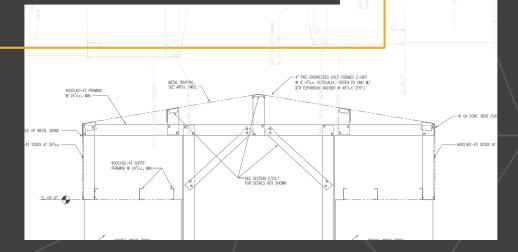


PRE-ENGINEERED BUILDINGS EXCELLENCE



COMPANY PROFILE

FORGING FUTURE WITH STEEL STRENGTH

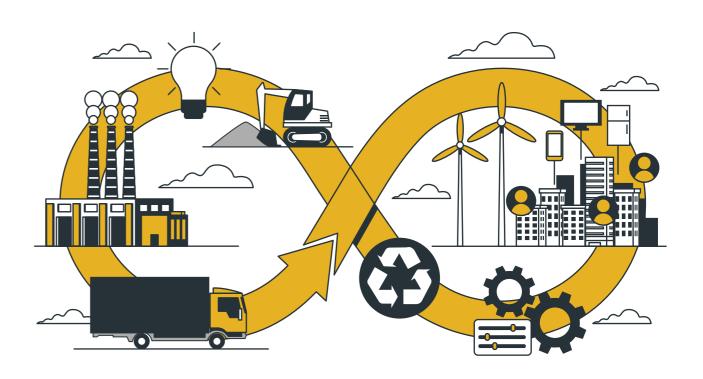
Pre-Engineered Steel Buildings pave the way for a greener future, harmonizing strength with eco-conscious construction practices.

Sustainable Pre-Engineered Steel Buildings contribute to a greener future through a combination of environmentally conscious design and construction practices. The use of sustainable materials, efficient energy systems, and innovative construction techniques minimizes the environmental impact while maintaining the strength and durability associated with steel structures. These buildings prioritize resource efficiency, reduce carbon footprints, and often incorporate recycled materials, aligning with a commitment to long-term environmental sustainability. By harmonizing strength with eco-conscious principles, sustainable steel buildings represent a forward-looking approach to construction that addresses both present and future environmental challenges.





STEELIS 100% RECYCLABLE



Steel, boasting 100 percent recyclability, stands as a beacon of sustainability in construction. This quality allows it to be melted down and repurposed without compromising its strength or quality. Embracing steel in construction not only ensures structural integrity but also aligns with responsible resource management, minimizing environmental impact and contributing to a circular economy.





MODULAR + PREFABRICATION DESIGNED + DEPLOYED

Know Indstaal05
Mission & Vision07
About PEB08
Technological Proficiency09
Design/Engineering/Product Developement17
Standard Frame Types19
Standard Cranes21
Mezzanine Systems22
Jack Beam22
Fascia System23
Trusses & Canopy24
Roofing And Wall Panel26
Secondary Members27
Bracing Systems28
Standard Trims29
Accessories30

www.**indstaal**.com



Welcome to INDSTAAL, where innovation meets reliability in the world of pre-engineered steel buildings. As a distinguished leader, we redefine the standards of excellence through a perfect amalgamation of cutting-edge technology, unparalleled craftsmanship, and a client-centric philosophy. At INDSTAAL, we pride ourselves on our world-class manufacturing facility in Ahmedabad with the capacity of 42,000 MTS per year.

At the core of INDSTAAL are our values - integrity, innovation, and customer satisfaction. These principles guide every decision we make and underpin our commitment to delivering not just buildings but sustainable solutions that stand the test of time.

Innovation is more than a buzzword for us; it's a way of life. We invest in the latest technologies and methodologies, constantly pushing the boundaries of what's possible in the preengineered steel building industry. Our forward-thinking approach ensures that our clients receive solutions that are not only state-of-the-art but also future-proof.

Craftsmanship is an art, and we take pride in our meticulous approach to every project. Our skilled team, comprising engineers, architects, and craftsmen, ensures that each steel component is not just a building block but a testament to precision and excellence.

We thrive on challenges and believe in the constant pursuit of improvement. Each project is an opportunity to learn, adapt, and refine our processes, ensuring that we stay at the forefront of the industry.

At INDSTAAL Pre-Engineered Buildings (PEBs) redefine efficiency and versatility across sectors. INDSTAAL specializes in customized PEB solutions for industries, offering tailored warehouses and manufacturing facilities. In the commercial realm, our PEBs grace offices and retail spaces. Agriculture benefits from INDSTAAL with bespoke barns and storage. We contribute to infrastructure, transportation, education, sports, healthcare, residential, and energy sectors. INDSTAAL's adaptability, swift construction, and cost-effectiveness make us the preferred choice for a spectrum of applications.

Our Pre-engineered buildings are suitable for both, industrial as well as commercial operations such as:

- Warehousing and Logistics
- Industrial Facilities
- Commercial Buildings
- Educational Institutions

- Sports Complexes
- Healthcare Facilities
- Aviation and Transportation
- Recreation and Entertainment



OUR MISSION

At INDSTAAL, our mission is to lead the construction industry with a commitment to innovation, excellence, and client satisfaction. We strive to deliver cutting-edge, customized solutions that not only meet but exceed the expectations of our clients. Our mission is driven by a relentless pursuit of quality, technological advancement, and sustainable practices.



