



Table of Contents

- 1 Site Preparation
- 2 Installation for the Retaining Wall
 - 2.1 Base Preparation
 - 2.2 Footing Installation
 - 2.3 Placement of the Drainage System
 - 2.4 Placement of the Huitex[®] Geocell panels
- 3 Installation for the Slope Protection
 - 3.1 Base Preparation
 - 3.2 Deployment of Huitex[®] Geocell
 - 3.3 Infill material
 - 3.4 Vegetation
- 4 Installation for the Ground Stabilization
 - 4.1 Base Preparation
 - 4.2 Deployment of Huitex[®] Geocell
 - 4.3 Infill material
 - 4.4 Compact
- 5 Assembling accessories
- 6 Dimensions and Specifications
 - 6.1 Dimensions
 - 6.2 Specifications

1 Site Preparation

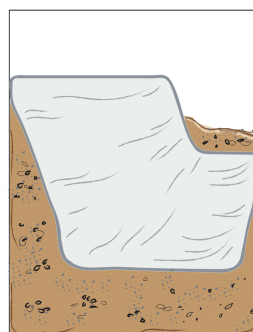
The work site shall be well prepared before the installation. The ground shall be compacted in accordance with the project specification. All surfaces to be deployed shall be free of all foreign and organic material or sharp objects.

2 Installation for the Retaining Wall

HUITEX[®] Geocell Earth Retention Systems is structure built for the purpose of stabilizing very precipitous slopes using minimal land area. Besides constructing quickly, it can allow of more large displacement compare with concrete retaining wall. HUITEX[®] Geocell Earth Retention Systems is durable and resistant to water, which offers more flexible cost-effective retaining system than conventional earth retention system.

2.1 Base Preparation

- Install geotextile along the back of the retaining wall. Geotextile will protect the system with filtration and drainage function.
- Place the granular base material and compact the base system to 95% standard Proctor Dry Density.



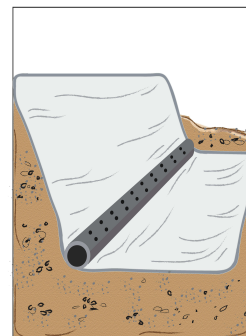
2.2 Footing Installation

- Use the prefabrication frame to expand the section and install J-pins (permanent or temporary) to anchor the edge cells.
- To stretch the section to maximum area and allow it to relax.



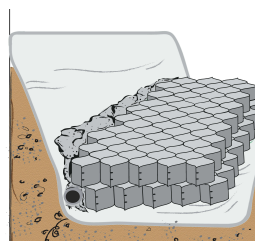
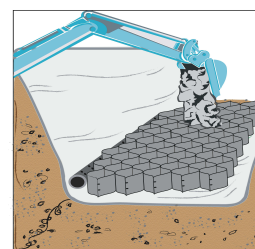
2.3 Placement of the Drainage System

- Install geopipe in accordance with the designs. Ensure the drainage system is functioned by gravity. Ensure all pipe connections are properly made and the sub-drain pipe is connected to the outlet pipe or trench.
- Where specified, encapsulate the pipe with geotextile wrapped bedding material (e.g. sand, gravel, clear stone, etc.)
- Ensure that the discharge at the outlet end will not cause localized erosion that may effect the stability of the system



2.4 Placement of the HUITEX[®] Geocell panels

- Expand the Geocell section into its designated position.
- Ensure the panel is expanded to the maximum area and allow it to relax
- Align and fasten the panels. Ensure they are specified as designs.
- Backfill the system with the infill material and level to approximately 50mm above the cells.
- Compact infill material with equipments and methods in accordance with the project specification.
- When stacking the next layer, ensure that:
 - The proper setback of each panel is maintained as much as the design requires.
 - Splicing of two or more panel is not installed in the front-to-back direction.
 - Proper side-to-side cell alignment is maintained to prevent loss of cell infill material.
- Compact every surface of the panels well with equipment and methods in accordance with the specification.

