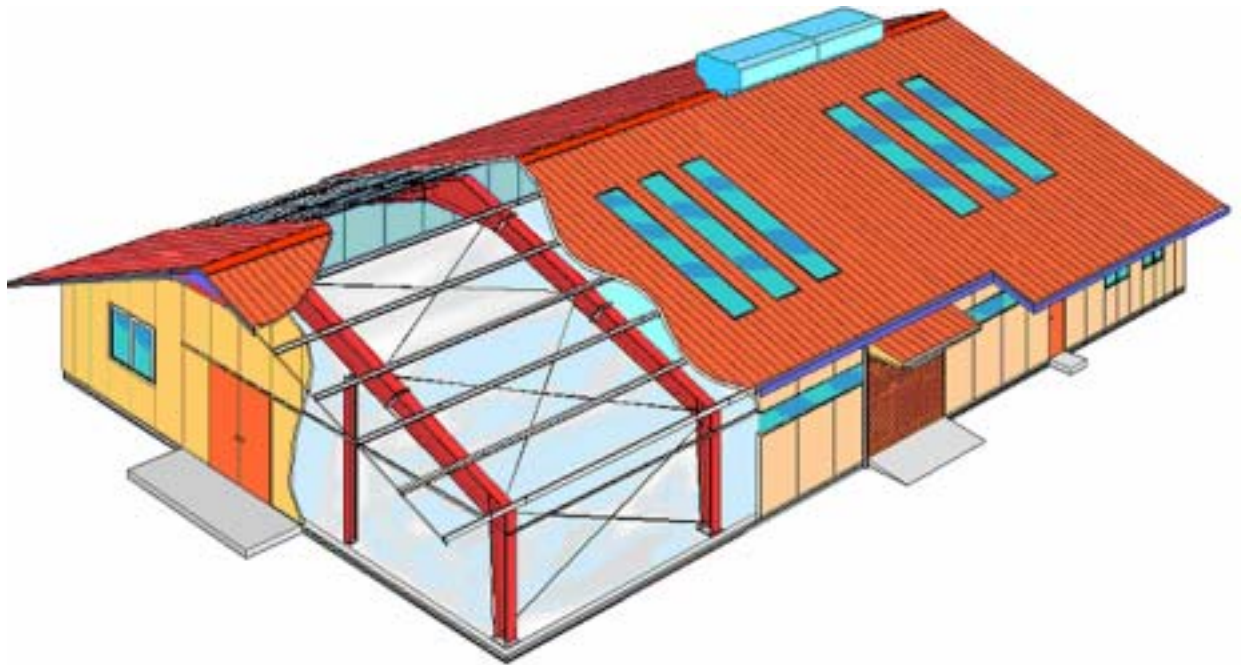


# TANTAN PEB SYSTEM

Pre -  
Engineered  
Building

## < Introduction >



( )