OUR VISION

At INDSTAAL, our vision is to be a global leader in the construction industry, recognized for innovation, sustainability, and unparalleled excellence. We aspire to shape the future of construction by pushing the boundaries of technology and design. Our vision includes fostering enduring partnerships, creating iconic structures, and setting new benchmarks for quality and efficiency. INDSTAAL envisions a world where our construction solutions contribute significantly to the growth and success of our clients while championing environmental responsibility and making a positive impact on communities worldwide.



important responsibilities in the operation of this organization. We firmly believe that production and safety go hand in hand and that a safe working environment leads to improve production. At this time, a renewed effort must be placed on safety by every employee at this facility.



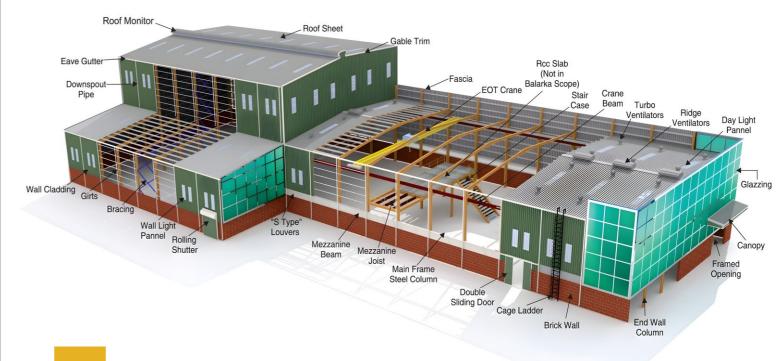
QUALITY POLICY

We at INDSTAAL are committed to maximizing customer satisfaction and shall try to achieve the goal of excellence by continual improvement through & on-going development of manufacturing and sale of reliable, safe, cost-effective products and services conforming to customer's national & international specification by using environmentally friendly technologies for improving level of efficiency, productivity & quality management system



ABOUT PRE-ENGINEERED STEEL BUILDINGS

Pre-engineered steel buildings (PEB) are structures manufactured off-site and assembled on-site, utilizing standardized components. They offer cost-effective, time-efficient solutions for various applications, such as warehouses, factories, and commercial spaces, due to their design flexibility and durability. PEBs are characterized by their steel framing systems, which contribute to quick construction, energy efficiency, and long-term structural reliability.



KEY ADVANTAGES OF PEB

Cost-Efficiency

Pre-engineered steel buildings (PEBs) are cost-effective with standardized components, efficient manufacturing, and swift construction. Steel minimizes waste, leading to notable lower project costs compared to traditional methods.

Design Flexibility

PEBs offer design flexibility with steel framing, allowing wide spans and open interiors without interior columns, accommodating diverse architectural designs and specific project needs.

Quick Construction:

PEBs offer quick construction by prefabricating most components off-site, ensuring fast on-site assembly. This speeds up project timelines, allows for quicker occupancy, and can lead to cost savings in labor and financing.

Structural Integrity

Steel in PEBs offers strength, durability, and resilience to weather, seismic forces, ensuring lasting integrity and lower maintenance costs.

Energy Efficiency

PEBs feature energy-efficient design with insulation and reflective roofing, reducing heating and cooling energy use for sustainability and long-term cost savings.

Environmental Sustainability

PEBs are eco-friendly with recyclable steel and minimized construction waste. Their energy-efficient design lowers energy consumption over the building's life cycle.

Low Maintenance

Steel's durability reduces maintenance for PEBs, requiring less upkeep than traditional materials. This leads to lower costs and increased operational efficiency.

Adaptability for Expansion

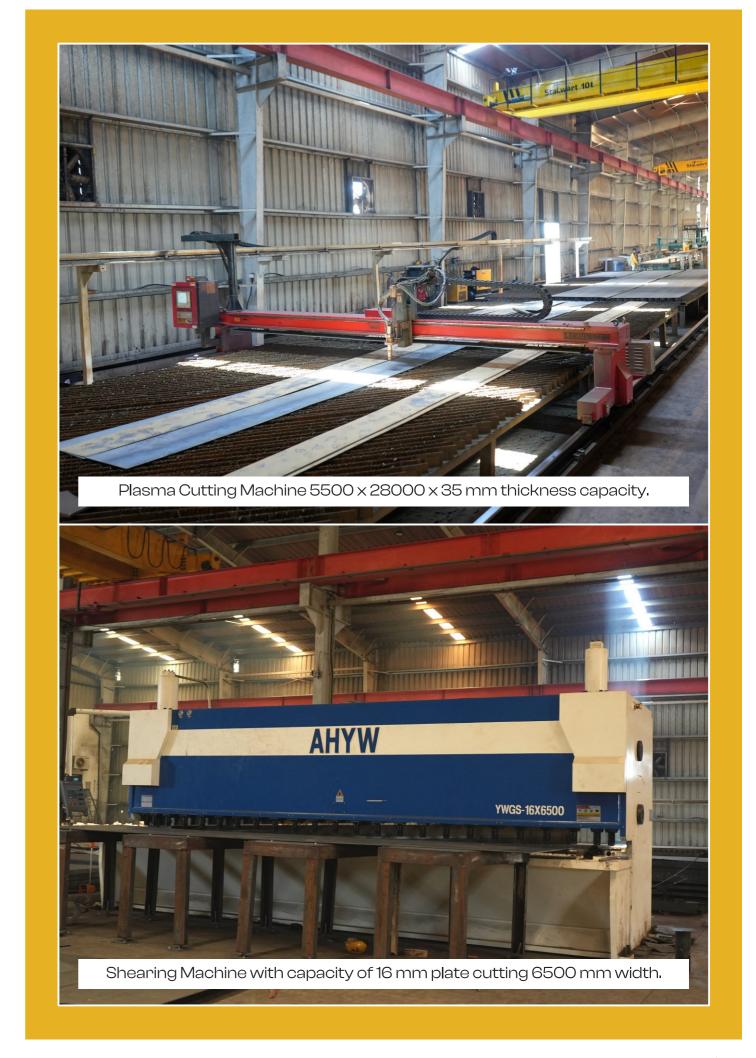
PEB structures easily expand for future changes. The modular components seamlessly integrate new sections, adapting to evolving business needs.

