

THE ARCH OF TRUST

From Concept to Creation

SteelArch a brand of VN SteelArch India Private Limited offers the most advanced integrated solutions in Pre-Engineered Steel Structures.

12+ Years
of Experience in PEB

42+ Years
of being in Steel industry

Ultra-modern
Infrastructure

Dedicated
Planning Department

From Concept to Creation

The Arch of Trust

Pre-Engineered |
Structural Steel |
High Rise Steel |
C & Z Purlins |
Crane System |
Mezzanine system |

SteelArch



About SteelArch

Vision

To be recognised as the most dependable and trustworthy PEB solutions provider in India.

Mission

To deliver true value quality PEB structure solutions in optimum time frames, using best quality material, deploying engineering standards committed, with the ultimate objective of delighting the customers and earning their trust.

SteelArch a brand of VN SteelArch India Private Limited offers the most advanced integrated solutions in Pre-Engineered Steel Structures. It was the vision of a dynamic entrepreneur Naresh Agrawal who sensed the emerging opportunity for a steel trading company set-up in 2009 to evolve into a leading-edge, end-to-end solutions provider in the pre-engineered steel structure sector.

Today the company enjoys a pre-eminent stature in its chosen domain of PEB with a large portfolio of varied structures, for companies ranging from world leading multinationals to local players spread over major geographies of the country. To ensure its leadership it has consistently invested in technology and technical professionals

with a focus on innovation thus enhancing its capabilities to consistently offer the leading-edge solutions to its client.

The biggest advantage of PEB structures is they can be developed in half of the time of conventional structures. We have taken this to another level, our time-bound development, and superior quality have made us the preferred choice over brick-and-mortar structures. SteelArch has an early mover advantage having entered the domain when it was still emerging and has had the opportunity to create the entire range of structures, from big to small, wide to narrow, single-span to multiple-spanned, full and walled topping cladding,

mezzanines, cranes, etc.

Amongst the scores of projects designed & delivered by SteelArch a few stand out as a testimony to our passion for quality. These include The Sitabuldi Interchange Metro station, the G+5 construction of the Industrial shed in Patna with each storey having a mezzanine, and the 15 structures built in Odisha that withstood the impact of cyclones. Today SteelArch PEB structures stand tall across Maharashtra, Rajasthan, Chattisgarh, Andhra Pradesh, Madhya Pradesh and Orissa. We have completed more than 300 buildings from the date of inception. The list continues to grow rapidly as our national footprint continues to grow.





Advantages of PEB

- **Projects will be executed on time.** construction projects that take 6 months to finish earlier, are reaching completion within 3 months, you get better returns on your capital investment.
- **Increased customization options:** As the demand for unique and customized buildings grows, we offer more options, designs and features to customers.
- **Future Ready:** Can be shifted to other sites due to easy connection of nuts & bolts. Just dismantle the structure and re-assemble at other site.
- **Complete responsibility and single point solution:** No hassles in dealing with different suppliers, contractors, labours, transporters etc. single source responsibility as structural steel engineers, manufactures, supplier and erector.
- **Cost efficient Space efficient:** You can get clear spans to achieve minimum obstruction and your processes can be more easy. You get more space in less cost.
- **Flexibility:** Different combinations of height, column spacing, features, architectural elevation can be done.
- One of the biggest advantages in prefabrication structures is that the structures come with fabrication in the plant using high strength and high quality steel.
- Engineering has gone through major advancement. Steel concrete composite structures are constructed for e.g high rise building.
- **Light & Robust:** Optimisation of weight and the minimum use of steel without compromising the strength of structure
- **Greater use of technology:** with 3D modelling and virtual reality designing of PEB is more accurate and efficient.
- **Software driven:** Our design department work on latest software and reduce overall project cost and decreases probability of human error.
- **Energy efficient:** Through the use of energy efficient windows, insulation and lighting systems PEB can be designed to be more energy efficient.



Faster overall project completion by saving construction time.



Single source responsibility.

Low initial cost & low maintenance



Clear Spans upto 80m without internal columns.



Flexibility in building dimensions with easy & fast modular expandability.





Comparison of PEB and CSB

	Pre-Engineered Steel Building	Conventional Steel Building
Cost Effective	Lower initial cost (cost per square meter) is much lower as compared to conventional constructions and can be erected much faster.	The cost of project is comparatively high & the completion of construction take about more than double time as compared to pre engineered building.
Weight	Structure weight is efficiently reduced by balanced & effective use of steel through the use of properly engineered structural design.	Practice of excessive safety factor and the usage of heavier steel sections keep the weight high.
Relocatable	PEB are constructed at factory and bolted at site. It can easily be dismantled and erected at some other site.	Relocation is not possible in conventional.
Delivery	Takes around 6-8 weeks.	Takes around 10-15 weeks.
Erection cost and time	All the standard details of components/ equipments required in PEB structure are known. Hence the same are stored in bulk quantity which ultimately helps in reducing the erection time.	As the standard details are not available resulting in more time for procurement which ultimately increases the erection time.
Future Expansion	PEB buildings are designed with the vision of future expansion, It is easy and cost effective.	Difficult and expensive.
Single Source Responsibility	We design, supply and erect your dream building, cost gets fixed at the time of finalization and agreement.	Multiple agencies like different suppliers, contractors, labors, who give different problems & excuses over a period of time and ultimately the cost increases.
Earthquake Resistance	Yes, because they are designed considering the seismic zone and extreme weather conditions.	Rigid and heavy frames do not perform well in these extreme conditions.
Appearance	The aesthetic appearance is much better than conventional buildings.	Efforts to give aesthetic looks to the building may increase the building cost.



H Beam Line Machine

Infrastructure

With two state-of-art manufacturing facilities at Kalmeshwar and Kapsi, both well within the city limits with the capacity of 25000 MT/Annum.

With the cutting-edge technology and highly advanced tools and machineries, Manufacturing / Fabrication happens seamlessly in a defined process flow to deliver the product with high precision. The Primary and Secondary processes are followed hand-in-hand which enables quicker delivery of the End-Product.