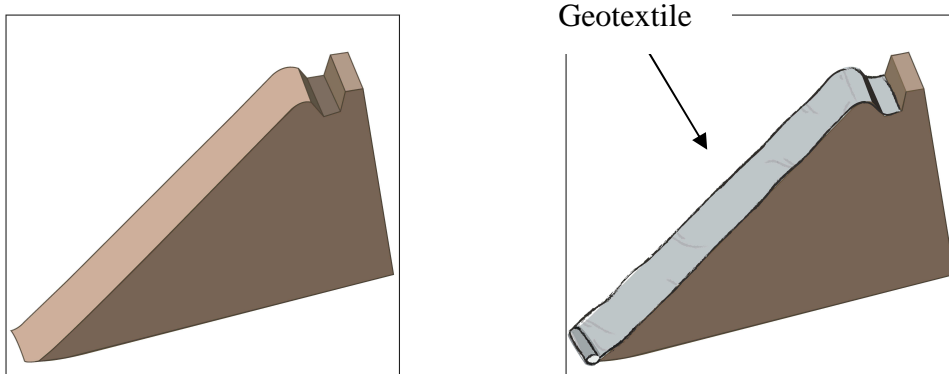


3 Installation for the Slope Protection

HUITEX[®] Slope Protection System provides excellent protection for slopes against erosion through its designed expandable, strong, and cellular structure. It confines desired infill and resists downward migration of material due to hydraulic flows. The infill materials are based upon the requirement of projects. Topsoil is for well establish HUITEX[®] Vegetation Systems; granular infill is for non-vegetation slopes ; concrete is best for hard, durable protection for severe conditions.

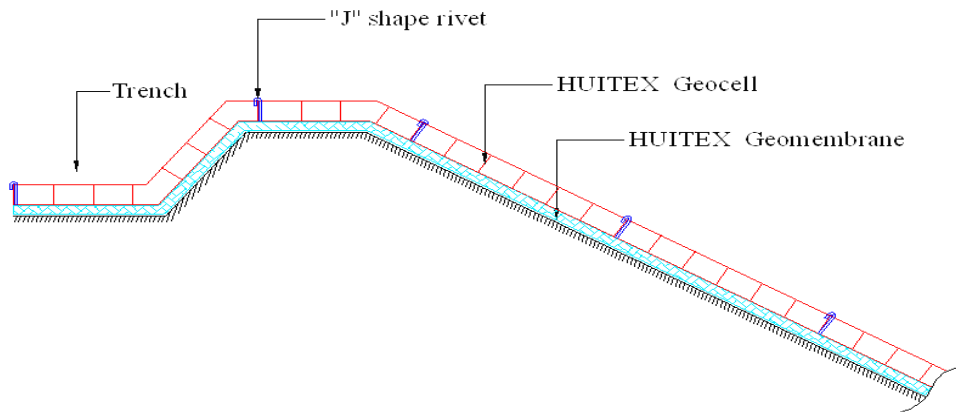
3.1 Base Preparation

It is recommended to lying geotextile under the Geocell. It will not only protect the slope with filtration and drainage function but also help the plants strongly rooted.



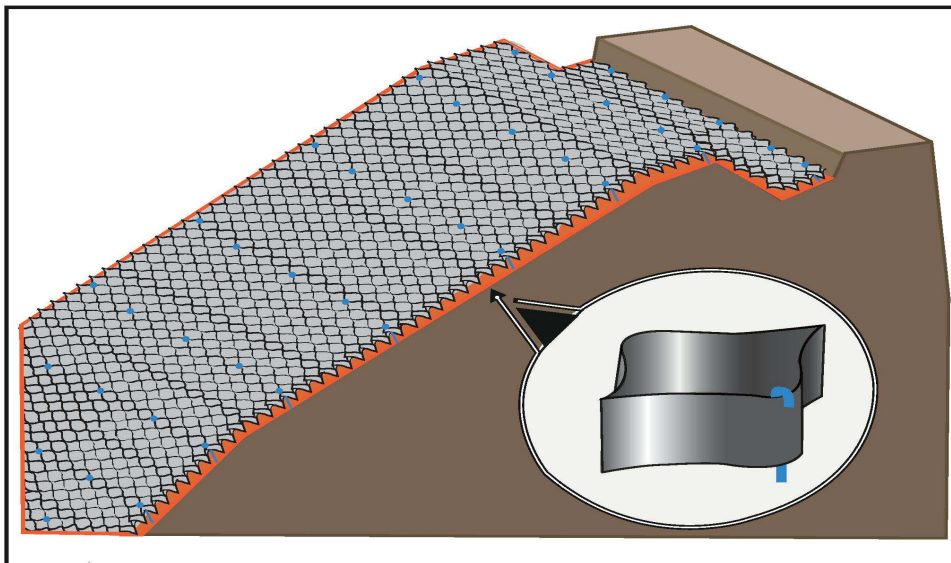
3.2 Deployment of HUITEX[®] Geocell

- Position the Geocell section along the slope direction.
- Anchor the upper edge of the Geocell to the top of the slope. The anchor trench shall be excavated according to the project designs. If necessary, pouring concrete can reduce the rivet distance in the trench.