TECHNOLOGICAL PROFICIENCY

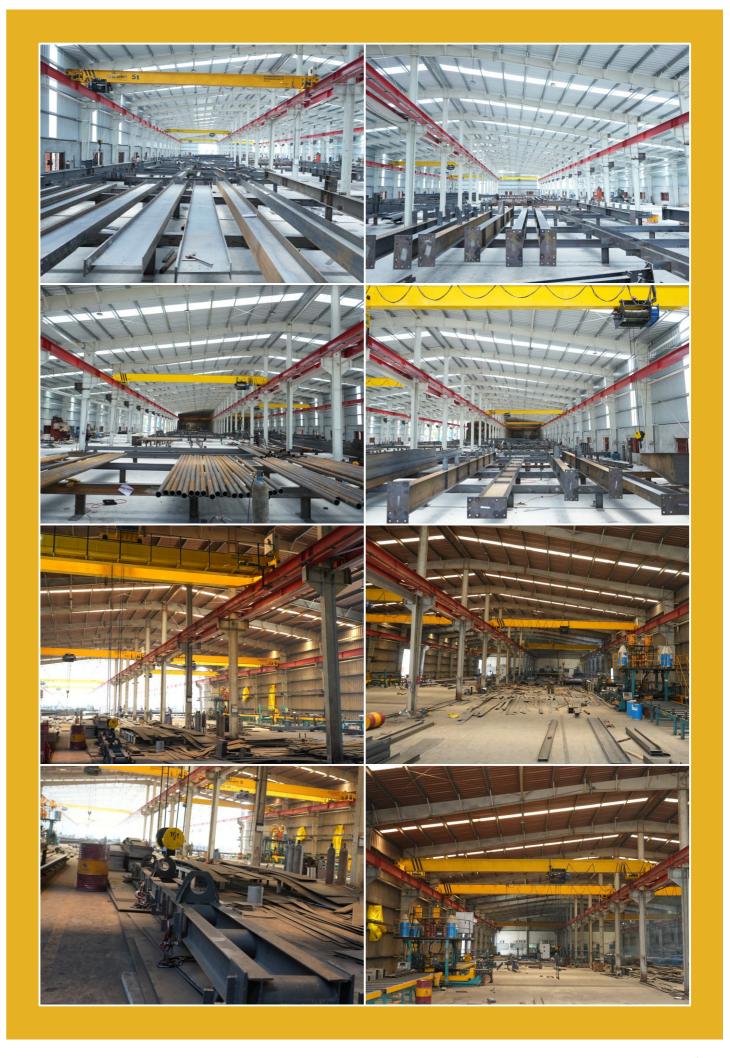
INDSTAAL manufacturing facility is outfitted with cutting-edge machinery, including the following state-of-the-art equipment.

- Oxy-Fuel plasma cutting machine
- Shearing Machine
- H-Beam Welding line
- Manual MIG Welding Machine
- Arc Welding Machine
- Magnetic Broch Cutter
- Radial Drill Machine
- Anchor Bolt Bender
- Grinder Machines (7",5", 4")
- Overhead Cranes
- Hydra Crane

- Shot Blasting Machine
- Painting Facility
- Air less Spray Gun
- Z-Purlin forming machine
- C-Purlin forming machine
- Roll Forming Machinery
- Standing seam forming and seaming machines
- Crimping Machine
- Power Press
- Down take machine
- Sheeting Accessories















DESIGN/ENGINEERING PRODUCT DEVELOPEMENT

Welcome to our 'Knowledge Hub' at INDSTAAL – a cutting-edge design and engineering office staffed by a team of experienced professionals. Equipped with advanced design software, including Staad-Pro, MBS BOCAD, and STRUCAD, we provide swift, precise, and cost-effective solutions. Our expertise covers intelligent engineering support for pre and post-order functions, offering fabrication and erection drawings. INDSTAAL adheres to global design codes like AISC, MBMA, AWS, and others, ensuring top-notch pre-engineered buildings worldwide. Our commitment to research and development positions us as leaders, consistently introducing innovative ideas and products to the market

DEFINITION

The building comprises columns, rafters, bracing, connection clips, roof purlins, wall girts, roof, and wall sheeting, anchor bolts, flashing, trims, etc.

The main structure consists of single or multiple gable interior rigid frames with rigid or 'post-and-beam' frames at the endwalls.

Standard roof slopes: 0.5 or 1.0 vertical rise to 10 horizontal run, with custom slopes available.

Sidewall steel line is the inside vertical surface of sidewall sheeting.

Endwall steel line is the inside vertical surface of endwall sheeting.

Building width is the distance between steel lines of opposite sidewalls, excluding Lean-Tobuildings.

Building length is the distance between steel lines of opposite endwalls, excluding endwall Lean-Tobuildings.

End bay length is from the outer flange of endwall columns to the center line of the first interior frame.

Interior bay length is between the center lines of two adjacent interior rigid frame columns.

