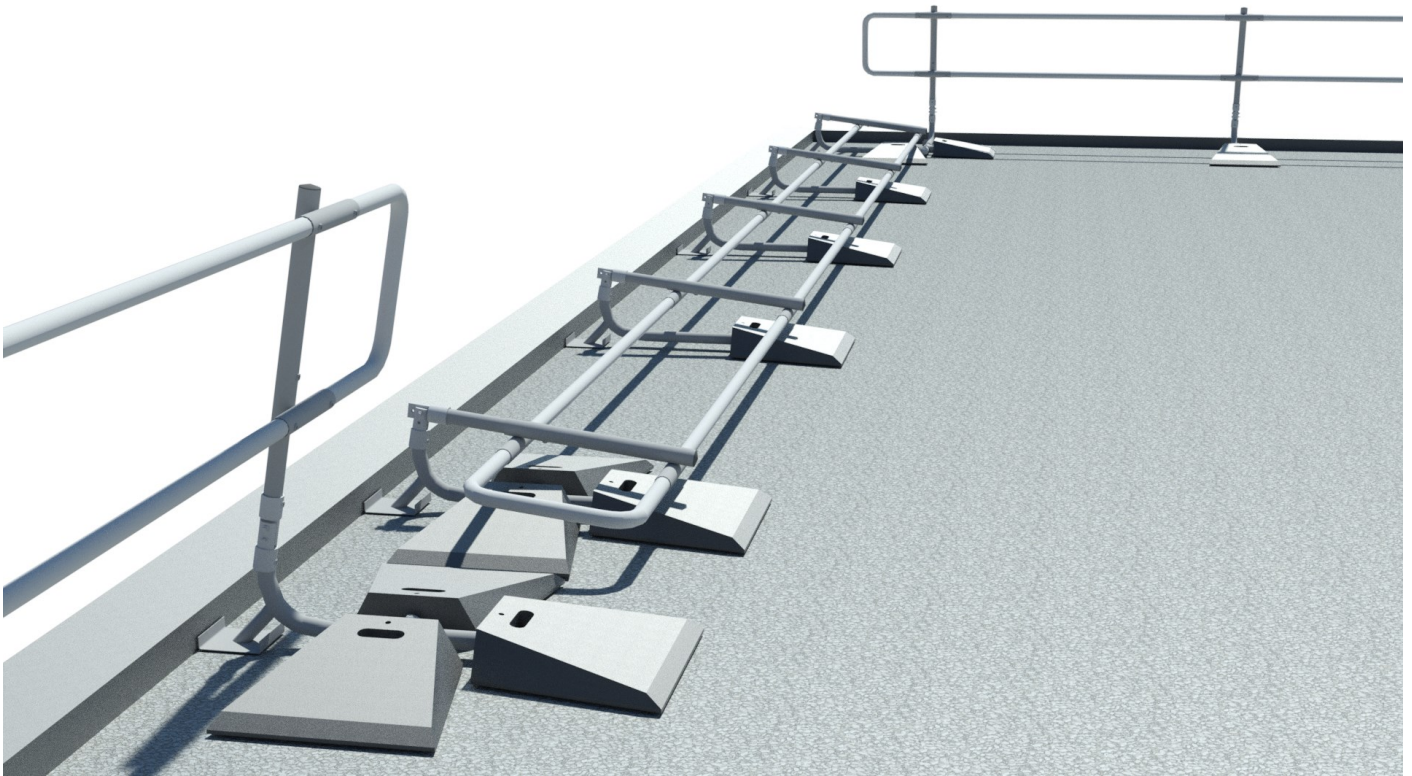




**Freestanding Folding
Guardrail System
Operation & Maintenance Manual**



Specification



Freestanding Folding Edge Protection - System Specification

General Description

Our folding edge protection is a freestanding guardrail system that does not require any mechanical fixing into the roof surface. This system has been designed and manufactured to fully comply with current regulations.

Material

The folding main support uprights are fabricated from 2mm hot dipped galvanised steel equivalent to BS EN ISO 1461.

