



## Evorail Radius O&M Manual



SAFETY SOLUTIONS

### **Evorail Radius freestanding system**

Evorail has its very own unique design which makes the system aesthetically pleasing like no other on the market.

Evorail system provides a permanent edge protection without the need to mechanically fix through the roofing membrane or roof structure, and provides full protection where regular access for maintenance and inspections are required.

The strength, stability and safety of Evorail is derived from our designed cantilever principal, hence there is no need to drill and puncture the roof membrane. This avoids noise disturbance during installation and potential penetrative water damaged.

### **Evorail is Robust**

With all of the systems fixings grade A2 stainless steel, its extra smooth galvanized finish (EN ISO 1461) and eco friendly re-cycled weights gives it a minimum lifespan of at least 25yrs, therefore making the system maintenance free.

## **Evorail is Modular**

The system consists of galvanized pre-assembled uprights, 2.5mt rails and our slide on weight. The 2.5mt hand and knee rails are connected with the Evorail Eazy clamp upright, which is fast, straightforward and easily adjustable to provide that perfect level finish. With no requirement for drilling, the system is easily mounted on the platform supplied.

## **Evorail is Versatile**

The system has been specifically designed to fit all shapes and sizes of flat roofs, even circular designs. The system can also cope with level changes, roof falls and difficult designs, such as ductwork passing over the roof edge and cable trays/plant mounted at the roof edge.

## **Membrane Protection**

Evorail is supplied with moulded rubber feet to protect the roof membrane. The rubber weights are also membrane friendly; for ultimate protection extra roof membrane can be placed under the foot and weight. This is not supplied with Evorail.

## **Testing & Certification**

All Evorail systems have been tested and approved by Satra Technology. Full documentation is available on request.

All Evorail systems comply with the following requirements:

- BS EN 13374: 2004
- European Directive 2001/45/CE
- BS6399 ; Part 2 1997 Code of Practice for Wind Load.
- Working at heights regs. 2005

## **Evorail Aesthetics**

The extra smooth galvanized finished can be further enhanced with application of powder coating. This can be specially ordered to the client's choice of any RAL No they require.

Evorail standard system is one of many freestanding systems available in our product range.

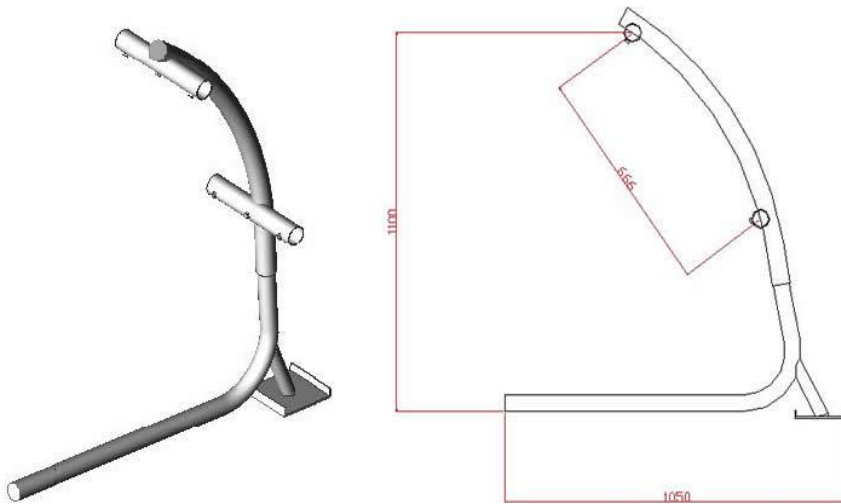
- Evorail Standard
- Evorail Non Trip
- Evorail Collapsible
- Evorail Top Fixed

In a choice of materials

- Galvanized
- Aluminium
- Stainless steel

We also offer bespoke systems designed by our in-house fully experienced design engineers.

## Specification



### Evorail Radius Long Upright ERRLU

The upright is used as the main support to the system, the 2.5mtr rail easily slides in and is locked on using a 5mm allen key. The stop inside the upright gives 2.5mt centres naturally without the need of measuring on site.

