

Decoding **COMPLEXITY**  
to Deliver **SIMPLICITY**



**PHENIX**<sup>™</sup>  
Creation Simplified

## PHENIX CONSTRUCTION TECHNOLOGIES

Phenix Construction Technologies is a gen-next steel infrastructure solutions company that caters to the global needs of Pre-Engineered Buildings (PEBs) and Structural Steel. A future-forward innovation hub, Phenix features among the top three steel construction companies in India and has established itself as a specialised player in designing, manufacturing and installing light to heavy and complex steel structures using leading-edge solutions for Pre-Engineered Buildings.

It's progressive engineering approach, sophisticated solutions, experienced team, in-depth knowledge, ability to decode complexities combined with its proficient and state-of-the-art manufacturing facility delivers solutions that are efficient and effective.

A name synonymous with precision solutions, systems thinking and execution excellence – Phenix takes pride in its diverse project portfolio that cover key industries right from infrastructure, automotive and engineering to F&B, pharmaceuticals and power.



### End-to-end solution provider:





## M&B Group

Phenix is a division of the M&B Group, which has a strong legacy of over seven decades in the engineering and construction industry. With an INR 1000 cr+ annual turnover, the Group primarily provides customer specific turnkey solutions for infrastructure and engineering projects. The unparalleled engineering acumen of the team enabled the Group to chart new frontiers in diverse areas like power, irrigation, shipping, railways, industrial infrastructure, PEBS, highways, railways, bridges and flyovers. A convergence of the best brains and the best equipment that ideates and translates construction and infrastructure dreams into reality has made the group a name to reckon with.

