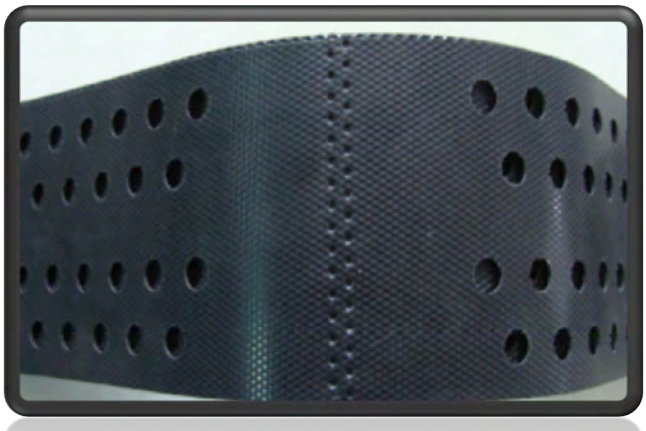
Product Code: CGC001- CGC004 - [50-200mm cell depth]

The COREgeocell geosynthetic cellular confinement system is a matrix of lightweight, expandable and flexible thermoplastic strips that are ultrasonically bonded to form a strong, dimensionally stable and inert honeycomb structure.

Forms a Long Lasting Structural Barrier

COREgeocell is fabricated from a High Density Polyethylene (HDPE). The cell walls are perforated creating permeable walls to allow water to drain through the system.



The 4 main applications include:

1. **Earth Retention**
   - Earth walls
2. **Load Support**
   - Roadways & Verges
   - Pathways
   - Railway bases
3. **Slope Protection**
   - Vegetative slopes
   - Road-side banks
   - Embankments
4. **Channel Protection**
   - Embankment walls
   - Waterway channels

Advantages

- Provides cost effective, long-term slope and channel protection and stabilization
- Ease in transportation and on site handling due to collapsible cells
- Rapid and simple installation conforms to most terrain profiles

When filled with granular materials, the system creates a three dimensional erosion barrier and structural bridge that uniformly distributes weight-bearing loads. The cellular nature of COREgeocell enhances drainage and prevents build-up of hydrostatic pressure.

Easily Dismantled and Re-used

Suitable for the construction of temporary site access. Once operations are complete the installation can be removed or left in place if a sub-base confinement is required.

- Ultrasonic welding of cell joints ensures maximum strength
- Easily dismantled and subsequently re-used
- Withstands high weight bearing loads
- Resistant to biological attack and a wide range of soil

COREgeocell® Earth Retention

Earth Retention Systems

Subgrade Preparation

1. Excavate and shape foundation soils.
2. Ensure foundation soil meets minimum strength requirements through proof rolling or other conventional method. If unacceptable foundation soils are encountered, excavate and replace with suitable quality material.

Separation Layer and Base Materials Installation

3. When separation between subgrade soil and infill material is required, place geotextile over subgrade.
4. If additional base materials or engineered soils are required between separation geotextile and COREgeocell, install the appropriate depth and compact to a minimum 95 percent Standard Proctor.