3.3 Infill material

- The fill material should be selected to meet the project and earth properties. Fill the cells with a front-end loader or dump truck (caution: Excessive drop-height might hurt the cells. Droop-height<1m is suggested.)
- Infill material should be about 2cm higher than the cells.
- Finally to compact the Geocell system well in accordance with the designs.



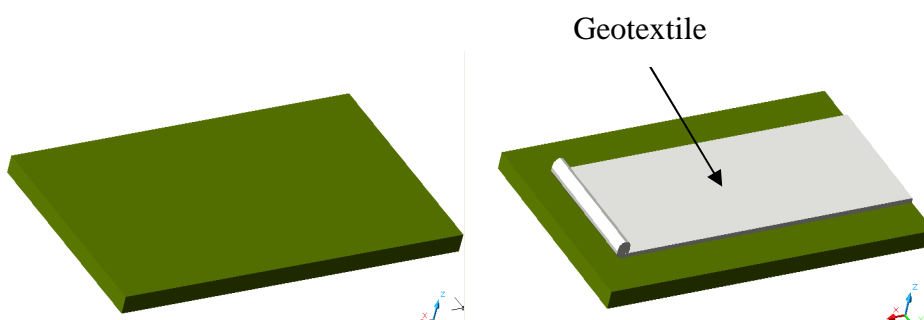
3.4 Vegetation

Vegetation system can prevent the topsoil from being eroded by the rain. Sowing various grass seeds to generate the vegetation system.

4 Installation for the Ground Stabilization

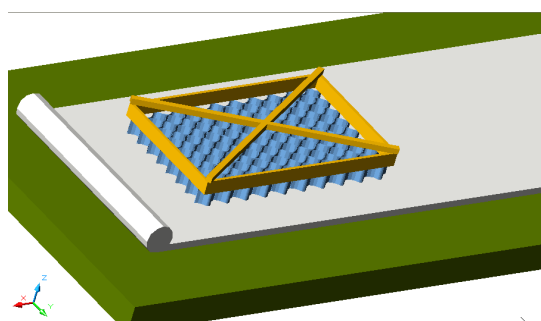
4.1 Base Preparation

Where specified, install a suitable geotextile as a separator. A woven or nonwoven fabric is selected depending on whether strength or permeability is important. Simply unroll the geotextile directly on the subgrade, overlapping adjacent panels by 45cm (minimum).



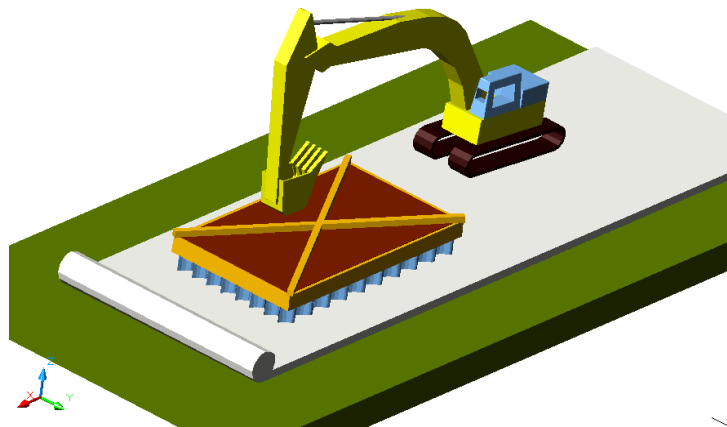
4.2 Deployment of Huitex[®] Geocell

- Position the collapsed section on the place where is determined to be first installation.
- Install a series of temporary stakes or pins over which selected edge cells would be hooked. Noose the edge of the section, stretch it to maximum area and allow it relaxed. Accurate positioning for the edge cells will be able to minimize the number of working crew required for the deployment. Additional stakes may be needed along perimeter in order to get full expansion of each cell.
- An installation frame may be needed where it is not practical to use stakes (over rocky soil, etc.)



