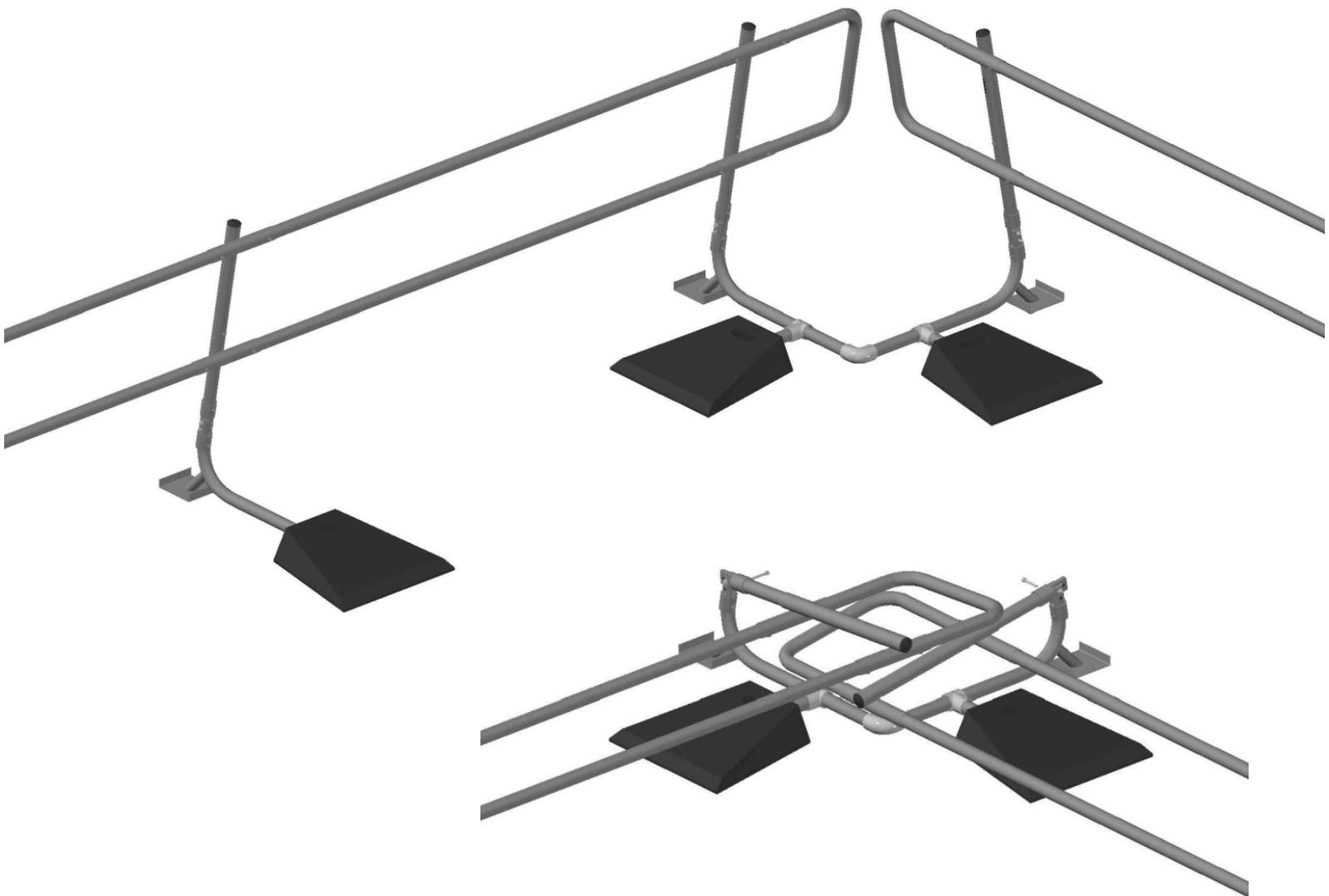




# Freestanding Folding Guardrail System

## Operation & Maintenance Manual



# Specification

## Free Standing Folding Edge Protection - System Specification



### **General Description**

Our freestanding folding edge protection system is a cantilevered 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 H.S.E regulations.

### **Material**

The uprights are fabricated from 2mm hot dipped galvanised steel equivalent to BS EN ISO 1461, with the upper and lower cross rails manufactured from 1.5mm x 48.3mm external diameter galvanised steel.

