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TECHNICAL BULLETIN

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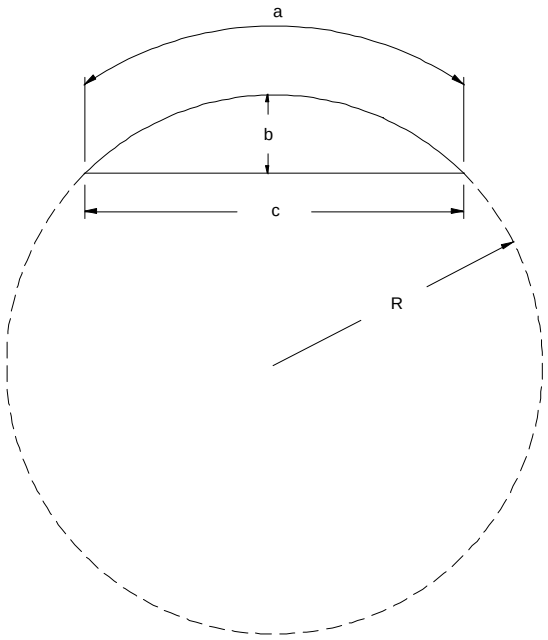
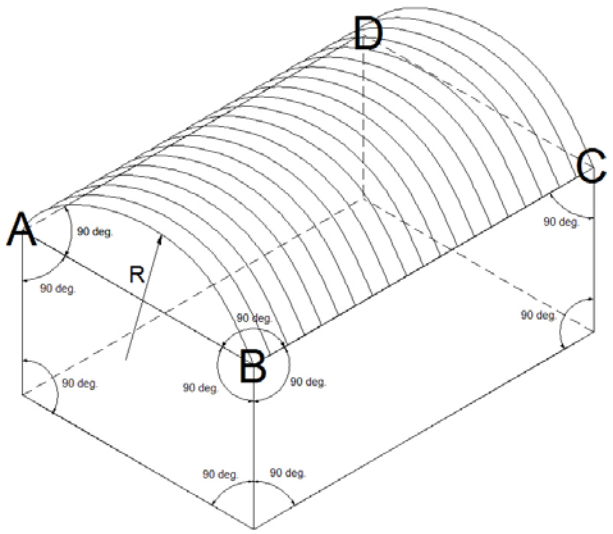
Radius Panel Calculations

With the advent of McElroy Metal being able to physically curve metal roof panels at the jobsite, there is a need to insure the correct radius, or curvature, is calculated. The need for this is great because different panels have different minimum radius allowables. Below is a diagram and formula to aid in this calculation.

a = arc length (panel length)
b = rise
c = chord length
R = radius = $(4 \cdot b^2 + c^2)/(8 \cdot b)$



In addition to insuring the radius is correct throughout the arc length, the angles as shown in the diagram below must be square, (90 deg.) resulting in true planes both vertically and horizontally. Also, the corners labeled A and D of the structure where the radius roof begins must both be at the same elevation. Also corners labeled B and C must also both be at the same elevation. There may exceptions to this general rule, such as when the eave is skewed, but even then all angles must be correct to insure the "curve" is correct.



McElroy Minumum Radius Requirements*

Panel	Gauge	Minimum Radius
Maxima 212	24, 22 (Steel); .032 (Aluminum)	25'-0"(Steel); 20'-0" (Aluminum)
Maxima 216	24, 22 (Steel); .032 (Aluminum)	25'-0"(Steel); 20'-0" (Aluminum)
Maxima 218	24, 22 (Steel); .032 (Aluminum)	25'-0"(Steel); 20'-0" (Aluminum)
Maxima 1.5	24, 22 (Steel); .032 (Aluminum)	12'-0" (Steel); 10'-0" (Aluminum)
Medallion I	24 (Steel) ; .032 (Aluminum)	3'-0" (Steel or Aluminum)

*Any radius calculated that is less than the Minimum Radius listed above, cannot be physically curved by McElroy Metal's curving equipment.