Building eave height is from finished floor level to the top of the eave strut at the sidewalls steel line. Building clear height is from finished floor level to the bottom of the end plate of the rafterattheknee."

STANDARD STRUCTUREAL FRAMING SYSTEM

CSBuildings:

Clear Span buildings have a gable roof with vertical sidewalls and endwalls. Interior bay frames are clear span rigid frames without interior columns.

MSBuildings:

Multi-Span buildings have a gable roof with vertical sidewalls and endwalls. Interior bay frames are rigid frames, typically with tapered exterior columns, tapered rafters, and square tube or built-up interior columns.

SVBuildings:

Space Saver buildings have a gable roof with vertical sidewalls and endwalls. Interior bay frames are clear span rigid frames having constant depth columns and tapered rafters, typically with horizontal bottom flanges.

LTBuildings:

Lean-To buildings consist of outer sidewall columns and simple span rafters attached to

the sidewall columns or the endwall posts of the main building. Lean-To columns are of constant depth. Lean-To rafters may be tapered or of constant depth.

MGBuildings:

Multi-Gable buildings have a roof with two or more gables and vertical sidewalls and endwalls. Interior bay frames are rigid frames typically having tapered exterior columns, tapered rafters, and built-up interior columns.

STANDARD FRAMING FEATURES

MainFrames:

Typically constructed with tapered or constant depth columns and rafters.

Rigid Frame Spacing:

For Clear Span (CS) and Multi-Span (MS) buildings, rigid frames are commonly spaced 6000 mm to 10000 mm, center line to center line,

Outside Flanges:

Outside flanges of CS and MS rigid frame columns are inset 200/250 mm from the sidewall steel line for by-pass girts. SV rigid frame columns have outside flanges flush with the sidewalls steel line.

TopFlanges:

Top flanges of all rigid frame rafters are positioned 200/250 mm below the bottom of the roof sheeting.

EndFrames:

End frames are "post-and-beam" (P&B) load-bearing frames. Endwall girts are flush-framed into the webs of endwall posts. Optional rigid frames may be used at building ends.

EndwallPostSpacing:

Endwall posts are typically spaced at 6000 mm. Other spacing may be used based on building width and endwall openings. When not divisible by 6000 mm, interior spacing of endwall posts is typically maintained at 6000 mm with two equal end spacings smaller or larger.

Sidewall Girts:

For CS and MS buildings, sidewall girts are bypassed to the outer flanges of exterior columns and lapped at interior frames. For SV and LT buildings, sidewall girts are flushframed, aligning with the outer flange of exterior columns.

Bottom Flanges of Roof Purlins:

Attached to the outer (top) flanges of rafters. Purlins are lapped at all interior frames in all structural framing systems.

BUILDING COMPONENTS

Frames:

Columns and rafters of rigid frames are tapered built-up "I" sections, with interior columns of multi-span frames potentially being square tube sections.

Connections:

All rigid frame connections are bolted, with welded end plates for anchoring and member-to-member attachment. Pre-punched holes or welded clips are provided for various components.

EndFrames:

Load-bearing "post-and-beam" (P&B) end frames can be constructed from cold-formed channels, hot rolled sections, or built-upwelded plate sections.

Purlins and Girts:

Pre-punched cold-formed "Z" shaped sections, 200/250 mm in depth with stiffened flanges.

www.indstaal.com www.indstaal.com 17 / 18

EaveStruts:

Pre-punched cold-formed "Z" shaped sections, 200/250 mm in depth with 65/75 mm stiffened flanges. Serves as a structural bracing member and transition point for walls&roofsheeting.

Panels:

Roll-formed to a maximum practical length (generally 12000 mm) to minimize field end laps.

Roof and Walls Panel:

Profile "S," a roll-formed panel with 4 major high ribs and 12 minor ribs, covering a width of 1000 mm. The lapped major rib has a siphon break, and the panel has an extended bearing leg for stiffening during installation.

RoofPanelEndLap:

Minimum end lap of 125 mm over purlins, fully protected from siphon action by an end lapmastic.

WallPanelLapping:

Same side lapping as roof panels, with an end lap of 125 mm over the girts. Generally, no side or end lap mastic is required.

All welds are designed in accordance with the American Welding Society (AWS): "Structural Welding Code-Steel".

Loads are applied in accordance with the requirements of the Metal Building Manufacturers Association (MBMA) of the USA: "Low Rise Building Systems Manual/IS-

Other codes can be accommodated if specified.

OADS

The building is designed to withstand the dead load (DL) of the structure plus a specifiedliveload(LL) and windload (WL),

Auxiliary (Collateral) loads, if any, must be specified by the customer at the time of request for quotation.

When snow load is of concern, the customer will specify the snow load where applicable, in accordance with local codes. Load combinations shall be in accordance with the requirements of the "Low Rise Building Systems Manual" published by MBMA or as per IS Code.

Other loads and load combinations can be accommodated and must be specified at the time of request for quotation.

DESIGN

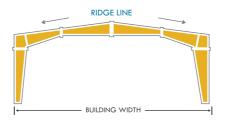
CODES

Frame members (hot rolled or built-up) are designed in accordance with the American Institute of Steel Construction (AISC): Manual of Steel Construction, Allowable Stress Design/IS Codes.

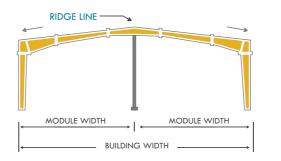
Cold-formed members are designed in accordance with the American Iron and Steel Institute (AISI): "Cold- formed Steel Design Manual."



