

Selecting Trussed Rafter Profiles

Determination of the required truss rafter profile assumes the ability to read a two dimensional drawing and visualise the required structure in three dimensions.

This skill is acquired by experience, although certain powerful graphical aids in the form of computer programs are now available to assist the designer in this area.

The designer's task is to take the roof plans, sections and elevations presented to him by his client and form the required roof shape in his mind. The technique of 'sectioning' the roof will then give the

required profile of the truss required at any point.

'Sectioning' requires the designer to consider the height dimension of a particular point on the roof line, as well as its plan position. The profile change points for a truss are often seen on the roof plan as hip or valley intersection lines, or at points where the apex or eaves line changes in some respect.

The following figures illustrate the transition from two-dimensional roof plan to three-dimensional impression of the roofscape to the required trussed rafter profiles.

ROOF PLAN

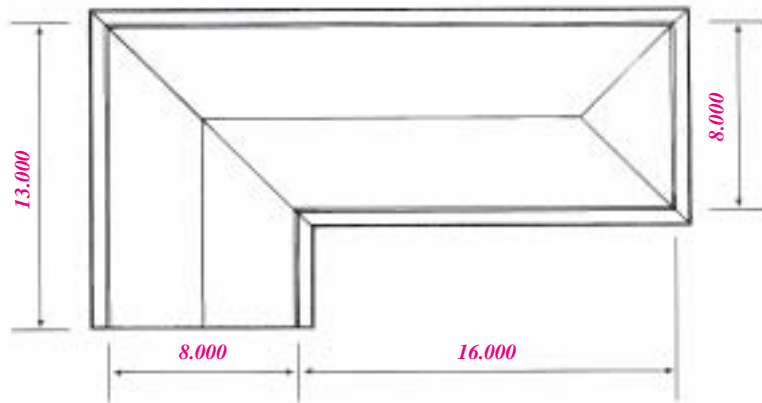


Figure 29a

Figure 29b

THREE DIMENSIONAL REPRESENTATION OF ROOF

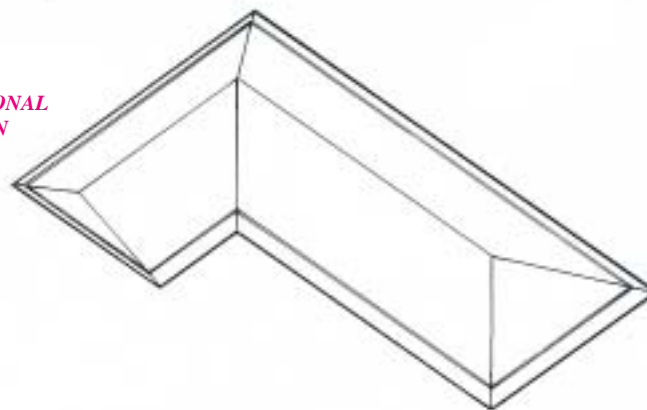
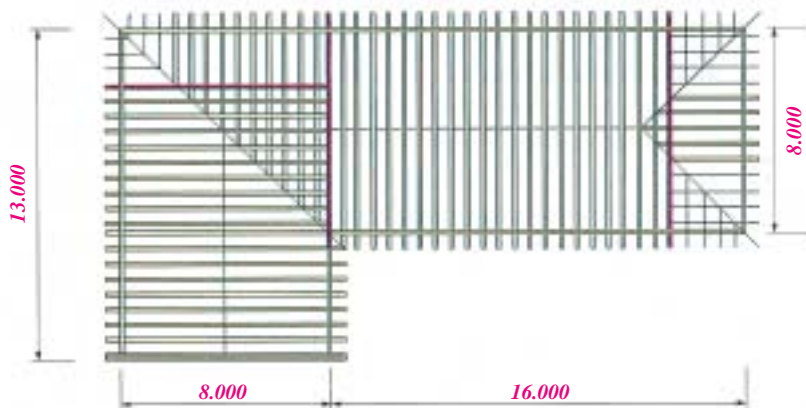


