The Keystone® unit's patented design makes it easy to construct a variety of serpentine curves. Convex curves will add gentle grace and beauty to any installation. The following information will provide a complete explanation of construction techniques for building retaining walls with convex curves.

QUESTION: How do I determine how many Keystone® units will be required for a given radius or for a complete circle?

ANSWER: Multiply the diameter of the circle (the measurement of a line passing through the center from one side of the circle to the other or 2 x the radius) by 3.146. Divide the result by 1.5. The result is the number of units for a complete circle.

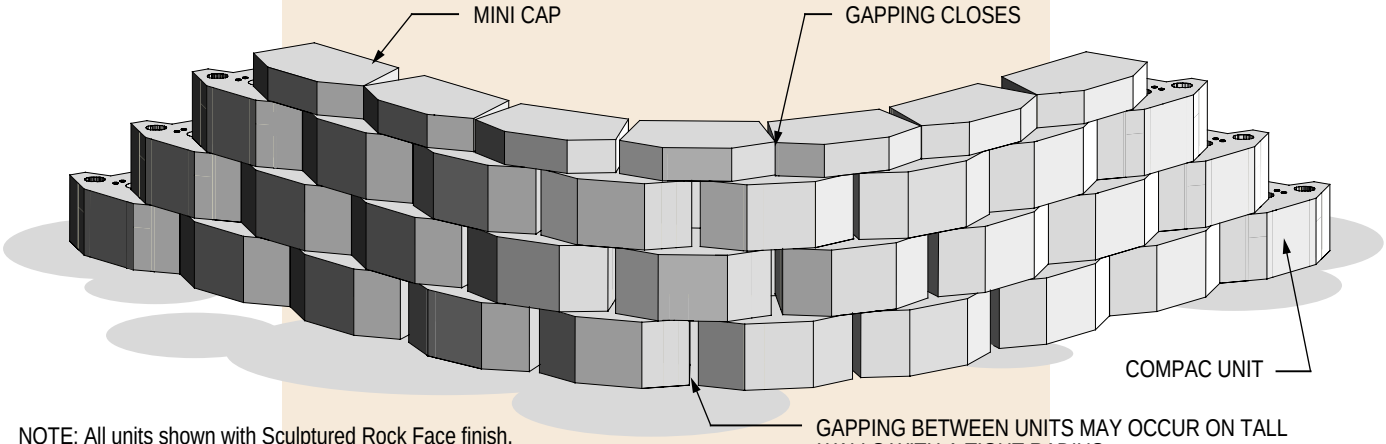
EXAMPLE: Diameter (10') x 3.146 = 31.46 ÷ 1.5 = 21 units for a 10' circle or 5 units for a 90°-5' radius arc within a wall (3.05m x 3.146 = 9.6m x 2.19 units/m = 21 units)

QUESTION: How do I determine the smallest convex radius I can construct before binding between units may occur?

ANSWER: Multiply the height of wall by two. The result is the smallest radius dimension.

EXAMPLE: Wall Height (4') (1.2m) x 2 = Smallest Radius (8') (2.4m)

NOTE: This formula applies to installations using the 8.8° batter. For the 4.4° batter use a multiple of 1.5. For the near vertical batter, no radius limitations are expected. Minimum overall radius is 3.5' (1m).



NOTE: All units shown with Sculptured Rock Face finish.

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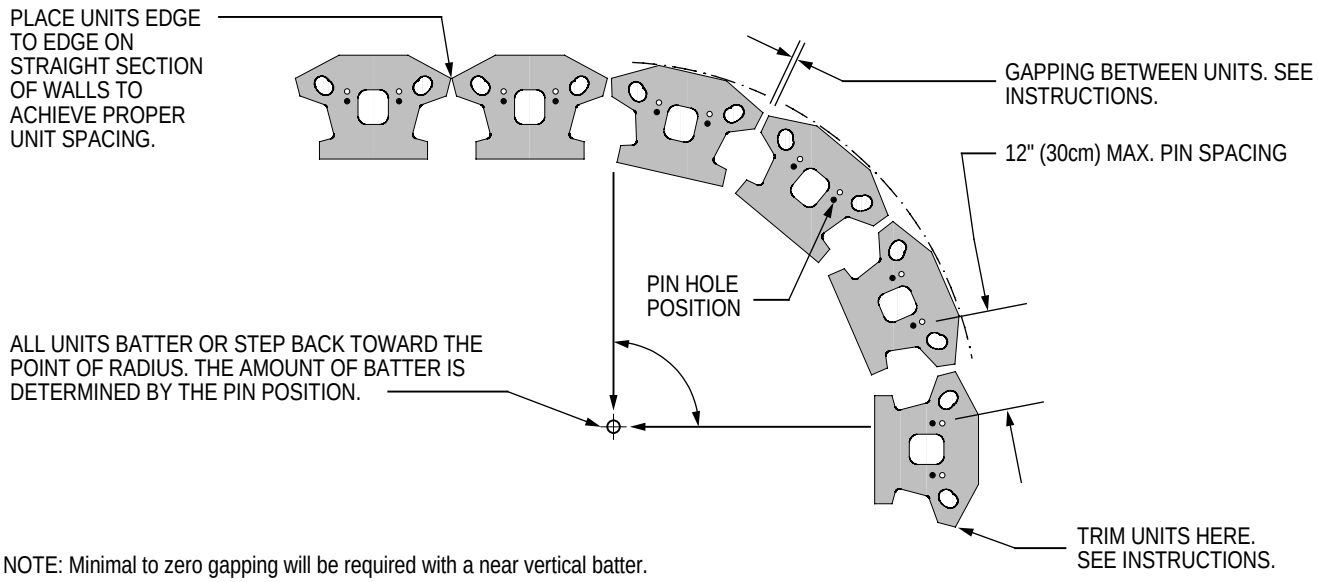
INSTALLATION PROCEDURES:

- Follow standard installation instructions for preparation of sub grade and leveling pad.
- Place base course units with a small gap between adjacent units. This gap will close with the placement of each additional course of Keystone® units as the units batter and converge toward the point of radius. The rate of closure is controlled by the severity of the batter (i.e. a 8.8° batter will close more quickly than a near vertical batter). A maximum of 1/2" to 3/4" (15-20mm) gap is recommended for best visual appearance. To achieve this, the distance between the pin holes on adjacent first course units should not exceed 12" (30cm) on center.
- Follow standard installation instructions for back filling and placement of additional courses.
- If geogrid reinforcement is used, refer to manufacturers recommendations for proper placement of this material along convex curves.
- Depending on wall height, radius and batter selection some binding between units may occur. If this prohibits proper placement of additional units, try one of the following suggestions.
  - Trim unit corners using either a masonry cold chisel or concrete saw.
  - Push units back and realign. Re-drill new pin holes as needed using a 5/8" (15mm) masonry bit.



NOTE: Minimal to zero gapping will be required with a near vertical batter.

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Concave curves are constructed using typical wall units. The following information will provide a complete explanation of construction techniques for building retaining walls with these conditions.

QUESTION: How do I determine the smallest concave radius I can construct before unacceptable gapping between units may occur?

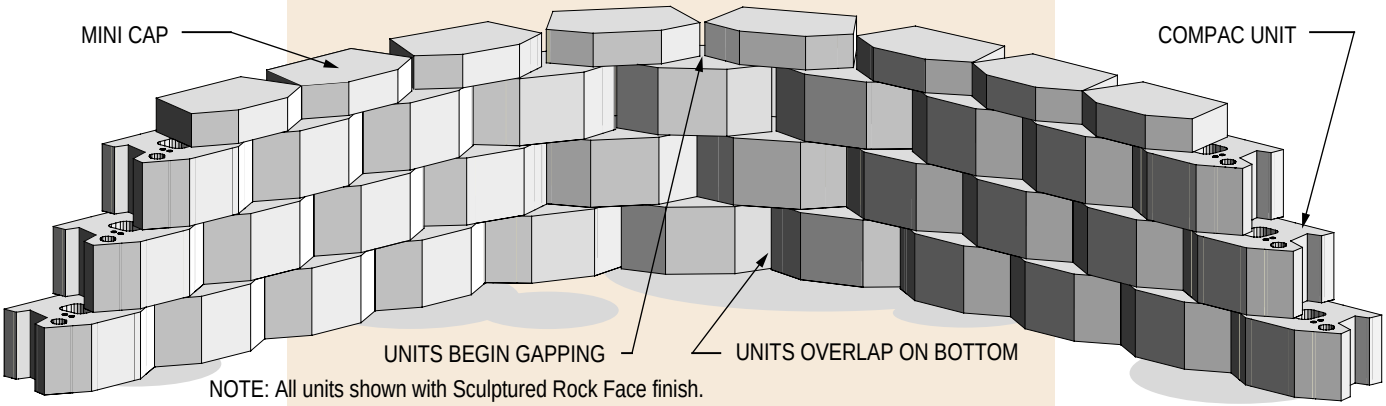
ANSWER: Multiply the height of wall by two. The result is the smallest radius dimension.