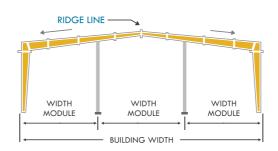
Tapered Column Clear Span (TCCS)



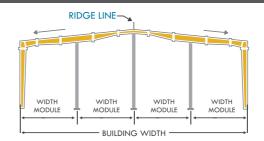
Multi Span I



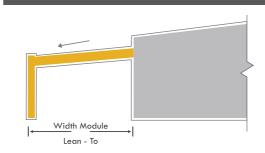
Multi Span II



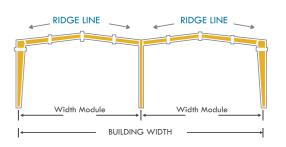
Multi Span III



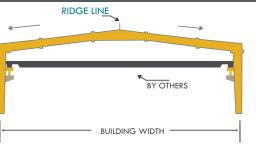
Lean-To



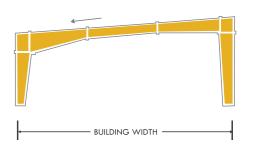
Multi Gable (MG) I/II



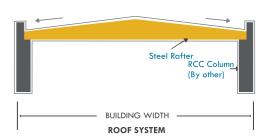
Clear Span with Crane



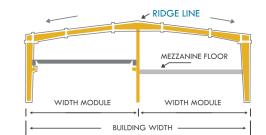
Mono Slope



Rafter System



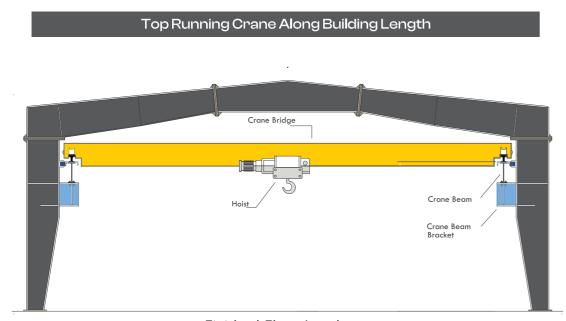
Multi Span I with Crane & Mezzanine



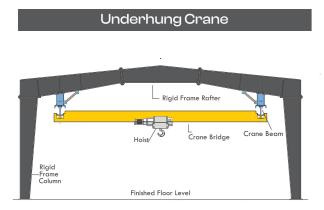
STANDARD CRANES

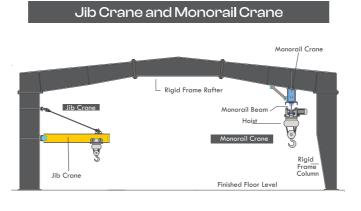
INDSTAAL pre-engineered buildings offer versatile design compatibility with various crane systems, including EOT, Monorail, Under-hung cranes, and other load-carrying devices like conveyors. This applies to both clear-span and multi-span buildings. When integrating a crane system, INDSTAAL's scope includes providing brackets and crane runway beams to support the crane system. For accurate design and estimation of buildings with cranes, comprehensive information about the crane system is essential.

Common crane systems for Pre-Engineered Steel Buildings include:



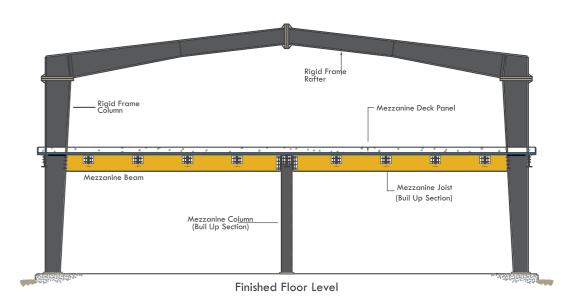
Finished Floor Level





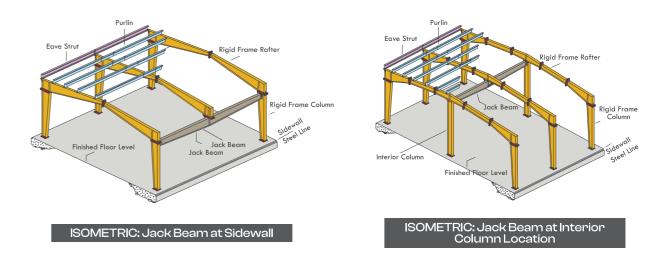
MEZZANINE SYSTEMS

Metal buildings allow for intermediate mezzanine floors, offering flexibility for office and storage needs. Mezzanine floors, whether complete or partial, are tailored to specific loading requirements. These floors incorporate steel decks supported by joists, precisely framed to mezzanine beams. Main mezzanine beams span the building's width and are positioned beneath the main rafters, while joists run parallel to the building's length, with their top flange fitting precisely below the mezzanine beam's top flange.



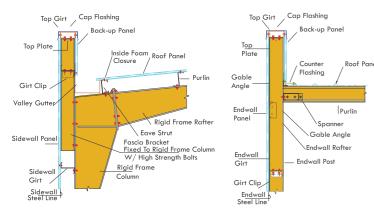
JACK BEAM

Jack Beams offer an economical and secure solution for achieving extended bay lengths in metal buildings, providing ample unimpeded space. By employing jack beams, common bay lengths (5, 6, 7, 8, 9, & 10) can be effectively doubled, creating clear bay lengths of 12, 15, 16, 18, and 20 meters in areas requiring expansive unstructured space. For instance, if a customer requests 10-meter bay lengths instead of the more economical 8-meter option, jack beams are strategically used inside the building to accommodate this preference. Additionally, jack beams can be applied on exterior walls in a similar manner to achieve desired bay lengths.



