ORIENTAL STEEL STRUCTURES

BUILT
with TRUST

The dawn of the new age demands new age solutions that can withstand dynamic changes through time and be relevant. Pre-Engineered Buildings or PEB is one such new age solution that addresses the growing demand for sturdy, easy to construct metal buildings or infrastructure.

ORIENTAL GROUP

A LEGACY OF EXCELLENCE

With 60 years of expertise, Oriental Group stands as the largest supplier of aluminum and steel products in the country. Renowned for delivering quality and durable aluminum roofing sheets, Galvalume roofing sheets, and steel structurals, the company has been a trusted name in the industry for decades.

Founded in 1965 as Oriental Steel Trunks and Agrico Industries by the visionary late Va Mohammed Kunju, the company evolved into Oriental Metals in 1980. Since then, it has been unstoppable, continually setting new standards and shaping the future of the metal industry.

What is PEB?

A domain in structural engineering, PEB refers to the sourcing of best suited raw materials, fabrication and manufacturing of aesthetically designed metal structures, that are light weight and strong. PEB's are designed to optimally utilize the space and can be customized at any given point of time as per our need. PEB's unlike regular buildings are earthquake resistant ensuring minimal loss in case of a calamity. PEB's are best suited for large or small manufacturing units, school buildings, warehouse etc. Invest in a pre-engineered building to get your business up and running within quick time and make best use of opportunities available.

RANGE AND SCOPE

Pre-Engineered Buildings can be easily customized and constructed within tight deadlines. PEB's can conveniently be used to build an array of infrastructures, ranging from;

- High-rise Commercial Buildings Large Span Buildings-Warehouses Factories
- School Buildings, Hostel Buildings, Auditoriums, Stadiums,
- Supermarkets, Shopping Malls with Complex Design
- Complex Design Residential Buildings-Multi/Single Storey Homes
- Energy Efficient Buildings
- Construction Buildings at Seismic Zone/Hilly Regions/Remote Localities

ADVANTAGES OF PEB

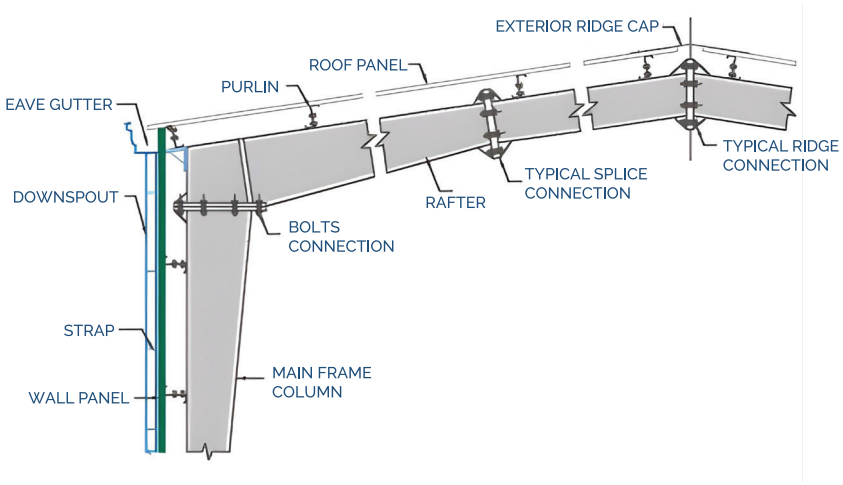
There are many reasons why PEB's trump over conventional buildings, some of them are listed below;

- Lightweight, Easy to Construct and Eco-friendly Excellent Quality & Quality Control
- Unique Aesthetic Appeal, Extensive Choice of Layouts, Superior Flexibility in Design and Fabrication
- Economical Construction Immense Strength, Durability and Resilience
- Easily Transportable and Modular Fire Resistant and
- Earthquake Resistant
- Speedy Construction and Implementation

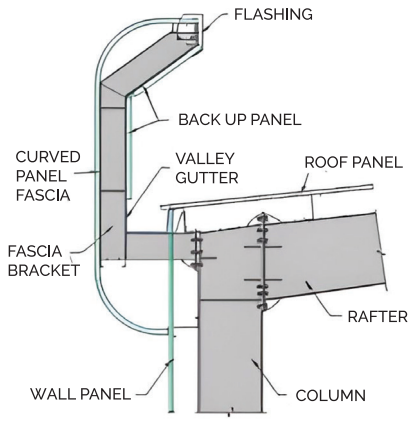
STRUCTURAL SYSTEMS

Structural systems or structural frames as an offshoot of structural engineering refers to the load resisting capability of the sub system in a building or object. Structural systems ensure equal distribution of load among the interconnected elements or members.