(The Process Include Plate Cutting, H-Beam Welding, Flange Straightening. The Process

Include Plate Cutting, H-Beam Welding, Flange Straightening, Drilling, Welding, Grinding, Shot Blasting and Painting.)

Steelarch is equipped with Multi Torch and Plasma Cutting machines with high precision and high Ratio reduction planetary Gearboxes, which can provide excellent smoothness and resolution.

Steel arch is also equipped with the highly advanced laser precision Beam Line Machine which is first of its kind in Central India.

The welded beams are then flange straightened to correct the deformation if any due to the welding process. The required

Flange Thickness and Flange Width is achieved through this process for the beams of length upto 12MTR.

Following the Flange Straightening, Drilling is done with extreme precision using CNC Drilling Machines and H-Beam Drilling machines. The feeding of work piece is driven by rollers which are controlled by hydraulic and mechanical systems. Simultaneous drilling is done on 3 sides of the H-Beam.

- Highly skilled and trained labors perform Welding and Grinding which gives accurate dimensions to the end-product.
- Based on the client's requirement, we also have the facility and do the surface finish of the products by Shot Blasting.
- SteelArch also offers Painting Solutions of Enamel Paint, Epoxy Paint and Special paints including PU Paints & Metallizing Paints.
- The finished product after the approval from Quality Control is then loaded with all the safety measures and delivered to the Client's site with utmost care.
- Secondary Process include the Purlins, Roofing & Cladding, Decking Profile, and other process which supports the Primary Process in effectively delivering Total Steel Building Solutions.
- Here is the display of our cutting edge Hi Tech Ultra modern Machines which builds your Dream Building!!



