



DURAMESH™ WALL SYSTEM

INSTALLATION GUIDELINES 70°
G 004 003

Version 1

AUGUST 2021

THESE INSTRUCTIONS
ARE GENERAL AND THE
INSTRUCTIONS OF THE
PROJECT ENGINEER
MAY OVERRIDE THESE
INSTRUCTIONS.

The contractor must have an understanding of the following key concepts relating to reinforced soil construction prior to the commencement of any construction:

- Drainage is of utmost importance. All drainage works shall be carried out as per contract drawings. Surface water shall be diverted away from the reinforced zone, and a collector system shall be installed for ground water seepage from the retained zone.
- Geogrid placement, spacing and orientation are critical. Geogrid shall be of the grade specified in the contract documents, and shall be laid with the main strength direction running from the face of the wall to the back.
- Compaction of the subgrade and each reinforced layer shall meet the compaction requirements (e.g. MDD). The project engineer will require regular testing as set out in the project specification.

1 Prepare the foundation as per the construction plans and specifications. Install the leveling pad (when required), place and compact granular soil as required by the specifications and/or construction plans to achieve starting level. Drainage system shall be constructed as per design. If cutting is involved, be sure to excavate to the required geogrid embedment length which is typically measured from the face of the reinforced soil structure to the cut face.

2 Place DuraMesh™ panels at the proper elevation and stationing. Adjacent panels shall be butted together and hog ringed or laced with wire to maintain proper alignment during construction. Lay the BioWool matting up the inside of the DuraMesh™ panel and clip top and bottom. If a fabric wrap is also specified, lay the fabric inside the BioWool matting wrap with the bottom length extending back 500mm from the panel face. Allow the fabric to also lie over the top face of the DuraMesh panel.



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- 3** Place the Cirtex® geogrid at the elevations shown on the drawings (typically at DuraMesh™ panel interfaces). Before unrolling geogrid, verify the required length and placement location. The geogrid (continuous in roll direction) shall be placed perpendicular to the wall face and should extend from the back of the wall horizontally to the face then up the lift height and hang over the face a minimum of 1.5m. Geogrid may be cut using a razor knife, scissors, sharp knife or other cutting tool. Care should be taken to avoid injury while cutting the geogrid. Where required, adjacent sections of geogrid may butt each other at the face of the structure or overlap up to 300mm.



- 4** Attach the support struts, 5 large and 5 small, to each panel once the facing wrap components and geogrid are in place. It may be necessary to cut through the facing wrap to attach the struts to the panels. The reinforced soil can be placed when the struts are installed.



- 5** Place and properly compact reinforced soil over the geogrid as required by the construction drawings or specifications, and clause 6 of this document. Staking may be required to keep the geogrid taut and free from wrinkles during the placement of reinforced soil. Do not drive construction equipment directly on geogrid. Place a minimum of 150mm of reinforced soil over the geogrid before the traveling of vehicles or heavy compaction equipment. Reinforced soils shall be as per the project specifications, and should be granular, well graded and free from organic materials. Maximum particle size will be specified by the designer in the project specifications. If fine-grained soils are considered for construction, extra care and careful monitoring will be required to ensure adequate compaction is achieved. Fine-grained soils should be limited to ML or CL as per the specifications of Unified Soil Classification System (USCS). 100mm to 250mm of topsoil should be placed and well packed behind the BioWool matting, inside the DuraMesh panel.



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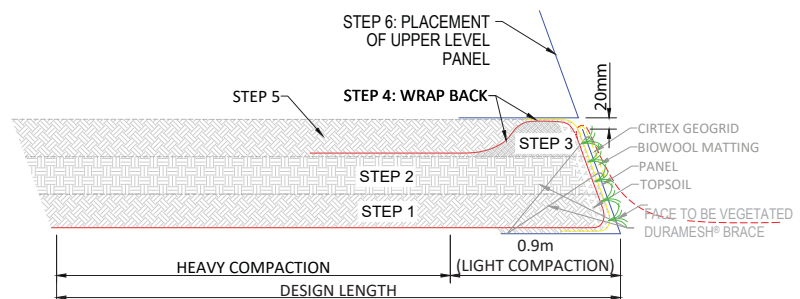
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- 6** Compacted reinforced soil shall be level along the full length of the geogrid embedment. In no case shall the grade slope towards the front face of the structure. A maximum 2% grade falling away from the front face of the structure is acceptable. Be sure to place and compact the reinforced soil as stated in the specifications or construction plans. Soil shall be compacted to a minimum 95% Standard Proctor density in 200mm lifts, or as required by the specifications or construction plans, whichever is more stringent. Light compaction equipment shall be used at the face zone (0.9m of the wall face). Smaller lifts may be required to achieve the required compaction at the face zone. Heavier compaction machinery with a weight of up to 2500 kg/m and smooth rollers may be used away from the face zone. Sheep's foot rollers must not be used. Pad foot rollers may be used at the discretion of the project engineer if they do not damage the geogrid.

- 7** Once the backfill elevation at the face has reached 600mm compacted depth, pull the facing wrap from the front of the panel back over the compacted soil. NB: This will be 20mm above the finished wire height. Pull the facing wrap taut. It may be necessary to stake or pin the wrap to keep it taut while backfilling. Continue the construction sequence by placing another row of DuraMesh™ panels and repeating the construction steps (refer to the figure on the right for correct placement). In view of getting a nice straight face, one critical step is careful preparation of the zone where the DuraMesh panels are placed. Any undulations under the panels will reflect directly in the wall face.



- 8** The contractor must ensure the face of the wall is vegetated by either hydro seeding or placing a seeded soil mix directly behind the DuraMesh panel and BioWool matting. The seed mix must be suitable to the local environment and the contractor must ensure it is sufficiently watered until established.

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