
# Environmental Brochure

## Providing Solutions for Sustainable Habitat

Member of:

India Green Building Council

GRIHA

Gyproc
SAINT-GOBAIN

# Sustainable Habitat is our future. It starts now!


Taj Hotel, New Delhi

Buildings have a massive impact on the environment, with both their construction and use contributing significantly to the environmental issues we face today. For this reason, **sustainable construction methods are becoming increasingly important.** In Gyproc, we have developed a sustainable approach to our business which helps our partners in the construction industry (architects, contractors, installers to name but a few) deliver innovative solutions and services to their customers and clients.


Residential False Ceiling

Our commitment is to **minimise the impact of our products and systems on the environment** and we achieve this in a number of ways:

• We are located all over the world with **manufacturing facilities as close as possible to the main construction hotspots,** ensuring that our response is prompt, and that our materials are local to minimise transportation.

• Our products help provide **comfort, security and health** to the occupiers and users of buildings.


Mindtree, Bangalore

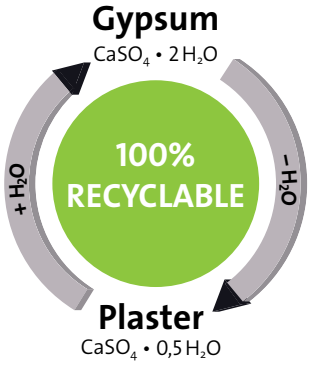
Gyproc has initiated to monitor the environmental impact of the products during production and their whole life cycle. This requires transparency and the vigorous use of widely accepted **Life Cycle Assessment (LCA)** techniques to produce meaningful data which our customer can compare to ensure an optimised approach is taken in line with the future requirements of the Green Building Organisations like **IGBC and GRIHA.**

In Gyproc, we ensure that the environmental impact of a new product is considered right at the beginning of the innovation process. By using this mind-set and methodology, we will increasingly deliver product, system and service innovations to improve the environment and comfort of our installers and end-users.

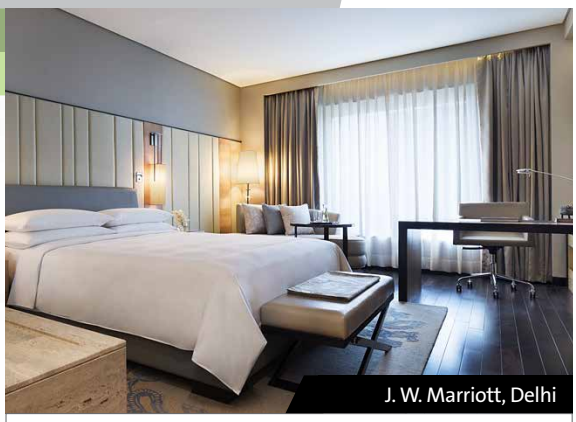
Gypsum has many environmental qualities:
- → Sustainable material
- → Fire resistant
- → Contains no hazardous substance i.e. non-toxic
- → Infinitely recyclable

# Gypsum, the most modern of old materials

Gypsum is a natural resource, a mineral rock, embedded in the ground. It has been widely used in construction for over 5000 years and has proved to be not only durable but also easy and safe to use. Ancient Egyptians used gypsum to build the pyramid of Cheops and the material was also used as arabesque decoration-stucco in Alhambra.




Gypsum is an inherently sustainable material as it can be completely recycled an infinite number of times. Removing water from gypsum rocks through dehydration produces a plaster powder scientifically known as calcium sulphate. This process is totally reversible: adding water reproduces gypsum.



J. W. Marriott, Delhi

## Drywall versus traditional solutions

A comparison between plasterboard and conventional brick walls solutions clearly favours our gypsum solutions.

- → Lightweight
- → Fewer natural resources per $m^2$
- → Low energy consumption in production
- → Low $CO_2$ emissions over whole life cycle
- → Time-saving during installation
- → Performance ranges according to the application
- → Flexible design
- → Recyclable

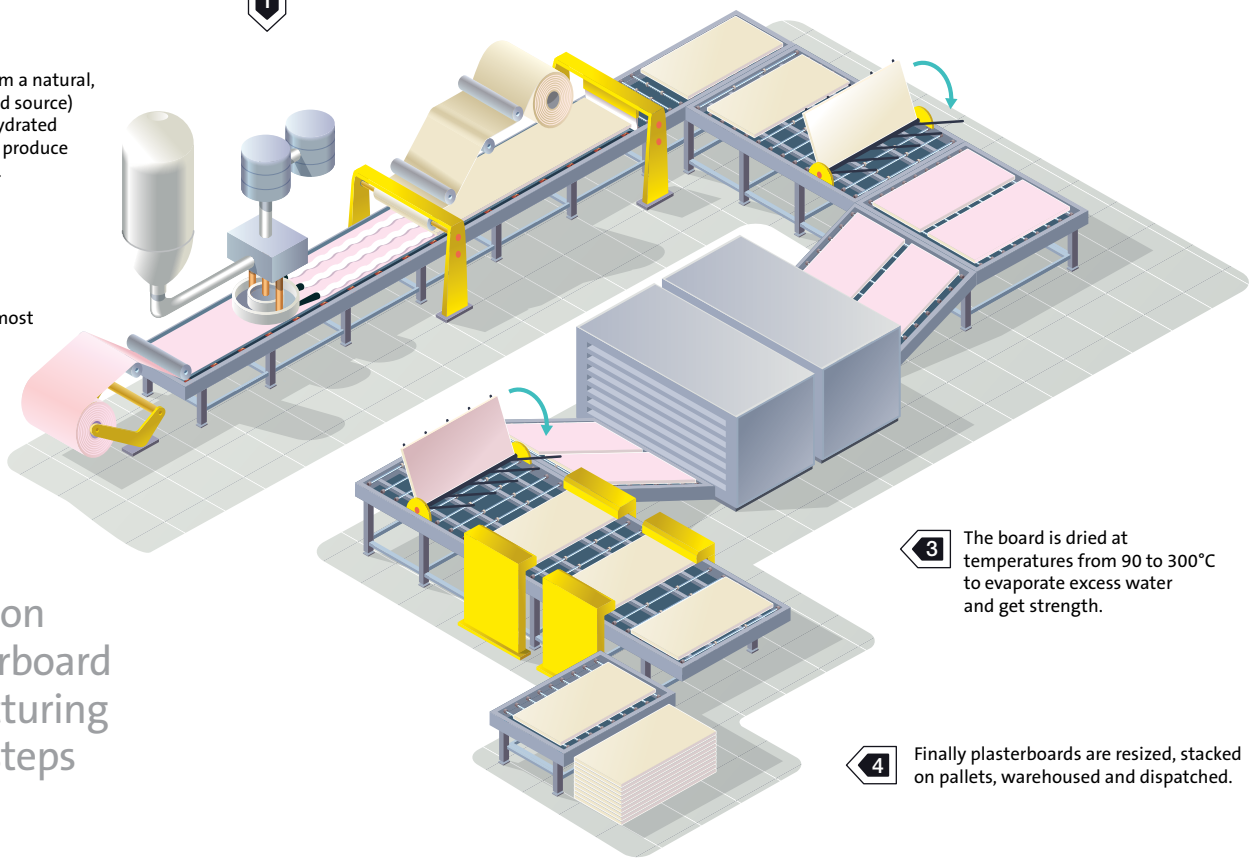
# Description of plasterboard manufacturing process steps

**0** Gypsum (either from a natural, synthetic or recycled source) is crushed and dehydrated at around 160°C to produce the plaster powder.

**0** Paper used for our plasterboards is almost 100% recycled.

**1** The plaster powder is mixed mainly with water and starch to create a paste (slurry) which is introduced between two layers of paper. Glue is not necessary as starch is acting as a binder between both materials.

**2** After rapid setting, plasterboards are able to be pre-cut before entering the dryer.



**3** The board is dried at temperatures from 90 to 300°C to evaporate excess water and get strength.

**4** Finally plasterboards are resized, stacked on pallets, warehoused and dispatched.

# In Gyproc, we are very proud to contribute to a more sustainable habitat.

We have been working in the plaster and plasterboards fields for years and are committed to maintain a strong position thanks to our innovative and sustainable products and services. Sustainability is a core value for Gyproc and we follow this long-term vision to deliver benefits for people and their environment.


