



Since 2011

**Invogue®**

MANUFACTURER OF PRE-ENGINEERED BUILDINGS



**INVOGUE BUILDING SYSTEMS PVT. LTD.**

**BUILT BY EXPERIENCE, BACKED BY INTEGRITY**



## ABOUT US

**INVOGUE BUILDING SYSTEMS (P) LTD.** began its journey in **2011** with a vision to deliver precision Pre-Engineered Metal Buildings & today we are trusted manufacturer in this PEB industry. We operates from its advanced manufacturing facility at Greater Noida (U.P).

The company is guided by the leadership of **Mr. R.P. Singh**, Who holds in depth knowledge about PEB. His strong insight vision & experience of more than **29 years** in the PEB industry (overall experience **40+ years**) helping the company to grow, perform, achieve best quality and customer satisfaction.

Invoque's core strength lies in our multidisciplinary team of engineers, whose expertise spans the entire life cycle of a project from intricate design to precision fabrication and seamless erection. By maintaining all facilities under one roof we ensure rigorous quality control and streamlined project timelines. Invoque remains steadfast in our commitment to excellence, backed by a proactive and dedicated after-sales support system.

We offer an extensive range of metal building accessories designed for durability and seamless integration. These include Roofing, Wall Sheeting, Decking Sheets and natural lighting solutions via Skylights. Our specialized air-flow components Turbo-vents, Louvers, Ridge Vents, Roof Monitors guarantee superior ventilation. Further more, we provide essential finishing elements, including custom made trims (flashings), Rain water collection Gutter and Down-take Pipes (Disposal Systems).

Apart from PEB & its accessories, the company is also into light Gauge Steel Framing systems(LGFS), Cold Room & Cold Storage.

## WHY US

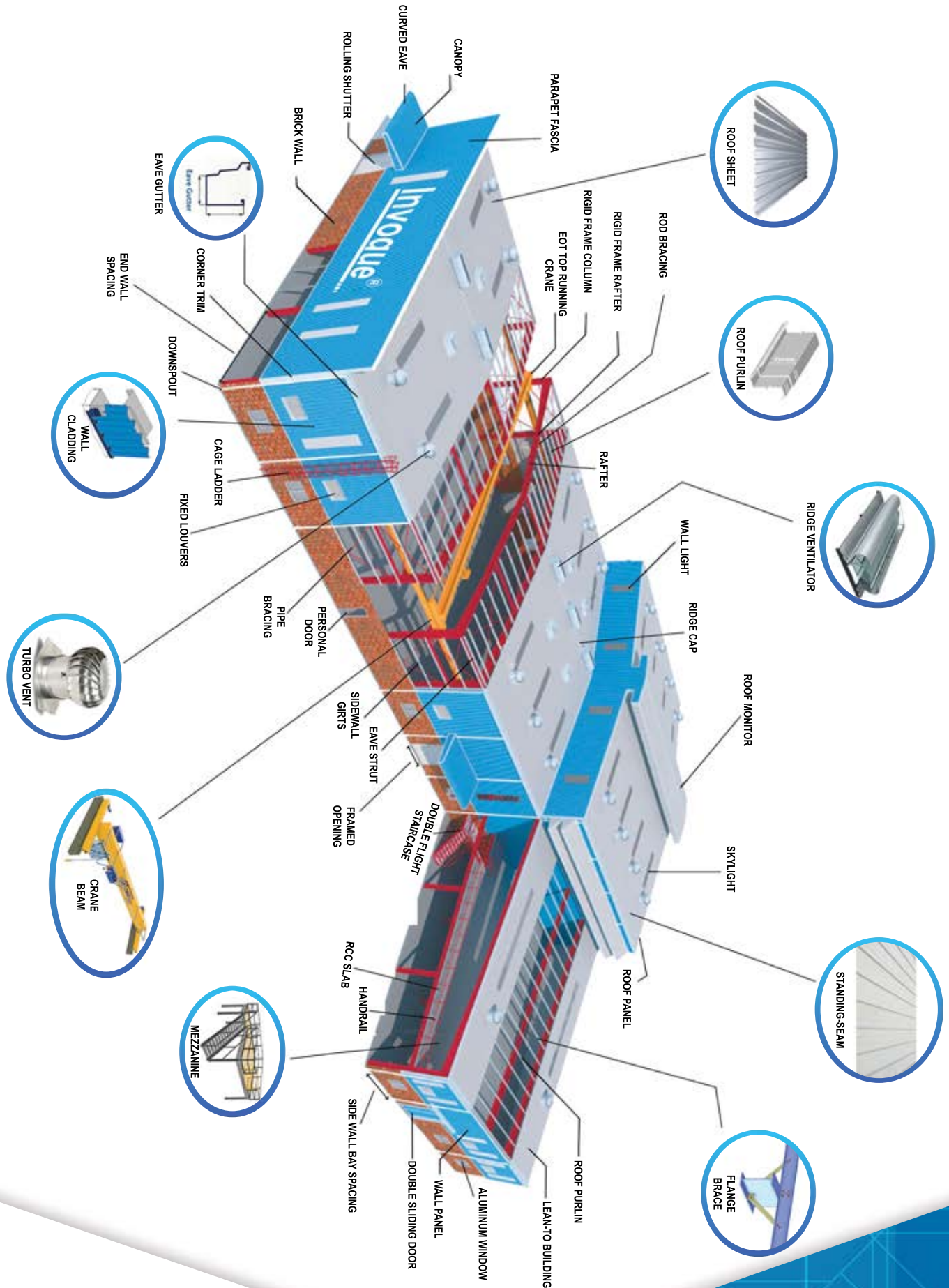
“The Value We Live By”



“We follows codes set in the manuals by”



# CONCEPT OF PRE-ENGINEERED BUILDING



# PRIMARY FRAMING SYSTEM

Invogue's structural designs are meticulously engineered to align with the unique operational requirements of each client. Though our standard models typically feature symmetry across the ridge line, we also specialize in asymmetrical configurations and multi-span systems with variable module widths. We check these special designs thoroughly to ensure they are durable and meet all performance standards.