FASCIA SYSTEM

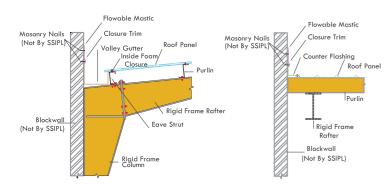
Flush Fascias with Eave Gutter



Typical Sidewall Section for Flush Fascia

Typical Endwall Section for Flush Fascia

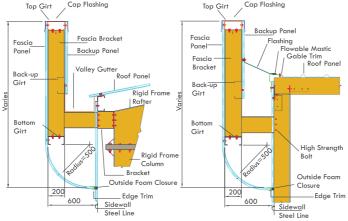
Flushed Fascia or Parapet Fascia



Typical Sidewall Section Flushed Fascia with Box Gutter

Typical Endwall Section Flushed Fascia with Box Gutter

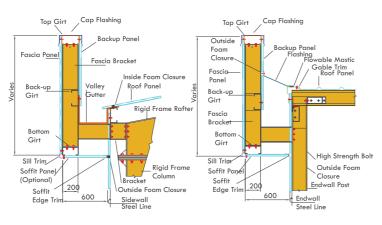
Section: Bottom Curved Fascia with Valley Gutter



Typical Sidewall Section

Typical Endwall Section

Section: Vertical Fascia with Valley Gutter. Back Panel & Soffit



Typical Sidewall Section

Typical Endwall Section

TRUSSES

The INDSTAAL Truss System stands out as a highly popular and cost-effective solution, especially well-suited for large span roof systems, multiple bay buildings, and mezzanine floor framing. This rigid structure allows significant reductions in building heights, accommodating service pipes/ducts through the trusses. The system's design individually tailors to each building's unique requirements, ensuring efficient fabrication with high-quality fixtures. Ease of erection is a key feature, with all connections being field-bolted, eliminating the need for site welding except for field splices on very large spans. Additionally, the system contributes to reduced foundation costs by requiring fewer columns to support larger spans.

Roof Truss Types









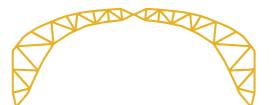












CANOPY

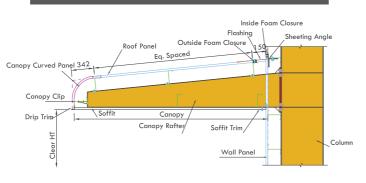
Wall canopies over doors and windows at sidewall or end wall are available. Sidewall canopies are supplied without soffit panel and end wall roof extension canopies are supplied with INDSTAAL soffit panel unless noted otherwise.

End wall roof extension canopies are not to be supplied with soffit panel if the building remains open all around. Canopy brace angle should be supplied for bay spacings over 7000 mmoras required.

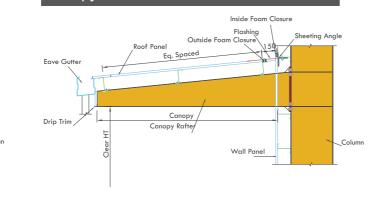
Isometric: Curved Eaves See Section For Details

Canopy with Curved Eaves without Soffit

Canopy with Curved Eaves with Bottom Soffit





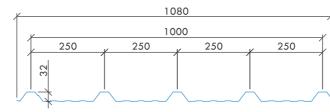


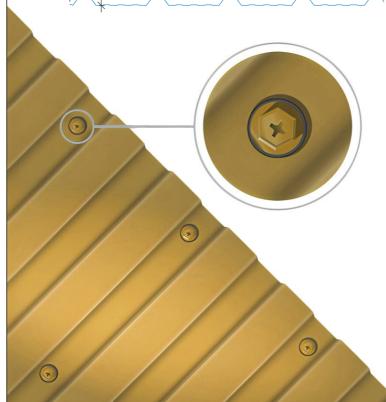


ROOFING AND WALL PANEL

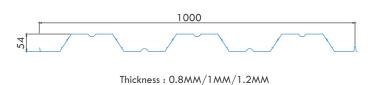
Metal panels are key features in Metal Building Systems, enhancing the appeal of Metal Buildings. These panels, used for roofing, walling, liners, partitions, fascia, and soffits, are versatile. INDSTAAL's roof systems can serve as single-skin cladding or integrate with insulated systems for optimal thermal and acoustic performance. They also combine with other cladding for Sandwich Panel Systems, INDSTAAL offers diverse solutions for structural and architectural applications, from industrial projects to commercial spaces and homes. Panels come in Galvalume or Galvanized steel with premium color coatings. Custom accessories like flashings and trims are provided to match the panels.

HI-RIB Sheet Profile

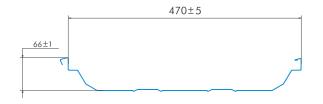




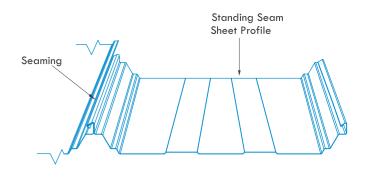
DECK Sheet Profile



Standing Seam Sheet Profile



Standing Seam Sheet Profile with Seaming



Color Shades





Sky Blue Taurus Blue





Mist Green

Off White





Bare Galvalume

SECONDARY MEMBERS

Secondary structural framing refers to purlins, girts, eave struts, wind bracing, flange bracing, base angles, clips and other miscellaneous structural parts.