Plasma Machine

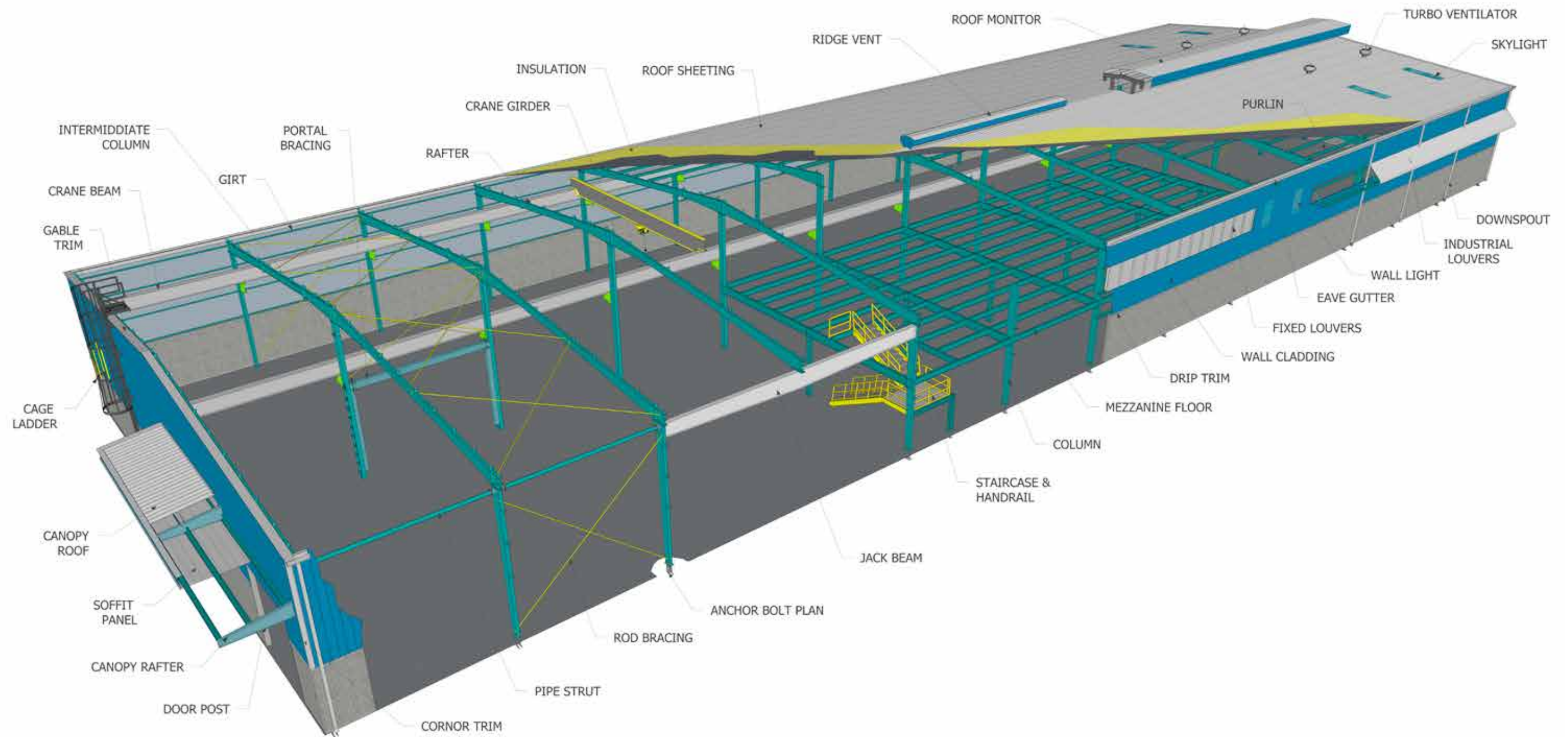


Roll Forming Machine

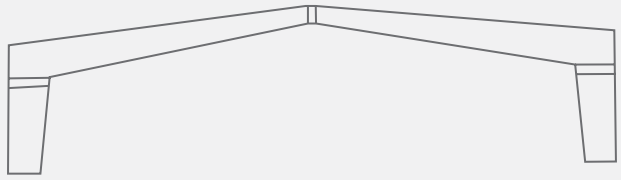
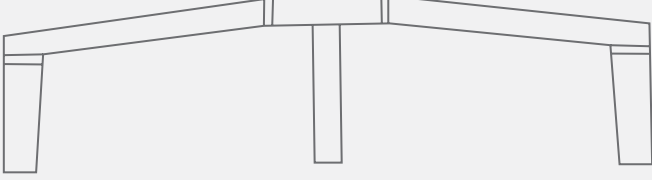
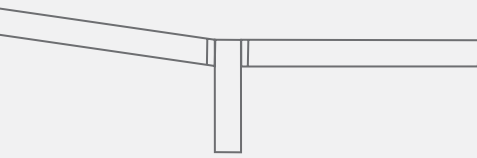
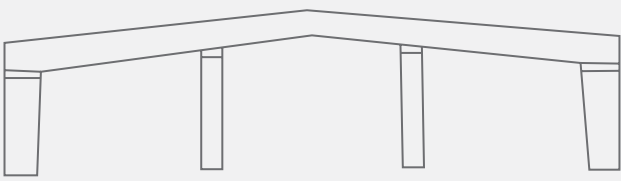
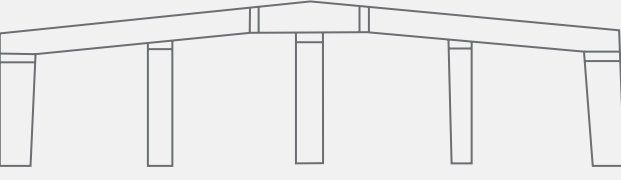
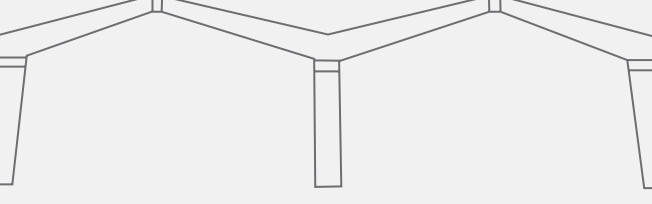


Roof Sheet Crimping Machine

Components of PEB

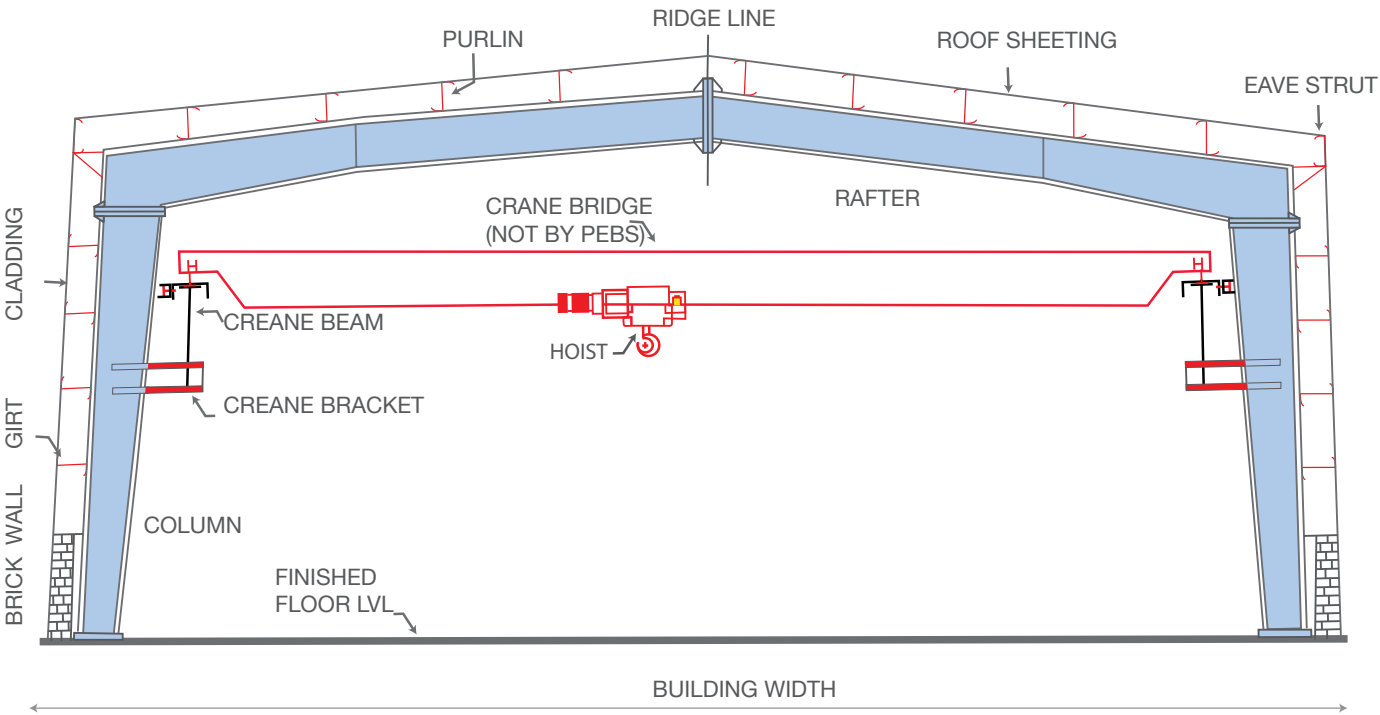


Types of Frames

L-CANOPY (L-CAN) 	RIGID FRAME (RF) 
LEAN-TO (L-TO) 	MULTI-SPAN (MS-1) 
BUTTERFLY CANOPY (T-CAN) 	MULTI-SPAN (MS-2) 
CLEAR SPAN (CS) 	MULTI-SPAN (MS-3) 
SINGLE SLOPE (SS) 	MULTI-GABLE 



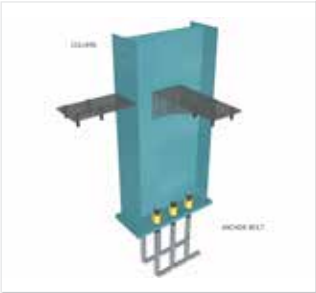
Crane Beam



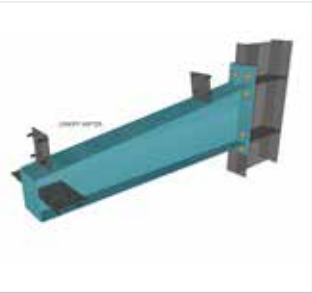
Primary Members

Primary Members are made from steel plates confirming to ASTM-A-572 GRADE 50 or equivalent with minimum yield strength of 345 Mpa. Intermediate Frames, End Wall Frames, Wind Bracings, Crane Brackets, Mezzanine Beams and Joists are factory manufactured and require bolted connections to be made on site. Each part is designed and manufactured to exact tolerance under rigid quality controlled plant conditions.

