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.
**Stairs**

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**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
> > > 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
**Stairs**

> > > **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

- 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 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