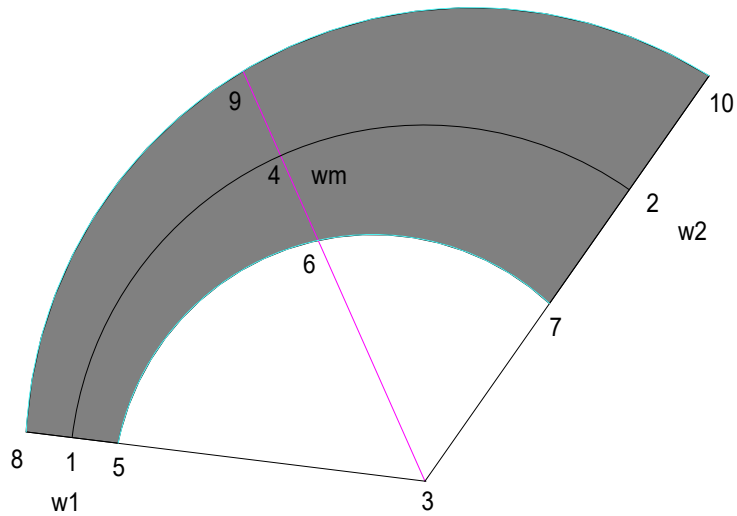
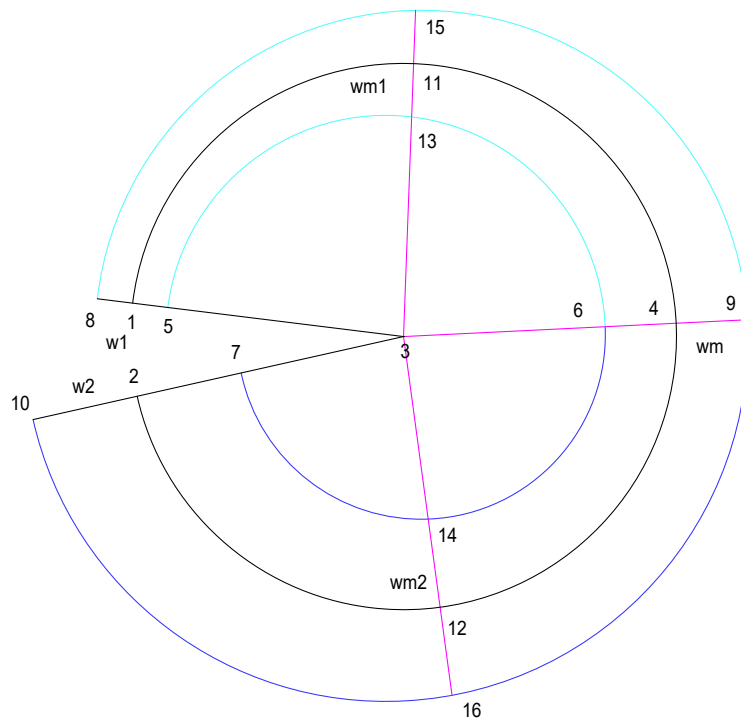


and here is the same with the solid arc drawn. An arc area can have an opacity attribute, and in the example below the opacity is set to 50%.