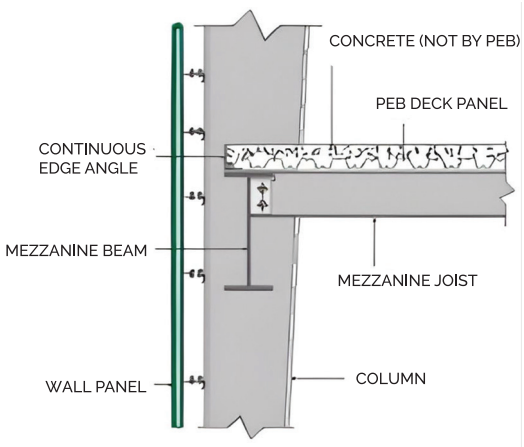
RIGID FRAME WITH BY-PASS GIRTS



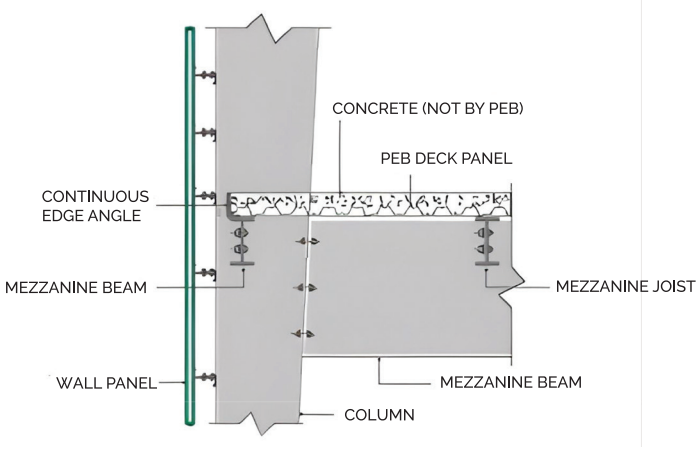
CURVED FASCIA

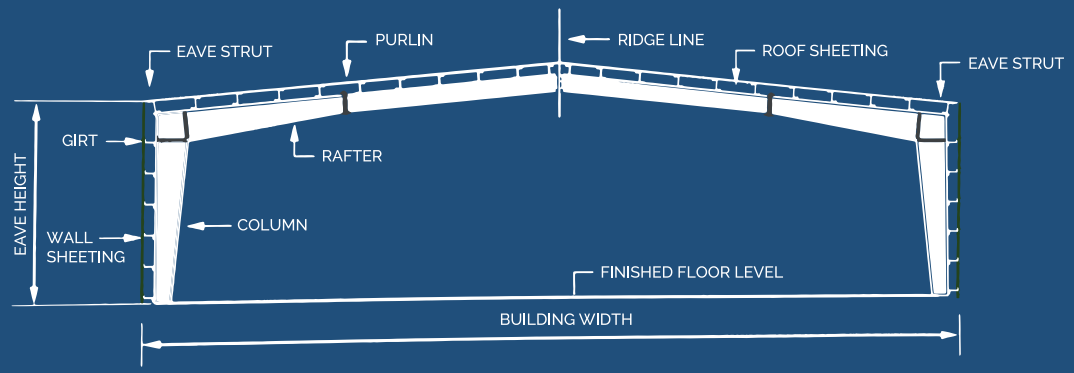


MEZZANINE JOIST TO BEAM

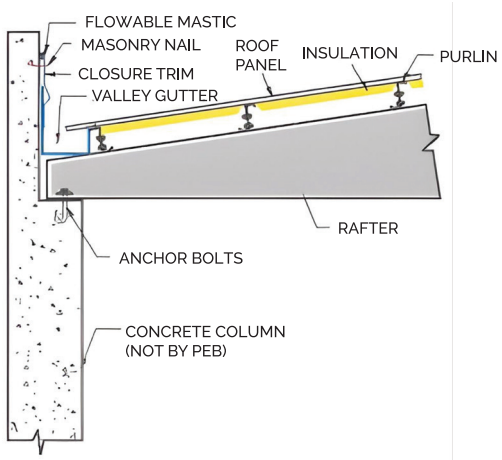


MEZZANINE BEAM TO MAIN FRAME

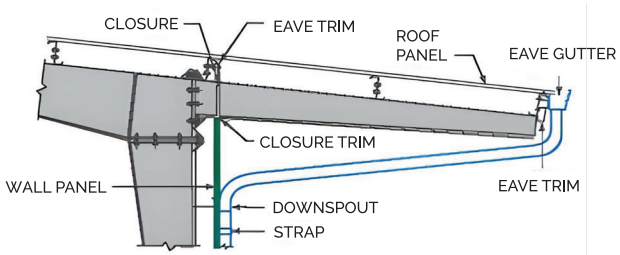




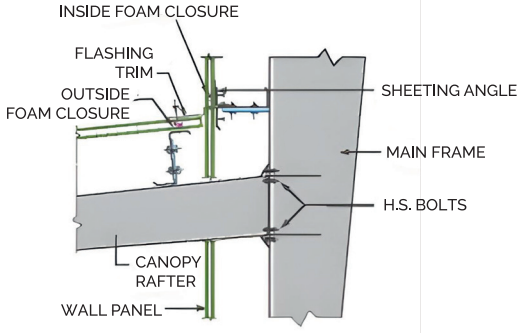
ROOF SYSTEM WITH INSULATION



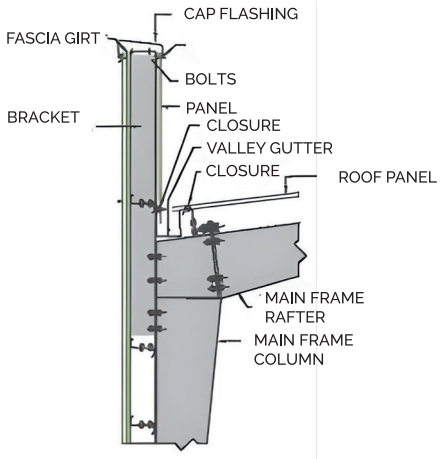
SIDE WALL ROOF EXTENSION



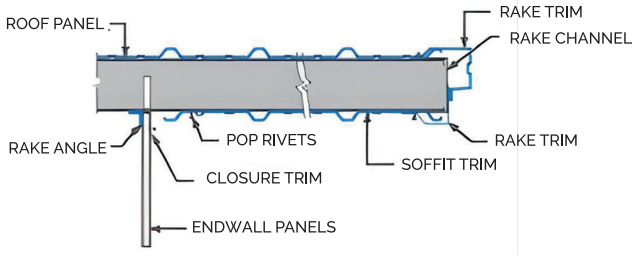
CANOPY



PARAPET FASCIA



ENDWALL ROOF EXTENSION WITH SOFFIT



HIGHLIGHTS
OF STRUCTURAL BUILDINGS

- Ready to install pre-engineered, factory fabricated quality structures
- Use of minimal high strength steel that's lighter than conventional building material
- Hot rolled high strength steel sections or hollow sections to make optimal use of steel
- Cold form steel for light framing system and metal decking system
- Shot blasted steel framing on par with international standards
- Sheer stud to ensure concrete steel bonding
- Corrosion resistant priming on steel frames
- Standard painting on steel of low VOC
- Fire-resistant painting to meet safety standards
- High strength bolts for primary and secondary framing system
- Use of eco-friendly materials to achieve high LED rating
- Provide complete interface solution for all types of internal and external needs

THE STEEL **STRUCTURAL BUILDINGS**

Steel structural buildings are constructed by using steel members that are joined through welding, riveting or bolting. Thus, the structure or skeletal of a steel structural building is fabricated with steel for internal support and exterior cladding. Steel structural buildings can be constructed and used for multiple purposes such as the construction of high rises, storage areas, industrial units and the likes.

HIGH RISE BUILDINGS

We provide end to end solutions constructing high rise steel structure buildings that imbibe the latest design concepts applying best suited engineering techniques, utilizing the best available resources. Our efforts are backed by the latest technology, efficient material management and flawless transfer procedures.

LOW RISE LARGE SPAN BUILDINGS

Low rise large span buildings are usually low on cost and can be built at a fast pace due to the availability of factory-made components that can be easily transported and installed at the construction site. While all PEB structures are earthquake resistant, low rise large span buildings are particularly safer because of the area span it occupies, giving it a firmer, stronger base.