COREgeocell Panel Placement and Connection

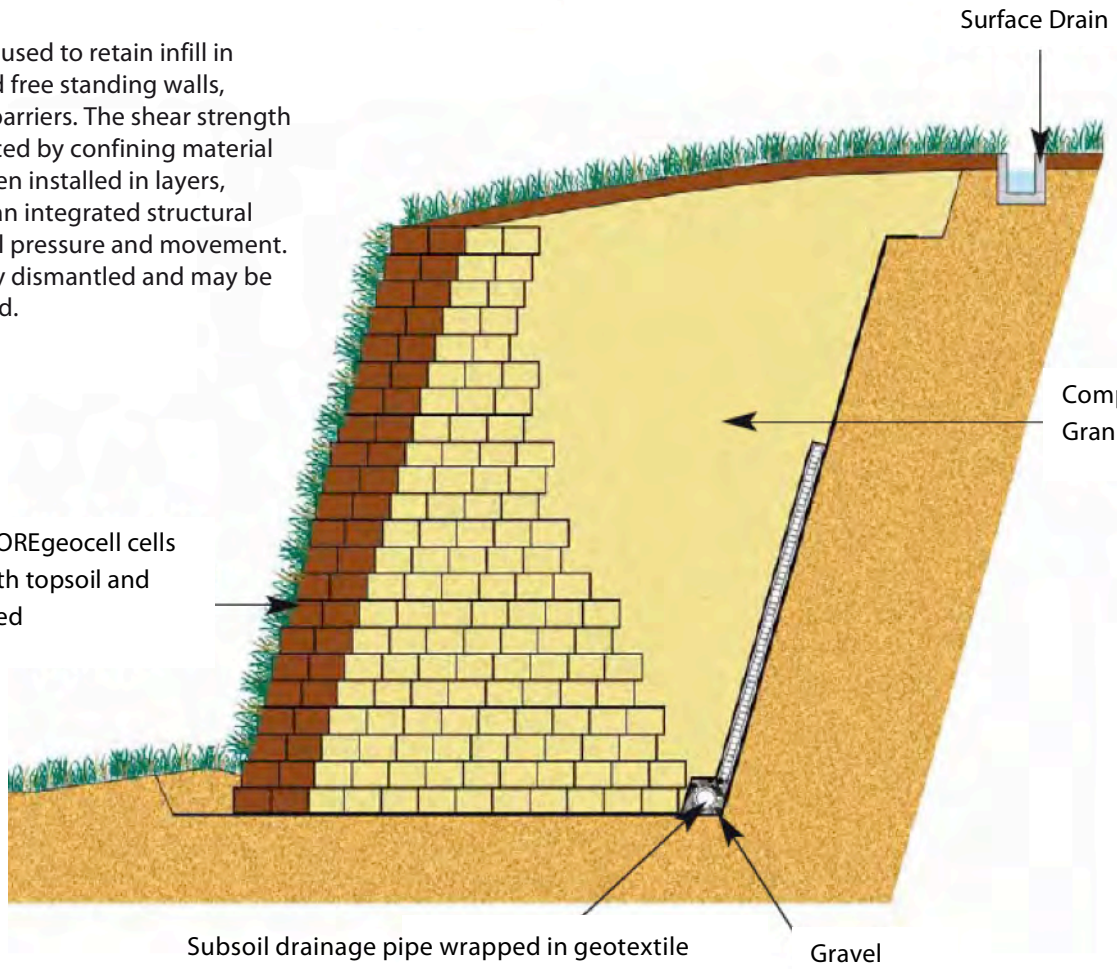
5. Position and expand COREgeocell panels to the appropriate dimensions. Hold individual panels in their expanded positions with rebar J-pins or wooden stakes. Join panels using traditional stapling methods or connecting studs.
6. Confirm each COREgeocell panel is expanded uniformly and correctly aligned. Nest panels along each joint to ensure adjacent COREgeocell panels are flush at joint and adjoining cells are fully anchored. Alternate the installation of rebar J-pins or wooden stakes to ensure each panel is stable

Exposed Aggregate or Engineered Infill

7. Fill COREgeocell with specified aggregate material progressively from front to back. Be sure to use an infill material with particle sizes appropriate for the specified depth of the COREgeocell.
8. For vegetative walls fill inner cells progressively with aggregate infill material. Limit the drop height of infill material to 1m to avoid displacement of the cell wall. Fill outer cells with soil to allow vegetation to grow.
9. Overfill cells to allow for layered compaction, as the structure forms. Ensure to stagger rebar J-Pins on each layer.
10. Compact infill to a minimum of 95 percent Standard Proctor.

Connecting Studs can be used to join panels as alternative to traditional stapling methods, reducing labour costs and install time

COREgeocell can be used to retain infill in gravity retaining and free standing walls, embankments and barriers. The shear strength of the infill is enhanced by confining material within each cell. When installed in layers, COREgeocell forms an integrated structural mass resisting lateral pressure and movement. COREgeocell is easily dismantled and may be subsequently re-used.