Material – galvanized to BS EN ISO 1461      Component weight – 9 kilos



### Evorail Radius Short Upright ERRSU

The upright is used as the 2<sup>nd</sup> main support to the system, the 2.5mtr rail easily slides in and is locked on using a 5mm allen key. The stop inside the upright gives 2.5mt centres naturally without the need of measuring on site.

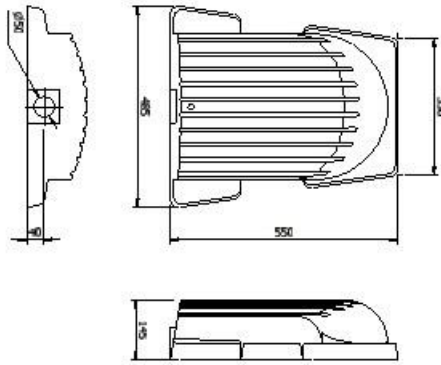
Material – galvanized to BS EN ISO 1461      Component weight – 7.5 kilos



### Evorail 2.5mt Rail – ERAIL

The 2.5mt rail connects the long and short upright together, top and mid rail.

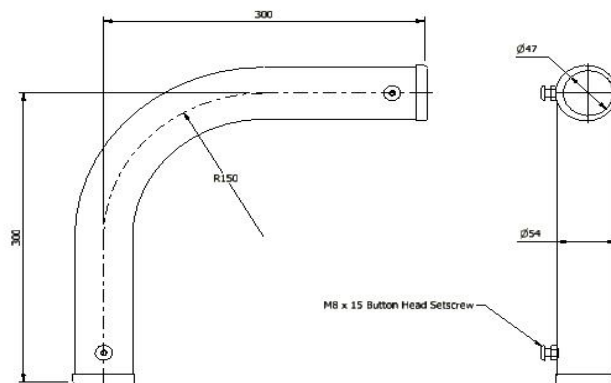
Material – galvanized to BS EN ISO 1461      Component weight – 6.0 kilos



### **Evorail Rubber Weight – ERRUW**

The easy slide on weight gives the stability to the system.

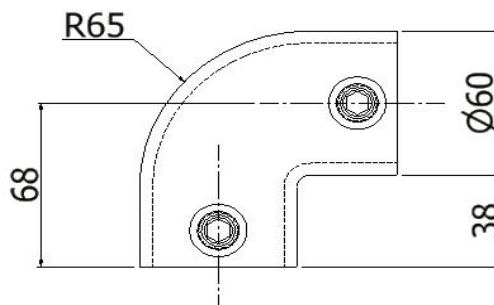
Material – re-cycled rubber      Component weight – 20.0 kilos



### **Evorail Sweeping Bend – ERSWB**

The sweeping bend provides the means to deal corners.

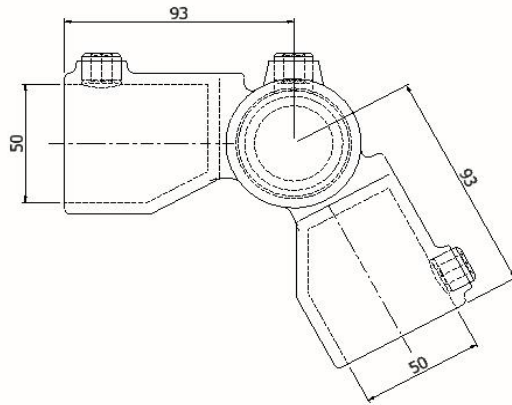
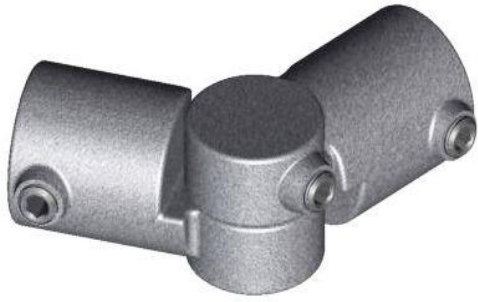
Material – galvanized to BS EN ISO 1461      Component weight – 1.4 kilos



### **90 Degree elbow – ER90E**

The elbow is supplied with freestanding ends and is also used to deal short tight corners and changes in level.

