



SEPARATING PEOPLE FROM HAZARDS

# Fall Protection Solutions



- COMPREHENSIVE RANGE OF COLLECTIVE AND PERSONAL PROTECTION SYSTEMS
- EACH SYSTEM COMPLY WITH THE 'WORKING AT HEIGHT' LEGISLATION AND RELEVANT STANDARDS
- DESIGN AND INSTALLATION SERVICE TO ENSURE COMPLIANCE WITH ALL MAJOR STATUTORY REQUIREMENTS



FM36179

## Why You Need Fall Protection?

In the UK, according to the Health and Safety Executive (HSE), falls from height are the biggest cause of death and the second biggest cause of serious injuries in the workplace. Their latest statistics show that in 2008/09, 45 workers died as a result of falls from height and 3750 people were seriously injured. The construction industry leads in number of major injuries to workers as a result of falling from a height.

Yet every day contractors require regular access to rooftops to carry out essential building, repair and maintenance work. So how can they work in a safer environment?

Under the amended Work at Height Regulations 2007, it is the moral duty and legal responsibility of those in control of rooftop work to do all that is reasonably practical to prevent anyone falling. Employers, employees and contractors must now carry out risk assessments, prepare a method statement and consider whether an alternative form of access would be safer. In fact, the HSE has issued a recent warning to companies whose business involves working at height to ensure they provide suitable safety equipment and have appropriate procedures in place before allowing their staff to work in potentially dangerous situations.



When considering which type of safety equipment to use, the HSE advise a hierarchy of options to be considered.

- 1.** Eliminate the Risk. Can working at height be avoided completely? Can other options such as extendable equipment on the ground be used instead?
- 2.** If working at heights cannot be avoided, the first consideration should be to install collective fall prevention measures eg. guard rail around the perimeter of the roof in order to provide protection for everyone who has to work at heights.
- 3.** Finally, if collective solutions are not viable personal protection systems e.g. work restraints, fall arrest, rope access should be available to all workers to minimise the distance and consequence of a fall should one occur.

## Collective and Personal Fall Protection Solutions



As a leading supplier of both Collective and Personal Protection products we have a portfolio of items which can eliminate many of the unnecessary risks that are still taken every day by people working at heights.

### • COLLECTIVE PROTECTION

- ▶ **KEEGUARD** free standing guard rail
- ▶ **KEE DOME** skylight fall protection

### • PERSONAL PROTECTION

- ▶ **KEE ANCHOR** deadweight system
- ▶ **KEE LINE** horizontal safety line
- ▶ **KEE WALK** roof top walkways
- ▶ **KEE ROOFPOINT** fixed rooftop anchors
- ▶ **KEE I-BOLT** Class A1 safety anchors

## Collective Protection Solutions

Kee®  
Safety

- **KEEGUARD** - a modular free standing guard rail system which does not penetrate the roof membrane. The system offers maximum flexibility for most rooftop configurations. Almost any flat roof up to 3 degrees can be accommodated.

**KEEGUARD** standard has been tested by CERAM and APAVE and conforms to EN ISO 14122 pt3 and the test requirements of EN 13374 Class A for roofs up to 10 degree pitch.

- ▶ **KEEGUARD** standard galvanised roof edge protection system
  - ▶ **KEEGUARD Lite** aluminium roof edge protection system
  - ▶ **KEEGUARD Topfix Lite** fixed roof edge protection system for standing seam metal roofs.
- **KEE DOME** - the effective free standing collective fall protection system designed to minimise the risk of people falling through glazed areas or open hatches. KEE DOME complies with EN ISO 14122 pt.3.
    - ▶ **KEE DOME** standard system
    - ▶ **KEE DOME Mini** lower level cover for skylights.



## KeeGuard® Free Standing Roof Edge Protection

Kee®  
Guard



By using a correctly installed and tested **KEEGUARD** roof edge protection system you can ensure the safety of anyone who has access onto a flat roof. **KEEGUARD** is a modular free standing system that has been fully tested and approved which does not penetrate the roof membrane.

