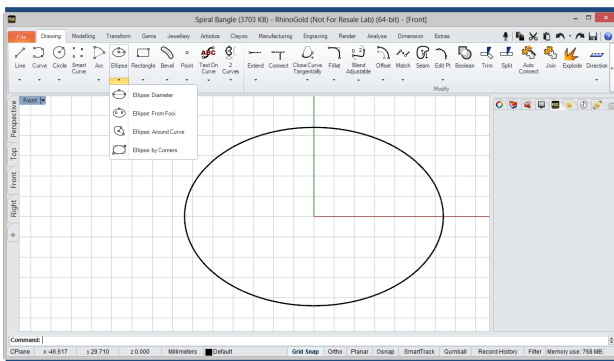


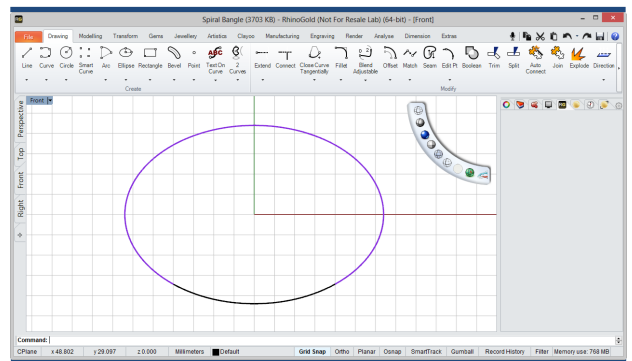
## Spiral Bangle

In this tutorial we will try out some of the most useful commands in RhinoGold. Powerful tools such as Flow Along Curve, Length, Spiral and Extrude.



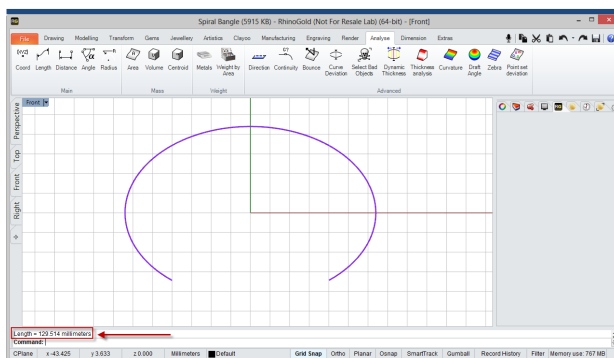
### 1 Ellipse

Under the Drawing tab, with the Ellipse tool, create a curve in the front view to define the bangle measures, in this case 64mmx44mm.



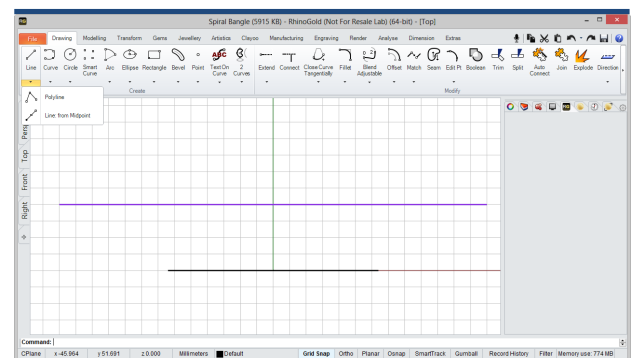
### 2 Split

Still under the Drawing tab with the Split tool we can divide the ellipse, as the above image shows. It's important to activate the Point option in the command line and then delete the bottom curve.



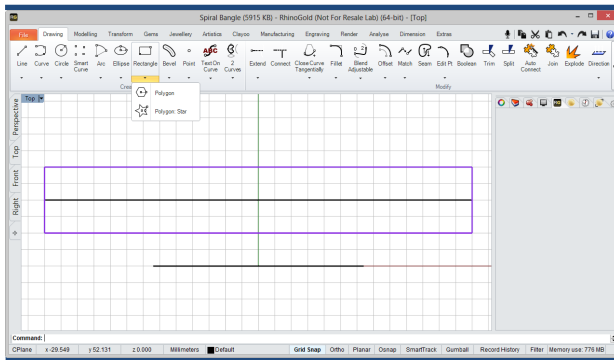
### 3 Length

Under the Analyse tab use the Length tool to know the curve length, in this case it is 130mm. This measurement is important for the next step.



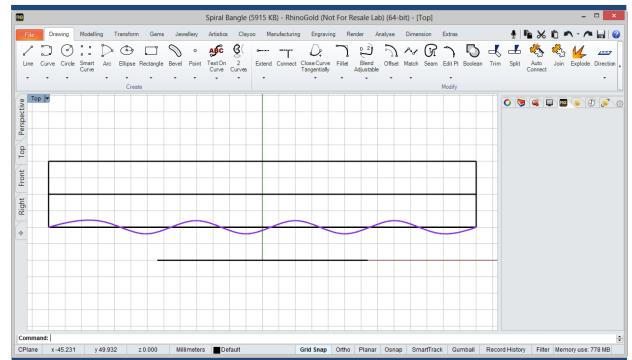
### 4 Line

In the top view, under the Drawing tab with the Line tool to define a line with the same length as the previous step, which is 130mm.



