

CHECKMATE GEOCELL - TGSS SERIES INSTALLATION GUIDELINES

GEOCELL INSTALLATION FOR GROUND STABILIZATION APPLICATION:

1. Site Preparation:

Prepare the site by removing all vegetative cover, debris and any unacceptable soils from the area where the geocell is to be placed. The surface should be as smooth as possible.

2. Checkmate Geocell Placement:

2.1 Partially install stakes or J-hooks, leaving a protruding length of the cell depth plus approximately 50 mm, along the top edge of the area in which the geocell is to be installed. A string or chalk line may be used to align staking locations and borders.

2.2 Geocell should be stretched past the designed length, and allow to settle back to the designed length. Set the end cells of the geocell sections over the previously installed stakes and complete installation of the stakes or J-hooks flush with or slightly below cell walls.

3. Adjoining sections:

Adjoining sections must be level and flush with each other. Overlap the sides of the geocell sections and butt the ends together. Secure adjoining sections to each other using a pneumatic stapler, hot rings or other means as required by the job specifications.

4. Infill:

4.1 When the geocells have been properly laid into place, the system should be infilled using the materials specified in the job specifications. Infill in the geocells is mostly influenced by soil and hydraulic conditions. Infill using the materials specified can be placed by the use of a front endloader, backhoe, bottom dump bucket, conveyor system or ready mix truck.

4.2 To prevent possible damage to the system, limit the drop height of the infill to no more than 1 m.

4.3 When using sand, granular or top soil fills, overfill the geocell sections by 30 - 50 mm to allow for settling and compaction.

4.4 Sand and granular fills should then be blade compacted to the top of the cells. Top soil fills should be compacted with the loader or back hoe or with a tamper plate. Concrete fills should be manually raked and machine finished.

CHECKMATE GEOCELL INSTALLATION FOR RETAINING WALL APPLICATION:

- The Checkmate Geocell panels are shipped in collapsed form for ease of handling.
- Prepare the site by removing all vegetative cover, debris and any unacceptable soils from the area where the Checkmate Geocell cellular confinement system is to be placed. Replace any removed soils with acceptable materials and complete all earthwork. The base material shall be compacted to a minimum 95% Standard Proctor density.
- The panels should be held open by a prefabricated stretcher frame to the specific panel dimensions. Once the panel is filled, the stretcher frame can be removed. If there are various different fills being used a geotextile is to be placed between the foundation and the bottom panel or between the panels as per design specifications. Installation of the geotextile should be in accordance with the manufacturer's recommendations.
- Adjoining Checkmate Geocell sections must be level and flush with each other. Overlap the sides of the geocell sections and butt the ends together. Secure adjoining sections to each other using a pneumatic stapler (3 staples for 8 inch deep cell and 2 staples for 6 inch deep cell) or other means as required by the job specification.
- When the Checkmate Geocell has been properly laid in place, the system should be filled using the materials specified in the job specifications. The panels should be overfilled approximately 1 inch above the top of the cell wall and then compacted to a minimum 95% Standard Proctor density. Any excess material should be scraped off so as to have the fill material flush with the top of the cell wall. This insures an even surface for the placement of the next layer.
As the panels are stacked on top of each other they might need to be set back as per the engineer's specification.

GEOCELL INSTALLATION FOR SLOPE PROTECTION / EROSION CONTROL:

There are many variables that influence the installation and performance of the Geocell – cellular confinement System, that include the slope grade, subsurface stability, Infill material, rainfall and artificial watering conditions, hydraulic characteristics of ground water flow and sub-base anchoring quality. Hence it is recommended that a proper engineering design be made for a specific application, in order to derive the maximum benefit from the Geocell System.

The installation procedure for slope protection/ erosion control is the same as adopted in the Ground stabilization application. However following additional points should be considered;

- Stakes should be left in place to insure the geocell remains permanently anchored to the sub-grade.
- When using concrete, place the concrete as in any other form, making sure the geocell is not displaced during the pouring.
- It is recommended that the cells are filled from the base of the slope upward.