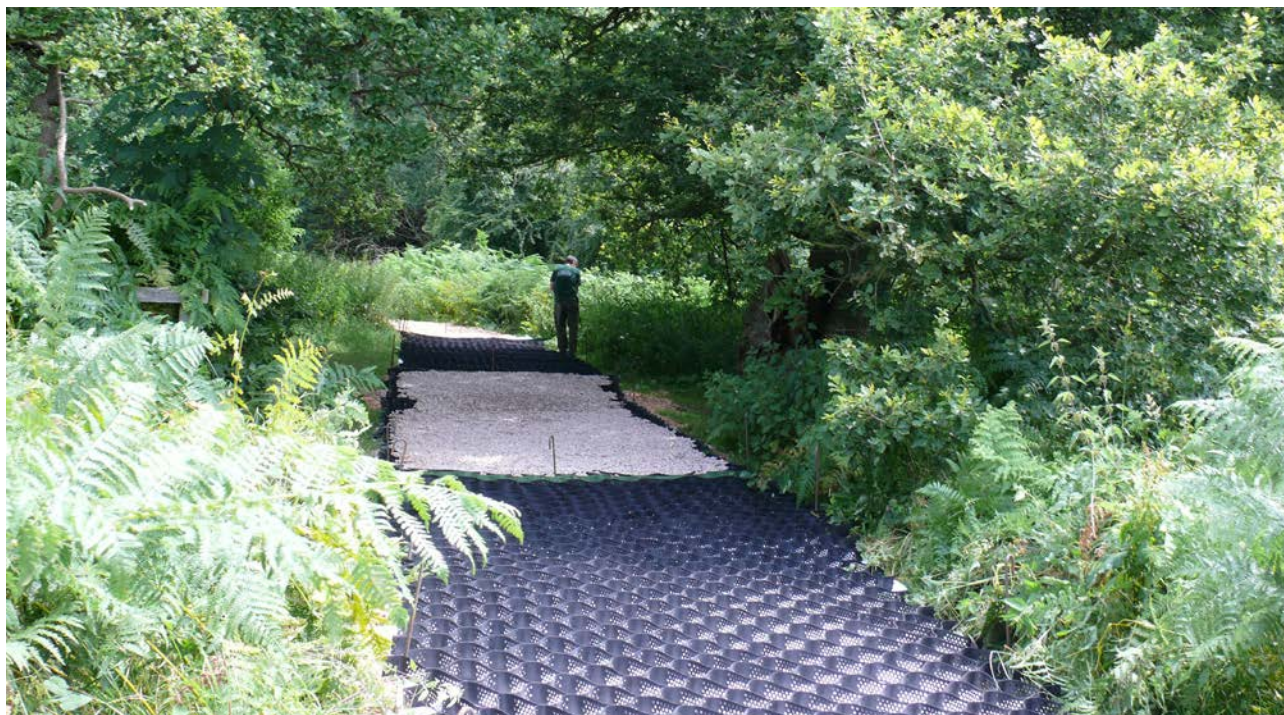


Installation Guide

CELLWEB® TREE ROOT PROTECTION CELLULAR CONFINEMENT



No-Dig Tree Root Protection Guidance



Cellweb® TRP is a proven **NO DIG** tree root protection solution designed to safeguard the health and stability of trees during construction activities. It is essential that no excavation or ground disturbance is carried out without prior approval and guidance from the Local Authority Arboricultural Officer.

If you are uncertain about the ground conditions within the Root Protection Area (RPA), we strongly recommend carrying out California Bearing Ratio (CBR) testing.

This assessment will confirm whether the specified solution will perform as intended and ensure compliance with best practice guidelines.

If at any stage you are unsure about the information contained within this document, please **contact us**. We offer comprehensive support for all your project needs, including:

- Free technical recommendations and cross-section design
- Site visits
- Training and CPD seminars

Following the correct processes is critical; failure to do so can result in irreversible damage to protected trees. Our team is here to help you achieve compliance and deliver successful outcomes.

Key Requirements

- Soil compaction from vehicles, machinery, and materials is strictly prohibited within Root Protection Areas (RPAs) during construction.
- Approval must be obtained from the Local Authority confirming that the design and construction method is acceptable.
- For further guidance, refer to:
 - British Standard BS5837: Trees in Relation to Design, Demolition and Construction (2012)
 - Arboricultural Advisory and Information Service: Practice Note 12 – Through the Trees to Development.

Manual Handling Guidance

Care must be taken when handling the Cellweb® TRP Cellular Confinement System to prevent injury and ensure safe working practices. The panels are lightweight but bulky, so appropriate lifting techniques or team handling should be used.