COLOUMNS



RAFTERS



ANCHOR BOLTS



HS BOLTS



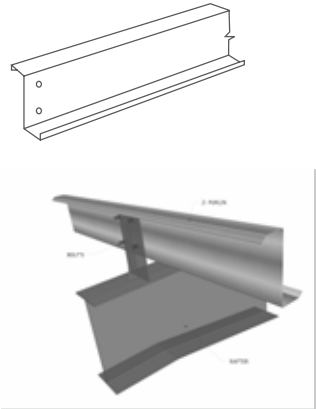
Secondary Members

(ROOF PURLINS, WALL GIRTS, STRUTS)

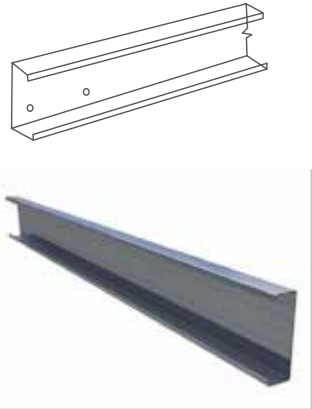
Advantages of Cold Formed Secondary Members

- Saving up to 40% - 50% weight of the structural steel and 25% - 30% in cost when compared to hot rolled sections.
- Saving up to 35% - 40% in weight and 20% in cost when compared to hot rolled Purlins.
- Truss spacing can be increased, hence less numbers of trusses, columns and foundation work resulting in further economy.
- Low transportation cost due to reduced weight.
- The Purlins are supplied in required lengths with pre-punched holes. Hence reduction in constrained time and cost in fabrication & erection and no wastage.
- Purin erection is easier than conventional options.
- Close tolerances on sectional dimensions due to process of cold roll forming.
- High versatility, durability and uniform quality.

Z-PURLIN



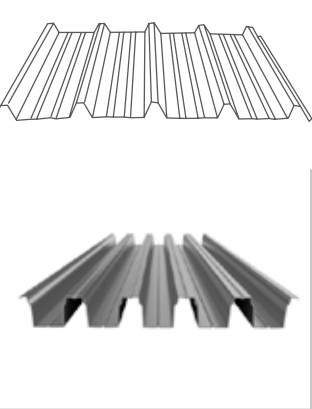
C- PURLIN



HOLLOW SECTION



ROOFING SHEET



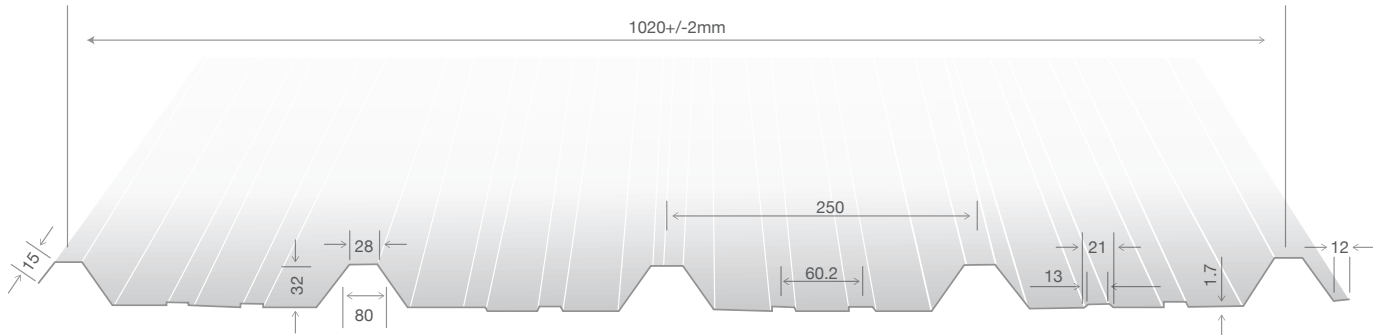
Base Material

- **Color Coated Galvalume**
As per IS 513 (AZ 150)
Thickness - 0.40 to 0.8 mm
- **Bare Galvalume**
As per IS 513
Thickness - 0.40 to 0.8 mm
- **Color Coated Galvanized**
As per IS 277 (120 gsm)
Thickness - 0.5 mm to 0.8 mm

Coating Systems

- **RMP**
(Regular Modified)
- **SMP**
(Silicon Modified Polyester)
- **SDP**
(Super Durable Polyester)
- **PVDF**
(Polyvinylidene Fluoride Polyester)

MountDeck



Input Width	Supply Width	Effective Width	Pitch	Depth
1220mm	1080mm	1020 mm	250mm	32mm

Available in (1) Color Coated Galvanized (0.5 to 0.8 mm) (2) Colour Coated Galvalume (0.45 to 0.80 mm) (3) Bare Galvalume (0.40 to 0.80 mm)

Cross section view of COLORBOND® steel

p Coat* of Super Durable Polyester (Nominal 20um)**
Universal Corrosion Inhibitive Primer (Nominal 5um)**
Conversion Coating
Zn-Al alloy Coating
ZINCALUME™ steel substrate
Zn-Al alloy Coating
Conversion Coating
Universal Corrosion Inhibitive Primer (Nominal 5um)**
Backing Coat (Nominal 5um)

Galvalume Sheetting

Bare Galvalume
Colour: Natural Silver
Coating: AZ 150, 55% Al, 43% Zn, 1.6% Si
Base Material: ASTMA792M Grade 345 Class I (Max. 550 MPA YS)
Colour Coating: None

Pre-painted (PPGL)

Colour: Any RAL Colour
Coating: AZ 150, 55% Al, 43% Zn, 1.6% Si
Base Material: ASTMA792M Grade 345 Class I (Max. 550 MPA YS)
Colour Coating: : T/C 18-20 micron
RMP / SDP over 5 micron epoxy prime



Mezzanine

Our Mezzanine System is dedicated to provide most durable, economical and efficient alternative for expanding working space for our Clients. SteelArch Pre-Fabricated Structures, Work Platforms, Ladders and Catwalks are engineered to be installed at Indoors or Outdoors and can turn any unused space into usable area.