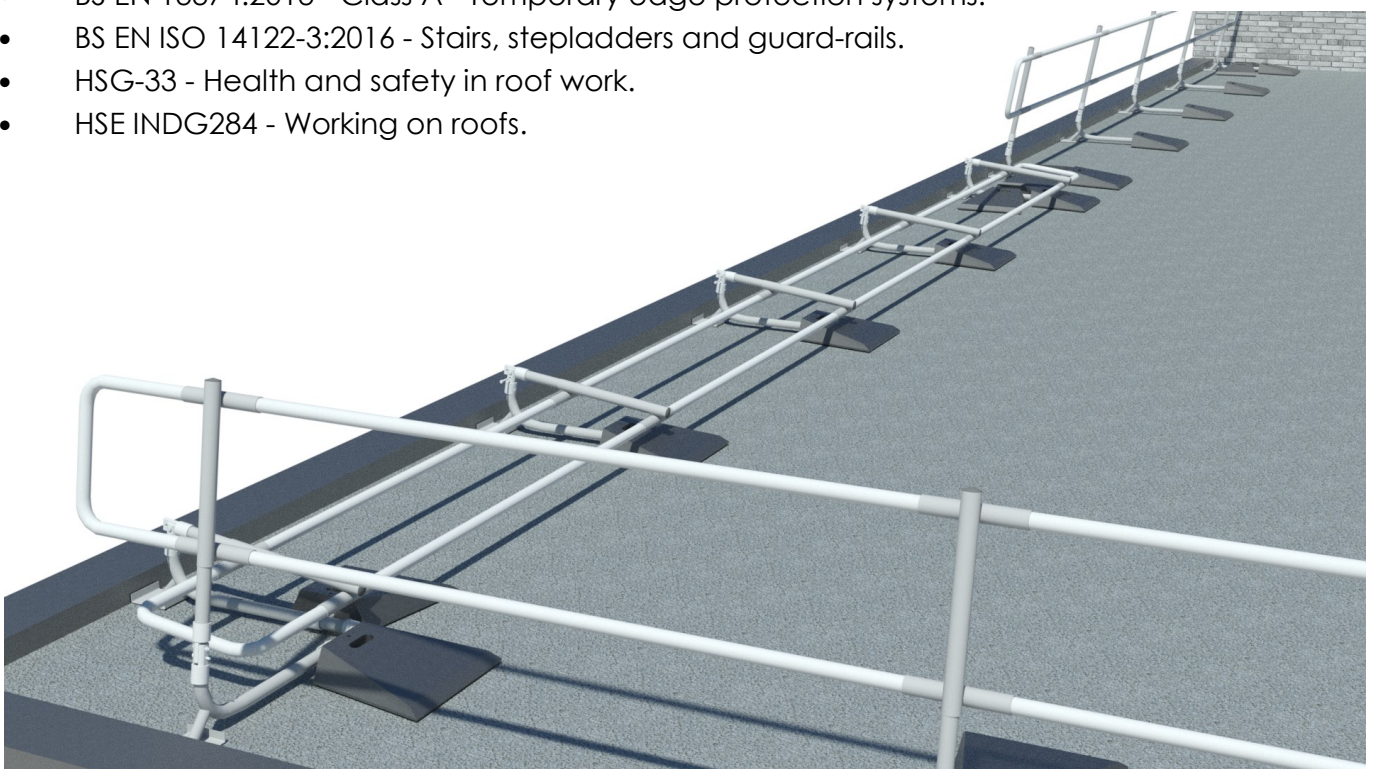
The upper and lower cross rails manufactured from 1.5mm thick x 48.3mm external diameter steel tube, with a zinc/aluminium/magnesium coating.

The rubber counterweight is manufactured from 100% recycled PVC compound with the fixing screws manufactured from zinc-coated steel.

Safety Standards

Our freestanding system is designed in line with the following safety standards:

- BS 13700:2021 - Permanent counterweighted guardrail systems.
- BS EN 13374:2013 - Class A - Temporary edge protection systems.
- BS EN ISO 14122-3:2016 - Stairs, stepladders and guard-rails.
- HSG-33 - Health and safety in roof work.
- HSE INDG284 - Working on roofs.



Components



Freestanding Folding Edge Protection - System Components

MSUP-F - Folding Main Support Upright

The main upright sits on the roof and has a 20kg counterbalance weight attached, and the adjustable top riser unit.

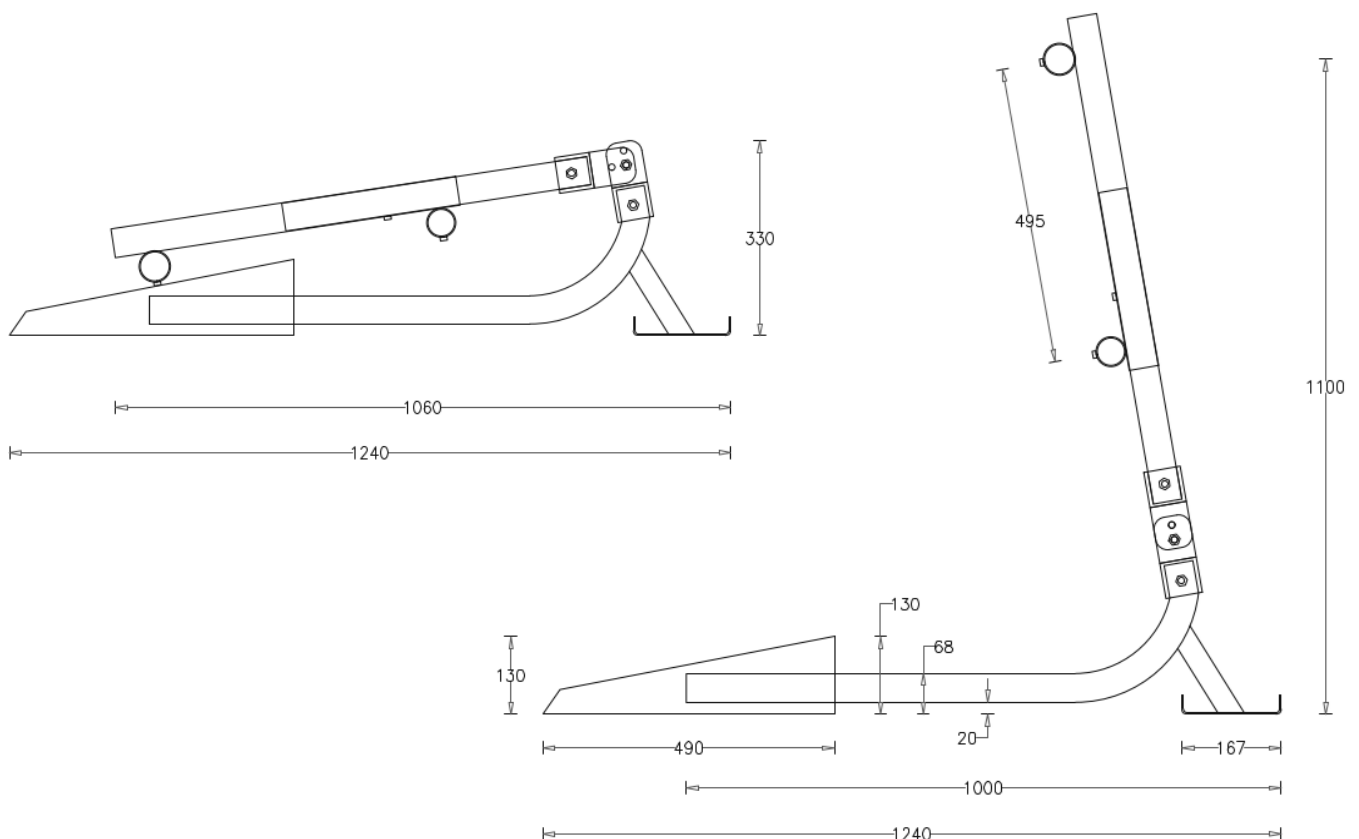
The foot of the upright which rests on the roof is protected by a rubber isolation pad. By loosening the fixing screws in the body of the top riser, the unit can be moved up and down the main upright to adjust the height of the top and middle rails or to raise and lower the main upright.