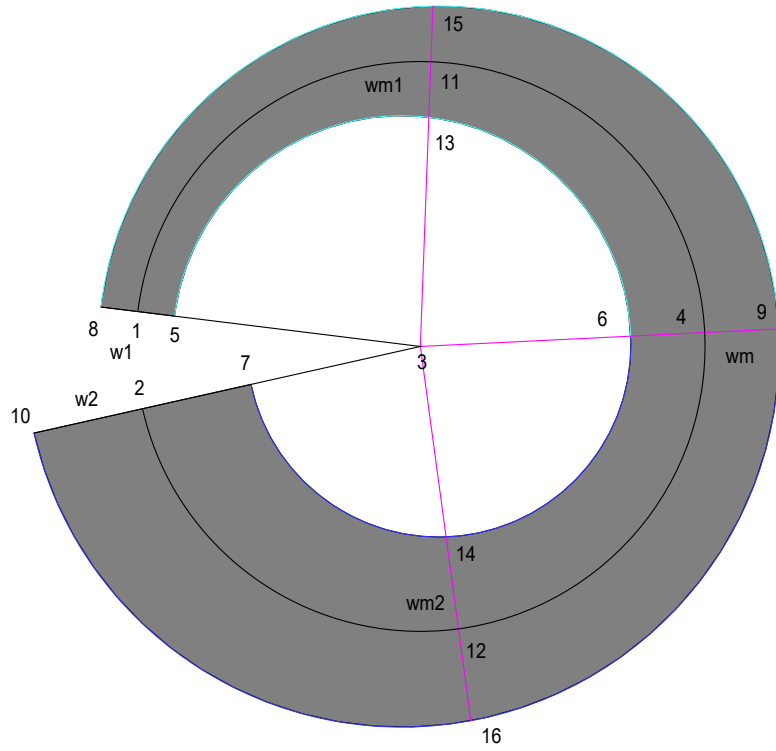


The construction method described above is only effective for an arc with an internal angle of no more than 180 degrees.

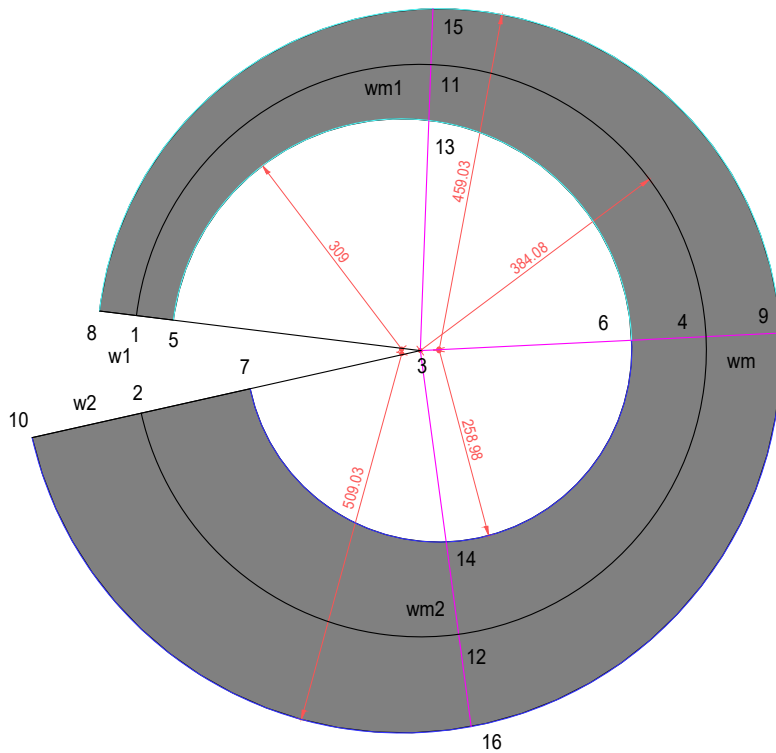
For arcs with a larger angle, a different strategy is adopted, namely the entire arc is divided into 2 equal halves, and the above procedure is used for each half of the arc separately, where the final width of the first arc (cyan color) and at the same time the initial width of the second arc (blue color) is the middle value of the width of the entire arc (black color, points 6 and 9).