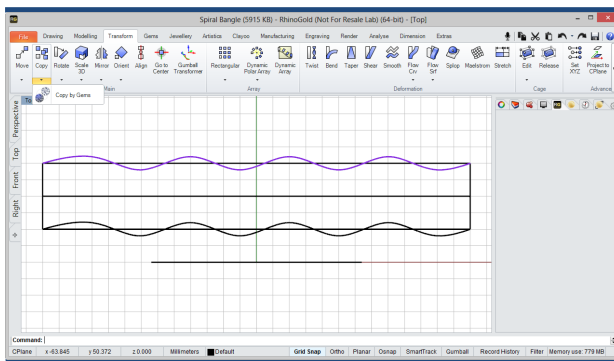
## 5 Rectangle

Now, still under the Drawing tab with the Rectangle tool in the top view define a rectangle 130mmx20mm.



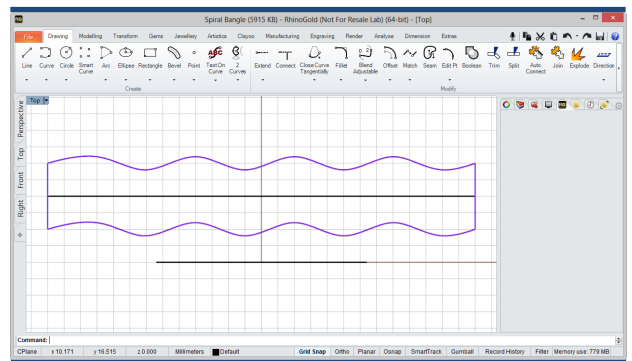
## 6 Smart Curve

Then, again under the Drawing tab with the Smart Curve tool define the side shape of the bangle, in this case with a waves effect.



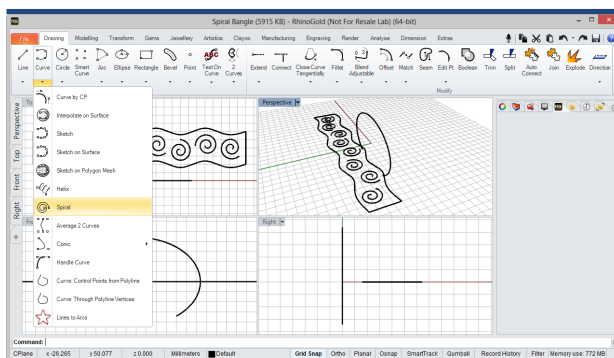
## 7 Copy

Now, under the Transform tab with the Copy tool to create another curve to the other side of the bangle.



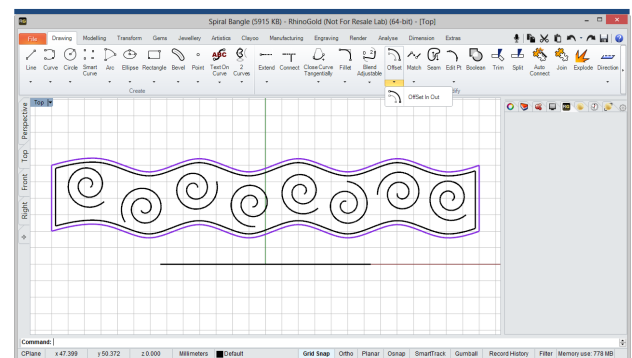
## 8 Explode / Auto Connect

Back to the Drawing tab with the Explode tool divide the rectangle, we can delete the sides and with the Auto Connect tool still in the Drawing tab join all the curves.



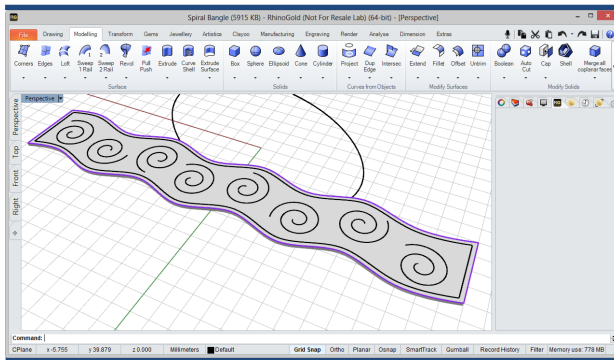
## 9 Spiral

Now, it's time to define spirals along the bangle, for this, use the Spiral tool under the Drawing tab with in the top view. It's important to use the Flat option in the command line.