The folding bracket has a fixed bolt and a removable D pin. When the pin is removed the top section of the upright will fold down.

Materials

The main upright is manufactured from 2mm x 48.30mm steel tube, which has a hot dipped galvanised coating. It is also available powder coated to any RAL colour.

Please note: The main upright shown here has a counterweight attached to help give the full dimensions when installed. The counterweight is sold separately.



Components



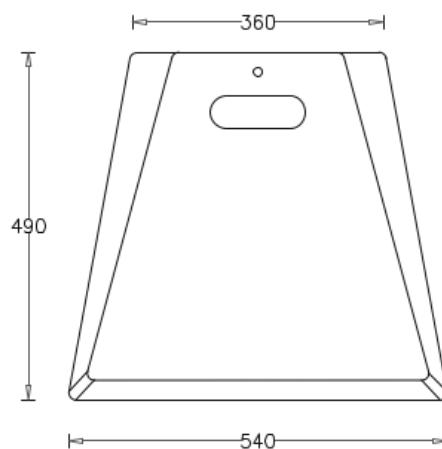
Freestanding Folding Edge Protection - System Components

CW20 - 20kg Counterweight

The weight is designed to be attached to each of the main uprights, and is fixed in place with a small zinc coated grub screw which provides the necessary counterbalance weight to prevent the system from being moved.

Materials

The 20kg weight is manufactured from 100% recycled PVC compound.

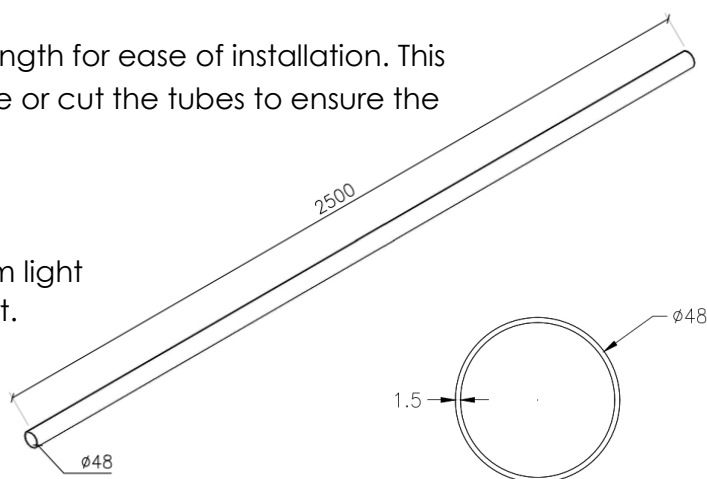


CR2.5 - 2.5m Cross Rail

The cross rails are supplied pre-cut to 2.5m in length for ease of installation. This fixed length means there is no need to measure or cut the tubes to ensure the uprights are spaced evenly.

Materials

The lightweight rail is manufactured from 1.5mm light gauge steel making it easy to cut and transport. It comes with a resistant coating made from zinc, aluminium and magnesium and can be powder coated to any RAL colour.

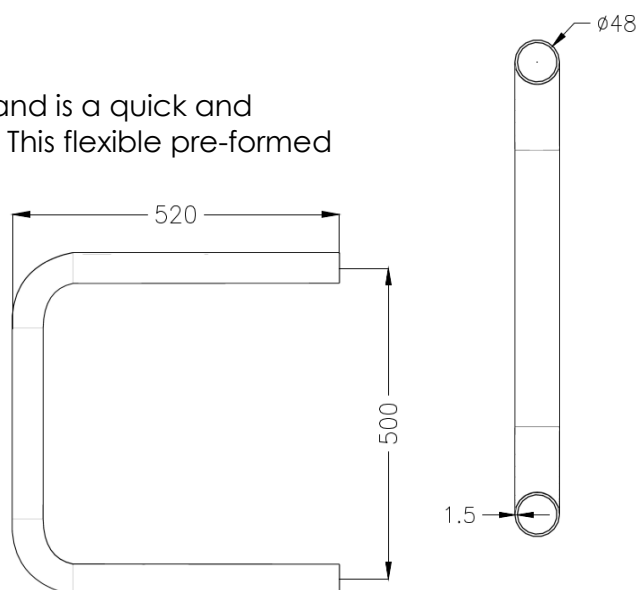


DE180 - D-End Termination

The pre-formed 180° bend inserts into the top riser and is a quick and convenient way of terminating a run of guard-rail. This flexible pre-formed component can be used for both horizontal and vertical terminations.

