



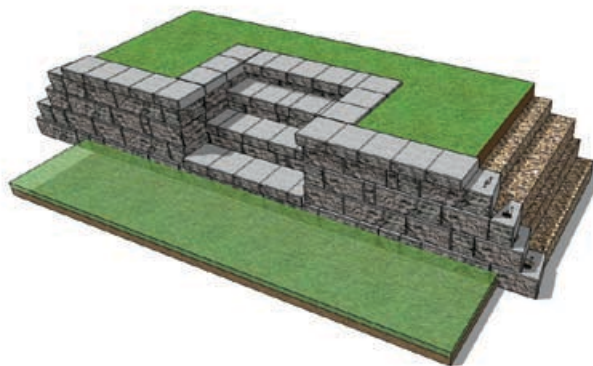
MIRASTONE™

Stairs



Creating beauty, one step at a time...

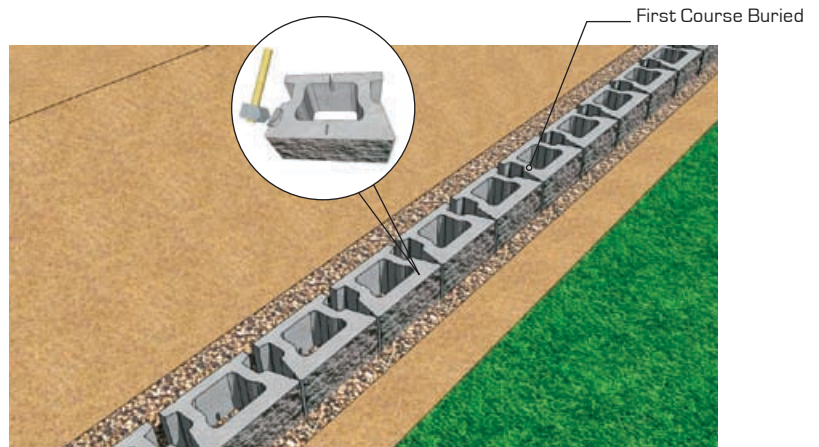
Proper installation of building stairs requires the same care and thoroughness as the creation of the wall itself. MiraStone's design features including the hollow core and multi-sized units simplify the process and provide installers with a range of options to create stairs that are striking and unique. This document provides illustrated step-by-step instructions for using MiraStone to construct stair details.



> > > STEP 1

BASE LEVELING PAD

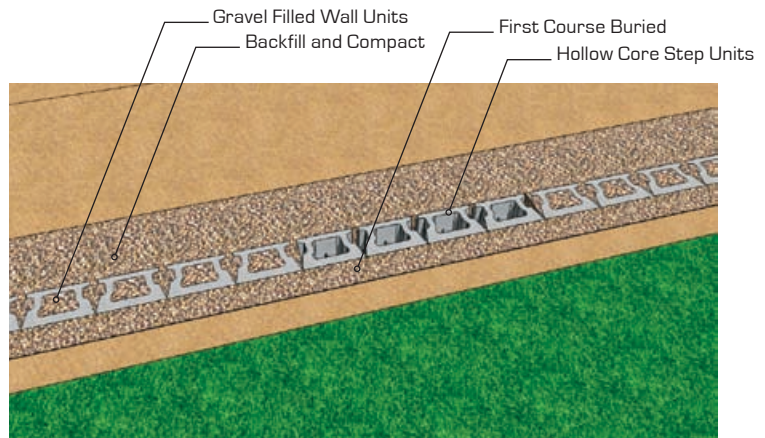
- When building steps, exercise the same care used in typical wall construction
- Prepare the sub-base and base leveling pad by following Gravity **MiraStone™** Installation Steps 1 to 9
- Build each step in sequence with each course of the regular wall units for best results of wall to step interlock



> > > STEP 2

LAY FIRST COURSE

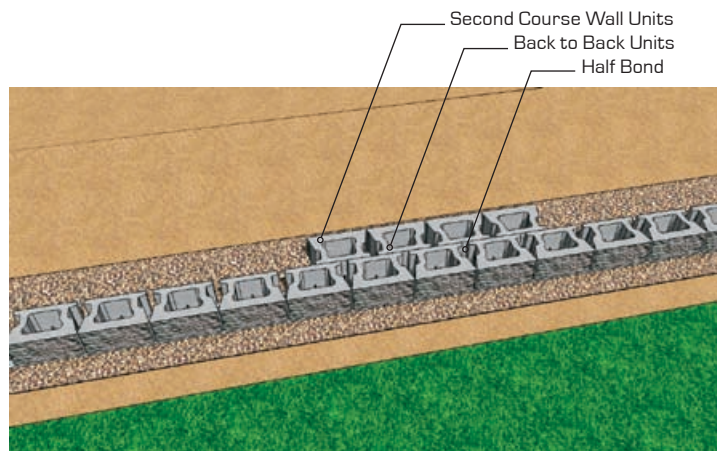
- **MiraStone™** first base units will have the **SecureLugs** removed before placing on the leveling pad
- First course of step units will be totally buried
 - Backfill behind the first course units with gravel, then compact and level flush to the top of the first course
- Do not fill the step units' hollow cores with gravel if you plan to use concrete



