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# Sorcerer

Also suitable for Roof Magician, Roof Wizard, Roof Maestro and Roof Master.\*

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**Advanced Software for Roof Modelling and Estimating**

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**Creating a cutting list for curved (sprung) panel roof**

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**A competent level of knowledge in the use of AppliCad software is assumed in describing these functions.**

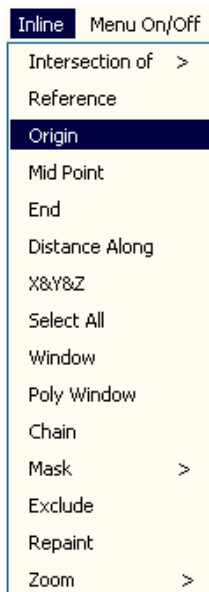
## Curved (Sprung) Panel Tutorial

This tutorial covers the creation of a metal cutting list for a curved metal roof of large radius curve where the roof sheets are rolled as for a regular flat roof, but 'walked' onto a large radius arc roof frame. It is fair to say that indeed the roof is not a curve at all, but an arc.

For this example we have a simple arc roof where the length of the bottom chord is 22000 (you may use feet and inches if you wish).

So first of all draw a line from the origin (0,0) to the right incrementally (IX22000). **CAD | Line | Insert | Free** then type 0,0 and enter. Then type IX22000 and enter, and your line will be drawn. This is the bottom chord of your curve.

Then we draw a line perpendicular from the centre of the line to what would be the high spot on the arc roof. Select **CAD | Line | Insert | Free** and when the crosshair appears, select the inline menu from the Pulldown menu and select **Origin**. Draw a line from the origin of the line (as distinct from the origin of the job).

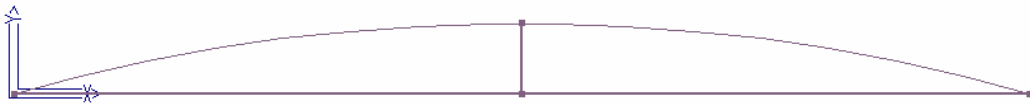
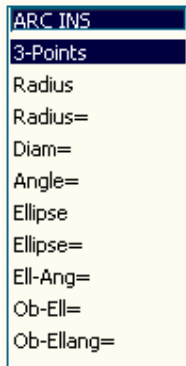


Now select the line and the start point for the perpendicular line will 'snap' to the centre of the line. Now type the coordinates of the high point of the arc. For our example we will use IY1500. That means that the high point of the arc roof is 1500 above the chord.

You will have a drawing like the one below.

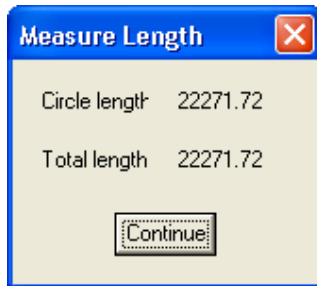


Now use the command to add an arc to the construction points we have created. **CAD | Arc | Insert | 3 points** and use the middle button to snap to the ends of each of the lines, and your arc will be drawn.



The length of the arc is the length of the roof sheets (plus the gutter overhang if required).

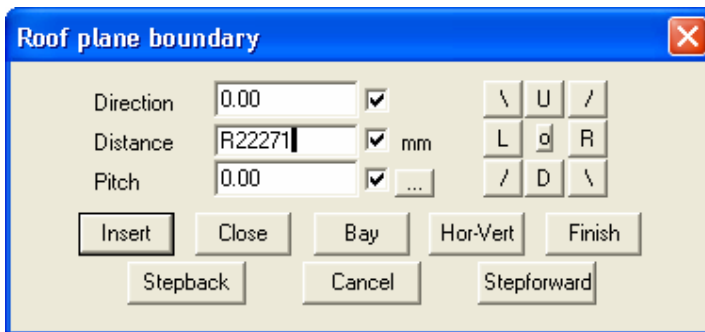
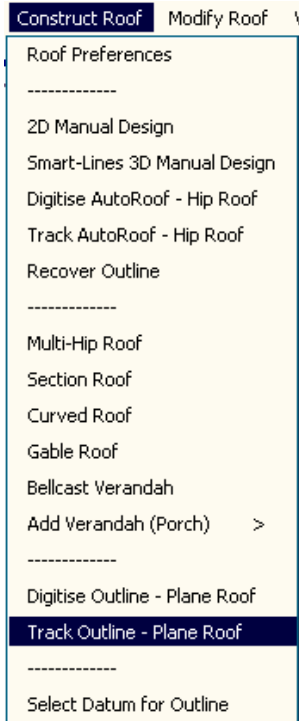
In this case the arc length is –



