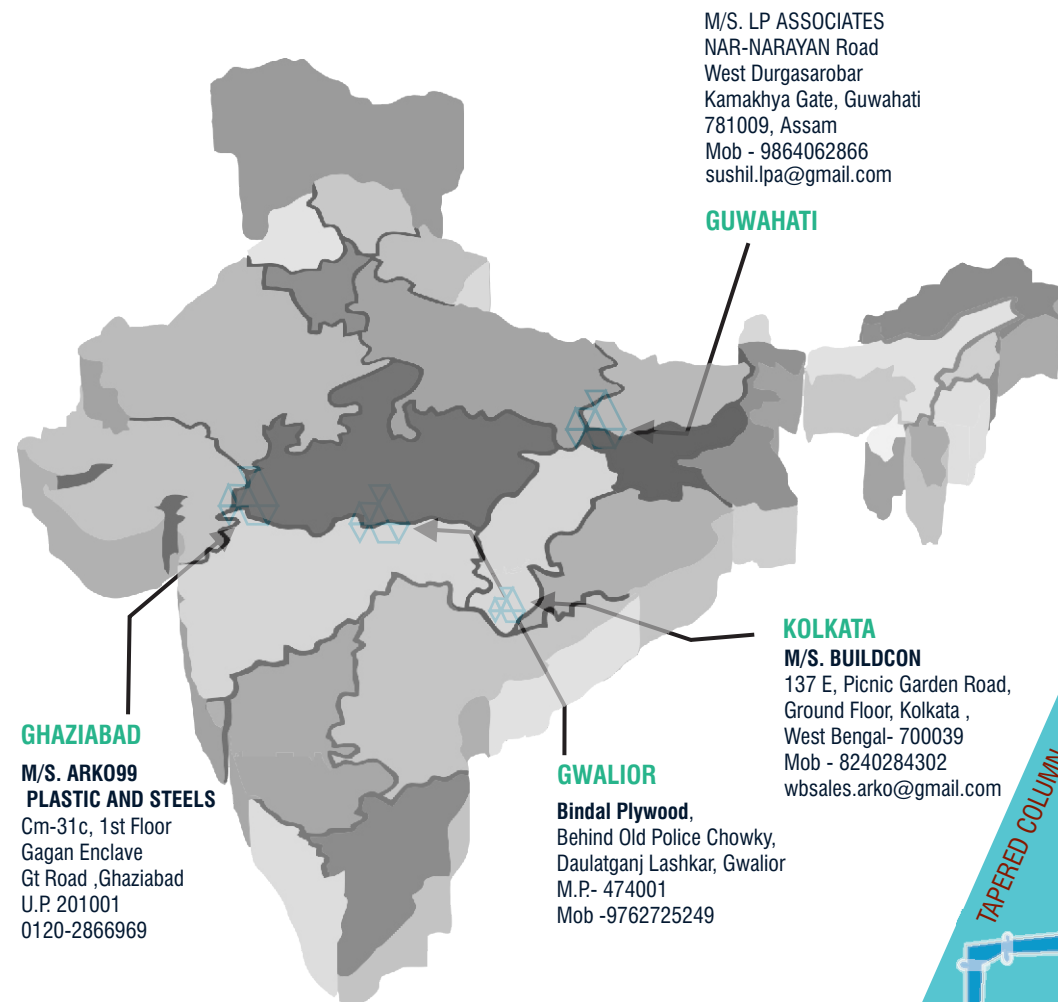


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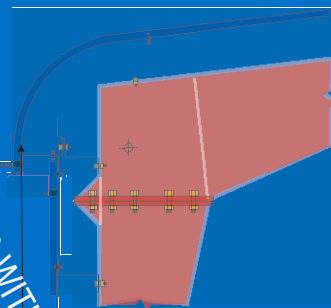
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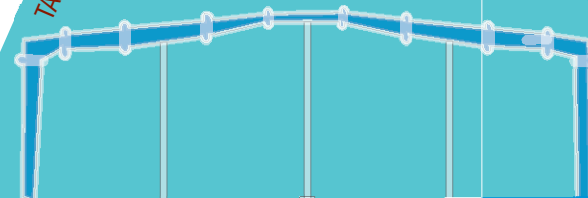
NEW DELHI

816, Laxmi Deep,
Laxmi Nagar, New Delhi
Mob: +91- 9762725249
Email: info@protechpeb.com

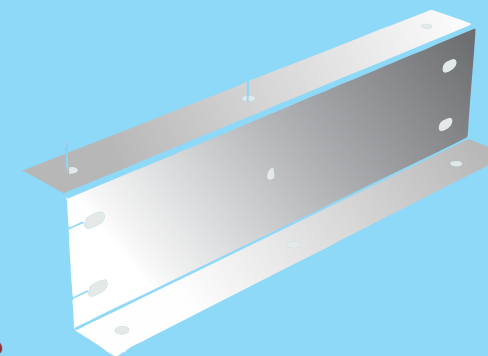
EAVE CURVED WITH PROJECTION



TAPERED COLUMN MULTI SPAN "3" (TCMS)-3



PRIMARY MEMBER "Z" SHAPE



TYPICAL RAFTER



ADVANTAGES

BASIC BUILDING PARAMETERS

Building Length

Building length is the distance between the outside flanges of end wall columns in opposite end walls. It is a combination of several bay lengths.

Building Height

Building height is the eave height, Which is usually the distance from the bottom of the main frame column base plate to the top outer point of the eave strut. When Columns are recessed or elevated from the finished floor, eave height is the distance from the finished floor level to the top of the eave strut.

Building Width

No matter what primary framing system is used, the building width is defined as the distance from outside of eave strut of one sidewall to outside of eave strut of the opposite sidewall.