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

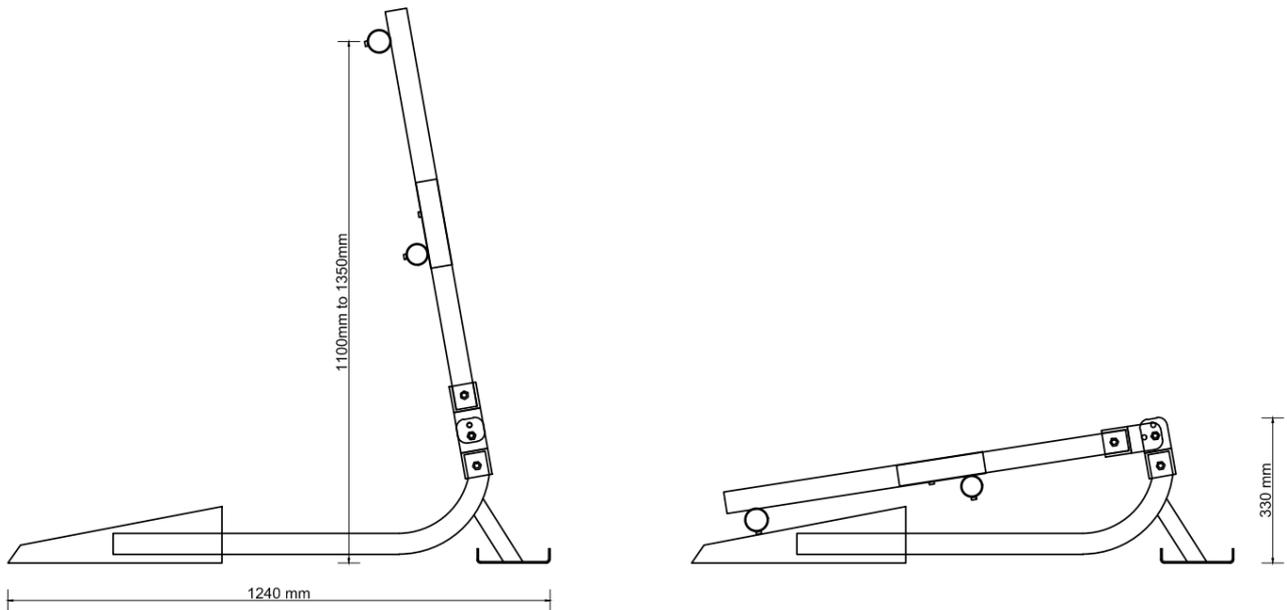
### **Safety Standards**

Our freestanding guardrail is designed in accordance with and/or tested to the following safety standards:

- HSG-33 Health and safety in roof work.
- HSE INDG 284 "Working on roofs".
- EN ISO 14122 Part 3.
- EN 13374-2013 Class A.
- BS 6399: Part 2 1995 Wind Code.

# Components

Free Standing Folding Edge Protection - System Components



## **MSUP - 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.

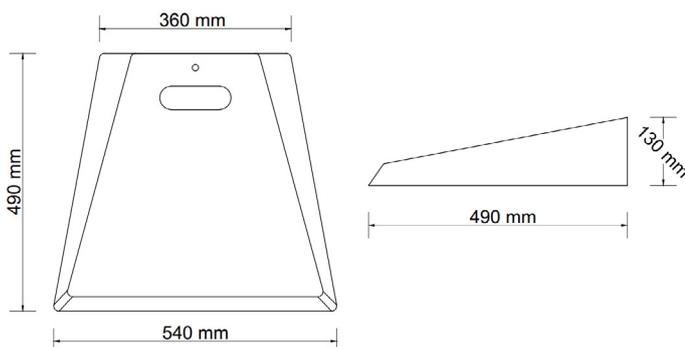
**Please note:** The main upright shown here has a counterweight attached to help give the full dimensions when installed. The counterweight is sold separately.

