



MESA[®] ASHFORD[™]
RETAINING WALL SYSTEM

The Natural Look for Mesa[®] Walls



The structural integrity and reliability of the Mesa Retaining Wall Systems are now available in a new, more natural look. Introducing the Mesa Ashford[™] System from Tensar[®] Earth Technologies – the latest segmental retaining wall (SRW) solution that features an attractive, randomly patterned facing.

Capturing Today's Design Trends

Today's trends in the commercial, residential and transportation markets call for design alternatives that feature a uniform look with a more natural and random aesthetic appeal. SRW systems are no exception. With the development of the Mesa Ashford System, Tensar Earth Technologies is helping lead the market demand for this new Ashlar-inspired look.

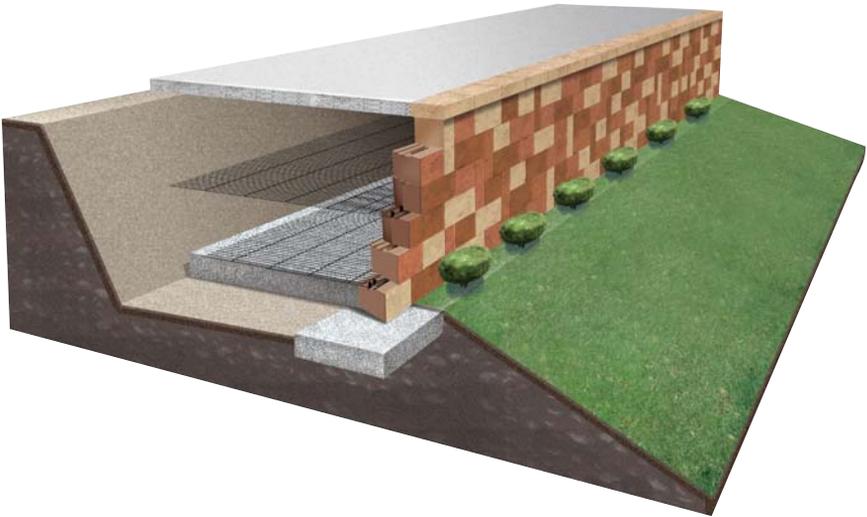
Ashford Units are locally available in three different sizes giving you a number of different facing options to choose from. Whether you choose a symmetrical pattern or a random look, Ashford Walls provide the reliable structural stability and unmatched performance you've come to expect from the single-source Mesa Retaining Wall Systems.

Ashford Units are available in every color, blend and texture offered with other Mesa Units. They can even be antiqued for a beautifully weathered look with minimal product waste and are built to a near-vertical facing angle. Walls can also be installed to create 90° corners, stairs and dramatic serpentine curves.



New Look – Same Connection

An installed Mesa Ashford System may look different from other Mesa Walls, but that's where the difference ends. Like every Mesa System, Ashford Walls feature single-source, integrated components including high performance concrete units, durable, non-corrosive Tensar® Geogrids and unique locking connectors that create a positive, mechanical connection which meets or exceeds every industry standard.



Better yet, the Mesa Ashford System requires no core fill on structural walls. This helps make installation quick and simple. And, just like other Mesa solutions, the Ashford System provides the dependability engineers require, the ease of installation contractors expect and the aesthetic qualities and cost efficiencies owners and architects demand.

Standard Ashford Installation Procedures

The following steps provide a general guide for installing the Mesa Ashford Retaining Wall System. These steps will help you through standard construction from start to finish. If you are installing an Ashford Wall on a specific project and require more detailed information, please refer to the *Mesa Installation and Special Considerations Manual* or the project's installation instructions and drawings within the contract bid documents.

Step 1: **Preconstruction Preparation**



It is important to make yourself familiar with the components of the Mesa Ashford System prior to the start of construction. Below is a list of these components and the tools needed to aid you in the construction of an Ashford Wall.

Corner units, drainage composite, piping and geotextiles may also be required.

List of suggested tools for the installation of the system:

- Dead blow hammer
- 2-ft. – 4-ft. level
- Utility saw and/or grinder
- Masonry string and chalk line
- Pitchfork (used to help remove slack from geogrid)
- Shovels
- Compaction equipment

Step 2: **Prepare the Leveling Pad**

Prepare the subgrade by excavating vertically to plan elevation and horizontally to design geogrid lengths. If stockpiling excavated material for reinforced fill, remove all surface vegetation and debris prior to backfill. Start the leveling pad at



the lowest elevation of the wall. Level the prepared base with 6" of unreinforced concrete or well-compacted granular fill (gravel, road base or $\frac{3}{4}$ " minus [13 – 20 mm] crushed stone). The leveling pad is typically 12" wider than the Mesa Unit, 6" in front and behind the Mesa Unit. Compact the well-graded stone to 95% Standard Proctor or greater.

