



# STAR UNIVERSAL

*Innovation Integrity Performance*  
*Pre Engineered Building Systems*

- PEB Structural
- Commercial Buildings
- Industrial Buildings
- Institutional Buildings
- Warehouse & Cold Storage Buildings
- Garment & Textile Factories
- Auditorium
- Multi-Storey Building - Mezzanine
- Office & Labour Sheds ( G + 1 & 2 )
- High-Rise Structural Buildings

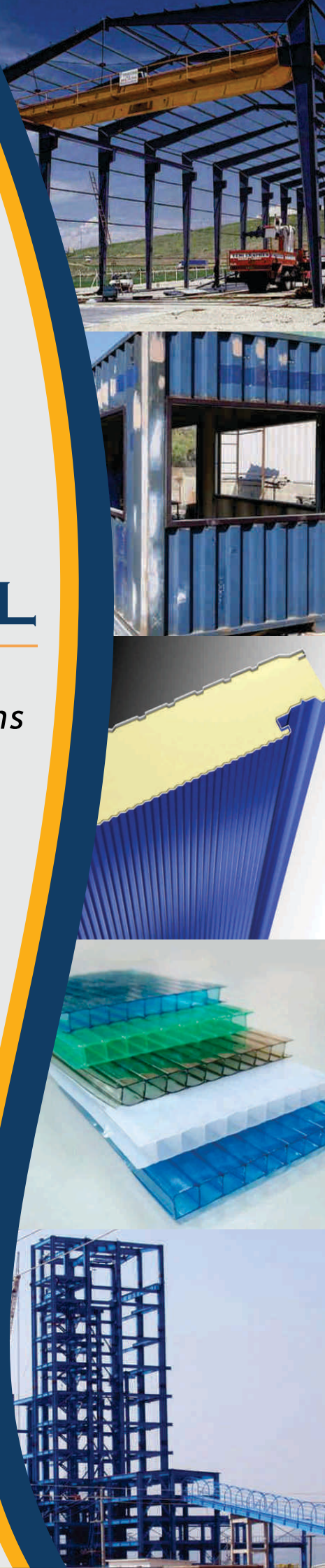


No. 86E, Mambakkam Main Road, Noothancheri, Chennai - 600 126.  
☎ +91-98843 70056 ✉ staruniversal4@gmail.com  
🌐 www.staruniversal.net



# STAR UNIVERSAL

*Innovation Integrity Performance*  
*Pre Engineered Building Systems*



## ABOUT US

Launched in 2009 by **G. Vinod Kumar**, **STAR UNIVERSAL** is a forward-looking company that has been actualised by a strong management and fully motivated team of professionals who excel in their line of activity. Their individual strengths and varied skills have greatly benefited the company in strategically structuring its way globally. The team has been carefully chosen to outperform in all quarters.

International expertise, understanding of complex structures, profound knowledge of designing pre-engineered steel buildings that are manufactured to the highest quality standard.

**STAR UNIVERSAL'S** engineering department is energised with an enviable pool of talent.

Once the contract is signed, **STAR UNIVERSAL** gets into a consultative working relationship and patterns the client at every step to reach the desired design solutions. The company also maintains a robust reputation for delivering customer - designed and cost - effective solutions to meet exact requirements by providing top class service to our customers.

## VISION AND MISSION

The vision of our company is to achieve top notch international standards in terms of quality and production. In all its operations, it is dedicated to uphold the ethics of safety, conformity to specification and preservation of the environment.

Our mission is to achieve the pinnacle in products and customer satisfaction by implementing innovation and effective engineering. We will aim to attain and retain the best talent in our industry.

## DESIGN CODES AND IDEOLOGY USED IN PEB CONSTRUCTION

American Institute of Steel Construction (AISC)

– Steel Construction Manual :13th Edition

American Iron and Steel Institute (AISI)

– Cold Formed Steel Design Manual : 1996 Edition

American Welding Society (AWS)

– Structural Welding Code : Steel AWS D1.1/D1.1M :2008 Edition

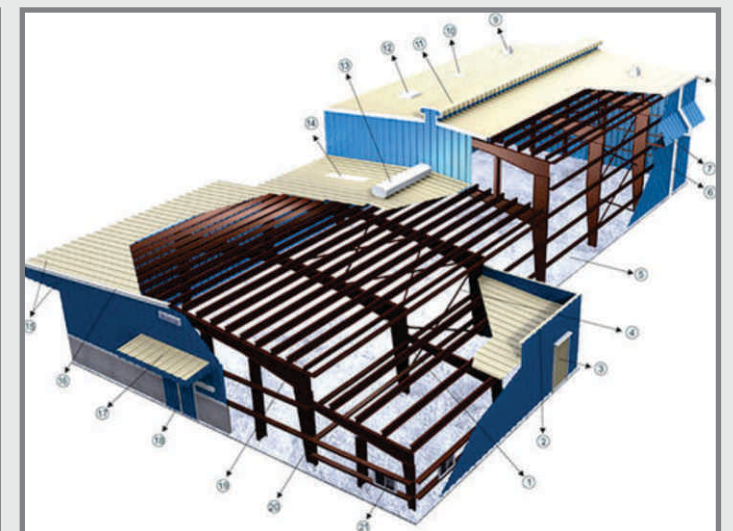
Metal Buildings Manufacturers Association

–Metal Building system manual (MBMA) : 2006 Edition

**STAR UNIVERSAL** Always a leader in technology and performance, our steel building product systems provide exceptional design flexibility, economy and the long term value you expect from your metal building keeping in mind both Indian and International design codes.