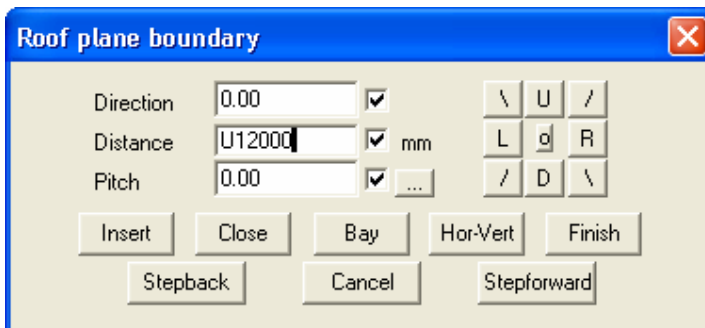
Use **Tools | Measure | Lengths** to determine the arc length.

Now we use the arc length to draw the plane roof that will be used to determine the number of roof sheets and do our quotation using the normal Wizard/Sorcerer quoting tools of **Cover | Metal Panels**.

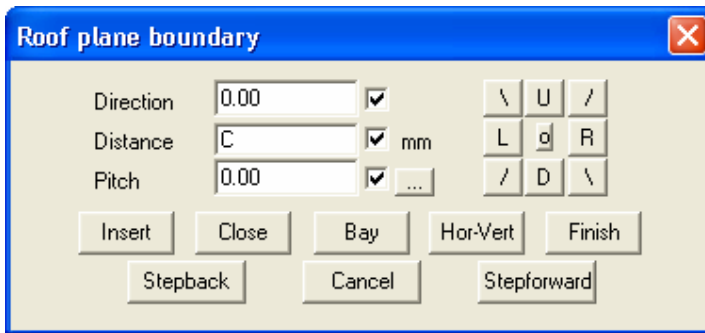
In our example we will now draw our roof. Use **Track | Plane**.



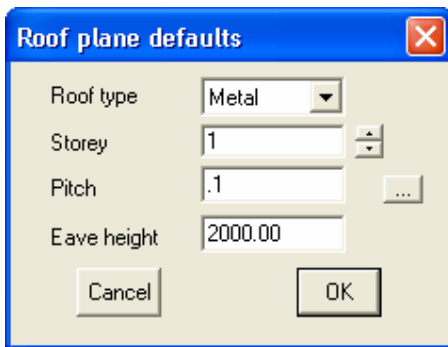
Use the arc length for our first input. Don't forget to add the gutter overhang on each side if this is required.



Then use the width of the shed to input the second side. Then enter **C** to close the outline square.

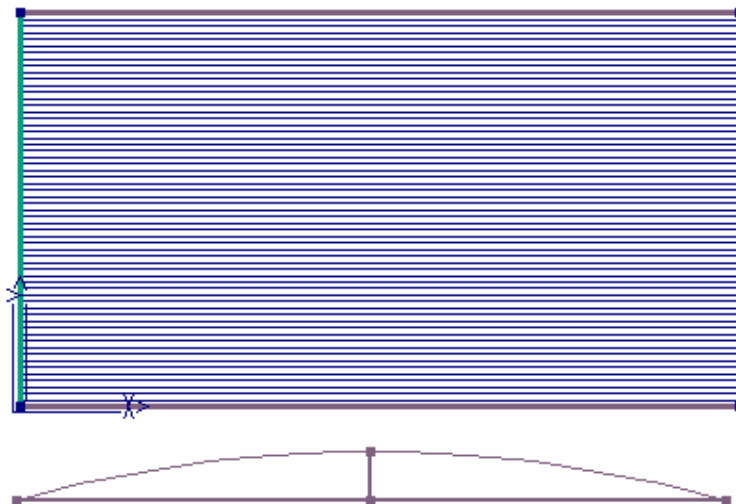


Then select Finish to finish outline input and you are prompted for the Roof type, the storey and the pitch. Use a very low pitch, say 0.1 degree pitch (near as possible to flat). You need some pitch (ie not zero) to get prompted for a pitching line, the line the roof falls to or the eave line. This sets the sheet direction.



In our case select the left hand line and the pitch then falls right to left.