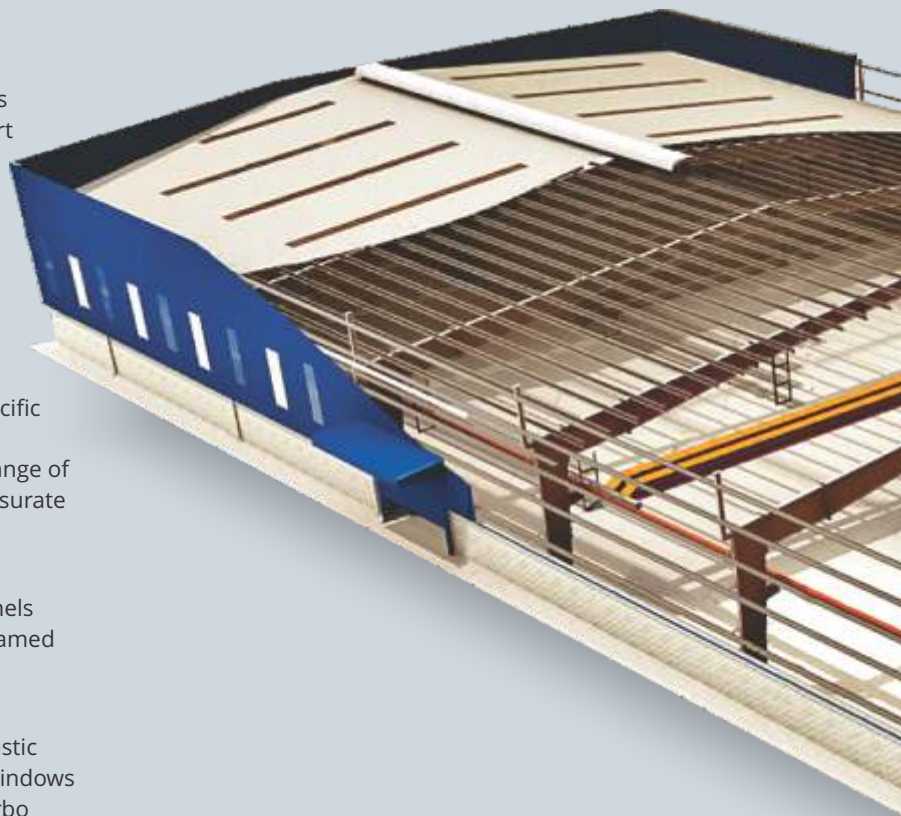
## Capabilities

- Designing, manufacturing and supply of Light to Heavy Complex Steel Structures and Pre-Engineered Buildings (PEBs)
- Sustainable design initiative to provide cleaner and energy-efficient buildings
- In-house design & engineering office at Hyderabad, with a total strength of 91 certified designers and detailers. Experienced in working with institutions such as IIT, IISc, JNTU, RITES and third-party design establishments
- Thorough working knowledge of design codes such as IS 800:1984 WSD, IS 800: 2007 LSD AISC, MBMA & BS
- ISO 9001: 2015, ISO 45001: 2018, ISO 14001: 2015 & NABL 17025: 2015 accredited, RDSO, MES, EIL, AISC certified, FM Global approved
- State-of-the-art manufacturing facility in Gujarat, India, with a production capacity of 72,000 mtpa
- Plant located in close proximity to leading ports of Gujarat, India
- Global footprint - largest exporter of steel construction projects from India
- Experience of working in all major industrial sectors and infrastructure projects, including working with the leading global solar thermal technology provider
- Features among the top 3 steel construction companies of India

## Simplified Offerings

### Pre-Engineered Buildings (PEBs)

- **Primary Structural Members**  
Main Frame - Columns | End-wall Posts | Rafters  
(I) Solid Web (ii) Open Web | Other Main Support Members
- **Secondary Structural Members**  
Purlins & Girts | Eave Strut | Cable | Angle | Pipe | Builtup | Rod Bracing | Wide Bay Truss  
Purlins (Cold Formed / HR)
- **Claddings**  
Pre-painted Galvalume (Alu-Zinc) Sheeting is a multi-layer coated profile with environment specific paint coating and is available with or without insulation. PPGL panels are offered with wide range of coatings namely RMP, SMP, SDP, PVDF; commensurate with project location.
- **INTERLOCK 360™ (Standing Seam Roof - SSR)**  
Leakproof | Zero Maintenance Inter-locking Panels  
360° Mechanical Seam | 3" Deep Crest | Full Seamed Roof | Movable Clip | Factory-made SSR
- **Accessories**  
Fasteners | TUF - Dome Lite | Sliding Doors | Mastic Tape | Walk-way Doors | Insulation | Glazing Windows | Roof Curb | Fixed Ventilators | Roof Jack | Turbo Vents | Roll-up Doors | Ridge Vent Sealants
- **Erection and Installation**  
From selection of appropriate structures to economic designs, we monitor and supervise the entire project till completion.
- **Industry Applications**  
Airports | Automobiles | Commercial Buildings | Engineering & Manufacturing | Food Processing | Infrastructure | Power | Retail | Textile | Warehousing & Logistics



## Structural Steel

### Hot Rolled Steel Sections

- Universal Beam (UB) / Universal Channel (UC)
- European Channels - HEA / HEB
- Indian Sections - ISMB / ISMC
- CHS - Circular Hollow Sections
- RHS - Rectangular Hollow Sections
- PFC - Parallel Flange Channels
- W - Wide Flange Beams
- Equal / Unequal Angles
- ISMB - Beams
- ISMC - Channel

### Steel Grades Used

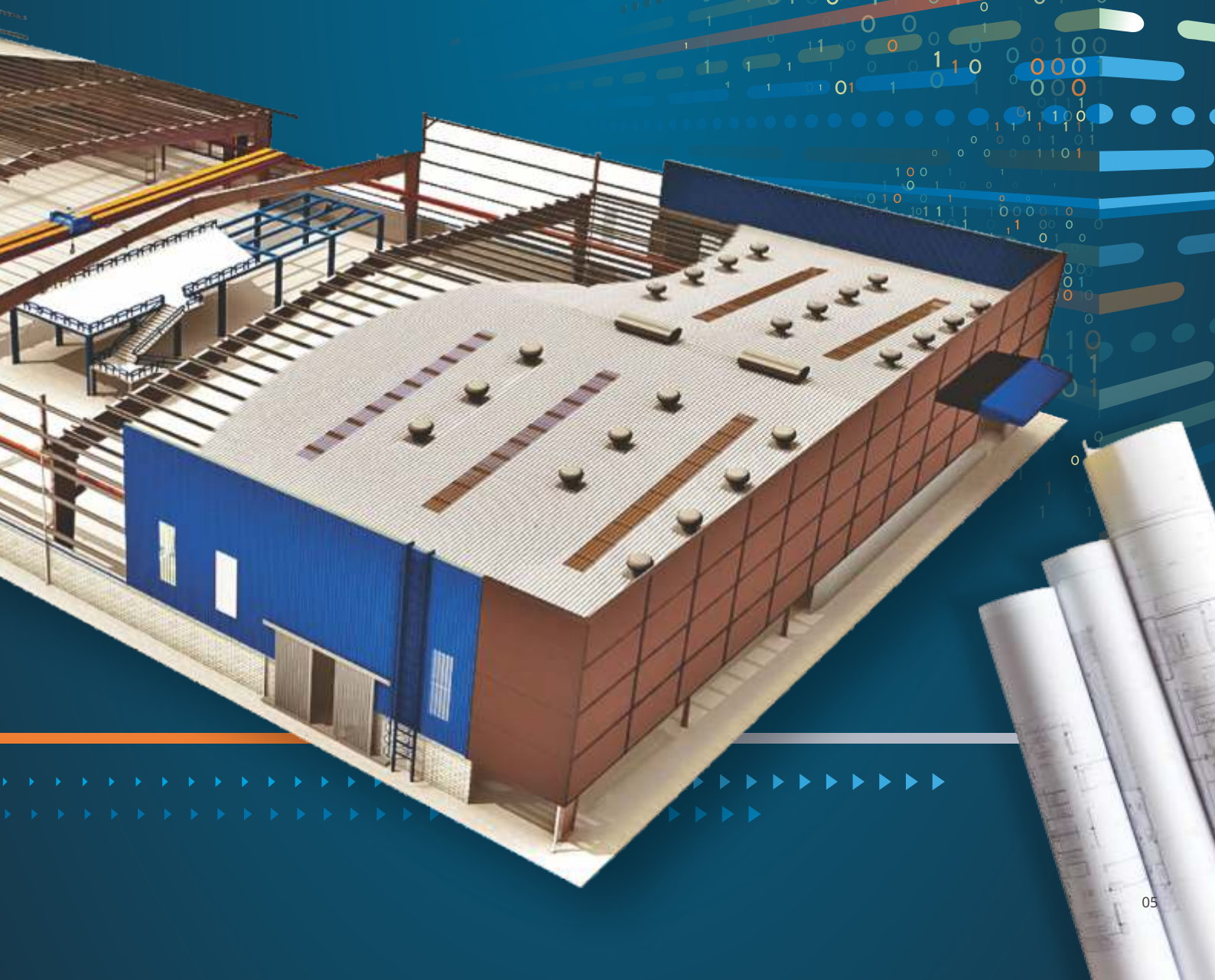
A36 | S235 | S275 | S355 | IS 2062 - E250 | E350 | E410 | E450 | E550

## Industry Applications

Airports | Desalination Projects | Heavy Industries | Hi-rise Buildings Oil & Gas | Petrochemicals | Power Projects | Special Projects

## Turnkey Solutions

We provide turnkey steel solutions from initiation to completion. This includes civil, mechanical and electrical work along with design, manufacturing and erection.



## Main Frames

Phenix offers various framing systems depending on requirement and application.

### PHX Rigid Frame



#### Function

Steel frames are made up of two columns and two sloped beams known as 'Rafters', which support the roof of the building. This arrangement provides a stable frame upon which sheeting is placed to form a building.

#### The Phenix Edge

- Ideal system when economical and column free space is required for flexibility in plant layout
- Possible clear span of up to 120 m

### PHX Continuous Beam



#### Function

This system is based on the rigid frame concept with the addition of intermediate support columns hence allowing larger building width and economical designs.

#### The Phenix Edge

- Lowest cost per square feet of space
- Interior column spacing of 66 ft or more
- Any width or eave height possible
- Ideal for large production or storage areas

### PHX Unibeam



#### Function

A Unibeam Frame comprises a single gable clear span with straight hot-rolled sections for columns and built-up sections for rafters. It is designed in accordance with AISC type-II construction.

#### The Phenix Edge

- Facilitates straight side walls and ceiling lines
- Economical for clear spans of up to 20 m

### PHX Lean-to



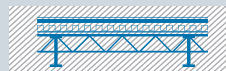
#### Function

Lean-to consists of a column and one sloping rafter. It is supported at the rafter end by an adjacent building and on the other end by a column.