COMMERCIAL STEEL BUILDINGS

Our steel structural building is especially suited for commercial building as the structures are designed, detailed and fabricated at a single point or source. Efficient use of resources ensures the cost is curtailed giving out a lighter, durable and resilient output. Additionally.the flexibility of frames makes these structures earthquake resistant.

Design and construction of all types of factory buildings as well as metal structures.
Construction of buildings and process plant buildings.
Single or multi storeyed structures for industrial estates, technology parks, production units, bottling plants and factory buildings.
Facility to design and install integrated personnel and vehicle access doors and other accessories.
Can set up large fabrication facilities despite space constraints and minimizing cost.

MEZZANINES

A Mezzanine floor is a raised platform between the floor and ceiling of a building. They come in all shapes and sizes and aim to maximize the use of so-called vertical space.

CRANE BEAMS

We fulfill your need for beam cranes that perfectly fits into your commercial building set up. Beam cranes refer to lifting solutions that consist of horizontal beams that travel across a bridge like overhead structure supporting rails.

ARCHITECTURAL
INDUSTRIAL BUILDINGS

Steel structural buildings are structures fabricated with steel for internal support as well as for exterior cladding and are used for purposes of storage, workspaces and for accommodation. Steel structural buildings were accepted by the early 20th century and are classified according to their usage. These buildings become widely accepted due to the cost efficiency and the range of its application improved with materials, products and design capabilities with the availability of CAD software. Common types of steel structural buildings are straight-walled, structural type and are categorized as clear span or multiple spans. Clear span steel structural buildings won't have structural supports in the interior space utilizes large beams and reduce internal supporting columns. This building is cost-effective than the buildings with interior columns.

PEB v/s CONCRETE

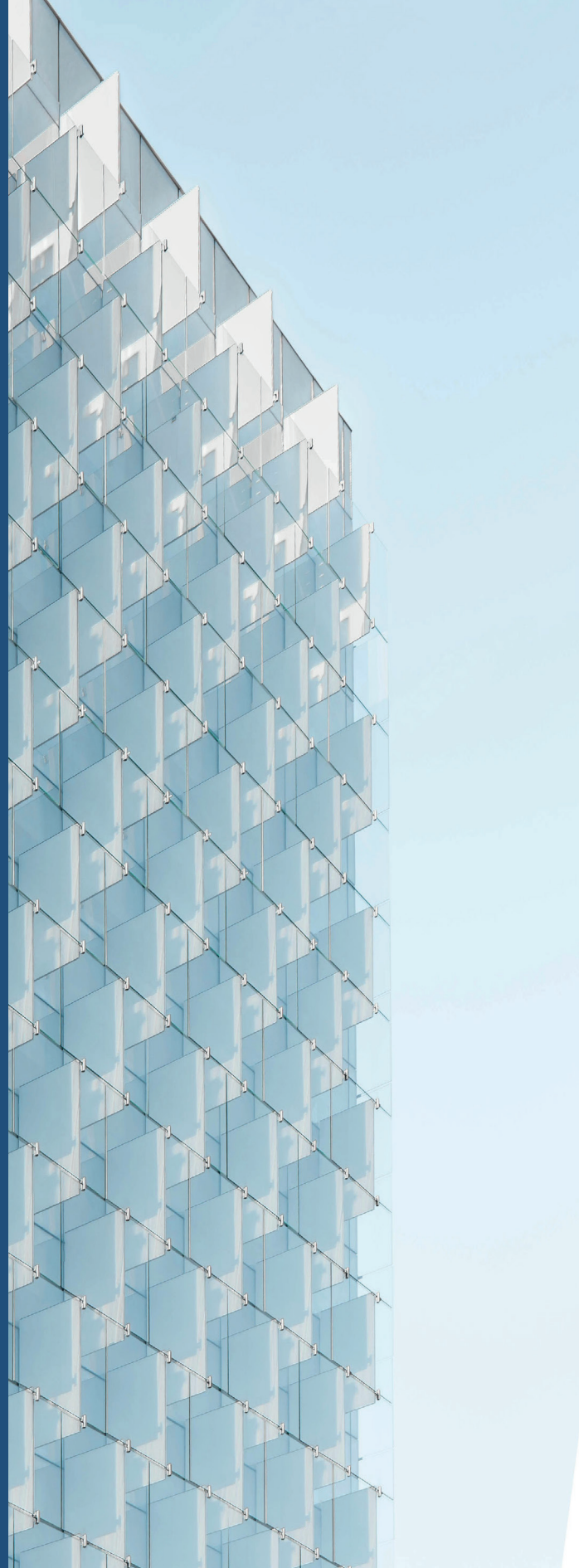
EVALUATION CRITERIA	PEB BUILDING	CONCRETE BUILDING	STEEL ADVANTAGE
Building Dimensions	Suitable for spare 20-30m. Can sustain much burger spans.	Suitable for short scan buildings, 5-8m. Becomes dififcult and heavy for larger spans.	12%-50% Cost saving for long span steel building.
Fabrication	Members fabricated in a controlled environment. Precise fabrication.	Fabrication done on site. Requires building the reinforcement cage and shuttering work prior the to pouring	90% saving in fabrication time on site.
Delivery and Logistics	Can be delivered anywhere in the world. Proper sequencing	Fabrication done on site. Requires building the reinforcement cage and shuttering work prior the to pouring.	Capital Investment saving.
Erection Time	Fast erection. Virtually no idle time.	Might have to build a batch plant on site if the site is secluded or huge	50% saving in construction time
Industrial Applications	Can easily handle equipment such as multiple cranes within the building Sways are under control. Precision can be achieved during installation.	Limited use of heavy equipments like cranes. To solve precision problems, contractors use steel I beams and platforms in concrete buildings	Saving on maintenance cost
Cost	Low manpower count needed. Erection cost is low at the site	Construction cost is high at the site	