Materials

The D-End is manufactured from 1.5mm light gauge steel making it easy to cut and transport. It comes with a resistant coating made from zinc, aluminium and magnesium and can be powder coated to any RAL colour.



Components



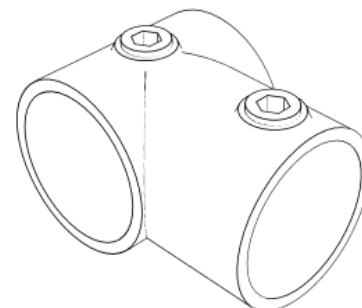
Freestanding Folding Edge Protection - System Components

101D - Short Tee

The Short Tee is a 90° butt joint, used to join the counterweights to the main upright where there is an internal corner configuration.

Materials

The short tee is manufactured from malleable cast iron and are galvanised coated equivalent to BS EN ISO 1461. These are also available powder coated to any RAL colour.

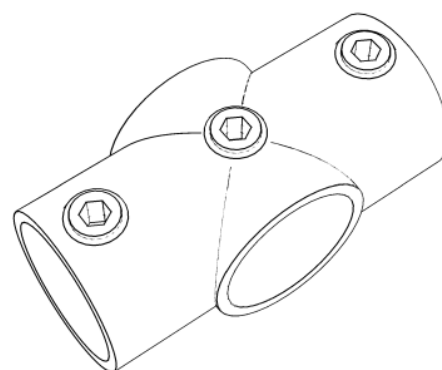


119D - Two Socket Cross

The Two Socket Cross is a 90° joint, used to create a triple weighted end at both an end termination and mid-run break.

Materials

The two socket cross is manufactured from malleable cast iron and are galvanised coated equivalent to BS EN ISO 1461. These are also available powder coated to any RAL colour.

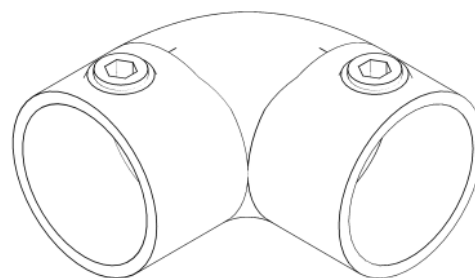


125D - 90 Deg Elbow

The 90 Deg Elbow is a 90° angle joint, used to join the the main uprights together where there is an internal corner configuration.

Materials

The 90 deg elbow is manufactured from malleable cast iron and are galvanised coated equivalent to BS EN ISO 1461. These are also available powder coated to any RAL colour.

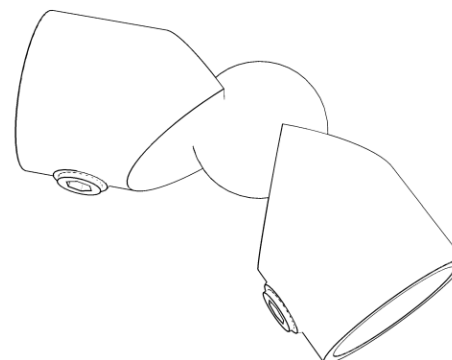


166D - Variable Elbow

The Variable Elbow is a versatile fitting, used to join the main uprights together where there is an internal corner that isn't 90 degrees.

Materials

The variable elbow is manufactured from malleable cast iron and are galvanised coated equivalent to BS EN ISO 1461. These are also available powder coated to any RAL colour.