Roof Slope

This is the angle of the roof with respect to the horizontal. The most common roof slopes should not be less than 0.50/10. Any practical roof slope is possible.

End Bay Length

This is the distance from the outside of the outer flange of endwall columns to the centre line of the first interior frame column.

Interior Bay Length

This is the distance between the centre lines of two adjacent interior main frame columns. The most common bay lengths are 6, 7.5, and 9 meters. Any bay length is possible up to 10 meters.

Design Loads

Unless otherwise specified, PROTECH Pre-engineered building are designed for the following minimum loads.

Roof Live Load: 0.57 kN/m²

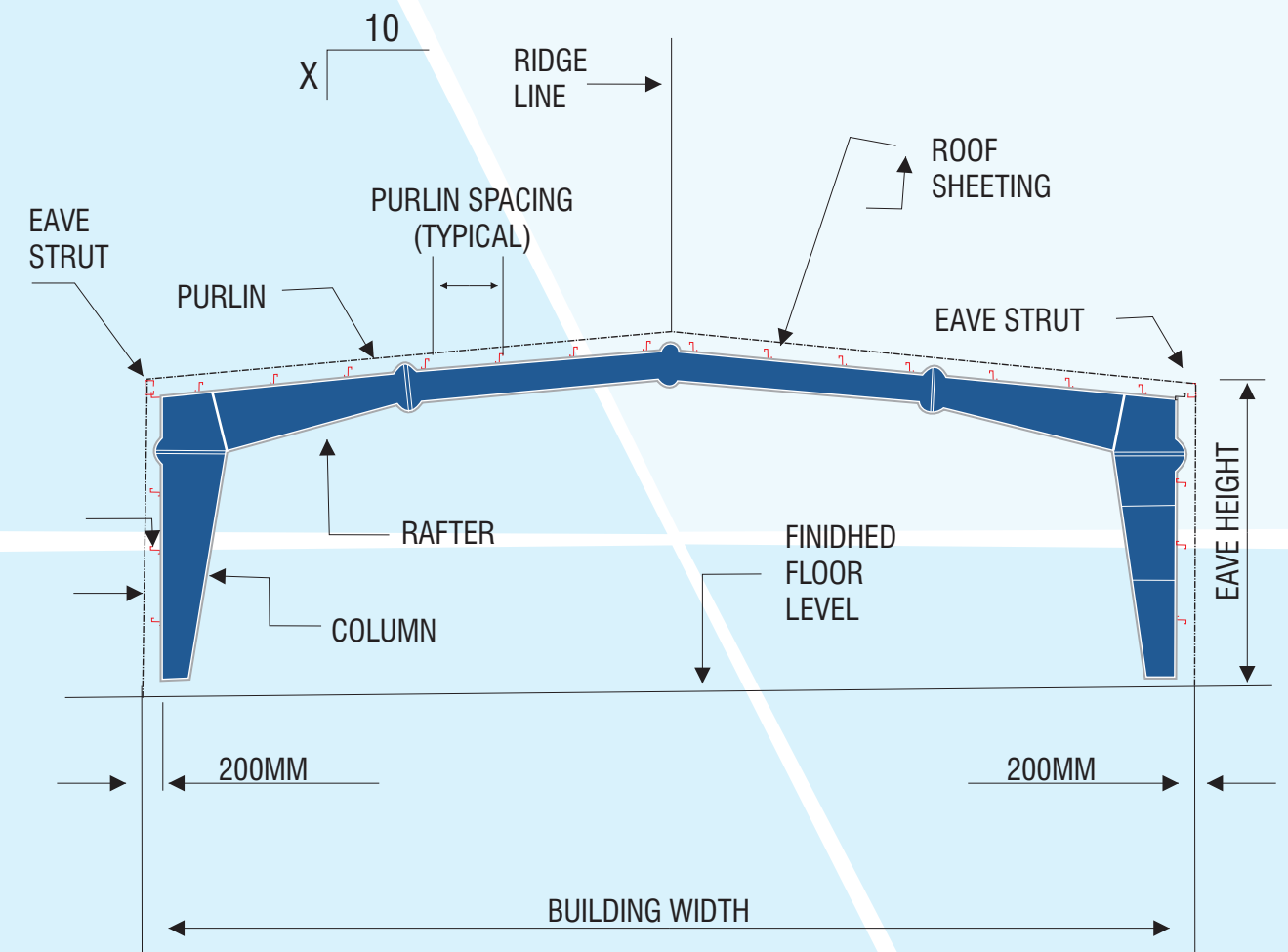
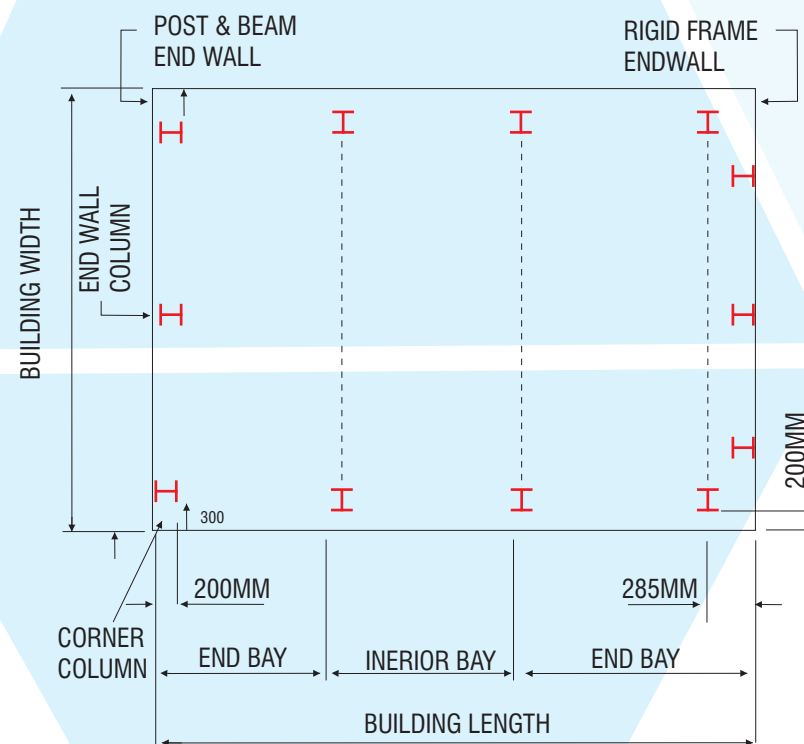
Design Wind Speed: 130 km/hr, 3 Sec gust

Design parameters of snow loads, earthquake loads, collateral loads, crane loads or any other loading condition must be specified when requesting a quotation.