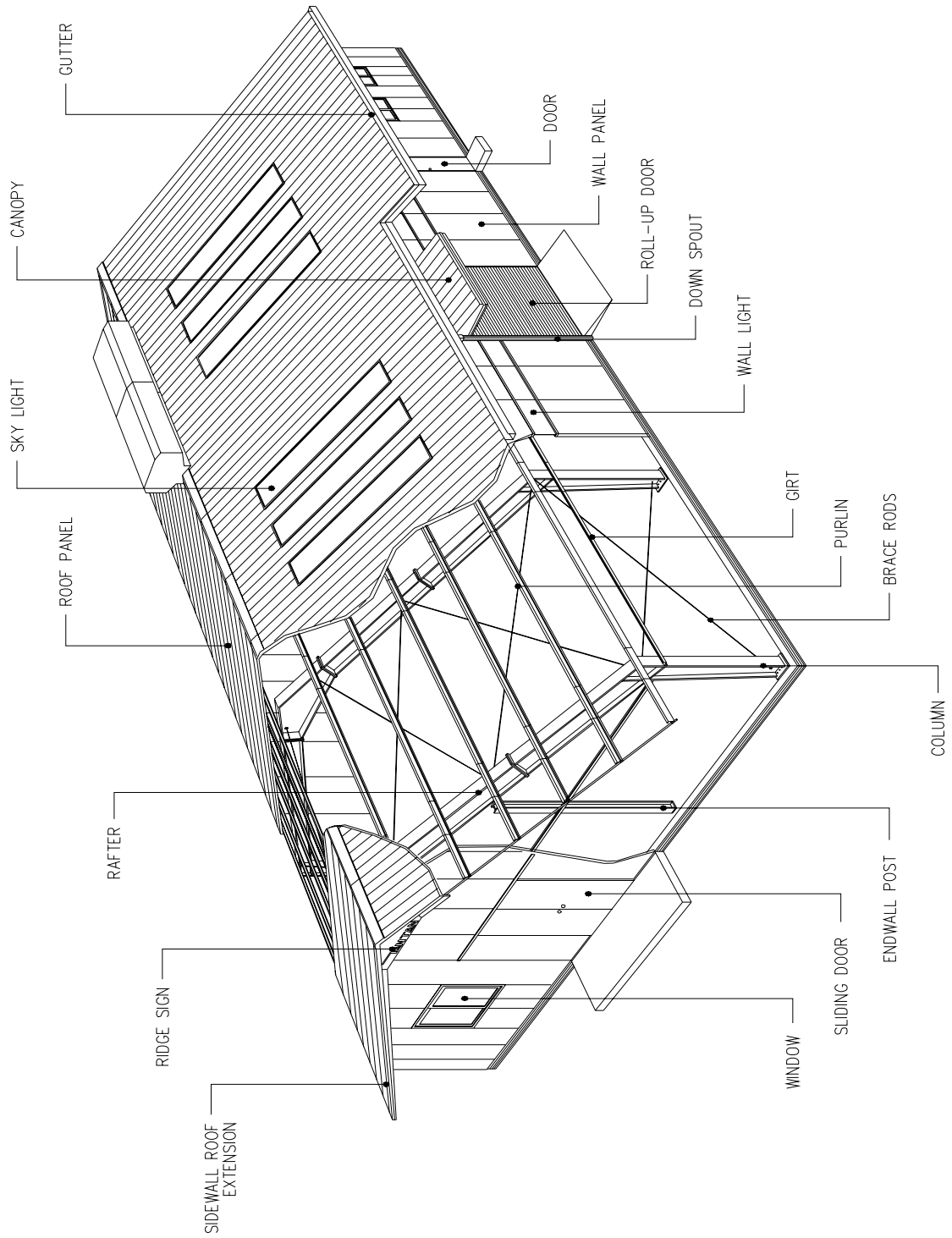
/ | 369-834 305-2  
TEL 043)878-8600 FAX 043)878-8601  
| 137-130 12-7 503  
TEL 02)529-8951( ) FAX 02)529-8953

# 1. PRE ENGINEERED BUILDING SYSTEM

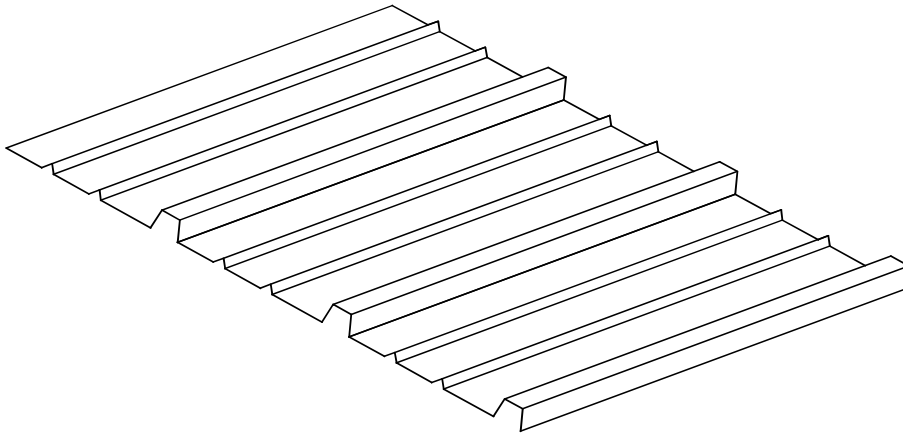
- **1908** : , , .
- **1917** : Ohio Cleveland Austin 가 10 Engineering "Pre-engineering"
- **1930** : QUONSET HUT (Rhode Island Quonset Point ) 가 .
- **1940** : Metal Building System Hot-Roll , , 4/12 가 .
- **1956** : Metal Building Manufactures Association)가 MBMA (The Metal Building
- **1950** : Metal Building 가 Metal Building , 100 10,000 .
- **1960** :
- **1960** : Conrac P.E.B .

## 2. P.E.B System

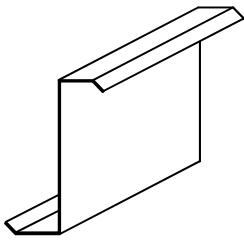
### 2.1.



