TRIO BUILDING SYSTEM

TRIO

Engineering with Innovation

EXCELLENCE ENGINEERED IN EVERY STRUCTURE

ABOUT US

Trio Building System is a growing pre-engineered building company. We offer turnkey solutions for your PEB needs. We are pioneers in providing roofing solutions like Tensile structures, Polycarbonate roofing and Puf panel roofing works throughout India.

We always aim at entailing satisfactory work fulfilment status and ensure that the technically modern services are deployed in the projects to deliver perfection in our buildings.

Trio adopts people and process driven approach. We work in close liaison with Architects & Consultants. We strongly believe in.

"Together we are a team"

TRIO'S VISION

To exceed the client expectations every time and to achieve continued recognition as a market leader in providing structural steel building, pre-engineered building and tensile structure solutions. We shall strive for superiority in quality and to ensure safety of all our employees.

TRIO'S MISSION

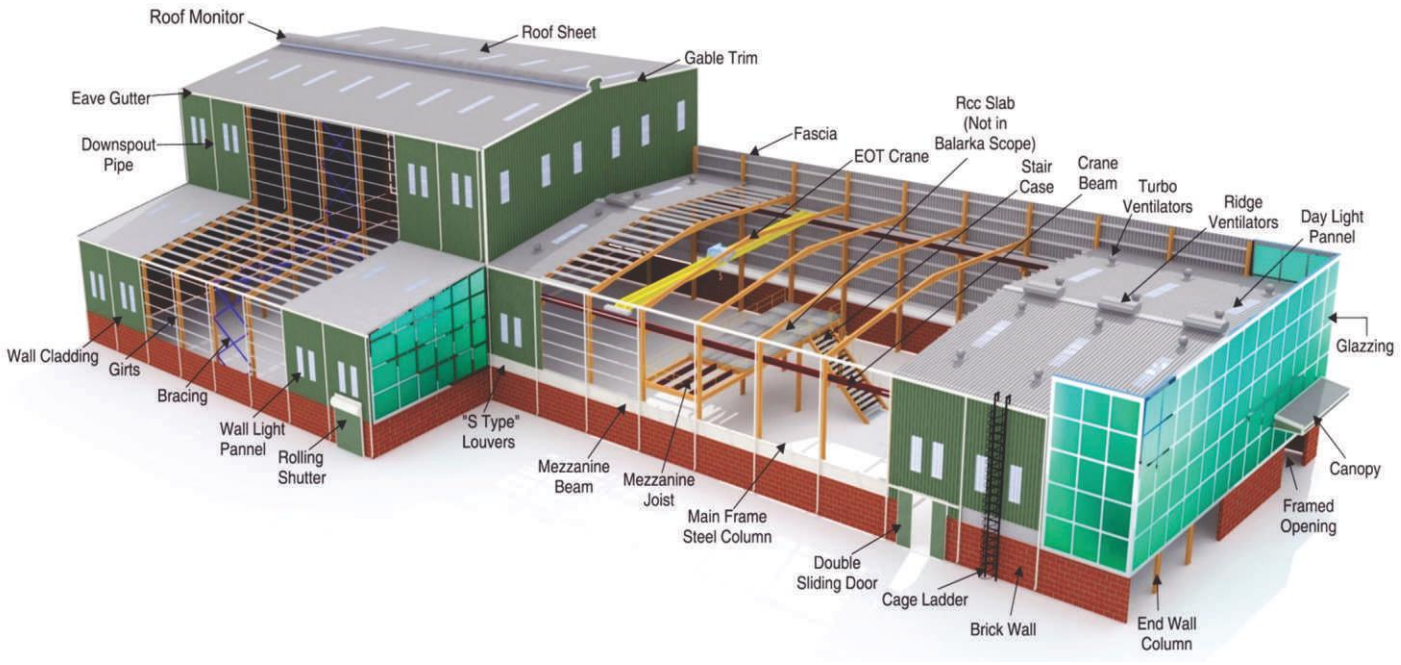
To provide highest customer satisfaction through our products and services at competitive prices.

