mini lesson | measuring curved walls

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Scenario:

A client calls and wants to install racking on a curved, concave wall (the interior curves inward). The wall looks to be a near perfect curve, but architectural plans are unavailable.

You'll need to get accurate info to the CAD team for a design. Finding a 90-degree angle is key. Here's how:

Step 1:
Measure the distance across from the outer edges of the curve to get its width.

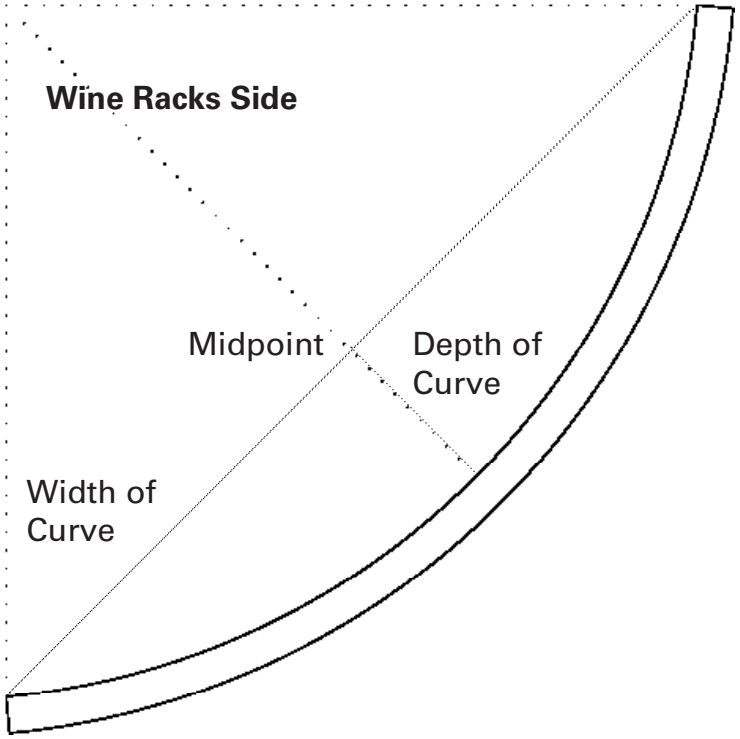
Step 2:
At the midpoint, measure the depth of the curve to get its depth

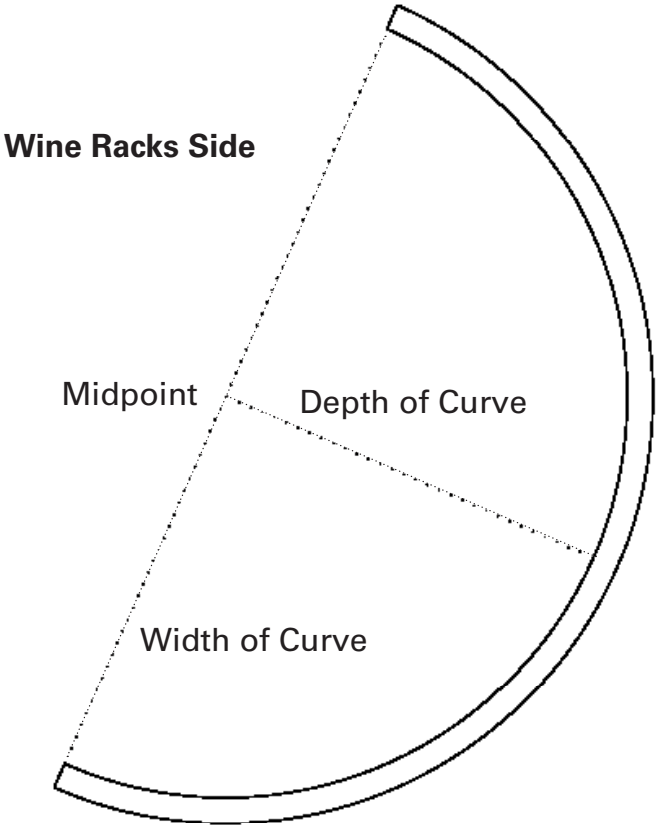
Step 3:
Calculate the radius ...
With math:
- (1) Divide curve depth by 2
- (2) Square curve width
- (3) Multiple curve depth by 8
- (4) Divide #2 by #3
- The radius equals #4 plus #1