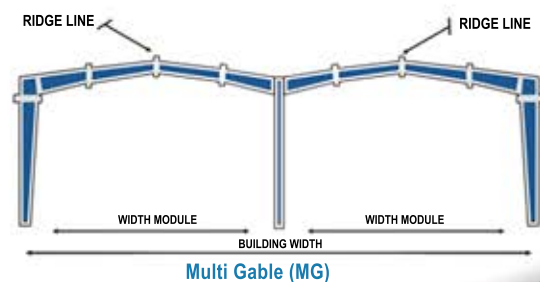
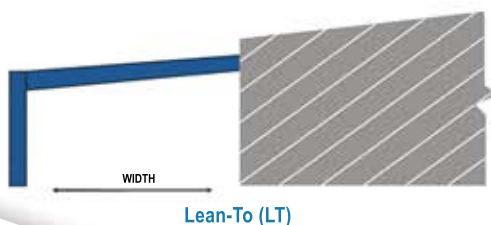
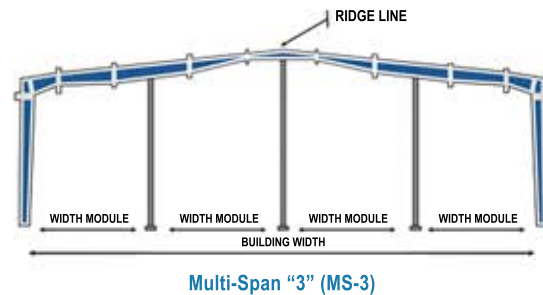
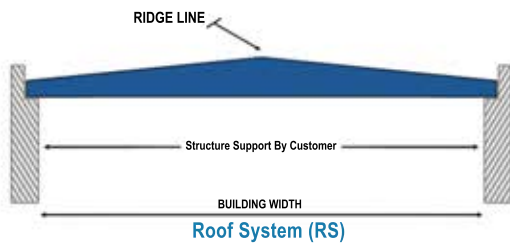
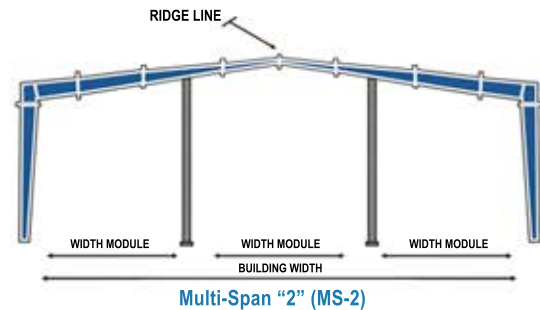
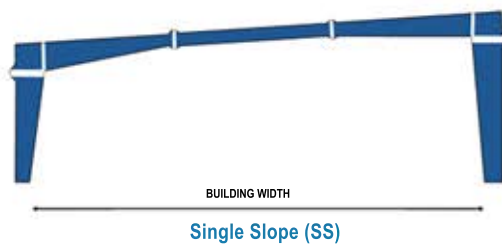
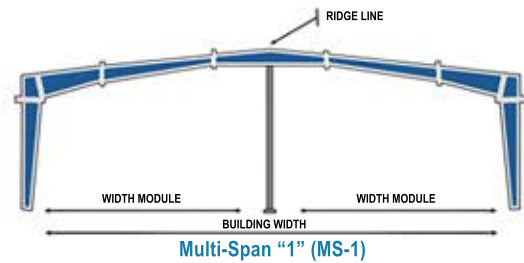
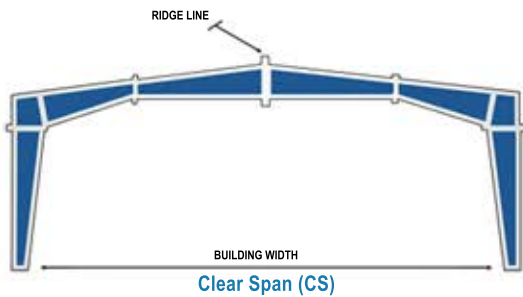
The primary framing system encompasses all critical structural components responsible for transferring gravitational and lateral loads directly to the foundations and is comprises of:

**Intermediate Rigid Frames:** The central skeleton supporting the building's load.

**End wall Framing Systems:** Designed for longitudinal stability and future expansion.

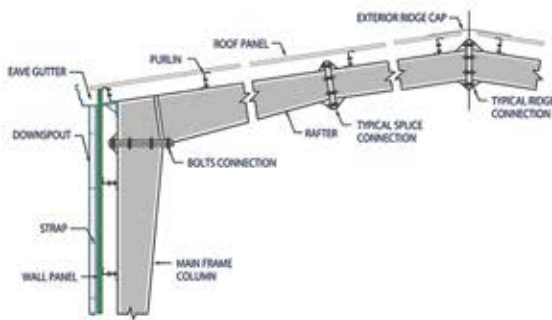
**Crane Support Systems:** Customized crane beams and specialized brackets.

**Mezzanine Infrastructure:** Integrated floor beams and joists for multi-level utility.

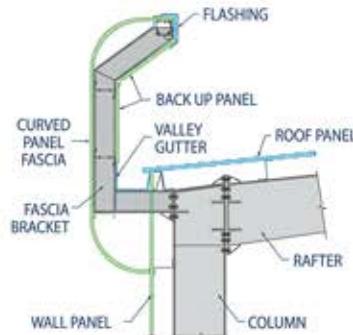


# STANDARD STRUCTURAL DETAILS

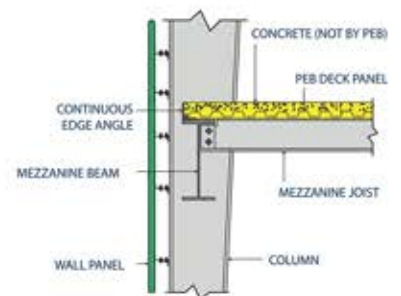
Invogue's Pre-Engineered Buildings (PEB) utilize a rigid frame system integrated with bypass girts to maximize structural efficiency and clear-span space. Our architectural versatility is highlighted through sleek curved fascias and parapet fascias, providing a modern aesthetic while concealing roof slopes.



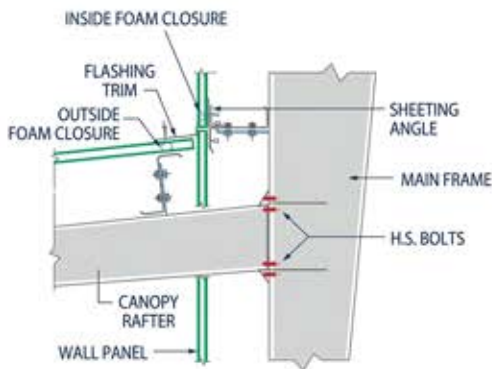
**Rigid Frame with By-Pass Girts**



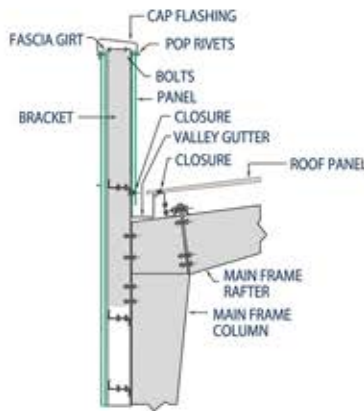
**Curved Fascia**



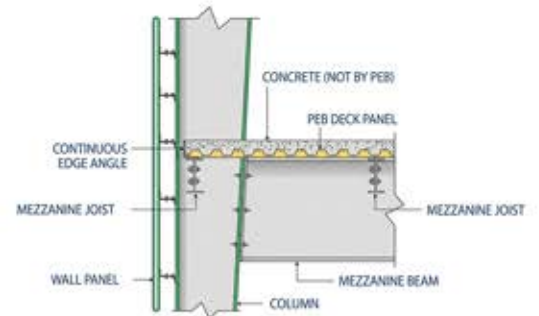
**Mezzanine Joist Connection to Mezzanine Beam**



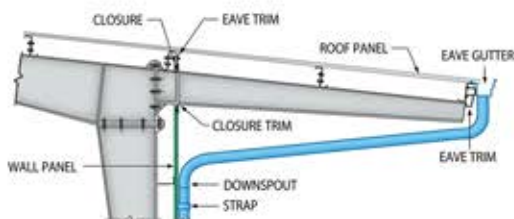
**Canopy**



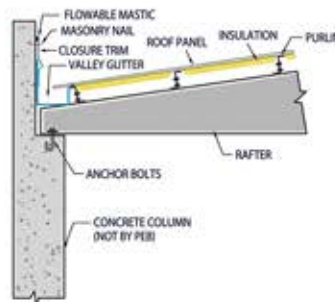
**Parapet Fascia**



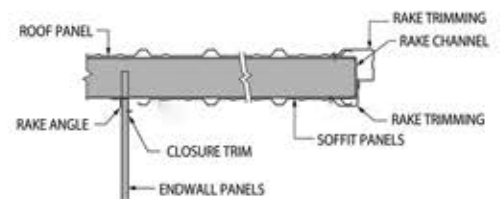
**Mezzanine Beam Connection to Main Frame Column**



**Sidewall Roof Extension**



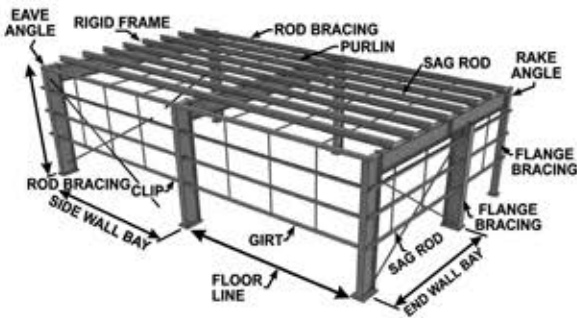
**Roof System with Insulation**



**Endwall Roof Extension with Soffit**

## SECONDARY FRAMING SYSTEM

Secondary framing comprises high-precision components that stabilize the roof and wall cladding while efficiently transferring loads to the primary structural steelwork. This integrated system principally including Roof Purlins, Wall Girts, and Eave Struts is engineered to minimize lateral displacement, optimize material efficiency and ensure the long-term rigid alignment of the building envelope.



PURLINS (CONTINUOUS SUPPORT)



GIRTS (CONTINUOUS SUPPORT)



### ROOF PURLINS

Roof purlins utilize cold-formed Z profiles, typically 200 mm to 250 mm depth fabricated from 1.6 mm to 3 mm thick steel. These are secured to the upper flange of rafters using clips bolted to rafters, with purlin webs bolted to clips. Purlin ends overlap to function as continuous beams.