Configuration



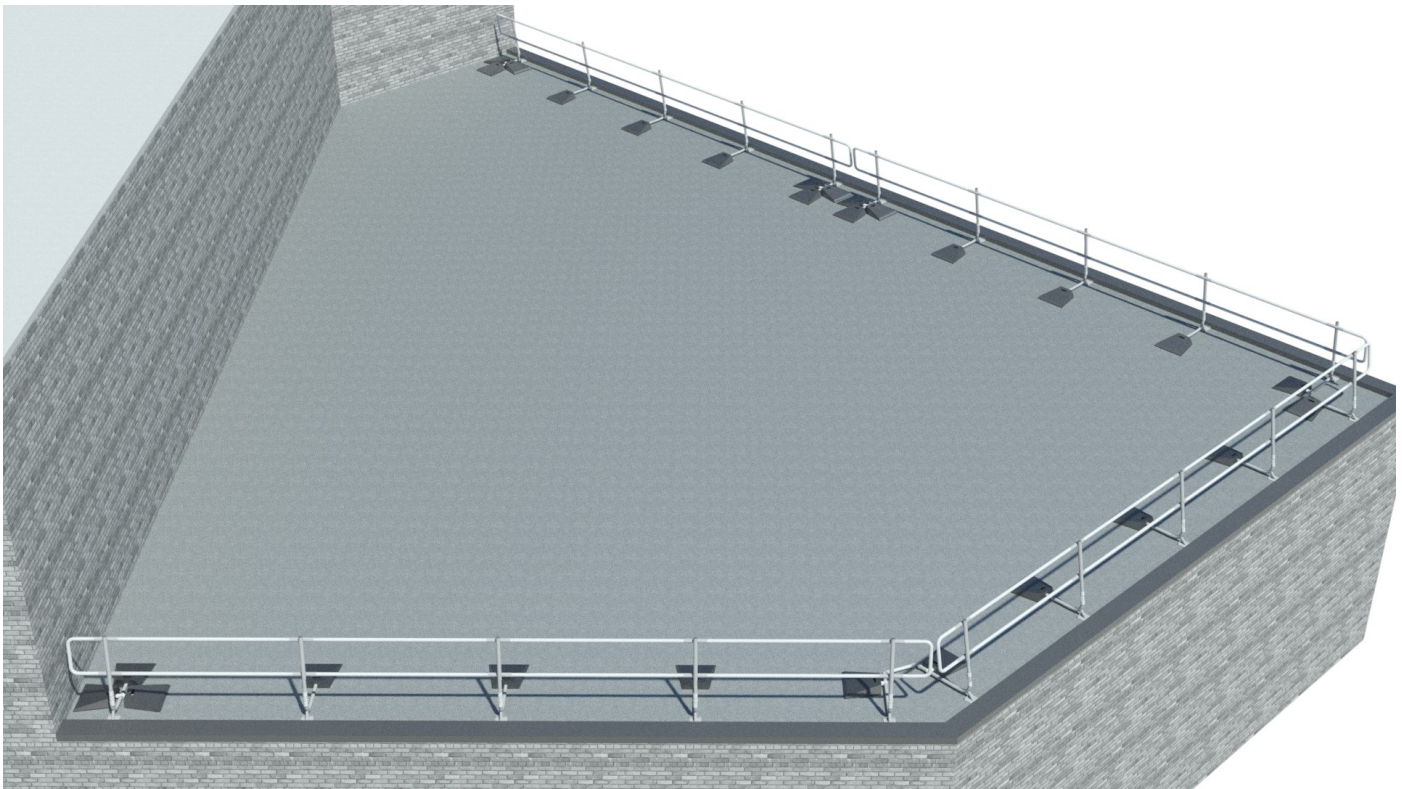
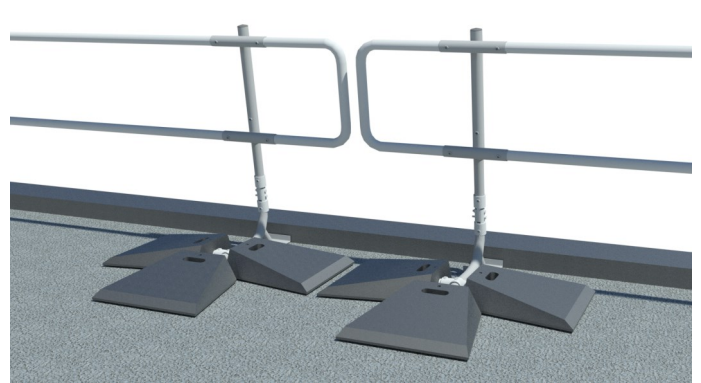
Freestanding Folding Edge Protection - System Configuration