#### The Phenix Edge

- Open, unobstructed interior space
- Flexible and economical design
- Peaked, single-slopes, slope and lean-to roof configurations
- Spans of up to 30 m possible

### PHX Deck Frame



#### Function

The deck sheet members are provided for multi-storey buildings. A thin layer of cement concrete mixture can be spread over it and any kind of flooring can be done on it as required.

#### The Phenix Edge

- Designed for mezzanine floors and membrane roof applications
- Enhances speed and economy of steel floor construction
- Aesthetically superior



## Secondary Structural Members

Secondary members are load-carrying members suitable to ensure the stability of the building against forces from all directions. These primarily include Purlins and Girts, Eave Struts, Rod Bracing and Open Steel Web Joists.

### Purlins and Girts



#### Function

Purlins and Girts are structural members placed under the roof, wall and the perimeter of the building, hence serving as supports to the roof sheeting and wall cladding.

#### PHX-Zees

**Depth** : 165 to 300 mm  
**Thickness** : 1.5 to 3.15 mm

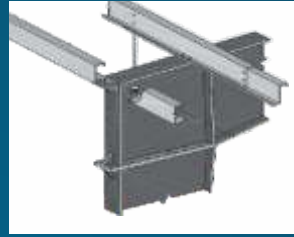
#### PHX-Cees

**Depth** : 165 to 300 mm  
**Thickness** : 1.5 to 3.15 mm  
Available in black 180 / 275 GSM

#### The Phenix Edge

- Offer large column spacing
- Surface preparation and superior on-line painting carried out for improved corrosion resistance
- Pre-galvanised members for maintenance-free buildings

### Eave Struts



#### Function

Their primary function is to support the gutters along with acting as a junction of the roof and the wall cladding.

### Open Web Joists



#### Function

These are long-span, load-carrying members suitable for direct support of the floors and roof decks in buildings.

#### The Phenix Edge

- Offer larger spans

### Cable / Angle / Rod Bracing Tube (CHS/SHS/RHS)



#### Function

These members are designed to ensure the stability of the building against forces in the longitudinal direction due to wind, cranes, earthquakes, etc.

#### The Phenix Edge

- Can accommodate any length
- Painted or pre-galvanised

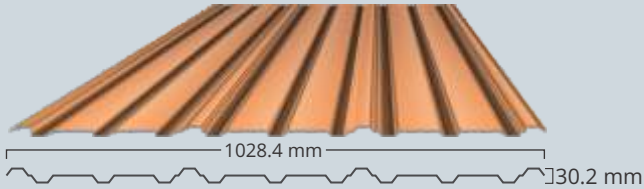


## Claddings

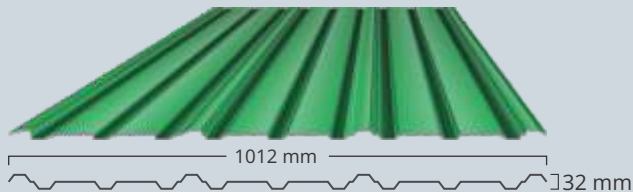
Phenix's Pre-painted Galvalume (alu-zinc) sheeting is a multi-layer coated profile to ensure a longer life under different weather conditions and better aesthetics.

Phenix offers the following Claddings as standard:

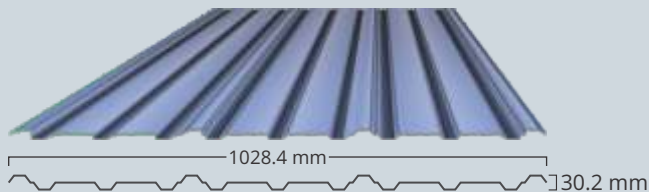
### PHX Rib for Roof



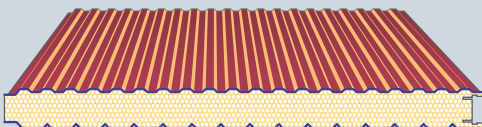
### PHX Deeper Rib for Wall



### PHX Reverse Rib for Wall



### PHX PUF Rib for Roof & Wall



#### Function

These Claddings can be used for roofs and wall skins (sheeting) that cover the main steel frame and are available with or without insulation. Sandwich Panels comprise an exterior metal skin, a polyurethane core and an interior flat skin made of metal. The core thickness is available in 35, 50, 75 and 100 mm. The density of polyurethane is 35-40 kg/m<sup>3</sup>.

#### The Phenix Edge

- Roof slopes as low as 1:10
- Width: 1000 mm, Length: up to 12 m
- Options for energy-efficient roofs
- Purlin-bearing edge improves strength and sturdiness
- Fiberglass / other insulation provision

## Additional Components

### Fascias and Canopies



#### Function

Fascias are surfaces, which are placed outside the building to improve its aesthetic look. Canopy is an overhanging structure or projection of roof to provide shelter for any frame opening of the side or end wall. It can be fixed to the sidewalls matching with eave height or below the eave level of the side or end wall.

#### The Phenix Edge

- Fascia: 1.2 m to 1.8 m in height
- Canopy: 0.3 m to 10 m in width

### Mezzanines



#### Function

Mezzanines serve as intermediate floors between the main floors of the building.

#### The Phenix Edge

- Mezzanine can be customised to any size
- Recommended 3 to 9 m (generally a 6 m x 6 m grid for economy)

### Crane Beams



#### Function

Crane Beams are members that support the crane gliders and facilitate the crane movement. These can be supplied to support the overhead cranes, under-slung cranes, monorail and wall-mounted cranes.

#### The Phenix Edge

- High experience in detailing and supplying Crane Beam to support more than 300 mt cranes



## Specialty Roofing Systems

### InterLock 360™

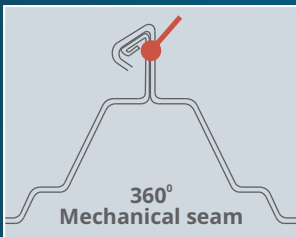
This special screw-less system comes with several features offered for the **first time in India**

#### The Phenix Edge



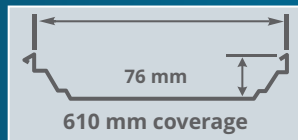
#### Fully Seamed Roof

Uniquely profiled & seamed ridge cap for enhanced weather-tightness and rigidity at roof apex

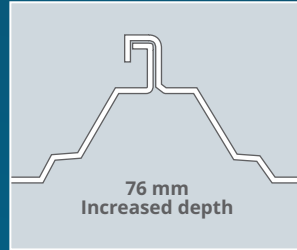


#### 360° Mechanical Seam

100% leakproof

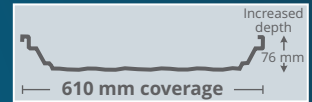


**Interlocking Standing Seam Roof Panels, which provide long-term superior weather-tightness, a world-class system with up to 10-year leakproof warranty**



#### 76 mm Increased Depth

High rib of 3" offering superior sectional properties, which give it a higher strength and ensure quicker drainage of water



#### Factory-made InterLock 360™

An on-line sealant application that ensures weather-tightness at the seam after installation



#### Movable Clip

A sliding arrangement to allow free expansion and contraction of the roof due to thermal effects

**InterLock 360™ comes with up to 10-year leakproof warranty, which makes our Pre-Engineered Buildings last longer than any other.**

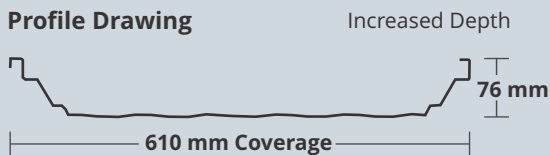


## Unique Features of SSR Profile



- High Speed Versatile Profile Former
- 610 mm wide, 76 mm depth profile
- 100% leakproof standing seam
- Field seam 360°
- Weather resistant joint
- Exclusive slotted clip allows 2 in thermal expansion

### Profile Drawing



## Structural Steel

### H-Beams

H-beam is named by its H-shaped cross-section. It is convenient and simple to connect, manufacture and install due to its parallel flanges. As a new construction material, H-beam offers a reasonable cross-sectional shape and good mechanical properties. This product includes HW wide flange, HM medium flange, HN narrow flange, etc. With a very high stability, high plasticity and ductility, they are used for buildings that need to bear a heavy load and to withstand strong vibration and natural calamity, particularly those constructions located in earthquake prone belt.

### I-Beams

Hot Rolled I-beam, also called Steel Girder, is a strip steel product with I-shaped cross-section. I-beam has a reasonable cross-sectional shape, which can improve its load-bearing capacity. I-beam has high stability and high strength. It is mainly used in plants, bridges, ships, vehicles and other large-scale structures. This product is available in various categories.



### Hot Rolled Sections

#### T-Beams

- Flange width: Max of 1000 mm
- Length up to 12 m without welding joints

#### Box Beams

- Width: max of 1200 mm x 1200 mm
- Length up to 12 m without welding joints

#### Plus / Cross Beams

- Maximum weight per section: 35 tons
- Maximum size per column: 2500 mm x 1000 mm
- Range of plate thickness: 5 mm to any thickness



### Tapered Columns

Tapered can be increased to reduce the footing size and save floor space.

### Columns and Rafters

Flange thickness up to 40 mm and width up to 600 mm.  
Web depth 2000 mm and thickness up to 25 mm.



### Phenix Truss System

A lattice structure, ideal for large span roof systems, multiple bay buildings and as mezzanine floor framing. These structures are individually designed to meet the specific requirements of each building and are fabricated utilizing high quality efficient fixtures. The system allows for easy erection, as all connections are field bolted.



## The Phenix Edge:

### Beams and Girders tailor-made to customers' specifications

- Beams fabricated to precise dimensions through automatic / mechanised processing
- CNC programmed flame cutting for high accuracy and precision in plate cutting
- Edge and face mill facilities for precise finishing
- Hole drilling, sawing and marking done on-line on automatic drilling / sawing / marking machines
- Fabricated components shot / slag blasted before painting
- Mechanised handling to eliminate possibilities of mechanical damage
- Beams can be delivered face milled, shot-blasted, painted or DTM coated in factory finished condition
- Jumbo size fabricated beams with drilled holes, studs, stiffeners, base plates, splice plates ready to be used at the site
- Custom range of Plate Fabricated Beams, Box Beams, Star Beams and Girders for construction of bridges (ROBs), flyovers, metro rail projects, power plants and super critical boiler columns, industrial structures, material handling systems, refineries, steel plants, airports, shopping malls, stadiums, utility and multi-storeyed buildings

### Heavy Fabricated Structure

- Stocking facility
- Steel Plates purchased directly from all major HR plate manufacturers of India
- Delivered to length with minimum joints
- State-of-the-art, efficient handling equipment
- Welding bay with sawing and drilling facility
- Automatic submerged arc welding lines
- In-house NDT testing facility\*
- Ongoing inspection and welding quality testing
- CNC controlled as well as manual cutting and drilling options
- Fabricated sections production line
- Sections fabricated from plate
- Automatic material handling
- Automatic twin head welding
- Sections up to 12 m long, 3.5 m deep
- Online shot blasting up to SA 2.5 and painting line
- Varied project and environment specific paint system

\*NABL accredited Lab. AISC accredited manufacturing facility.



## Simply, The Best

We operate from a state-of-the-art manufacturing facility in Gujarat, India, with a production capacity of 72,000 mtpa. Our scale of operation makes us capable of handling large projects and our experience assures timely execution and adherence to quality.

### Plant Machinery

In order to augment the expertise of our dedicated team of engineers and designers, we have invested in the latest and the best technologies and machinery in the Steel Building Industry. Our CNC-enabled machines are programmed to work without any human intervention, which results in an error-free manufacturing process and quality products with shorter cycle times and quicker response.