COREgeocell® Load Support

Load Support Systems

Subgrade Preparation

1. Excavate and shape foundation soils.
2. Ensure foundation soil meets minimum strength requirements through proof rolling or other conventional method. If unacceptable foundation soils are encountered, excavate and replace with suitable quality material.

Separation Layer and Base Materials Installation

3. When separation between subgrade soil and infill material is required, place geotextile over subgrade.
4. If additional base materials or engineered soils are required between separation geotextile and COREgeocell, install the appropriate depth and compact to a minimum 95 percent Standard Proctor.

COREgeocell Panel Placement and Connection

5. Position and expand COREgeocell panels to the appropriate dimensions. Hold individual panels in their expanded positions with rebar J-pins or wooden stakes. Join panels using traditional stapling methods or connecting studs.
6. Confirm each COREgeocell panel is expanded uniformly and correctly aligned. Nest panels along each joint to ensure adjacent COREgeocell panels are flush at joint and adjoining cells are fully anchored. Alternate the installation of rebar J-pins or wooden stakes to ensure each panel is stable.
7. Install rebar fixing or wooden stakes along the joint of each panel in every other perimeter cell to hold the COREgeocell panels stable during infill. Alternate the installation of rebar fixing pins or wooden stakes to ensure each panel is stable

Exposed Aggregate or Engineered Infill

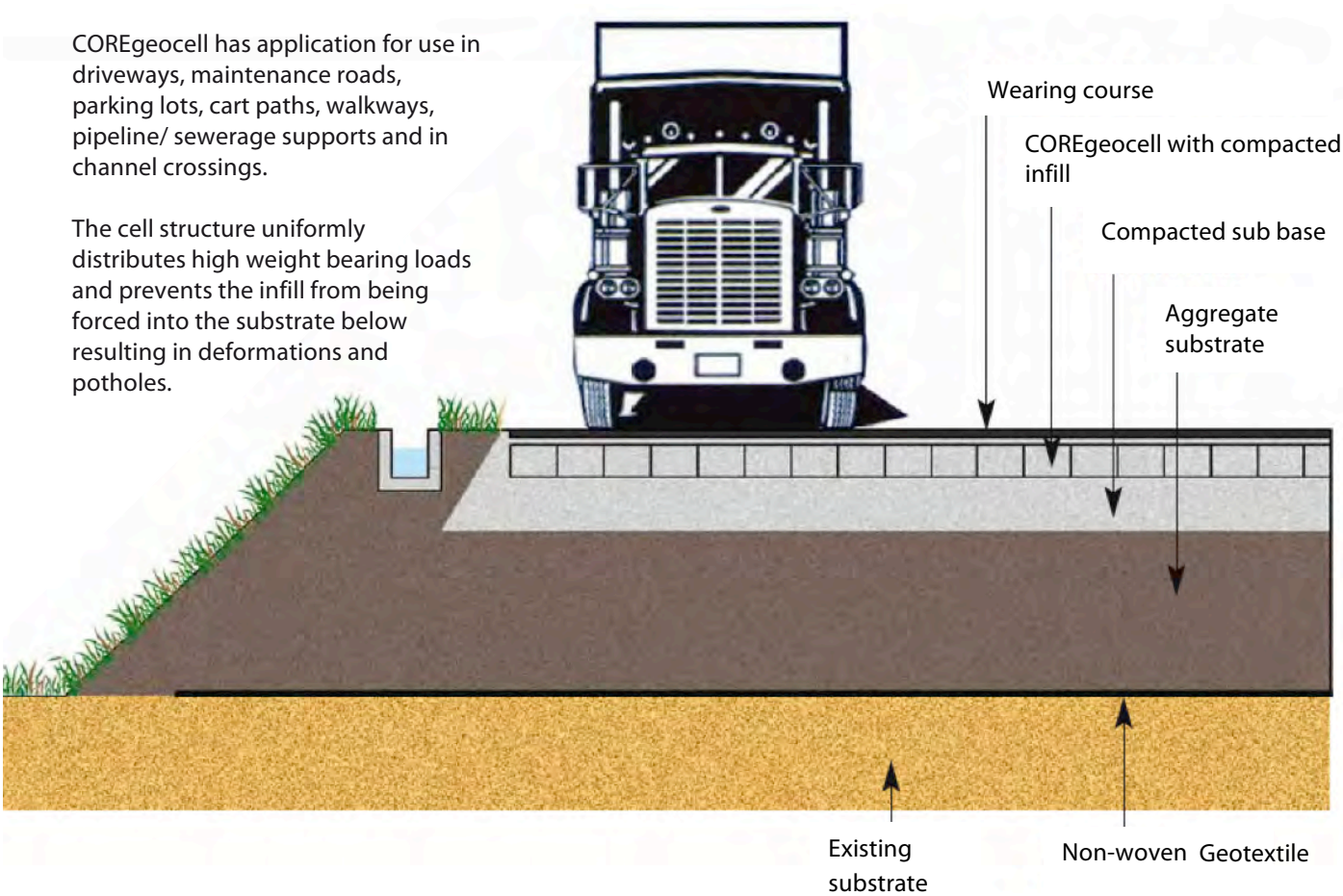
8. Fill COREgeocell with specified aggregate material progressively from front to back. Do not use an infill material with particle sizes greater than 65mm.
9. Overfill cells with aggregate infill material. Limit the drop height of infill material to 1m to avoid displacement of the cell wall.
10. Overfill cells to a depth of approximately 50mm and level for exposed aggregate surfaces. Maintain the 50mm wear surface over COREgeocell panels to prevent wear to the cell walls.
11. Compact infill to a minimum of 95 percent Standard Proctor.