To take all efforts to ensure that the benefits of Steel building and Tensile structure concept is confined not only to industrial and commercial sector, but also reaches all the levels of the society including all kinds of residential buildings.

To be fair to our associates and employees in growth and success with conscious concern for the environment and society.

WHY CHOOSE TRIO?

- Comprehensive and detailed engineering output.
- Continuous product improvement.
- Faster production capacity and delivery cycle times.
- Highly expertise in large and complicated structures.
- Reliable after sales service.
- Value engineered solutions.
- Single point of contact till completion of project for entire solution.
- State of art factory that manufactures all Pre-Engineered steel Buildings and Tensile structures components under single roof.
- In house engineering with ability to design buildings to all international design codes and standards.
- High quality raw materials complete with all mill text certificates.
- Excellent track records.


Roof Monitor
Roof Sheet
Gable Trim
Eave Gutter
Downspout Pipe
Fascia
Rcc Slab (Not in Balarka Scope)
EOT Crane
Stair Case
Crane Beam
Turbo Ventilators
Ridge Ventilators
Day Light Pannel
Glazzing
Wall Cladding
Girts
Bracing
Wall Light Pannel
Rolling Shutter
"S Type" Louvers
Mezzanine Beam
Mezzanine Joist
Main Frame Steel Column
Canopy
Framed Opening
Double Sliding Door
Cage Ladder
Brick Wall
End Wall Column

OVERVIEW OF PEB

Pre-engineered metal building system is widely accepted across the globe as an efficient alternative to conventional buildings. It is the most affordable and flexible building system ideal for any low rise Industrial, Institutional or commercial application. PEB, offers many advantages such as:

Strength & Durability

Withstands severe Climatic conditions. Weather resistant, Earthquake resistant.

Lower Investment Costs

Low initial investment, minimal maintenance costs

Environment friendly

Roof and wall systems are energy efficient. The system is 100% environment friendly as all the materials used can be recycled.

Flexibility in expansion

Large clear spans. Easy Renovation, Expansion or modification. Can be dismantled and relocated.

Architectural versatility

Offers new solutions and opportunities, allowing engineers to expand their artistic expression and create some of the most challenging and unique buildings.

Faster occupancy

Installation time is considerably reduced as the erectiontechniques involved are very precise and simple.

TRIO offers turn-key solutions for PEBs by offering a comprehensive service package including design, manufacture, supply and installation of PEBs. TRIO diverse product line includes steel building components as C, Z purlins, Decking sheet, Roofing sheet and miscellaneous in a range of commonly used sizes.

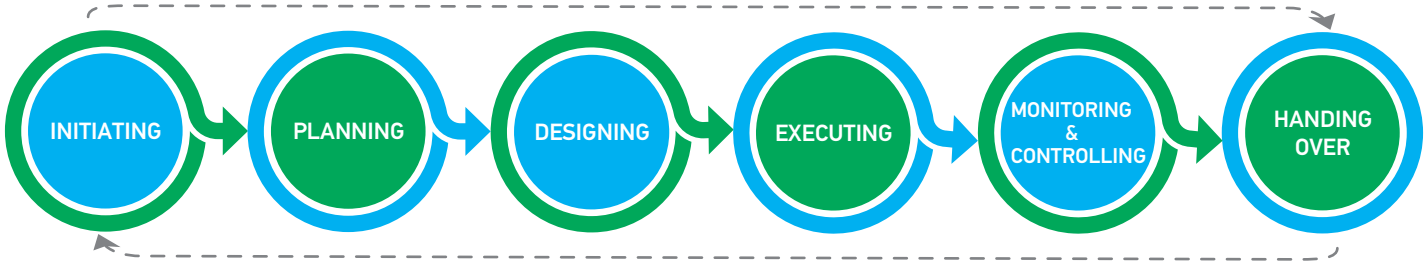
FOLLOWING DESIGN CODE

Following are the main design codes generally used:

AISC : American Institute of Steel Construction manual
AISI : American Iron and Steel Institute specifications
ASTM : American Society for Testing and Materials Specifications