### WALL GIRTS

Wall girts utilize cold-formed Z sections, typically 200 mm to 250 mm depth fabricated from 1.6 mm to 3 mm thick steel. These are secured to the outer flange of sidewall columns using clips bolted to columns, with girt webs bolted to clips. Girt ends overlap to function as continuous beams.

### EAVE STRUTS

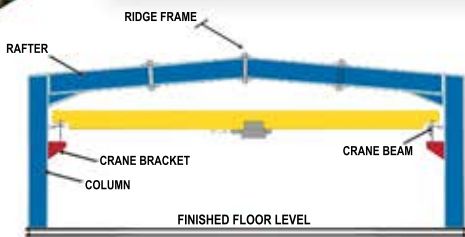
Eave Struts utilize C profiles, typically 200 mm to 250 mm depth fabricated from 2 mm to 3 mm thick steel. These are secured to the outer flange of sidewall columns using clips bolted to columns, with eave strut bottom flanges bolted to clips.



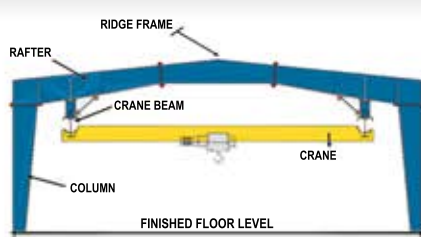
## CRANES & MEZZANINES

### Integrated Crane Systems

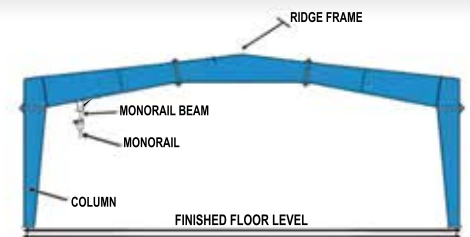
Invogue's Pre-Engineered Buildings (PEB) are engineered to accommodate diverse crane systems, including EOT, Monorail, and Under-hung configurations, alongside specialized load-carrying apparatus like conveyors. These solutions apply to both clear-span and multi-span structures. For integrated projects, Invogue's contractual scope specifically covers high-strength brackets and crane runway beams essential for structural support. Comprehensive technical specifications of the intended crane system are mandatory to ensure precise structural design and cost estimation.



TOP RUNNING CRANE



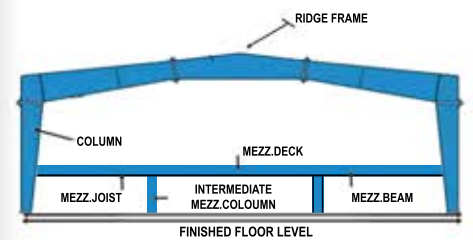
UNDER-HUNG CRANE



MONORAIL CRANE

### Structural Mezzanine Solutions

Intermediate mezzanine flooring systems are versatile additions to metal buildings, configurable across full or partial floor to meet specific office or heavy-duty storage loading requirements. These platforms comprise Chequered Plate or Galvanized Decking Sheets, reinforced by secondary joists interconnected with primary mezzanine beams. Primary beams typically traverse the building's width beneath the main rafters, while joists extend longitudinally. The top flanges of these joists are precision-fitted immediately beneath the primary beam's top flange. A structural reinforced concrete slab (provided by others) is cast a top the galvanized decking to finalize the assembly.



MEZZANINES



## Chequered Plate

A chequered plate (also known as checker or tread plate) is a specialized metal sheet featuring a raised, textured pattern typically diamonds or lines on one surface. This design is engineered to enhance traction and slip resistance. Frequently crafted from steel these plates provide a rugged, high-grip solution for industrial flooring, staircases and transport platforms. Beyond its functionality the embossed pattern increases structural rigidity and offers a modern industrial aesthetic.



## Core Advantages

- Enhanced Safety
- High Durability
- Material Variety
- Low Maintenance

## Primary Uses

Industrial  
 Logistics  
 Design



## Deck Sheet

Our structural decking profiles are specifically designed for composite floor systems, serving as a permanent form work that integrates seamlessly with concrete to enhance load-bearing capacity. These profiles are engineered for rapid installation facilitating immediate access to a safe and stable working platform during the construction phase. By streamlining the assembly process and providing superior structural reinforcement these decking sheets offer a cost-effective and time-efficient solution for industrial mezzanines, high-rise buildings, and heavy-duty flooring applications.



PARAMETER	DIMENSIONS
Depth	44 mm
Pitch C/C	130 mm
Supplied Width	960 mm
Covered Width	910 mm
Length	Max 12 Meters
Thickness	0.60 mm - 2.00 mm

**Note:** Consult Invogue for other design and specifications.

# INVODEK® HI-RIB ROOF & WALL CLADDING SYSTEMS

Invodek® Hi-Rib Roofing and Cladding systems consist of high-performance corrugated metal sheets engineered to provide superior structural integrity. These lightweight profiles offer a 1000 mm effective coverage width with a 30 mm rib depth positioned at 200–250 mm center-to-center (c/c). Incorporating two or three longitudinal stiffening ribs, this design stands as the most robust profile within its specialized category.

## Key Features

- » Invodek® Hi-Rib sheets deliver an optimal balance of high tensile strength and superior corrosion resistance with minimal life cycle maintenance costs.
- » Engineered for rapid installation efficiency.
- » Reduced self-weight minimizes the dead load exerted on the primary building structure.
- » Advanced weatherproofing capabilities for extreme environmental conditions.
- » Architecturally and aesthetically refined finish.
- » Environmentally sustainable and eco-friendly manufacturing.
- » High secondary market scrap value for end-of-life sustainability.