We offer our customers the most innovative, versatile, energy-efficient and cost-effective building solutions in the market today. Browse our project gallery and see how our custom steel buildings can work for you.

Softwares: TEKLA STRUCTURES, STAAD PRO AND AUTOCAD



 GOKUL AUTOTECH, ORAGADAM



 GOKUL AUTOTECH, ORAGADAM







## PRE ENGINEERED BUILDINGS

Pre-Engineered Buildings (PEBs) are the latest trend in India. A PEB is a metal building that consists of light gauge metal roof panels on steel purlins spanning between rigid frames with light gauge metal wall cladding. They drastically reduce construction time. Maintenance is also extremely low. PEBs have gained a global reputation for durability, water and earthquake resistance. PEBs are tremendously versatile - they are easy to set-up, expand, modify, and transport to different locations.

### Benefits:

As estimated 20-30% can be saved on cost, as compared to conventional building methods. PEBs can be delivered to site in just 5 to 8 weeks - conventional steel structures take as much as 20 to 25 weeks to complete. The unique techniques employed during fabrication help to save 30% lighter than regular steel designs. No welding or fabrication is required at the construction site: in greater speed and efficiency.

### Advantages:

- Low maintenance
- Very economical
- High Quality
- Quick delivery with express installation
- Easy to expand
- Wide spans and high eave heights
- Single source responsibility
- Design and architectural flexibility
- Fast quotation along with proposal renderings
- Water and earthquake resistant
- Energy efficient
- Environmentally friendly

### Typical Pre-Engineered Building:

Our Pre-engineered structures are made of Primary and secondary Framing Systems.

### Building Primary Framing Systems:

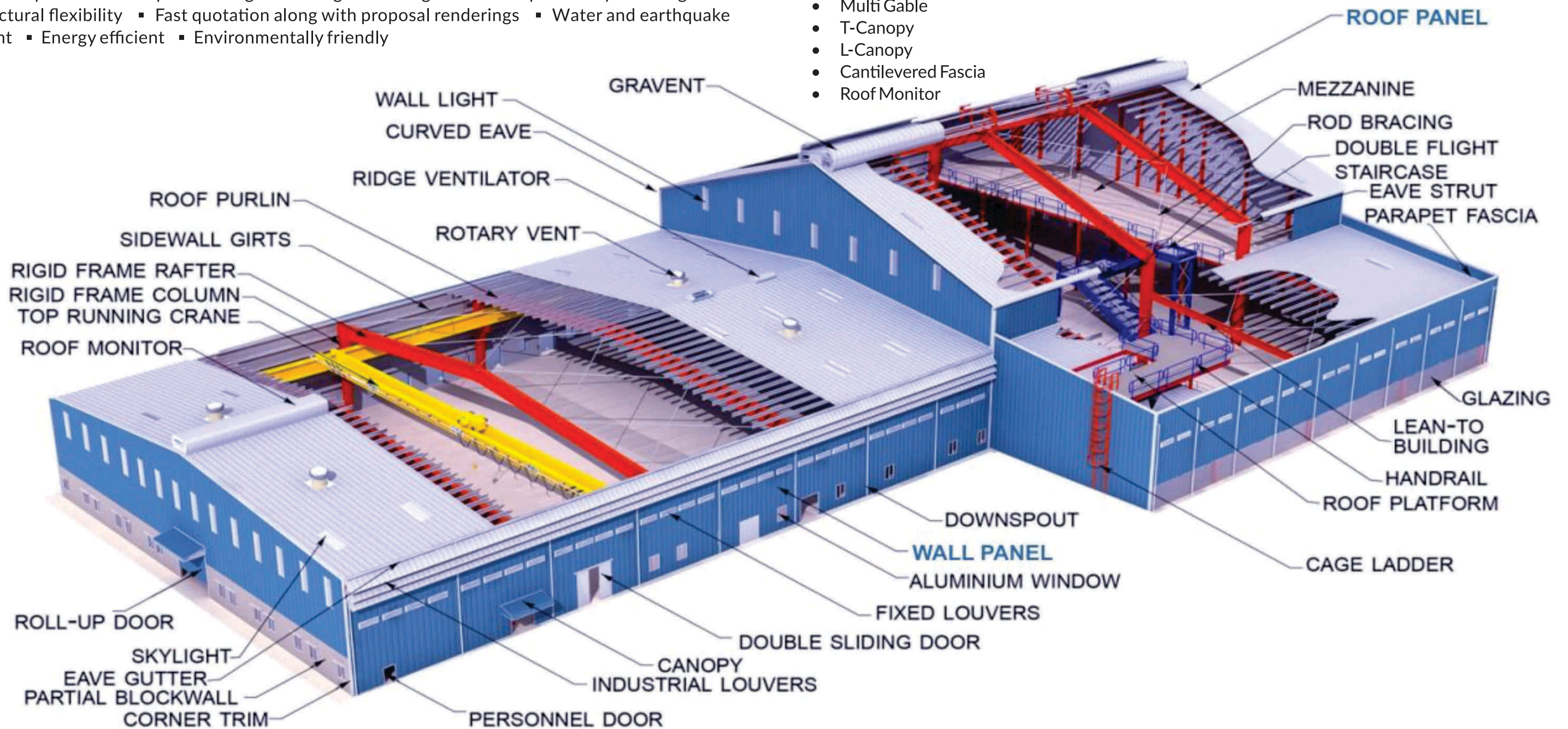
Consist of columns and rafter. All these members are manufactured using high-strength grade plates, which are cut to the required size and shape.