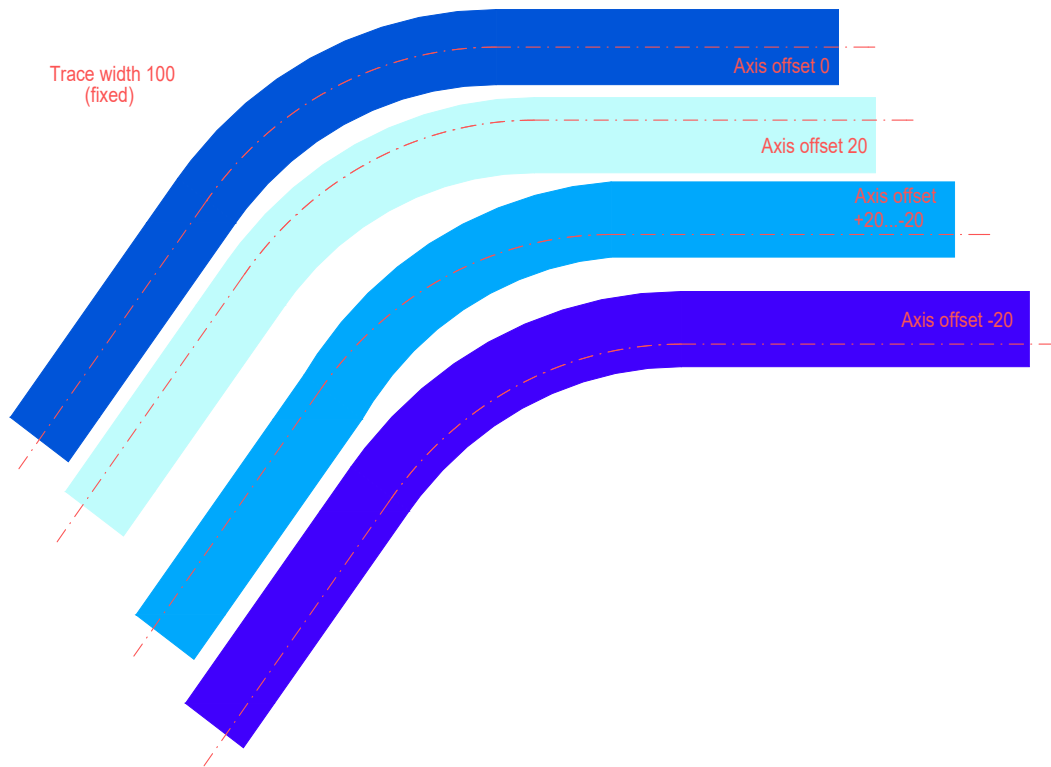
Here is the final result (with the arcs and construction points left to show that the drawn solid arc coincides with the position of the construction arcs)



The dimensioning of the arc radii shows that both internal and external arcs have different radius lengths and coordinates of the center of the circle of which they constitute a segment.