> > > STEP 3

LAY SECOND COURSE

- Place the second course of units on top of the base units
 - Place a second row of units back to back behind the second course of units on half bond
- Backfill behind the second course of units with gravel, then compact and level flush to the top of the second course
- Do not fill the step units' hollow cores with gravel if you plan to use concrete

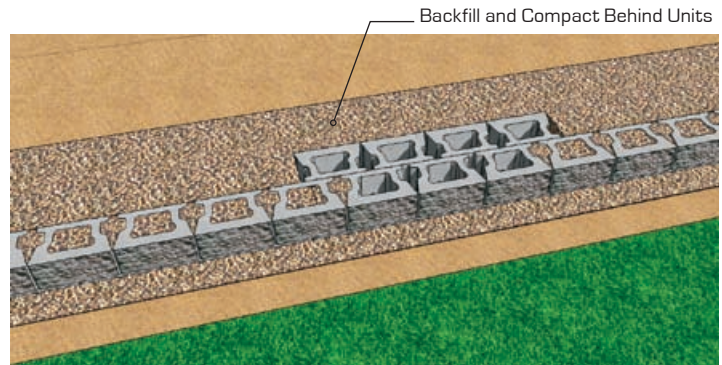


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> > > STEP 4

LAY THIRD COURSE

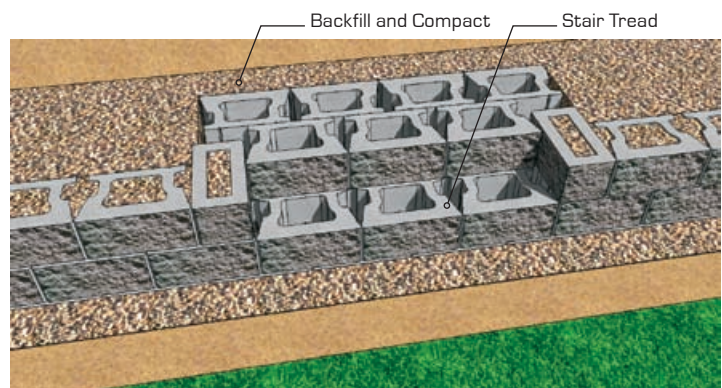
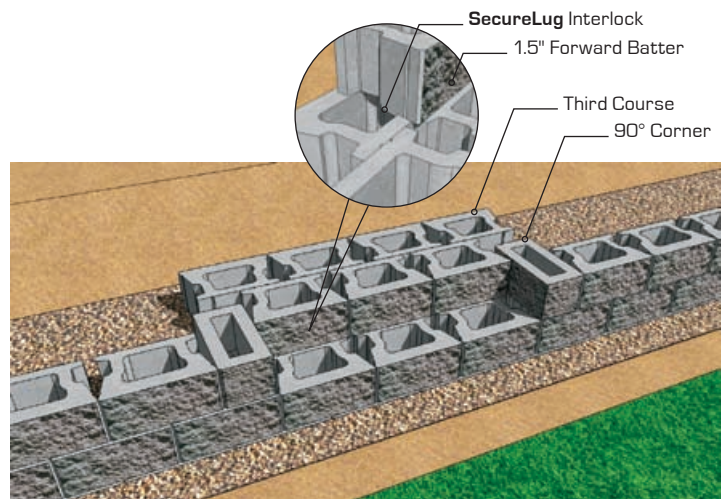
- Place the third course of units on the lower backward facing units with the **SecureLugs** placed into the 2 hollow cores of the lower units on half bond
- Pull the units forward to lock the **SecureLugs** into the lower backward units
- The third course units will be in a forward batter approximately 1.5 inch leaving 10.5 inches exposed on the front first step
- Place a second row of units back to back behind the third course of units on half bond



> > > STEP 5

CONTINUE INSTALLATION

- Continue to install each course of step units following the same steps as above
- The top and final step does not need backward units