- Intermediate Frames
- Crane Beams and Mezzanines
- End wall Frames
- Wind Bracing
- Crane Brackets
- Clear Span
- Beam Column
- Multi Gable
- T-Canopy
- L-Canopy
- Cantilevered Fascia
- Roof Monitor

### Building Secondary Framing Systems:

Consist of Purlins, Fave Struts, Side Runners, Fascia Channels, Door Posts, Window Posts, Rafter Stays, Column Stays and Base Angles, Cold-Formed '7" and "C" Shaped structural members are cold roll formed light gauge, and can be custom made as per requirements.

- Roof Purlins, Wall Girts and Eave Struts
- Roof and Wall Cladding Systems
- Roof Insulation and Wall Cladding
- Eaves and Gable Detailing

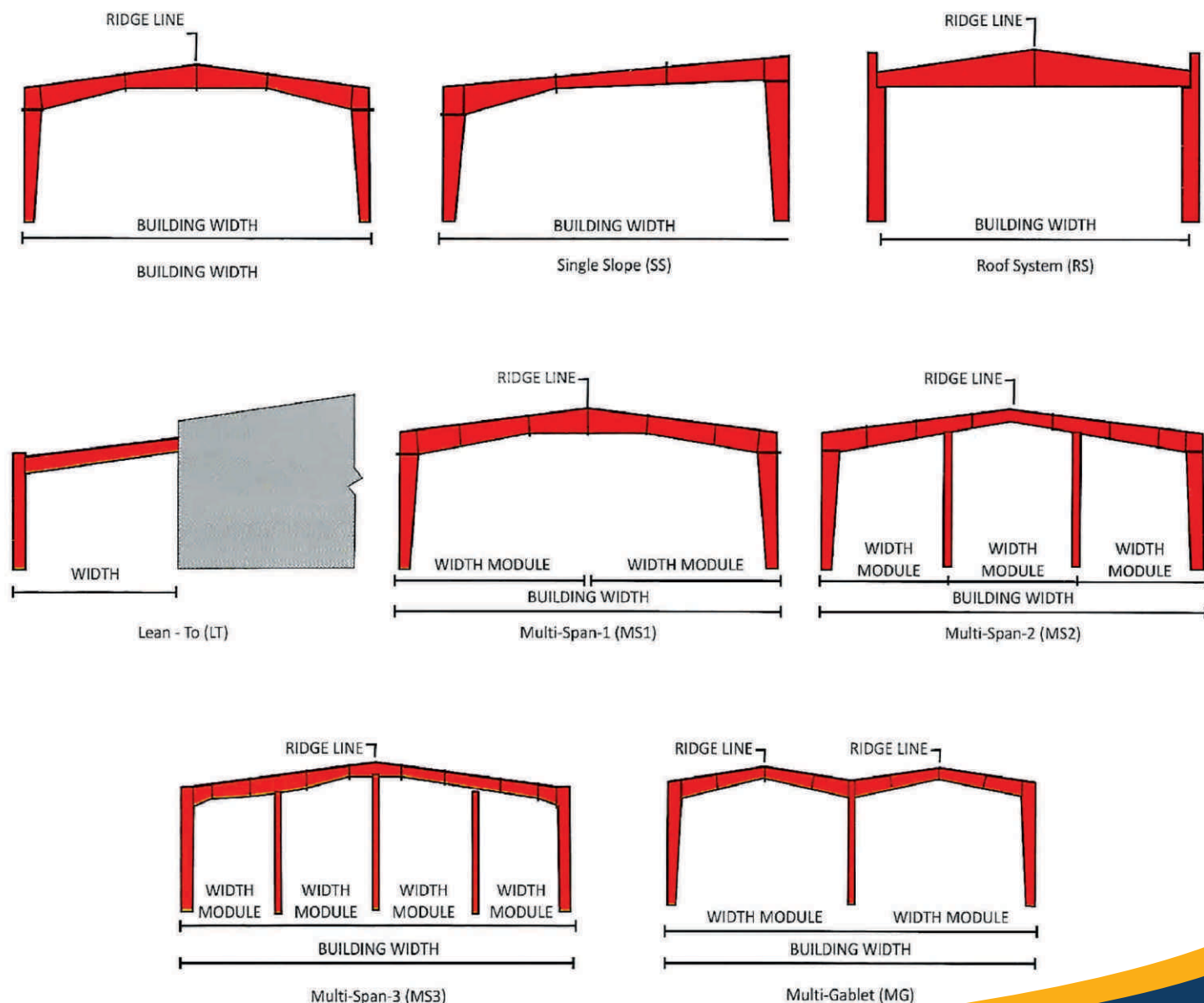


## APPLICATIONS

- Factories
- Schools
- Workshops
- Auditoriums
- Warehouses
- Restaurants
- Office Buildings
- Service Buildings
- Sport Halls
- Labor Camps
- Aircraft Hangers
- Petrol Pumps
- Function Halls
- Exhibition Halls
- Cold Storage
- Sugar Mills
- Shopping Malls
- Cement Plants
- Distribution Centers
- Community Centres
- Vehicle Parking Sheds
- Steel Rolling Mills
- Houses & Living Shelters
- Commercial Showrooms
- Railway Platform Shelters
- Telecommunication shelters
- Ceramic Factories
- Poultry-Dairy Farms
- Swimming Pool Enclosures
- "Almost" Any low rise building

## Mezzanine System

Standard mezzanine structure consists of built-up beams (that may be tapered for large spans or heavy loads) that support built-up, hot rolled or cold-formed mezzanine joints which in-turn support a metal deck. A reinforced concrete slab is cast on the metal deck as a finished surface. The metal deck is not designed to carry the floor live loads, It is intended only to carry the reinforced concrete slab during pouring. The reinforced concrete slab must be designed to carry the floor loads. Interior mezzanine stub columns are hot rolled tube sections or built-up sections.



## METAL ROOFING SHEETS

### Features :

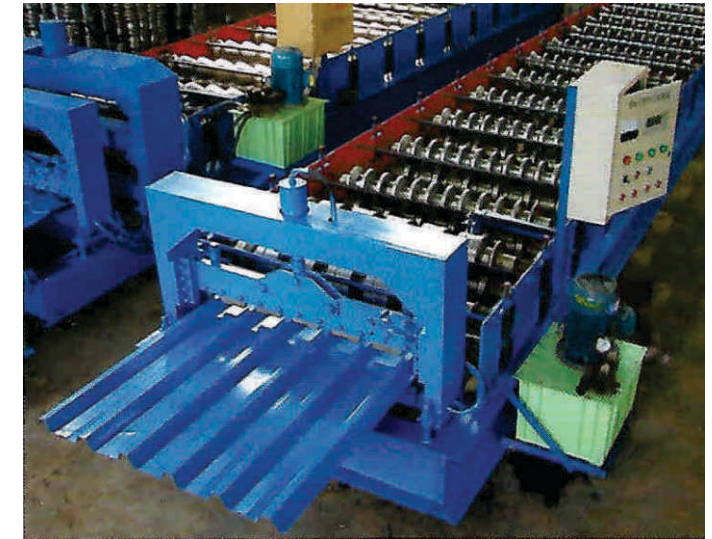
