



# DURAGREEN

## SLOPE SYSTEM

### INSTALLATION GUIDELINES

G 077 001

Issue No. 02

JULY 2019

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

Before beginning the contractor must have an understanding of the following key concepts relating to Reinforced Soil Construction:

- Drainage detail is of utmost importance. All drainage must be installed as per contract drawings. Surface water must be diverted away from the reinforced zone, and a collector system must be installed for ground water seepage from the retained zone.
- Geogrid placement, spacing and orientation are critical. Geogrids must be of the grade specified in the contract documents, and must 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 is a critical design factor. 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. Place and compact any soil required by the specifications and/or construction plans to achieve starting level. For cut structures: during the initial excavation be sure to excavate to the required geogrid embedment length. The geogrid embedment length is typically measured back from the front face of the reinforced soil structure. The prepared subgrade must now be rolled to achieve a firm surface. If a granular foundation pad is used this must be well compacted at this point to 98% MDD or as per project specification.



**2** Lay out the StrataGrid® primary reinforcement on the subgrade. The geogrid shall be placed perpendicular to the wall face and should extend from the back of the wall horizontally to the face (toe point) then a further 2.1m out past the toe to allow for the wrap back. Before unrolling the StrataGrid, verify required length and placement location. Measure and cut StrataGrid to the specified length. StrataGrid may be cut using scissors, sharp knife or other cutting tool. Care should be taken to avoid injury while cutting the StrataGrid.



[CLICK HERE to view a Typical 3D Cross Section of a DuraGreen wall](#)





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**3** For slopes greater than 45° face support is required. Place Cirtex hessian/geotextile bags or tubular erosion control socks filled with growing media (topsoil/compost) along the front face of the wall up to 600mm high. Arrange the bags to make a small wall which fill material can be compacted against. Two layers of bags may be required, arrange the second layer to form the face angle specified on the construction drawings. Ensure the face support bags or socks are placed at the toe point with 2.1m of grid extending past the wall face.



**4** Side by side sections of StrataGrid must overlap at least 100mm. StrataGrid cannot be spliced to achieve required embedment length in the roll direction. One continuous section of StrataGrid must be used to achieve the specified length in the strength direction. Pull geogrid taut to remove slack and wrinkles prior to placement of backfill. Staking may be required to keep the geogrid taut and free from wrinkles during backfill placement. Do not drive construction equipment directly on the geogrid. Ensure fill material is placed from the face zone of the wall and spread towards the back, so that any wrinkles which may be caused by the placement process are removed. Place a minimum of 150mm of backfill over the geogrid before trafficking or using heavy compaction equipment. Backfill soils should be granular and well graded, and free from organic materials. Other fill types may be used if allowed by the project specifications and considered in the reinforcement analysis, typically reinforced fill soils should have a PI of <20 and <50% passing 75 micron sieve. However with good drainage, careful evaluation of soil and soil/grid interaction properties and construction control most site soils can be utilised.



**5** Compacted backfill shall be level along the full length of the StrataGrid embedment. In no case shall the grade slope towards the front face of the structure. A maximum 2 percent grade falling away from the front face of the structure is acceptable. 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. Heavy compaction machinery must not be used within 0.9m of the wall face. Light compaction equipment shall be used at the face zone.





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**6** Once the backfill elevation has reached 150mm below the level of the facing, pull the facing wrap from the front of the wall back over the compacted soil. Pull the facing wrap taut and compact the final 150mm to the top of the hessian/geotextile bags. 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 geogrid and hessian/geotextile bags and repeating the construction steps.

**7** The contractor must ensure the face of the wall is vegetated by either hydro seeding onto a suitable growing media or placing a seeded soil mix directly into the facing bags. 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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