Base Stabilisation

12. Overfill COREgeocell to a depth of 25mm and compact to a minimum of 95 percent Standard Proctor.
13. The wearing course may consist of asphalt/concrete/paver stones/gravel or grass stabiliser or other as specified. Install per engineer's specifications.

COREgeocell has application for use in driveways, maintenance roads, parking lots, cart paths, walkways, pipeline/ sewerage supports and in channel crossings.

The cell structure uniformly distributes high weight bearing loads and prevents the infill from being forced into the substrate below resulting in deformations and potholes.



COREgeocell® Slope Protection

Slope Protection Systems

Subgrade Preparation:

1. Excavate and shape foundation soils.
2. Install a geotextile underlayer on prepared surfaces.
3. If required, install geogrid underlayer on prepared surfaces.

COREgeocell Panel Placement and Tendon Fixing

4. First calculate the length of the slope in order to determine the number of panels required and the length of your tendons. Allow approx. 200mm for each securing anchor to be tied off plus an additional 1m per tendon run for anchor placement. The number of securing anchors and tendons used will depend on the gradient of the slope (i.e. the steeper the slope the more anchors and tendons required.)
5. Position collapsed COREgeocell panels at crest of slope. Secure tendons at the crest of the slope with galvanised anchors.
6. Feed the tendon through the first collapsed panel. Secure subsequent panel/s with connecting studs and continue to feed tendon through each individual collapsed panel.
7. Once the tendon has been fed through all panels, fully extend tendon down the slope
8. Drive a rebar J-pin through every perimeter cell along the crest of the slope to secure the top edge of the COREgeocell panels in place.
9. Begin to expand the panel/s down the slope, securing the panels as you go with j-pins (according to suggested laying pattern) in their fully expanded position.
10. Once the entire matrix has been positioned, return to tendons working from the crest down, drive in anchors tight against the cell walls in line with tendon.
11. Take the slack from the tendon and wrap it around the central column 3 or 4 times before repeating the process on the next anchor.
12. Tie off the tendon securely on the last anchor at the bottom of the slope, Drive a rebar J-pin through every perimeter cell along the final row.

Infill Material:

13. Infill expanded panels with chosen material working from the bottom of the slope up towards the crest. *(For less exposed slopes seeded top-soil is suggested, adding small shrubs will give improved protection)*
14. Limit drop height to a maximum of 1m to avoid damage or displacement of the cell walls.
17. Compact infill material per engineer's specification.