Metal Sheet combines economy practicability and modern appearance to produce to a light weight roofing and walling profile, suitable for a wide variety of applications.

### Aesthetically Pleasing & Cost Effective :

- ◆ Economical - Unique blend of characteristic provides a low installed cost.
- ◆ Simple installation - thorough fixing and easy notching of flashings.
- ◆ 1000 mm Cover- quick installation and easy handling.
- ◆ Hi-Tensile Steel - light weight and high strength.
- ◆ Deep Ribs - provide excellent spanning capability with good water carrying capacity.
- ◆ Domed Crest- provides greater foot traffic performance
- ◆ Anti-Capillary Side Laps - gives improved weather performance
- ◆ 3° Minimum Pitch - reduces support structures.
- ◆ A full range of load performance tables to suit almost any application.
- ◆ Also Available in Crimped Curve - To suit even more architectural applications.

### Materials:

Metal Sheet are cold roll formed roof and wall cladding manufactured from G550 (Base material Mpa minimum yield stress) in zinc-aluminium coated (55% Al and 45% Zn) alloy coating in accordance with AS:1397 and IS : 15961. Pre painted zinc-aluminium coated steel is available in numerous colors in accordance with AS : 2728 and IS-15965. Prepainted galvanized steel (PPGI) is also available.



Other materials such as bare galvanized steel, aluminium and copper can be roll formed subject to enquiry.

### Colour/Availability:

Metal sheets are normally stocked in standard thickness in zinc - aluminium coated steel, and a wide range of colours in prepainted zinc-aluminium coated steel.

Our Metal sheets are innovative subtle square fluted steel cladding which is being widely used in most Industrial, Infrastructure, Commercial and Residential projects across the world.

### Excellent Spanning Capabilities :

Our metal sheets are manufactured from high strength steel and provides excellent spanning capability resulting in better design freedom.