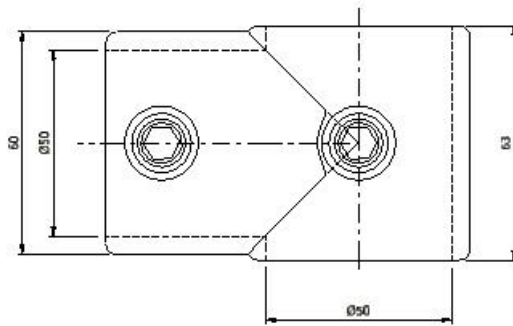
Material – galvanized to BS EN ISO 1461      Component weight – 1.1 kilos



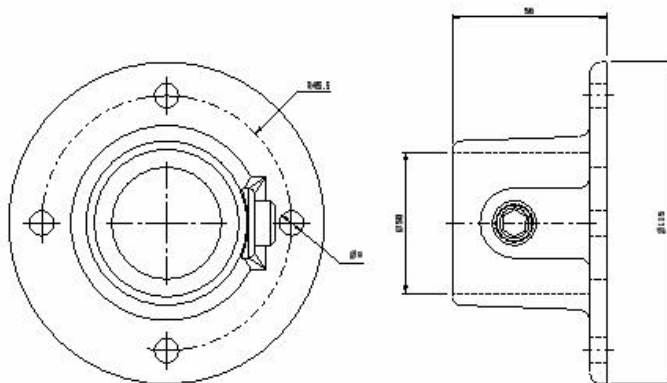
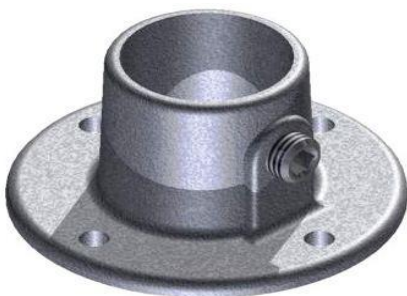
**Multi bend – ERMUB**

This allows you to deal with corners that aren't 90 degrees, and also can be used for changes in roof level.

Material – galvanized to BS EN ISO 1461      Component weight – 1.5 kilos



**T – piece – ERTPI** The T piece is used in conjunction with a free standing end and is used many different instances. Material – galvanized to BS EN ISO 1461      Component weight – 1.0 kilo