Easy to handle, recycled PVC weights provide stability and galvanised **KEE KLAMP** fittings and tube complete the system.

**KEEGUARD** is supplied in prefabricated kit form with a minimum number of assemblies which allows for ease of installation. It is a safe, versatile system which delivers reliable collective protection.

## Safety and Versatility



- System works on a proven counterbalance system
- Suitable for use on concrete, asphalt, PVC membrane and felt roof surfaces
- Compatible with almost all configurations of flat roofs up to 3 degrees slope
- Integral toeboard fixings
- Assemblies are fitted with anti-slip pads
- Design load: 300 N/m applied horizontally along the top rail
- Mid Rail Inclusive 48.3mm O/D uprights and railings to EN 39 .
- Coloured cover strip available to reduce trip hazard

## Setting the Standards

When correctly designed and installed, **KEEGUARD** will meet or exceed the following safety requirements:

- EN ISO 14122 Part 3
- EN 13374 Class A
- HSG-33 Health & Safety in Roof Work
- HSE INDG 284 "Working on roofs"
- BS 6399: Part 2 1995 Wind Code

## Test Criteria

The EN 14122 Part 3 requires a test load of 300 N/m to be applied without the system deforming by more than 30mm. Once the load has been removed the system shall not show signs of any perceivable permanent deformation.

## Durability and Simplicity



- Corrosion resistant - all fittings are galvanised to EN ISO 1461
- Fittings use case hardened steel setscrews with **KEE KOAT** protection
- Minimum components for ease of installation
- Modular design allows reconfiguration on site if needed
- Sections can be added to or taken down, for reconstruction elsewhere
- Unique open style fitting allows quick installation of horizontal rails
- Three types of upright available (see page 6)
- No penetration of the roof membrane
- No welding, threading or bolting required on site
- Can be colour coated to any RAL colour
- Installation can be customised to cope with ladder access and any other fixed rooftop obstructions.

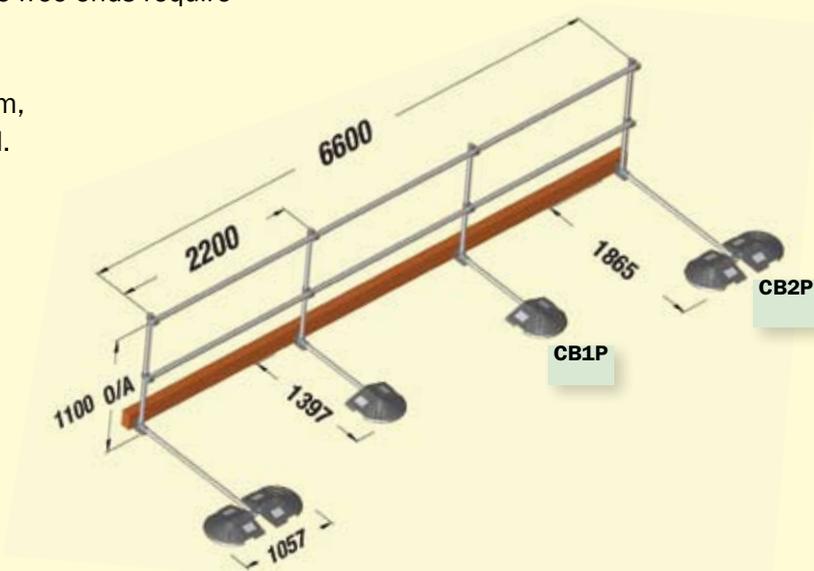


## A Typical KeeGuard® Configuration when Secondary Restraint is Available

**KEEGUARD** free standing roof edge protection system meets the requirements of EN 14122 pt. 3 by use of sufficient counter-weight restricting the movement of the guard rail in the event it being called into use. Where a parapet (minimum height 150mm) is in place which can help to absorb some of the force applied against the rail the following configuration can be used.