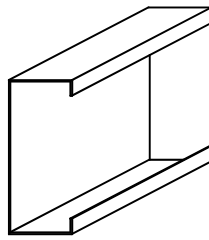
**2.2. P.E.B**



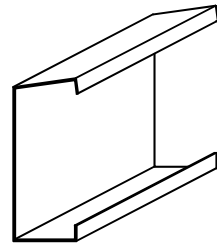
**SHEETING**



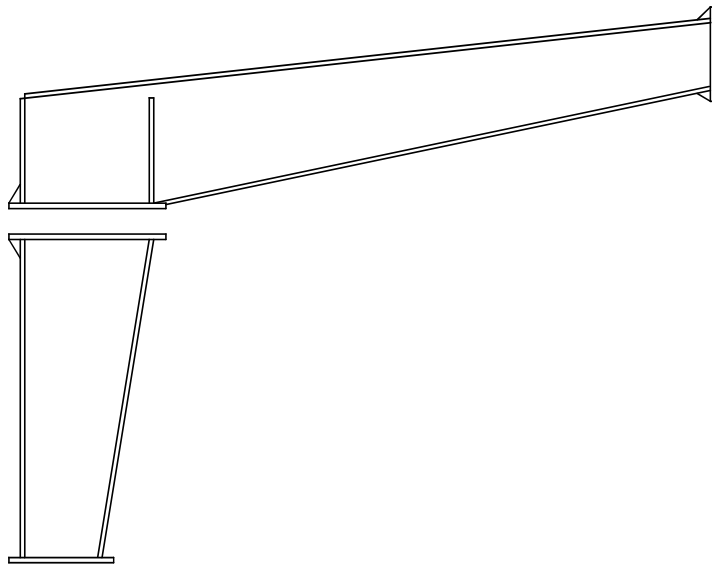
**"Z" SECTION**



**"C" SECTION**

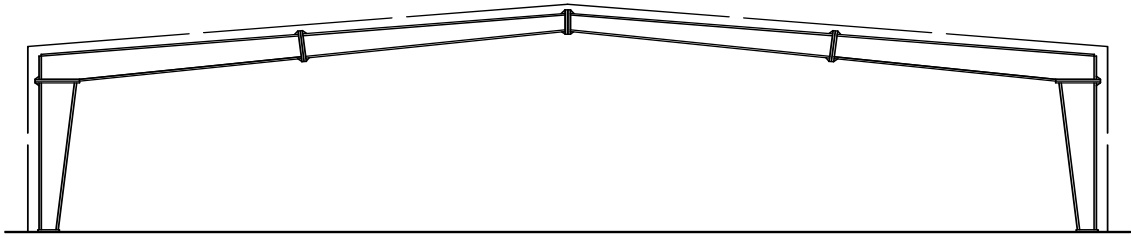


**EAVE STRUT**

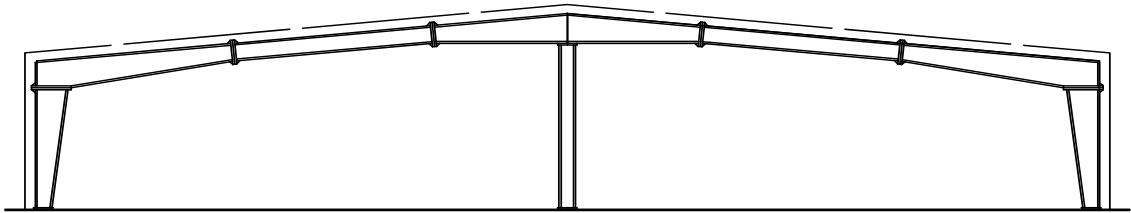


**BUILT-UP SECTION**

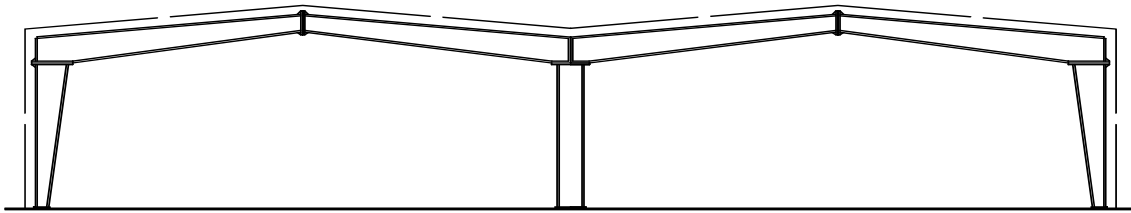
2.3.



