

Draw lean to roof details

Objectives: At the end of this exercise you shall be able to
• draw the elevations of lean to roof.

PROCEDURE

TASK 1 : Draw the section of lean to roof

Draw the section of lean- to roof to a scale of 20

Data required

Span of the roof : 2400 mm

Thickness of the main wall : 230mm

Cross section size of wall plate : 150 x 100 mm (verandah wall)

Cross section size of rafter : 125 x 75 mm

Cross section size of battens : 50 x 30 mm at 350 mm C/ C

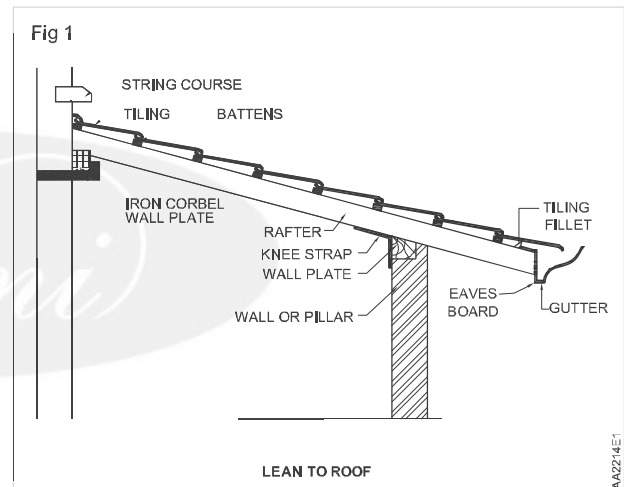
Cross section size of eave boards : 25 x 125mm

Eave projection : 300 mm

Pitch of the roof : 30° or 1/3rd of the span

- Draw the main wall and verandah wall with the given span.
- Draw the wall plate on the top of the verandah wall.
- Draw the rafter at angle 30° to the horizontal.
- Draw the corbel in the main wall at the meeting point of the rafter and the wall.
- Draw the battens above the rafter at angle 30° to the horizontal.

- Draw the corbel in the main wall at the meeting point of the rafter and the wall.
- Draw the battens above the rafter.
- Draw the roof tiles above the battens.
- Draw the eave board and gutter at the end of the rafter.
- Complete the drawing with proper dimensioning. (Fig 1)



Draw the fixing details of AC sheets and corrugated sheets

Objectives: At the end of this exercise you shall be able to

- draw the planning fixing details of asbestos sheet and corrugated sheets
- draw the section of fixing of asbestos sheet
- draw the fixing of screws and bolts.

PROCEDURE

TASK 1 :

Data

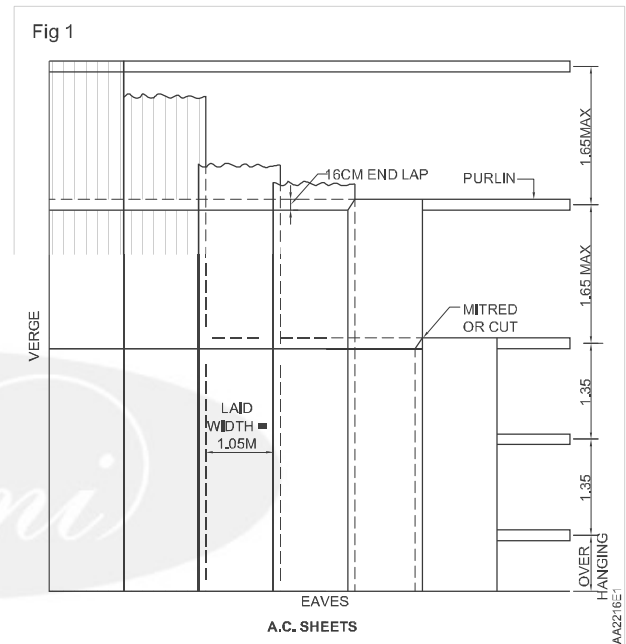
Spacing between the purlins 1:65m maximum

Minimum endlap : 16 cm

Overhang at the ridges : 75

Side lap : 1/2 corrugation minimum (All dimensions in mm)

- Draw the purlins at the given spacing.
- Draw the corrugated sheets as per the drawing.
- Complete the drawing with proper dimensioning as shown in Fig 1.



