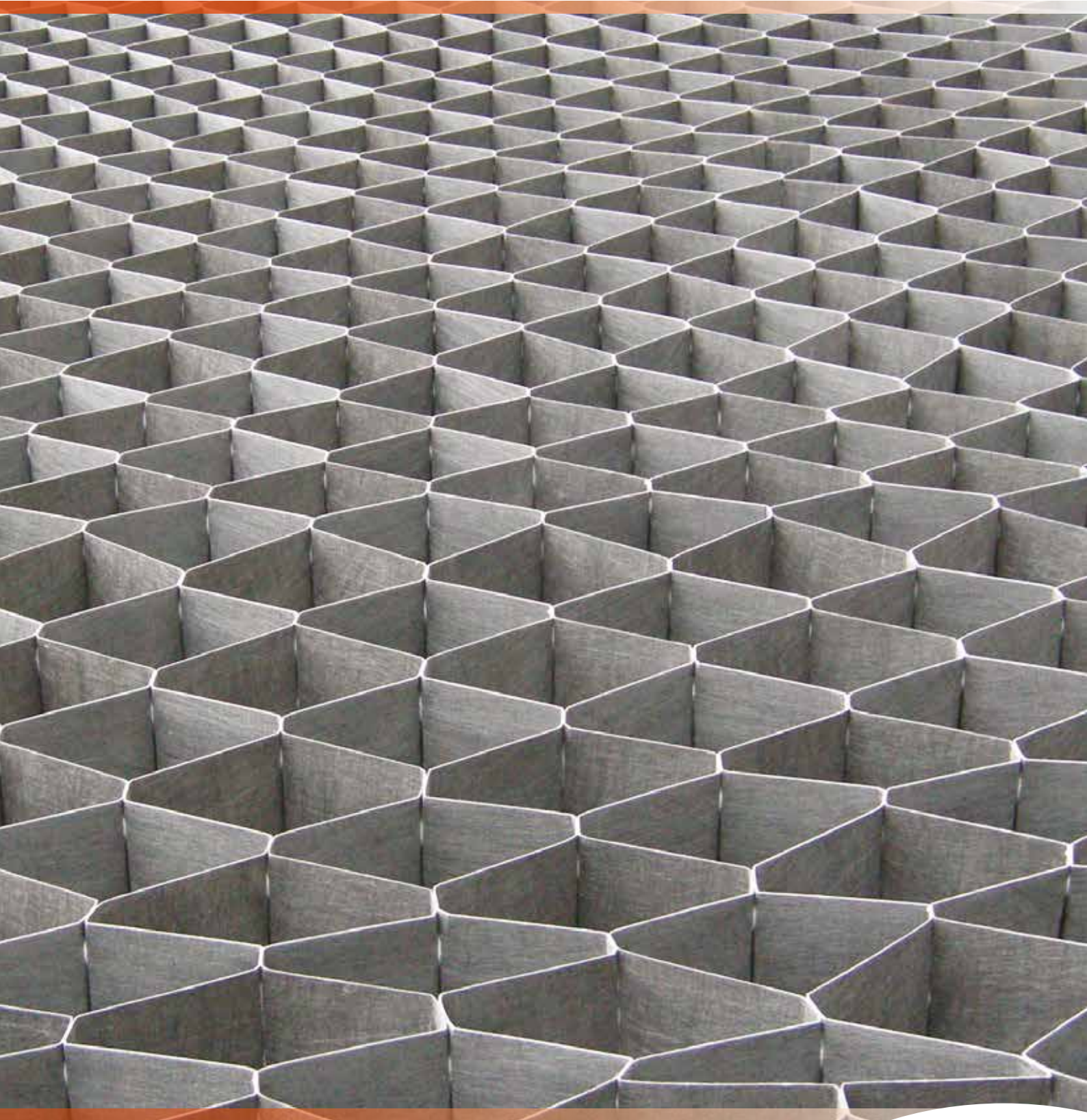


TERRAM™ GEOCELL



www.terram.com

 **TERRAM**
Geosynthetics you can trust



TERRAM™ GEOCELL

A lightweight, permeable Geocell that is easy to install and allows free flow of water, whilst offering cost savings.

TERRAM GEOCELL - The Product

TERRAM GEOCELL is a 3D cellular confinement system. Manufactured from permeable geotextile fabric, TERRAM GEOCELL is expanded on-site to form a honeycomb-like structure which can be filled with sand, soil or other site material.

This cost effective solution has multiple applications enabling reduced projects costs and lower environmental impact.