The approximate weights per panel are:

- **75 mm depth:** 18 kg
- **100 mm depth:** 24 kg
- **150 mm depth:** 36 kg
- **200 mm depth:** 48 kg

Always follow site-specific health and safety protocols. **Standard site PPE must be worn at all times**, including:

- **Safety gloves** – to protect hands during handling
- **Safety glasses** – to prevent eye injuries from debris
- **Safety boots** – to protect feet from impact and provide stability

Consider mechanical assistance for larger quantities or extended handling.

Installation Method



Prepare Surface



Lay Treetex



Lay out Cellweb®

Step 1 – Prepare the Surface

1. Carefully remove surface vegetation using appropriate handheld tools or approved method.
2. Clear the area of any loose rocks, debris, and organic material to create a clean working surface.
3. Avoid levelling high spots or compacting the soil by rolling, as this can damage the root zone and compromise tree health.
4. Localised use of sand blinding level is permitted to help cover surface roots. Up to 25mm.
5. If unsure, please **contact us**.

Installation Method – Step 2

Step 2 – Lay out the Treetex Pollution Control Geotextile



Lay the Treetex Pollution Control Geotextile evenly across the prepared surface, ensuring it extends at least 300 mm beyond the perimeter of the required area. Overlap all joints by a minimum of 300 mm, or more where soil conditions require additional stability. Up to a maximum of 750mm.

Ensure full coverage of the prepared surface **before** installing Cellweb® TRP.

A maximum of 0 to 80mm of unconfined stone is permitted on top of the Treetex Pollution Control Geotextile. This layer can act as a regulating course to help achieve a level surface prior to installing the Cellweb® TRP system.

Cellweb® TRP panels are manufactured with distinctive **green** identification strips located along the linear ends.

These strips provide clear visual confirmation of the product during installation, ensuring correct orientation and easy identification on site.



Installation Method – Step 3

Step 3 – Lay Out the Cellweb® TRP Cellular Confinement System

Verify that the correct panel size is being used for the design specification.

If you have any concerns about under-sizing or over-sizing panels, please **contact us** for guidance and technical support.

- Position the collapsed Cellweb® TRP panels directly on top of the Treetex Pollution Control Geotextile.
 - Insert one of the supplied J-pins into the centre cell at the end of the panel and secure it firmly into the ground to hold the panel in place during expansion and installation.
 - Pull the Cellweb® TRP panel out to its full length, ensuring it is fully expanded and aligned correctly.
 - Secure the length by inserting another J-pin at the opposite end of the panel.
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- Expand the Cellweb® TRP panel to its full width – **2.56 m or 3.10 m**, depending on the specified panel size.
 - Secure each corner of the panel using the supplied J-pins to maintain alignment and stability during installation.

After expanding the Cellweb® TRP panel to its full length and width, secure it firmly in place using 10 J-pins per panel.

- Position the pins evenly along the perimeter and at key points to maintain stability during infill placement.
- Ensure all pins are driven securely into the ground to prevent movement during installation.
- When fully expanded, the Cellweb® TRP system produces a cell size of approximately 259 mm × 224 mm, which is the required cell aperture for optimal performance. Each cell must be fully extended and kept under tension to maintain structural integrity and ensure correct load distribution.

• **IMPORTANT:** If the cells are not fully expanded and under tension, the Cellweb® TRP system will not function as intended. Proper expansion is critical to achieving the required cell aperture and ensuring structural performance.

Installation Method – Step 4

Step 4 – Connecting Adjoining Panels with Cell-Ties

Adjoining panels of Cellweb® TRP must be securely connected using Cell-Ties along both the length and width as required. Panels can be joined face-to-face or flap-to-flap to maintain structural integrity.



Curved Path Guidance

A small curve in the Cellweb® TRP layout is permitted; however, this must be discussed with us prior to installation to ensure compliance and to maintain system integrity.

For larger curves or complex shapes, panels should be cut after being fully expanded and pinned out to their full size, ensuring complete cells remain intact.

Do not attempt to bend or force panels into position, as this will compromise performance. Proper cutting techniques are essential to maintain cell integrity and system performance.

For detailed guidance on cutting the Cellweb® TRP system, please **contact us** directly or refer to the resources available on our website.

Cellweb® TRP Panel Sizes

Cellweb® TRP is supplied in two standard panel sizes to accommodate different project requirements:

- 2.56 m × 8.10 m
- 3.10 m × 8.28 m

Installation Method – Step 5

Step 5 – Infill with Clean Angular Stone



Once the Cellweb® TRP panels are fully expanded and secured, infill the cells with **clean angular stone** to the specified depth. This aggregate provides structural stability and ensures proper load distribution across the system.

Details of approved aggregate specifications and guidance are available on our website or by contacting our technical team.

All surfaces within Root Protection Areas (RPAs) must be porous.