ASCE : American Society of Civil Engineers standards
AWS : American Welding Society manual
ANSI : American National Standards Institute Specification
IS : Indian standard codes

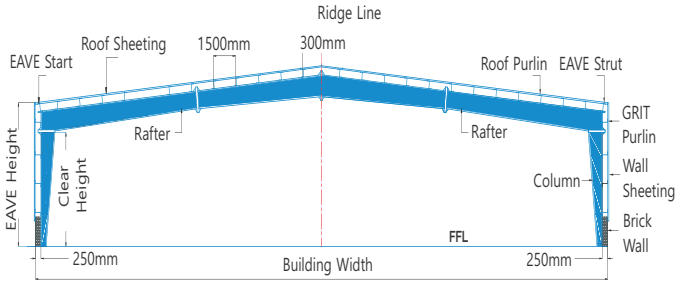
TRIO PCE (PROJECT CYCLE MANAGEMENT)



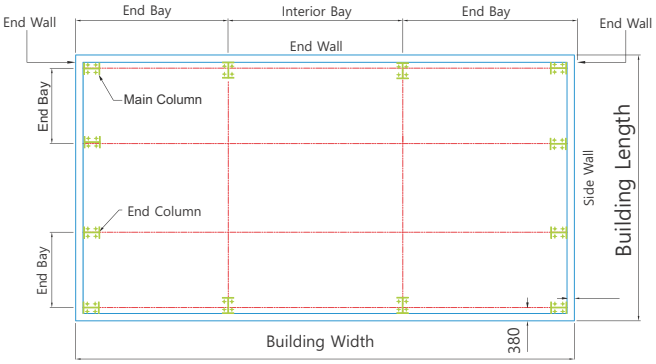
FRAMING SYSTEMS

Engineered Building is custom designed to meet your exact requirements based on Width, Length, Height, Bay distance, Roof Slope, Brick wall height, Inner column and E.O.T crane requirement in order to design and estimate the building.

The most commonly used framing systems are,

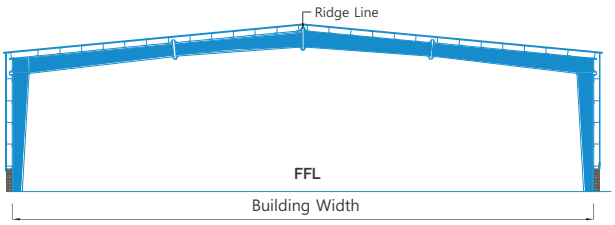


Frame Cross Section



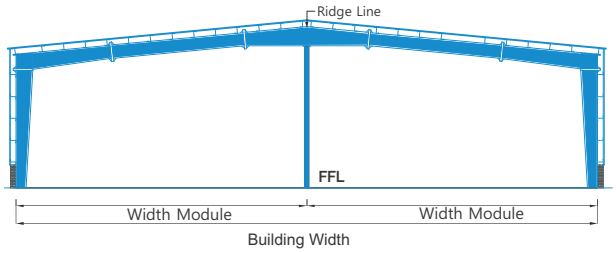
Column Layout

Rigid Frame Clear Span (RFCS)



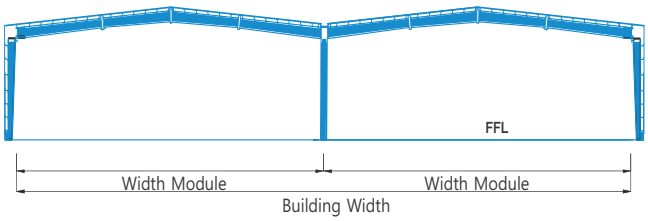
- Recommended Span 20 - 40M
- Suitable for Ware Houses, godowns, workshops, industrial buildings having clear span requirement

Rigid Frame Multi Span (RFMS - 1)