Typical Applications

- Soil Stabilisation
- Retaining Walls
- Slope Erosion Control
- Load Platforms
- Tree Root Protection
- Flood Defence

TERRAM - The Brand

TERRAM branded products are manufactured by PGI, a leading global innovator and manufacturer of specialty materials, and the largest global manufacturer of nonwovens.

The innovative TERRAM product range includes geotextiles, geocells, geocomposites, cable and pipeline protection, ground reinforcement mesh.

With over 45 years' experience in the geosynthetic market, TERRAM provides value engineered solutions for the construction of highways, railways, landfill, pipelines and landscapes.

TERRAM has over 15 years experience manufacturing cellular confinement systems and has developed a market leading multifunctional product.

Tree Roots Protection



Protect tree roots from vehicle traffic, whilst maintaining water and nutrient absorption using TERRAM GEOCELL.

Using TERRAM GEOCELL for tree root protection ensures the roots beneath are protected from vehicle loads by confining the sub-base and stabilising the ground. When the permeable TERRAM GEOCELL is filled with a porous, no fines, free-flowing aggregate the system allows essential passage of air and water providing essential nutrients to the roots. TERRAM GEOCELL is ideal for “No-Dig” situations.

Typical Applications

- Permanent Woodland Trails
- Paths & Cycleways
- Driveways*
- Roads
- Access Routes*
- Parking Areas

**See Arboricultural Advisory and Information Services APN12: Driveways close to trees*

TERRAM GEOCELL is supplied as flat packed panels which are opened to form the honeycomb-like structure. These are positioned and pinned to the ground using fixing pins and filled with a suitable, permeable infill.

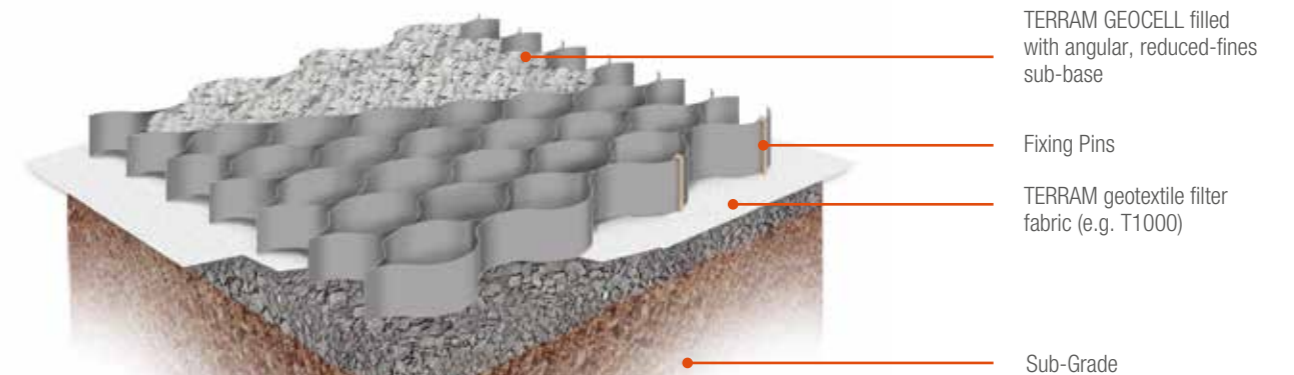
TERRAM GEOCELL confines the infill and ensures that downward forces are spread laterally, reducing pressure on the sub-base. Without this cellular system, the surface would become rutted and compacted with the traffic loads, damaging the tree roots and potentially resulting in the death of the tree.

WHY TERRAM GEOCELL?

- Lightweight and easy to handle reducing installation costs.
- Permeable geotextile allows free flow of water, essential in tree root applications.
- The flexible TERRAM geotextile material allows TERRAM GEOCELL to effectively adapt to any variations in the terrain.
- TERRAM GEOCELLS are easily cut to size without damage, therefore reducing cost.



Typical Profile



Compatible Products

- BODPAVE™ 40 porous pavers
- BODPAVE™ 85 porous pavers
- TRUCKPAVE™
- TERRAM geotextile filter
- Geogrid

Fixing Pins

Fixing pins available upon request.

Product Details

| PRODUCT | PANEL SIZE (m) | CELL Dia & DEPTH (mm) | PANEL WEIGHT | TYPICAL LOADING |
|---------------|----------------|-----------------------|--------------|--|
| GEOCELL 25/10 | 5 x 7 | 250 dia x 100 | 17kg | Pedestrian cycle* |
| GEOCELL 25/15 | 5 x 7 | 250 dia x 150 | 25kg | Light vehicles* |
| GEOCELL 22/20 | 6 x 3 | 220 dia x 200 | 20kg | Optimum for heavier vehicles or more frequent traffic* |

* These are typical profiles only.