## Base Material Specifications

The systems are primarily fabricated from two premium substrates: Galvalume and Galvanized Steel

### Galvalume:

High-tensile, cold-rolled steel conforming to ASTM:A792 standards. It features an AZ 150 coating class minimum 150gm/m<sup>2</sup> zinc-aluminum alloy coating mass, combined total for both sides), with yield strengths of 550 MPa / 300 MPa. The protective alloy coating is precisely formulated with 55% Aluminum, 43.5% Zinc, and 1.5% Silicon. These are available in bare or pre-painted finishes with sheet thicknesses ranging from 0.47 mm to 0.60 mm.

### Galvanized Steel:

Cold-rolled steel compliant with IS:277 standards, utilizing a Z 120 coating class (minimum 120 g/m<sup>2</sup> zinc coating mass, combined total for both sides) and a 240 MPa yield strength. Available in various color-coated finishes.



**“Please consult Invogue for any non-standard thickness/, custom color specifications, or specific yield strength requirements these can be custom-manufactured upon demand.”**

## Technical Fixing Procedure

The cladding sheets must be securely fastened to the underlying purlins or girts using high-quality "Zylon-coated" hexa head self-drilling fasteners. To ensure a watertight seal, these fasteners must be equipped with integrated neoprene or EPDM rubber washers.

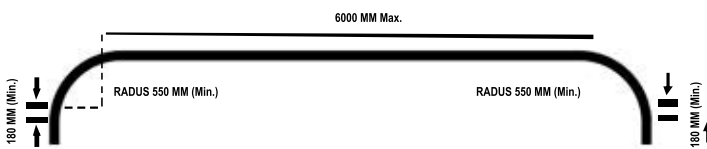
### For Roof Sheeting



### For Wall Cladding

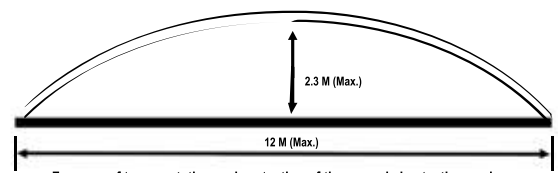


The Invodek<sup>®</sup> Hi-Rib sheet is also available in **Crimped Curved Shape**. It can be used to give building a unique aesthetic look.



When both ends are curved, the maximum recommended straight distance between the two curves should be 6000 mm

BRING NEW DESIGN TO BUILDING



For ease of transportation and protection of the curved sheets, the maximum height and length of the sheeting should be 2.3m and 12m respectively

REDUCTION OF MANY FLASHINGS/CAPPING

## FURTHER ROOFING

### Standing Seam

This system utilizes a portable electric seamer to create hermetically sealed panel joints. Secured via a proprietary clip arrangement, panels are factory-rolled up to 12m however, our on-site roll-forming capability extends continuous lengths to 100 m. This eliminates end laps from ridge to eaves, ensuring a seamless, leak-proof installation. This configuration is recommended for ultra-low pitch applications

It is a premium metal roofing system characterized by its "hidden" fastening design. Unlike traditional metal roofs where screws are visible on the surface, standing seam panels use raised vertical ribs that interlock. The fasteners are tucked away beneath these seams, protecting them from the elements and creating a sleek, continuous look.

### Key Features

- Concealed fasteners
- Superior weatherproofing
- Sleek modern aesthetics
- Extreme durability
- High energy efficiency



## PUF PANELS

PUF Panels represent resilient and high-efficiency solutions. They are engineered for diverse industrial applications. They serve commercial sectors, warehouses, cold storage, laboratories, telecommunication hubs, modular housing, ripening facilities, portable units, security kiosks, field offices, prefabricated amenities and modular structures. They are ideally suited for roofing and cladding requirements. PUF Panels provide numerous advantages including energy conservation, superior thermal resistance, high load-bearing capacity, longevity, weather-resistance, corrosion protection and impact durability. Furthermore, they facilitate rapid installation and versatile design configurations.

These Panels feature PUF core densities ranging from 38 Kg/m<sup>3</sup> to 44 Kg/m<sup>3</sup>, with the industry standard typically being 40kg/m<sup>3</sup>.

Substrates utilized on either side of PUF include PPGI/PPGL Stainless Steel, kraft Paper, and Foil. Clients possess the flexibility to specify configurations according to project demands. We offer complete customization per client requirements. The standard specification is PPGI/PPGL.



### **We supply a comprehensive range of panel thicknesses**

Roofing Panels- 30 mm, 40 mm, 50 mm, 60 mm, 80 mm, 100 mm, 120 mm, 150 mm.

Wall / Ceiling Panels- 40 mm, 50 mm, 60 mm, 80 mm, 100 mm, 120 mm, 150 mm.

**Standard PPGI Sheet Thicknesses:** 0.40 mm, 0.45 mm and 0.50 mm (Enhanced PUF density and increased gauge thickness are available upon request)

### **Common Applications**

**Cold Storage & Food Processing:** Essential for maintaining sub-zero temperatures and hygiene standards.

**Roofing & Wall Cladding:** Used as "Sandwich Panels" for industrial sheds to keep interiors cool in tropical climates.

**Guard Cabin:** Guard cabins are compact and durable units designed for 24/7 surveillance. These cabins provide a comfortable, weather-proof environment for security personnel and can be easily moved or installed at any entry point.