EXAMPLE: Wall Height (4') (1.2m) x 2 = Smallest Radius (8') (2.4m)

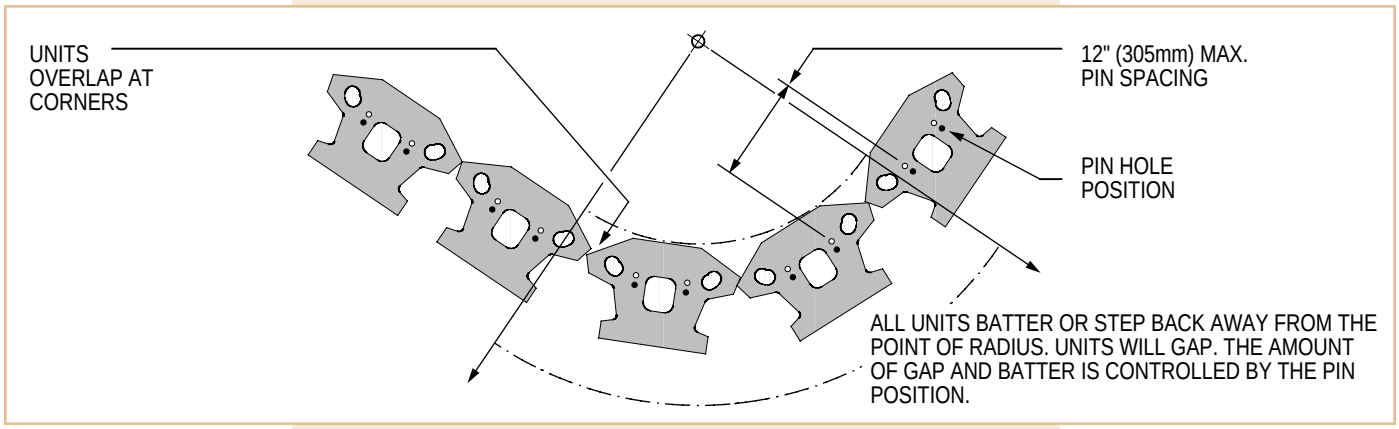
NOTE: This formula applies to installations using the 8.8° batter. For the 4.4° batter use a multiple of 1.5. For the near vertical batter, no radius limitations are expected. No minimum radius applies. The near vertical batter is recommended for walls with multiple curves.

INSTALLATION PROCEDURES:

- Follow standard installation instructions for preparation of subgrade and leveling pad.
- Overlap corners of base course if building with the 8.8° or 4.4° batter options. The amount of overlap will vary based on size of curve. Gapping will occur as the units batter or move away from the point of radius. The rate of gapping is controlled by the severity of the batter (i.e. a 8.8° batter will gap more quickly than a near vertical batter). The distance between the pin holes on adjacent first course units should not exceed 12" (30cm) on center. For best visual appearance, a maximum 1/2" to 3/4" (15 -20mm) gap is recommended.
- Follow standard installation instructions for back filling and placement of additional courses.
- If geogrid reinforcement is used, refer to manufacturers recommendations for proper placement of this material along concave curves and corners.
- Depending on wall height, radius and batter selection some gapping between units may occur. If gaps exceed acceptable limits, re-drill new pin holes as needed using a 5/8" (15mm) masonry bit and realign units to close gaps.



NOTE: All units shown with Sculptured Rock Face finish.