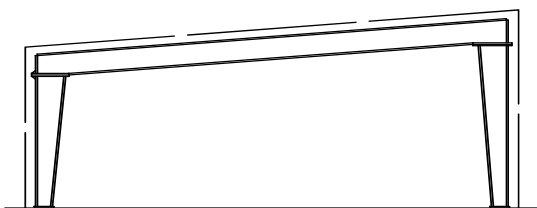
CLEAR SPAN



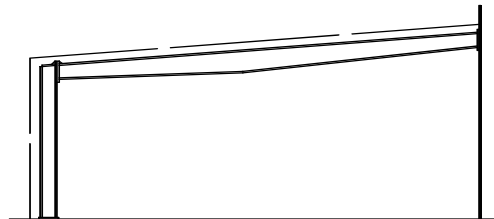
MULTISPAN



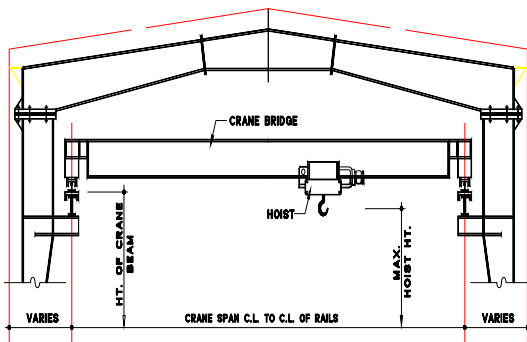
MULTI GABLE



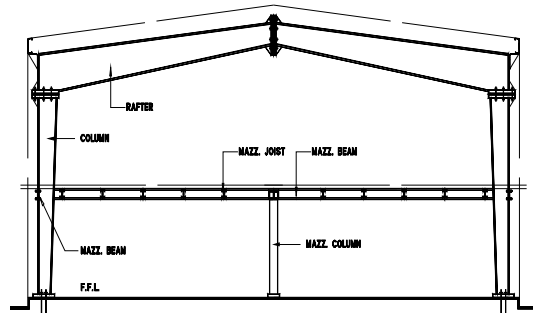
SINGLE SLOPE



LEAN TO



CRANE



MEZZANINE

## **2.4. BUILDING ACCESSORIES**

### **( STRUCTURAL ACCESSORIES )**

- ( CANOPIES )
- ( PARAPETS )
- ( FASCIAS )
- (CRANE SYSTEM - O/H, U/H, MONORAIL, GANTRY...)
- ( MEZZANINE )
- ( ROOF EXTENTION )
- ( HANGING STRUCTURE, ROOF PLATFORM, CATWALKS, LADDERS, STAIRCASE, etc... )

### **( NON- STRUCTURAL ACCESSORIES )**

- ( SHEETING ) ; SANDWICH PANEL , SINGLE PANEL
- ( SLIDING DOOR, ROLL-UP DOOR, OVER HEAD DOOR, PERSONAL DOOR )
- ( WINDOWS )
- ( SKY LIGHT / WALL LIGHT )
- ( PARTITION )
- ( FIRE PROTECTION )

### 3. PEB

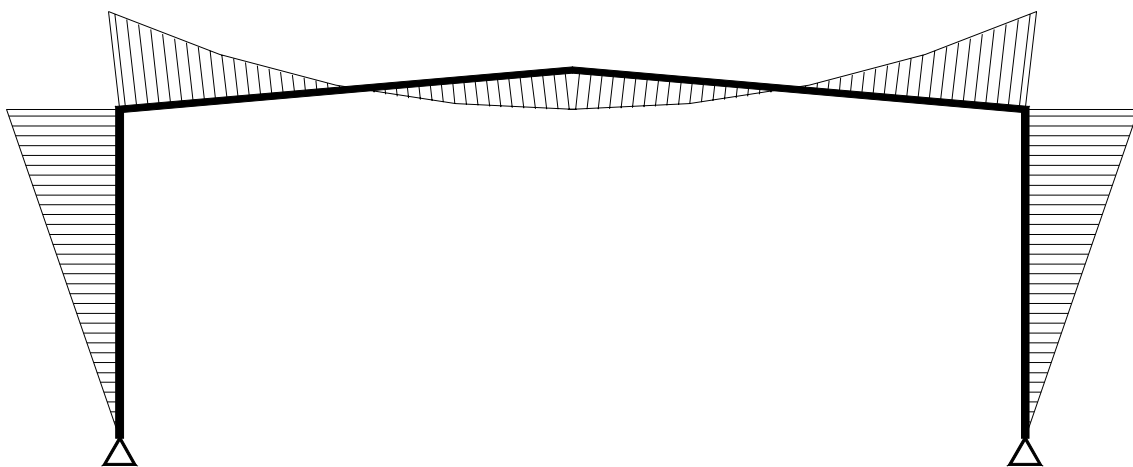
- A.           **( COMMERCIAL )**
  - ( WAREHOUSE )
  - ( SHOWROOMS )
  - ( OFFICES )
  - ( SUPERMARKETS )
  - ( GAS STATIONS )
  - ( FAST FOOD RESTAURANTS )
  