### Long Lasting :

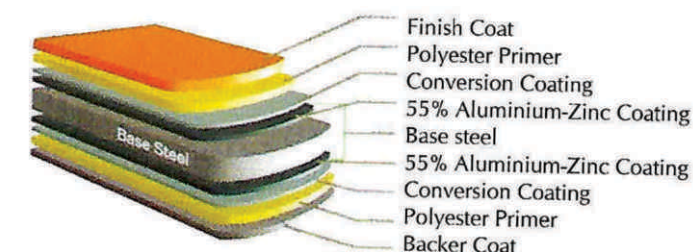
Manufactured from Al-Zn alloy coated steel that offers excellent corrosion resistance and lasts up-to four times more than ordinary Zinc coated steel profiles.

### Proven and Tested Profile :

All Profile undergo various testing at our state of art R & D and testing centre, Metal sheet Profile comes with return leg which provides extra support at the side laps of panels and assures weather tightness with specially engineered anti-capillar grooves. Troughed stiffeners in the Valleys of profile prevents oil canning effect in larger spans, withstands better roof traffic and also clears rain water quickly with no stagnation of water Due to its excellent features it can be designed even for low roof slopes.

### Quick and East Installation :

The long length, light weight and use of self drilling screws facilitate safe, easy and quick installation.



**Note : Thickness available from 0.17 mm to 0.80 mm**

## PUF PANELS

Metal -faced polyurethane sandwich panels are the system of choice today for large industrial buildings, refrigerated ware houses, office blocks, exhibition halls, fair pavilions, schools and sports halls.

The aluminium or steel facings themselves are surface coated and can be manufactured with profiles of various depths leading to a higher load bearing.

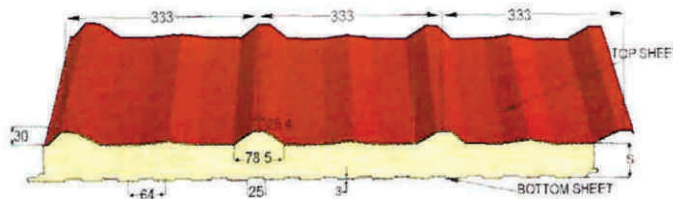
Polyurethane sandwich panels come complete with specially formed tongue - and - groove joints ensuring a perfect fit and maximum integrity. Assembly is fast, easy and cost effective.

The resultant sandwich panel has a load-bearing capability many times greater than that achieved by adding together the load-bearing capacities of the individual layers. As a result, these thin, relatively lightweight sandwich panels can safely bridge wide spans.

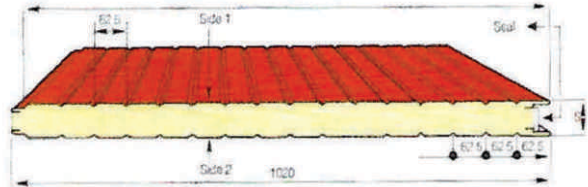
### Puf insulated sandwich panels for roof and wall :

These panels functions well as a roof or wall panel when used in conjunction with pre-engineered buildings or conventional steel framing systems. The product features an overlapping major rib at the panel sidelap, this sandwich panel is filled with CFC free polyurethane in the core achieving Good R- Values and consists of exterior and interior facings of relatively thin metal sheet profiled.

Panel strength will be more because of double sheet with corrugated profiles with core thickness varies from - 30 -120 mm thickness. Purlin spacings will be upto 5 m so that steel structure cost in purlin will be saved.



Section Drawing



Effective Width and Length

	Wall	Roof
Width	1000 mm	1000 mm
Length	Upto 12000 mm	12000 mm

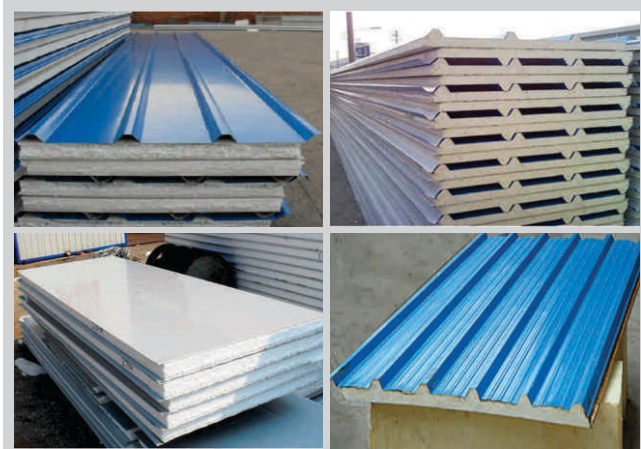
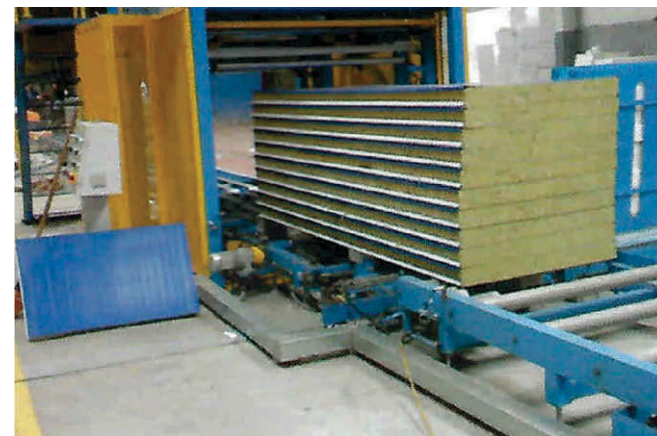
#### Specifications :