TERRAM Data Sheets, Installation & Design Guidances and Case Studies can be downloaded from www.terram.com



Erosion Control



Combat slope erosion and stabilise surfaces using TERRAM GEOCELL.

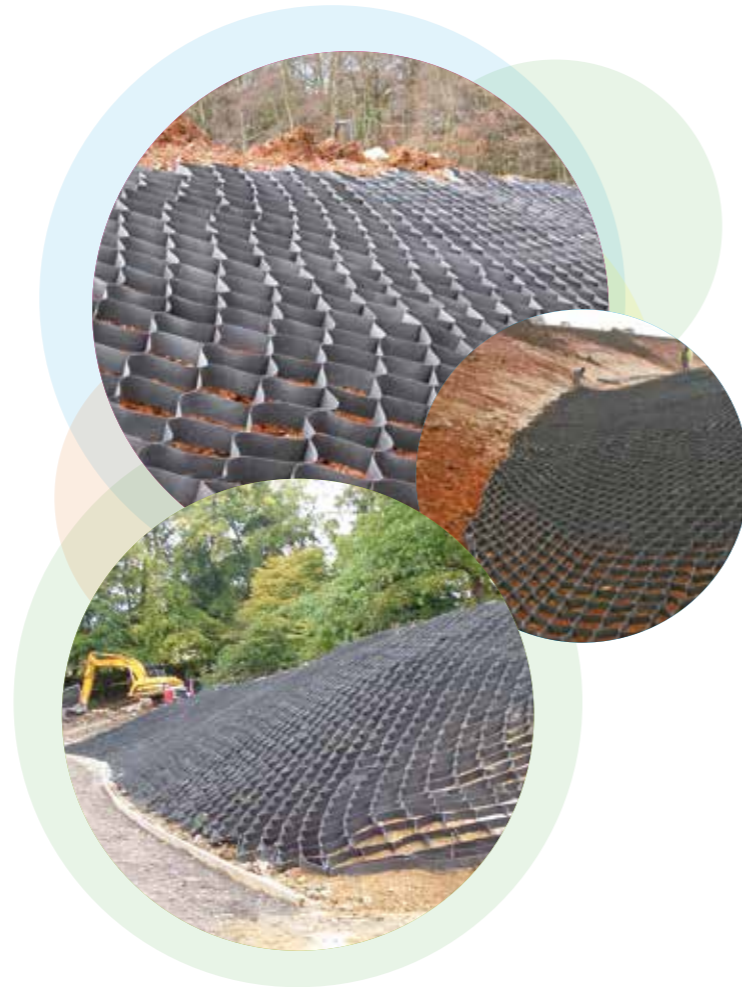
Using TERRAM GEOCELL to control erosion ensures better resistance to the erosive effects of wind and water run-off. As TERRAM GEOCELL is made from permeable geotextile, it allows water to flow freely between cells encouraging drainage and vegetation.

Typical Applications

- Cut or Fill Embankments
- Dams or Spillways
- Revetments
- Abutment Protection
- Geomembrane Protection
- Soil-nailing Cover
- Landfill Lining

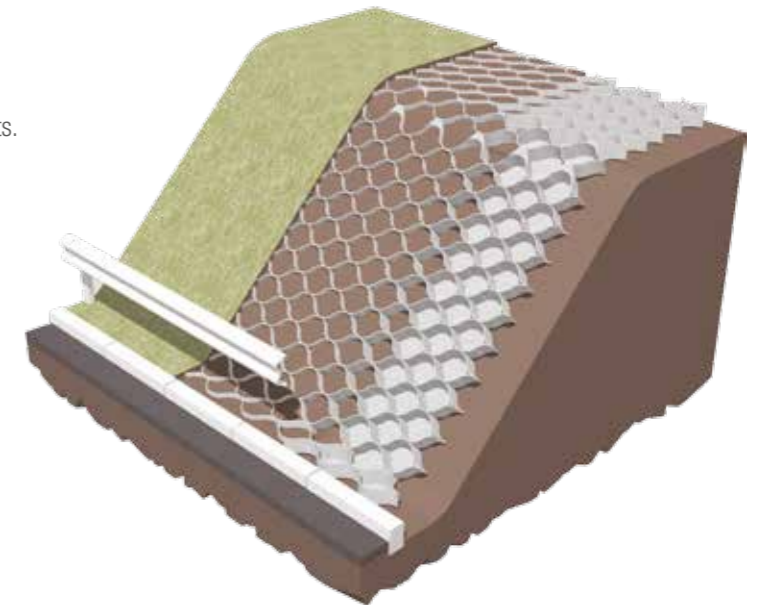
TERRAM GEOCELL is supplied as flat packed panels which are opened to form the honeycomb-like structure. These are positioned and pinned to the ground using fixing pins and filled with a suitable, permeable infill.