- B.           **( MANUFACTURING )**
  - ( FACTORIES )
  - ( WORKSHOPS )
  - ( PRINTING PRESSES )
  - ( COLD STORES )
  
- C.           **( MILITARY )**
  - ( AIRCRAFT HANGARS )
  - ( AMMUNITION STORES )
  - ( ADMINISTRATION BUILDINGS )
  - ( RESIDENTIAL BARRACKS )
  - ( MESS HALLS )
  
- D.           **( INSTITUTIONAL )**
  - ( SCHOOLS )
  - ( HOSPITALS )
  
- E.           **( RECREATIONAL )**
  - ( GYMNASIUMS )
  - ( TENNIS COURT ENCLOSURES )
  - ( SWIMMING POOL ENCLOSURES )
  
- F.           **( AGRICULTURAL )**
  - ( POULTRY BUILDINGS )
  - ( GRAIN STORAGE )
  - 가         ( DAIRY FARMS )

## 4. PEB

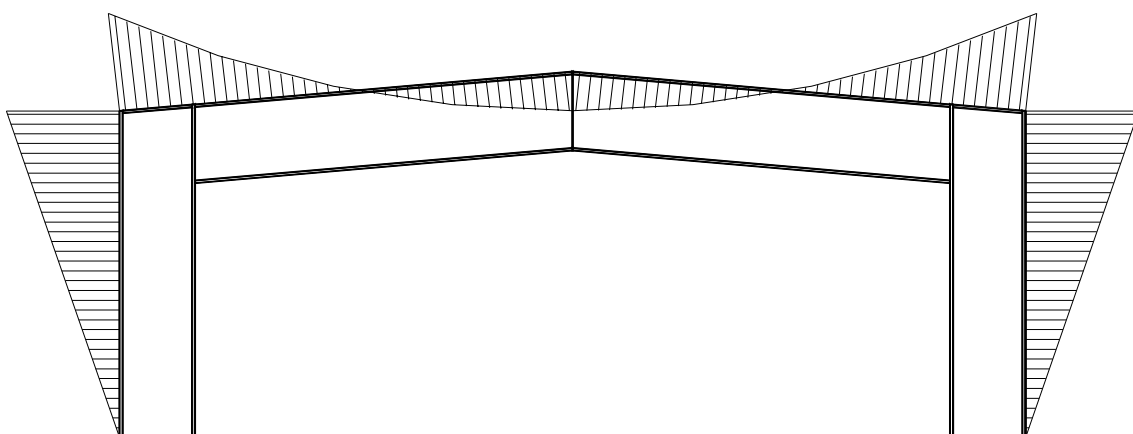
### 4.1. / /

- Tapered Member - .
- Built-Up Section -  
SIZE 가 . (400 X 2000)
- Z-Purlin Z-Girt (Continuous Beam) 가 .
- Roof Diaphragm .
- (50psi) PLATE .(SWS490A, SGH490)
- , Bolted End-Plate Connection .
- Submerged Arc Welding (SAW)
- Twin-Arc Welding
- Web THK : 3.0 ~ 15.0 mm (Cornac)
- Flange THK : 5 ~ 40 mm (Cronac)
- No field welding