Panel thickness available : 30mm, 40mm, 50mm, 60mm, 80mm, 100mm, 120 mm  
 Panel width available : 1060mm / 1090 mm  
 Panel length available : 2000 mm - 12000 mm

Average density : 40 ± 2kg/m  
 Thermal conductivity : 0.024-0.03 W/m  
 Temperature range : -40 + 80°C  
 Free from CFC : CFC Free  
 Type of foam : B1, B2, B3 & PIR  
 Heat Transfer co-efficient : = 0.022W / M2\*K  
 Pressure : 0.10 Mpa  
 Cubic Area Change : = 1% (-30 C - 100 C/ 96h)

#### Panel Sheets specifications :

Polyester primer : 5 micron  
 Non-toxic food-graded STANDARD Polyester finish paint  
 RAL 9010 colour : 20 micron  
 Back - coat : 5 micron  
 Resistance to Saline mist : >500 h (ECCA TB)  
 resistance to moisture : 1000 h (ASTM D 2247)



## INSULATIONS

### INSULATION : THE OBJECTIVE :

The energy crisis globally has brought about an increase in combustible costs, where only an appropriate insulation system can bring about significant economic savings. The need to insulate buildings at all exposed or susceptible surfaces from inside or outside is an indisputable reality that finally goes on to increasing the comfort of occupants-both temporary and permanent, humans and livestock and finally products and goods that are heat and moisture sensitive

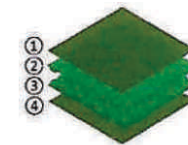
And the objective stems from a basic understanding to keep the heat out during summers and to keep the heat in during winters. In order to keep the insulation effective and efficient, it needs to be well protected with a good air and vapour barrier - which Insulation's products do extremely well.

### A GOOD INSULATION SYSTEM :

The surface that create or make the cover or envelope of any building including it's sub-structural system is mainly composed of five essential elements: general weather barrier, an air barrier, the insulation, the vapour barrier and the interior finishing.

#### OPTIMUM

OPTIMUM insulation made of two layers of fire retardant big air bubble film laminated with both side pure aluminium foil.

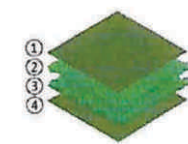


#### OPTIMUM

1. pure aluminium foil
2. 10 mm thick fire retardant big air bubble film
3. 10 mm thick fire retardant big air bubble film
4. pure aluminium foil

#### PREMIUM

PREMIUM insulation made of two layers of fire retardant air bubble film laminated with both side pure aluminium foil



#### PREMIUM

1. pure aluminium foil
2. fire retardant air bubble film
3. fire retardant big air bubble film
4. pure aluminium foil

#### RESIDENTIAL INSULATION

- ROOF INSULATION
- GARAGE AND SHADE
- WALL
- WATER TANK
- HVAC/AC DUCTING

#### INDUSTRIAL INSULATION

- METAL ROOFING
- CONTAINER INSULATION
- MOBILE HOUSE INSULATION
- CAR INSULATION
- SUPPORTIVE / DUCT INSULATION

All these together must - \*provide thermal resistance \* limit airflow \* limit diffusion of moisture \*allow moisture to evaporate towards exterior from within the envelope.

### The Product :

Our OPTIMUM insulation is constructed with two layers o 10 mm thick fire retardant big air bubble film laminated withl both side pure aluminium foil. This follows the simply principle =Higher The Air gap, Higher the R-Value'.

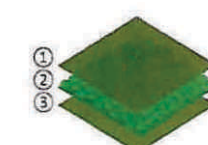
Our ADVANCE insulation is constructed with one layer of 11 mm thick fire retardant big air bubble film laminated withl both side pure aluminium foil. This follows the simply principle -'Higher The Air gap, Higher the 1-Value'.

Our PREMIUM insulation is constructed with two layers o fire retardant air bubble film laminated with both side purl aluminium foil. This follows the simple principle - 'Higher The Air gap, Higher the R-Value'.

Our SUPER insulation is based on SINGLE LAYER OF FIR RETARDANT AIR BUBBLE FILM laminated with both side pure aluminium foil.

#### ADVANCE

ADVANCE insulation made of one layer of fire retardant big air bubble film laminated with both side pure aluminium foil.