TERRAM GEOCELL can be used on slopes up to 1:1 and is flexible enough to be formed around trees and other obstacles. Seeded topsoil is the most suitable fill for less-exposed slopes, with small shrubs offering improved protection, whilst a granular material offers the highest protection.



WHY TERRAM GEOCELL?

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- TERRAM GEOCELLS are easily cut to size without damage, therefore reducing cost.



Fixing Pins

Fixing pins available upon request.

Product Details

| PRODUCT | PANEL SIZE (m) | CELL Dia & DEPTH (mm) | PANEL WEIGHT | SLOPE TYPE |
|---------------|----------------|-----------------------|--------------|---------------|
| GEOCELL 25/10 | 5 x 7 | 250 dia x 100 | 17kg | Large/Medium* |
| GEOCELL 25/15 | 5 x 7 | 250 dia x 150 | 25kg | Large/Medium* |
| GEOCELL 35/10 | 5 x 7 | 350 dia x 100 | 11kg | Small* |
| GEOCELL 35/15 | 5 x 7 | 350 dia x 150 | 17kg | Small* |

* These are typical profiles only.



Retaining Walls



photo Sol Solution

Need an earth retention structure? TERRAM GEOCELL can stabilise and retain wall structures.

TERRAM GEOCELL provides a cost-effective alternative to conventional earth retention structures as it eliminates the potential for cracking, spalling, splintering and corrosion commonly seen in concrete, steel and timber systems.

Typical Applications

- Steepened Embankments
- Dams and Flood Defence Bunds
- Retention Bunds
- Green Walls
- Culvert Head Walls
- Sound Barriers

TERRAM GEOCELL is supplied as flat packed panels which are opened to form the honeycomb-like structure. These are positioned and installed in horizontal layers to form a gravity or composite wall.

Composite Wall

TERRAM GEOCELL is installed in layers creating a totally confined facing wall that is directly connected to the backfill using a traditional earth reinforcement system. Typical reinforcement techniques such as geogrids, soil nails, rock bolts and helical anchors are commonly used. When combined with TERRAM GEOCELL they create a mechanically stabilised earth structure.

Gravity Wall

TERRAM GEOCELL is installed in layers creating horizontal terracing on the facia wall, capable of resisting internal loads and pressures to maintain structural integrity. In some circumstances TERRAM GEOCELL can be utilised to create a vegetated cover for the facia.

WHY TERRAM GEOCELL?

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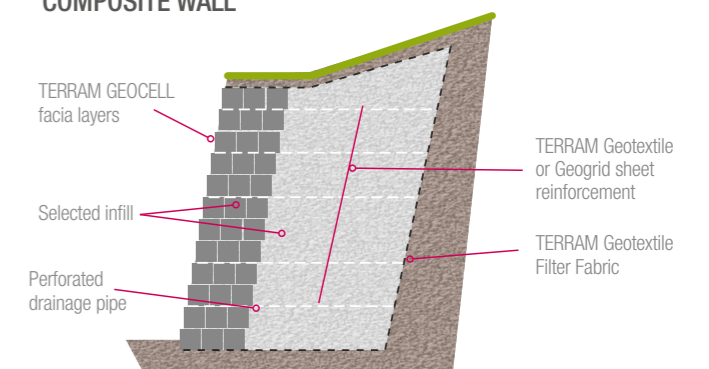
photo Sol Solution

Design Considerations

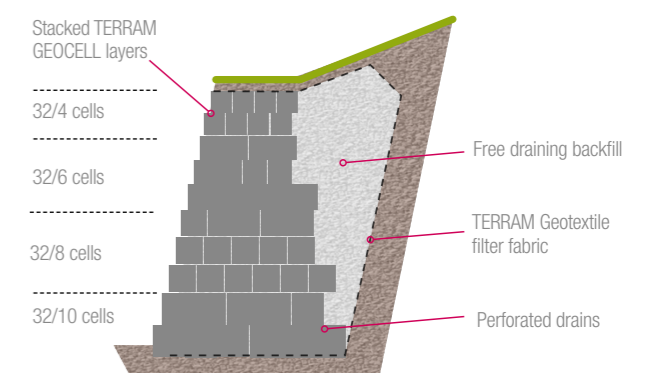
- Wall Height
- Facia Angle
- Surcharge Load on the top of the wall
- Overturning Stability
- Sliding Stability
- Foundation Bearing Capacity

TERRAM works with specialist partners to provide independently validated solutions in accordance with best practice guidelines.