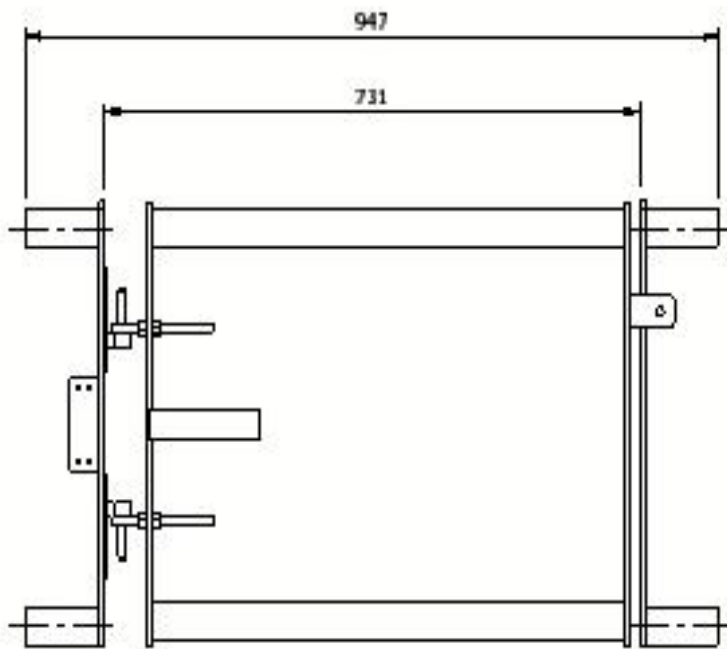
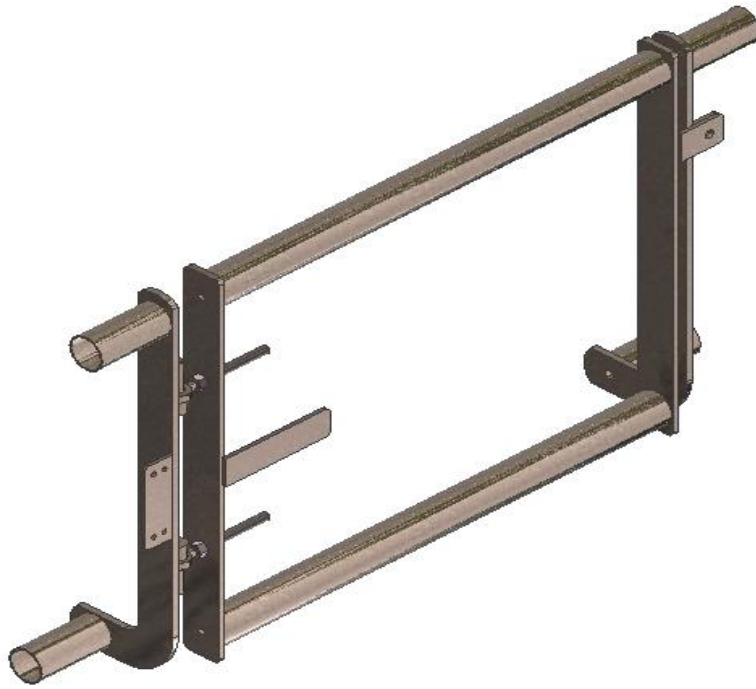


**Wall bracket – ERWBK**

Used at the end of a run where you can fix into a wall/cladding.

Material – galvanized to BS EN ISO 1461      Component weight – 1.1 kilos





**Evorail Self Closing Gate – ERSWG**

Used to safely gain access through the Evorail system.

Material – galvanized to BS EN ISO 1461      Component weight – 20 kilos

**General**

Evorail standard is a fully designed and tested guardrail which uses cantilever balanced uprights, without the requirement for physical fixing into the roof’s membrane / structure. It’s a permanent freestanding guardrail which has adjustment in the uprights which caters for rise and falls of the roof, therefore keeping the system level to the parapet at all times.

## **Material**

- Evorail standard is manufactured from steel to BS EN10025 S275, with a galvanized finish which is extra smooth - BS EN ISO 1461.
- Evorail – hand & knee rails are 48mm external diameter.
- All fixings are grade A2 stainless steel.
- All additional cast clamps used are galvanized malleable cast iron produced to BS EN 1562.
- The uprights have a moulded rubber foot to protect the roof membrane.
- All rubber weights are also roof membrane friendly.
- Any on site tube cuts can be protected by a selection of plastic cap ends, to prevent exposure to rust.

## **Layout**

- Height of Evorail is set at 1100mm.
- All uprights are set at 2.5mt centres, alternating the long upright and short upright. Rubber weights to be fixed on every long upright at 5mt centres.
- All free standing ends are double weighted or supported by being fixed with a wall bracket.

## **Test criteria**

Evorail standard was tested to the Health and Safety Executives Specialist Inspectors Report No 15.

- All testing was carried out on a roof pitch of 10 degrees as Building Regulations stipulate a flat roof can be 0 – 10 degrees in pitch.
- All guardrail testing was carried on a 5mtr straight run without any returns or double weights.
- A 0.7kn load was applied to the top rail at the very end of the 5mt straight run without moving more than 100mm at the base.
- A 0.3kn load was applied to the top rail between vertical supports in the first bay from one end. Tube deflection did not exceed 35mm.



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