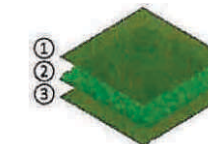


#### ADVANCE

1. pure aluminium foil
2. 10 mm thick fire retardant big air bubble film
3. pure aluminium foil

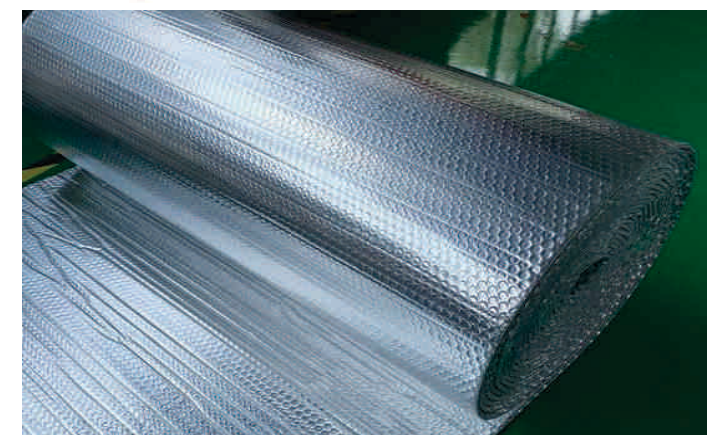
#### SUPER

SUPER insulation made of one layer of fire retardant big air bubble film laminated with both side pure aluminium foil



#### SUPER

1. pure aluminium foil
2. fire retardant big air bubble film
3. pure aluminium foil





# VENTILATORS

Proper Ventilation is necessary in all buildings, which are extremely susceptible to condensation and heat transfer. Generally, hot or stale air will not exhaust through an opening into which wind can blow. Therefore, regular static ventilators, which allow outside wind to enter in the shed because of poor design or location on the roof, cannot be expected to exhaust because they back draft. An efficient means of extracting warm and stale air is through roof mounted turbo ventilators, which create positive draft, removes hot gases, obnoxious fumes, bad odour, enhances ventilation. Adequate low level provision for the entry of fresh air at ambient temperature should be provided.



**TECHNICAL DATA SHEET OF TURBO VENTILATOR**

S.No.	Description	Size & Grade	Other Details
1.	Neck / Throat Dia Turbine Dia Height Net Weight	24" 685 mm 495 mm 3.8 Kgs (Approx.)	Light Weight to ensure rotation at lowest wind velocity
2.	Top Cover (Dish) Dia Thickness	Aluminum Alloy 380 mm 1.2 mm	
3.	Fins / Vanes Nos. of Fins Thickness	Aluminum Alloy Temper H3 40 Nos 0.5 mm	Hindalco / Balco Make (No Rerolled Material) 40 Airfoil profiled Blades to deflect water and Dust
4.	Outer Ring Thickness Inner Strips Thickness Width	Aluminum Alloy 1.0 mm SS 202 1.2 mm 20.0 mm	Hindalco / Balco Make (No Rerolled Material) Spider type frame design to Withstand Cyclone & Twisters
5.	Neck Ring Inner Dia Width Thickness Inner Arm Width Thickness	Aluminum Alloy 24" 100 mm 1.2 mm SS 202 25.0 mm 2.0 mm	Mounting ring with 2 nos of 4.0 mm deep ribs for extra strength
6.	Drive Mechanism Shaft Dai Bush Bearing Cover (Housing) Dia Thickness Bearing Quantity Make : HCH	SS 202 12.0 mm SS 316 Aluminum Alloys 80.0 mm 1.2 mm 60012RS 2 Nos Self Lubricating	Shaft machined Central less grinder for precise quality  Bush made on CNC Lather for precise quality  Ensures friction rotation even at lowest wind velocity
7.	Rivets	Aluminum	
8.	Packing Box Ply For Corner Support Ply Weight	Corrugated 5 Ply Corrugated Sheet fold in Triangle 5 Ply 3.0 kgs (Approx)	Seaworthy Carton

# ACCESSORIES

We offers wide range of accessories and rain water systems to meet the customers expectation. The accessories are design to take care of the purpose of clients. It provides are effective and efficient system providing total roofing solutions to clients.