Galvanised Rebar Anchor to be used with Polymetric tendon. Machined to a point to enable precision when securing into the ground.

Galvanised Rebar J-pin, used to secure panels in place around perimeter, one pin in every other cell. Machined to a point to enable precision when securing into the ground.

COREgeocell® Channel Protection

Channel Protection Systems

Subgrade Preparation:

1. Excavate and shape foundation.
2. Install a geotextile underlayer on prepared surfaces.
3. If required, install geogrid underlayer on prepared surfaces.

COREgeocell Panel Placement and Anchorage

4. Subject to site requirements, generally follow the slope protection installation method or earth retention installation method.

*Due to the varying nature of channel protection projects a detailed engineered specifications are required.

Infill Material:

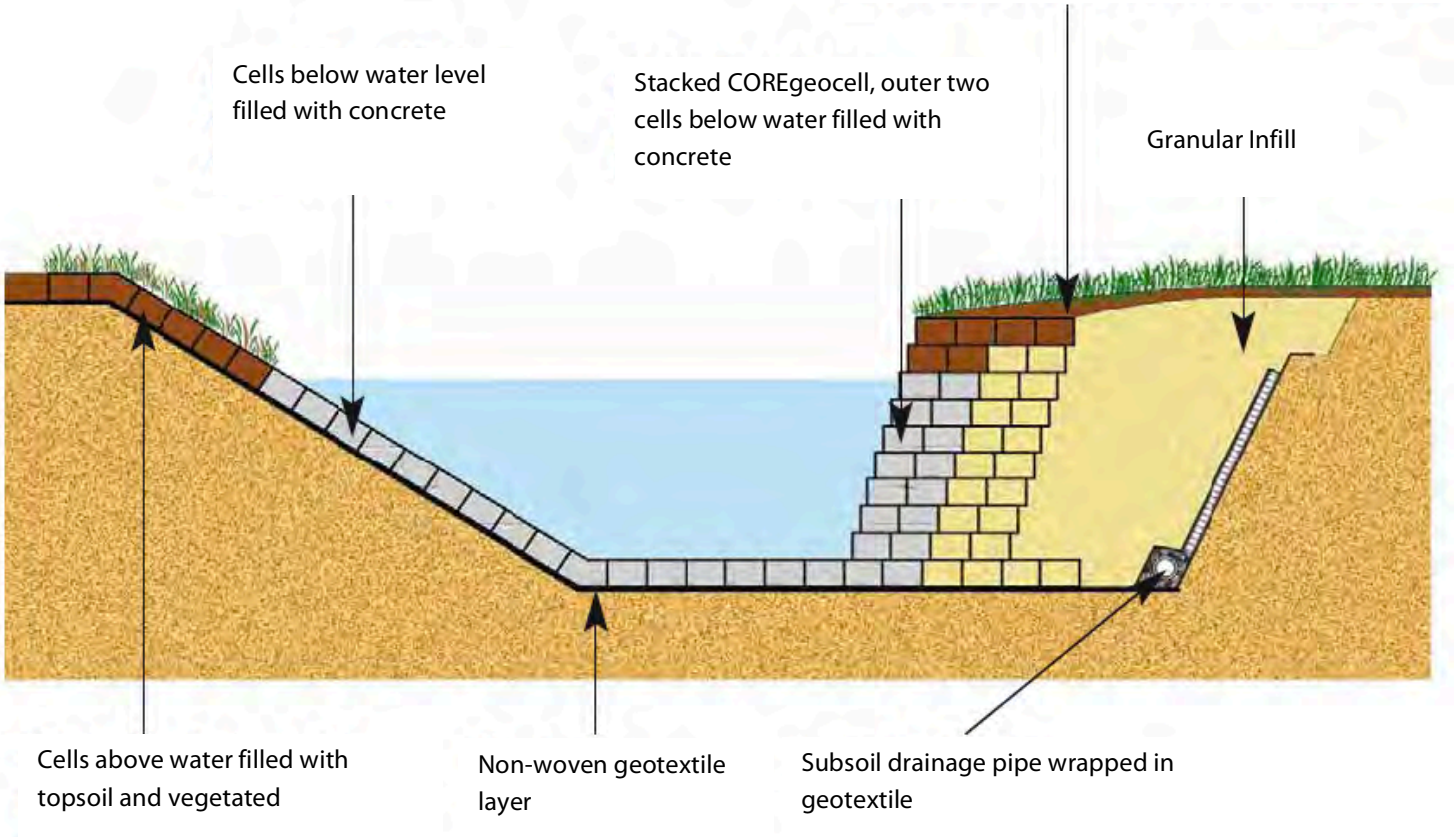
5. Place chosen infill material in expanded cells
6. Limit drop height to a maximum of 1m to avoid damage or displacement of the cell walls.
7. Compact infill material per engineer's specification.