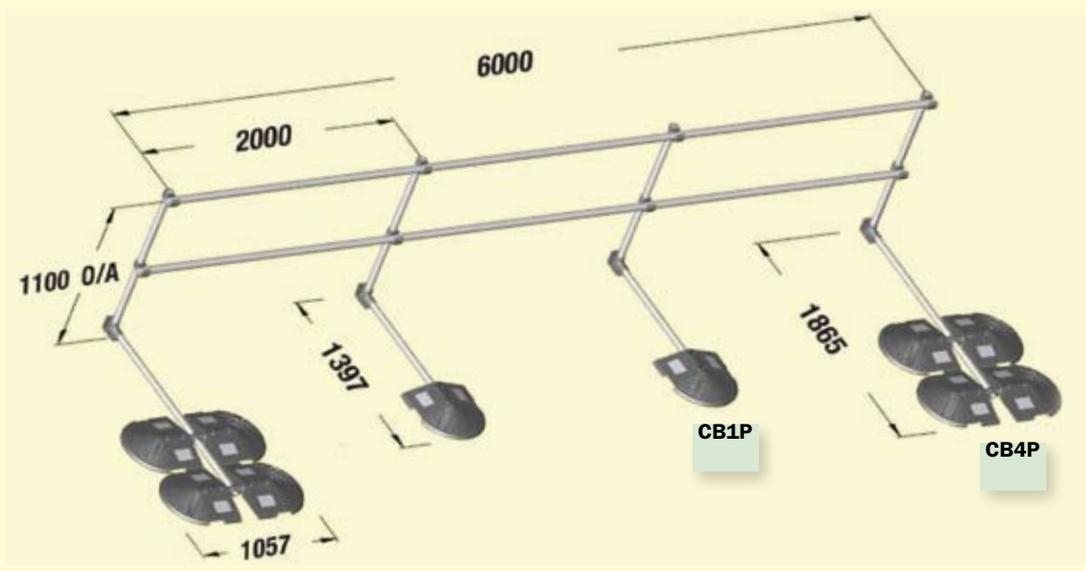
The bay lengths are 2.2 metres and the free ends require two weights per free end.

If the end bay length is reduced to 1.5m, only one weight is needed per free end.



## A Typical Unrestrained KeeGuard® Configuration

This is a typical free standing layout, utilising maximum 2.0 metre bays and the required base weight configuration.



## Essential Kee Klamp® Fittings Used to Complete a KeeGuard® System

<b>14-8</b> 	<b>15-8</b> 	<b>19-8</b> 	<b>61-8</b> 	<b>77-8</b> 
<p>Type 14-8 Straight Coupling is used to connect lengths of tube.</p>	<p>Type 15-8 Elbow is used for 'D' Returns and 90° corners.</p>	<p>Type 19-8 can be used for variable angles and to accommodate slope irregularities.</p>	<p>Type 61-8 Flange is used for wall attachments.</p>	<p>Type 77-8 Plastic Plug is used to cap open tube ends.</p>