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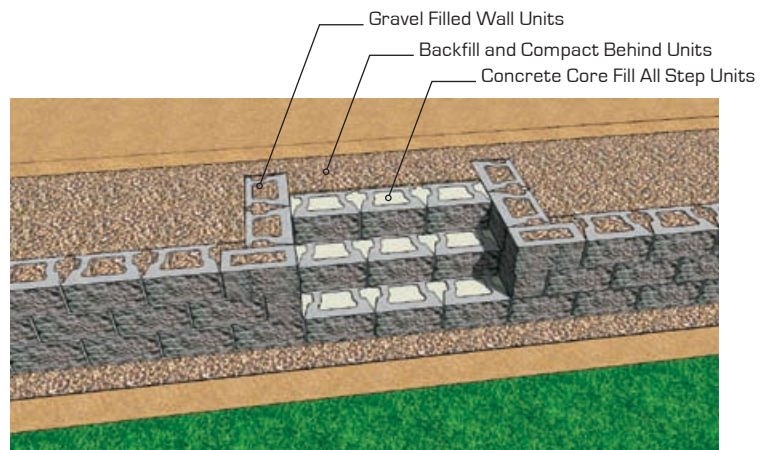
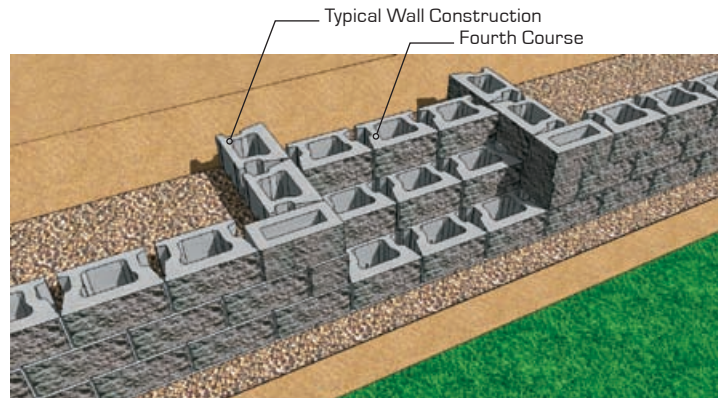
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> > > STEP 6

CONCRETE CORE STEPS

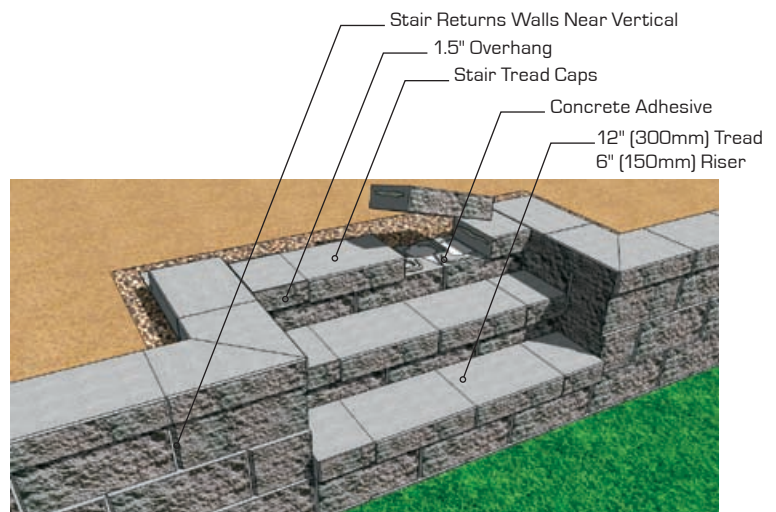
- Concrete filling the cores of all the step units will provide for greater stair stability
- Concrete core fill flush to the top of the units
 - Use a steel bar to hand vibrate the cores to insure proper filling
- Option: Unit cores can be filled with gravel but must be well compacted



> > > STEP 7

STAIR TREADS

- **MiraStone™** 12 inch deep cap units can be used as a stair tread
- Option: Pavers, Patio Slabs or Natural Stone can also be used as a stair tread



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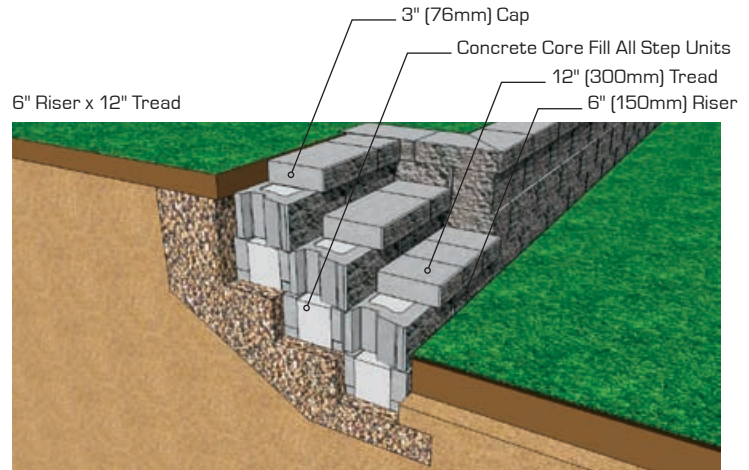
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> > > STEP 8

6" RISER CROSS SECTION

- The 12 inch cap will overhang the step units by approximately 1.5 inches on each step
- The riser will be a full 6 inches using the above installation
- Properly secure the cap units using a concrete adhesive
- Make sure all units are free of dirt and stones before installing
- Place a bead of adhesive between each joint of the caps



> > > STEP 9

LOWER STEP RISERS

- Lower risers can be made such as 6" or 7" by lowering the buried units 1 to 2 inches below the top of the backward buried unit
- Larger treads can be created by moving the buried units back off the forward step course 3 to 4 inches to create a 15 to 16 inch tread
- A variety of riser heights and tread lengths can be created to suit your project