TASK 2 : Draw the section of fixing of Asbestos sheet

- Draw the section of purlins.
- Draw the asbestos and corrugated sheets as shown in Fig 2.
- Complete the drawing with proper dimensioning.

Fig 2

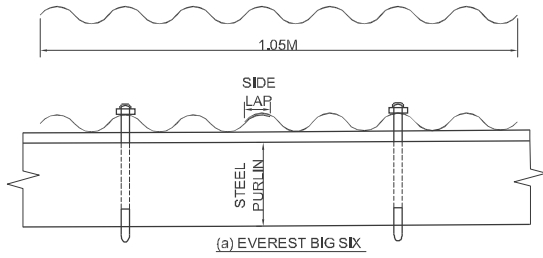


Fig 3

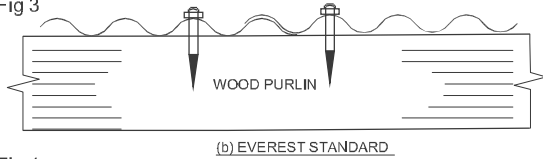
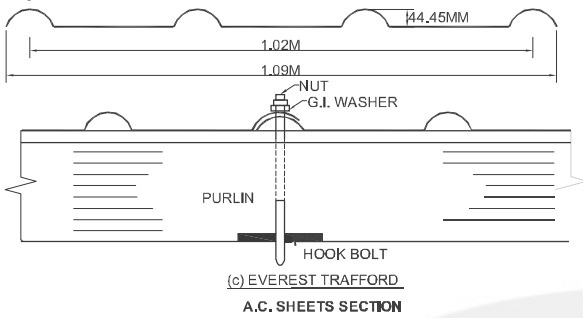


Fig 4

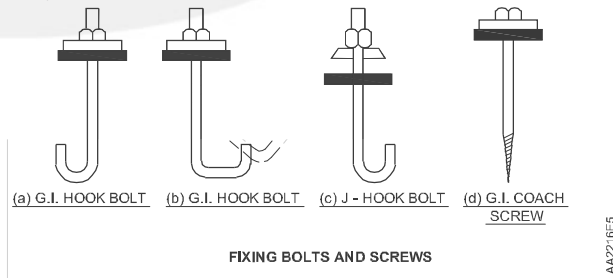


AA2216E2

TASK 3 : Draw the section of fixing of Asbestos sheet

- Draw the 6.1 hook bolt with bitumen washers
- Draw the J-hook bolt with Asbestos washers and lead washers
- Draw the 6.1 croach screw
- Complete the drawing as shown in Fig 3.