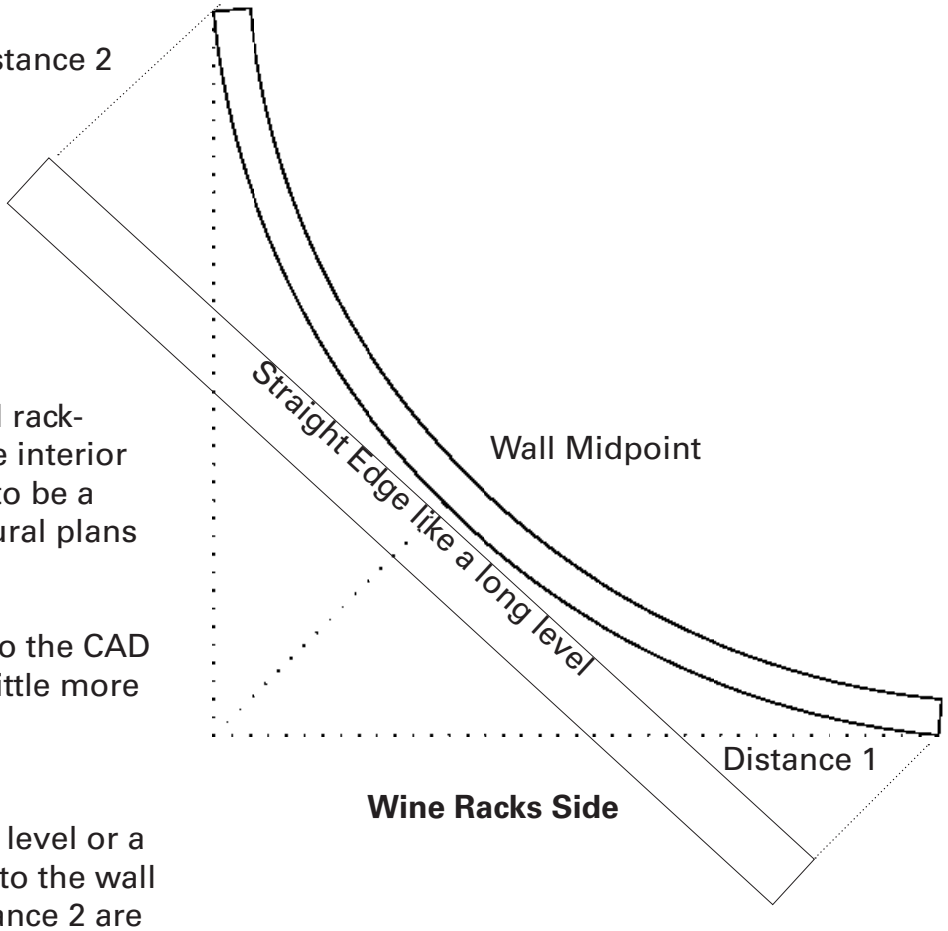
OR
Let the computer do it:
http://bit.ly/findaradius

Step 4:
Deliver the measurements for width of curve, depth of curve, and the radius to CAD.

Step 5:
Reward yourself with a glass of wine for a job well done.







Scenario:

A client calls and wants to install racking on a curved, convex wall (the interior curves outward). The wall looks to be a near perfect curve, but architectural plans are unavailable.

You'll need to get accurate info to the CAD team for a design. This one is a little more difficult. Here's one way to do it:

Step 1:
Using a long straight edge like a level or a perfect 2x4, create a line square to the wall by ensuring Distance 1 and Distance 2 are equal and at a 90-degree angle from the straight edge. The length of your straight edge will be X and the distance to the wall from its edge will be H.

If you can't find a straight edge long enough, go to the next page.

Step 2:
Calculate the Radius

Let the computer do it:
http://bit.ly/convexradius

Step 4:
Deliver the measurements for X, H, and the radius to CAD.

Step 5:
Reward yourself with a glass of wine for a job well done.

Scenario:

A client calls and wants to install racking on a curved, convex wall (the interior curves outward). The wall looks to be a near perfect curve, but it's too wide of a wall to use the method on the previous page. Of course, architectural plans are unavailable.

You'll need to get accurate info to the CAD team for a design. This one is a lot more difficult.

Step 1:
Pick two points at random ensuring that each can see the one edge of the wall and its midpoint.