Loads are applied in accordance with American codes and standards applicable to pre-engineered buildings unless otherwise requested at the time of quotation.

The steel structure shall be designed as per IS- 800:1984/2007. The PEB's primary section fabricated of Hot Rolled Plates conforming to IS- 2062:2006 of grade E 250 / ASTM A-572-12 grade 50 with yield strength of 245/345 MPa.

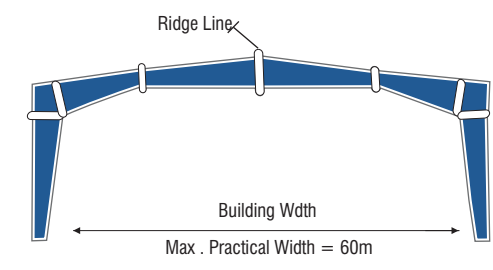
Pre-engineering building are defined by the following basic parameters, Building Width, Length, Height, Roof Slope, End Bay Length, Interior Bay Length and Design Loads.



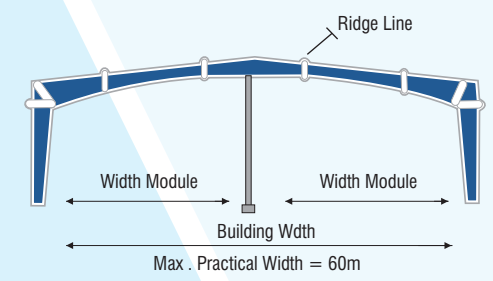
PRIMARY FRAMING SYSTEMS

PROTECH Pre-engineered building are constructed using a variety of framing systems. The diagrams on this page illustrate those most commonly employed. They are symmetrical at the ridge line.

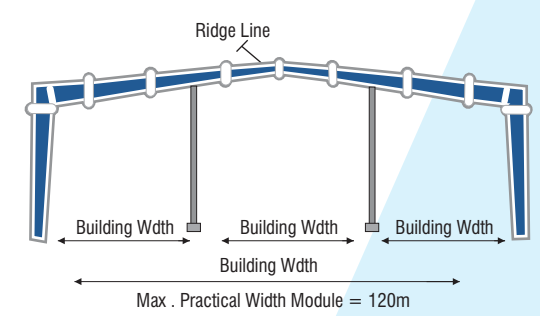
Asymmetrical and non-equal Multi-Span framing systems are also available. Please consult with your Arko Tech representative nearest to you about your specific project requirements.



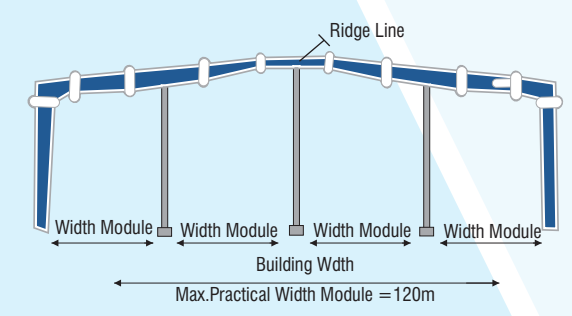
**TAPERED COLUMN
CLEAR SPAN (TCCS)**



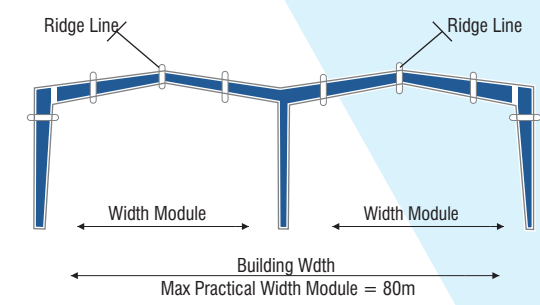
**TAPERED COLUMN
MULTI SPAN "1" (TCMS-1)**



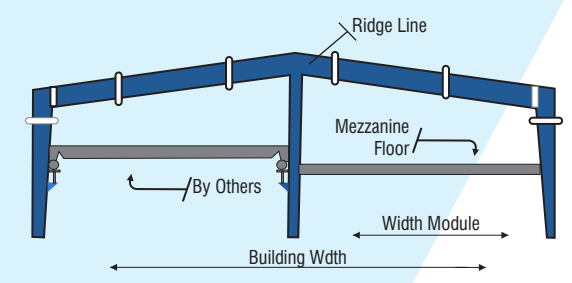
**TAPERED COLUMN
MULTI SPAN "2" (TCMS-2)**