Acceptable surfaces include:

- Porous block paving
- Porous asphalt
- Loose gravel
- Grass and gravel retention systems (e.g., Golpla™)
- Resin-bound gravel
- Concrete
- Astro turf

General Requirements

Aggregate Infill Requirements

- The infill material must be **clean angular stone Type 4/20 mm**.
- **Do not use M.O.T Type 1 or any crushed stone containing fines**, as these materials can restrict water and air movement, harming tree roots.
- Infill the Cellweb® TRP cells with the specified clean angular stone, **working towards the tree** and using the infilled panels as a stable platform for further installation.
- When installing beneath a hard surface, apply a **minimum 25 mm overfill of clean angular stone** above the Cellweb® TRP system.

Granular Fill

- Refer to:
 - BS7533-13:2009
 - DMRB Volume 4 Geotechnics and Drainage
 - HA44/91
 - IAN 73/06
 - MCHW Volume 1 Specification for Highway Works

Aggregate Infill Settlement

Settlement of the clean angular stone infill is required to ensure stability and performance of the Cellweb® TRP system. The following guidelines must be observed:

- **Use the correct size roller for the system depth:**
 - 75 mm and 100 mm panels:** Roller up to **500 kg**
 - 150 mm and 200 mm panels:** Roller up to **3 tonnes**

Compression must be carried out using dead rolling only.

Do not use vibration during compression, as this can damage tree roots and compromise the integrity of the system. Always follow site-specific health and safety protocols during compression.

Aggregate & Compaction

- Infill with **clean angular stone Type 4/20 mm** only.
Do not use M.O.T Type 1 or material with fines.
- Work towards the tree using infilled panels as a platform.
- Apply a **minimum 25 mm overfill** when installing beneath a hard surface.
If the system becomes visible during rolling, **re-dress and re-roll**.
- Compaction:
Dead rolling only—no vibration.
 - 75 mm & 100 mm panels: roller up to **500 kg**
 - 150 mm & 200 mm panels: roller up to **3 tonnes**

Maintaining Overfill During Compression

A **minimum 25 mm overfill of clean angular stone** must remain above the Cellweb® TRP system when used beneath a hard surface. If the system becomes visible during the rolling process, the affected area must be **re-dressed with additional stone and re-rolled** to restore the required overfill and ensure proper protection.

General Requirements

Installation Essentials

- Panels feature green identification strips for orientation.
- Standard panel sizes: 2.56 m × 8.10 m and 3.10 m × 8.28 m.
- Fully expand panels to achieve the required cell aperture of 259 mm × 224 mm.
If cells are not fully expanded and under tension, the system will not function correctly.
- Use Cell Tie connectors for adjoining panels (face-to-face or flap-to-flap).
- For curves:
Small curves permitted only after consultation with us.
Larger curves must be cut after panels are pinned out—never bend panels into position.
- Cutting guidance is available by contacting us.

Manual Handling & PPE

- Approximate panel weights:
 - 75 mm: 18 kg
 - 100 mm: 24 kg
 - 150 mm: 36 kg
 - 200 mm: 48 kg
- Use correct lifting techniques or team handling.
- **Standard site PPE required:** gloves, safety glasses, and safety boots.

Herbicide Use

In accordance with BS5837:2012:

- Herbicides must be appropriate for the vegetation being treated.
- Follow all manufacturer instructions and warnings.
- Avoid damage to retained trees, introduced species, and sensitive habitats, especially near aquatic or drainage features.

Geotextile Installation

- **Treetex Pollution Control Geotextile** is installed beneath Cellweb® TRP or the sub-base.
- Overlap requirements:
 - **CBR > 3%:** 300 mm minimum
 - **CBR 1–3%:** 500 mm minimum
 - **CBR ≤ 1%:** 750 mm minimum

About Geosynthetics

About Us

Not just a product supplier, Geosynthetics Limited promotes and leads innovation throughout the UK to deliver sustainable geosynthetic solutions for an improved environment.

Using extensive knowledge of product and applications the company have an enviable reputation for technical excellence and customer service, offering next day delivery and free engineering support to achieve the desired objectives, save time, reduce carbon and cost wherever possible.



Our Best Service



Next Day Delivery

Our fully stocked distribution center established in the East Midlands makes UK direct to site next day deliveries possible.



Free Engineering Service

Our Engineering Department (Staffed by fully qualified civil engineers) has been created to give you free technical support and to provide solutions involving our range of products.



Large Stock Holding

We hold over £2m worth of stock in our East Midlands distribution centre allowing us to enable quick order turnarounds.



Site Visits

Our team includes industry experts offering you support & advice throughout your order process. This enables us to offer services such as site visits to assist you with choosing the best solution for your project.

Get in touch



01455 617139



sales@geosyn.co.uk