## **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.

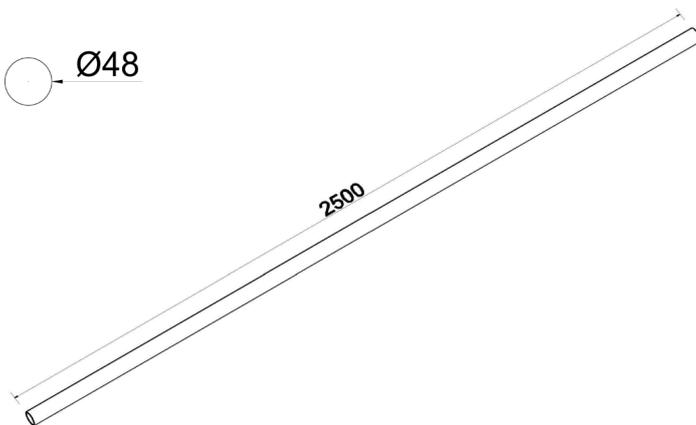
## **Materials**

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



# Components

## Free Standing Folding Edge Protection - System Components

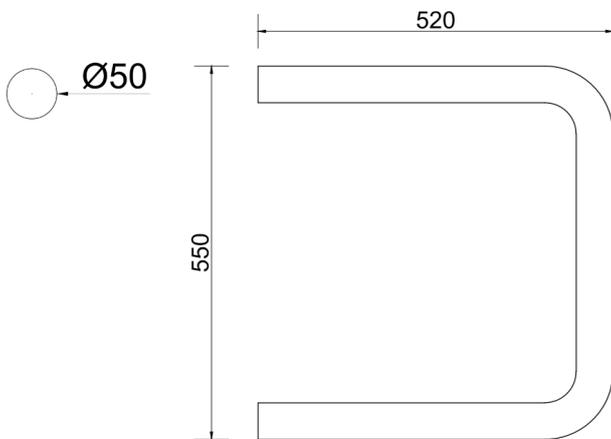


### **CR2.5 - 2.5m Cross Rail**

The main cross rail is supplied pre-cut to 2.50m 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 main rail is manufactured from 1.5mm light gauge steel making it easy to cut and transport. It is galvanised coated to BS EN ISO 1461 and is also available powder coated to any RAL colour.

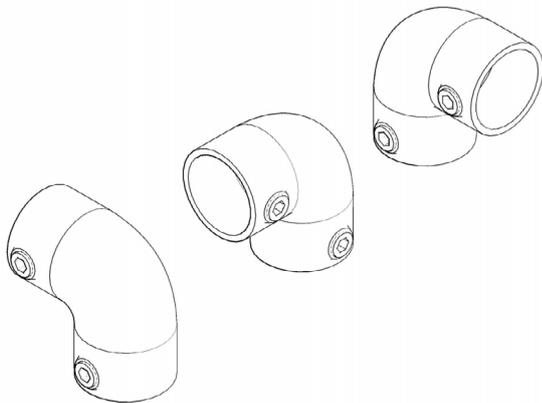


### **DE180 - D-End Termination**

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

#### Materials

The 'D' end is manufactured from 2mm steel and is galvanised coated equivalent to BS EN ISO 1461. It is also available powder coated to any RAL colour.

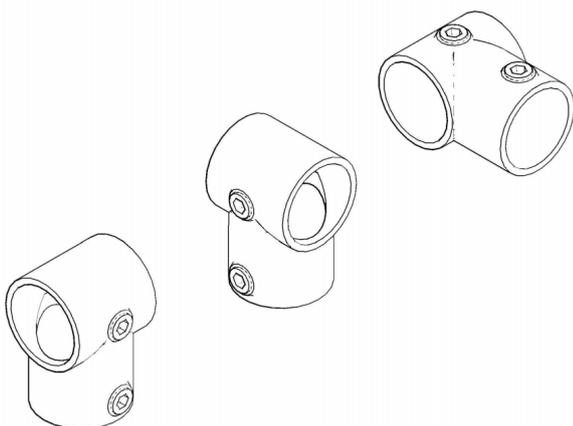


### **RC02 - 90° Elbow**

The pre-cast 90° elbow allows for a quick and convenient way of creating a corner.

#### Materials

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



### **RC03 - Short Tee**

The pre-cast short tee allows for a quick and convenient way of creating a butt joint.

#### Materials

The short tee is manufactured from cast steel and is galvanised coated equivalent to BS EN ISO 1461. It is also available powder coated to any RAL colour.