Pre Fabricated Mezzanine is cost effective and time efficient way to create additional space in any new or existing Pre Fabricated Building. Standard mezzanine framing system consists of a steel deck, supported by joists onto mezzanine beams. In case of required design load, the main beam is supported by intermediate columns. The top flange of the joists fit immediately below the top flange of primary beams. The sides and top ribs are embossed and provides added grip and minimize

slip by creating a bond with concrete as done with normal reinforcement. It provides positive reinforcement and permanent formwork. No erection, removal, handling or storage of timber / steel formwork as in conventional concrete slab construction, Saving Valuable time. Clean, Uniform and Attractive ribbed underside (Soffit) for exposed situation reduces the cost of ceiling finishes. Deck sheet is used on mezzanine as flooring. The light weight steel decking reduces concrete usage to provide a

cost effective and alternative floor solution that is easy to install. MS deck sheet is provided for suitable load on the floor and covered with concrete.

Mezzanine floors now a days are widely used to create office space inside the building / store room inside the factory building. Because of the costly floor paces, vertical expansion is the choice of users including Shopping Mall builders. **Right solution provider, manufacturer and erector are the key to avoid problems in usage of mezzanine requirements in future.**





Framed Opening

Framed openings are created in the wall framing, generally out of cold formed sections to accommodate doors, windows, shutters etc.

These openings are designed keeping required height and width as per client requirement. We also provide Sliding Doors/Rolling shutters depending on application. Openings are designed for Entry to the Buildings, Windows, Fire Exits, Chimneys etc.

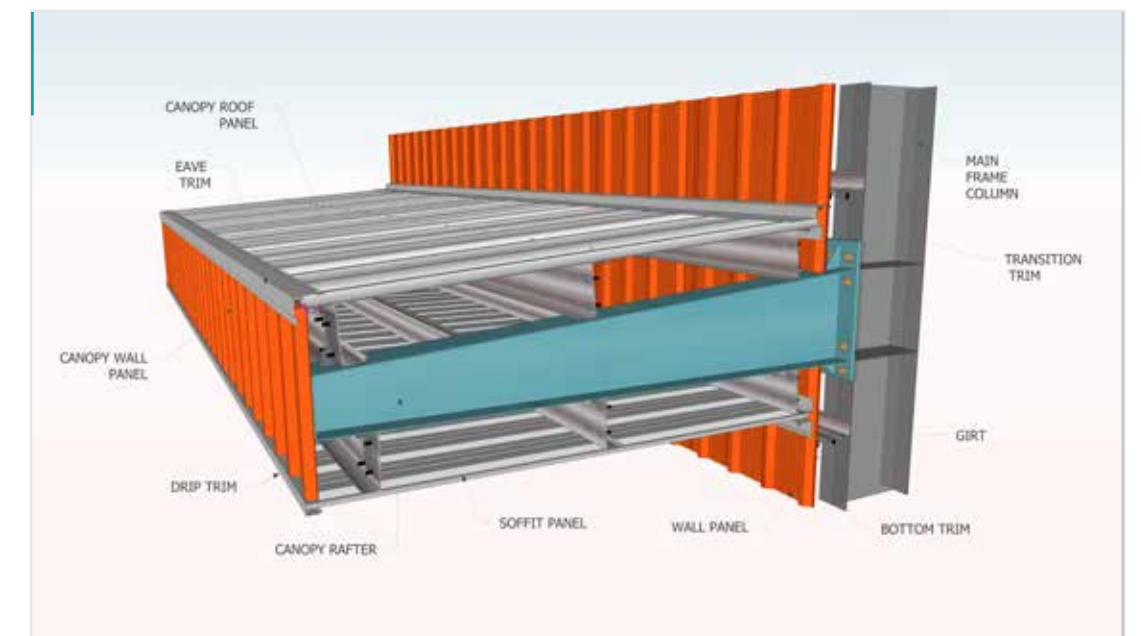
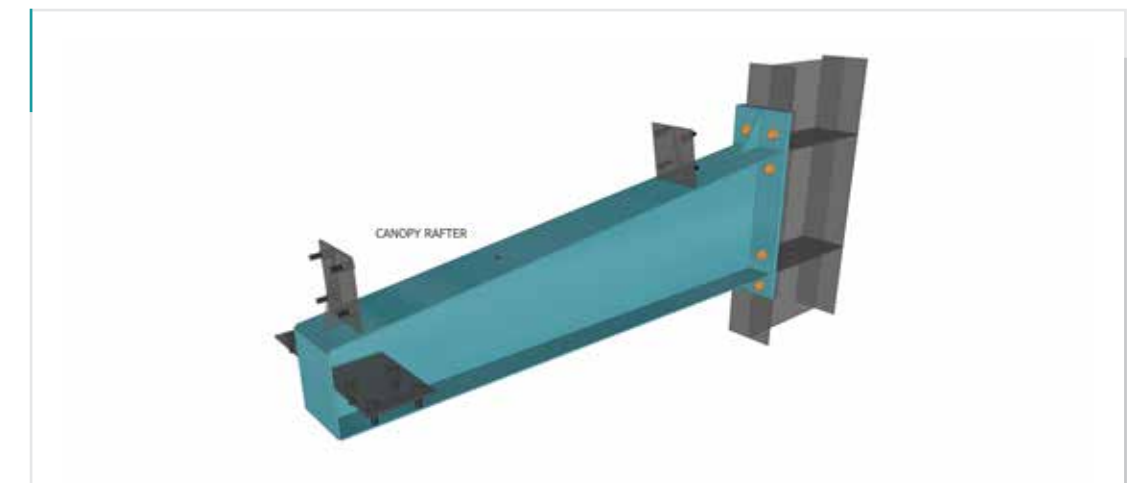


Canopies

Canopies and overhangs are available to enhance the exterior appearance of your building. Canopies and Eave extensions offer a great aesthetic as well as functional option.