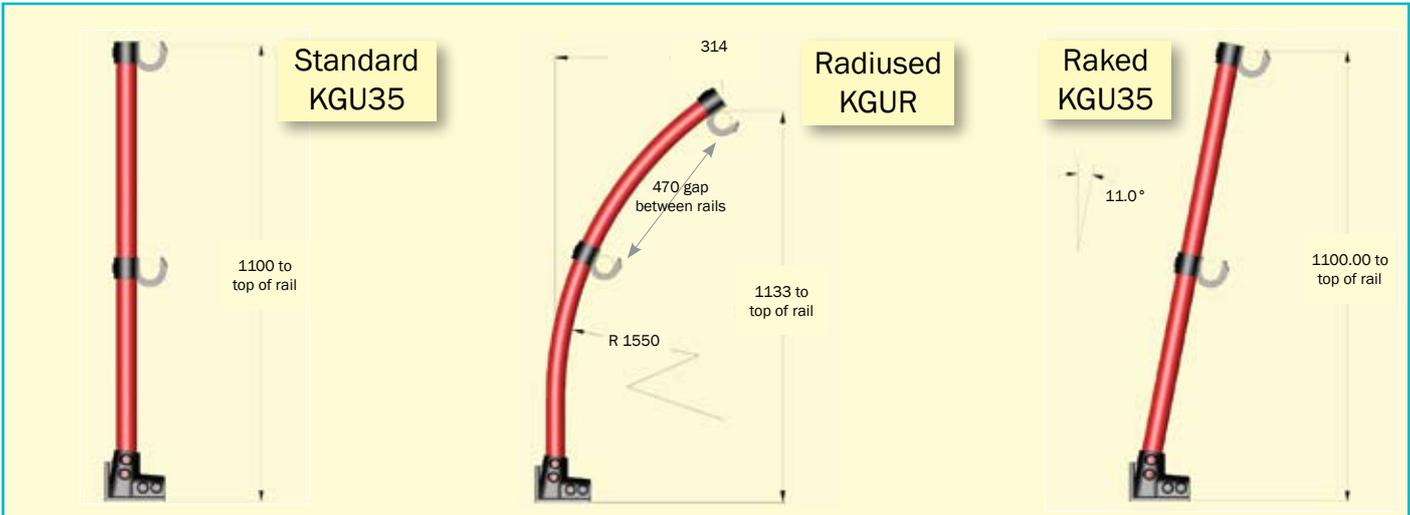
## Recycled, easy to handle PVC Base Weights

The recycled PVC weights used with **KEEGUARD** bring a number of advantages to the system, and particularly make installation quicker and easier, saving both time and money.

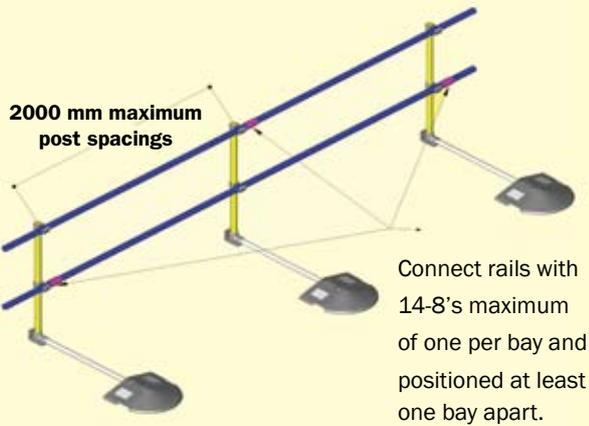
- 13.5 kg per weight
- Size: 460 x 500 x 85mm
- Carrying handles moulded into the design
- Available in black as standard. Other colours available by request at extra cost.
- Moulded surface to improve grip
- Optional covers available to minimize trip hazards
- Environmentally friendly
- Made from 100% recycled material in the EU.