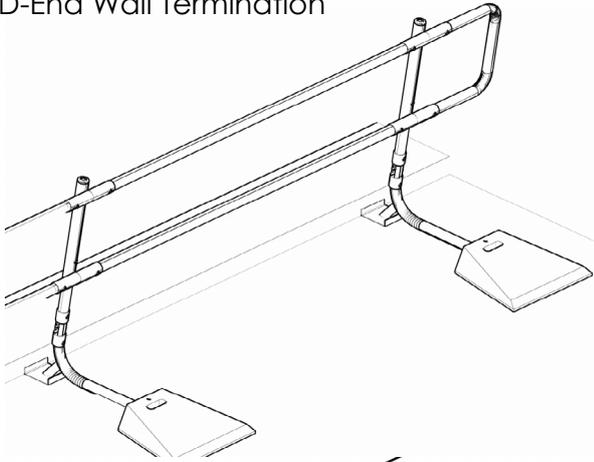
# Configuration

## Free Standing Folding Edge Protection - System Configuration

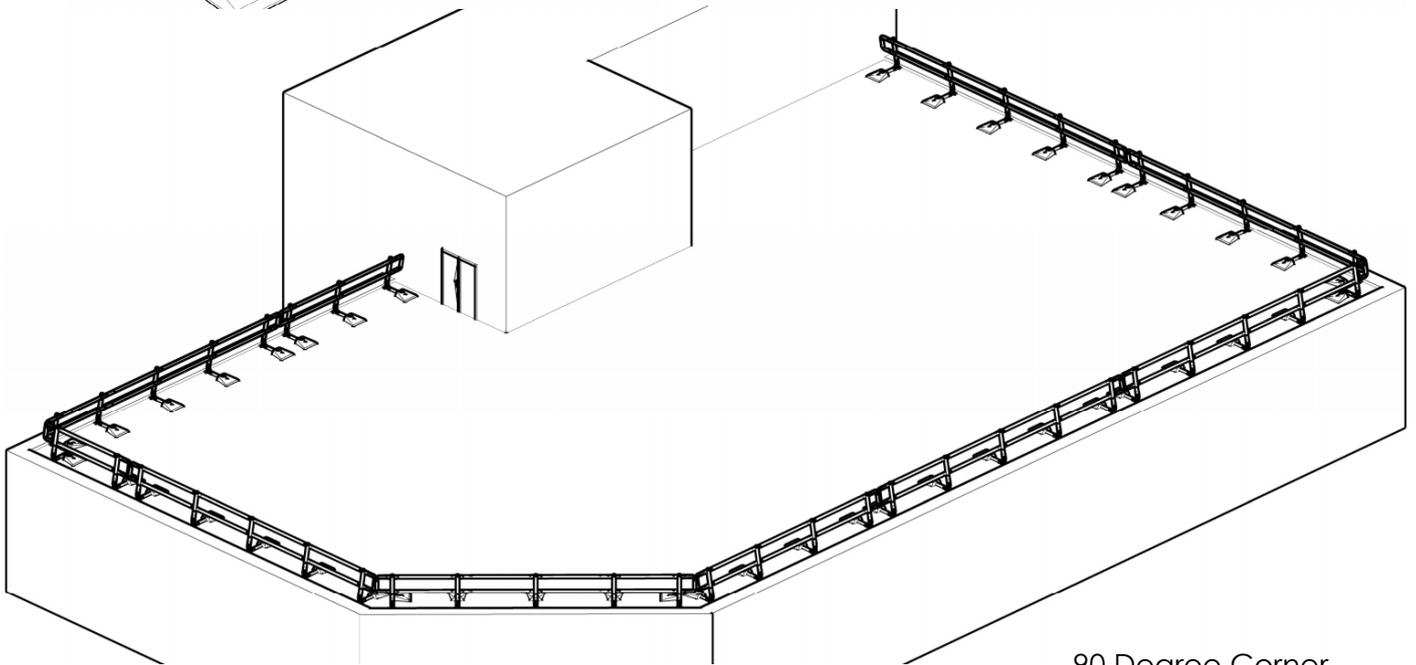
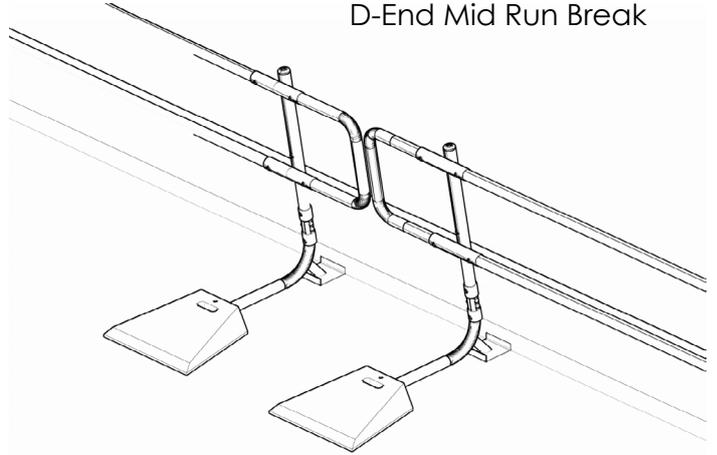