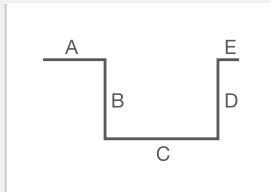
Canopy is a cantilever beam fitted on column covered with sheets using purlins. The main reason for the provision of canopy is to avoid rain water/water seepage in the shed which can occur through frame opening/Rolling shutters. Images below will give you an idea of usages of Canopies.

Different shapes of canopy includes Curved Canopies, Canopies with gutter and down take pipes, Canopies with Soffit. Reverse Canopies etc.



SteelArch Accessories

END EAVE GUTTER



A = 510 mm

B = 200 mm

C = 260 mm

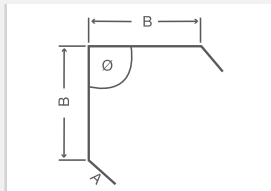
D = 220

E = 25 mm

L = 2440 mm max



CORNER FLASHING (WALL TO WALL)



A = 10 mm

R = 300 mm

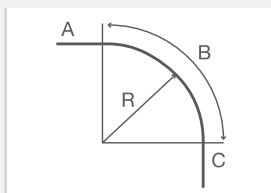
Ø = 45° mm

∞ = 90° mm

L = 2440 mm



CURVED CORNER



A = 150 / 200 mm

B = 300 mm

C = 150 / 200 mm

R = min 500 mm

W = 1080 mm / 1180 mm
(Effective Width = 1020 / 1070 mm)



COLOUR & PLAIN BOLTS



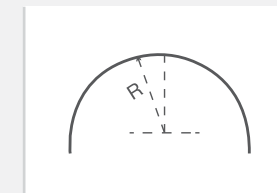
TURBO VENTS



For Optimum Ventilation &
Heat reduction.

Available in standard size of
600 mm Diameter

CUSTOMISED BEND SOLUTIONS



R = min 1000 mm

Sheet Lenath = 4500 mm max

W = 1080 mm / 1180 mm

(Effective Width = 1020 / 1070 mm)

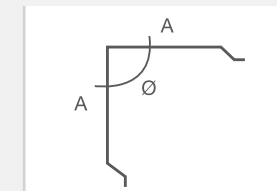


TRANSPARENT SHEETS



2 mm Thk as per
profile design to
provide natural
lighting in the building

PLAIN & PROFILE RIDGE



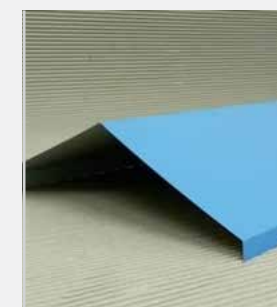
A = 300 / 400 / 600 mm

8 = 140 min. upto 0.50 mm Thk

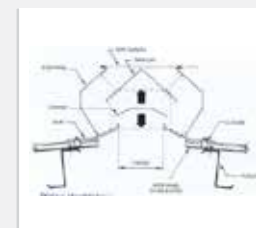
8 = 150 min. upto 0.80 mm Thk

For Profiled Ridge
Length = 1080 mm / 1180 mm
(Effective Lenath = 1020 / 1070 mm)

For Plain Ridge
1 = 2440



RIDGE VENTILATORS



There is a range of
ventilators in which
throat sizes are from
200 mm to 600 mm
with complete fixing
accessories.

* Dimensions for accessories stated herein are standard and may vary as per structure design

Roof Monitors

Raised gable, or portion of the main building, located at the ridge, to allow ventilation is called Roof Monitor

Roof monitors are widely used for the buildings where more number of air changes are required. It is considered to be best ventilation solution for steel buildings



Louvers

Standard Louvers are made with overlapping type blades providing maximum air flow. Louvers are made from the same PPGL sheets using the chosen colors.

There are different types of louvers available e.g. “S” type, Industrial Louvers etc. They are installed with bird mesh and utmost care is taken while designing the same to avoid water penetration inside the building.



Fascia

Fascias enhance the front / entrance / Loading Bay areas of buildings. It can be ordered with open or closed soffits. Materials may be sheeting or steel panel or other material.

A standard fascia can be added to any of the standard frame type buildings. Fascia extends out from the sidewall and end wall steel line, is single sheeted and provided with soffit.



Thermal Insulation

Heating or cooling is one of the largest operating expenses in a building. That is why it is important that each building has good thermal insulation adapted for the usage of the building. Air Bubble insulation with aluminum foil on both sides exhibits low thermal conductivity value.



Standing Seam Roofing System

Standing Seam Metal Roofing system helps you re-imagine metal roofing with clean, sleek lines and a minimum of exposed fasteners for a unique aesthetic effect along with the 100% leak proof provision. A structural standing seam roof panel system meets performance goals by being constructed with a raised portion where two panels meet, enhancing overall weather resistance. In addition, the panels interlock in such way that allows thermal movement without damage.