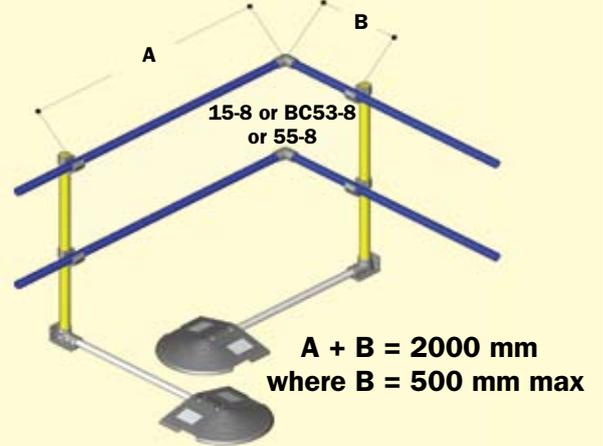
## KeeGuard® Upright Options



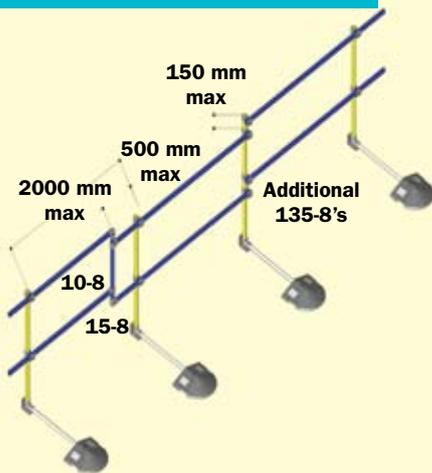
## Typical Layout



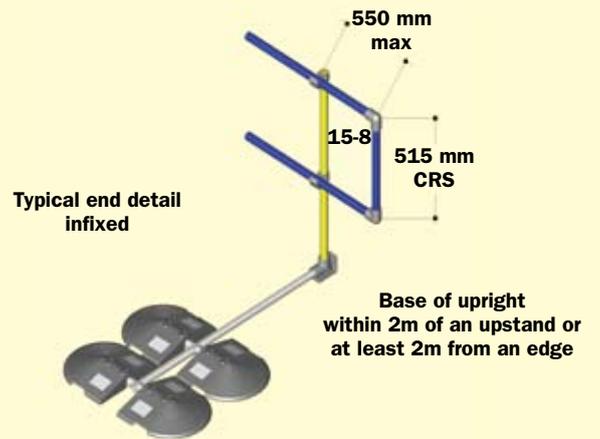
## Corner Detail



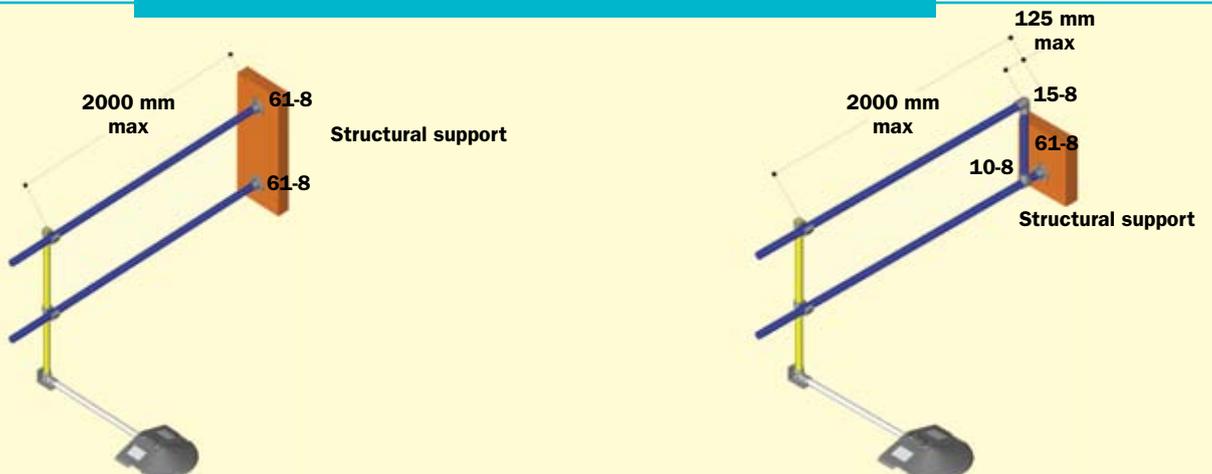