**Portable Cabins:** Used for site offices and security cabins due to their portability and weather resistance.



## **COLD ROOM & COLD STORAGE**

We specialize in the engineering of high-performance Cold Rooms and Cold Storage facilities utilizing advanced Polyurethane Foam (PUF) insulated panels. Engineered to withstand rigorous environmental conditions, our solutions leverage cutting-edge technology to serve a diverse range of sectors, including Hospitality, Pharmaceuticals, Healthcare, Retail, vegetables & Fruit, Dairy and Meat industries.

### **Benefits**

**Precision Engineering:** Ensures superior quality control through factory-manufactured panels featuring integrated Cam-lock and tongue-and-groove joining systems.

**Rapid Deployment:** Utilizes "dry construction" methodology, significantly reducing installation time and on-site labor requirements.

**Modular Scalability:** The pre-engineered design allows for seamless expansion or reconfiguration of layouts to meet evolving operational needs.

**Thermal Customization:** Offers versatile panel thicknesses to precisely match specific temperature gradients and storage requirements.

**Energy Efficiency:** Delivers exceptional thermal resistance (low-conductivity), resulting in optimized energy consumption and reduced operational overhead.



## **ACCESSORIES**

Enhance the structural integrity and aesthetic appeal of your building with our premium range of PEB accessories.



### **TURBO-VENTS**

Turbo vents operate on a simple principle of natural convection. As hot air inside the building rises, it gets trapped near the ceiling. The vent uses the natural wind outside to spin its vanes, creating a vacuum effect (centrifugal force) that "sucks" the hot, humid air and fumes out of the building.

Key Benefits: Low Maintenance, Weatherproof, stainless Steel or Aluminum making them rust-proof and lightweight.



### **ROOF MONITOR**

In terms of construction, the primary skeleton is made of built up or cold formed sections integrated into the main building rafters. For Roofing and Cladding we use color-coated Galvalume sheet or it can be customised as per customer requirement.



### **POLYCARBONATE SHEET**

Polycarbonate sheets are high-performance thermoplastic sheet used primarily for natural day-lighting. Made from a durable polymer resin, these sheets are incredibly lightweight yet nearly unbreakable. They are typically installed as "skylights" or wall claddings, featuring a profile that matches the corrugated sheets of the warehouse or factory. By allowing up to 90% of natural light to penetrate the structure, they drastically reduce energy costs and improve the working environment, while their built-in UV coatings protect the interior from harmful radiation.



### RIDGE VENTS

A ridge vent is a ventilation component installed at the highest point of PEB where the two roof slopes meet. These vents are typically manufactured from Galvalume or galvanized sheet to match the roof panels, ensuring durability and corrosion resistance. They are designed for ventilation purpose with bird screens to prevent pests from entering and specialized flashing to ensure the unit remains completely watertight.



### LOUVERS

Louvers are specialized window-like structures with fixed designed to provide natural ventilation and airflow while blocking out direct rain and sunlight. Most louvers are made from Polycarbonate and Galvalume sheet to match the wall cladding and resist corrosion.

### Single skin insulation

Single skin insulation in metal building means insulation used underneath the sheeting as underdeck insulation. Insulation is rolled over the purlins or girts and the sheeting are fixed to the secondary framing through the insulation. Only the vapour barrier is visible from inside the building.

Invogue's Insulated roofing and wall cladding are individually designed for each project and adopted to the specific requirements of the customer. Single or double skin insulated roof and wall cladding represent a major breakthrough in meeting the demand for a versatile high specification system. The cost efficiency achieved makes it viable proposition for all users who require higher insulation values in term of energy efficient roof and walls.



#### BUBBLE INSULATION

- Reflective Thermal Barrier
- Moisture Resistant
- Lightweight & Durable
- Ideal for: Roofs, Walls, Crawspaces



#### ROCKWOOL INSULATION

- Exceptional Fire Resistance
- Excellent Acoustic Performance
- Breathable & Water Repellent
- Ideal for: High-Temperature areas, Soundproofing



#### GLASSWOOL INSULATION

- Cost-Effective Insulation
- Lightweight & Compressible
- Good Thermal Resistance (R-value)
- Ideal for: Attics, Walls, Ceilings