Infill materials, subject to site conditions, include:

- top soil for low to moderate and intermittent flow conditions
- granular materials including gravel and concrete for channels subject to severe hydraulic and mechanical stresses.

COREgeocell can be used for channel and shoreline protection and on scour aprons, boat ramps and spillways. COREgeocell avoids the need to install costly load support structures.

Stacked COREgeocell, outer and top cells above water level filled with topsoil and vegetated

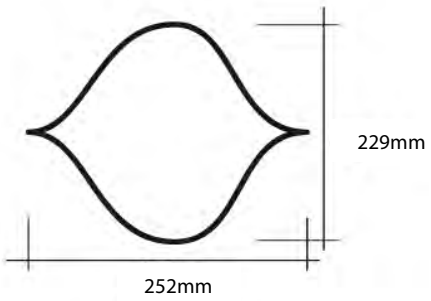


COREgeocell® Specification

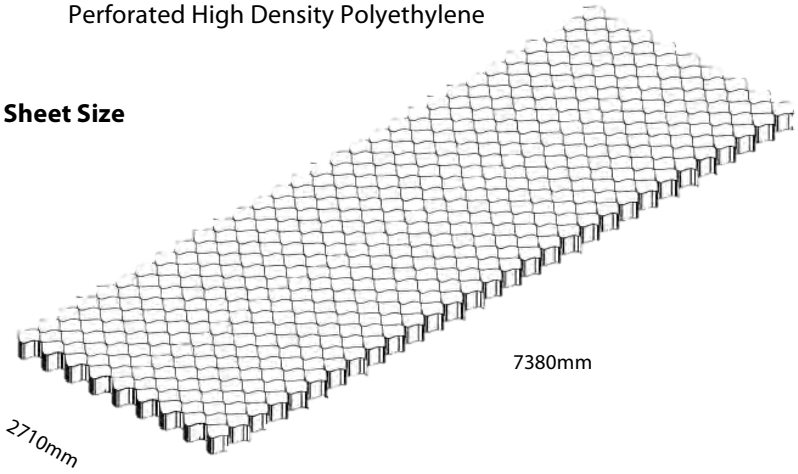
Technical Specification

		Standard Cell
Cell Dimension		229mm x 252mm
Cell Heights		50mm 100mm 150mm 200mm
Thickness		1.5mm
Tensile Strength	(Long.) (Trans.)	18.4 MPa 19.5MPa
Seam Weld Strength	50mm 100mm 150mm 200mm	600 N 1200 N 1800 N 2400 N
Size Per Panel		2.71m x 7.38m (20m^2)
Weight Per Panel	50mm 100mm 150mm 200mm	12.3 kg 24.5 kg 36.0 kg 48.5 kg
Long Term Seam Hang Strength*		<30 days
Environmental Stress Crack Resistance		>3000 hours
Biological/Chemical Resistance		Unaffected by moulds and algae and good resistance to oils, acids, alkalis and bitumen
Service Temperature		-20^{0}C to 120^{0}C
Material		Perforated High Density Polyethylene

Cell Size



Sheet Size



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This guide is provided as an aid to assessing the mechanical stabilisation requirements in commonly encountered site conditions. COREgravel UK Ltd accepts no responsibility for any loss or damage resulting from the use of this guide.

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