Fig 5



AA2216E5

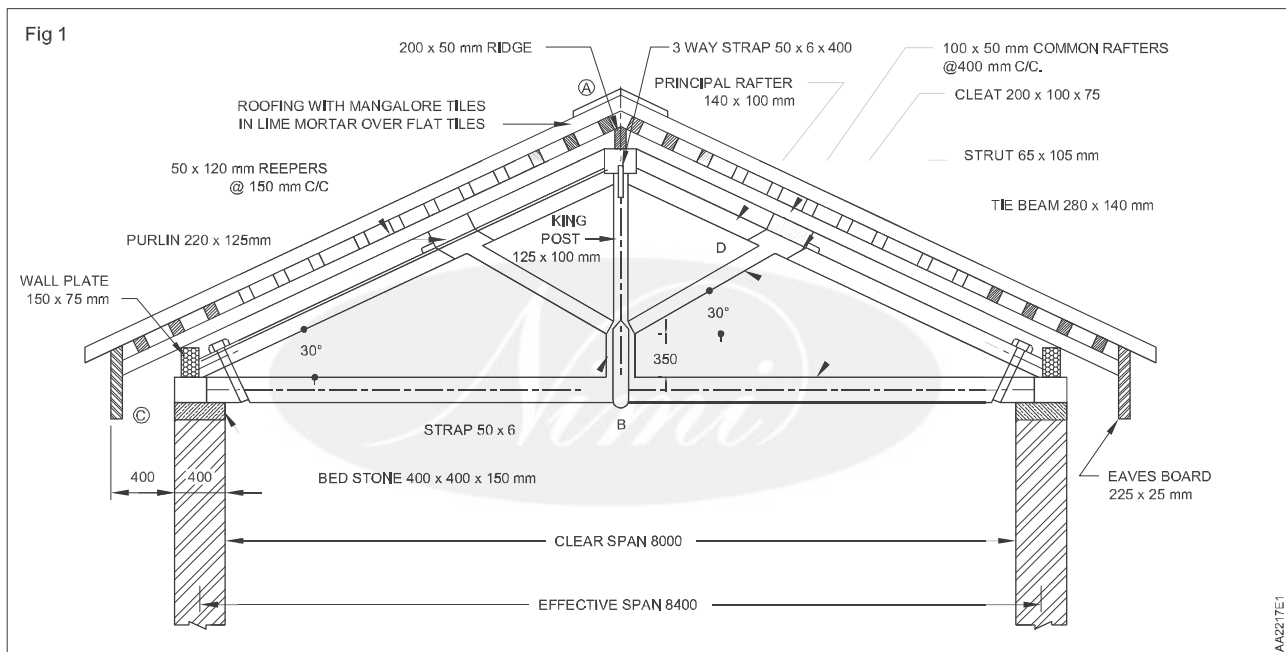
Draw details of king post truss

Objectives: At the end of this exercise you shall be able to

- draw line diagram of king post truss
- draw king post truss 8m span length
- draw detail of each joint in king post truss.

PROCEDURE

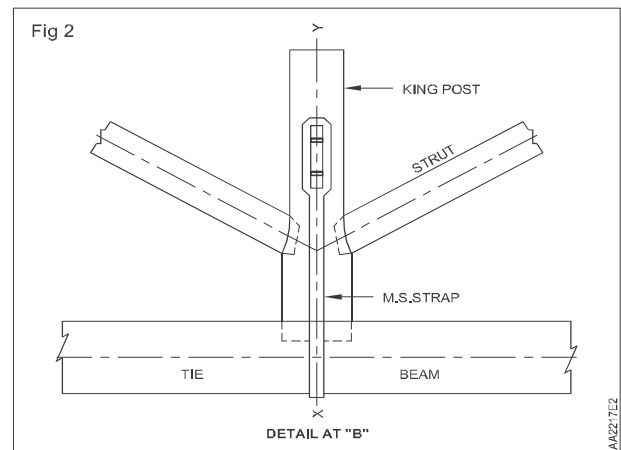
- Draw the view of king post Truss Fig 1
- Draw given span length Details of king post truss
- Draw Details of Joint in King post Fig 1
- Draw sectional view of king post truss Fig 1.
- Draw the view of King post truss (Fig 1)
- Draw a horizontal line take some else and its ends of support a draw vertical line to below the horizontal line.



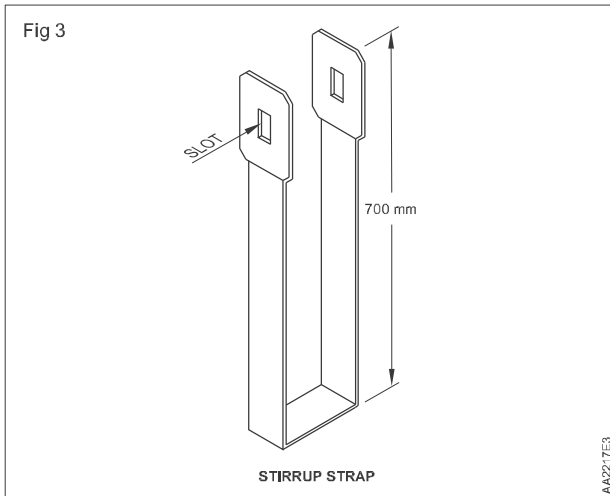
- Draw a pitch of 30' inclined at both ends horizontal line.
- Draw the inclined line to parallel certain interval.
- Draw a vertical line to middle of horizontal line.
- Draw a inclined line to vertical line pitch of 30' at both side.
- Draw a ridge pices at end of top (or) crown To show Roof covering, cleat, sectional view of purlin. Principal rafter and common rafter as an shown in Fig.

Draw details at 'B' of king post

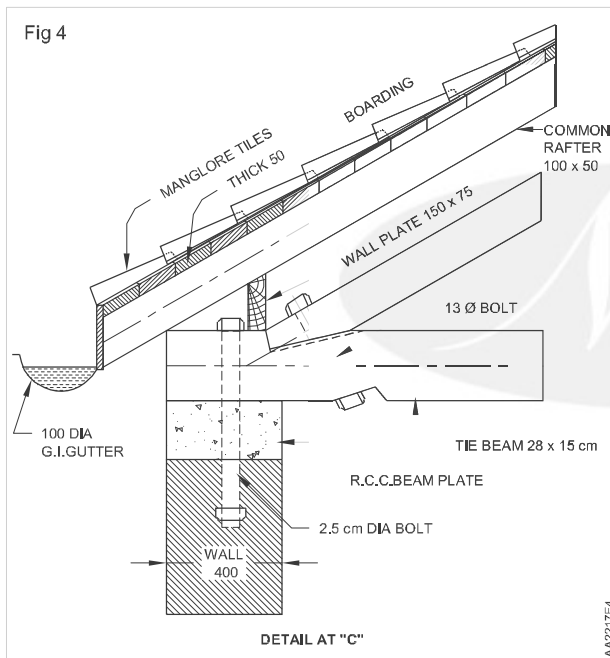
- Draw the exercise as same.
- Draw Dimentional sketch of each part of king post truss strut and tie beam (Fig 2)



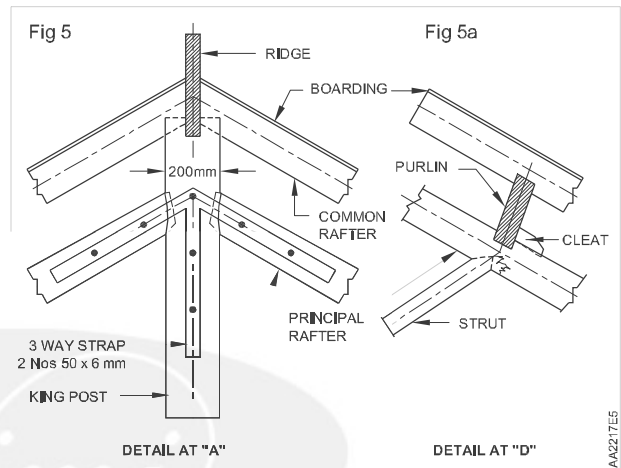
- Draw the detail of stirrup strap (Fig 3)



- Complete the drawing.
- Draw the detail at 'C' of King post Truss (Fig 4)



- Draw wall thickness
- Draw Tie beam and principle rafter
- Draw common rafter and setting of mangalore tiles
- Draw connection of Bolt
- Complete the drawing as shown in Fig 3.
- Draw the details at 'A'
- Draw King post and principal rafter
- Draw common rafter and ridges
- Complete the drawing as shown in Fig 5.
- Draw the details at 'D'
- Draw the drawing as shown in Fig (5a)



Draw details of queen post truss

Objectives: At the end of this exercise you shall be able to

- draw queen post truss elevation
- draw queen post truss detail.

