used in residential, commercial, and industrial buildings and is produced all around the world.

AAC is a sustainable building material that is created using only natural ingredients like fly ash(or sand), cement, lime, gypsum, and aluminum powder. This mixture yields lightweight aerated concrete that offers superior insulation, light weight structure, and fire protection

## FIRE-RESISTANT AND SAFE BUILDINGS

To endure fires, earthquakes, and other natural disasters, all AAC materials are well-suited.

The highest level of fire prevention is achieved by AAC, which can resist up to 4 hours of open exposure to fire. It belongs to class A1 and is non-combustible.

## EXTENSIVE RANGE OF AAC PRODUCTS



## A RAPID AND SIMPLE CONSTRUCTION SYSTEM

Construction times are 2-5 times faster using autoclaved aerated concrete blocks and panels than with other traditional technologies since they are lightweight and simple to handle.

Beyond AAC blocks, AAC panels open up new possibilities for commercial applications. Prefabricated parts can be installed fairly quickly and easily in panel-based systems. As a result, one installed m<sup>2</sup> takes much less time and money overall in terms of labor and overhead

The Ultra Seamless texture of the blocks and panels helps the overall structure to be finished more quickly because less plaster, surface treatment, and finishing materials are needed for the walls.

## AAC'S UNIQUE BENEFITS SUCCESS OVER CONVENTIONAL BUILDING MATERIALS



LIGHTWEIGHT



AVOIDING FIRE



CONSTRUCTION QUICKLY



EFFICIENT IN ENERGY



STRONG



SOUNDPROOF



INSULATOR



VERSATIL



ACCURATE



DURABLE





## POWEROL AAC BLOCK PLANT

- NO PROCESS WASTE
- SMOOTH SURFACES
- SURFACES PANELS 6 METER LONG
- ULTRA-THIN GOODS
- LIGHTWEIGHT FOOTPRINT
- MINIMUM FOUNDATION

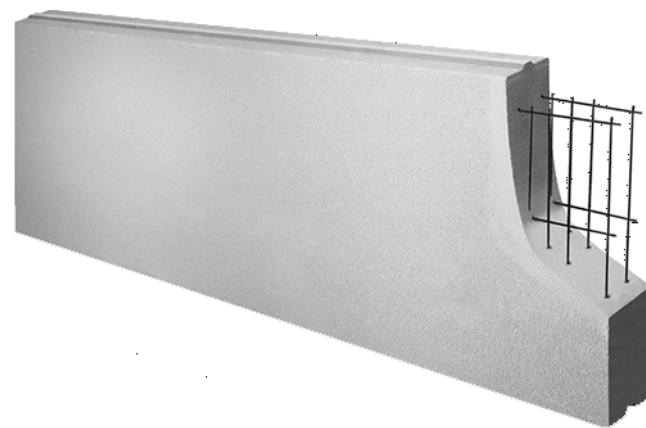






### CUTTING TECHNOLOGY FEATURES PROCESS SIMPLIFICATION AND HIGH PRODUCTION LINE FLEXIBILITY

- Limiting material/capacity loss by minimal cake handling
- High Capacity Tilting Crane.
- Double oscillating wires - in the Super Fast Cutting Frame
- Mould opens up entirely with hinged doors - easy to clean and oil
- Cutting gives perfect wall surface – will reduce thickness of plaster
- Accurate tongue and groove profiling in the green state



### TRUE-TO-FIND PROJECTS

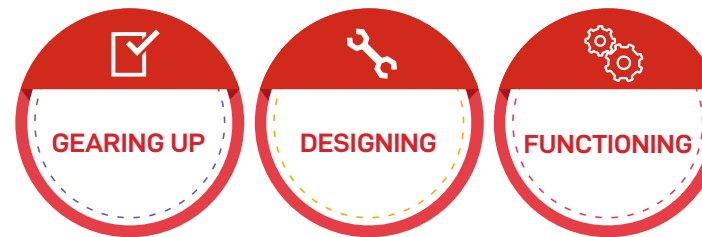
As your technical partner, Powerol will help you with every step of designing, constructing, and running an AAC plant.