COMPOSITE WALL



GRAVITY WALL



Fixing Pins

Fixing pins available upon request.

Product Details

| PRODUCT | PANEL SIZE (m) | DEPTH & CELL Dia (mm) | PANEL WEIGHT |
|-------------------------------|----------------|-----------------------|--------------|
| TERRAM Geocell Wall 330 32/4 | 10.6 x 1.45 | 320 x 500 dia | 10.43kg |
| TERRAM Geocell Wall 330 32/6 | 10.6 x 2.03 | 320 x 500 dia | 14.26kg |
| TERRAM Geocell Wall 330 32/8 | 10.6 x 2.61 | 320 x 500 dia | 18.09kg |
| TERRAM Geocell Wall 330 32/10 | 10.6 x 3.19 | 320 x 500 dia | 21.92kg |



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Geocell Pre-Designer®



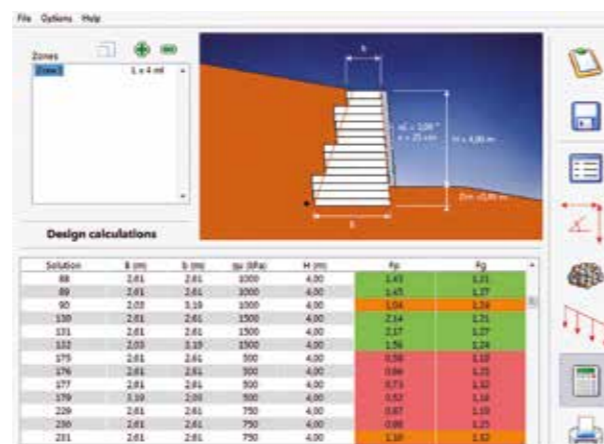
Need help selecting the right product for your GEOCELL structure?
Speak to us about using our Geocell Pre-designer software.

Erosion Control

Using the Geocell Pre-designer will present the user with TERRAM GEOCELL options and quantities suitable for the project including, pin density needed to ensure a stable structure.

Pre-design for Erosion Control applications will be based on the following factors*

- Slope Geometry (Project linear, topography, side view)
- Geocell Infill material
- Slope Soil Material
- Typical loads applied to the geocell structure



Retaining Walls

Using the GEOCELL Pre-designer will allow the user to determine which TERRAM GEOCELL configuration is required to build a structural wall.

Pre-design for Retaining Walls applications will be based on the following factors*

- Sideview Geometry and Project Data (linear, topography)
- Type of Facia (grass, mineral)
- Foundation Soil Material
- Typical Loads Applied to the geocell structure
- Filling Soil

Why Use Geocell Pre-Designer?

- Geocell Pre-Designer provides detailed guidance for your specific project's requirements.
- It provides numerous design options and detailed information about volume of materials needed.

Pre-design Comments

Mechanical Hypothesis for Materials

In this Pre-design, all mechanical hypothesis (volumetric weight, friction angle, cohesive strength and bearing capacity) is established by the user and must be checked by the user.

Studied Stabilities

In this Pre-design only sliding resistance has been verified. General slope stability, internal resistance and external stability must be checked by the user. This pre-design does not take into account seismic loads or water flow loads.

The document you will receive is a PRE-DESIGN and can under **no circumstances** be considered a FULL-DESIGN.

*Methodology, calculations and stabilities are based on the European Standard featured in the EUROCODE 7. However, safety factors applied can vary due to local conditions.

Further market specific literature available:

- Railways
- Ground Reinforcement Solutions
- Pipelines / Utilities
- Forestry & Landscaping
- Fruit & Viticulture

www.tubex.com

Application specific literature, product data sheets, case studies and installation guides are available on request or can be freely downloaded from **www.terram.com**

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PGI excels in the innovative application of technology to create versatile, high-performance materials which are unique, cost-efficient and deliver significant added value.

a **pgi** brand

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