PROCEDURE

Diagram of span length 8000 to 12000 mm

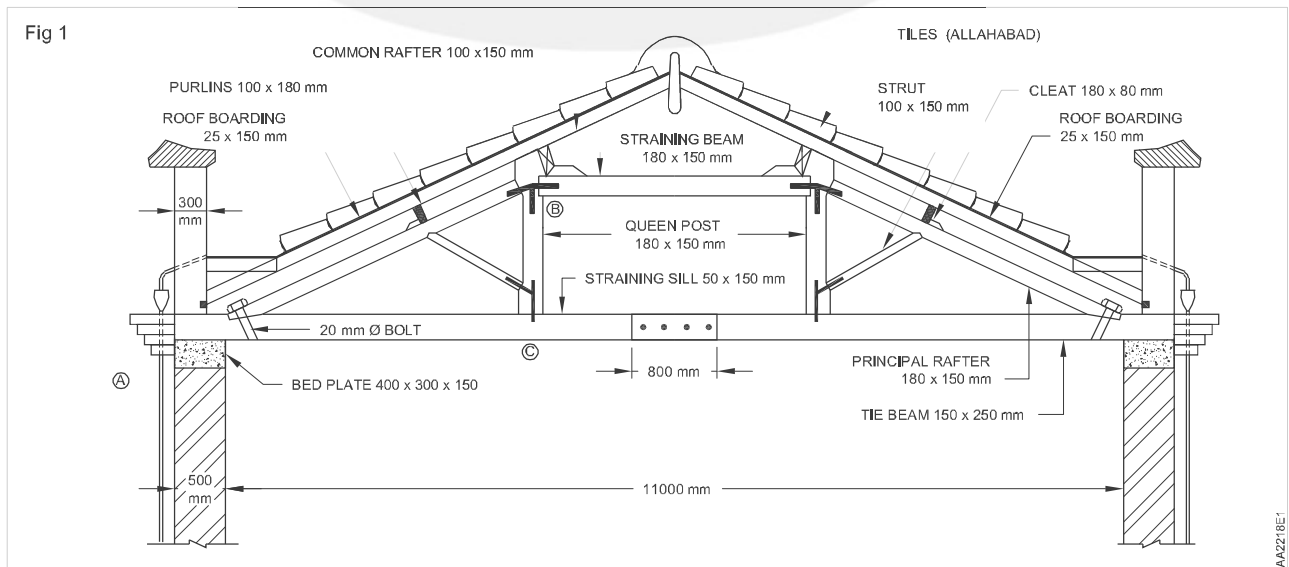
- Draw the elevation of Queen post truss of span length 8000 to 12000 mm
- Draw the details drawing of Queen post truss. Span up to length 11000 mm

Data:

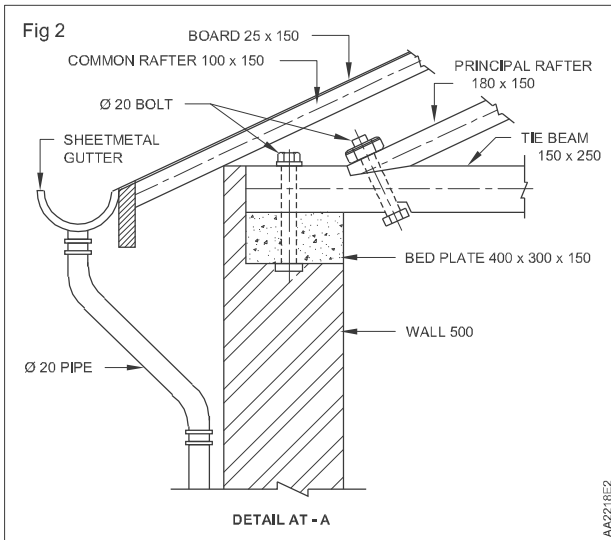
- Span 11,000 mm
- Wall thickness 500 mm
- Bed plate 400 x 300 x 150
- Parapet 300 mm
- Rain water pipe f 20 mm
- Tie beam 150 x 250 mm
- Queen Post 180 x 150 mm
- Straining sill 50 x 150 mm
- Straining beam 180 x 150 mm

- Strut 100 x 150 mm
- Cleat 180 x 80 mm
- Roof Boarding 25 x 150 mm
- Purlin 100 x 180 mm
- Dia of Bolt 20 mm

