



Product & Installation Guide

Fort

L-profile roll-topped steel edge restraint for hard landscape surfaces.



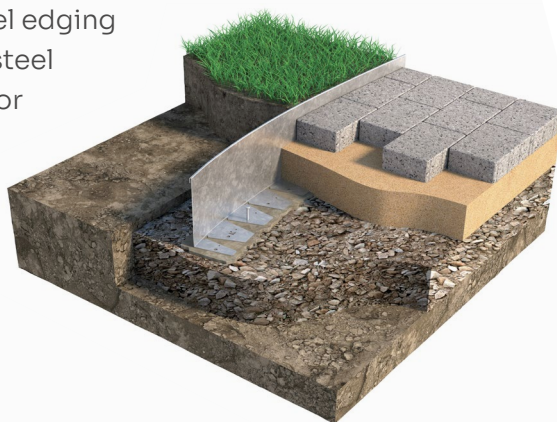
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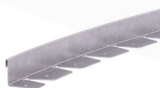
Fort

L-profile roll-topped steel edge restraint for hard landscape surfaces.

Strong, robust roll-topped steel edging for hard landscapes. With this steel edging, turn a standard public or recreational space into a remarkable landscape full of bespoke shapes, snaking paths and strong L-shaped angles. Available in various heights, thicknesses and four different types of steel.



Fort 50mm edging height



Item code	Material Steel	Edging thickness (top fold)	Edging length	Edging foot width	Product Properties	Radius by hand dimension	Recyclable
141410	Galvanised	7 mm	2400 mm	50 mm	Flexible	1500 mm	100%
141418	Untreated	7 mm	2400 mm	50 mm	Flexible	1500 mm	100%
141426	CorTen A	7 mm	2400 mm	50 mm	Flexible	1500 mm	100%
141334	Powder Coated*	7 mm	2400 mm	50 mm	Flexible	1500 mm	100%

Benefits:

- Ideal for high traffic hard landscape surfaces.
- Strong and durable for longevity.
- Flexible to create bespoke inspirational curves and sharp angles.
- Create various contemporary looks with powder coating.
- Durable and corrosion resistant.
- Flawless finish from sliding connection plate with no overlap

Suitable for:

- Delineating hard surfaces, such as asphalt, tarmac, rubber coating, resin and paving.
- High traffic spaces, such as parks, playgrounds and around building perimeters.
- Suitable for use with hot asphalt and tarmac.



Fort 75mm edging height

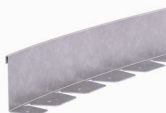


Item code	Material Steel	Edging thickness (top fold)	Edging length	Edging foot width	Product Properties	Radius by hand dimension	Recyclable
141412	Galvanised	7 mm	2400 mm	60 mm	Flexible	1500 mm	100%
141420	Untreated	7 mm	2400 mm	60 mm	Flexible	1500 mm	100%
141428	CorTen A	7 mm	2400 mm	60 mm	Flexible	1500 mm	100%
141436	Powder Coated*	7 mm	2400 mm	60 mm	Flexible	1500 mm	100%

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Fort 100mm edging height



Item code	Material Steel	Edging thickness (top fold)	Edging length	Edging foot width	Product Properties	Radius by hand dimension	Recyclable
141414	Galvanised	7 mm	2400 mm	60 mm	Flexible	1500 mm	100%
141422	Untreated	7 mm	2400 mm	60 mm	Flexible	1500 mm	100%
141430	CorTen A	7 mm	2400 mm	60 mm	Flexible	1500 mm	100%
141338	Powder Coated*	7 mm	2400 mm	60 mm	Flexible	1500 mm	100%

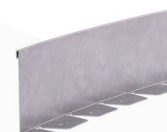
Grade 316 Stainless Steel option also available upon request.