Novotel, Pune

## Transparency can make the difference

Our strategy is based on transparency and openness. By providing accurate data on environmental aspects of our products, we give our customers the information they need to make an informed choice. This information takes the form of externally validated Environmental Product Declarations and our Green product/system certificate.

## Our goal: being exemplary in our actions

Setting a good example is part of our role as market leader in gypsum products. We try to do the best in all our actions.

### Buildings have a huge impact on the environment

**12%**
OF ALL WATER CONSUMPTION


**40%**
OF ALL ENERGY USE


**30%**
OF GREENHOUSE GAS EMISSIONS

**40%**
OF SOLID WASTE GENERATION

*International data source: UNEP SBCI 2011*

We believe that it is our responsibility to offer innovative products and solutions that will decrease these environmental impacts. By offering more environmentally-friendly products, we believe this can be achieved.


Nokia Siemens, Chennai

**490**

Our 490 employees are committed to building a more sustainable habitat.


Gyproc plant, Wada

# Eco-innovation is the future

Eco-innovation refers to Saint-Gobain's policy to develop innovative products and solutions that help reduce the environmental impact of buildings and infrastructure over their whole life cycle. Our eco-innovative products and solutions help reduce the operational use of resources (particularly energy and water) in buildings and infrastructure and/or have reduced environmental impacts over their own life cycle.

**3**

Gyproc has 3 manufacturing plants in India.

