

Coventry® Wall III

Tools: Shovel, wheelbarrow, level, string line, hammer, tape measure, wooden stakes, dead blow hammer, plate compactor, and splitter for splitting block.

GENERAL GUIDELINES

- Maximum height for Coventry Wall III in freestanding applications without engineering assistance is 33" (exposed height including cap)
- Seek a qualified professional engineer where a taller wall may be required.
- Curves in the wall, corners, and piers will all help with the stability of your Coventry Wall III.
- Both pins and adhesive are required for proper installation of a Free Standing Coventry Wall III.
- Seat walls are typically 18"- 24" high, parapet walls are typically 30"- 33" high.

CALCULATE MATERIAL NEEDED

Coventry Wall III is sold by the square foot. Determine the total square feet of wall needed by multiplying the length times the height (don't forget the block that will be below grade). Both the 3" high pallet and 6" high pallet contains 40 square feet of wall block. Due to the modular sizes of Coventry Wall III, both heights can be combined within the same wall. Use the following formula to calculate the number of pins needed:

(Number of non-cap courses – 4) x linear feet of the wall x number of pins per linear foot (2.3) = total number of pins.

A 20' long wall, 5 courses high (without caps) 5-1 = 4'x20' = 80, 80 x 2.3 = 184 pins needed.

Use the following formula to calculate the number of Universal Caps needed:

Total lineal feet ÷ 1.25

= total number of Universal Caps needed

Example: A 20' long wall = 20' ÷ 1.25

= 16 Universal Caps needed

Note: Coventry Wall III pins are required for this wall system and cannot be substituted by standard Coventry Wall pins which are significantly smaller.

PREPARE THE FOOTING

Dig a trench 24" wide and a minimum of 12" below grade depending on the overall height of the wall. As a rule of thumb, you will bury 10 percent of the wall height or a minimum of 6", whichever is greater. Make sure the soil at the bottom of the trench is well compacted to prevent settling. In heavy or clay soils for best results, wrap the footer trench in a "U" shape configuration with geotextile. This will preserve the stone base over time and keep it from migrating into the clay soil. Using a vibratory plate compactor install 6" of modified stone in two 3" layers making sure the surface of last layer is smooth and level.

Tip: Add a 1" layer of sand or stone screenings on top of the compacted stone in the footing to make the base course easier to level.

INSTALL THE BASE COURSE*

Install the first layer of Coventry Wall III by placing the units with the parallel channel grooves facing up and the flat side on the prepared base. Screenings or coarse concrete sand may be used as a leveling agent, but should not exceed 1" in depth. It is recommended that EP Henry Base Course Block* or 6" units be used for the first course to help ensure the wall's stability. Level the units from front to back and side-to-side using a dead blow hammer and level. Coventry Wall III blocks come in 3 different lengths. Align the base course with a string line to assure a straight wall where applicable.

Note: EP Henry offers Base Course Block, and Torpedo Base Block, which facilitates ease of installation and provides improved structural stability. When using the Base Course Block glue the first course of Coventry Wall III to the Base Course Block to maintain structural stability.

INSTALLING ADDITIONAL COURSES

Place the next and additional courses of Coventry® Wall III in such a fashion that each block bridges two units below in a running bond pattern, wherever possible. Avoid having a vertical line span more than two layers, or 6" of block. Lay additional courses starting at the corner and working toward the center. Insert two pins in the bottom of each block in each course as you build the wall, making sure that the square portion of every pin is seated in the receiving channel of the block below. The pins may be placed diagonally or so they seat into only one channel keeping the other channel clear for electrical wiring. Marry the angles of the blocks to avoid gaps and to keep the continuity of the rock face on both sides of the wall. The tightest radius possible using only the 10" and 6" long units is 33.5" to the back of the blocks. By using the 16" long blocks and with the smaller units you can achieve a larger radius. It is necessary to run a bead of high strength, flexible concrete adhesive on the outside edge of both channels about 1" - 2" from both of the faces of the block, between each course for structural stability.

