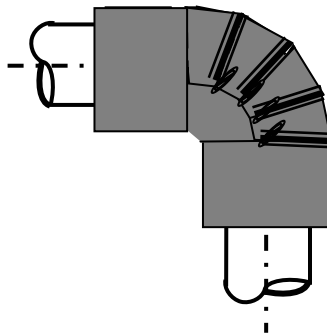
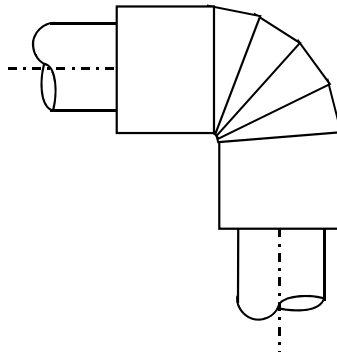


International Association of Heat and Frost Insulators and Asbestos Workers



Elbow Butterfly





Step 1: Draw a vertical line and a horizontal perpendicular line. Set dividers to $\frac{1}{2}$ of the outside diameter of the pipe insulation and draw a quarter circle

Step 2: Draw vertical lines A and B. Line A is $\frac{1}{2}$ of the throat measurement of the butterfly.

Draw a line at a 45° angle from Line A to Line B.

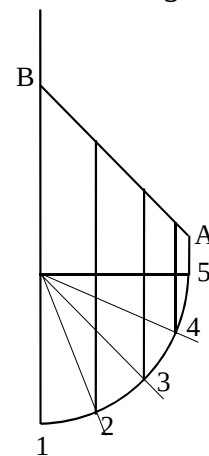
Step 3: Divide the quarter circle into 4 equal segments.

Label 1 through 5.

Step 4: Draw a vertical line from each to line A-B.

On the reference drawing, set dividers to **the measurement of the arc** between Points 1 and 2.

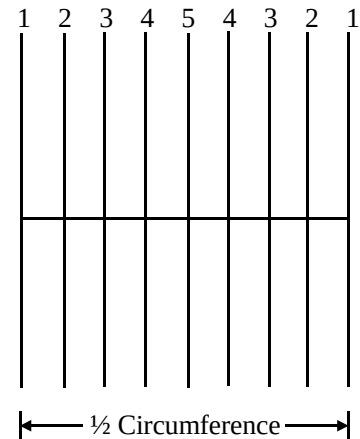
Reference Drawing



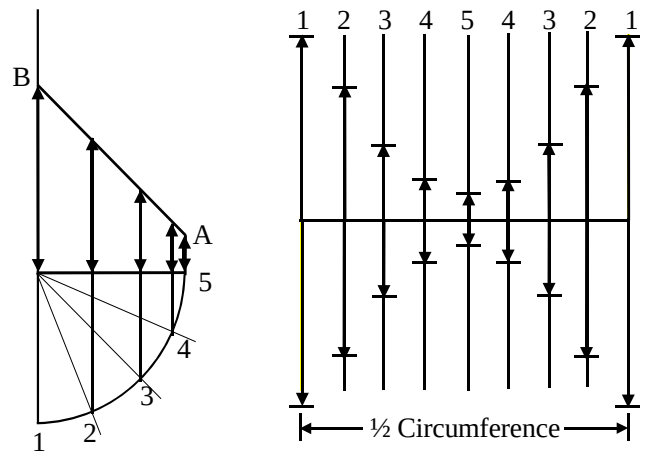
Step 5: Draw a centerline and mark this distance 8 times. Draw a perpendicular line from each point, above and below the centerline.

Step 6: Label the lines from 1 through 5, then back to 1. **This should be $\frac{1}{2}$ of the circumference of the pipe insulation.**

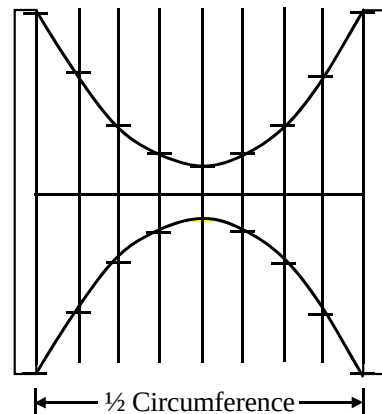
Layout Drawing



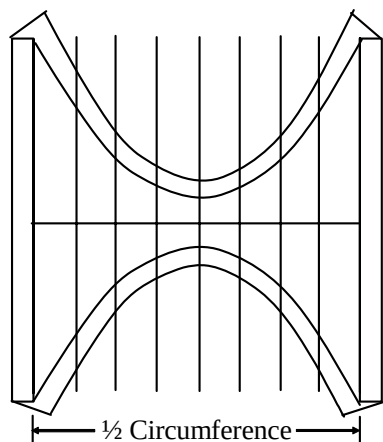
Transfer the measurements from the reference drawing to the corresponding numbers on the layout drawing.



Step 7: Add a 1" lap to both ends. Add notches as necessary.



Add notches if
necessary.



The Butterfly
will be used for
the throat portion
of the elbow.
Use the regular
elbow gore
layout for the
side / heel / side
portion. Add the
necessary laps.