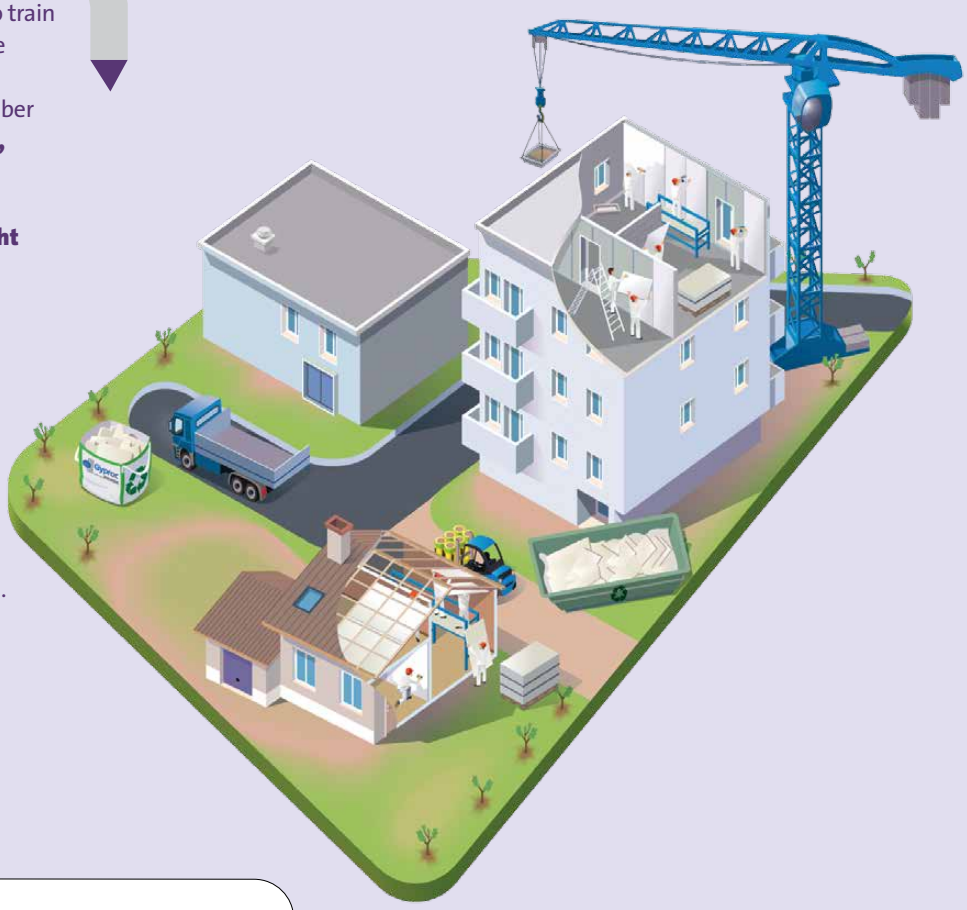

**13**

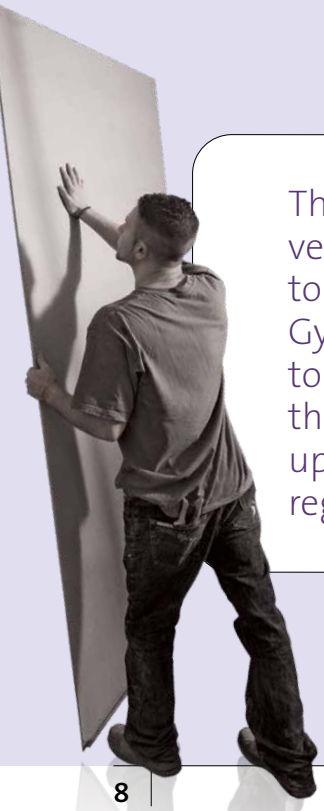
We have 13 sales offices all over India.

# Facilitating installation and reducing waste

## Key assets

- Gyproc works directly with installers to train them and ensure that our solutions are installed in the best conditions.
- Gyproc solutions generally offer a number of **key benefits over traditional brick, block, sand and cement solutions.**
  - As a dry solution there is less mess on the jobsite and being **lightweight** (10 times lighter in the case of plasterboard partitions vs. traditional partitions) reduces transportation, crane activity and even the depth and material involved in foundation design.
  - This huge weight saving also translated into less manual handling by installers and less material weight in the building when it is eventually deconstructed.

