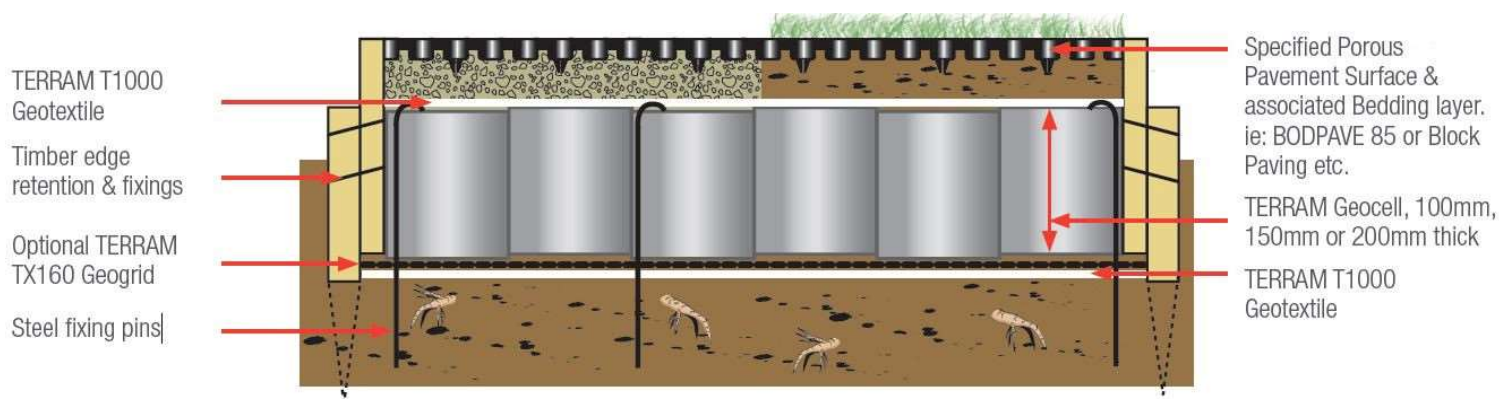


GEOCELL Tree Root Protection

Profile



Installation for Permanent Access Routes

1. Obtain the approval of the Local Planning Department and Arboricultural Officer for the method of construction proposed and any imposed limitations on the use of mechanical equipment.
2. Remove all debris and reduce surface levels to the allowable reduced dig whilst strictly avoiding soil compaction and tree root damage. Build-up directly on the existing surface levels may be necessary.
3. Ensure that the prepared surface is reasonably even and fill any localised depressions with sharp sand to achieve an even surface profile. Do not roll or consolidate the area.
4. Install tanalised timber edging boards or other approved edge retention to the perimeter of the construction zone as appropriate to the total layer profile thickness. Avoid damage to tree roots when placing fixing posts and pegs.
5. Install a layer of Terram T1000 geotextile across the site, over lapping adjacent rolls by a minimum of 150mm. Lightly pin the geotextile in place until the overlying layers are installed as required.
6. Open out the TERRAM Geocell layer and pin in place using steel fixing pins or similar approved between the edgingboards. The pins hold the cells in an open and fully expanded position during the filling process. Pin spacing will vary according to the site conditions, generally 1m –2m centres on flat surfaces around the perimeter and where panels join. Drive the pins in so that they are just touching the top of the cells but do not compress the fabric and avoid tree

root damage. Cut the TERRAM Geocell to suit using a sharp knife/scissors or alternatively fold up against the edgings.

8. Fill the TERRAM Geocell with a clean, open graded angular aggregate (5mm - 45mm) working towards the tree from the furthest point away and using the filled TERRAM Geocell as a platform. (Single sized, rounded aggregate or DoT Type 1 should not be used). Do not roll the surface, a light vibratory compaction plate may be permitted to settle the stone into the cells; seek advice from the specifier or Arboricultural Officer. Do not contaminate the filled cells with site debris, soil or mud.
9. Install the permeable surface layer such as TERRAM BODPAVE 85, TERRAM Truckpave, permeable concrete block paving or porous asphalt on top of the TERRAM Geocell according to the manufacturer's recommendations. The type of bedding layer will depend upon the specification of the porous surface, an additional layer of TERRAM T1000 geotextile may be required over the filled Geocell to prevent loss of the bedding layer material into the voids. Please refer to Specification, Design and Installation Guidance for BODPAVE 85 and TERRAM Truckpave, or refer to the specific manufacturers' guidance for other surfacing materials.