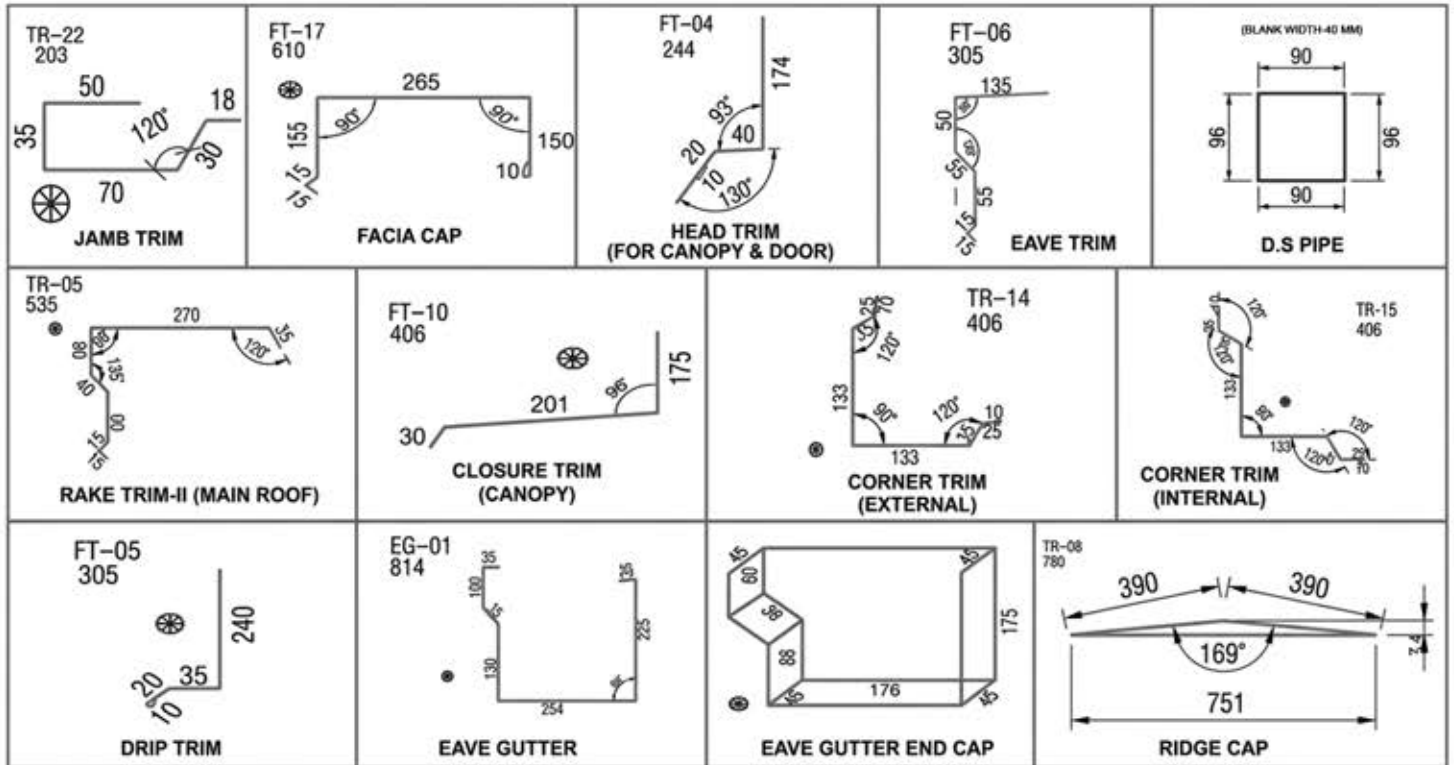


#### XLPE INSULATION

- High Water Vapor Resistance
- Excellent Thermal Insulation
- UV Resistant
- Ideal for: Pipe Insulation, Ductwork, Flooring

# STANDARD FLASHING & TRIMS

Standard flashing and trims in pre-engineered buildings (PEBs) are essential light-gauge metal components designed for weatherproofing and aesthetic finishing.



## **LIGHT GAUGE FRAMING SYSTEMS**

While structural steel is a staple in high-rise architecture, it has historically been viewed as cost-prohibitive for residential landed properties, where timber and masonry often dominate. However, Light Gauge Steel (LGS) is emerging as the gold standard for sustainable, modern construction. Utilizing a sophisticated cold-forming process, we manufacture high-tensile, lightweight steel profiles shielded by a zinc-alloy galvanized coating. This metallurgical barrier ensures absolute resistance to environmental corrosion, resulting in structures that offer superior seismic resilience, structural integrity, and long-term durability compared to traditional materials.

Our LGFS components are engineered through precision-driven software and automated machinery. Each member is meticulously punched, dimpled, and labeled for seamless "screw-together" onsite assembly. This modular approach integrates high-performance thermal insulation within the frame cavities, creating a multi-layered, energy-efficient building envelope that minimizes onsite labor and maximizes precision.

Invogue uses the best dry technologies, already tested and available in the market, to design modular buildings with standard components. The structural components of the floor, wall and roof are totally prefabricated by us as we are the experts.



### **Our Integrated Delivery Process**

- **Architectural Concept:** Translating your vision into functional, aesthetic blueprints.
- **Structural Steel Design:** Converting architectural plans into precise 3D steel framing models.
- **Automated Fabrication:** High-speed production of galvanized steel profiles at our specialized facility.
- **On-Site Assembly:** Rapid frame erection and floor joist installation.
- **Final Construction:** Comprehensive finishing and utility integration to deliver a turnkey solution.

## Key Components of the System

A typical LGFS structure is built using a few standardized shapes.

**C-Studs:** These are the vertical members used in walls. The "C" shape gives them immense vertical strength to carry the weight of the roof or floors above.

**U-Tracks:** These are horizontal channels that sit at the top and bottom of the wall. The C-studs fit into these tracks.

**Joists:** These are horizontal members used for floors and ceilings.

**Trusses:** Triangular frames made of steel sections that create the roof structure.

**Noggings & Bracing:** Small horizontal pieces or diagonal straps that prevent the studs from twisting or buckling under pressure.

## The Construction Process

Construction with LGFS is more like "assembling" than "building."

**Engineering Design:** Everything is designed in 3D software. Every screw hole and service duct (for plumbing/electric) is pre-calculated.

**Off-site Fabrication:** The steel sections are cut and punched in a factory by automatic machine.

**On-site Assembly:** The pieces arrive at the site, often pre-assembled into wall panels. Workers use self-drilling screws and bolts to join them. No welding is usually required.

**Enclosure:** Once the "skeleton" is up, it is covered with:

**Exterior:** Rigid insulation, vapor barriers, and cladding (Metal sheet or Fiber cement board).

**Interior:** Gypsum board (drywall).

## Invogue Light Buildings system has got un-matched advantages, few of them have been listed below for you reference-

- Time saving for construction.
- No pollution during construction.
- Insulation system reduces energy consumption and acts as sound barrier from outside.
- Earth Quake and wind resistance.
- Termite proof.
- Water Proof, Fire proof and moisture proof.
- Dismantling possibilities if required.
- Ultimate in zero maintenance construction.
- Stylish, contemporary and innovative design.
- Sustainable and environmentally friendly build.
- Can be legally classed as 'temporary' (depending on the model).
- All steel material is 100% recyclable.
- Less weight (yet very strong) than wood members
- Concrete results lighter foundations and less probability of damages in an earthquake.
- High strength results in safer structures, less maintenance and corrosion resistant.