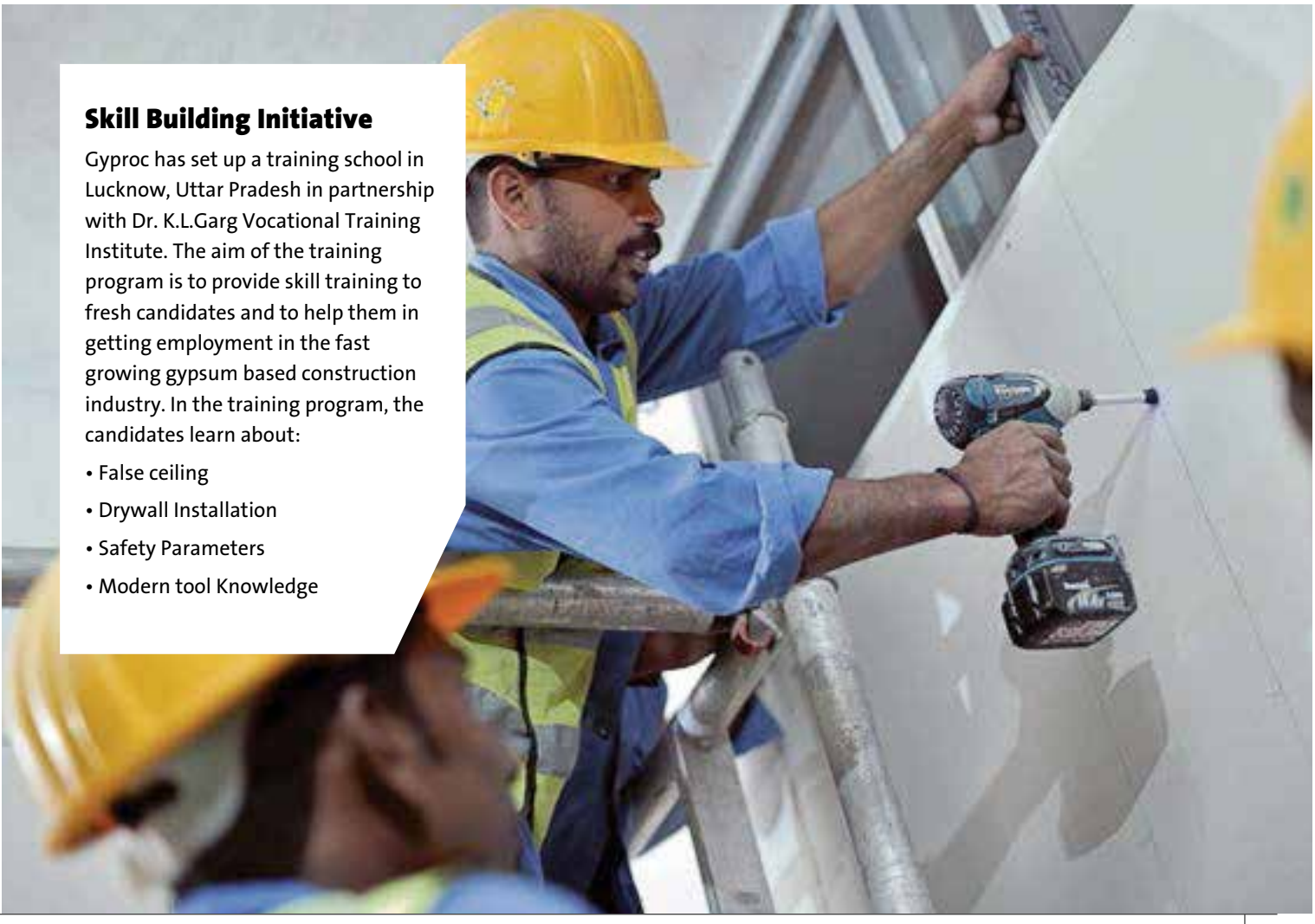




The building market is evolving very quickly when it comes to environmental issues. Gyproc provides training to its customers, enabling them to keep their skills up-to-date with the latest regulations and technologies.


## Training Academy

Gyproc has 3 training academies at Delhi, Wada (near Mumbai) and Bengaluru, where training is provided to the customers and internal teams.



## Skill Building Initiative

Gyproc has set up a training school in Lucknow, Uttar Pradesh in partnership with Dr. K.L.Garg Vocational Training Institute. The aim of the training program is to provide skill training to fresh candidates and to help them in getting employment in the fast growing gypsum based construction industry. In the training program, the candidates learn about:

- False ceiling
- Drywall Installation
- Safety Parameters
- Modern tool Knowledge

# Improving user's comfort, safety and health

## Key assets

During buildings' lifetimes, our solutions contribute to the comfort, safety and health of people living there.