There are many differences that stand out between PEB structure and conventional building structures as listed out below:

EVALUATION CRITERIA	PEB BUILDING	CONCRETE BUILDING	STEEL ADVANTAGE
Quality	It is a homogeneous product. Pieces are tailored according to shop drawings. Precise machinery is used for fabrication. It is fabricated under shop control. The weather has no effect on the quality.	Concrete is not a homogeneous product. Concrete mix ingredient ratios are difficult to maintain, Quality of water used may vary. | Weather conditions Labor experience in pouring. Adequate use of vibrators. I Using proper curing methods. Concrete shrinkage. High manpower count may weaken control	Less time is spent to maintain steel quality
Error Modification	Easy to modify on site, even after erection The modification can be done by cutting, welding or attaching steel pieces	Have to break concrete if the modification is necessary	
Consistency and Reliability	Design assures strength. Steel properties are stable with time	Strength cannot be guaranteed without testing. Concrete properties may change over time and environmental conditions	
Seismic Effect	Ductility of steel provides flexible behavior under seismic loads. Light Steel structures minimize the seismic effect on the structure. Steel is heavier than concrete but is 18 times stronger. A steel member can hold 6 times its own weight.	Might have to build a batch plant on site if the site is secluded or huge	
Ductility	Show signs of failure when overloaded. Gives chance to fix the problem	No warning signs. | May result in disastrous collapse | Steel reinforcement is used to prevent brittle failure	Steel building requires less costly safety measures

WHAT ARCHITECTS AND ENGINEERS FAVOUR?

There is growing inclination on part of architectures and engineers showing a preference for pre-engineered buildings for the fact that they are easy to design and customize. PEB also provides additional advantages such as sturdiness, easy maintenance. PEB's are also earthquake resistant another reason why they are a preferred choice for architectures and engineers.



EASY GREEN BUILDING CONSTRUCTION

CERTIFIED IGBC

ORIENTAL PEB is recognized by the Indian Green Building Council that works to create and sustain an environment that is conducive to the development of environment friendly structures and infrastructure.

Indian Green Building Council

WHY GO GREEN?

The depleting condition of the environment requires that every industry does its bit to mitigate the adverse conditions caused by climate change. PEB that uses steel that is pre-engineered and pre-fabricated at a single source and then assembled at a location reducing transport costs and impact of green-house gases to positively impact our environment.

GO GREEN

COMMON GREEN BUILDING CONSTRUCTION PRACTICE INCLUDES:

Use sustainable building materials like recycled glass, steel and renewable materials like bamboo and rubber.

Installation of energy-efficient windows and doors.
Use lower VOC paints and stains. Maximize natural light.
Benefits of Green Buildings Requires reduced energy costs.
Less wastage of water. Improve air and water quality.
Improve the quality of life and minimizes strain on local infrastructure. More business opportunities for the consumers.

GOALS OF GREEN BUILDINGS

Make earth more sustainable.
Saving money
Cut down energy usage.

oriental PEB

oriental
PEB

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