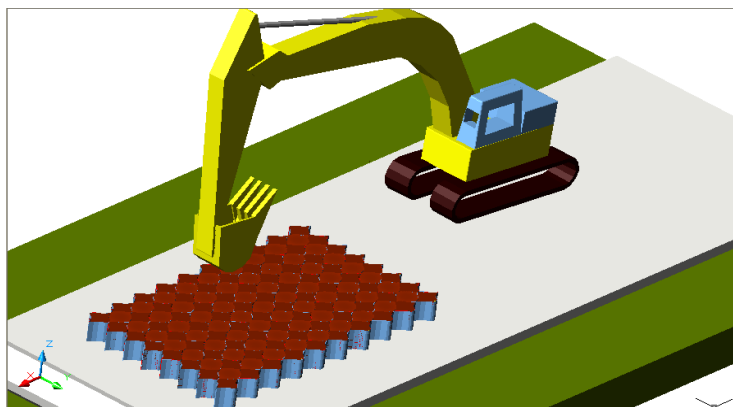
4.3 Infill material

The fill material should be selected to meet the project and earth properties. Fill the cells with a front-end loader or dump truck (caution: Excessive drop-height might hurt the cells. Drop-height < 1m is suggested) and push the fill into cells using shovels or a bull-dozer blade. Continue until all cells are filled. Never allow any equipment to drive over unfilled area. And always overfill the cells slightly to allow for consolidation.



4.4 Compact

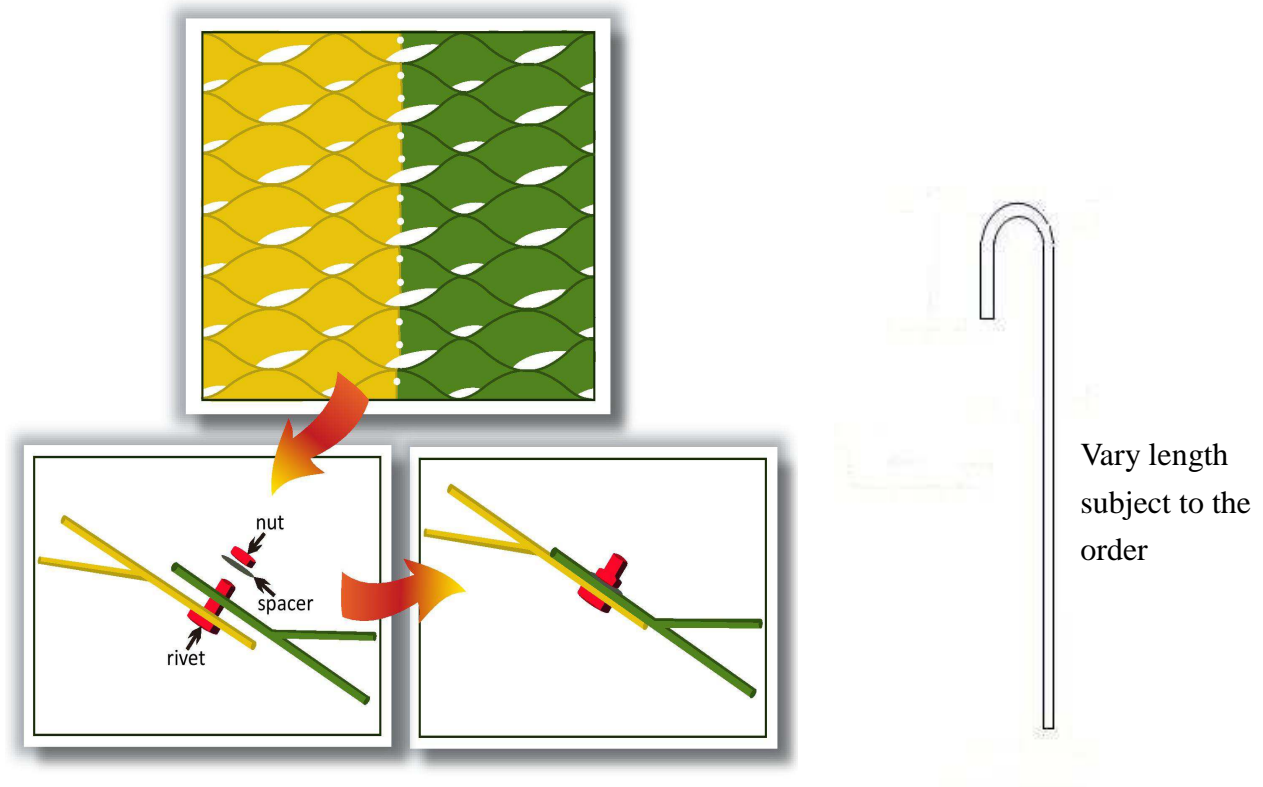
It is necessary to compact the Geocell system. The most common method of compacting is through repeated passes by the road roller used the spread the infill. A versatile equipment and/or water may be required to achieve the specified compaction.