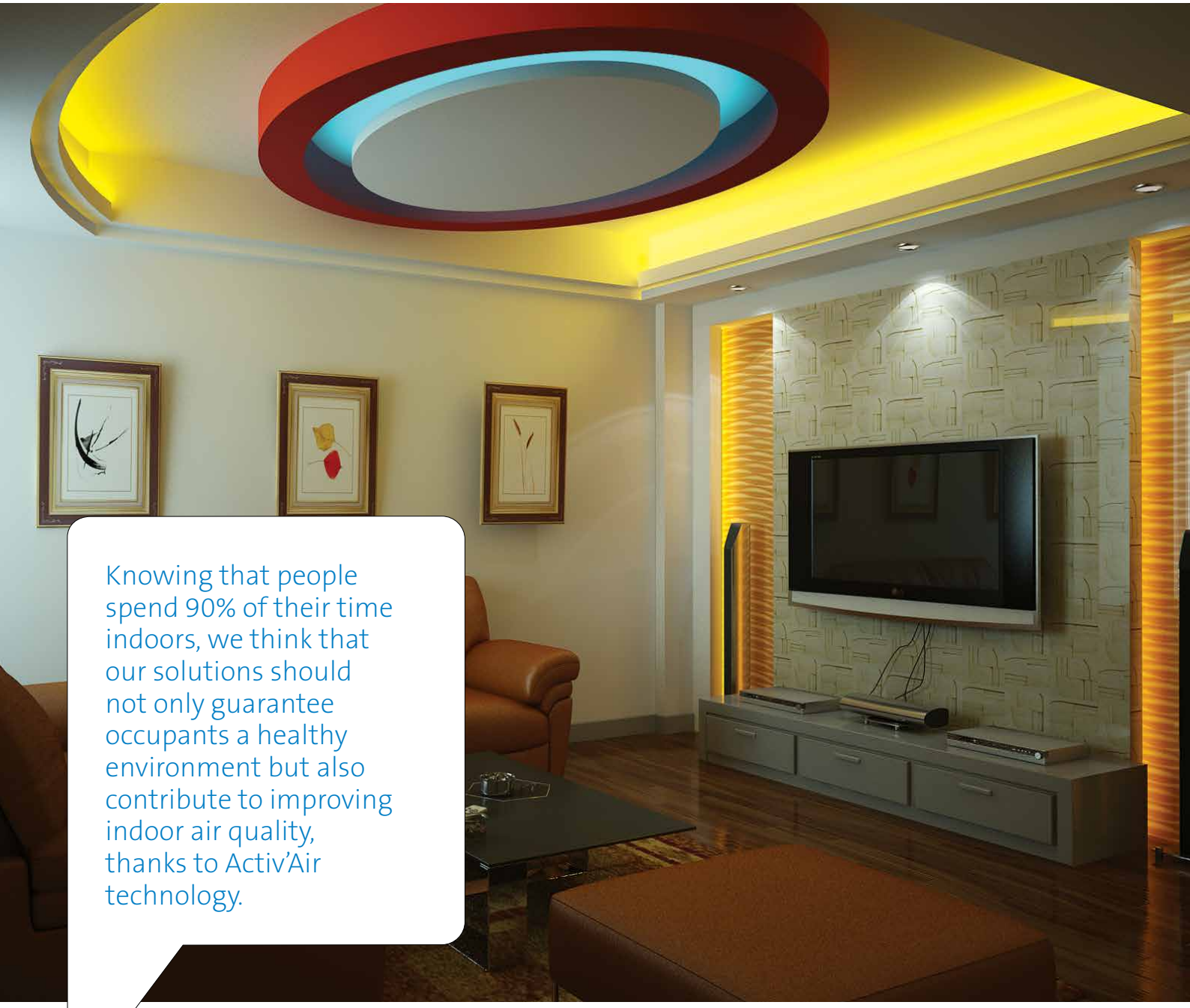
- **The occupants' comfort** is associated with several benefits, which can be provided by our solutions:
  - **Acoustic comfort:** better sound insulation between spaces and enhanced sound absorption within a room;
  - **Thermal comfort:** insulation complex and high level of air-tightness;
  - **Flexibility:** easy to install, to fit different heights and thicknesses and to be removed during lifetime;
  - **Easy maintenance.**
- **Visual comfort:** aesthetic ceilings solutions and smooth walls finishing.
- **Fire safety** is embedded in our products and we offer solutions with high fire resistance performance.
- Finally not only will our products not deteriorate **the building's indoor air quality** but, thanks to Activ'Air technology, our plasterboards can actually improve this indoor air environment by capturing and eliminating formaldehyde present in the air.

## Benefits from our solutions

**Indoor air quality:** Our Activ'Air system removes up to 70% of formaldehyde in the air.

**Acoustic insulation:** A 100mm-thick drywall system can achieve up to Rw 50dB sound insulation, while a half-brick wall (plastered both sides) provides an average sound insulation of Rw 40dB.

**Speech intelligibility:** Our solutions can also be specified to improve sound absorption properties within a given space to improve speech intelligibility.



Knowing that people spend 90% of their time indoors, we think that our solutions should not only guarantee occupants a healthy environment but also contribute to improving indoor air quality, thanks to Activ'Air technology.

**Stability:** Our solutions can be specified for use in conditions exposed to mechanical stress in the building. They provide stiffness to statically loaded walls and are suitable for flooring elements.

**Impact resistance:** Our solutions can be specified to offer the highest level of impact protection in high traffic areas such as hospitals and schools. They will provide resistance against damage to walls over the building lifetime.

**Fire resistance:** Lightweight partition and ceiling systems using a range of different gypsum boards can be specified to provide excellent fire performance for up to 4 hours within all building types.

**Energy efficient:** Our solutions can help meet regulations regarding air tightness, the thermal performance of the building structure and help reduce the energy consumed.

**Easy maintenance:** Whether damage to the plasterboard system is minor or more extensive, the system can be easily repaired using gypsum products and it always delivers an excellent finish.

**Moisture resistance:** Our systems can provide complete moisture resistance for the lifetime of the building and can be dedicated to wet areas (Bathrooms, Kitchen).

