

# Premium Ground Control Systems



An essential guide  
to grass and gravel  
stabilisation



by **Beaufort**

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Less excavation



Rapid installation

# Enhanced outdoor areas

Reinforcing grassed areas and preventing gravel migration is straightforward with Grassrings and Gravelrings. The two innovative solutions draw on the strength of the circular design to provide robust support for both pedestrian and vehicular traffic. Both systems are delivered in pre-assembled 1m<sup>2</sup> sheets for rapid and fuss-free installation. Manufactured using recycled UV stabilised plastic, these landscaping tiles are exceptionally easy to fit, clipping together to form a fully permeable layer suitable for SuDS compliant schemes.

By choosing Grassrings or Gravelrings you are offering your clients a premium product for a distinctive, enduring finish. All systems are nearly half the depth of alternative products, which means shallower excavation, less muckaway and less gravel or growing medium to fill the tiles – all of which translate into cost and time savings, making these superior solutions more competitive too.

**350**  
tonnes  
per m<sup>2</sup>



Request your free sample at  
[www.beauxfort.com](http://www.beauxfort.com)

The Gravelrings retention system makes impressive gravel driveways and paths possible without the common problems of stone migration, deep ruts or inconsistent coverage.

Gravelrings comprises interlocking gravel grid tiles made up of circular cells on a mesh base. The system has been carefully designed to provide superior performance to all common market alternatives.

- 25mm depth provides hidden stability beneath the surface of the gravel driveway
- Integral mesh base prevents gravel slipping beneath the tiles
- Our exclusive gravel grid design prevents silt build-up, resisting weed growth
- The flexibility of the gravel grid follows the contours of a gravel driveway
- Each 500mm square driveway grid has a simple but firm clipping mechanism
- The integrity of the circular design provides exceptional strength

Check out the full installation video [www.gravelrings.com](http://www.gravelrings.com)



Also available in white



## New driveway installation guidelines

1. Excavate soil (sub-grade) to the required depth (allowing for sufficient depth of sub-base material and the tiles / surface finish). The depth of the sub-base will vary depending on the intended use, ground conditions and engineer's specification. As a guide, it should be a minimum of 75-100mm for pedestrians, 100-150mm for light vehicles and 200-300mm for trucks.
2. Lay DRAINTEX or DRIVETEX geotextile fabric as per instructions for relevant product.
3. Secure using EXTRAFIX fixing pegs.
4. Lay stone sub-base layer (e.g. MOT Type 1 or 3. Type 3 must be used for porous installations) to the required depth. Compact and level to the engineer's specification.
5. Fix Graveledge edging around the perimeter of the driveway to contain the gravel on the drive area. For areas adjoining a solid structure (e.g. a wall, fence or raised kerb stone) you won't require an edging. The fastest fixing method is to nail down using a concrete nail gun or alternatively, drill and pilot hole in the existing surface and hammer in our Gravelring Fixing Pin or screw down using a concrete screw and washer.
6. Blind the surface with a 5-10mm layer of sharp sand or granite fines to level out any undulations in the sub-base before laying the panels.
7. Lay the Gravelrings tiles over the base with the mesh side down and clip together. Fix down using the Gravelrings Fixing Pins if required. Fixing pins should be used on slopes, edges, turning circles, cross-overs (including entrances and exits) and any areas more exposed to regular traffic, e.g. roadways. The number of pins required will depend on the application and site conditions but as a guide, allow 1 pin per square metre. Contact our sales team for specific fixing advice, particularly for areas of commercial use with heavier vehicles.
8. Leave a gap (min 50mm) when adjoining a kerb or any other type of fixed edging, obstruction or structure, to allow for expansion of the panels.
9. Spread the final gravel surface over the panels to a depth of approximately 10-15mm higher than the top edge of the rings, so that they are concealed.
10. Rinse the gravel with water (if required) and lightly compact the gravel to aid settlement and consolidation.
11. After installation, some ongoing regular maintenance may be required to ensure the tiles remain covered, particularly on areas subject to commercial or heavier use.

## Technical data

Panel Size	500mm x 500mm
Panel Depth	25mm
Cell Diameter	50mm
Gravel Size (recommended)	6mm - 20mm (angular quarried aggregate only, marine washed, rounded and mixed aggregates should not be used)
Gravel Demand	58 - 67kg per m <sup>2</sup>
Material	100% recycled*, UV stabilised HDPE
Resistance	Chemical resistant
Colour	Black or White**
Load Bearing Capacity	In excess of 350 tonnes per m <sup>2</sup> ***
Gradients	Gravelrings can be laid on slopes depending on the gradient - contact our sales team for advice

\* White panels are made from part recycled materials

\*\* Other colours available to order (subject to lead time and minimum order quantities)

\*\*\* When filled with 6 - 20mm angular gravel to a depth of 15mm above the top of the cells

Gravelrings overlay system creates elegant gravel driveways without the mess and cost of excavation work, as the sub-base is already laid.

Upgrade your existing driveway to a beautiful gravel driveway, while avoiding the common pitfalls associated with gravel surfaces – gravel migration, sinking and rutting. Gravelrings overlay system has been designed to accelerate the installation process of gravel driveways.

- No planning permission is required, unlike alternative driveway surface finishings
- Installation is quick, 170sqm has been proven to be laid by two landscapers in under two days.
- No digging is needed, as the sub-base is already laid
- Efficient and cost-effective solution to achieving a gravel driveway



## Overlay installation guidelines

1. Prepare the existing surface removing any loose surface. Check for any pot holes or ruts and fill with a stone sub-base material (e.g. MOT Type 1) Any minor undulations can be filled with sharp sand or granite fines. Compact and level flush with the existing surface.
2. Fix Graveledge edging around the perimeter of the driveway to contain the gravel on the drive area. For areas adjoining a solid structure (e.g. a wall, fence or raised kerb stone) you won't require an edging. The fastest fixing method is to nail down using a concrete nail gun or alternatively, drill and pilot hole in the existing surface and hammer in our Gravelring Fixing Pin or screw down using a concrete screw and washer.
3. Lay the Gravelrings tiles over the base with the mesh side down and clip together. Fix down using the same method as the edging. Particular attention should be paid to slopes, edges, turning circles, cross-overs (including entrances and exits) and any areas more exposed to regular traffic, e.g. roadways. The number of fixings required will depend on the application and site conditions but as a guide, allow 1 fixing per square metre. Contact our sales team for specific fixing advice, particularly for areas of commercial use with heavier vehicles.
4. Leave a gap (min 50mm) when adjoining a kerb or any other type of fixing edging, obstruction or structure, to allow for expansion of the panels.
5. Spread the final gravel surface over the panels to a depth of approximately 10-15mm higher than the top edge of the rings, so that they are concealed.
6. Rinse the gravel with water (if required) and lightly compact the gravel to aid settlement and consolidation
7. After installation, some ongoing maintenance may be required to ensure the tiles remain covered, particularly on areas subject to commercial or heavier use.

*These instructions are provided as a guide only and do not offer any warranty (express or implied) since site conditions and requirements can vary.*

## Technical data

Panel Size	500mm x 500mm
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Graveledge edging elevates gravel driveways by creating a clean impressive finish, while helping to solve common problems of stone migration, by acting as a barrier between the expansion gap and area beside it.

Partnered with Gravelrings gravel retention system, together the pair will create a stunning gravel driveway that will enhance any properties kerb-appeal, whilst delivering exceptional results and minimal maintenance for many years to come.

- *Made from the highest quality, durable aluminium alloy, which is also resistant to rust.*
- *The dry fix installation saves on time and money as no concrete is required.*
- *Created from a minimum of 80% recycled aluminium and is 100% recyclable.*
- *The flexible design of Graveledge enables curved lines to be crafted by hand.*
- *Tapered top edge and strong base provides excellent stability.*



## Installation guidelines

1. Lay a thin dry-mix bedding layer (e.g. sharp sand and cement) beneath the Graveledge foot to approximately 5-10mm. This thickness can be varied to adjust levels as required. This also ensures continuous support under the foot of the edging. The edging should not require a wet concrete haunch unless in non-standard application.
2. Place the Graveledge onto the bedding layer and fix using the Graveledge fixing pins through the pre-punched holes in the foot of the edging. Ensure the pins are firmly secured in the ground and down to the foot of the edging. The number of pins required will depend on the application and site conditions but as a guide, allow 1 pin every 500mm. Additional staking is recommended when laying curves or where the area is subject to heavy traffic.
3. Use the strip connectors (provided) to link the lengths of Graveledge together. Slide halfway into the channel on the inside of the edging and connect to the next length of edging.
4. Install the Gravelrings and surface covering as per the guidelines provided.

Where you are overlaying an existing surface (e.g. tarmac or concrete) the fastest fixing method is to nail down using a concrete nail gun or alternatively, drill a pilot hole in the existing surface and hammer in our Graveledge fixing pin or screw down using a concrete screw and washer.

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## Technical data

Edging Height	40mm
Edging Thickness (top bead)	6mm
Edging Length	2500mm
Edging Foot Width	45mm
Fixing Stake Length	250mm
Minimum Radius By Hand	1000mm
Minimum Radius in Factory	300mm
Available Finishes	Mill finish / powder coat to order
Material Specification	6063A Aluminium
Recycled Content	Part recycled / 100% recyclable

## Green parking perfected

Grassrings enable increased parking capacity whilst maintaining green spaces. Suitable for private properties and commercial enterprises, the system achieves attractive occasional or overflow parking areas.

When laid across a prepared stone sub-base, Grassrings provide uncompromising grass reinforcement that prevents compaction of the root zone layer, enabling grass roots to obtain the necessary oxygen, moisture and nutrients they need to survive.

- The open grass grids provide over 90% root development area and 100% grass reinforcement coverage
- The grass parking mat's flexibility is designed to follow the contours of the land
- Each 500mm square tile has a simple but firm clipping mechanism
- The integrity of the circular design provides the strongest grass reinforcement available
- The tiles are manufactured from 100% recycled and UV stabilised, impact resistant polymer
- Curves can be laid with minimum wastage as joints in the grass protection grid can be staggered and cut as necessary

Take a closer look at [www.grassrings.com](http://www.grassrings.com)



Tiles easily cut to follow borders and edging

## Installation guidelines

1. Excavate soil (sub-grade) to the required depth (allowing for sufficient depth of sub-base material plus 50mm). The depth of the sub-base will vary depending on the intended use, ground conditions and engineer's specification. As a guide, it should be a minimum of 75-100mm for pedestrians, 100-150mm for light vehicles and 200-300mm for trucks.
2. Lay DRAINTEX or DRIVETEX geotextile fabric as per instructions for relevant product.
3. Secure using EXTRAFIX fixing pegs.
4. Lay stone sub-base layer (clean angular load bearing stone without clay fines) to the required depth. Compact and level to the engineer's specification, 40-50mm below the final finish level.
5. Add and spread evenly a thin layer (20-30mm) of sand (rounded root zone sand with an even sized particle distribution) and wash or roll into the sub-base until the stone is almost visible.
6. Evenly spread a layer of water storing polymer at a rate of 4kg per 100m<sup>2</sup> (using a mechanical rotary spreader).
7. Lay the Grassrings tiles over the base and clip together. Cut around obstructions, trees, kerbs etc. leaving a gap (min 50mm) to allow for expansion.
8. Evenly spread a grass starting fertiliser (see technical data below) at a rate of 7kg per 100m<sup>2</sup> (using a mechanical rotary spreader).
9. Half fill (approximately 15mm) the rings with a suitable root zone mix (see technical data below).
10. Spread grass seed (see technical data below) at a rate of 5kg per 100m<sup>2</sup> (using a mechanical rotary spreader).
11. Finish filling the rings with the root zone material using a large broom to ensure the top edge of the rings remains exposed.
12. Fertilise the seeded area again (see technical data below) at a rate of 7kg per 100m<sup>2</sup> (using a mechanical rotary spreader).
13. After installation the area must be kept moist. Consideration should be given to additional watering during extended periods of dry weather. The area must be protected from traffic for a minimum of 8 weeks or two cuts until the grass has fully established. Regular maintenance will be required including watering and fertilising in the spring/summer. The grass should be cut at approximately 50mm and certainly no less than 30mm.

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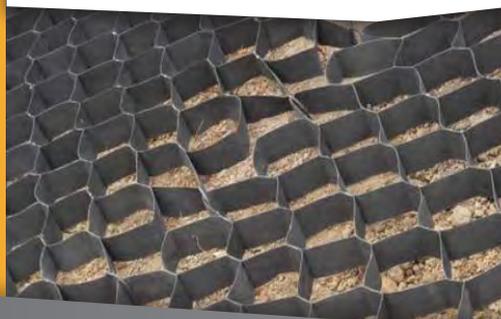
## Technical data

Panel Size	500mm x 500mm
Panel Depth	30mm
Cell Diameter	50mm
Pre-Seed Fertiliser (recommended)	10% nitrogen, 15% phosphate and 10% potassium
Root Zone (recommended)	70% sand & 30% recycled compost mix - pH6.5 – 7.2
Root Zone Mix (recommended)	Greenvelvet® Watersaver by Barenbrug
Material	100% recycled, UV stabilised HDPE
Resistance	Chemical resistant
Colour	Black*
Load Bearing Capacity	350 tonnes per m <sup>2</sup> **

\* Other colours available to order (subject to lead time and minimum order quantities)  
 \*\* When filled with correct topsoil / growing medium

Groundcell is widely used for erosion control on slopes and embankments to protect, reinforce and stabilise the soil and promote growth. It is also used extensively for tree root protection where it is necessary to build an access road or area subject to traffic over ground containing tree roots. Groundcell is a cellular confinement system formed of textured and perforated strips made from High Density Polyethylene (HDPE) and connected together by ultrasonic welding. The finished panels then form cells which when installed form a structure similar to that of a honeycomb. These are then filled with soil or aggregate depending on the application.

- The cell structure creates a sub-base above the surface and spreads the imposed load, helping to prevent damage to the roots, whilst providing a stable and solid base.
- The structure of the panels is designed to prevent irregular settlement and washout of the cell contents.
- It also enables better compaction and as a result in some circumstances the depth of the sub-base can be reduced.



### Installation guidelines – tree root protection

1. Prepare and level the surface by removing vegetation and debris and filling hollows in the surface with clean angular stone and/or sharp sand as required. Soil should not be removed or compacted as this could cause damage to the underlying tree roots.
2. Install a layer of Earthworr NW1000 Geotextile Fabric over the prepared surface and extend beyond the area to be covered by the Groundcell by approx 300mm. If joins are required in the geotextile, these should be overlapped as per the engineer's specification (minimum 300mm).
3. Lay a panel over the surface and secure one edge of the panel (in the middle) with a Groundcell pin. Pull the panel out to its full length (depending on panel size) and secure the other end with a Groundcell pin. Repeat the same procedure across the width of the panel, stretching it out to its full width and securing in each corner with a Groundcell pin.
4. Fully secure the panel to the surface using a total of 10-12 pins (depending on panel size) evenly spaced. Cells should be fully expanded (and tensioned) to the cell size stated on the technical data sheet.
5. Repeat steps 4 and 5 to lay any additional panels required to cover the area. Staple each cell together where adjoining panels meet.
6. Fill the cells with clean angular sub-base material such as Type 4/20mm or Type 20/40mm or as per the engineer's specification (refer to BS7533-13:2009). The cells should be overfilled by a minimum of 25mm and lightly compacted – use of heavy rollers / compaction equipment should be avoided as there is potential to damage the underlying tree roots.

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### Installation guidelines – Erosion control & embankment stabilisation

Groundcell panels can also be used for stabilising soil on embankments to prevent erosion and promote growth of vegetation. The panels should be laid and pinned in the same way as outlined above and then backfilled with topsoil to the specification required.

### Technical data

Raw Material	HDPE
Colour	Black
Cell Wall Type	Textured & Perforated
Cell Wall Thickness	1.20mm (tolerance of +/-0.2mm)
Cell Height	100mm 150mm 200mm tolerance of +/-2%
Cell Size	300mm (tolerance of +/-2%)
Standard Panel Size	2.44m x 6.1m (tolerance of +/-2%) Panel size may vary, please contact the sales team to confirm.
Standard Panel Area	24m <sup>2</sup> (tolerance of +/-2%)
Seam Tensile Strength	1800 N
Durability & Oxidation Resistance	Predicted to be durable for a minimum of 25 years in natural soils with 4 < pH < 9 and temperatures < 250C. Product has been successfully tested for resistance to oxidation in accordance with PN-EN ISO 13438, PN-EN ISO 527-3.



The information in this brochure is given in good faith and does not offer any warranty (express or implied) regarding the suitability of any product for your use as site conditions and requirements can vary. The user must ensure that the product is suitable for the specific application, as these products will not compensate for poor workmanship or exceptional ground conditions. Beauxfort reserves the right to alter product specifications and information without prior notice.

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