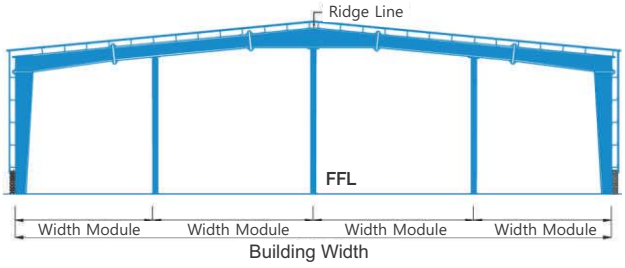
- Recommended Span 30 - 50M
- Suitable for large span building without a vally gutter

Rigid Frame Multi Gable (RFMG - 1)



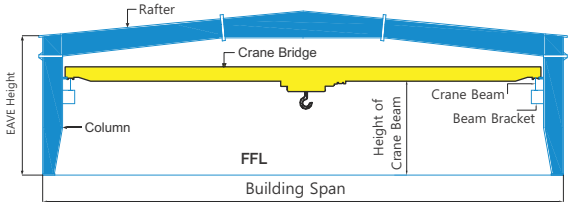
- Recommended Span 50 - 100M
- Economical than RFMS - 1but vally gutter

Rigid Frame Multi Span (RFMS - 3)



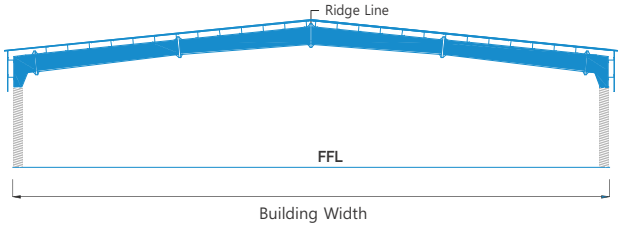
- Recommend Span 50 - 75M
- They are economical than RFMS 1 for span greater than 72M

Top Running Crane in a clear span building



- Recommended Span 40 - 60M
- Top runner crane in a clear building

Roof System (RCC Column not in our scope)



- Recommended Span 40 - 60M
- For span greater than 48m,it is economical to go for RFMS - 2 frame than RFMS - 1

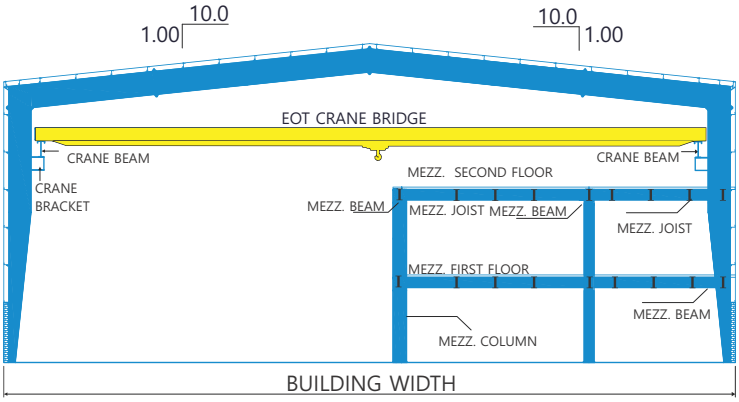
MULTI STORY STEEL BUILDING

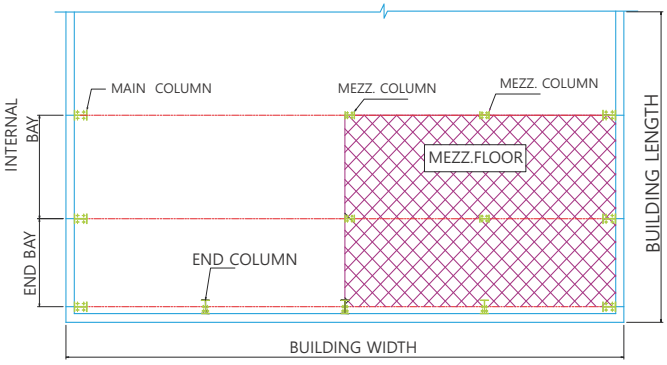
MSSB are a very practical and economical means of creating a floor system and works particularly well in conjunction with steel beam construction. Decking sheet act as a composite slab form and fulfills all the basic requirement with necessary accessories.