### Typical Layout

D-End Wall Termination

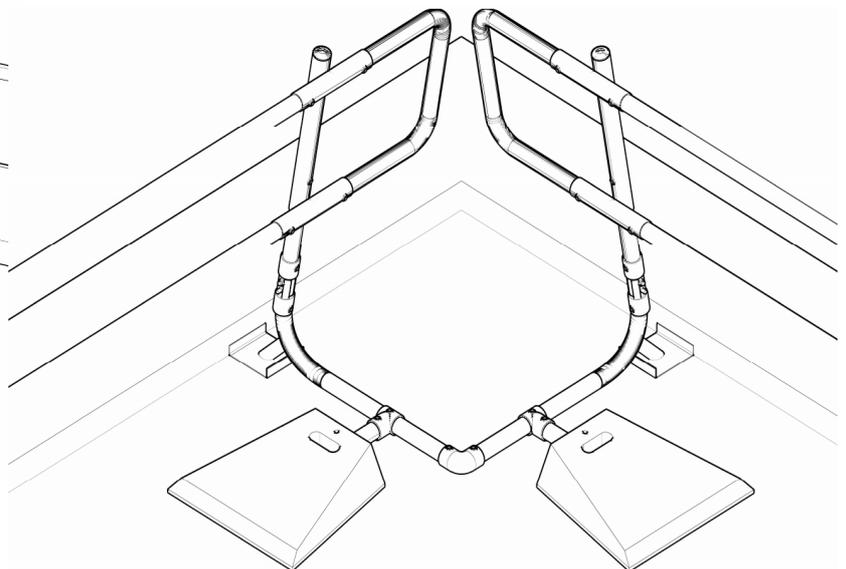
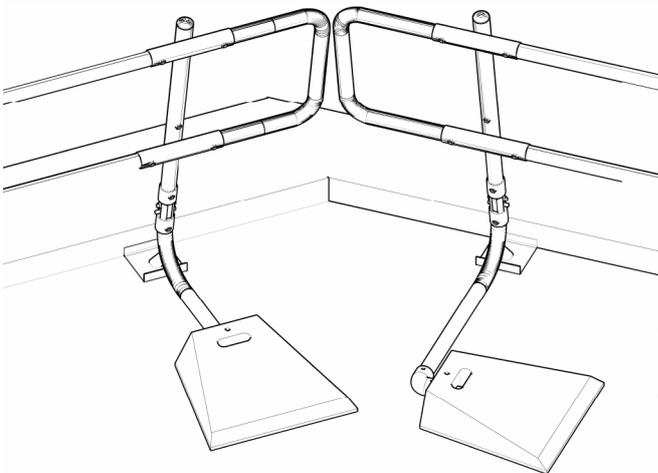