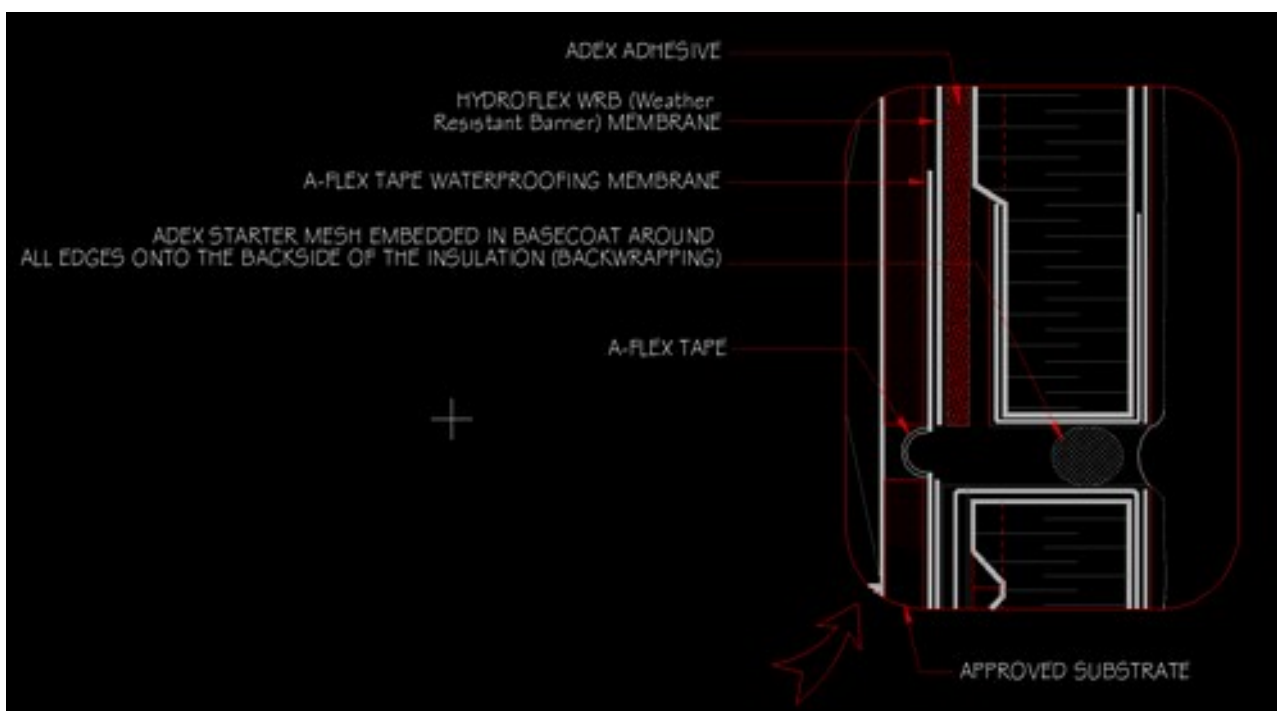


The solid arc usually constitutes a segment of the so-called a trace, i.e. a polyline composed of four-sided solids and solid arc that together create a trace of constant or variable width. Due to the fact that the trace can be constructed based on its theoretical axis, the offset of which in relation to the axis of symmetry may change along the length of each section, the offset of the axis from the center of the arc area may also be different at its starting and ending points, as demonstrated by is in the examples below:

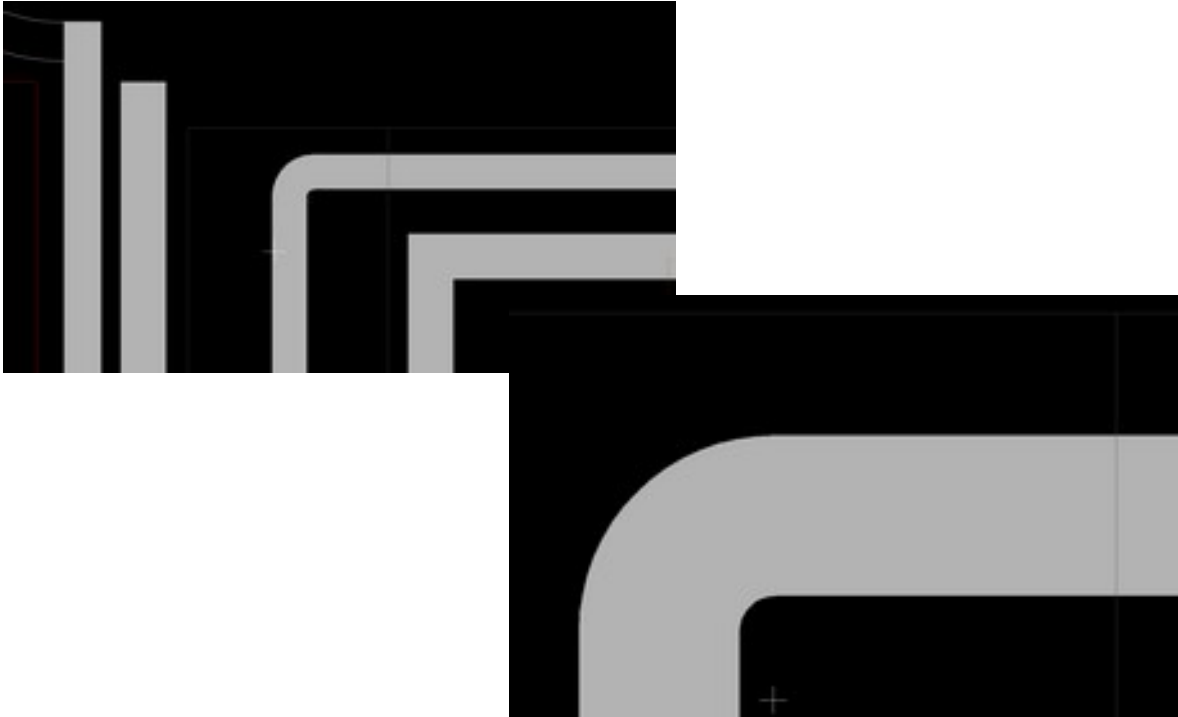


Practical application

Here is a fragment of the drawing of the insulation details

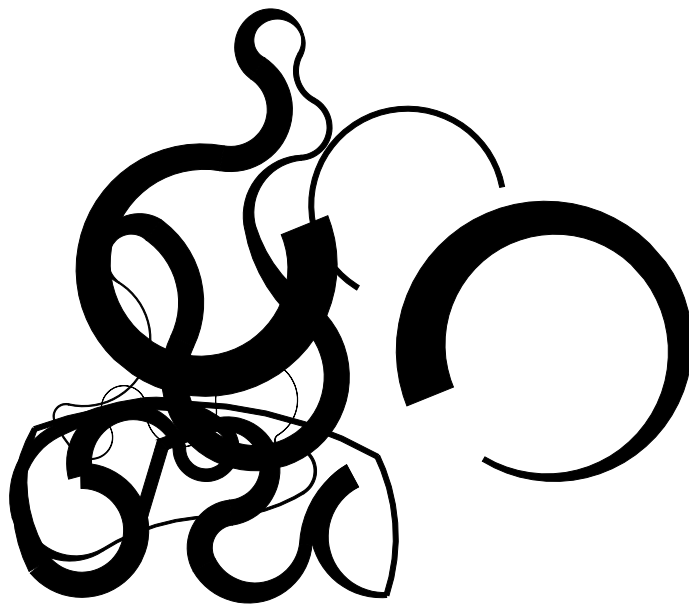


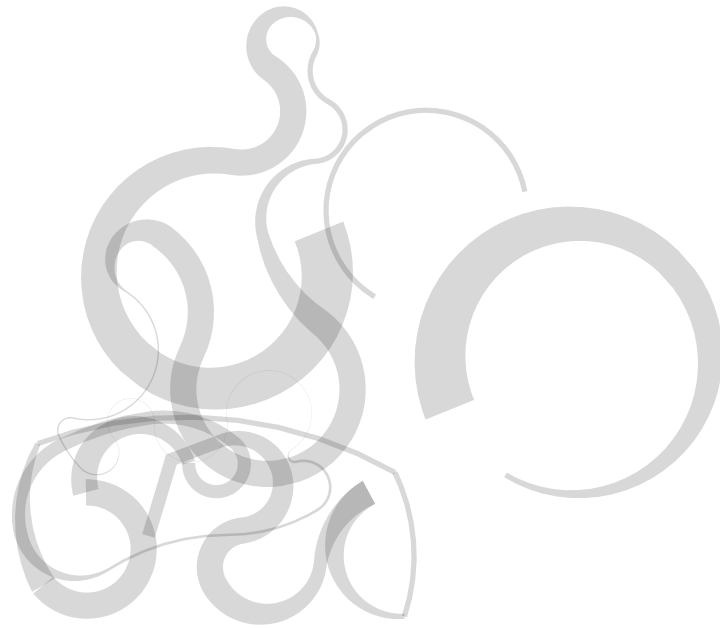
and close-ups:



Below is an example of multiple traces drawn in different modes (like regular arcs, arc areas can be constructed using 8 different methods, although the default method is an arc tangent to the preceding segment, linear (solid) or arc (solid arc).

In the image below, an example of completely random traces using solid arcs filled with color at 100% opacity, then 15% opacity, and finally the same set of traces filled with different sample patterns.





Enjoy AlfaCAD

author