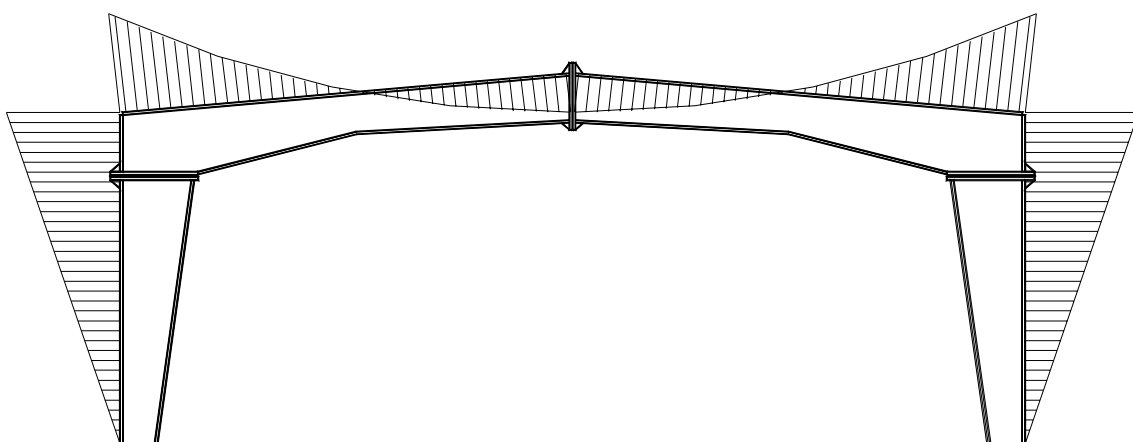
## 4.2. Tapered Member



**B.M.D.**



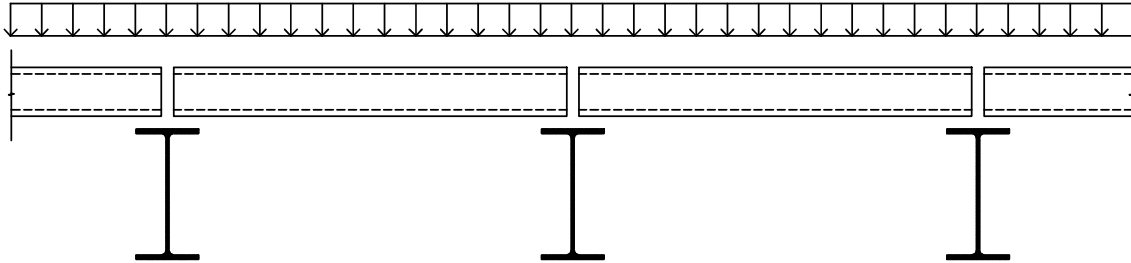
**H - BEAM MEMBER**



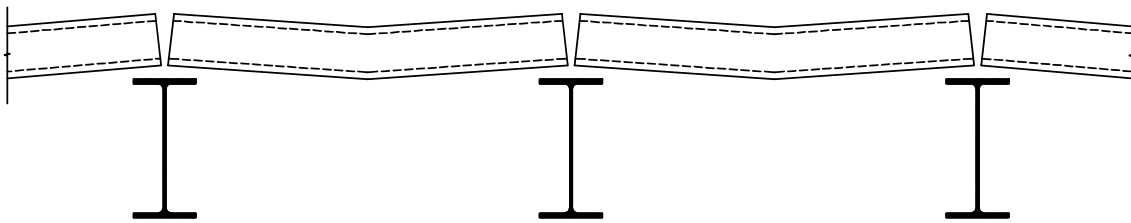
**TAPERAD MEMBER ( BUILT - UP )**

### 4.3. Continuous Secondary Member

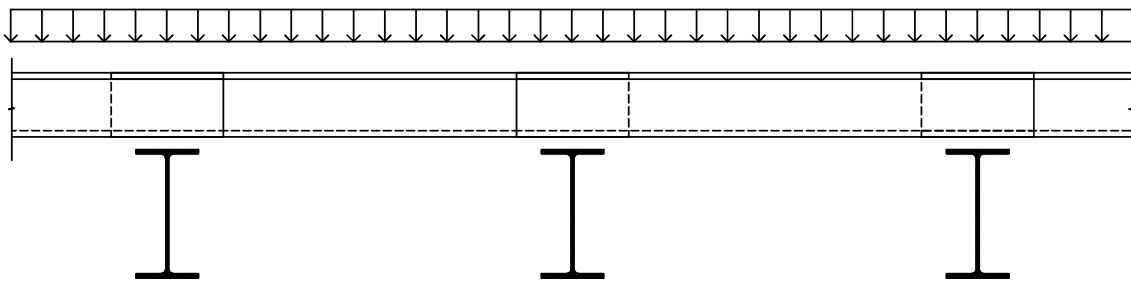
- PURLIN & GIRT



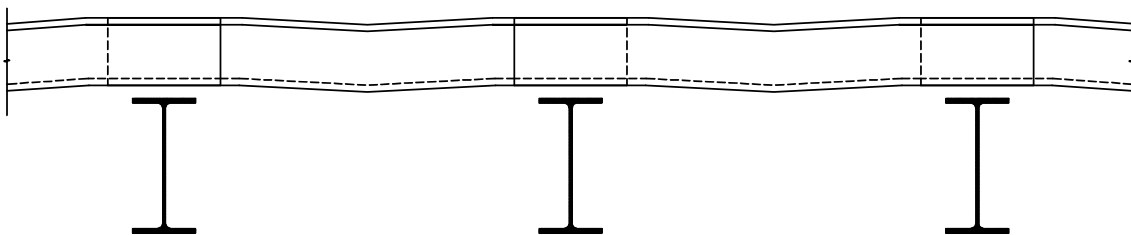
C - MEMBER



SIMPLE BEAM ACTION



Z - MEMBER



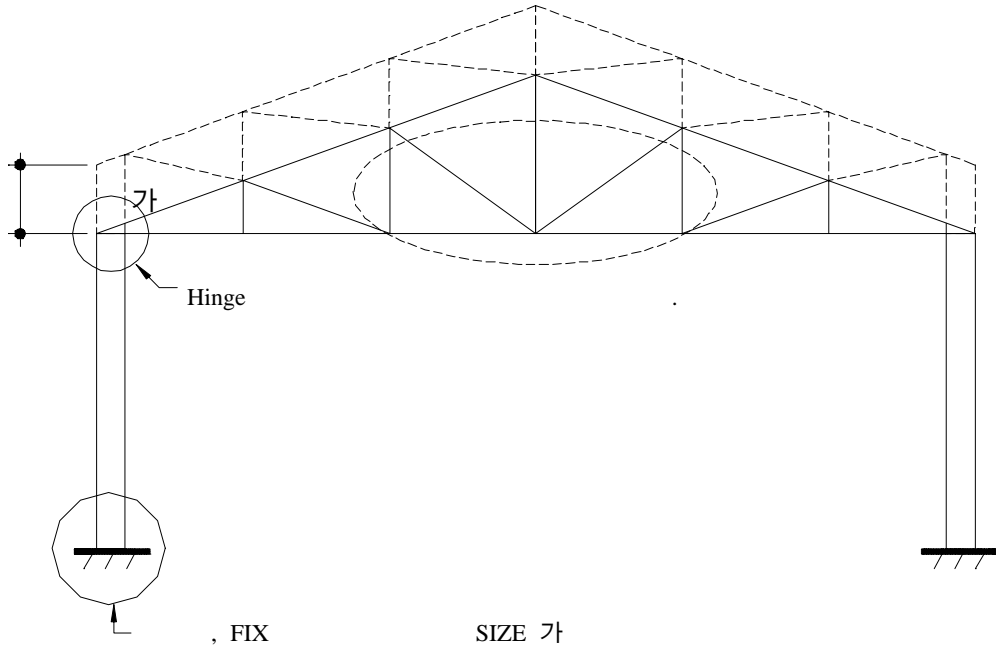
CONTINUOUS BEAM ACTION



5.1(B). PEB

|    | PEB  |   |
|----|--|---|
| 1. | ( , )  | ( )   |
| 2. | , ,  | 4   |
| 3. | 大<br>小   | 小<br>+<br>大                                       |
| 4. | Built-up Section<br>100%<br>C,Z 大(SAW )<br>( ) | (SWS490)<br>Rolled-up Section<br>(SS400)<br>, ( ) |
| 5. | 100%   |   |
| 6. | 가<br>小   | 가<br>大  |

5.2. PEB SYSTEM TRUSS SYSTEM



TRUSS SYSTEM



PEB SYSTEM

## 6. PEB

PEB

- ( LIVE LOAD )