# In Gyproc we think that a life cycle approach is a key factor

Not only do we want to offer products with high levels of performance in use but also products that respect the environment throughout their whole life cycle.

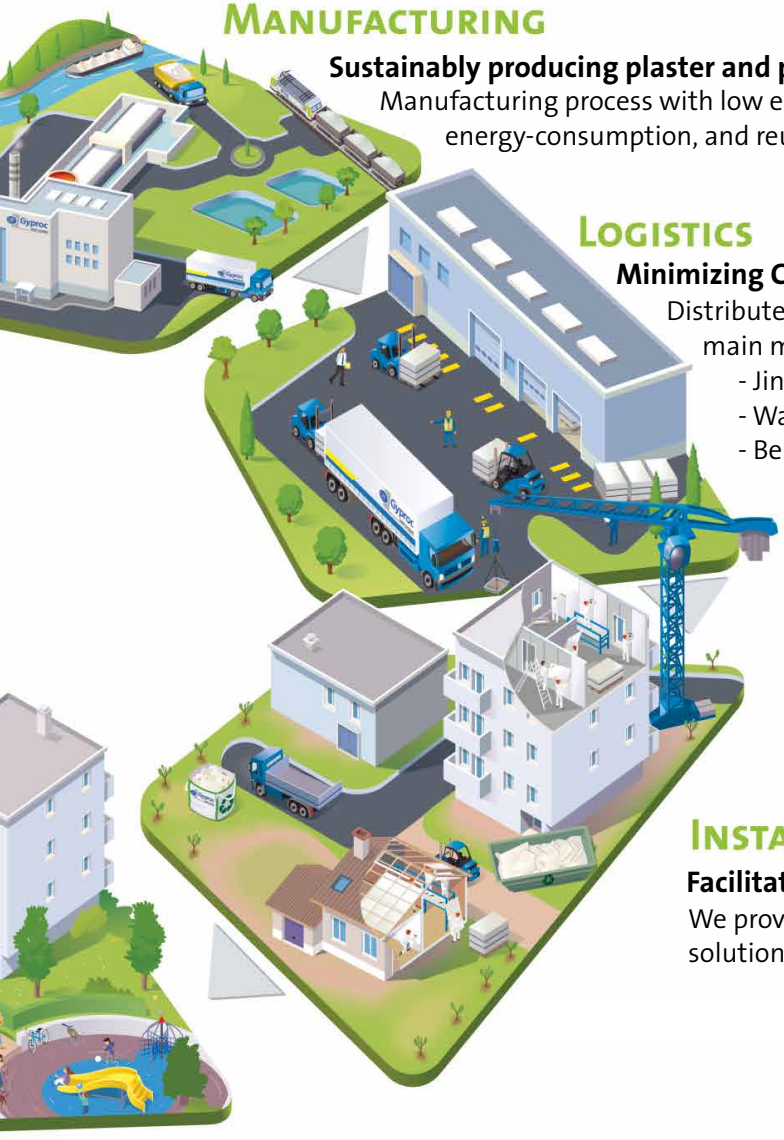
## RAW MATERIALS

**Limiting our impact on natural resources:**
We use either natural/phospho gypsum

## The life cycle approach of plaster & plasterboard

## END-OF-LIFE & RECYCLING

**Avoiding landfilling and giving a new life to gypsum-based waste:**
Gypsum is 100% recyclable and hence can be landfilled as soil conditioner.



## Manufacturing

**Sustainably producing plaster and plasterboard:**
Manufacturing process with low emissions and energy-consumption, and reused water (rainwater or steam).

## Logistics

**Minimizing $CO_2$ emissions during transport:**
Distributed manufacturing facilities closer to the main markets. 3 manufacturing units are:

- Jind (for North & East)
- Wada (for west)
- Bengaluru (for south)

## Installation

**Facilitating installation and reducing waste:**
We provide installers with training and bespoke solutions to minimize cut-offs.

## Building lifetime

**Improving user's comfort, safety and health:**
Plasterboard performance: acoustic, thermal and hygrometric comfort, easy installation, fire resistance, indoor air quality etc.

Vasan Eye Care, Delhi.

# A rigorous tool for assessing the environmental impacts of our products

Understanding the environmental performances of construction products is a growing expectation for professionals in the building chain.