Column, beam and joist are fabricated from either hot rolled or built-up sections. Floor or roof steel deck was profiled galvanized sections suitable for support the dead load of reinforced slab. In this case many critical design are possible using steel construction.

MEZZANINE FLOOR

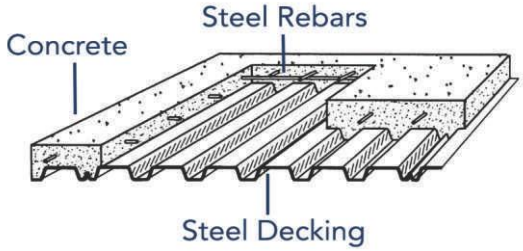
Intermediate mezzanine floor are possible in metal building with steel deck (decking profile sheet / chequered plate), supported by joist beam onto main beam. Applied live load and column spacing can affect the economy of mezzanine system.





DECKING SHEET

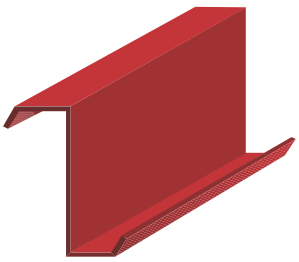
Composite Steel Floor Decking is Cold-Formed Steel Decking, which acts as a permanent form. Composite Steel Floor Decking also acts as the positive bending reinforcement for the structural concrete. Which are built into the deck creating a reinforcement concrete slab and act as working platform. Raw Material Standards are as per ASTM A653 / IS 277, depth and thickness as per design standards.



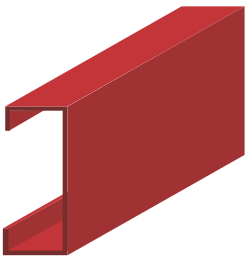
Typical Composite Floor Slab

C AND Z PURLIN

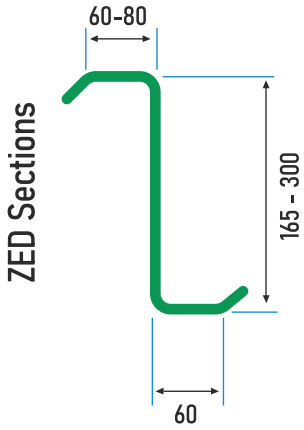
Purlin gives excellent strength to weight ratio, thus giving tremendous cost saving on secondary members. They are manufactured from Galvanizied coil having coating mass of (120GSM – 350 GSM) conforming to ASTM-A653M with yield strength of 250 – 350 MPA. Thick of the purlin varies from 1.5mm to 3.15mm

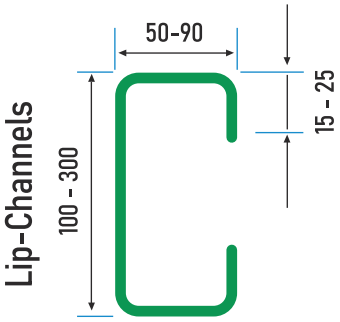


Typical "Z" section



Typical "C" section





ROOFINGSHEET

Trio offers Bare Galvalume and Colour coated Galvalume single skin trapezoidal profile roofing sheet which consist of excellent corrosion resistance, thermal efficiency and resistance to peeling.

Advantages	Description
Appearance	Bare or Colour coated Galvalume (Al-Zn)
Material Composition	55% AL, 43.4% ZN & 1.6% SI
Standards	ASTM A792, ASTM A755, IS 277
Yield Strength	240-550 Mpa
Coating Mass	Az150 GSM
Thickness	0.45-0.7 mm
Covered Width	≈1000 mm
Supply Width	≈1062 + 10 mm