Typical Layout

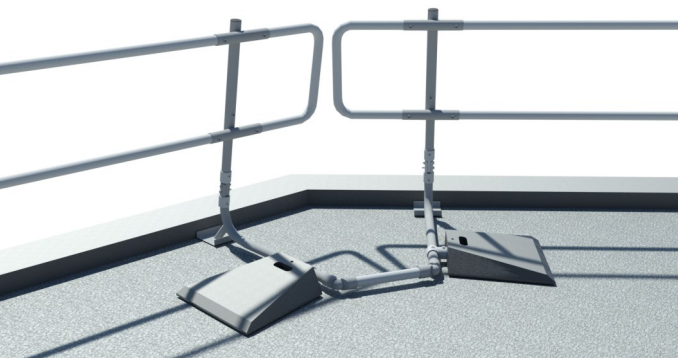
D-End Wall Termination



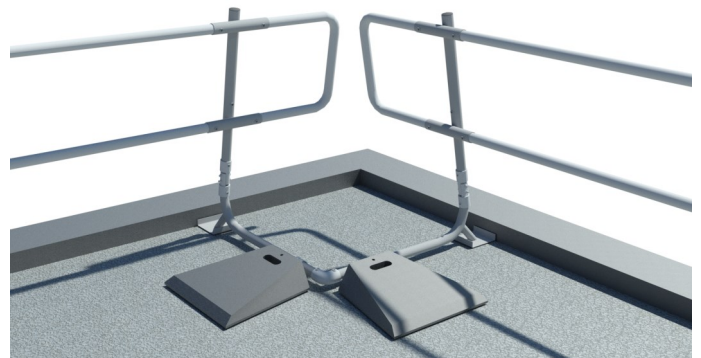
D-End Mid-Run Break



Variable Corner



90 Degree Corner

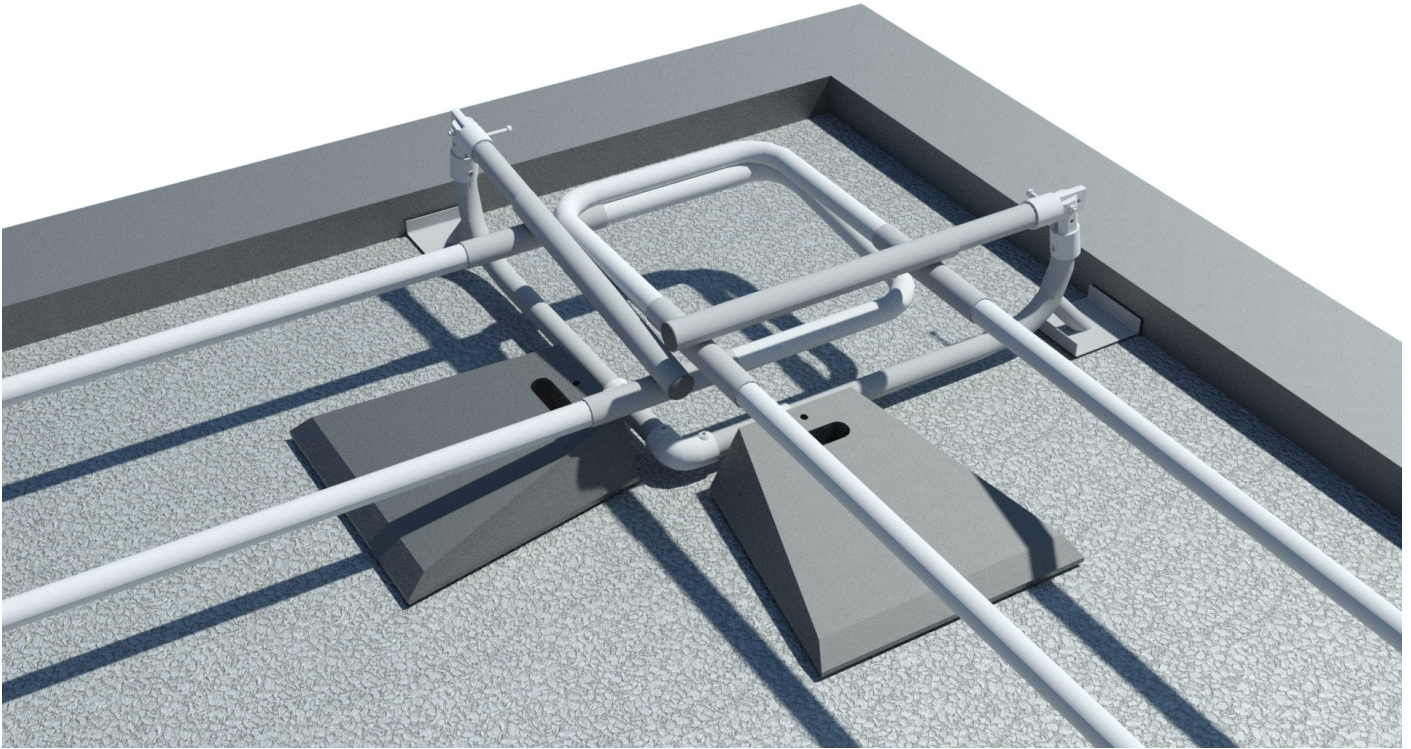


Configuration

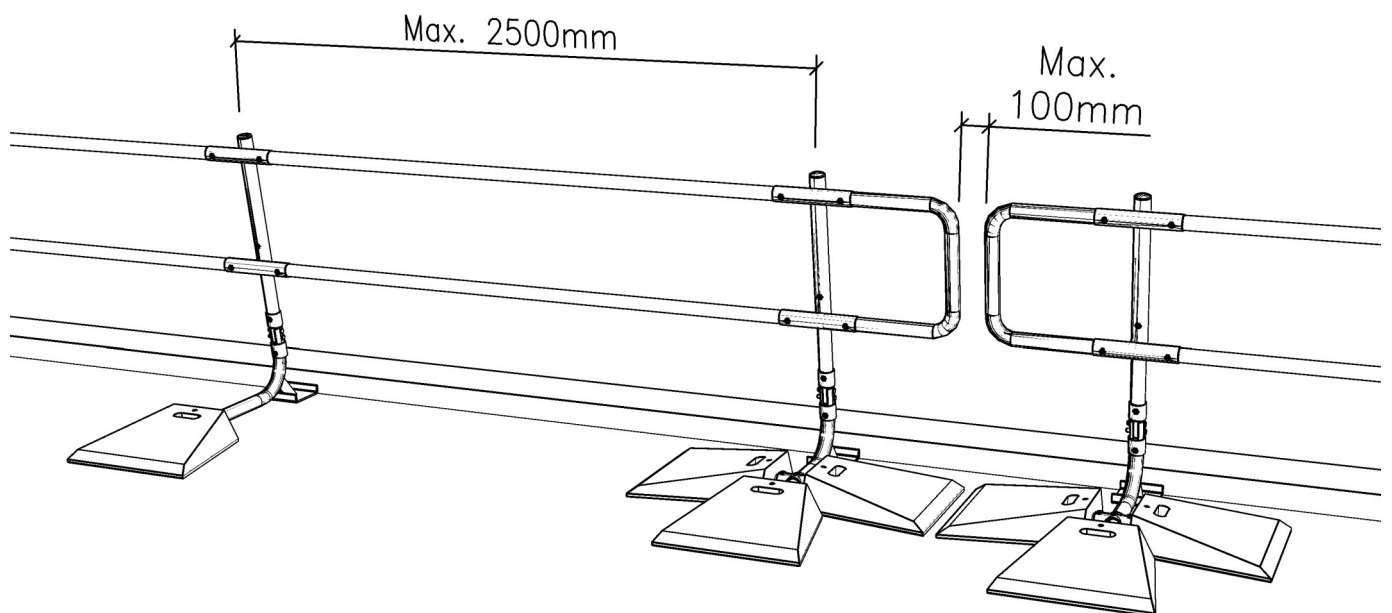


Freestanding Folding Edge Protection - System Configuration

Typical Layout - 90 Degree Corner Folded Down



Insitu Dimensions



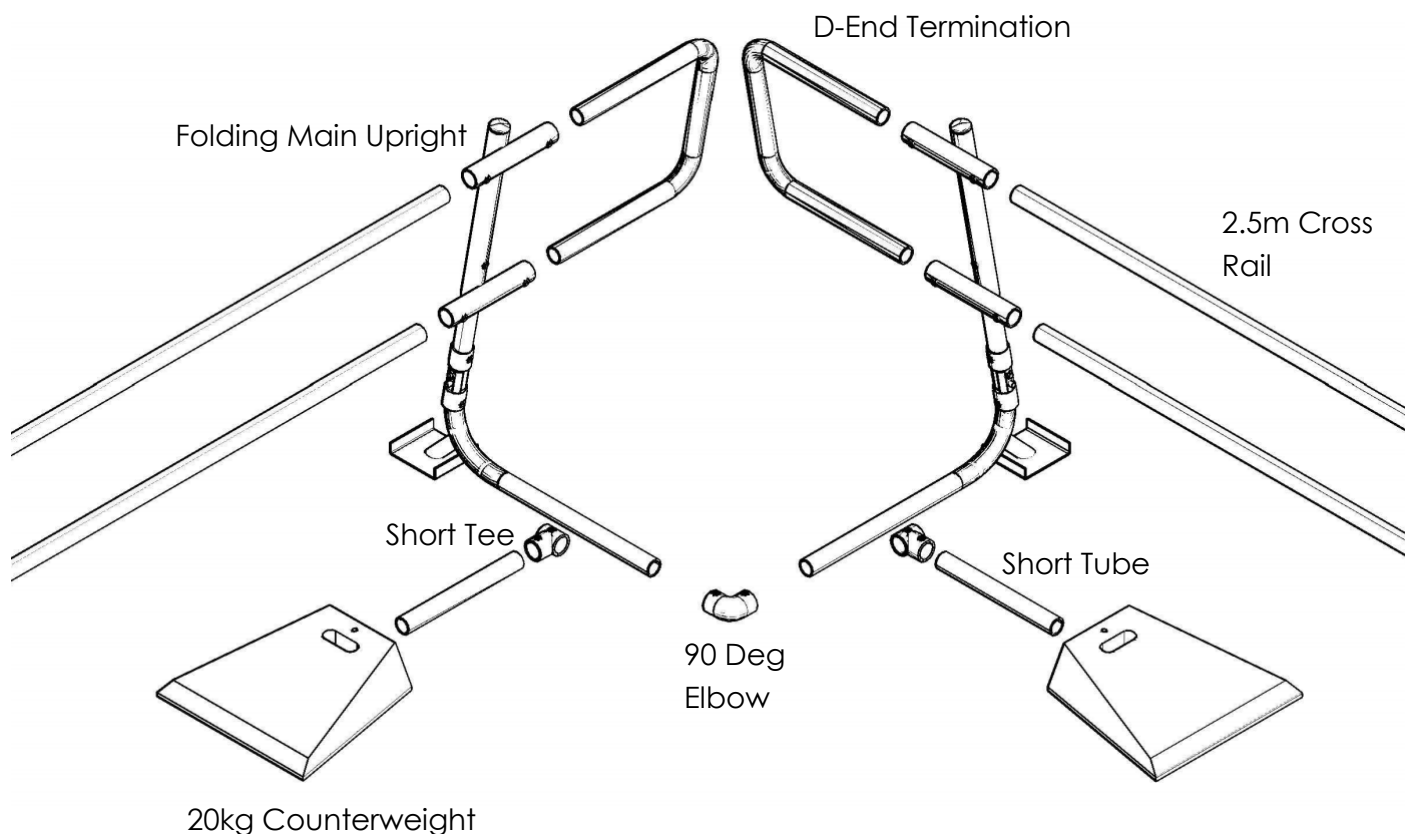
Installation



Freestanding Folding Edge Protection - System Installation

Wherever possible the starting point for all installations should be the end termination, or at a corner for perimeter systems, remembering to carry out the initial setting out a minimum distance of 2 metres from the edge of the roof.

Step 1 - Corner Assembly



Begin by assembling a complete corner unit consisting of two folding uprights, two counterweights, two d end terminations, two short tee's and a 90 deg elbow.

Slide a short tee onto the folding upright counter balance leg. Join the folding uprights on the end of the counter balance leg with the 90 deg elbow.

Insert a D end termination into each upright. Use a short off cut off cross rail to fix the counterweight into the short tee which is attached to each upright.

Using two people carry the corner assembly to the roof edge, being careful to remain behind the assembly at all times.