**Ridge (M)**

**Tile Ridge (M)**

**Gutter (M)**

**Eave Gutter (M)**

**Valley Gutter (M)**

**Barge Cap (M)**

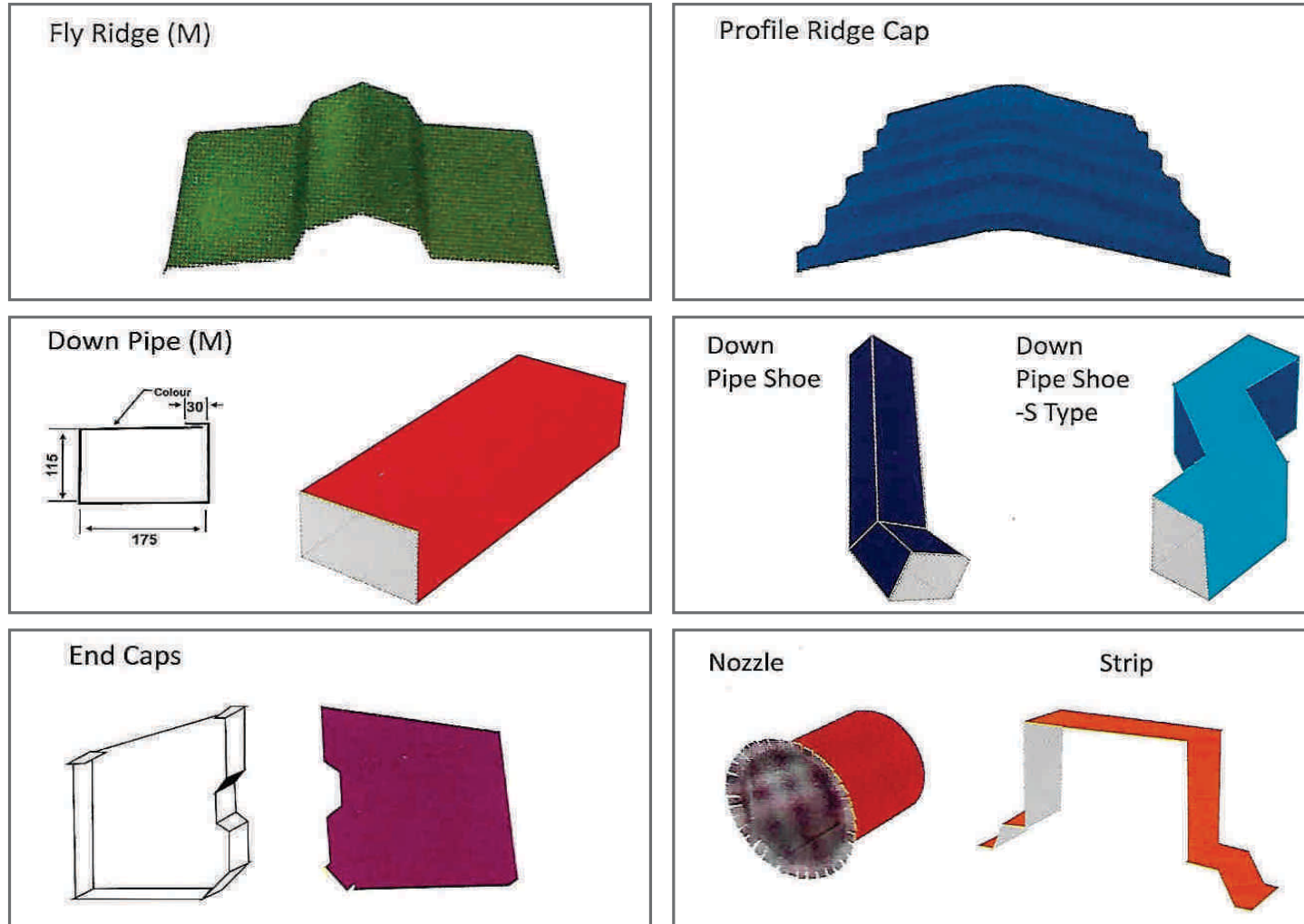
**L Flashing (M)**

**Corner Trim (M)**

**Drip Trim**

**Apron Flash**

## ACCESSORIES



\* Accessories are also available in small, medium, heavy and customised sizes as per client's requirements.

\* The above dimensions indicated are approximate with the usual applicable tolerance.

## COLOUR RANGE



\*CUSTOMISED COLOUR OPTIONS / RAL CODE COLOURS ALSO AVAILABLE ON REQUEST

## LIST OF CLIENTS

<b>L&amp;W Construction Pvt Ltd</b>	Bangalore
<b>Larsen &amp; Toubro : L&amp;T India</b>	Chennai
<b>Brigade Enterprises Ltd</b>	Bangalore, Chennai
<b>Bisleri International Pvt Ltd</b>	Bangalore, Chennai, Coimbatore
<b>Zoho Corporation Pvt Ltd</b>	Chennai
<b>Gokul Auto Tech Pvt Ltd</b>	Chennai
<b>SRM University</b>	Chennai
<b>Vestas Wind Technology India Pvt Ltd</b>	Chennai, Pondicherry, Chitradurga
<b>Shriram Shankari</b>	Chennai
<b>Thomas Iyadurai Infrastructure Pvt Ltd</b>	Chennai
<b>Fourrts (India) Laboratories Pvt Ltd</b>	Chennai
<b>Chennai Institute of Technology</b>	Chennai
<b>Chennai Corporation - Police Housing</b>	Chennai
<b>Rajalakshmi Engineering College</b>	Thandalam, Chennai
<b>Rajalakshmi Cars</b>	Chennai
<b>SPRR Constructions</b>	Chennai
<b>Abirami Polymers</b>	Chennai
<b>Akash Polymers</b>	Chennai
<b>PMI Engineering Exports</b>	Chennai
<b>PMI Global Technologies Pvt Ltd</b>	Chennai
<b>Sarathy Mahal</b>	Vandavasi-TN
<b>MFAR Constructions Pvt Ltd</b>	Chennai
<b>Classic Linens International Pvt Ltd</b>	Chennai
<b>Zen Linen International Pvt Ltd</b>	Chennai
<b>TAG Corporation</b>	Chennai
<b>Joe Suresh Engineering College</b>	Tirunelveli
<b>Infant Jesus Educational Trust</b>	Thoothukudi
<b>Sri Ranganathar Industries Pvt Ltd</b>	Coimbatore