ROOFING SHEET COLOUR CHART

Off White
RAL 9002

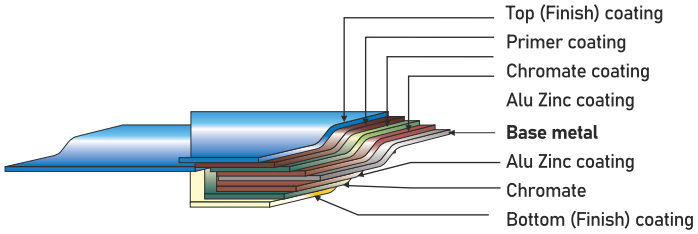
Sky Blue
RAL 5012

Brick Red
RAL 3003

Mist Green
RAL 6011

Caulifield Green
RAL 6009

Taurus Blue
RAL 5009



Colour Chart is an approximate display of RAL colours. Actual Colours may vary from those shown herein.
Refer to an original RAL Colour Card for a precise colour reproduction

APPLICATIONS OF PRE ENGINEERED BUILDINGS (PEB)

- WAREHOUSES
- FACTORIES
- WORKSHOPS
- OFFICES
- GAS STATIONS
- VEHICLE PARKING SHEDS
- SHOWROOMS
- AIRCRAFT HANGARS
- METRO STATIONS
- INSTITUTIONAL
- TEXTILE MILLS
- INDOOR & OUTDOOR STADIUM
- BANQUET HALL
- RAILWAY PLATFORM SHELTERS

TENSILE STRUCTURES

Tensile structures are fabricated as permanent or temporary canopy structures for commercial, residential, Architectural industrial construction and landscape artwork. This unique fabric roof cover strives for a light and airy look by minimizing the amount of framing and utilizing the strength of the fabric to help support the stability and equilibrium of the structure.

Trio works along with their clients throughout the entire process from design, sail fabrication and installation as well as providing post-sale services such as repairs, cleaning and maintenance.

FABRIC MATERIAL

The base fabric inside is PVC fabric which is providing most of the strength and mechanical properties. PVC is keeping together the fabric by warp and weft bindings, protecting it and adding to the mechanical properties. Apart from the basic fabric these are protected by the coatings and from UV rays, pollutions, humidity, chemical substances, etc.

SUPERIORITY OF TENSILE STRUCTURE

- Cover great surfaces without support columns.
- Design spaces that are bathed in light.
- Realise completely new construction shapes with good aesthetic view.
- Create a memorable view and design.
- Good UV and weather resistance.
- The tensile fabric are flame retardants and has fungicidal protection.
- PVDF Lacquer coating protects fabric against any environmental influences.
- Construct efficiently with only as few resources with quick installation process

MAJOR FABRIC MATERIALS

- Acrylic Coating
  (5 - 7 Years warranty)
- Single side PVDF lacquered coating
  Only in TOP side (10 Years warranty)
- Both side PVDF lacquered coating
  (15 Years warranty)

TYPES OF FABRIC GSM (Thickness, Strength, Resistance)

TYPE - 0 (640 GSM)

TECHNICAL DATA	BASE	WEAVE	TOTAL WEIGHT	MAX. TENSILE STRENGTH WARP/WEFT	TEAR STRENGTH WARP/WEFT	ADHESION	FLEX RESISTANCE	TEMPERATURE RESISTANCE	FLAME RETARDANCY
STANDARDS	DIN 60001	ISO 9354	EN ISO 2286-2	EN ISO 1421	DIN 53363	EN ISO 2411	DIN 53359 A	DIN EN 1876-1	EN 13501-1
TYPE 0	PES low-wick	Plain Weave 1:1	640 (g/m2)	2600 / 2500 (N/5 cm)	250 / 250 (N)	100 (N/5 cm)	At Least 1,00,000 bends	-30 °C, +70 °C	B-s2, dO

TYPE - I (700 GSM)

TECHNICAL DATA	BASE	WEAVE	TOTAL WEIGHT	MAX. TENSILE STRENGTH WARP/WEFT	TEAR STRENGTH WARP/WEFT	ADHESION	FLEX RESISTANCE	TEMPERATURE RESISTANCE	FLAME RETARDANCY
STANDARDS	DIN 60001	ISO 9354	EN ISO 2286-2	EN ISO 1421	DIN 53363	EN ISO 2411	DIN 53359 A	DIN EN 1876-1	EN 13501 -1 DIN 4102
TYPE I	PES low-wick	Plain Weave 1:1	700 (g/m2)	3300 / 3000 (N/5 cm)	375/ 325 (N)	120 (N/5 cm)	At Least 1,00,000 bends	-30 °C, +70 °C	B-s2. d0B1: P-BW003-I -165300 M2

