

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

CORErootprotector is the solution to a growing problem. With the current rate of urbanisation, it is becoming evident that there is an increased requirement to build access roads, residential driveways, overflow car parks and vehicle hard standings close to mature trees.

APN12 Compliant 'No Dig' Solution

Above-Ground, No-Dig Construction – (Driveways close to trees). APN12 advises that a driveway can only be installed, within a root protection area, if it can be done so without tree roots and the surrounding soil being damaged.

The British standards institution has published guidance notes **BS 5837:2005** on how to protect trees during development.



The 'No Dig' construction can be achieved by using perforated CORErootprotector available in depths of 50mm, 100mm, 150mm and 200mm.

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 CORErootprotector confines free draining sub-base materials, stabilising the ground whilst enhancing drainage and preventing build-up of hydrostatic pressure.

Protects tree roots from damage caused by excavation and traffic loads

Unlike traditional methods of road and driveway construction, there is no excavation required to install CORErootprotector. It forms a high load bearing, shallow permeable sub-base above ground.



Advantages

- Provides cost effective solution to long-term root protection
- Ease in transportation and on site handling due to collapsible cells
- Rapid and simple installation conforms to most terrain profiles
- Ultrasonic welding of cell joints ensures maximum strength
- Easily dismantled and subsequently re-used
- Withstands high weight bearing loads
- Highly resistant to biological attack and a wide range of soil borne chemicals

CORE[®]rootprotector

Temporary Site Access

Due to the rate of urbanisation within the UK it is becoming ever more popular to find trees, located in areas of urban development, with Tree Preservation Orders (TPO's). This is an attempt to ensure the protection of mature trees, especially when construction work is being carried out nearby.

"cutting down, uprooting, topping, lopping or causing willful damage or destruction to trees without the local planning authority's permission" could result in up to a £20,000 fine.

Failing to comply with a TPO is treated as serious offence towards the environment. TPO's are administered by Arboricultural Officers within your local council.

The majority of tree roots are found within 600mm of the surface and extend to a distance equal to approximately 65% of the tree's overall height. Making it almost impossible to build a sustainable surface that can take vehicular traffic without digging and disturbing the feeder roots of the tree.

CORErootprotector is suitable for the construction of permanent and temporary site access roads where access is limited by the presence of tree roots.

Simply blind over exposed roots and regulate to form a smooth surface. Install a COREgeotextile (e.g. CG1000) (Optional installation of triaxial geogrid (e.g. CTG160) – increases weight bearing capabilities and life span.)

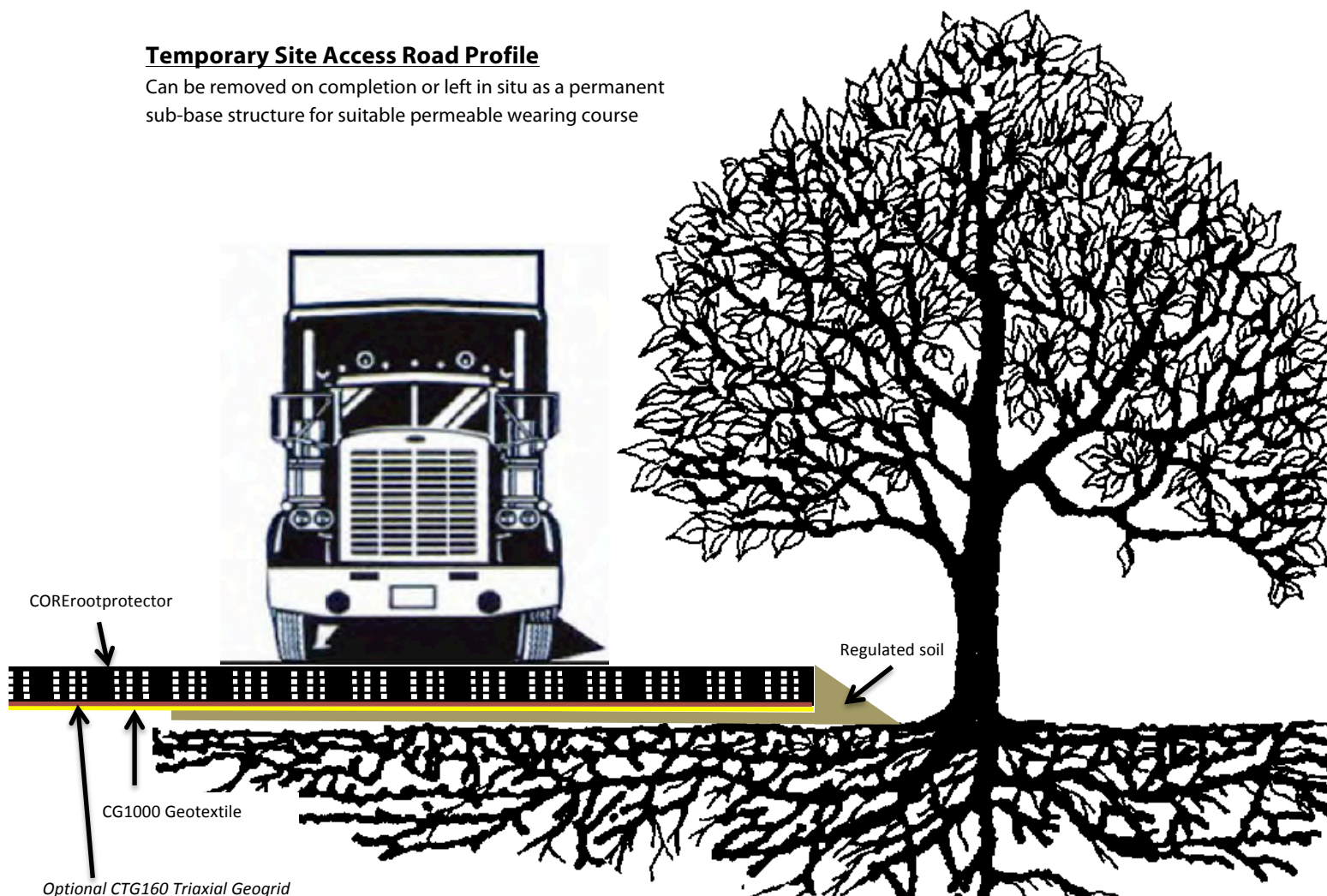
Lay CORErootprotector, fill with angular reduced fines sub base. (rootprotector depth will vary according to intended use and traffic load.)

