

HOW TO USE SPT32 POLYGON MODE (F7)

What is Polygon Mode?

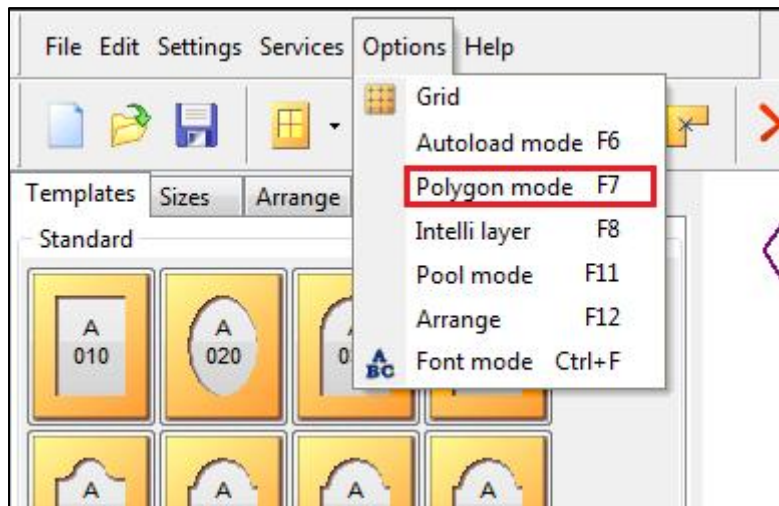
Polygon Mode is a special input mode in the SPT32 software, that allows you to plot the graphical co-ordinates of a special shape or opening, which can then be cut.

In the Gunnar SPT32 software, A polygon is described by a number of lines. Each one of these lines can be created as a either a line or a curve.

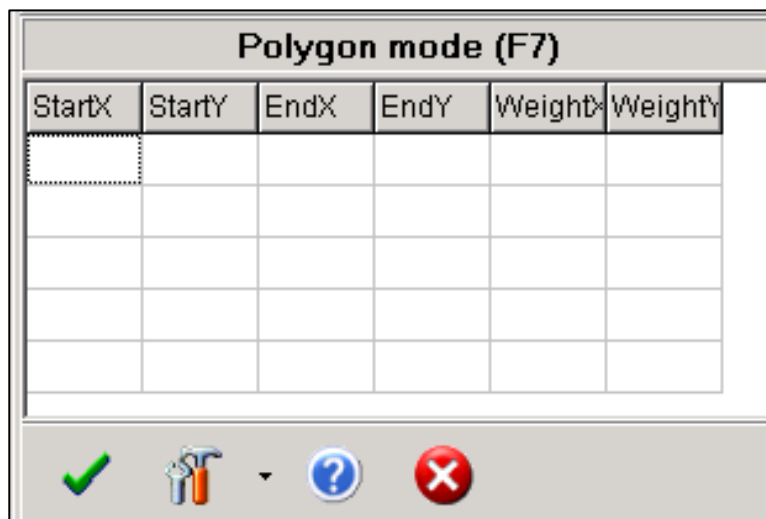
As well as closed polygon shapes, unclosed polygons (open polygons) can also be created and cut as well.

How can I activate Polygon Mode?

You can activate Polygon Mode by clicking on *Options* → *Polygon mode* menu or by using the keyboard shortcut [F7].



This dialog should appear:



How does Polygon Mode Work?

Let's take a look at the following example: (note: in millimeters)

Polygon mode (F7)					
StartX	StartY	EndX	EndY	WeightX	WeightY
50.0000	80.0000	50.0000	180.0000		
50.0000	180.0000	150.0000	180.0000		
150.0000	180.0000	150.0000	80.0000		
150.0000	80.0000	50.0000	80.0000	100.0000	30.0000

Polygon mode requires input co-ordinates, in a traditional X & Y format.

- X= horizontal value
- Y = vertical value


To make an entry, simply click on the first field and use the Tab key to advance to the next field. Using **Shift + Tab** you can move back one field at a time.

This particular polygon consists of 4 lines:

- The first line starts at **X50, Y80** and ends at **X50, Y180**.
- The next line starts at **X50, Y180** and ends at **X150, Y180**
- The third line starts at **X150, Y180** and ends at **X150, Y80**
- The final line starts at **X150, Y80** and ends where we started, at **X50, Y80**