In Saint-Gobain, we strongly believe that **Life Cycle Assessment is the most reliable tool available to assess the green credentials of construction products** and enables companies to communicate **credible, fact-based information about their products** to consumers. It is also a powerful tool for enhancing the environmental features of our products.

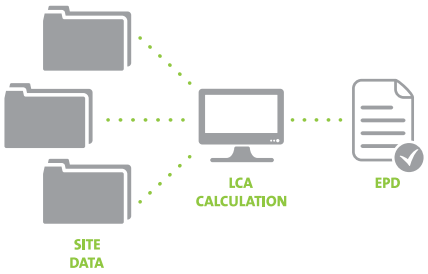
Consequently, Gyproc has decided to promote the use of LCAs in the building industry and to communicate actively on the LCA results of its products.

## Our "EPD verified" policy

When an Environmental Product Declaration has been checked by an independent third party, it is said to be "verified". This process ensures the quality and reliability of the results and that is why, here in Gyproc, **we are committed to have verified EPDs.** These EPDs can be easily identified thanks to our "EPD Verified" pictogram.

EPD VERIFIED

## What is a Life Cycle Assessment (LCA)?




LCA is **a comprehensive methodology to evaluate the environmental impacts of a product over its whole life cycle** according to specific ISO or EN standards (ISO 14025 and EN 15804).

- **Multi-criteria tool:** consumption of natural resources, air, ground and water emissions, waste generation, global warming potential...

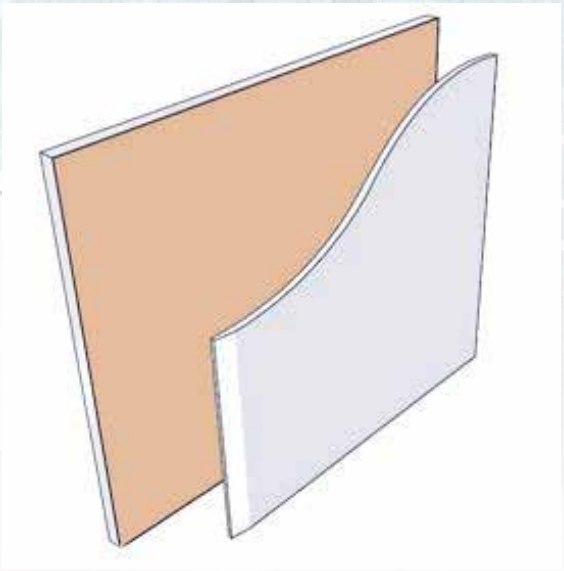
The results of a LCA are presented in the form of an **Environmental Product Declaration (EPD),** which is published.

# ENVIRONMENTAL PRODUCT DECLARATION

***In accordance with EN 15804 and ISO 14025***

## 12.5 mm Gypboard® Plain

**Date of issue: January 2014**
**Valid until: January 2019**



EPD VERIFIED

The environmental impacts of this product have been assessed over its whole life cycle. Its Environmental Product Declaration has been verified by an independent third party.

EPD®

**Declaration Number**

**S-P-00538**

Gyproc
SAINT-GOBAIN

This certificate is available only for Gypboard®Plain manufactured at Wada plant.

In 2015, Saint-Gobain is celebrating its 350th anniversary, 350 reasons to believe in the future. Backed by its experience and its capacity to continuously innovate, Saint-Gobain, the world leader in the habitat and construction market, designs, manufactures and distributes high-performance and building materials providing innovative solutions to the challenges of growth, energy efficiency and environmental protection. With 2013 sales of €42 billion, Saint-Gobain operates in 64 countries and has nearly 190,000 employees.

Gyproc is a market leader in the interior construction space in India for the last 28 years. The ever expanding product range includes gypsum plasterborad systems for false ceiling & drywal applications, ceiling tiles (gypsum, mineral fibre tiles, glass wool and metal) for grid ceiling applications, cement fibre boards, gypsum plasters for internal wall finishes plus a complete range of accessory products.

The entire gypsum plaster board, ceiling tiles and gypsum plaster range of products are approved by CII-IGBC for consideration towards Green Building rating systems (LEED) points.

Sales Offices

Plant Locations

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