TYPE - II (900 GSM)

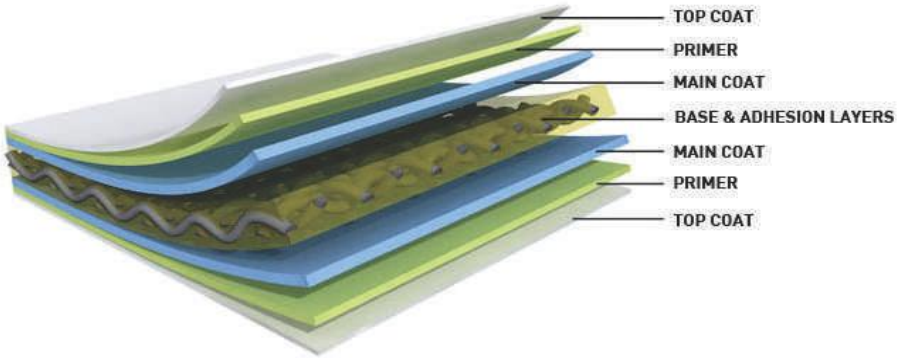
TECHNICAL DATA	BASE	WEAVE	TOTAL WEIGHT	MAX. TENSILE STRENGTH WARP/WEFT	TEAR STRENGTH WARP/WEFT	ADHESION	FLEX RESISTANCE	TEMPERATURE RESISTANCE	FLAME RETARDANCY
STANDARDS	DIN 60001	ISO 9354	EN ISO 2286-2	EN ISO 1421	DIN 53363	EN ISO 2411	DIN 53359 A	DIN EN 1876-1	EN 13501-1
TYPE II	PES low-wick	Panama	900 (g/m2)	4200 / 4000 (N/5 cm)	500/ 500 (N)	140 (N/5 cm)	At Least 1,00,000 bends	-30 °C, +70 °C	B-s2. dO