You will then have a job as shown below.

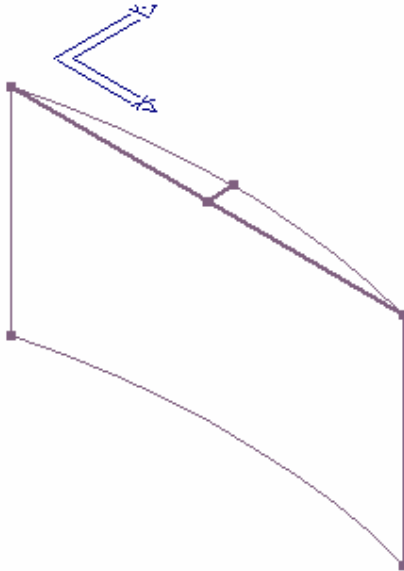


Now use the **Cover** menu to select the required roof sheets and **Gen-Panels** to quantify them.

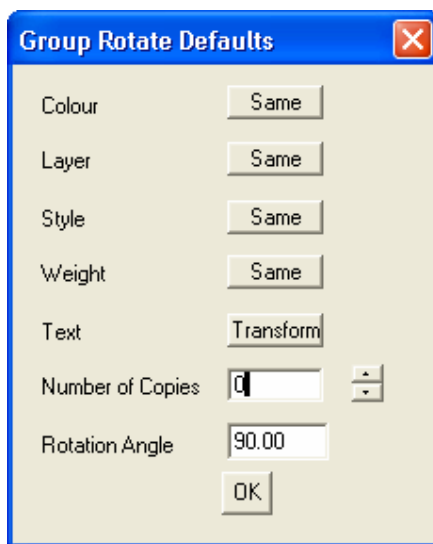
You're done.

You may wish to create a 3D representation of this for the client. Change view to the **Iso View**, it is easier to see what you're doing.

Use the **CAD | Group | Project** command. Select the arc and then project it from a reference point in the negative Z axis by the width of the shed – in our case 12000. That is, select an initial point snapping to the end of a line, the final point, IZ-12000 and enter. Your arc will be projected downwards and a surface created between the arcs.

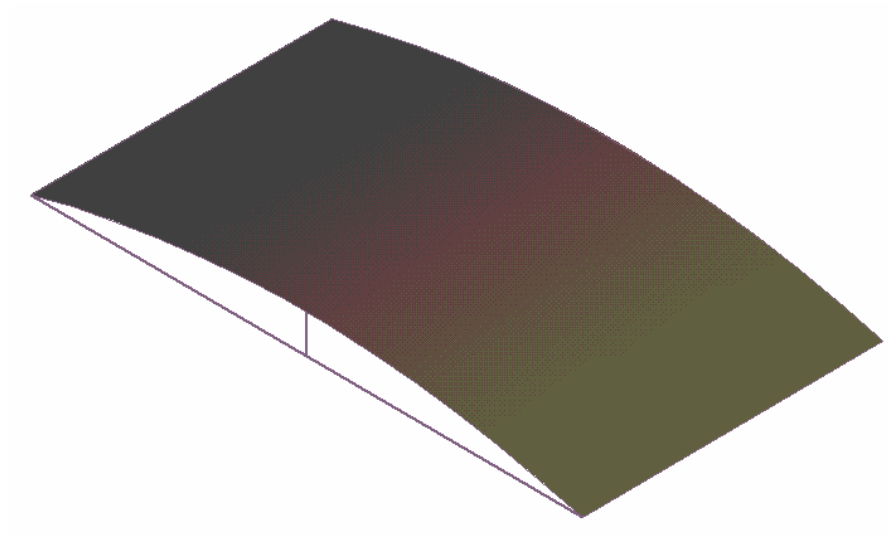


Use the **Tools | Set Display** to turn off all the roof entities (Off All) to view just the arc roof geometry. Use **Group | Rotate** to swing the arc roof through 90 degrees (along the line as the axis) to get a real world view. Set the copies to 0 and leave the rotation angle 90 and leave the rest, select OK. When prompted to select the entities to rotate, use the **Inline** menu at the top of the screen and select **Select All** to select all entities, then right button Cancel. Then middle button snap each end of the line.



The roof geometry will be rotated into the current view and may be rendered. Use Render | Shaded to get the view below.

Now spin the view to see the arc roof from the point of view that you desire, and render again. You may also use Render | Add Hide Lines to emphasize the edges.



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