Steps in the leveling pad are required to change elevation. It is important that the height of the step is equal to the height of the number of unit courses. Aggregate leveling pads are generally overbuilt and

should be carefully trimmed down to meet the proper elevation. If a concrete leveling pad is used, it is important to have the step-up heights match the Mesa Unit's height exactly. If not, grinding and/or shimming may be required.

Step 3: Install the Base Course



Once the pad is in place, begin by making a wall line where the units will rest. Chalk works well for concrete, while string works well for aggregate. Place the first course of Mesa Units (standard units) tightly together with the sides touching and the textured face outward. The first course will consist entirely of the 18" wide standard units. These units must be accurately placed to align with the string line, carefully spaced and leveled to facilitate construction and enhance the appearance of the wall. Occasionally a unit will have a slight difference in height. If this occurs, a geogrid rib or fingers may be used to shim the face or tail back to level.

Step 4: Geogrid and Connector Placement



Prior to placement of additional courses, two Connectors are inserted into each preceding Mesa Unit. The flags or exposed portion of the connector will create the alignment with the unit above. If the design dictates the need for a geogrid at a particular elevation, the Tensar Geogrid will be installed with the Mesa Connectors penetrating through the geogrid apertures. Snug the geogrid against the connector teeth, and then drive the connector the rest of the way using a rubber mallet.

Note: The transverse bar of the geogrid must be pulled taut against the connectors prior to final seating of the connector into the block. Any slack in the geogrid may be removed by anchoring it with stakes or rebar.

Once the connectors and, when required, the geogrids are in place, the Mesa Units must be swept clean prior to placing the next course. Failure to do this can result in problems with seating and leveling of the subsequent courses. The "connected" geogrids can be draped over the front face of the wall while the backfill is placed up to the geogrids elevation.

Step 5: Place and Compact Backfill



Install drainage fill, typically $\frac{3}{4}$ " well-drained stone, behind the wall face as directed by the design drawings (12" min.). Peagravel should not be used for drainage fill. Behind the drainage fill, use backfill material that meets project specifications. When placing backfill over the geogrid layer, the fill should be placed to minimize any slack in the geogrid. Placing the fill in a direction away from or parallel to the face of the wall will minimize this slack. In addition to the direction of fill placement, a pitchfork can be used to assist in fill over the geogrid and remove slack.

Loose lifts of the reinforced fill shall not exceed 6" where hand compaction equipment is used or 10" where heavy compaction equipment is used. These thicknesses may vary depending on the approved project-specific soil types used. Compact fill to 95% Standard Proctor per ASTM D-698 or as required by the contract documents. **Note:** Only hand-operated compaction equipment shall be used within 3 ft. of the tail of the Mesa Units. Heavy equipment in this area can dislocate the geogrids and face units.

Step 6: Install Additional Courses



Place the next course over the Mesa Connectors on the previous course, fitting the flags inside the open cavity of the block. Flags may need to be removed to seat the above unit. Once the unit is placed, pull the unit forward, so that it makes contact with the connectors. The vertical joint alignment should be checked frequently as the connectors allow the units to slide from side to side. Continue to check for level front to back and side to side as you build up. If needed, shim when required. Once the current course is level, continue to repeat steps 4 through 6 until final elevation is reached.

Step 7: Place Cap Units (when required)

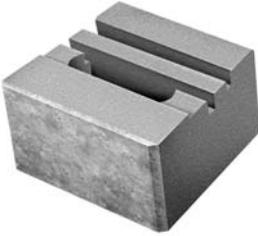
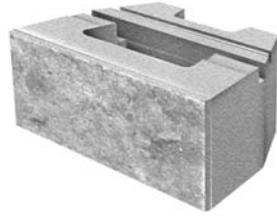
Using an approved, exterior concrete adhesive, Cap Units may be secured to the course of units below. These units may be placed such that a nominal 1" overhang is achieved or flush with the face of the wall.

For additional information, please refer to the *Mesa Installation and Special Considerations Manual*. This document may be obtained at 800-TENSAR-1 or www.tensarcorp.com.

Ashford Units



Standard Unit:
8"h x 18"w x 11"d nom./75 lbs.



Medium:
8"h x 12"w x 11"d nom./60 lbs.



Tall:
16"h x 6"w x 11"d nom./60 lbs.



For more information on the Mesa Ashford System please call **800-TENSAR-1**, email info@tensarcorp.com or visit www.tensarcorp.com.



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