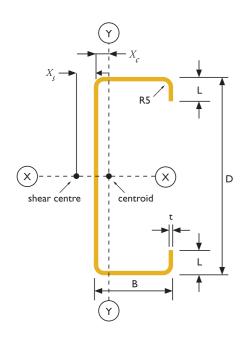
Purlins, girts and eave struts are cold form steel members which have a minimum yield strength of 345 MPa (50,000 psi) and will conform to the physical specifications of ASTM A1011(Grade 50) or ASTMA-653(Grade 50).

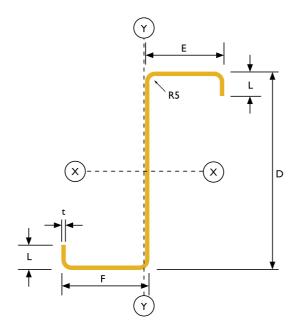
C-Section

Purlin & Grits

C Sections are 120 to 300 mm deep with the thickness range of 1.5 mm to 3 mm.

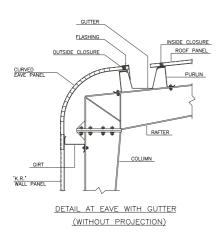
C Sections are 120 to 300 mm deep with the thickness range of 1.5mm to 3mm.

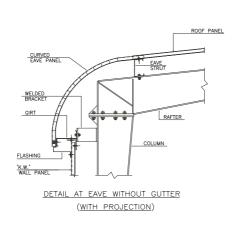




Curved Eaves

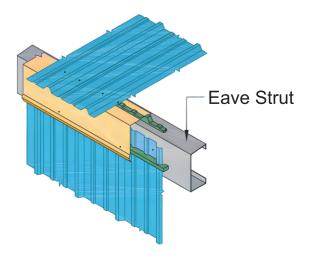
Curve Eaves can transform the look of any building. Curved canopies and walkways provide an inviting entryway into commercial establishments. Curved eaves eliminate seam lines and provide a smooth line for the eye to follow. Our crimping-curving process increases the rigidity of the Curved panels making this choice of panels not only visually appealing but also practically durable.





Eave Strut

Eave Struts are 120 to 300 mm deep with the thickness range of 1.5mm to 3mm. Structural members are located along the side wall; at the intersection of the planes of the roof and wall. It is constructed with cold formed "C" Sections and is rolled to suit the roof slope. This member transmits longitudinal wind force on the end walls from roof brace rods to wall brace rods.



BRACING SYSTEMS

Cable Bracing

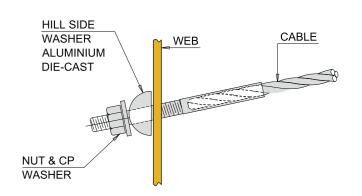
This member is designed to ensure the stability of the building against forces in the longitudinal and lateral direction due to wind, cranes, and earthquakes. It is made of a cable which is forged into a rod terminal and this arrangement is then fixed on a structure using a hill side washer, nut washer and anut.



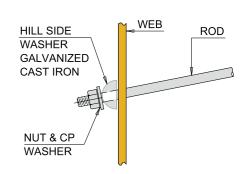
Rod bracing shall have a minimum yield strength of 250MPa (36,000 psi) and will conform to the physical specifications of ASTMA-36 or equivalent.

Angle Bracing

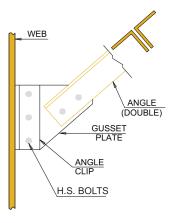
Angle Bracings are used to withstand the actions of longitudinal forces (tension only). These angles shall have minimum yield of 250 Mpa (36,000 psi) or 345 Mpa (50,000