- ( DESIGN CODES )
- ( BUILDING CODES )
- ( STRUCTURAL SYSTEM )
- ( BUILDING GEOMETRY )
- ( STRUCTURAL ACCESSORIES )
  - ( BUILDING ACCESSORIES )
- ( MATERIAL SPECIFICATION )

A.

- ( LIVE LODE )
- ( DEAD LOAD ):
- 가 ( COLLATERAL LOAD ): , , ,
- ( WIND LOAD )
- ( SNOW LOAD)
- 
- 

B.

- M.B.M.A 1986 METAL BUILDING MANUFACTURERS ASSOCIATION
- A.I.S.C 1989 AMERICAN INSTITUTE OF STEEL CONSTUTCTION
- A.I.S.I 1990 AMERICAN IRON AND STEEL INSTITUTE
- A.W.S 1992 AMERICAN WELDING SOCIETY : STRUCTURAL WELDING CODE

C.

- K.S
- B.S

D.

- STANDARD STRUCTURAL SYSTEM
  - CLEAR SPAN
  - MULTI SPAN
  - ( LEAN-TO, CANOPY, MULTI-GABLE, SINGLE SCOPE, ROOF SYSTEM, FLAT ROOF, LOW-RISE BUILDING)

E.

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F.

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- 
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( ROOF PLATFORMS, CATWALKS, , , )

G.