Installation



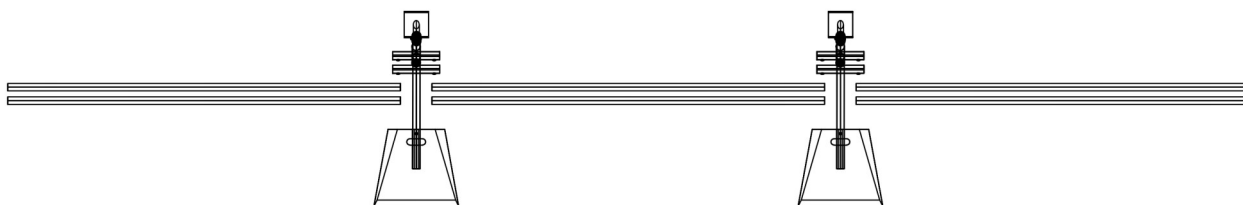
Freestanding Folding Edge Protection - System Installation

Step 2 - Setting Out

Starting at the corner, place the 2.5m cross rails end to end in pairs along the length of the roof. Set out a folding upright between each pair of cross rails.

A run of folding guardrail should be no longer than 11m in length (or the equivalent of five uprights) and so plan where your breaks are going to be and place two D-End Terminations, an extra folding upright and counterweight at these locations.

Once the uprights are in place connect a CW20 counterweight to each upright.



Step 3 - Section Assembly

Once the setting out and corners are complete, continue to assemble the first two bay section by connecting a pair of CR2.5's to the first and second folding upright and fully tighten the grub screws.

Repeat the above process until all the two bay sections are assembled.

Any D-End Terminations that form a break in the run of folding guardrail should also be attached to their corresponding uprights at this stage.



Installation

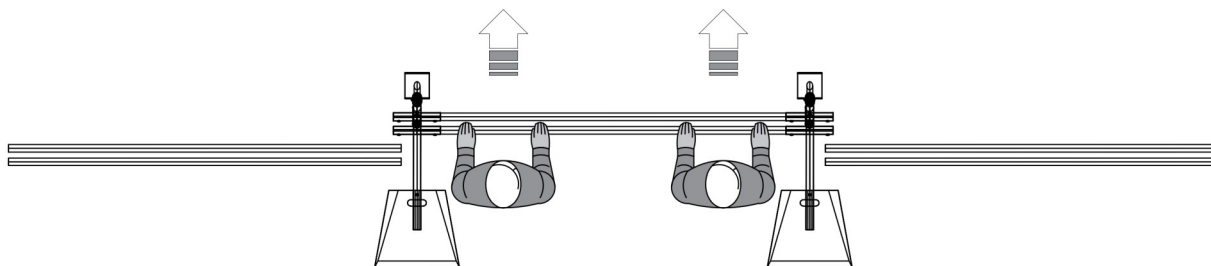


Freestanding Folding Edge Protection - System Installation

Step 4 - Positioning

Using at least two people positioned behind the assembly, carefully carry a two bay into position at the edge of the roof.

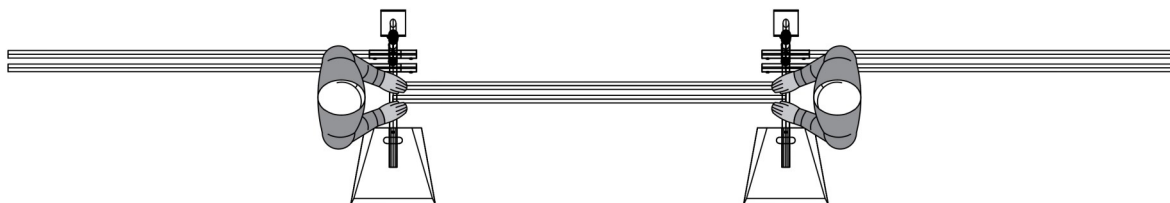
The two bay sections should be positioned leaving a single bay between each one.



Step 5 - Final Assembly

The remaining 2.5m Cross Rails are now attached in between the two bay assemblies.

By placing one person either side of the opening behind the existing handrail assemblies, connect the remaining CR2.5's into the top and bottom of the TRS on each upright fully tightening the grub screws as you go.



Maintenance



Freestanding Folding Edge Protection - System Maintenance

The system is maintenance free, however if cleaning is required, use only a mild detergent and water (such as a domestic washing up liquid) in order not to damage any of the galvanised coating.



Commissioning

Freestanding Folding Edge Protection - System Commissioning

The rail can be folded down by 2 operatives. One should support the section at the centre of the run. The second should remove the D pins (storing safely as they go along), starting from the centre and working out towards the end termination. The rail should then be lowered safely and steadily by 2 operatives.

To re-erect the rail, two operative should lift back to position. One operative then supports the rail whilst the second operative replaces the D pins, starting from the centre and working out.

Re-Certification

Freestanding Folding Edge Protection - System Re-Certification

- It is our recommendation, along with it being a BS13700 requirement, that the guardrail installation should be inspected annually by a competent person.
- A visual inspection of the complete installation in accordance with the current needs of the client should be undertaken. As well as checking if any new equipment has been installed on the roof that may require further guardrail protection.
- Check against the original installation drawing to see if any part of the installation has been modified.
- Check all screws and fixings are in place and sufficiently tightened.
- Check the height of the top rails and that they are level.

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