## 10 Offset

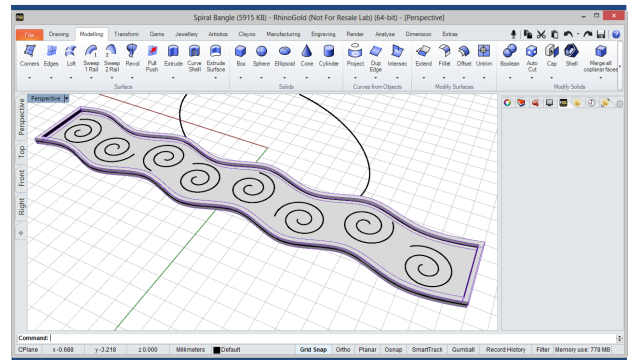
Then, we can create another curve outside the outside bracelet curve, shown in the image above. To do this, use the Offset tool under the Drawing tab, in this case is with a 1.2mm distance from the original.



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## Extrude

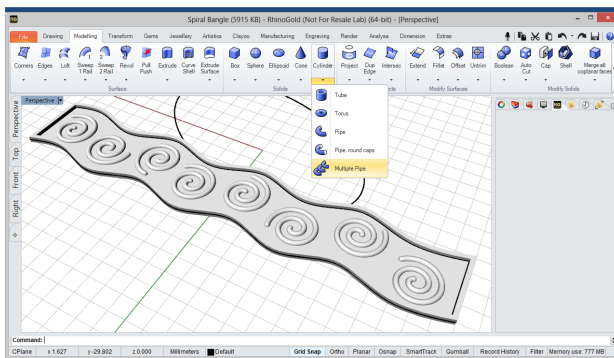
Under the Modeling tab with the Extrude tool define the thickness of the bangle. Select the inside curve and in this case extrude 1mm towards the bottom direction.



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## Extrude

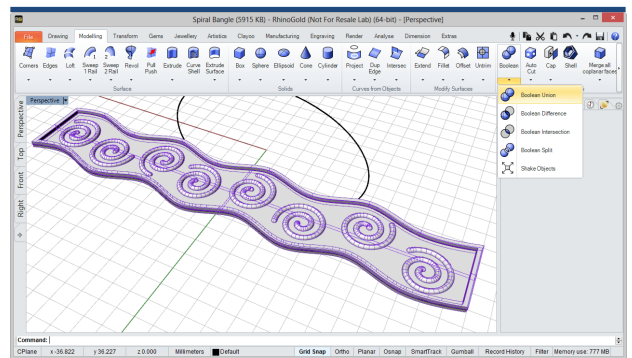
Then repeat the same process, under the Modeling tab with the Extrude tool to define the thickness of the bangle side section, in this case the extrusion distance is 1mm for both sides.



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## Multiple Pipe

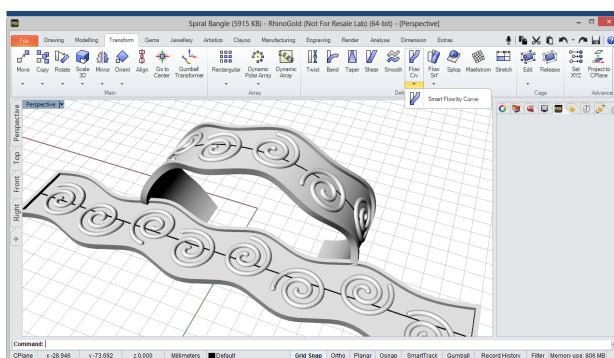
Now, once again under the Modelling tab with the Multiple Pipe tool to define the pipes along the spirals. In this case is with a 1.2mm diameter.



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## Boolean Union

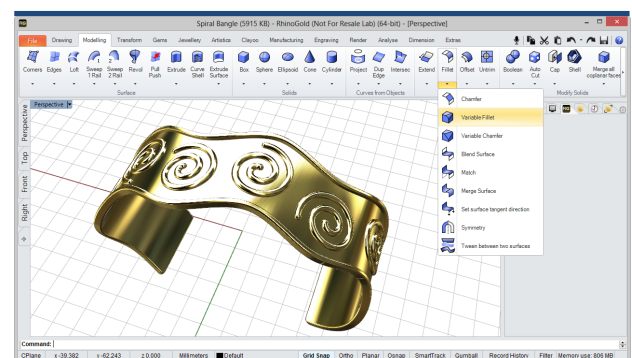
Still under the Modeling tab with the Boolean Union tool unite all the parts into a single object.



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## Flow Crv

It's now time to apply the bangle along the original curve. Use the Flow Crv tool under the Transform tab.



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## Variable Fillet

Lastly, under the Modeling tab with the Variable Fillet tool round the edges, in this case the fillet radius is 0.4mm.