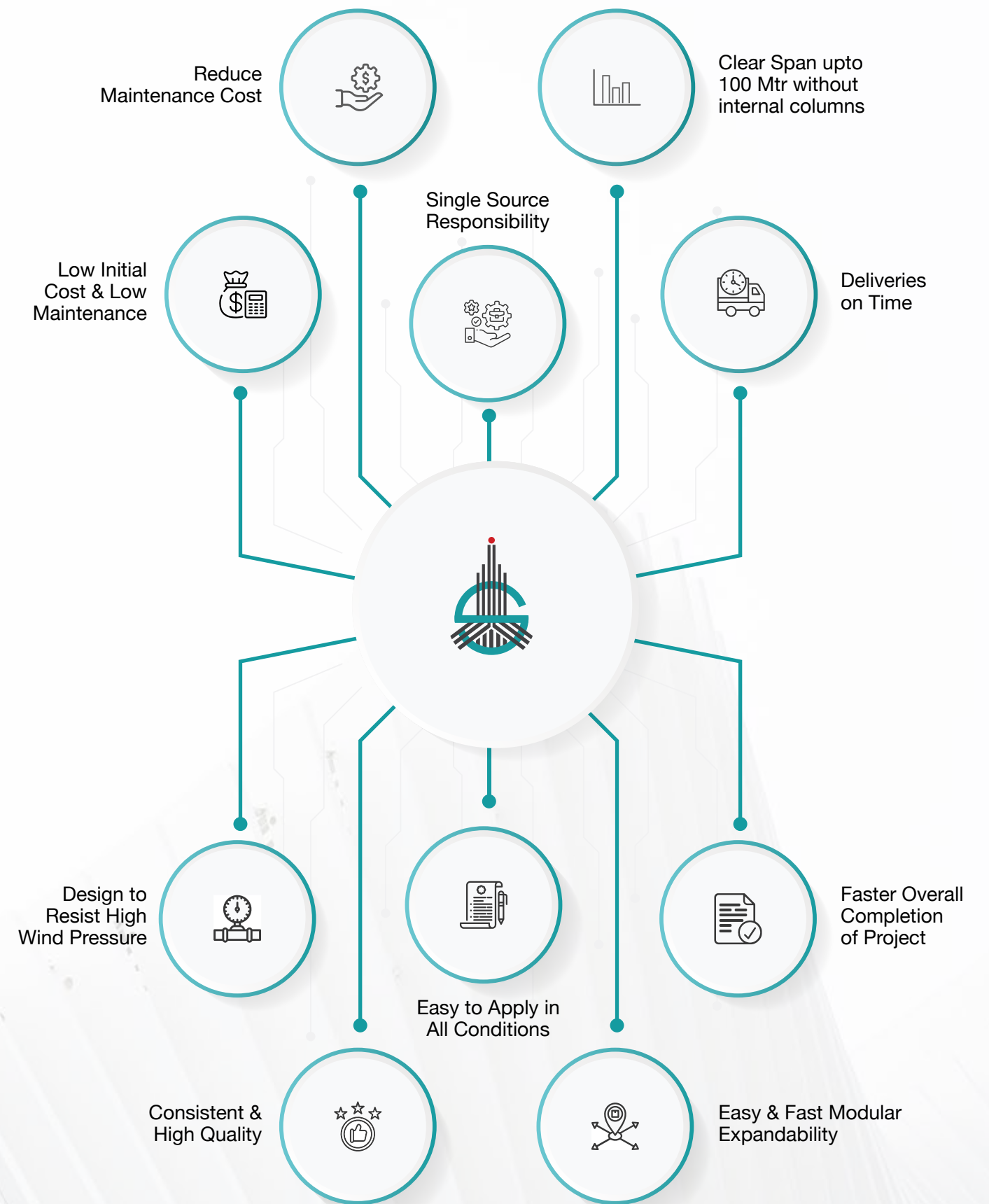


Process Flow at SteelArch





Why SteelArch?