Als Teil des Prozesses ständiger Verbesserung behält sich die EcoTrade Leipzig GmbH das Recht vor, die hier aufgeführten Eigenschaften ohne Ankündigung zu ändern.

GEOCELL Tree Root Protection

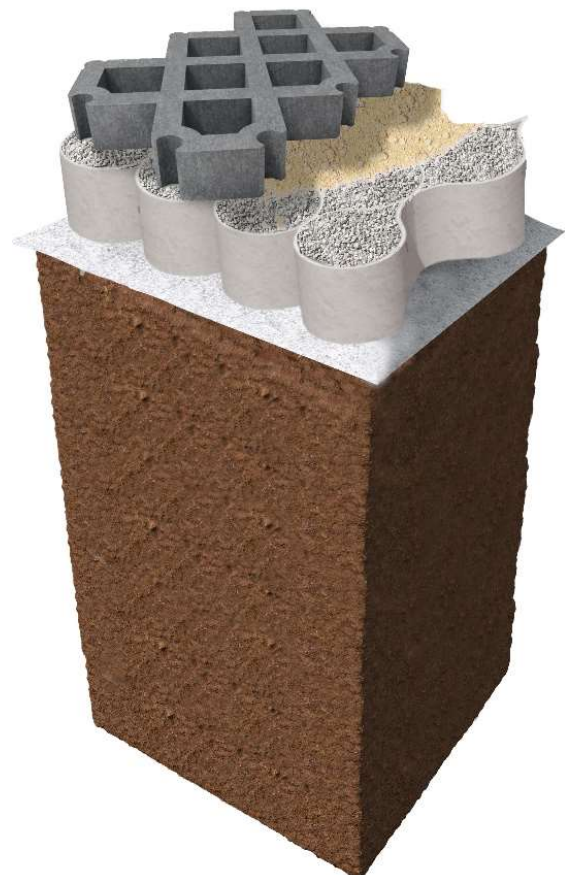
Installation for Temporary Haul Road

In some applications a TERRAM Geocell may be installed as a temporary haul road base and completely removed after use. Alternatively a sacrificial stone layer may be installed on the filled Geocell which is removed and replaced with a permanent permeable pavement solution when use of the haul road is complete.

1. Apply all construction detail as for items 1 to 8 above for 'Permanent Access Routes'.
2. Place a separation layer of TERRAM geotextile onto the TERRAM Geocell surface. The geotextile grade will be determined by the specific site design criteria and degree of haul road traffic proposed. E.g. TERRAM T1000 or TERRAM T2000.
3. Place a minimum 100mm thick layer of either clean graded stone or DoT Type 1 sub-base stone onto the TERRAM geotextile.
4. Routinely check for erosion of the surface and repair with additional stone as required to avoid exposure of the separation geotextile.
5. After the haul road use is completed, remove the sacrificial layer of stone and geotextile and follow item 9 above for 'Permanent Access Routes'. Avoid contamination of the open-graded stone within the TERRAM Geocell during removal of the sacrificial stone layer. Alternatively remove the entire construction profile and return the site to its original status. At all times avoid damage to tree roots and soil compaction during removal and disposal of the construction layers.
6. Seek the specifiers' advice on renovation and restoration of the landscaped surfaces within the tree protection zone upon removal of the Geocell TRP system.

Notes

1. BS5837 advises that any new permanent hard surfacing should not exceed 20% of any existing unsurfaced ground.
2. Geocells must be filled with clean, open graded angular aggregate, normally in the particle size range of 5mm - 45mm. Clean 4/20 or 4/40 stone or a reduced-fines DoT Type 1X or Type 3 are acceptable. The bigger the particle size, the sturdier the area.
3. TERRAM Geocell layer thickness and inclusion of a geogrid will depend upon subgrade soil strength and proposed traffic loadings.
4. Specific advice on CBR% strengths, ground conditions and construction over weak ground with a CBR less than 1% is available from TERRAM. CBR% = California Bearing Ratio, a measurement of subgrade soil strength.
5. Soil compaction will severely affect the trees ability to take up water and oxygen; similarly, raising soil levels around trees will deprive roots of oxygen and cause stress and dieback.
6. In most cases 80% - 90% of a trees root system are in the upper 1m of soil and the small fibrous tree roots are the most important to a tree's health. The fine roots enable transport of oxygen, water and nutrient to the tree via the larger roots which also anchor the tree and provide stability. Severing only a small proportion of the fine surface root structure can severely affect the tree, causing stress, die back and loss of stability.



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