D-End Mid Run Break



Variable Corner

90 Degree Corner

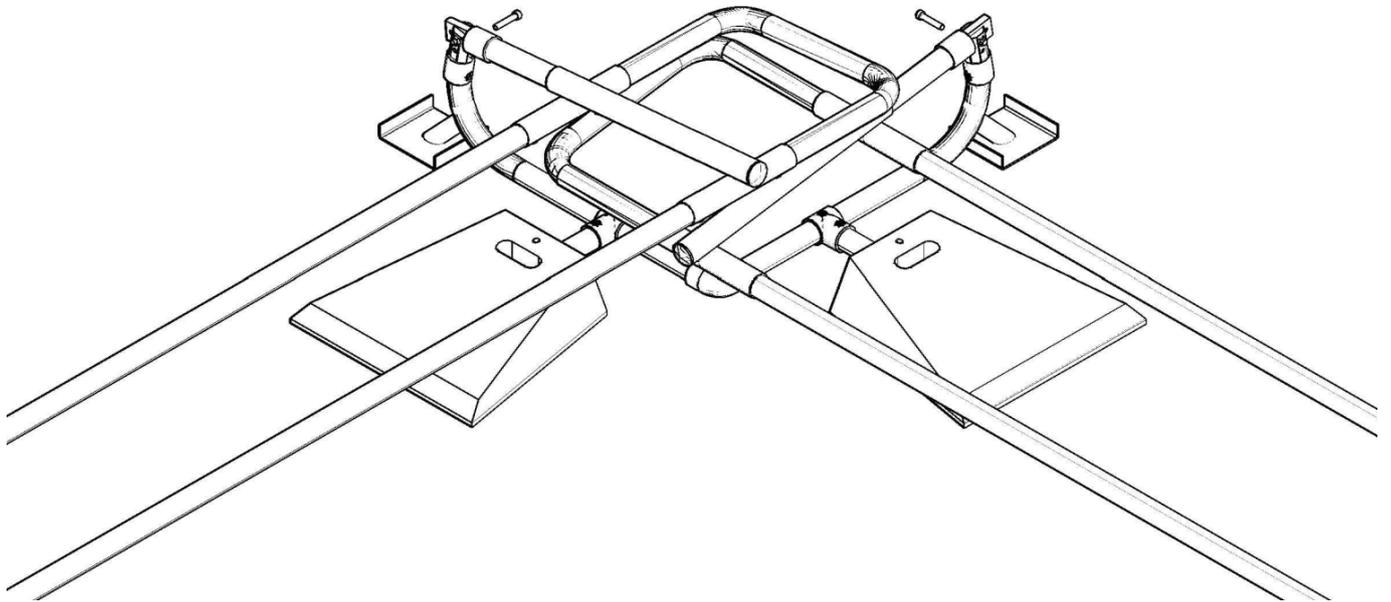


# Configuration

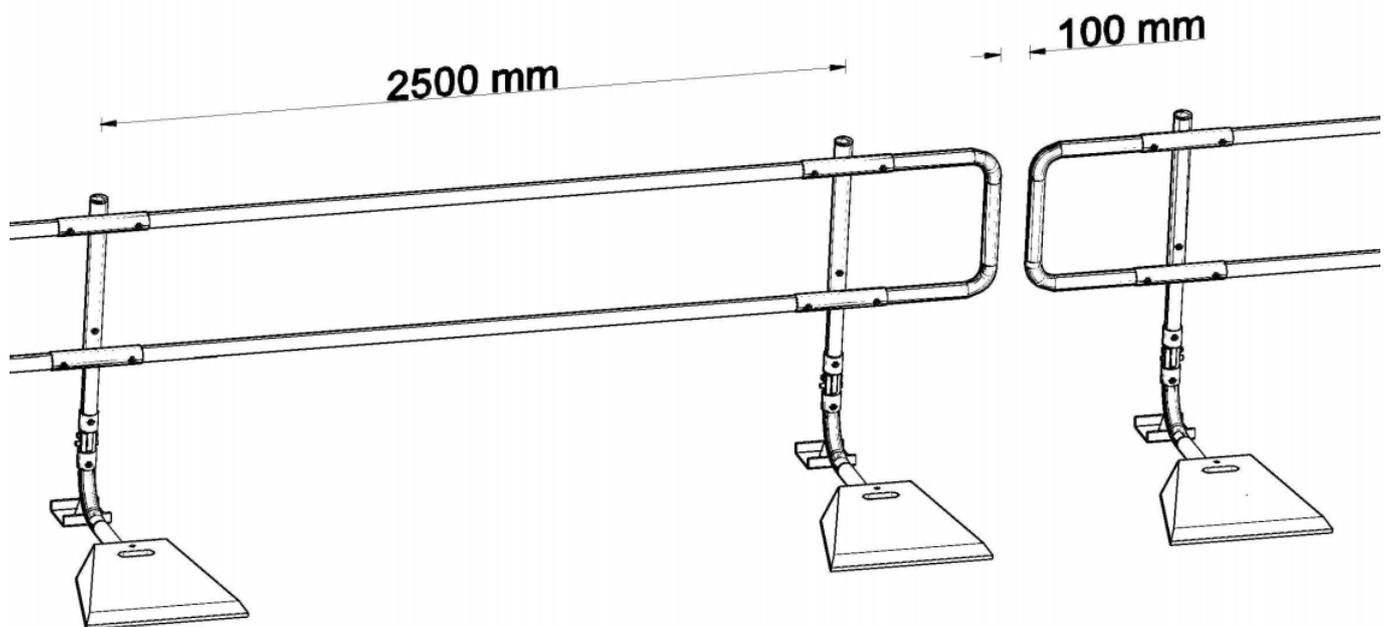
Free Standing Folding Edge Protection - System Configuration