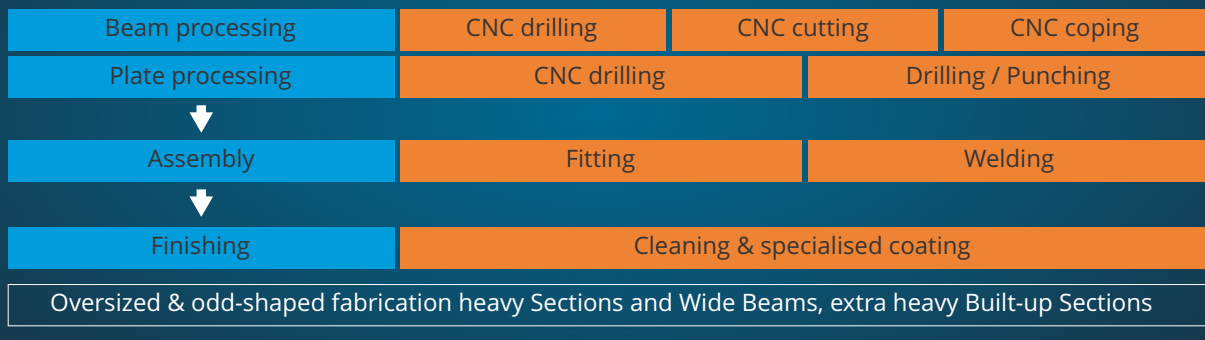
### Production Capacities

- Operating capacity: 6000 mt/month
- Built-up / primary: 3800 mt/month
- Secondaries: 1200 mt/month
- Roof / wall coverings: 1000 MT/month

### State-of-the-art Manufacturing Facilities

High precision, CNC-enabled manufacturing equipment for the first time in India  
 Plasma Cutting Torches | Oxy Acetylene Cutting Torches | Flange Lines | Welding Stations | Hydraulic Lifts | Beam Welding Machines (SAW) | Online Shot Blasting & Painting System | Sheet Profiling Machine | Integrated Purlin Forming & Painting Lines | Deck Panel | Profiling Lines