Fort 200mm edging height



Item code	Material Steel	Edging thickness (top fold)	Edging length	Edging foot width	Product Properties	Radius by hand dimension	Recyclable
141450	Galvanised	7 mm	2400 mm	60 mm	Flexible	2000 mm	100%
141452	Untreated	7 mm	2400 mm	60 mm	Flexible	2000 mm	100%
141455	CorTen A	7 mm	2400 mm	60 mm	Flexible	2000 mm	100%

Fort 150mm edging height



Item code	Material Steel	Edging thickness (top fold)	Edging length	Edging foot width	Product Properties	Radius by hand dimension	Recyclable
141416	Galvanised	7 mm	2400 mm	60 mm	Flexible	2000 mm	100%
141424	Untreated	7 mm	2400 mm	60 mm	Flexible	2000 mm	100%
141432	CorTen A	7 mm	2400 mm	60 mm	Flexible	2000 mm	100%
141340	Powder Coated*	7 mm	2400 mm	60 mm	Flexible	2000 mm	100%

Grade 316 Stainless Steel option also available upon request.

*Powder Coated to any RAL colour

Accessories

Item code	Product properties	Pack Qty
142410	50 mm Connector	15
142411	75 mm Connector	15
142412	100 mm Connector	15
142413	150 mm Connector	15
142314	200 mm Connector	15
102032	Spiral Fixing (5 per 2.4m Length)	

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Tools Required

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

Fixings included

- ✓ 250mm Spiral Fixing Stake
- ✓ Strip Connector



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

1

Sub-base & set out

Lay suitable sub-base to required depth. Thorough compaction of the sub-base is essential to ensure a successful installation. Ensure sub-base extends 100-150mm beyond the prepared edge restraint line.

2

Laying the edging

Lay a thin dry-mix bedding layer (e.g. sharp sand and cement 4:1 mix) beneath the edging foot to approximately 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 applications.

Place the edge restraint and set to correct position.

Fix the Spiral Fixing Stakes through edging foot in the pre-punched holes, at a maximum of 300mm centres. Ensure the nails are firmly secured in the ground and down to the foot of the edging.

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

Note: Additional staking is recommended when laying curves or the area is subject to heavy traffic.

3

Connecting the edging

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

4

Laying surfaces

The next stage is to lay the surfacing.

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.

Lay final surface.

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

Backfill behind edging or lay additional hard surface as required.

5

Hot lay surfacing

Only in relation to hot rolled surface applications.

Compact surfacing with roller. Ensure first pass with roller is 50mm clear of Fort, 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 Fort to ensure full compaction and a neat finish.

6

Creating Corners

Cut the foot out enough so there is no overlap on the foot when it is folded 90 degrees. Next, cut the fold on the top of the edging, bend the fold out and remove with the cutter. Then vertically score 1/3 of the way through the steel on the inside fold. Place the edging over a sturdy piece of timber and bend to required angle, and finish angle with rubber mallet.



Handling and hazards



HEAVY SEGMENTS!
Requires two persons to lift each segment – or mechanical lifting device.



HEAVY ITEMS!
Wear steel toe protection.



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 Fort products can be found at www.kinley.co.uk in the Resource Centre.

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Applications

To edge or demarcate asphalt, rubber coating and other hard landscape surfaces. Suitable for parks, playgrounds and around building perimeters. Fort 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. 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.

Fire Protection

Fort edging is made using Corten A, Galvanised or Stainless Steel, none of which burn or pose a fire hazard.

Protective Equipment

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

- a) Good strong safety boots/shoes to protect the feet.
- b) Protective eyewear such as safety glasses.
- c) Strong gloves to protect the hands.
- 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.

Stability

Corten A, Galvanised, and Stainless Steel 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.

Corten A is a type of weathering steel which was developed to remove the need for regular painting and rust-prevention maintenance. This is achieved by the formation of a natural stable coating of dark brown oxidation across the metal's surface which acts as a barrier to the corrosive effects of rain, snow and other weather conditions.

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.

Stainless Steel is an alloy principally containing iron, chromium, nickel and various other elements in small amounts. The addition of chromium provides the alloy with a high degree of corrosion resistance, removing the need for regular painting and rust-prevention maintenance.

Environmental Issues

Fort is manufactured from Corten A, Galvanised or Stainless Steel and is 100% recyclable. As a result the whole life cost of steel Fort 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 Fort 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.

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