INTERIOR COLUMN CALCULATIONS

Carefully follow these steps for finding the correct INTERIOR COLUMN:

Step 1 - Enter the following data from your "Structural Layout" or "Truss & Beam Calculations Sheets":

TOTAL ROOF LOAD = _____ lbs./sq.ft. SPAN (Length of truss) _____ feet

SPACING (between trusses) _____ feet LENGTH of Beam (between Columns) _____ feet

WEIGHT of End Truss _____ lbs./lin.ft. WEIGHT of Interior Truss _____ lbs./lin.ft.

No. of Trusses on INTERIOR BEAM _____ (Do not count trusses sitting on columns)

WEIGHT of Interior Beam _____ (feet) COLUMN LENGTH (Height) _____feet

Step 2 - Find the amount of roof supported by a INTERIOR Column:

(Half of the LENGTH of the Beam to one side of the Column plus Half of the LENGTH of the Beam to other side of the Column) x (Half of the LENGTH of the Truss to one side of the CLOUMN plus Half of the LENGTH of the TRUSS to other side of the COLUMN) = AREA of Roof supported by the COLUMN in sq.ft.

Step 3 - Find the weight of this ROOF AREA :

Total Roof Load x Area of Roof = Weight of Roof in lbs.

Step 4 - Find the weight of the TRUSSES:

[(Half of the LENGTH of an INTERIOR Truss to one side of the COLUMN x Weight of Truss/sq.ft.) + (Half of the LENGTH of an Interior Truss to the other side of the COLUMN x Weight of Truss/sq.ft.)] x (the Number of Trusses) = Total Weight of Trusses in lbs.

Step 5 - Find the total weight of an INTERIOR BEAM:

(Half of the LENGTH of an interior Beam to one side of the COLUMN plus Half of the LENGTH of an interior Beam to the other side of the COLUMN) x "Weight of Beam" = TOTAL Weight of Beam in lbs.

Step 6 - Find the total weigth on an INTERIOR COLUMN:

Add "Weight of Roof" + "Weight of Trusses" + "Weight of Beams" = TOTAL WEIGHT on Column in lbs.

Step 7 - Consult the "Structural Steel Tables" to find the correct size:

Convert the total weight to KIPS (1 KIP = 1,000 lbs.)

Start with the "Height of the COLUMN" and look down the table for the "Load" that is equal to or slightly larger than the TOTAL WEIGHT.

Step 8 - Make note of the following:

Column Designation _____ Column Size _____ inches

Weight or Thickness of Column _____ Max. Allow. Wt. _____ lbs.

Step 8 - Assign a CODE LETTER to this COLUMN: _____ Examples: AAA or C1 or CC