Failure to install CORErootprotector could result in the surface becoming compacted and rutted resulting in minimal oxygen and nutrient exchange to the roots, ultimately destroying the tree.

Once operations are complete, the installation can be removed with the roots undamaged.

Temporary Site Access Road Profile

Can be removed on completion or left in situ as a permanent sub-base structure for suitable permeable wearing course



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Installation

Subgrade Preparation

1. Regulate over exposed tree roots with graded top soil.
2. Install geotextile membrane (CG1000 or similar)
3. Install geogrid **Optional, subject to intended traffic load and site conditions - install geogrid directly above geotextile membrane (CGT160 or similar), this will improve sub-base strength and extend life span of installation.*

CORErootprotector Panel Placement and Connection

4. Position and expand CORErootprotector panels to the appropriate dimensions. Hold individual panels in their expanded positions with rebar J hook fixing pins or wooden stakes.
5. Ensure each panel is expanded uniformly and correctly aligned.
6. Install J-pin galvanised rebar or wooden stakes in every other cell along the joints and around the perimeter of each panel. This will hold the CORErootprotector panels firmly in place and prevent the expanded cells from collapsing during the infill process. To reduce the amount of fixing pins required, use connecting studs (GA002) to join adjacent panels. Once panels are filled fixing pins may be removed.