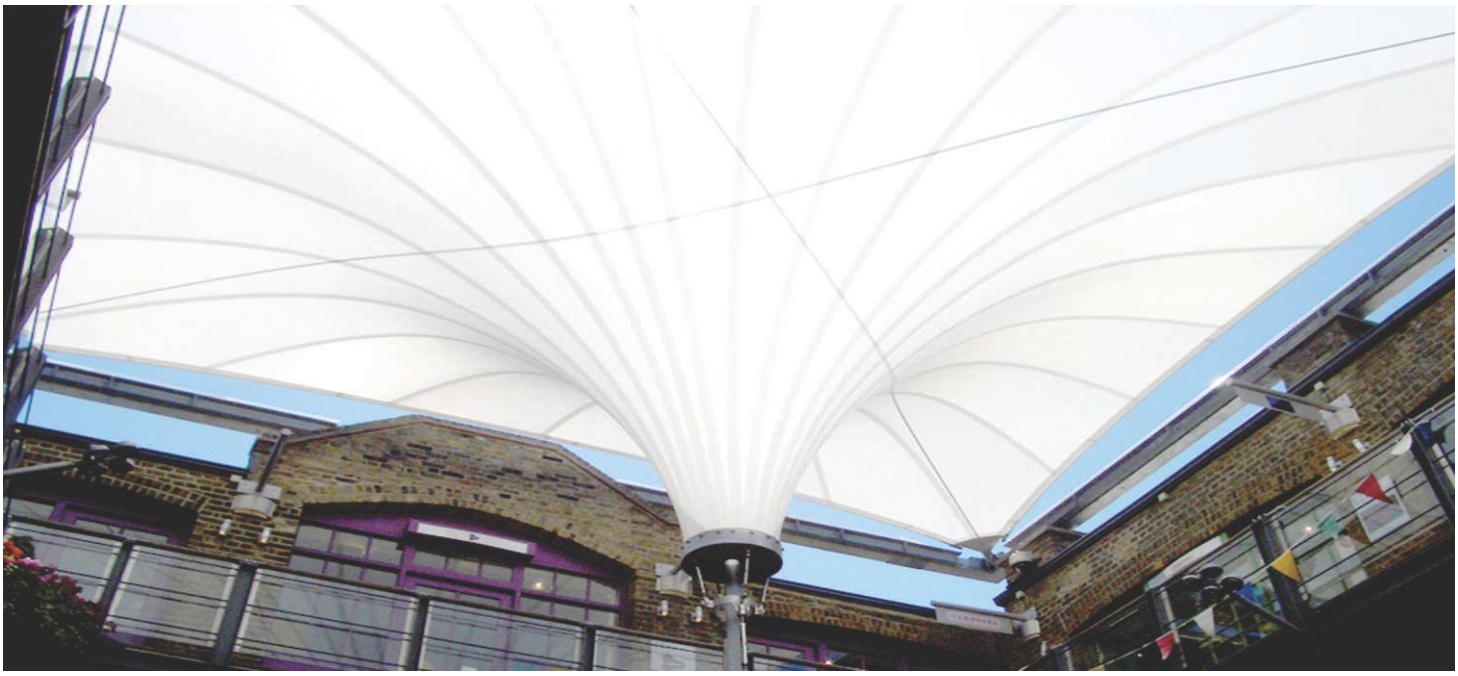
SHADE CLOTH

Tensile Shade cloths has come with cover factor (UV block and give shades) became increasingly important as the applications for people protection that requires shade and/or wind protection. such as,

- Preschools, Secondary schools, Colleges, kindergartens
- Council playgrounds, athletic sports grounds and aquatic centers
- Hail protection for vehicles, forklifts and other machinery
- Industrial safety screens and fall nets
- Commercial businesses, outdoor entertainment and relaxation areas
- Property developers, landscaped areas of new estates

FABRIC LAYER DIAGRAM





PATTERNING AND WELDING

Membranes are fabricated made-up in the plant they are cut from a flat piece from a fabric roll with CNC cutting machine with automated technology of Australian make AERONAUT and are welded with high frequency welding machine of European make FIAB Radio frequency travel welding capacity into the pre-calculated, three-dimensional shape. This includes all details needed to mount and pre-stretch the membrane.

IDEAL APPLICATIONS FOR MEMBRANE ARCHITECTURE

- Car Parking Shades
- Terrace Covering Structures
- Stadium Cantilever
- Structures
- Entrance Tensile Structures
- Tensile Canopies
- Restaurants Cones
- Auditorium Tensile Structures
- Walkway Covering Structures
- Beach Tensile Umbrella
- Tensile Fabric Architectures
- Swimming Pool Enclosures
- Atrium Structures

MEMBRANE PRODUCTS

Tensile Umbrella

Inverted Cone

Tensile Cone Structure

Tensile Atriums

Tensile Shade Cloth

Tensile Car Parking

Tensile Walkway

Tensile Hyper Structure

Tensile Architecture

Tensile Canopy

OUR PROJECTS

OUR PROJECTS

OUR ESTEEMED CLIENTS

SATHYABAMA
INSTITUTE OF SCIENCE AND TECHNOLOGY
(DEEMED TO BE UNIVERSITY)
Accredited with Grade "A" by NAAC | Approved by AICTE

INDIA

PK SSOCIATES
CONSULTANTS & PMC ENGINEERS

Swanag Infrastructures

M. Arunachalam Group
Engineering & Construction

FRAGRANCES TRADE MARK CEC FLAVOURS
Exalt your Senses

NEXA

SSI

RANJITH
BOUTIQUE HOTEL CHENNAI

KOCON INDIA PVT. LTD

murugappa

GBL GANESAN BUILDERS LIMITED

Sundaram Medical Foundation
Dr.Rangarajan Memorial Hospital

TRIO

Engineering with Innovation

TRIO BUILDING SYSTEM

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