Cable And Connection

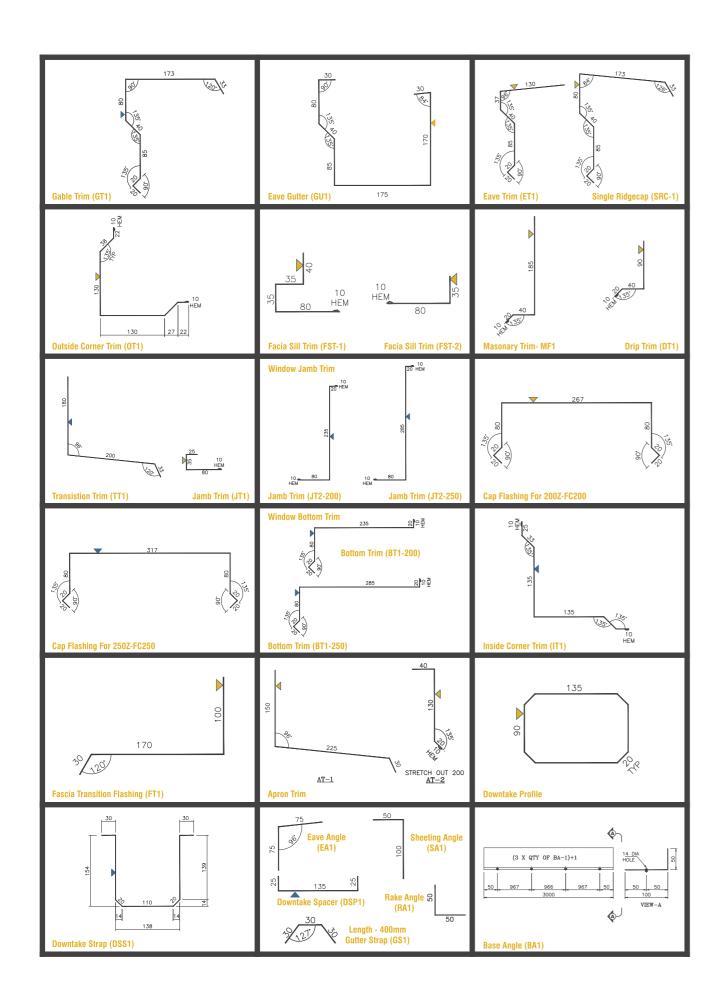


Brace Rod Connection

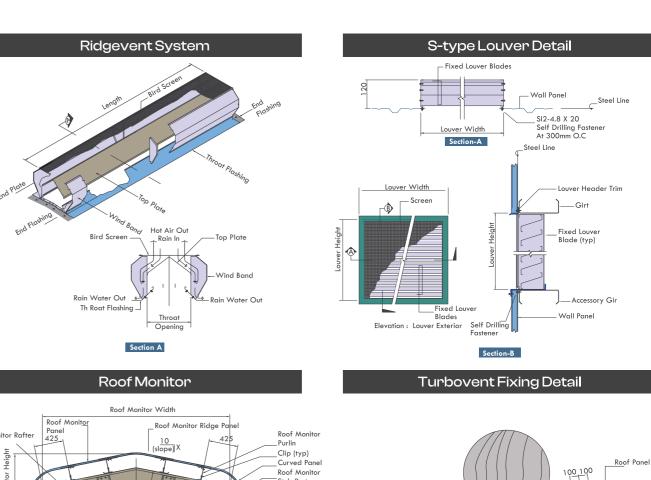


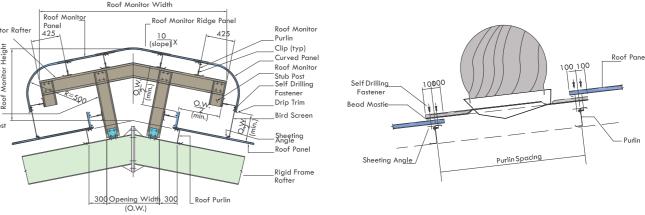
Angle Brace Connection

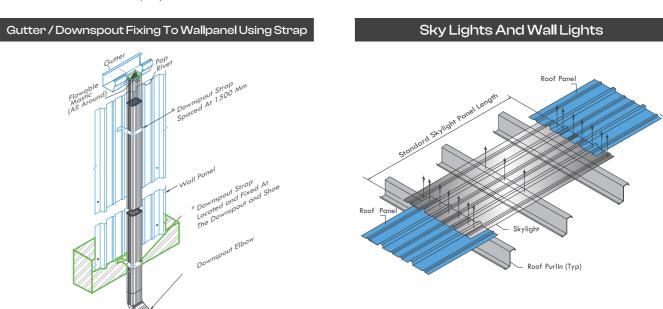
STANDARD TRIMS





















Project Name

NEOSEAL ADHESIVE PVT. LTD.

Project Area 120152 SQ. FT.

Structure Use
MANUFACTURING UNIT

Location BARODA



Project Name

NEOSEAL ADHESIVE PVT. LTD. (UNIT 2)

Project Area 24218 SQ. FT. Structure Use
MANUFACTURING UNIT

LocationBARODA



Project Name

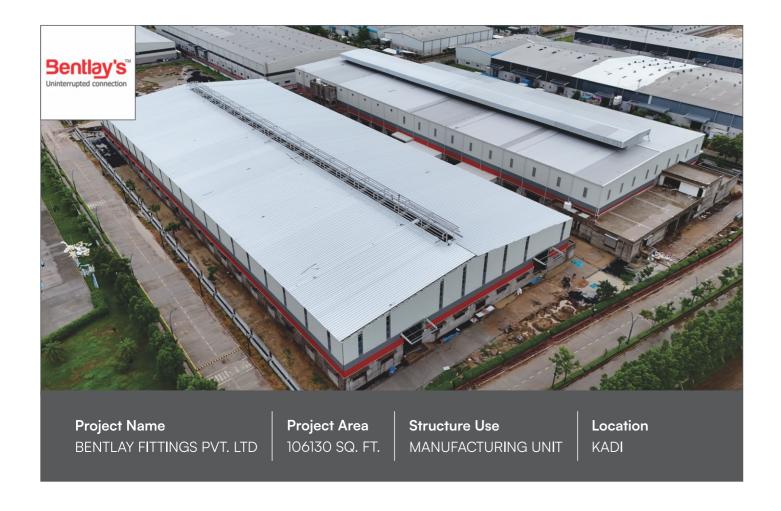
NEOSEAL ADHESIVE PVT. LTD. (UNIT 3)

Project Area 10763 SQ.FT.

Structure Use
MANUFACTURING UNIT

LocationBARODA











OUR ESTEEMED CUSTOMERS



















































































Embracing past achievements with many more to come....



info@indstaal.com | www.indstaal.com +918181006644,+919408006644

INDSTAAL A Brand of PRESTEEL LLP

Corporate Office

401-402, Shilp satved, B/s Sindhu Bhavan Bodakdev, Ahamadabad 380054, Gujarat

Delhi Office

B-1401, Sector 62, Gurgaon , 122101

Chandigarh Office

602 Kamdhenu Homz, Dhakoli, Zirakpur, Punjab

Factory

536, Pali, Near Sachana, Ahmedabad