## Typical Layout - 90 Degree Corner Folded Down



## Insitu Dimensions



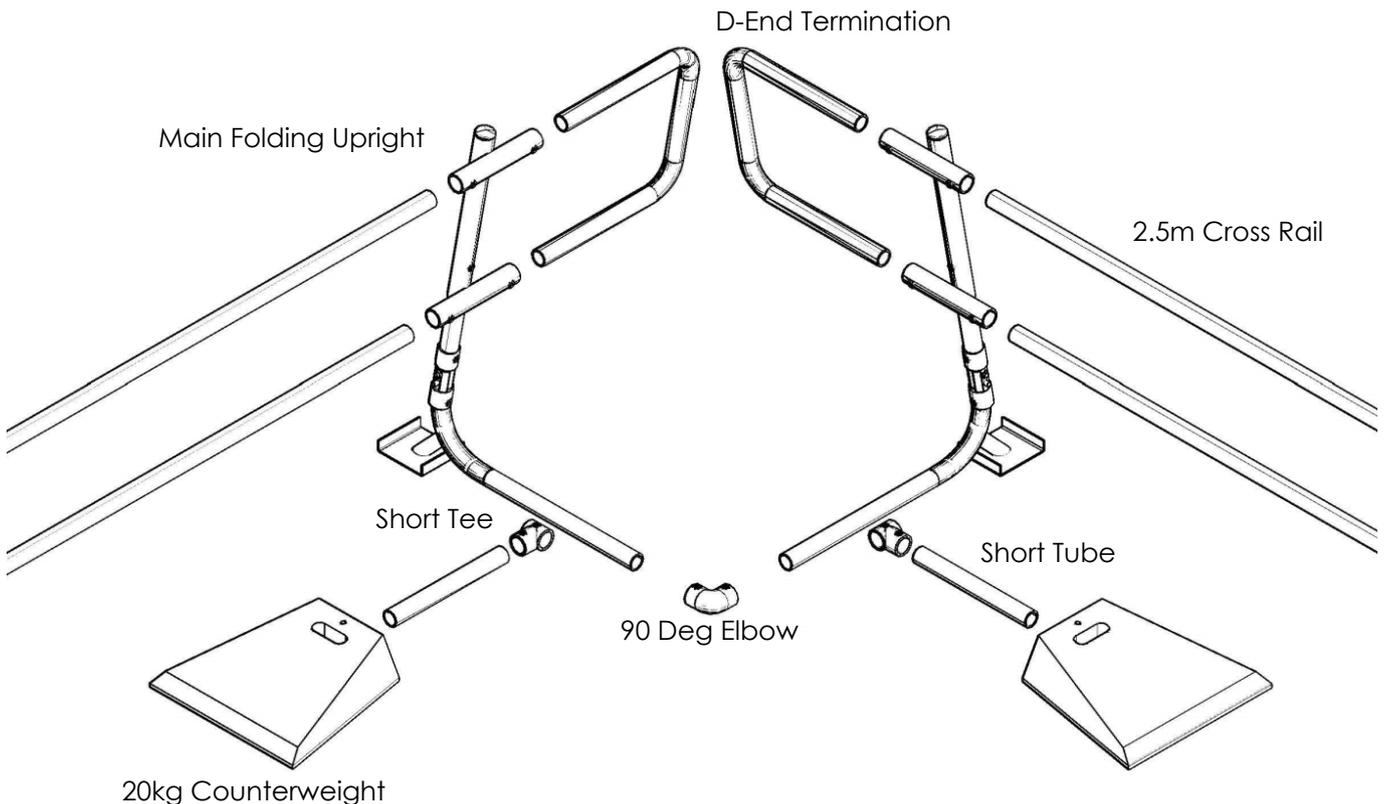
# Installation

## Free Standing 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 2m 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