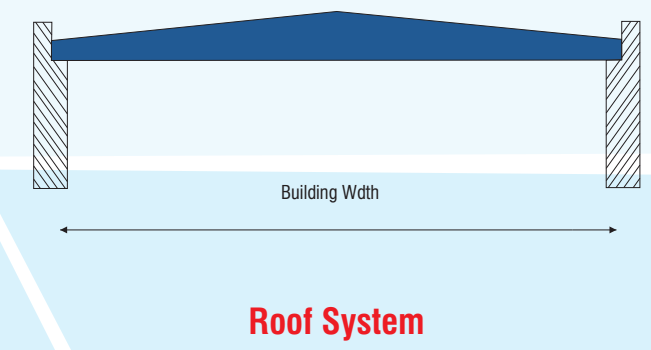
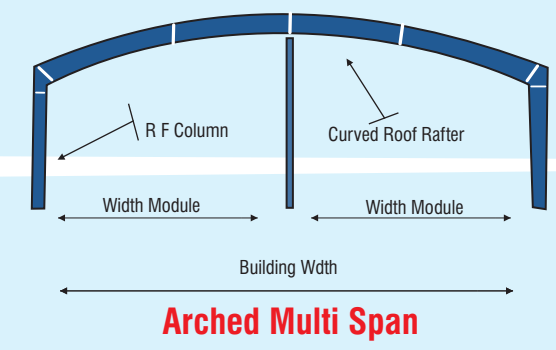
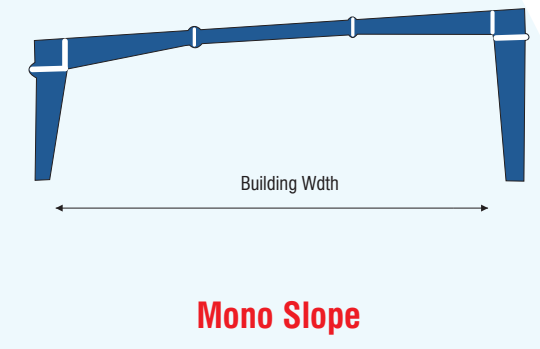
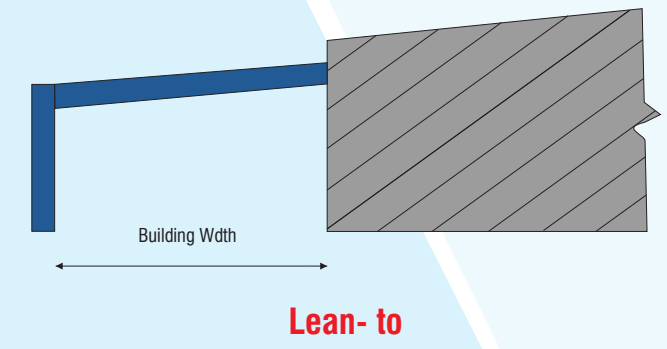
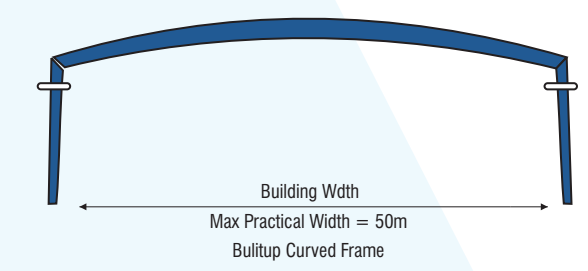
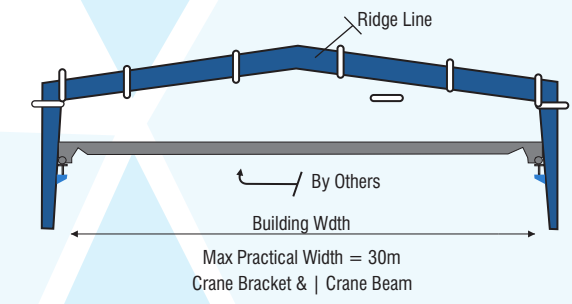
**TAPERED COLUMN
MULTI SPAN "3" (TCMS-3)**



Multi Gable (MG)



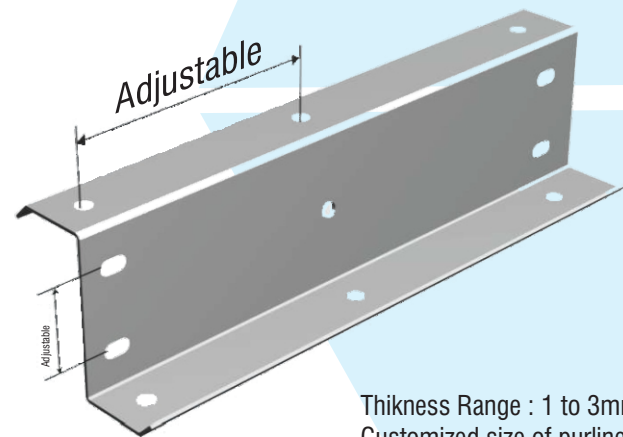
**Crane Bracket & | Crane Beam
/ Mezzanine Floor Provision**



PRIMARY & SECONDARY MEMBERS

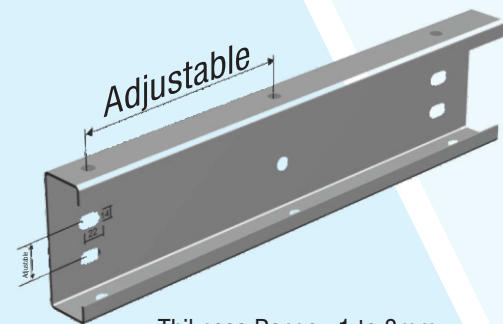
Secondary framing systems is mainly purlin and girth of Z or C shapes of Various size. In Pre-engineered building normally cold form Z section are used for secondary framing to achieve high strength and lower weight. Typically cold form members used for roof are called purlin and for wall it is called as girth however profile for the both in general is same. Sometime C section is also used in place of Z. Purlin/Girth are the members which transfer forces and moments from one frame to another frame for overall stability of the building structure and it all acts framing systems for weather covering sheeting purpose. For all practical purpose these members are spaced at an interval of about 1.5m; which can vary and placed perpendicular to the direction of the rafter.

'Z' SECTION



Thickness Range : 1 to 3mm
Customized size of purlin also available

'C' SECTION

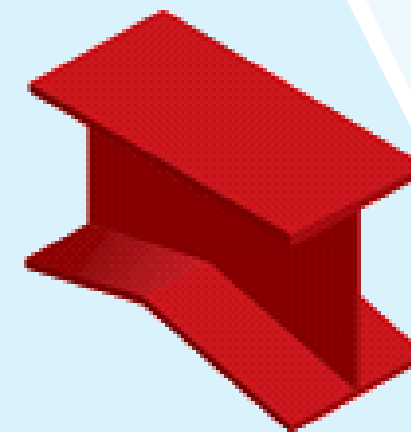


Thickness Range : 1 to 3mm
Customized size of purlin also available

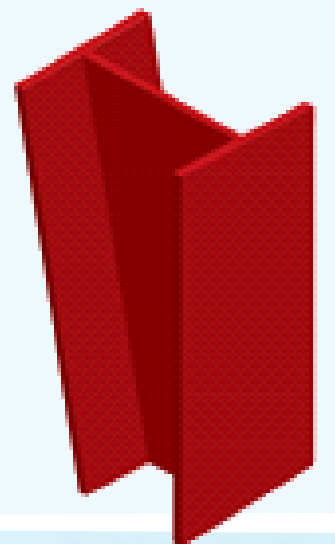
BUILT-UP MEMBER

Material :

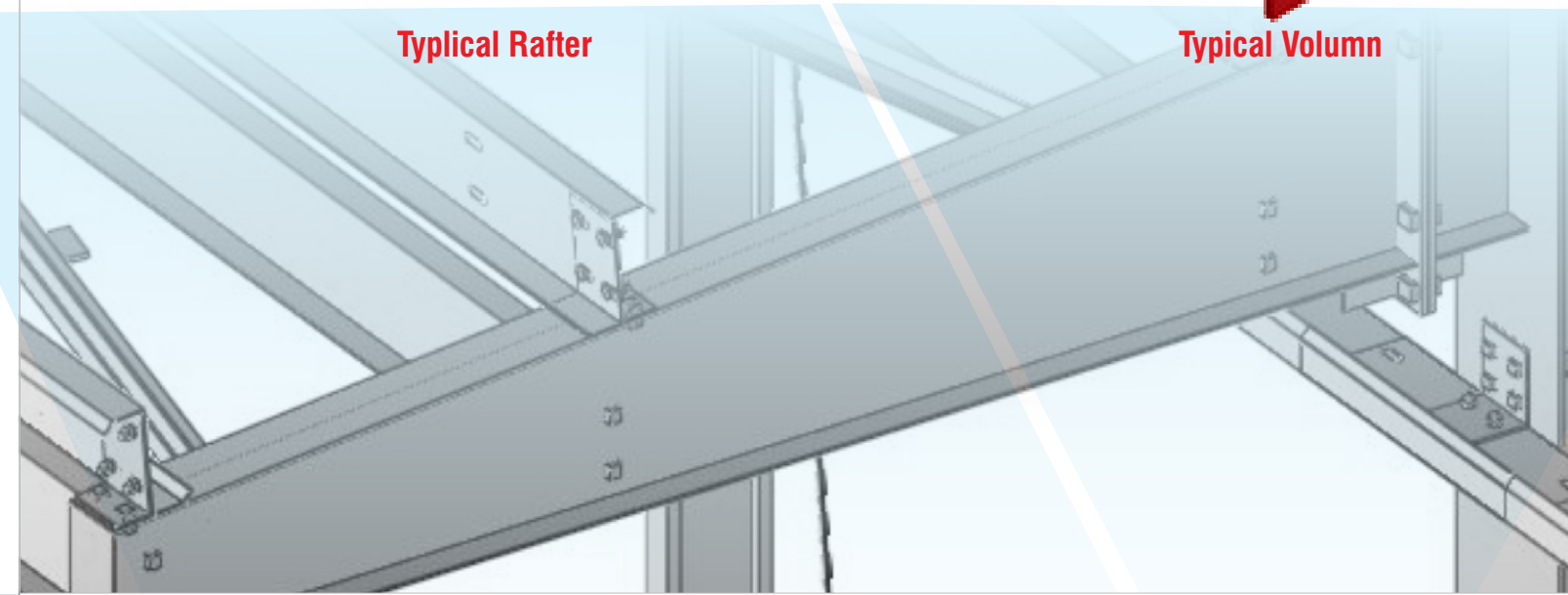
H - Beams are fabricated from high grade steel plates conforming to IS : 2062, ASTM A572 50, ASTM A570 50, ASTM A572M Grade 345 Type 1 or Equivalent with a minimum yield strength of 34.5Kn/Sq.cm and are factory painted with a minimum of 25 microns DFT of Red Oxide Primer.