- Testing raw materials
- Formula design and improvement
- Design of a product portfolio
- Design of equipment scope
- Comprehensive investing overview
- Model of financial performance
- Calculations of production costs

### AUTOMATIC PLANTS

Our project teams work on every component of a new AAC plant using Powerol's turn-key approach, which combines expertise and a customer-focused attitude. Beyond the manufacturing, installation, and commissioning of entire systems, we work with you to ensure dependable daily output



Phase I, a bespoke engineering process, is the first step in any Powerol project. Together with the investor, we create the ideal harmony between local conditions, technology, and investment expectations.

When constructing a successful AAC plant, success depends on having a thorough understanding of your project's requirements. We provide the following to establish a strong technical and financial foundation:



### TURN-KEY AMENDMENTS

Turnkey upgrade packages for existing AAC factories are offered by Powerol. By using the most recent technology and advances, we specialize in updating AAC plants built with various technologies.

- Cutting Line Efficiency
- Tilting Crane Efficiency
- Waste Reduction
- Automatic Mould Oil Spraying Station

### RELATIONSHIP TECHNOLOGY

#### INDIA - FUTURE

The Flat Cake cutting machine, one of the most significant inventions introduced to the market by Powerol, enables the fabrication of excellent quality AAC products with extraordinary finishing at optimum prices.

### HIGH QUALITY GREEN CAKE CUTTING SYSTEM

- Durable quality and engineering
- From 300 to 2000 m3/day in capacity
- Simple increases in capacity and product offerings
- Blocks and panels in the 50mm to 300mm thickness range
- In case any special size required from customer – can do by change wire slot

#### Unique Engineering Technology

For accuracy and SUPER SMOOTH surfaces, a secondary smoothening wire is used after the initial cutting wire



## SERVICES FOR PLANT

Existing AAC plants are given access to plant services. Our engineers have a long history of working on specialized projects, enhancing operational effectiveness, product quality, and automating existing AAC factories.

### YOUR AAC PLANT

- › Improve Product Quality
- › Minimize Operating Costs
- › Optimize Production Output
- › Enhance Safety



### MAINTENANCE

Field service engineers and technicians from Powerol conduct routine maintenance and emergency service assignments



### CONSUMER GOODS & UNIQUE PARTS

We provide necessary parts and supplies for the ongoing production of high-quality AAC products. Powerol continues to be at the forefront of innovation and workflow enhancements.



### RECIPES OPTIMIZED

We evaluate, test, and optimize recipes as well as contribute to the creation of better formulations to satisfy the particular needs of each plant. In close collaboration with the customer, we analyse the raw materials and create several recipes to cater to the unique needs of each factory and its preferences.

Every manufacturing facility has a distinct formula where the raw ingredients affect the finished product.



### ASSESSMENT & MANAGEMENT

The production teams of upcoming or existing AAC plants can receive support and training from the mechanical, electrical, software, and chemical engineers at Powerol. Based on our practice in AAC operations, we also give technical assistance through intermediate production management.



### IMPROVEMENTS TO PLANT

By designing, creating, putting in place, and maintaining cutting-edge machinery, we provide single or combined improvements for particular regions within the AAC production lines.

- Powerol Dosing System
- Extension of the reinforcement area
- Upgrades to plant management systems
- Panel after treatment - sawing and milling
- Cutting line technology
- Powerol Multi Paddle Low Speed Mixer
- Improvements to the unloading and packaging area

## BUSINESS SOLUTIONS

To help you maximize of your AAC business, Powerol, your technology partner, provides access to industry best practices and knowledge from around the world. Beyond the provision of machines, our expertise is readily available to assist and help you at every stage of the AAC value chain.

## INSIGHTS FROM AAC BUSINESS

We provide the following to share our expertise with you:

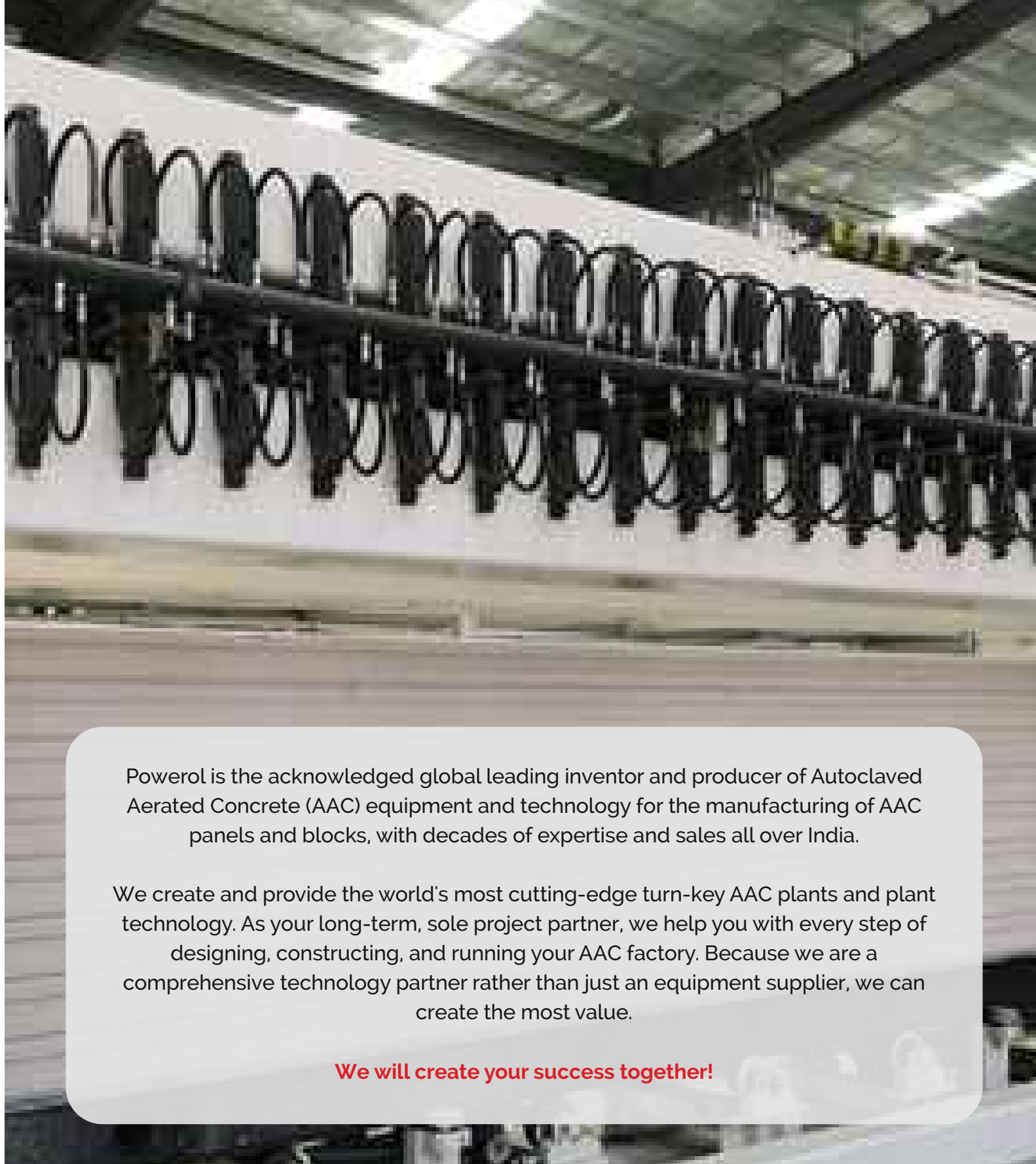
- Plant scanning
- New product applications
- Technical audits
- Market development plans
- Plant operation manuals
- Production licenses

## BUILDING SYSTEM MADE OF CONCRETE

AAC panels open up a variety of brand-new application opportunities for products. Through the creation of cutting-edge panel-based building systems suitable for the construction of social, commercial, and industrial structures, Powerol supports the growth of your local market.

The proportions of the panels are standardized to meet the ideal product line of Powerol facilities, and all AAC components are produced in one facility. Time and money are directly saved when using an Powerol AAC Plants & System.





Powerol is the acknowledged global leading inventor and producer of Autoclaved Aerated Concrete (AAC) equipment and technology for the manufacturing of AAC panels and blocks, with decades of expertise and sales all over India.

We create and provide the world's most cutting-edge turn-key AAC plants and plant technology. As your long-term, sole project partner, we help you with every step of designing, constructing, and running your AAC factory. Because we are a comprehensive technology partner rather than just an equipment supplier, we can create the most value.

**We will create your success together!**

**POWEROL®**

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