## Free Standing Folding Edge Protection - System Installation

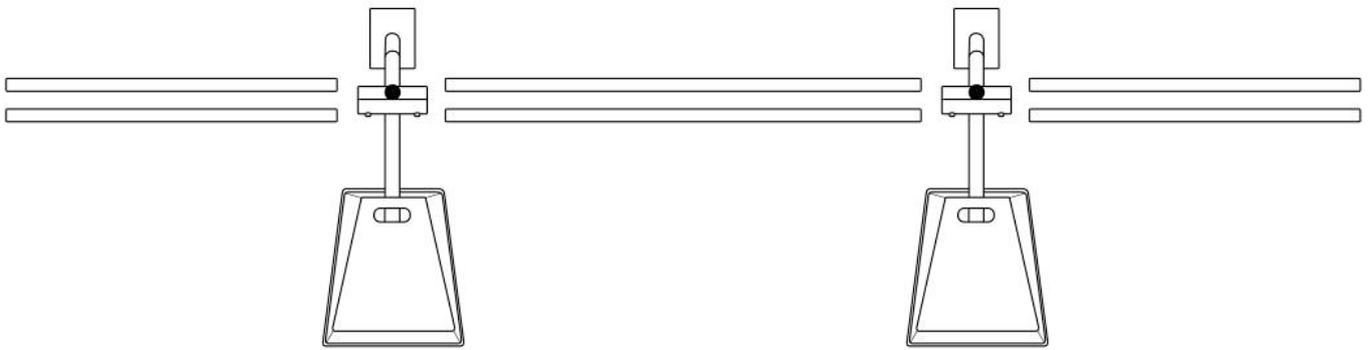


### **Step 2 - Setting out**

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

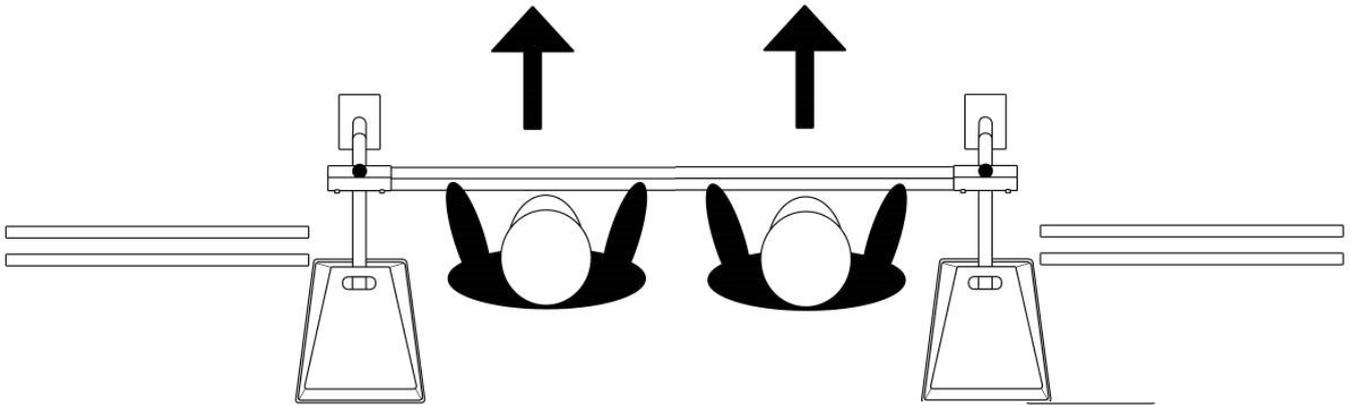
## Free Standing Folding Edge Protection - System Installation



### **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.

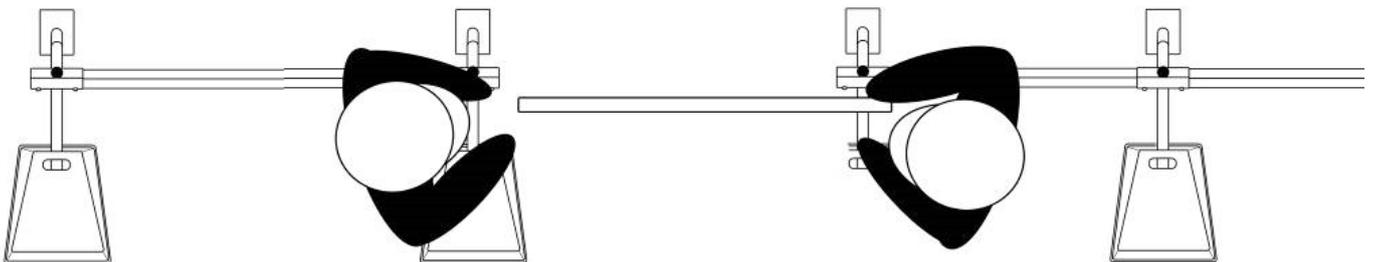
The two bay sections should be positioned leaving a single bay between each one.



### **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

## Free Standing 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

## Free Standing 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

## Free Standing Folding Edge Protection - System Re-Certification

- We recommend that the guardrail installation should be inspected periodically by a competent person. The frequency of these inspections will depend upon the environment, location, and utilisation, but should be at least every twelve months.
- Visual inspection of the complete installation in accordance with the current needs of the client. Check 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 that all counterweights are installed.
- 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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