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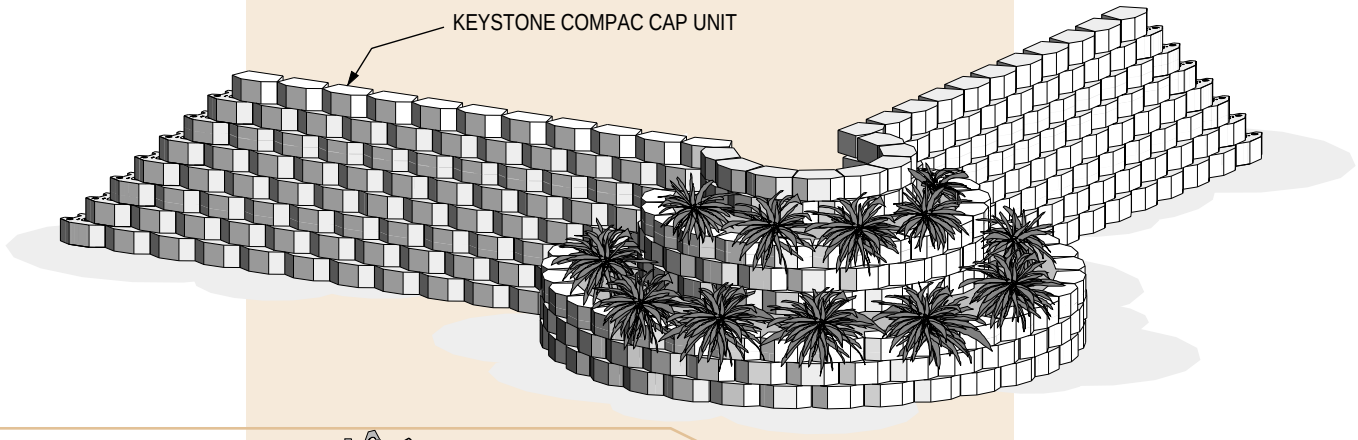
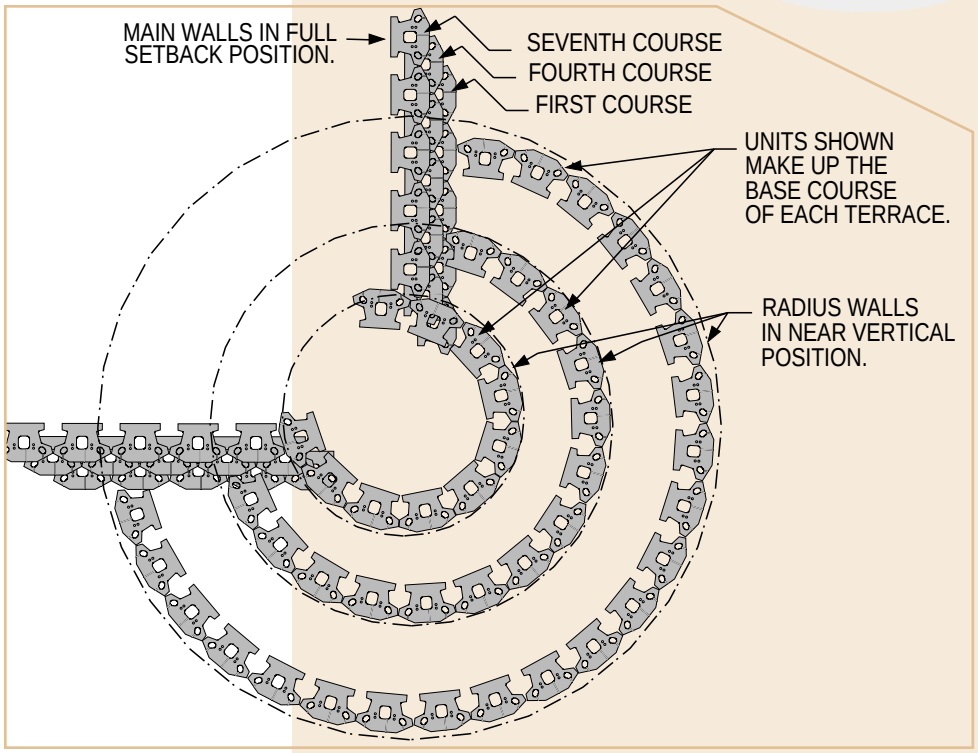
CORNER OPTION - RADIUS TIERS

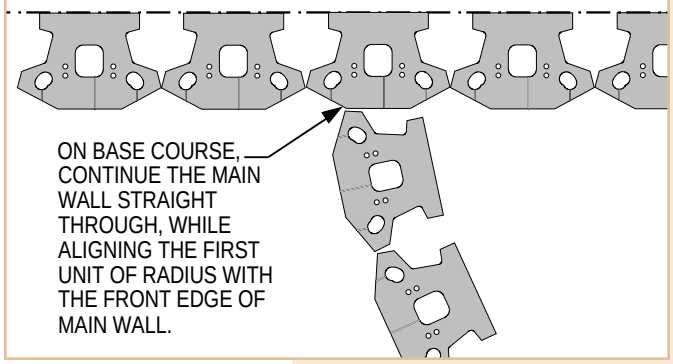




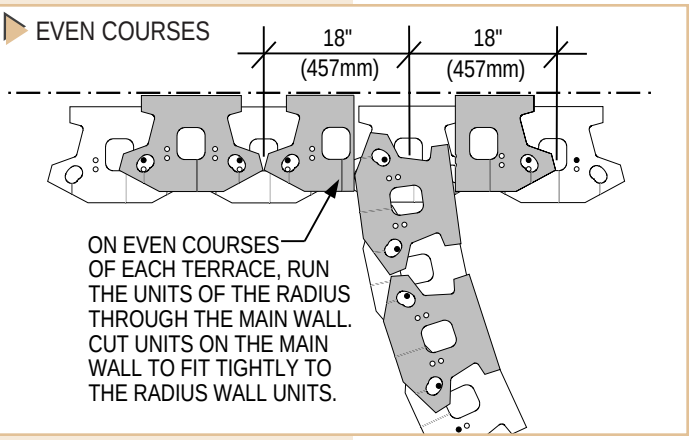
CORNER DETAIL OPTION WHEN BUILDING MAIN WALLS IN THE SETBACK POSITION.

To avoid miter cutting of corner units on tall walls with setback,using this method of terracing the corner will create an aesthetically pleasing result. construct terraces in the “near vertical” setback position to avoid gapping and overlapping condition when building curves. Build main walls in the full setback position.

ODD COURSES



EVEN COURSES



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