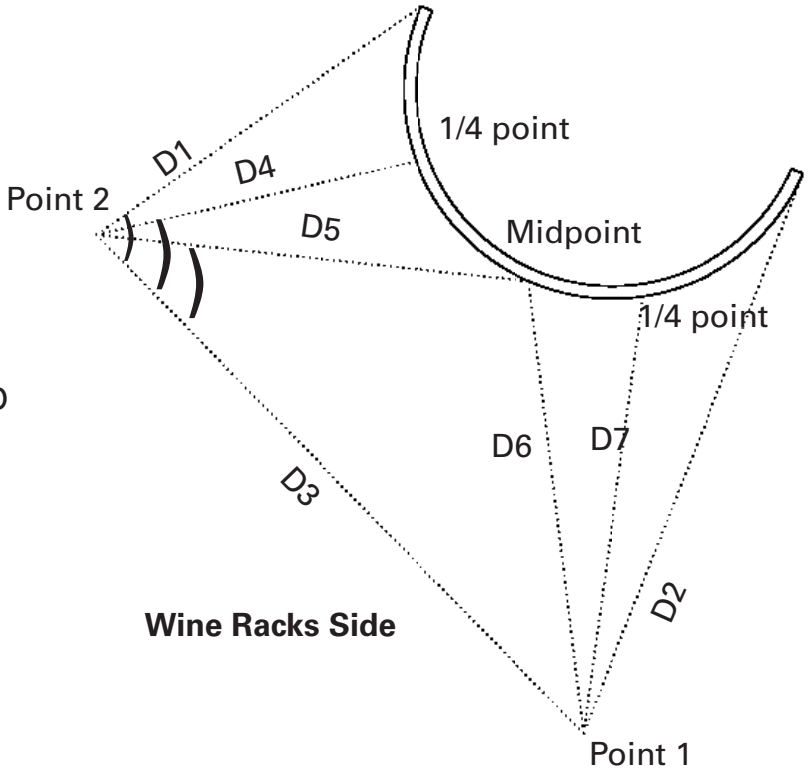
Step 2:
Measure D1, D2, D3. Using a square or protractor, record the angles between D1 and D3, and D1 and D2.

Step 3:
Measure the distance between each point and the Midpoint (D5, D6), capturing the angles, and the distance between each point and the 1/4 point (D4, D7), capturing the angles.

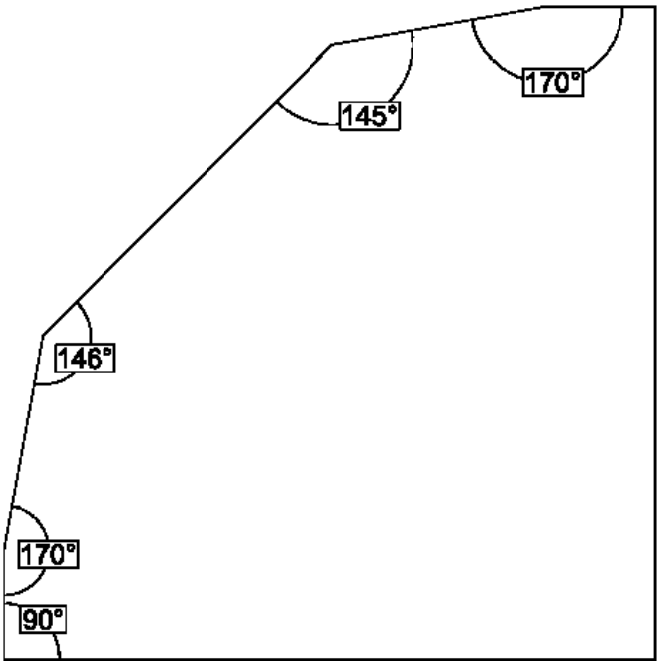
Finding the exact midpoint or quarter point is not as important as gaining accurate angles and measurements.

Step 5:
Deliver all measurements and angles to CAD.

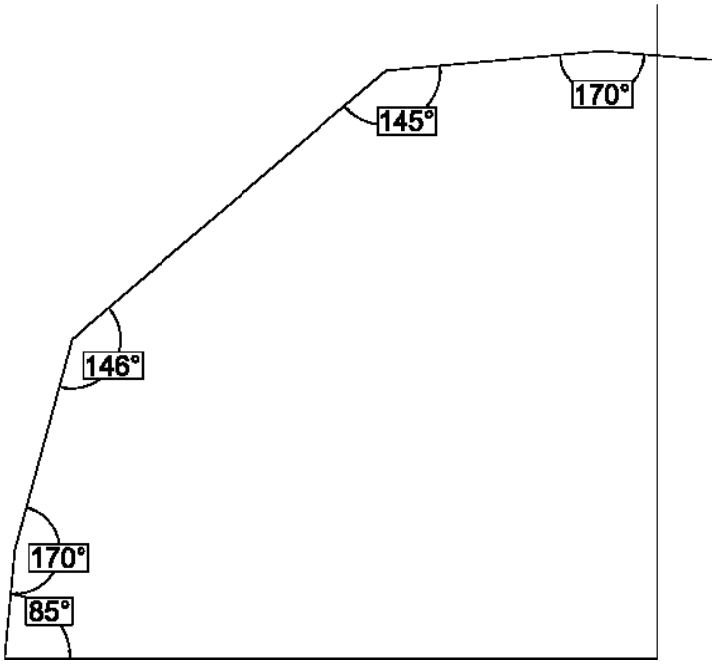
Step 6:
Reward yourself with a glass of wine for a job well done.



Wine Racks Side



The way the wall should look



How it gets drawn when **one** number is off

The following is a public service announcement on behalf of CAD designers everywhere:

Each measurement affects another, which is why getting 4 out of 5 angles correct doesn't do us much good.

Notice the difference in the examples above. Five degrees in the first measurement changes the wall dramatically.

Measure twice, draw once. Or something like that.