5 Assembling accessories

- ◆ Screw sets
- ◆ J-Pins

Adjacent sections are installed in a similar fashion and butted with rivets, riveting every cell to cell to achieve continuous coverage.





6. Dimensions and Specifications

6.1 Dimensions

■ Series – A

Sheet Thickness, mm	1.25				
Sheet Length, m	3.36				
Sheet Surface	Smooth、Textured、Perforated				
Bonded Range, mm	330				
Cell Depth, mm	50	75	100	150	200
Expanded Cell Size, mm	244 (Width) × 203 (Length)				
Cells per Section	10 × 30				
Expanded Section Size, m	2.44 (Width) × 6.1 (Length)				
Expanded Section Area, m ²	15				

■ Series – B

Sheet Thickness, mm	1.25				
Sheet Length, m	3.36				
Sheet Surface	Smooth、Textured、Perforated				
Bonded Range, mm	660				
Cell Depth, mm	50	75	100	150	200
Expanded Cell Size, mm	488 (Width) × 406 (Length)				
Cells per Section	5 × 30				
Expanded Section Size, m	2.44 (Width) × 12.2 (Length)				
Expanded Section Area, m ²	30				

■ Series – C

Sheet Thickness, mm	1.25				
Sheet Length, m	3.63				
Sheet Surface	Smooth、Textured、Perforated				
Bonded Range, mm	355				
Cell Depth, mm	50	75	100	150	200
Expanded Cell Size, mm	259 (Width) × 224 (Length)				
Cells per Section	10 × 30				
Expanded Section Size, m	2.55 (Width) × 6.83 (Length)				
Expanded Section Area, m ²	17.5				



HUITEX[®] GEOCELL INSTALLATION MANUAL

■ Series – D

Sheet Thickness, mm	1.25				
Sheet Length, m	3.63				
Sheet Surface	Smooth、Textured、Perforated				
Bonded Range, mm	710				
Cell Depth, mm	50	75	100	150	200
Expanded Cell Size, mm	510 (Width) × 475 (Length)				
Cells per Section	5 × 30				
Expanded Section Size, m	2.55 (Width) × 14.25 (Length)				
Expanded Section Area, m ²	36.5				

■ Series – E

Sheet Thickness, mm	1.25				
Sheet Length, m	3.63				
Sheet Surface	Smooth、Textured、Perforated				
Bonded Range, mm	446				
Cell Depth, mm	50	75	100	150	200
Expanded Cell Size, mm	320 (Width) × 287 (Length)				
Cells per Section	8 × 30				
Expanded Section Size, m	2.55 (Width) × 8.66 (Length)				
Expanded Section Area, m ²	22				



HUITEX[®] GEOCELL INSTALLATION MANUAL

6.2 Specification

Properties	Essay Method	Value
Material		High Density Polyethylene with density >0.94g/cm
Standard Color		Black
Surface treatment		Smooth
Sheet Thickness	ASTM D5199	1.25 (+10% /-5%)
Carbon Black Content	ASTM D1603	>2%
Perforation	Applicable	Shape of capsule (7.5mm x 20mm) or φ10mm round type
Hole for tendons	As customer's requirement, standard product: no hole for tender.	
Seam properties	Cell Depth	Average Certified Cell Seam Strength
Short-term seam peel strength	50mm (2 in)	760 N
	75mm (3 in)	1060 N
	100mm(4 in)	1420 N
	150mm(6 in)	2130 N
	200mm(8 in)	2840 N
Seam Hang Strength, Days	COE GL-86-19	Per 100mm seam shall sustain 72.5kg weight for at least 7 days, undergoing the variances from room temperature to 53°C on one hour cycle.
Environment Stress Crack Resistance, hour	ASTM D1693	> 4000
Oxidative Induction Time	ASTM D3895 (200°C; 1atmO2)	>100
Low Temperature Brittleness	ASTM D746	> -77°C
Welded Type of cells	Ultrasonic 03 points per inch	

This information is provided for reference purposes only and is not intended as a warranty or guarantee. HKC reserves the right to change the specifications contained herein without notice.