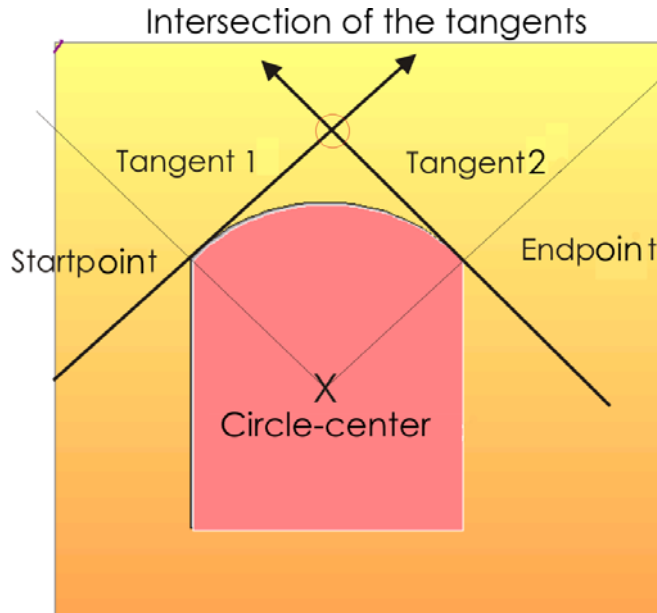
The fourth line is displayed as a curve. A line which is a curve will need to have a "Weight Point" co-ordinate, therefore, the "Weight Points" must be entered in the table – in this case **Weight X100, Weight Y30**.

You will note that the starting points of each line that follows are automatically used from the end coordinates of the previous line.

After typing in all these figures, click on the  to view the shape on the view screen.

How do I make a curve with Weight Points?

The weight points for a curved line are calculated as follows: Place a tangent at the start and end point of a curve. (a tangent is a line running perpendicular to a line from the end of a curve to its centre point). The point of intersection where the two tangents intersect is the curve's weight point.



This co-ordinate becomes our value for the weight point in the polygon input field.

A curve can encompass a maximum of 179°. if you require a longer curve, (eg: a perfect semicircle) then it must be constructed from two curves. Ideally you should not extend beyond 90° for each curve and then add on the next curve if necessary.

Of course, any line which does not have a weight point, (ie: blank field) must be just a straight line. **Warning!!!** - If a line is to be cut as a straight line and not as a curve, the Weight X and Weight Y input fields (control points for the curve) must remain blank. Entering "0" would mean that the control point coordinates would be set to zero.

Previewing your Polygon

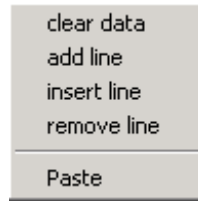
After entering the co-ordinates for the polygon press the **Preview** button .


The data will now be displayed in the work area.

If you want to make any changes after the shape has been displayed, the shape must be selected for changes to take effect. If you have already exited polygon mode, you can open up the polygon mode and properties for the shape again, simply by double-clicking on the shape.

Tool Functions in Polygon Mode

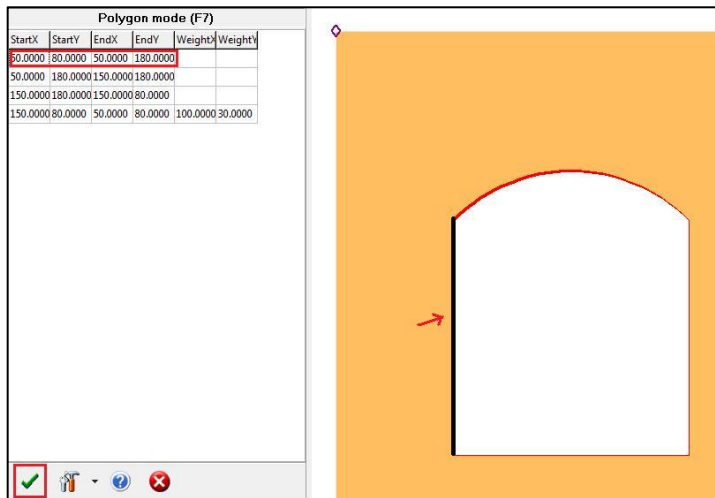
By pressing the **Options** button  the following popup menu appears:



- By clicking the **clear data** command, **all** data in the table will be deleted. Figures that have been drawn in **Preview** remain in the work area and only the data in the table will be deleted.
- Using the **Add line** command, a further line will be added at the end of the input table.
- Using the **Insert line** command, a line will be added at the point you selected.
- Use the **Remove line** command to delete a selected line.
- Press  to exit the polygon mode.

Frequently Asked Questions:

- When I need to edit a polygon shape, how do I know which line of coordinates matches to the line I need to adjust? - When you are editing a previously created polygon shape, the line that is being worked on will be displayed in bold on the preview screen, in order to simplify recognition of the line.



- Can I apply a double mat (XM) to a polygon shape? – Yes.
- Can I apply a v-groove (VG) to a polygon shape? – Yes.
- Can I copy & paste a polygon shape? – Yes.
- Can I rotate a polygon shape? – Yes.
- Can I apply a reverse bevel (RB) to a polygon shape? – Yes.
- Can I convert an imported shape into a polygon, so I can modify or adjust it? – Yes, If you have the shape on the screen, and the shape is selected you can go to the **Edit → Convert to OpenPoly data** function and it will convert the selected shape into a polygon. See figure below:

