



Product & Installation Guide

BISON
KERB

Heavy-duty steel kerb for edging hard landscapes. Bison is the superior alternative to concrete kerbs.



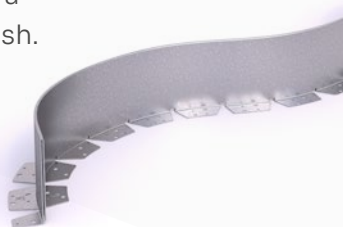
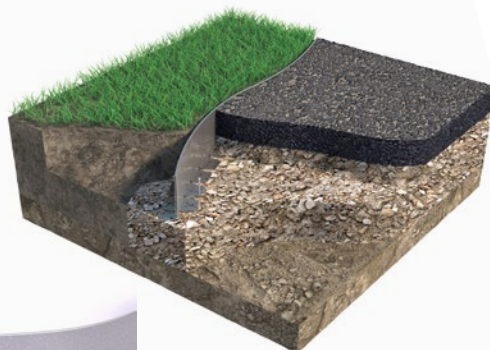
ExcelEdge BISON KERB

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BISON KERB

Heavy-duty steel kerb for edging hard landscapes. Bison is the superior alternative to concrete kerbs.

A steel pin kerb edge restraint used to delineate hard surfaces by creating curves and strong angles. Available in various heights in a galvanised steel finish.



| Item code | Edging height | Edging thickness (top fold) | Edging length | Edging foot width | Product properties | Material | Recycling |
|-----------|---------------|-----------------------------|---------------|-------------------|--------------------|------------|-----------------|
| 181010 | 150 mm | 7 mm | 2400 mm | 50 mm | Flexible | Galvanised | 100% recyclable |
| 181013 | 100 mm | 7 mm | 2400 mm | 50 mm | Flexible | Galvanised | 100% recyclable |
| 181012 | 75 mm | 7 mm | 2400 mm | 50 mm | Flexible | Galvanised | 100% recyclable |

Benefits:

- More robust than concrete and won't crack
- Much quicker than concrete to install
- Lightweight – approximately three times lighter than concrete!
- Requires less labour to install giving higher quality edging at no extra cost
- Easy to fit – even if working alone
- Rounded top edge detail for smooth finish with no sharp edges
- Durable and corrosion resistant

Suitable for:

- Bison Kerb is suitable for replacing concrete in civil construction developments including service roads*, pavements and other building developments.

*Bison Kerb is not suited for motorways.

| Item code | Product properties | Pack Qty | 182012 |
|-----------|-------------------------------------|----------|-----------------|
| 182010 | 150 mm Connector Plate | 15 | 100% recyclable |
| 181012 | 100 mm Connector Plate | 15 | 100% recyclable |
| 182011 | 75 mm Connector Plate | 15 | 100% recyclable |
| 102032 | Spiral Fixing (10 per 2.4 m Length) | | 100% recyclable |

Tools Required

- ✓ Hammer
- ✓ Hacksaw / angle grinder
- ✓ Level
- ✓ Tape measure
- ✓ Spray paint
- ✓ String line
- ✓ Shovel / spade

Fixings included

- ✓ 250 mm Spiral Fixing Stake
- ✓ Strip Connector



Standard method to compact MOT Type 1 sub-base or similar material

1

Marking out

Mark out where the edging is required using a string-line or spray-paint. Excavate the area or trench where edging is required.

Depth needs to be a minimum of 300mm from desired finish top of edging level. Bison edging requires the subbase to extend at least 150mm either side of the edging to ensure a secure fixing.



2

Sub-base & set out

Lay MOT Type 1 substrate and compact well. Thorough compaction of the sub-base is essential to ensure a successful installation. The MOT Type 1 sub-base needs to be a minimum of 150mm depth when fully compacted



3

Laying the edging

We recommend laying a thin dry-mix bedding layer (e.g. sharp sand and cement 4:1 mix) beneath the edging foot to approximately 10mm. This is designed to take out any undulations in the sub-base ensuring a continuous support under the foot of the edging.

NOTE: The edging should not require a wet concrete haunch unless in non standard applications.



4

Place the edge restraint and set to correct position.

Level the edging using a spirit level by moving the edging around in the bedding layer and once this is done, fix the Spiral Fixing Stakes through edging foot in the pre-punched 500holes, at a maximum of 300mm centres. Ensure the nails are firmly secured in the ground and down to the foot of the edging.



5

Alternative fixing method

Use Coach Bolts or Anchor Screws if fixing into a cured concrete foundation. Contact the technical team for more information.

6

Connecting the edging

Use the Strip Connector to link lengths of Bison together. Slide halfway into channel on inside of the edge restraint, and connect with other length.



7

Creating corners

Corners can be created with the Bison steel edging by simply using an angle grinder to cut out a triangular section in the foot and then cutting part-way through the upright section on the inside of the corner.



8

Creating curves

Lay the edging down and fix at one end with the spiralthe edging first by standing it on end and gently bending in the direction required.spikes provided. Start to form the edging to the desired curve and continue to fix down as you install the edging.

Additional fixings may be needed when creating a tight curve.

9

Laying surfaces

When more than one layer is required, the base course should be properly applied and compacted before proceeding to the final wearing course. Pay attention not to damage the edge restraint with the compaction equipment.