Typical Rafter



Typical Volumn

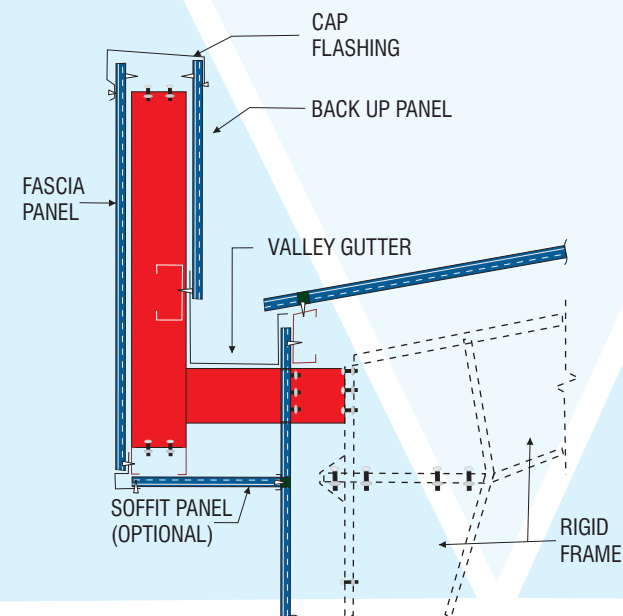


STRUCTURAL SUBSYSTEMS

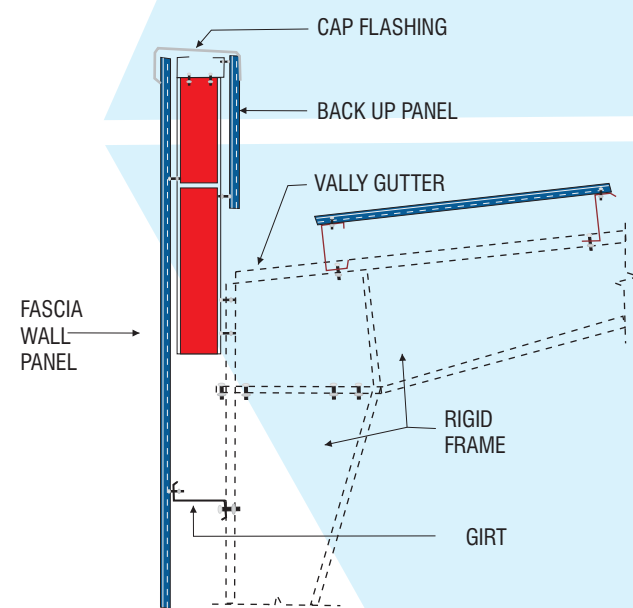
PROTECH PEB Construction:- Pre engineered steel buildings can be fitted with different structural accessories including mezzanine floors, canopies, fascia, interior partitions etc. Fascia is used to conceal the gable roof slop of building. PROTECH Pre-engineered steel buildings can be fitted with different structural accessories. The Buildings made up of Steel where different components of the building are designed, detailed and fabricated in the Manufacturing unit, shipped to and erected at the site. These are provided at the eave level of the roof. This action safeguards the roof and imparts a show-room like appearance to the construction. Following are Different Types of Fascia Used In PEB Construction.

- Canopy
- Curve Eave with projection
- Curved Eave without projection
- Parapet Fascia
- Vertical Fascia with back up Panel
- Top & Bottom Curved Fascia
- Mezzanine Beam Connection
- Mezzanine Joist Connection