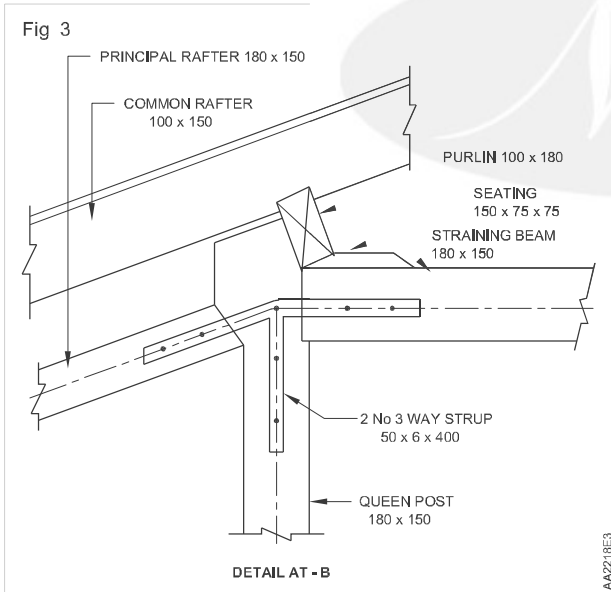
- Draw Horizontal line 11000 mm to draw two wall thickness.
- Draw 30° inclined to pitch of horizontal line to both ends. it will form a triangle shape
- Horizontal line to divide three equal points 1,2 put mark it. Draw vertical line above it. The vertical line cut in the inclined line in both side, That it cutting point connect a horizontal line. This line is called springer beam and below it called tie beam. It will shown in Fig 26.1
- Complete the drawing as shown in Fig 1.



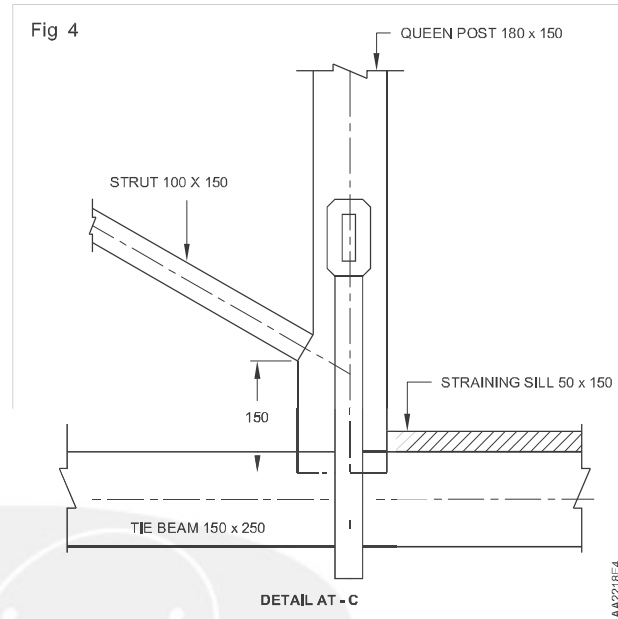
- Draw Gutter and rain water pipe as shown in Fig 2.



- Details of Queen post truss at 'B'.
- Draw the length of straining beam
- Draw inclined member of common rafter and principal rafter
- Draw connection of stirrup and purlin
- Complete the drawing as shown in Fig 3.



- Draw the details at 'C' of Queen post truss
- Draw the length of tie beam
- Draw vertical Queen post
- Draw straining sill
- Draw incline member of strut
- Draw the connection of strap
- Complete the drawing as shown in Fig 4.



Draw details at 'A' of Queen post truss

- Draw a Horizontal member of tie beam and inclined member of principal rafter and common rafter.
- Draw wall thickness and bed plate.

Draw the sectional elevation of couple roof (Fig 1b)

Draw the section of couple roof to a scale 1:50.

DATA:

Span = 3000mm.

Thickness of main wall = 200mm.

Cross section size of wall plate = 150 x 100mm.

Cross section size of Ridge piece = 80 x 200mm.

Cross section size of common rafter = 50 x 125mm.

Cross section size of battens = 50 x 30mm at 350 mmC/C.

Cross section size of eave boards = 25 x 200mm.

Eave projection = 600mm.

Pitch of the roof = 30° or 1/3 of span.

PROCEDURE:

- Draw the main wall with 3000 mm clear span.
- Draw wall plate above the top of main wall.
- Draw common rafter with 30° slope above the top wall plate.
- Draw ridge piece at the junction of common rafter.
- Draw eaves board at the end of common rafter.
- Draw battens above the common rafter.
- Draw roof tiles above the battens.
- Draw ridge cover above ridge piece.
- Complete the drawing as shown in figure