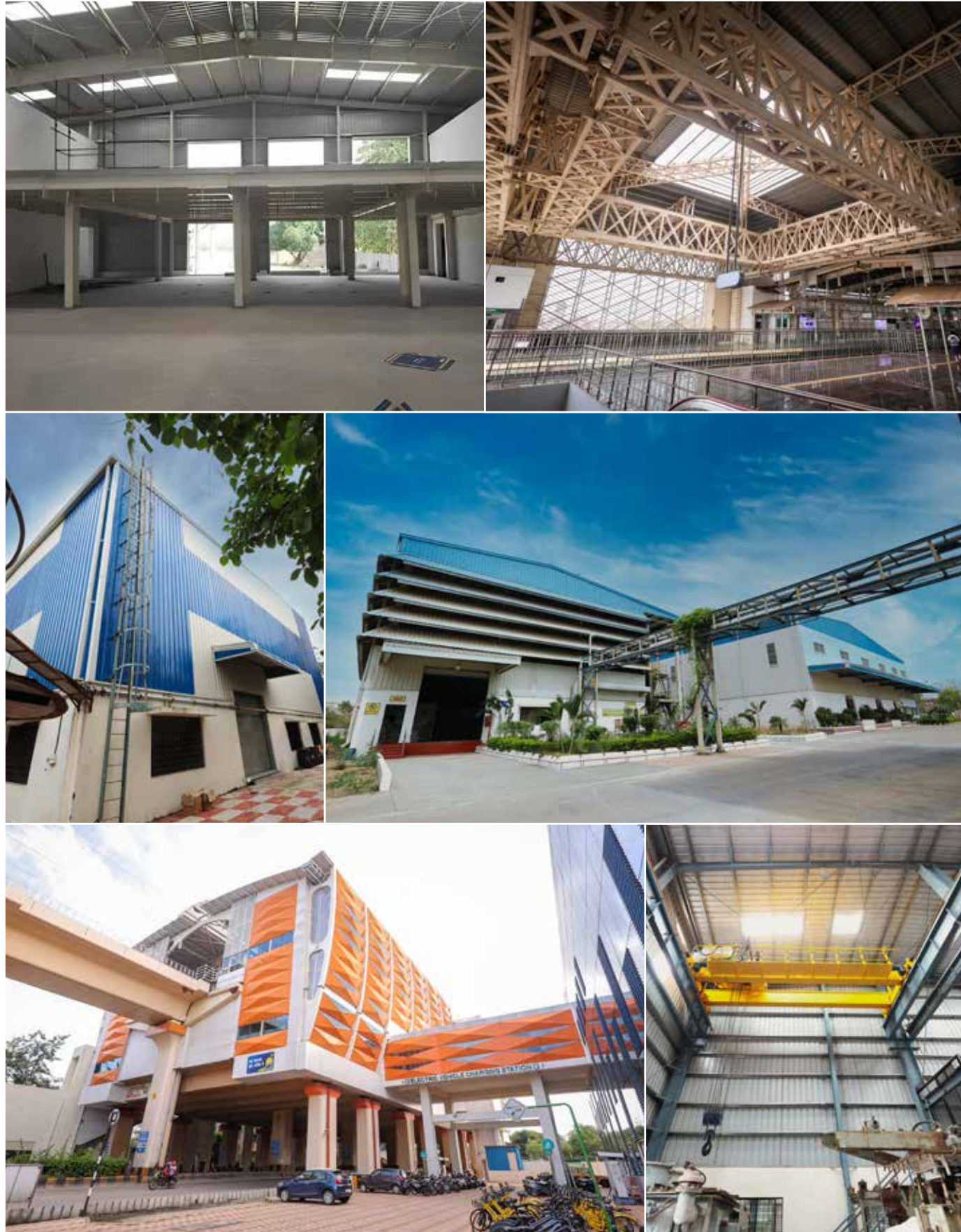
Our esteemed clients

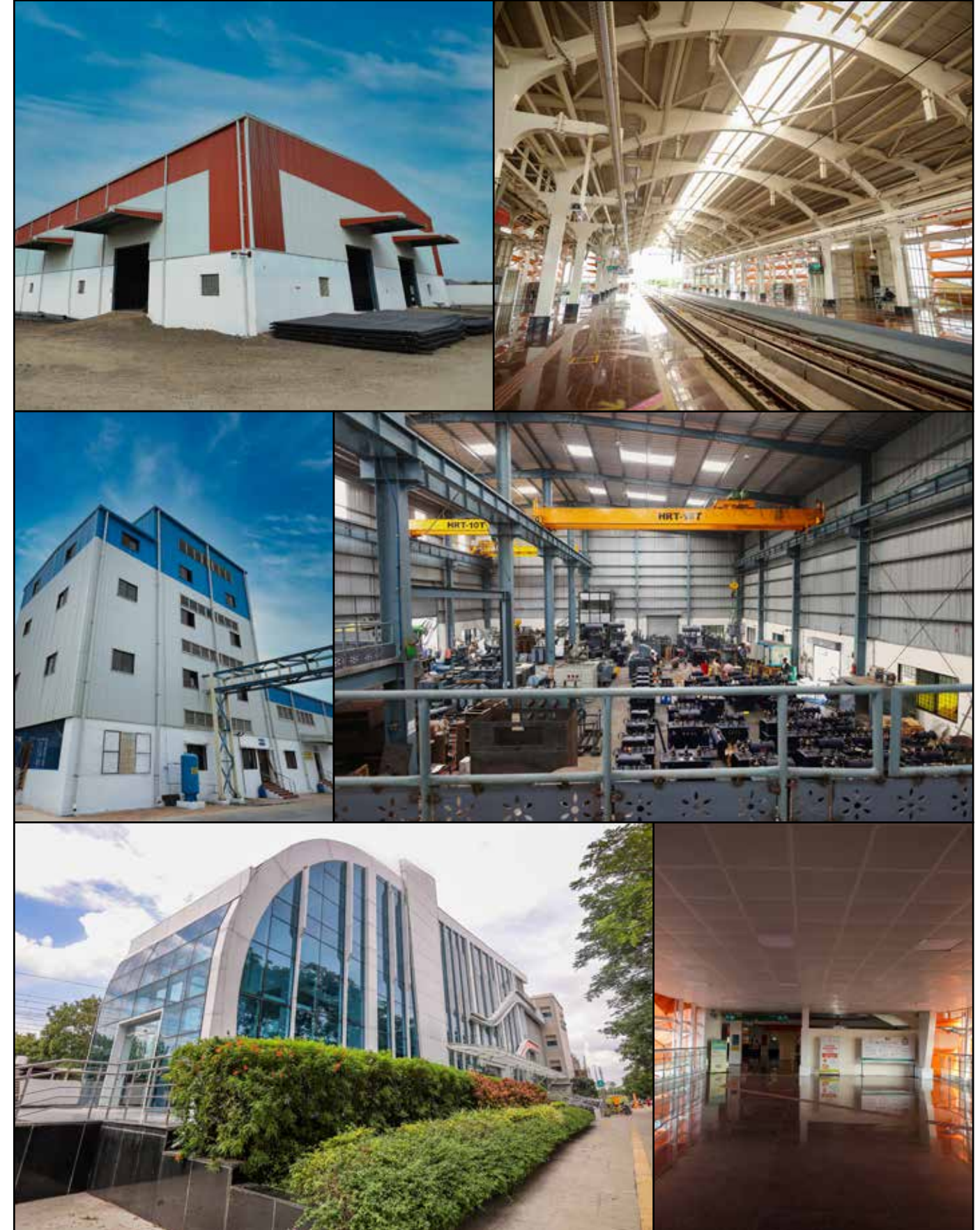
Some of Our Project



Our Project



Our Project





Head Office

616, Chikhali Layout, Eastern
Industrial Area, Kalmana,
Nagpur – 440 035

Plant 1

Plot No. C-13 & C-14 MIDC
Industrial Area, Kalmeshwar,
Dist – Nagpur (MH), 441 501

Plant 2

Khasra No.109/2, Mauza –
Kapsi (Bujurg) Tah – Kamptee,
Dist – Nagpur (MH), 440 035

Sales: ☎ +91 93727 666 05 ✉ sales@steelarch.in | Info: ☎ +91 91 93727 666 11 ✉ info@steelarch.in

www.steelarch.in