

StoneWall® Select®, Mesa®, Diamond Pro® and Vertica®

Before you begin, call your local utilities companies to check your yard for buried electrical lines, cables, etc. This step is essential for your safety and is required by law. This service is free in most areas. Also, check with your local municipality to see if you'll need a construction permit and/or a fence behind your segmental retaining wall.

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

CALCULATE MATERIALS NEEDED

One block equals one square foot of wall face area. Each 4" thick cap is 18" in length, so divide the linear length of the wall by 1.5 to determine the number of cap units.

Mesa and StoneWall Select each require two clips/connectors per unit, except for the course below the cap. Diamond Pro and Vertica do not require clips or connectors.

LAY OUT THE PROJECT AND PREPARE THE FOOTING (LEVELING PAD)

Begin your project by staking out the layout of the wall you are going to build. Excavate a 24" wide trench centered along this line. Make the trench a minimum of 14" deep, enough to bury the first course of block (8") plus 6" for the footer. Ensure that a minimum of 8" or 10 percent of the total wall height (which ever is greater) will be below grade. Compact the soil in the bottom of the trench with a mechanical plate compactor before installing the footer material. The footing material should be 3/4" minus with fines (2A modified stone), compacted to 95 percent standard proctor density before proceeding to install the base course. Remember: Construct the wall level, NOT following the grade.

INSTALL THE BASE COURSE

Spreading a uniform 1" layer of concrete sand over your base will make it easier to level your first course of block. Ensure that the base course is level. Level the unit side-to-side and from front-to-back using a dead blow hammer and level. Use a string line along the back of the block to verify straightness.

Mesa Lay the unit so that the slots are face up.

StoneWall Select Lay the unit so that the clip groove is face up.

Diamond Pro Remove the rear lip of each base course unit and level.

Vertica Lay the unit so that the center locator lug is face up.

NEXT COURSE CONSTRUCTION

Mesa Place two connectors into the receiving slots on the top of each Mesa unit. The teeth of the Mesa connector must penetrate the Tensar® geogrid apertures on courses that require geogrid. The transverse bar should be snug against the connector teeth before final seating of the connector. Seat the connector by lightly tapping it with a hammer. Flags on top of the Mesa connector must be oriented in the proper direction for a "battered" or "near vertical" wall, as per the project requirements. Placement of the connector with flags forward pointing toward the face of the wall will render a near vertical wall batter, while flags pointed away from the wall face will provide a 5/8" setback.

StoneWall Select Place two interlocking clips onto the back of each unit. The sides of the clips indicate the up and front direction to create the 3/4" setback.

Diamond Pro No connectors/clips are needed. Pull each block forward as far as possible to engage the rear lip and ensure the correct 1" setback.

Vertica No connectors/clips are needed. Pull each block forward as far as possible to ensure the correct 1/2" setback. Clean any debris off the top of the units. Place the next and additional courses in such a fashion that each unit bridges two units below in a running bond pattern.

BACKFILL AND COMPACT

After each course of block is laid, backfill your wall. First, shovel drainage stone #57 (1-1/4", 3/4" and 1/2") or #67 (3/4") clean stone directly behind the new course of blocks, extending back a minimum of 12". Fill the cores and surrounding voids with #57 (1-1/4", 3/4" and 1/2") or #67 (3/4") clean stone. Crushed or recycled concrete is NOT suitable for this purpose. Include a 4" perforated pipe (drain tile) with a minimum one percent pitch behind the units and route the pipe through the face of the wall at grade level, or alongside if possible. Compact the area behind the wall to 95 percent proctor density. Using suitable compaction equipment appropriate for your soil type and lift thickness. Compact no more than 4' of soil at a time. Always run equipment parallel to wall.

GEOGRID REINFORCEMENT

Where applicable, install geogrid to the specified length (block surface should be clean and free of debris, and backfill should be level with the top of the wall block). Make sure that the strength direction of the grid is perpendicular to the wall. Install the interlocking clips or connectors after the geogrid is in position. Place additional geogrid lengths as required by the engineer's plans. Place the front edge of the geogrid 1" from the face of the block. Always pull the reinforcement taut and pin or stake the grid so it lies completely flat with its back edge in place. Remember: Use only Tensar geogrid with the Mesa Wall System.

CAP THE WALL

Cut caps with a diamond blade saw to fit, as needed. Attach the wall cap block with a high strength, flexible concrete adhesive.



▲ Mesa



▲ Vertica Stone Cut



▲ StoneWall SELECT

Note: These instructions are meant as general guidelines for walls less than 40" (five courses). Walls higher than 40" generally require geogrid reinforcement to stabilize the soil behind the wall. Site-specific conditions may warrant additional installation requirements. EP Henry recommends you consult a Professional Engineer for all walls over 48" or walls lower than 48" with a significant surcharge.

Caution: Dry sawing or grinding of concrete products may result in the release of respirable crystalline quartz. Prolonged exposure to respirable crystalline quartz may cause delayed (chronic) lung injury (silicosis). The use of a NIOSH-Approved respirator and tight-fitting goggles are recommended when sawing or grinding operations are in progress.