VERTICAL FASCIA WITH BACK UP PANEL

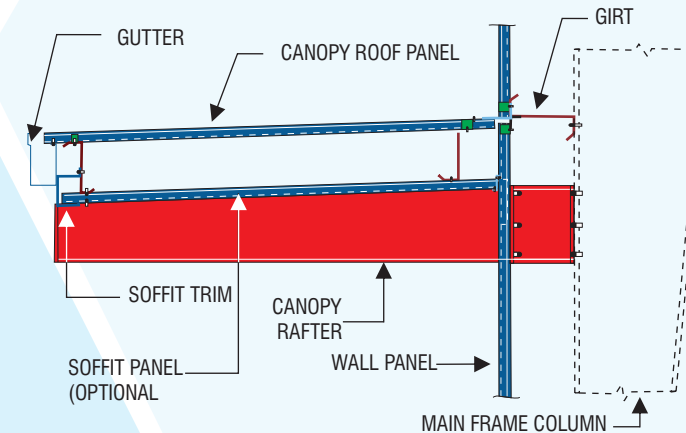


PARAPET FASCIA

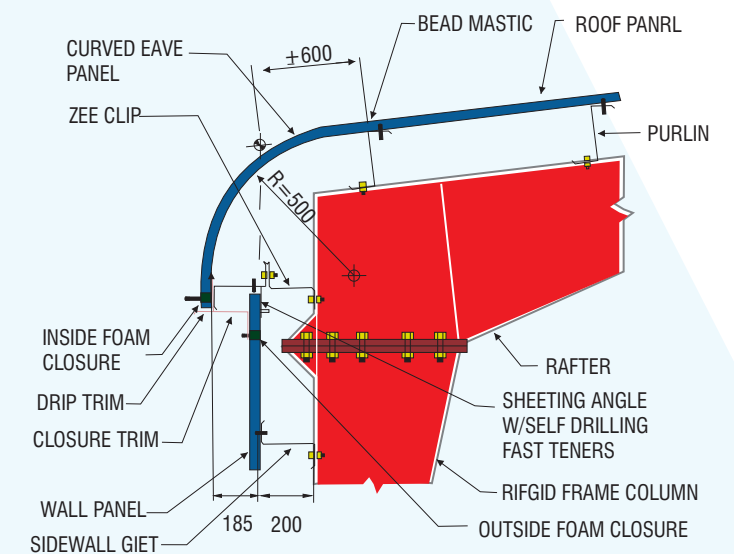


STRUCTURAL SUBSYSTEMS

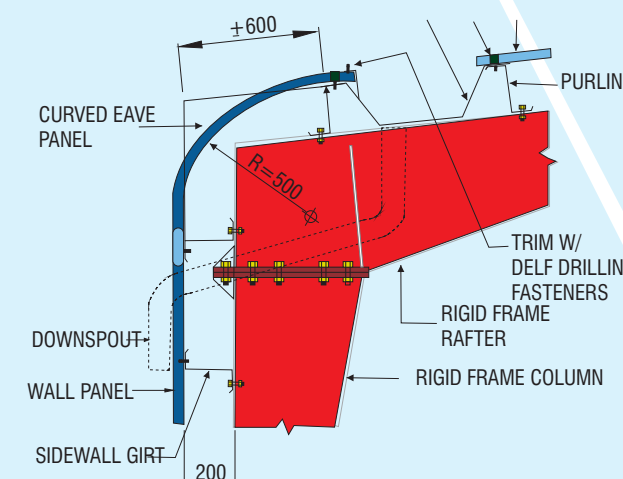
CANOPY



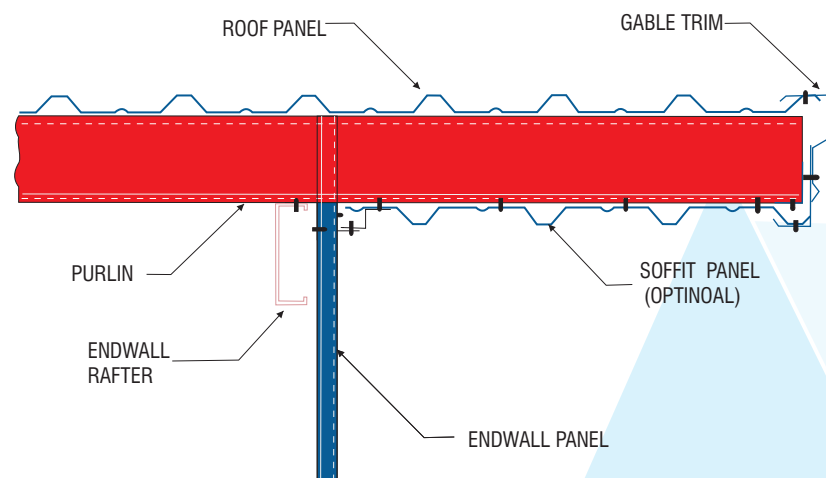
EAVE CURVED WITH PROJECTION



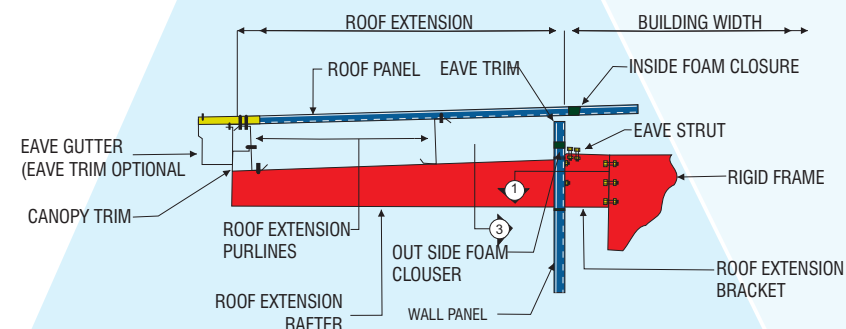
EAVE CURVED WITHOUT PROJECTION



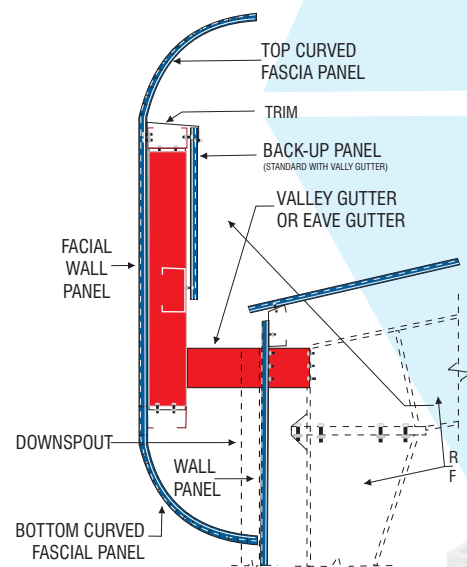
ENDWALL ROOF EXTENSION



SIDEWALL ROOF EXTENSION



TOP & BOTTOM CURVED FASCIA

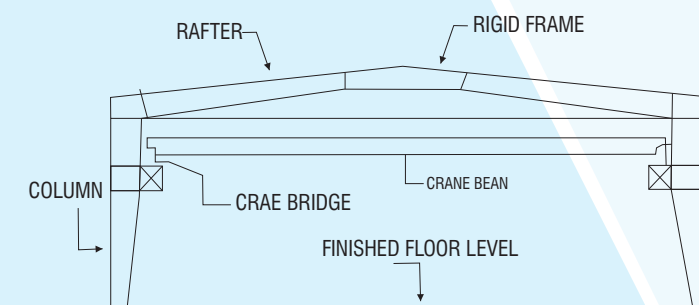


CRANE AND MEZZANINES

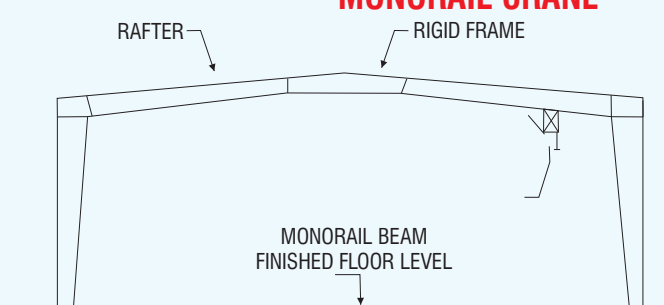
Crane - PROTECH Pre-engineered buildings can be designed to accept most types of crane systems such as EOT, Monorail, Under-hung cranes and other load carrying devices like conveyors etc., in both clear span and multi-span buildings. When a crane system is to be conform, Arko's scope is limited to brackets and crane runway beams which support the crane system. Complete information on the crane system is required in order to design and estimate buildings with cranes.