### Manufacturing Process



## SECTOR APPLICATIONS



AIRPORTS



AUTOMOBILES



COMMERCIAL  
BUILDINGS



FOOD  
PACKAGING



HEAVY  
INDUSTRIES



HIGH-RISE  
BUILDINGS



MANUFACTURING



OIL & GAS  
PETROCHEMICALS



PHARMACEUTICALS



RETAIL



TEXTILE



WAREHOUSING &  
LOGISTICS



PORTS



SPORTS



METROS



ENGINEERING



INFRASTRUCTURE

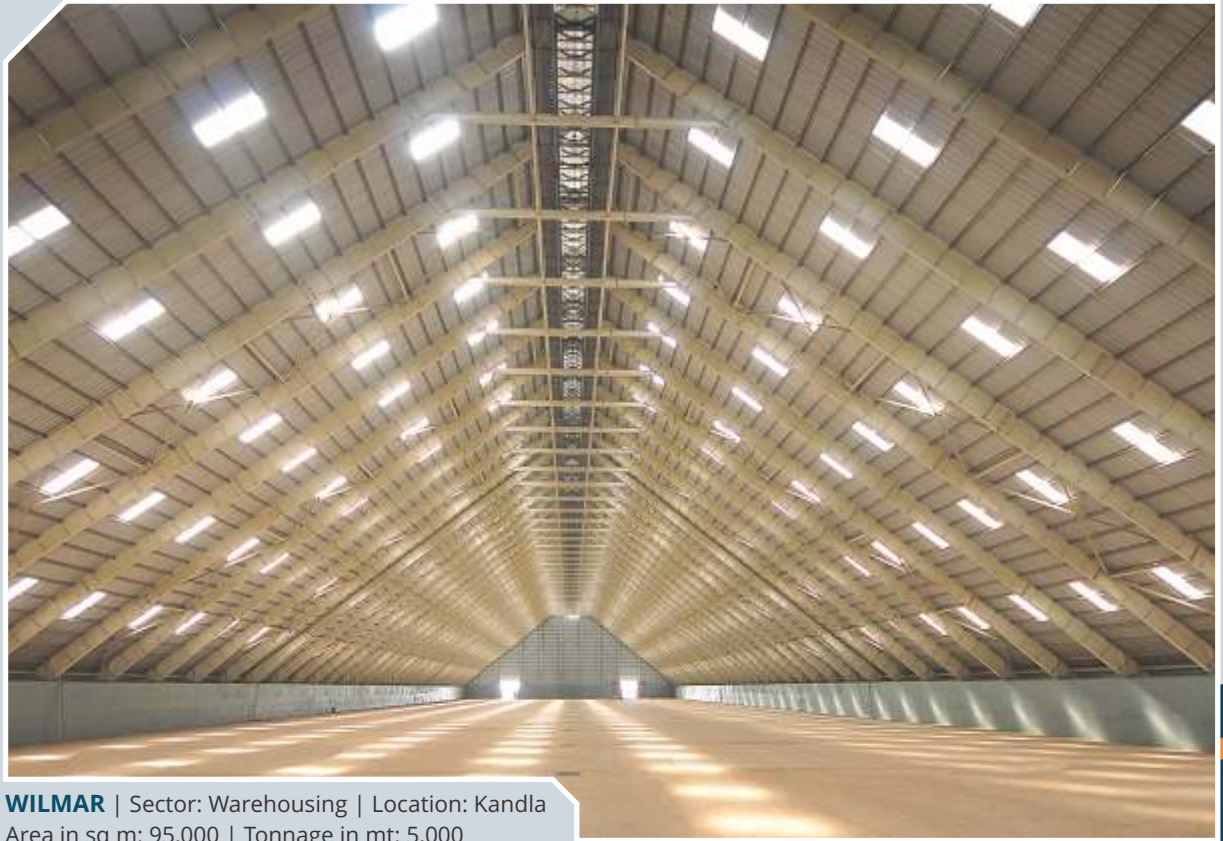


POWER



**INDUCTOTHERM** | Sector: Manufacturing | Location: Sanand  
Area in sq m: 49,432 | Tonnage in mt: 4,379





**WILMAR** | Sector: Warehousing | Location: Kandla  
Area in sq m: 95,000 | Tonnage in mt: 5,000



**TRIDENT INDUSTRIES** | Sector: Textile | Location: Budhni  
Area in sq m: 2,80,000 | Tonnage in mt: 8,000



**CARLSBERG** | Sector: Food Processing | Location: Patna  
Area in sq m: 8,900 | Tonnage in mt: 1,190







**SHRENO ENGINEERING LTD.** | Sector: Engineering | Location: Khandiwada  
Area in sq m: 15,699 | Tonnage in mt: 1,255



**BMW** | Sector: Automobile | Location: Chennai  
Area in sq m: 61,000 | Tonnage in mt: 3,462



**RELIANCE SUPER MARKET** | Sector: Commercial | Location: Ahmedabad  
Area in sq m: 12,754 | Tonnage in mt: 600





**RELIANCE CCPP** | Sector: Power | Location: Hazira  
Area in sq m: 82,000 | Tonnage in mt: 6,600



**HAIER** | Sector: Manufacturing | Location: Noida  
Area in sq m: 1,29,689 | Tonnage in mt: 6,602



**GRINDWELL NORTON** | Sector: Engineering | Location: Halol  
Area in sq m: 11,700 | Tonnage in mt: 670





**NARSI ASSOCIATES** | Sector: Engineering | Location: Mumbai  
Area in sq m: 5,332 | Tonnage in mt: 330



**UFLEX** | Sector: Manufacturing | Location: Sanand  
Area in sq m: 26,994 | Tonnage in mt: 1,364



**MAZAGON** | Sector: Engineering | Location: Mumbai  
Area in sq m: 10,384 | Tonnage in mt: 4,012





**TATA MOTORS** | Sector: Automobile | Location: Ahmedabad  
Area in sq m: 65,254 | Tonnage in mt: 6,185



**FAURECIA** | Sector: Automobile | Location: Sanand  
Area in sq m: 2,835 | Tonnage in mt: 143



**ANNA ISD** | Sector: Multi-use Facility | Location: Texas, USA  
Area in sq m: 5,667 | Tonnage in mt: 370







**D&R CAPITAL COMPLEX** | Sector: Warehousing | Location: Texas, USA  
Area in sq m: 2,787 | Tonnage in mt: 150



**HITACHI** | Sector: Textile | Location: Kadi  
Area in sq m: 70,000 | Tonnage in mt: 2,190



# SIMPLIFIED REACH



# CLIENTELE

Appliances	 HITACHI Inspire The Next	 Rexroth Bosch Group	 Haier Inspired Living	 DAIKIN	 VOLTAS · beko	 IR Ingersoll Rand
Automobiles						
						
Aviation						
Coal & Cement						
Consultants						
Consumable & Retail						
Engineering						
						
Food & Beverages						
Oil & Refineries						
Pharma & Hospitals						
						
Power						
						
Shipyard & Ports						
Sugar						
Textile						
Warehousing & Logistics						



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