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- 
- 

ROLL-UP

- 
- 

SKY LIGHT, WALL LIGHT

( , )

H.

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- 
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- 
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- 
- 

: BUILT-UP

: Z ( ROOF PURLIN, WALL GIRT )

SMP

: SELF DRILLING

## 7. MATERIAL SPECIFICATION

| MATERIALS   | SPECIFICATIONS  | GRADE                        |
|---|---|------------------------------|
| 1. BUILT-UP MEMBERS<br>(MAIN FRAME)                         | KS D 3515 SWS490A<br>(JIS G 3106 SM490A)  | $F_Y = 31.5 \text{ kN/cm}^2$ |
|   | cf . Equivalent of ASTM A 572 Grade 50 ( $F_Y = 34.5 \text{ kN/cm}^2$ )           |                              |
| 2. HOT-ROLLED MEMBERS                                       | KS D 3503 SS400<br>(JIS G 3101 SS400)   | $F_Y = 23.5 \text{ kN/cm}^2$ |
|   | cf . Equivalent of ASTM A 36 ( $F_Y = 24.8 \text{ kN/cm}^2$ )                     |                              |
| 3. HOT-ROLLED TUBE MEMBERS                                  | KS D 3568 SPSR400<br>(JIS G 3466 STKR400)   | $F_Y = 23.5 \text{ kN/cm}^2$ |
|   | cf . Equivalent of ASTM A 36 ( $F_Y = 24.8 \text{ kN/cm}^2$ )                     |                              |
| 4. COLD-FORMED MEMBERS<br>BLACK<br>(SECONDARY)              | KS D 3515 SWS490YA<br>(JIS G 3106 SM490YA)  | $F_Y = 36.5 \text{ kN/cm}^2$ |
|   | cf . Equivalent of ASTM A 607 Grade 50 ( $F_Y = 34.5 \text{ kN/cm}^2$ )           |                              |
| 5. COLD-FORMED MEMBERS<br>HOT-DIP GALVANIZED<br>(SECONDARY) | KS D 3506 SGH490<br>(JIS G 3350 SGH490)   | $F_Y = 36.3 \text{ kN/cm}^2$ |
|   | cf . Equivalent of ASTM A 446 Grade D ( $F_Y = 34.5 \text{ kN/cm}^2$ )            |                              |
| 6. X-BRACING CABLE  | KS D3514 G-Type Zinc Coating  | $F_U = 147 \text{ kN/cm}^2$  |
|   | cf . Equivalent of ASTM A 475 Extra High Strength ( $F_U = 124 \text{ kN/cm}^2$ ) |                              |
| 7. X-BRACING ROD  | KS D 3503 SS400<br>(JIS G 3101 SS400)   | $F_U = 40.0 \text{ kN/cm}^2$ |
|   | cf . Equivalent of ASTM A 615 ( $F_U = 40.2 \text{ kN/cm}^2$ )                    |                              |
| 8. ANCHOR BOLTS<br>HOT-DIP GALVANIZED                       | KS D3503 SS400<br>(JIS G 3101 SS400)  | $F_Y = 23.5 \text{ kN/cm}^2$ |
|   | cf . Equivalent of ASTM A 36 ( $F_Y = 24.8 \text{ kN/cm}^2$ )                     |                              |
| 9. HIGH STRENGTH BOLTS                                      | KS B1010 F10T<br>(JIS B 1186 F10T)  | $F_t = 30.4 \text{ kN/cm}^2$ |
|   | cf . Equivalent of ASTM A 325 ( $F_t = 30.3 \text{ kN/cm}^2$ )                    |                              |
| 10. MACHINE BOLTS   | KS B1002, CLASS 4.6<br>(JIS B 1180, CLASS 4.6)                                    | $F_t = 15.7 \text{ kN/cm}^2$ |
|   | cf . Equivalent of ASTM A 307 ( $F_t = 13.8 \text{ kN/cm}^2$ )                    |                              |
| 11. SHEETING PANEL<br>- R.M.P<br>- S.M.P<br>- P.V.D.F       | KS D3506 SGCC<br>(JIS G 3302 SGCC)  | -                            |
|   | cf . Equivalent of ASTM A 526   |                              |
|   | KS D3506 SGS50<br>(JIS G 3302 SGC490)   | $F_Y = 36.3 \text{ kN/cm}^2$ |
|   | cf . Equivalent of ASTM A 792 Grade 50B ( $F_Y = 34.5 \text{ kN/cm}^2$ )          |                              |
| 12. ACCESSORIES   | Any kind & any size of Accessories are available from TANTAN.                     |                              |