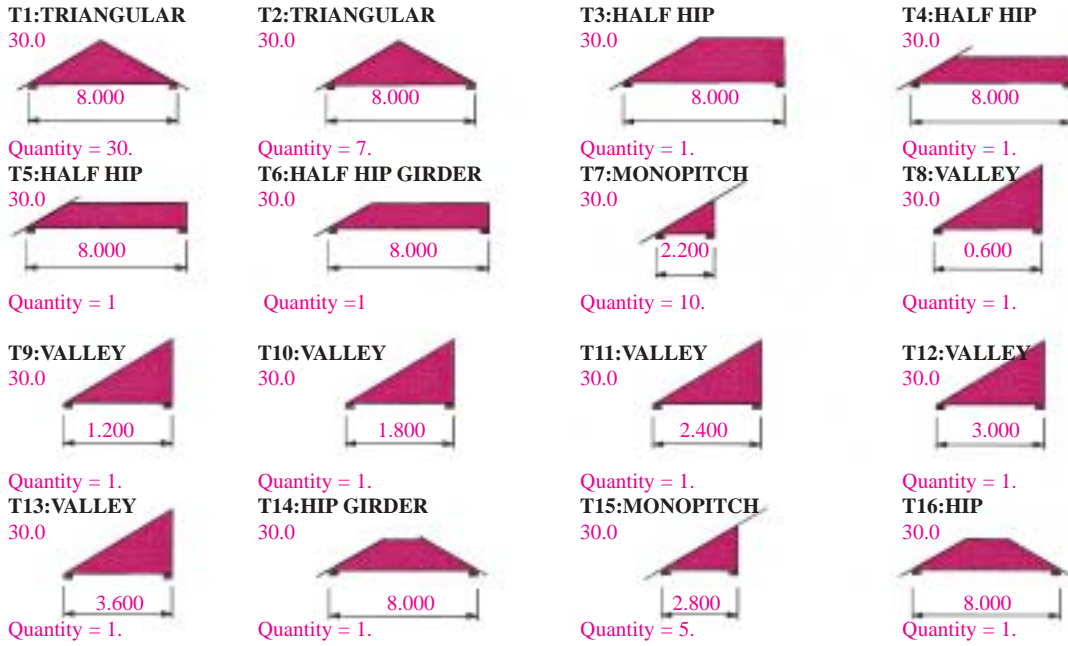
Figure 29c

FRAMING PLAN



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Figure 30a



Another illustration of 'sectioning' to find the required profile would be the choice of either a cantilevered or

bobtail truss, as shown in the following figures.

Figure 30b

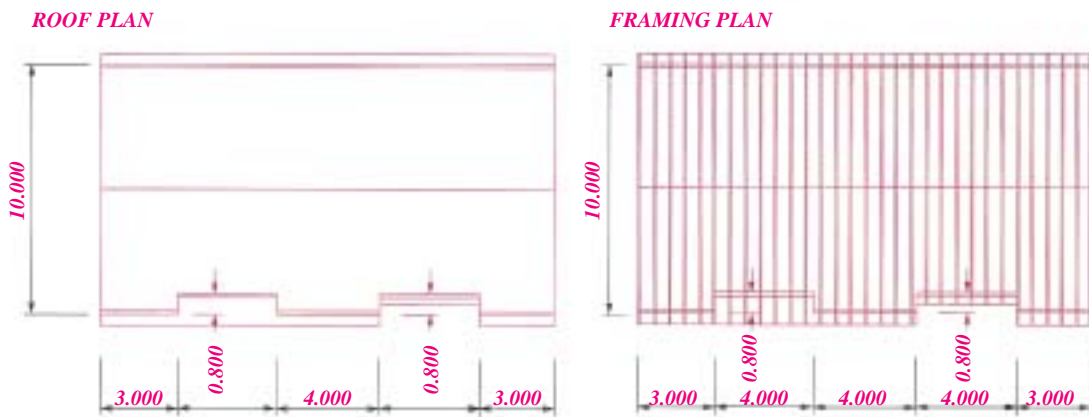


Figure 30c

As mentioned earlier, computer graphic programs are increasingly assisting the designer to visualise the roofscape.

The figures in this section have been produced from MiTek's MI2000 layout, take off and design software.