"Our mission is to advance light steel framing systems modeled after global standards in the US, Europe, New Zealand and Australia. This technology is a cornerstone of modern construction in developed nations, favored for its distinct structural efficiencies and sustainable advantages."

## **Versatile Finish Options**

LGFS structures provide a perfectly plumb and level substrate, allowing for premium architectural finishes that outshine traditional brickwork.

### **Expanded Steel Building Process:**

The journey begins with an architectural conceptualization phase, followed by strong structural engineering of the steel frame. Once digitized, the automated fabrication produces exact components that allow for rapid onsite assembly and final structural integration, ensuring a streamlined transition from blueprint to a fully realized, precision-engineered habitat.

**Metal Roofings & Claddings:** High-grade architectural steel panels that offer superior weather resistance and a sleek, contemporary profile.

**Exterior Grade Cement Board:** A high-density, moisture-resistant substrate that provides a solid, masonry-like feel while remaining lightweight.

**Architectural Glazing & Wooden Panels:** We integrate expansive glass features for natural lighting and premium timber accents to provide organic warmth to the industrial strength of steel.

**Veneer Finishes:** Specialized thin-layer masonry or stone applications that provide a classic aesthetic without the structural weight of traditional brickwork.



### **Enhanced Exterior Finishes:**

We offer premium cladding solutions including high-durability metal roofing systems and weather-resistant cement boards. For modern aesthetics, we provide engineered metal claddings, sophisticated glazing systems, and resilient veneers, all designed to provide a high-performance, weather-tight shield that enhances the building's architectural character and thermal performance.

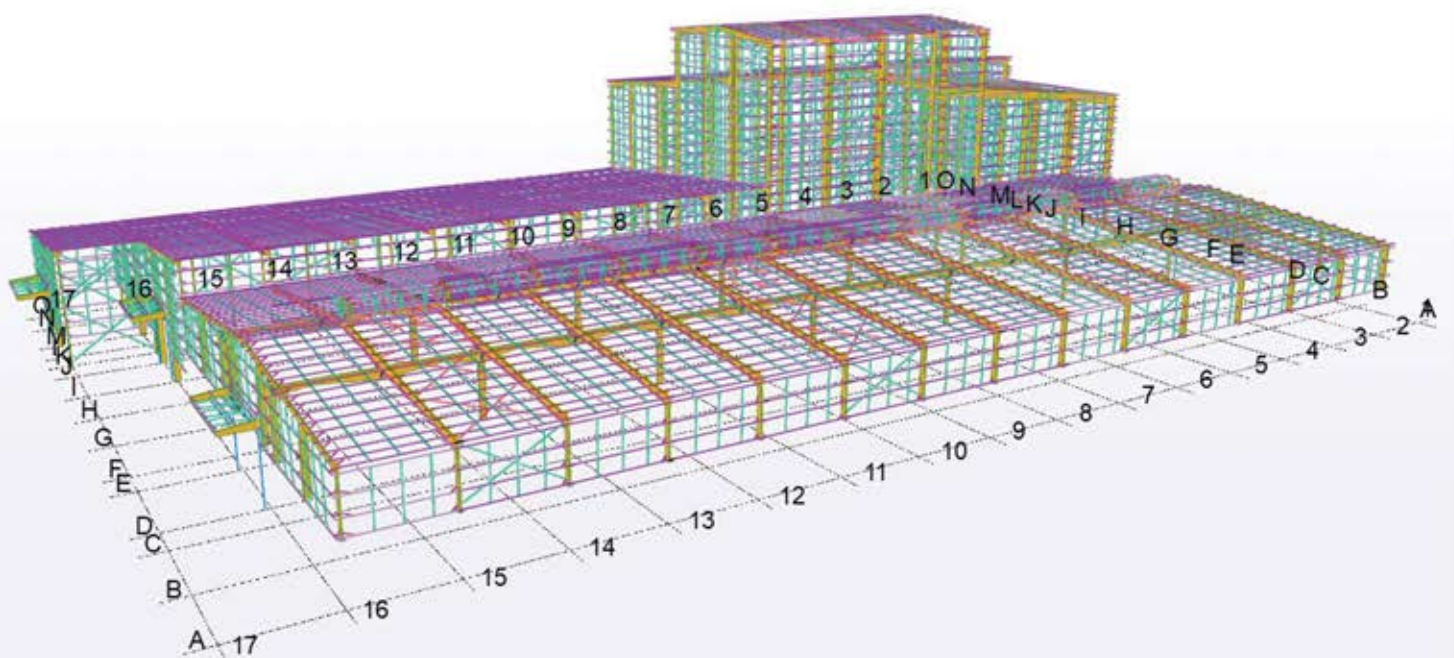
**Gypsum Board Systems:** Fire-rated wall panels that provide perfectly smooth surfaces for paint or wallpaper, allowing for flexible interior partitioning.

**Vitrified Tiles:** High-strength, low-porosity flooring solutions that offer a luxurious finish and extreme wear resistance.

**Advanced Ceiling Systems:** Options for metal or gypsum false ceilings that allow for integrated recessed lighting and concealed HVAC ducting.

**Ply Board & Veneer Paneling:** Premium wood-grain finishes that add texture and acoustic dampening to living spaces, creating a sophisticated interior environment.

## OUR PRESTIGIOUS CLIENTS





## HEAD OFFICE

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