INSERT THE PINS

Insert pins so the cylindrical end is placed into the round opening on the flat side of the Coventry Wall III block. The square end of the pin should protrude from the flat side of the block to allow it to fit into the receiving channel in the blocks below. Note: the pin placement for battered walls is different than that for non-battered walls. For free standing and non-battered walls the pins should be placed with the square end oriented toward the center of the block. For battered retaining wall construction the square end of the pins should be placed oriented toward the front of the block. When properly set and aligned, this will result in a 1/2" batter (set back) of the block.

Please Note: Use a dab of high strength flexible concrete adhesive in place of a pin/connector at any location in the wall where a splittable stretcher (without channels completely across the bottom of the block) prevents the use of a pin/connector.

Battered Alignment



Non Battered Alignment

BUILDING 90° CORNERS

Please note one 16" long unit on every layer of block per pallet is solid on one side with no channels to allow that unit to be split in the field as a corner. Standard Double Sided Coventry Wall corners are available in both 3" and 6" high units to readily create 90° corners as well. To build 90° corners, begin construction at the corner of the wall and work outward. Alternate corner units with the long dimension running perpendicular to that of the unit below it to maintain a running bond pattern. After splitting the corner, take a piece of block and rake the face of the fresh split to create the aged look. Start by laying the corner unit first and work your base course away from the corner unit. After installing and leveling your base course, start the second course again at the corner. All courses of block in free standing wall construction must be glued using only high strength, flexible concrete adhesive. When building a corner, make sure that the corner unit overlaps two blocks beneath.

CAP THE WALL

After installing your last course of wall block, attach the Universal Coventry Wall Caps with a high strength, flexible concrete adhesive. The cap units should be installed following the contour of the wall and with a 1/2" - 1" overhang on both sides. Universal Coventry Wall Caps will fit a 6' 6" inside radius with no cuts.

(A) Alternate the orientation of the long and short sides of the Coventry Universal Caps for a straight wall.

(B) For a curved wall, marry the angles of the cap to conform to the radius. Some cutting may be necessary.

RETAINING WALLS AND BATTERED WALL CONSTRUCTION

Note: Structurally, battered walls are superior to non-battered walls.

BACKFILL THE WALL

Backfill 12" behind each layer of Coventry Wall III with well-draining granular fill #57 (1-1/4", 3/4" and 1/2") or #67 (3/4") clean stone. All soil behind the wall must be compacted. Use only lightweight mechanical compaction equipment within 3' of the back of the units.

Tip: consider overlaying the top surface of the drainage stone behind the wall with geotextile to prevent covering soil or mulch from clogging the drainage stone.

INSTALLING ADDITIONAL COURSES

Place the next and additional courses of Coventry Wall III in a staggered or half bond fashion, randomly using all sizes. Avoid having a vertical line span more than two layers of block. Insert pins in each course as you build the wall, making sure that every pin is oriented the same way. Only two pins per block are necessary. Backfill each course as the wall is being built. For building combination walls that use both the 3" and 6" high units, the ratio depends on your personal taste. Generally, a combination wall will be 70 percent 6" units and 30 percent 3" units. Special note on 3"-6" combination walls with a set-back: When laying two courses of 3" block, it is important that you only batter one of them; this will help keep the set-back in line with your 6" courses. Maximum unreinforced height for Coventry Wall is 24" for non-battered walls and 36" for walls built with a set-back, under ideal conditions.

STEPS

The installation of steps requires careful layout and planning. It is critical that the base be properly installed; see "Prepare the Footing and Install the Base Course*" for details. A minimum of 6" of modified stone base is required under all risers. Check local construction codes for minimum riser height and tread depth. Use the wall blocks to create the riser and the Rectangular Wall Cap or Universal Caps for the tread. Bullnose Pavers may also be used for the tread. When constructing steps, bury a block behind the visible riser*. In other words, each step should be at least two blocks deep. This will give the tread (cap) more stability by allowing the front block of the upper step to bear on the back block of the lower step. Use a high strength concrete adhesive to attach the treads to the risers.

***Tip:** for the most stable construction use of the EP Henry Filler Block to core fill steps will provide strength and stability to the step construction. The filler block is compatible with all 6" and 8" tall units. For more details visit ephenry.com/technical.