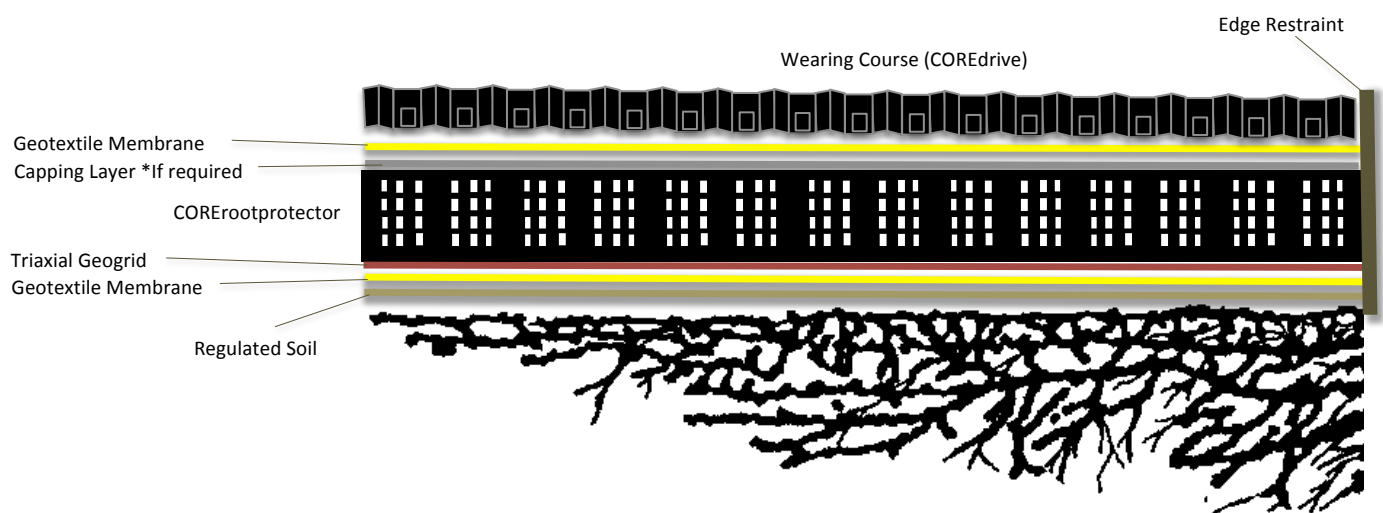
Infill

7. Fill expanded cells with specified material progressively from front to back.
8. When filling the panels ensure to only drive over filled cells, this will prevent the empty expanded cells from collapsing.
9. Overfill cells with infill material. Limit the drop height of infill material to 1m to avoid displacement of the empty cell wall.
10. Overfill cells to a depth of approximately 25-50mm and level for exposed aggregate surfaces. Maintain the 25-50mm wearing course over CORErootprotector panels to prevent damage to the cell walls.
11. Compact infill to a minimum of 95 percent Standard Proctor.

If Intended as a Permanent Sub-Base Stabilisation

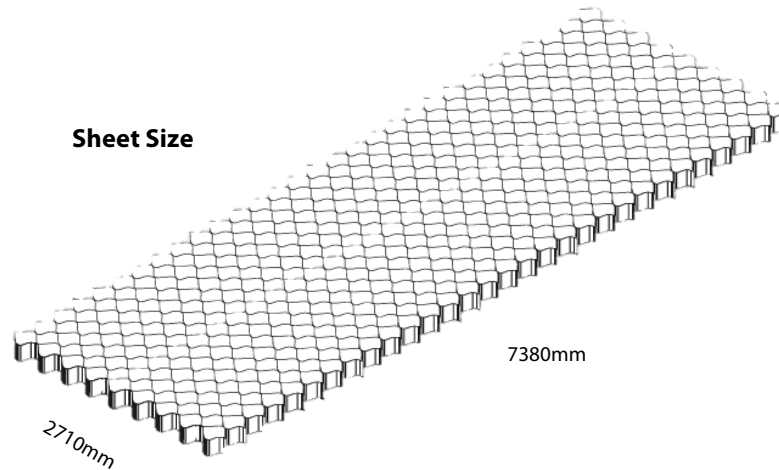
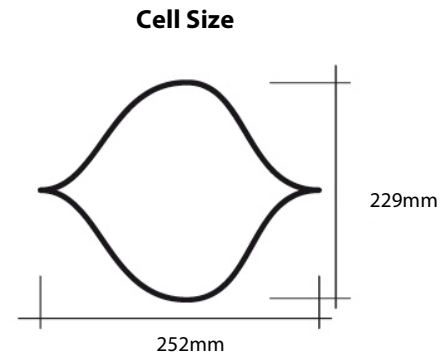
12. Overfill CORErootprotector to a depth of approximately 25mm to allow for a flush finish after compaction. **depth of overfill depends on compaction rate of material used and depth of specified panel.* Compact to a minimum of 95 percent Standard Proctor. **A larger aggregate infill will require a capping layer of 3-6mm grit, compacted to a level fill to provide a firm uniform base with no voids for the wearing course.*
13. Install geotextile membrane (CG1000 or similar).
14. The wearing course may consist of permeable asphalt/concrete/paver stones/gravel or grass stabiliser. An edge restraint may be required depending on chosen wearing course.

Permanent Sub-base and Wearing Course



Technical Specification

Standard Cell	
Cell Dimension	229mm x 252mm
Cell Heights	50mm 100mm 150mm 200mm
Thickness	1.5mm
Tensile Strength	(Long.) 18.4 MPa (Trans.) 19.5MPa
Seam Weld Strength	50mm 600 N 100mm 1200 N 150mm 1800 N 200mm 2400 N
Size Per Panel	2.71m x 7.38m (20m ²)
Weight Per Panel	50mm 12.3 kg 100mm 24.5 kg 150mm 36.0 kg 200mm 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°C to 120°C



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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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