Ensure top of edge restraint sits just below level of top surfaces, especially if top surface is to be compacted (i.e. Tarmacadam).



Handling and hazards



SHARP CORNERS AND EDGES!

Wear gloves



BE SAFE!

Wear high visibility clothing, hard hats, and any other PPE required on site.

DISCLAIMER

These instructions are for guidance only and the installer is responsible to use their discretion to install the products in the best possible way for their respective application. Kinley Systems will not be held liable for product failure or poor performance as a result of poor quality installation. If any errors are found in this guide please email us at sales@kinley.co.uk.

SUPPORTING DOCUMENTS

More information on the Borderline products can be found at www.kinley.co.uk in the Resource Centre. In particular, look for the CAD Drawings, Data Sheet and the Edging Book.

10

Backfill behind edging

Backfill behind edging or lay additional hard surface as required.

Hot lay surfacing

Only in relation to hot rolled surface applications.

Compact surfacing with roller. Ensure first pass with roller is 50mm clear of Bison, with vibrating function turned off.

Final pass should be made as close to the edge as possible.

On the final wearing course, and where applicable, roller should be run over edge of Bison to ensure full compaction and a neat finish.

Expansion gaps between the edging may need to be considered on long straight runs. Contact our technical team to discuss.



Applications

To edge or demarcate asphalt, rubber coating and other hard landscape surfaces. Suitable for parks, playgrounds and around building perimeters. Bison Kerb edging has a high resistance to corrosive conditions in normal environments. It also has a high resistance to heat making it suitable for use with hot asphalt or tarmacadam.

Installation information¹

By mounting on compacted substrate (e.g. MOT Type 1) using 250mm steel Spiral Fixing Stakes. A bedding layer of dry mix 3:1 sharp sand / cement is recommended to ensure continual support of the edge restraint. When mounting on existing asphalt or concrete, use masonry nails or screw and plug fixings.

Storage & Handling

The product is securely packed onto a wooden splint and sealed in clear plastic sleeving to ensure no movement of the product in transit. Depending on the size / weight of the consignment this may be palletised.

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Whilst there is no specific weight restrictions on what is or is not safe to lift in manual handling, an assessment of the health and safety risks should be undertaken and measures taken to reduce the risk of injury so far as reasonably practicable.

The following guidelines may be useful:

- a) Each person should be fully trained in manual handling techniques.
- b) The use of handling aids such as a trolley, folk-lift, pallet truck or conveyor should be used if moving large volumes of cartons.
- c) Break up large consignments into more manageable loads.
- d) Ensure that the product is stored at a reasonable height, so avoiding the lifting of cartons from floor level or above shoulder height.
- e) Reduce carrying distances of cartons.

Protective Equipment

We recommend that PPE (Personal Protective Equipment) is used when installing Contour:

- a) Safety boots/shoes to protect the feet.
- b) Protective eyewear such as safety glasses/goggles.
- c) Gloves suited to handling metal.
- d) If using loud cutting equipment then ear plugs or defenders should be worn.

First Aid

The Health and Safety Regulations 1981 require all construction sites to have the following:

- a) A first aid box with enough equipment to cope with the number of workers on site.
- b) An Appointed Person to take charge of first-aid arrangements. The Appointed Person looks after first aid equipment and facilities and calls the emergency services when required. Appointed Persons do not need first aid training.
- c) A First-Aider who has undertaken training and holds an HSE approved qualification to administer first-aid. This means that they must hold a valid certificate of competence in either:
 - First aid at work (FAW) issued by a training organisation approved by HSE
 - Emergency first aid at work (EFAW) issued by a training organisation approved by HSE
 - A recognised Awarding body of Ofqual/Scottish Qualifications Authority.
- d) The number of first-aiders will depend on the site.
- e) Information should be clearly displayed on site telling workers the name of the Appointed Person(s) or First Aider(s) and where to find them.

Fire Protection

Bison Kerb edging is made Galvanised Steel, which does not burn or pose a fire hazard.

Stability

Galvanised Steels are high performance materials that display excellent resistance to atmospheric corrosion when compared to other steels, making them exceptionally suitable for landscape edge restraint applications.

Galvanised Steel is manufactured by coating hot-rolled mild carbon steel with a thin layer of zinc. This zinc layer provides a far greater level of protection against the elements than the steel alone and inhibits rust formation.

Environmental Issues

Bison Kerb is manufactured from Galvanised Steel and is 100% recyclable. As a result the whole life cost of Bison Kerb steel edging is excellent as it is sold for recycling not paid disposal. The principal element used in the production of steel is iron, which is second only to aluminium in terms of natural abundance in the Earth's crust. At current extraction rates there is enough iron to last another 1000+ years.

Supporting Documents

More information on the Kinley edging products can be found at www.kinley.co.uk in the Resource Centre. In particular, look for the CAD Drawings, Installation Guide and Edging Book.

Loading Analysis²

Loading analysis was undertaken on the Bison 75mm edging using Finite Element Analysis. The first analysis was applying a distributed load of 500mm directly down on to the top of the edging and the second analysis was applying a point load. On the distributed load test, failure occurred once loading reached 62500N. On the point load test, failure occurred once loading reached 6000N. More information on the Finite Element Analysis testing is available on request.