Mezzanine -Intermediate mezzanine floors are possible in metal buildings. Mezzanine floors can be provided in complete or partial area in Pre-engineered buildings to suit loading requirements for office and storage. Mezzanine floors consists of steel decks, supported by joists framed to the mezzanine beams. Main mezzanine beams normally run across the width of the building and are located under the main rafters while joists run parallel to the length of the building. The top flange of the joists fit immediately below the top flange of the mezzanine beam. The economy of the mezzanine floor is affected by the applied load and support column spacing. Multi-level equipment platforms, catwalks, staircases etc. can be accommodated.

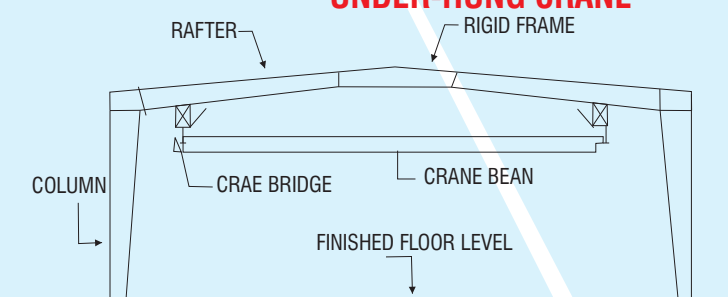
TOP RUNNING CRANE



MONORAIL CRANE



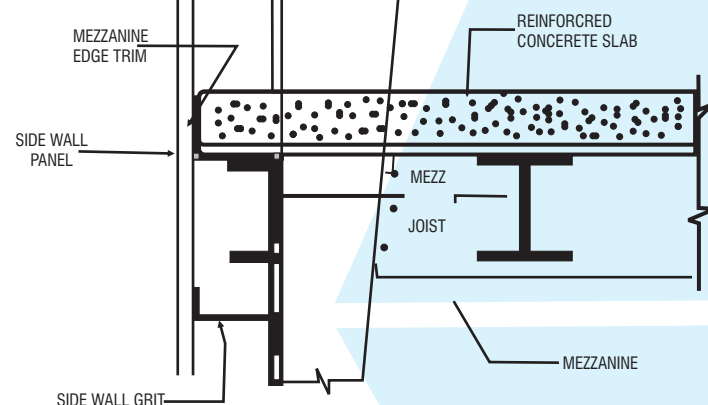
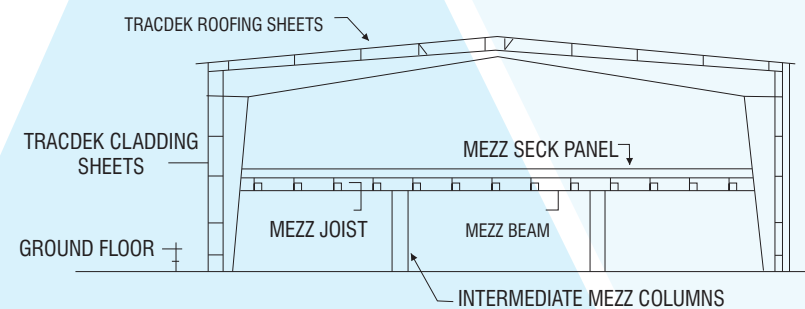
UNDER-HUNG CRANE



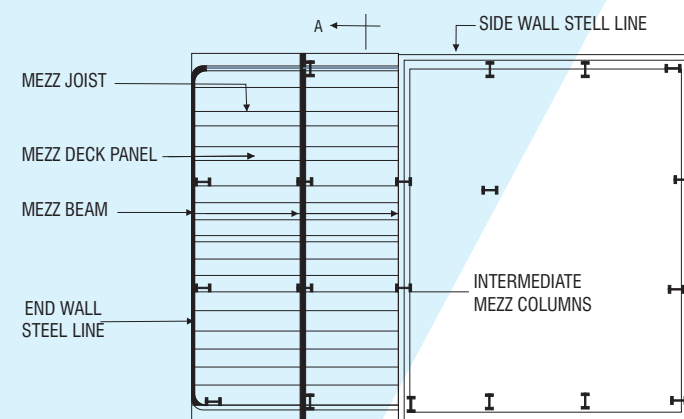
MEZZANINES

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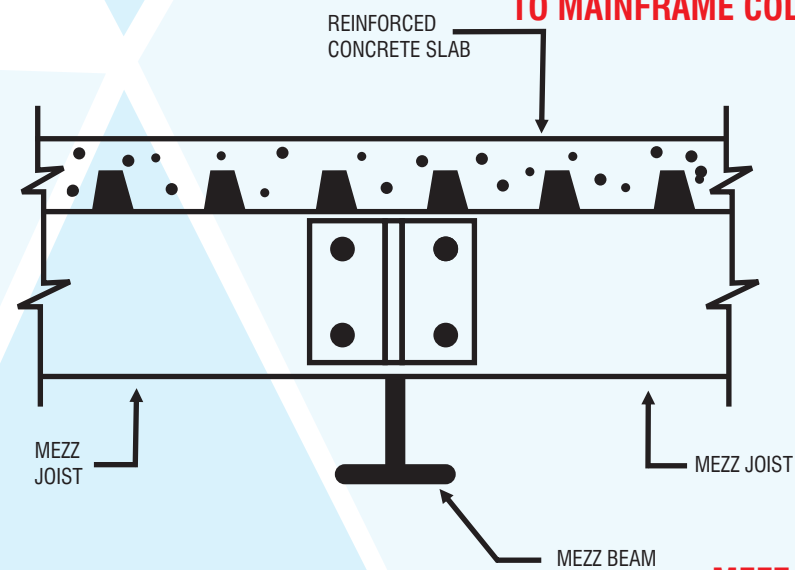
MEZZANINES



MEZZANINES



MEEZ BEAM CONNECTION TO MAINFRAME COLUMN



MEEZ BEAM CONNECTION TO MEZZ. BEAM