## Change in Level Detail



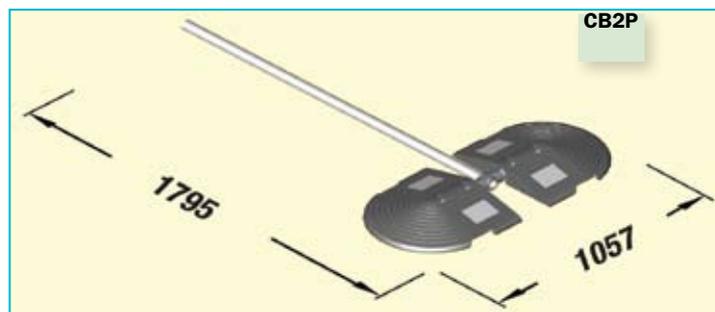
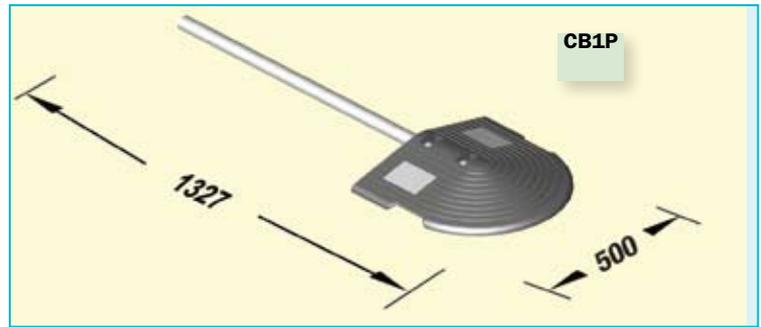
## Unrestrained 'D' Return Detail



## Wall Fix Detail

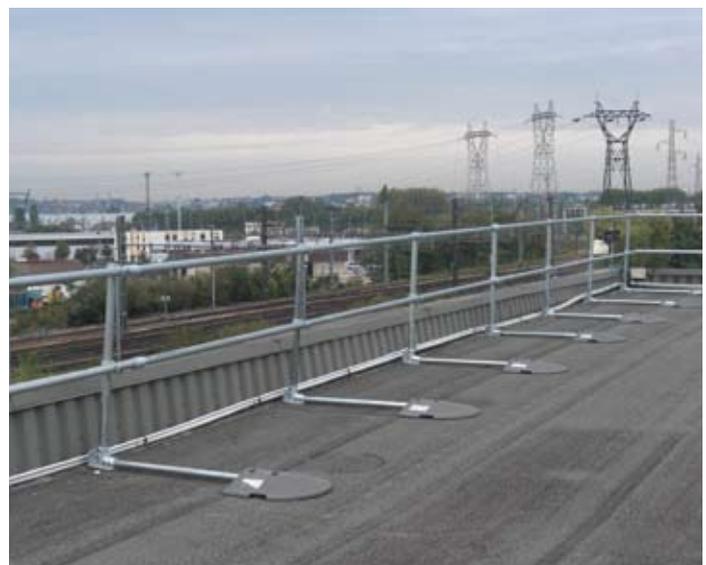
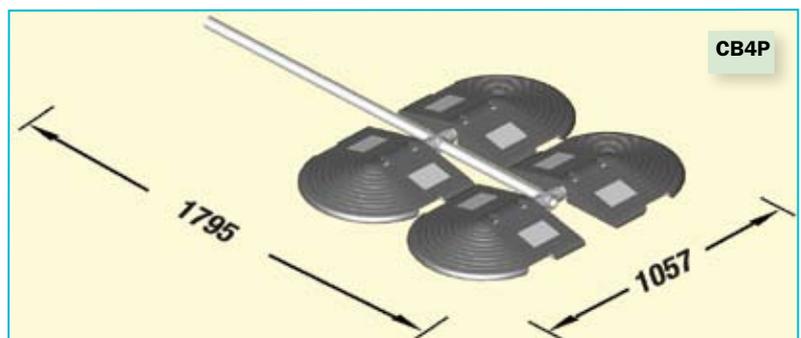


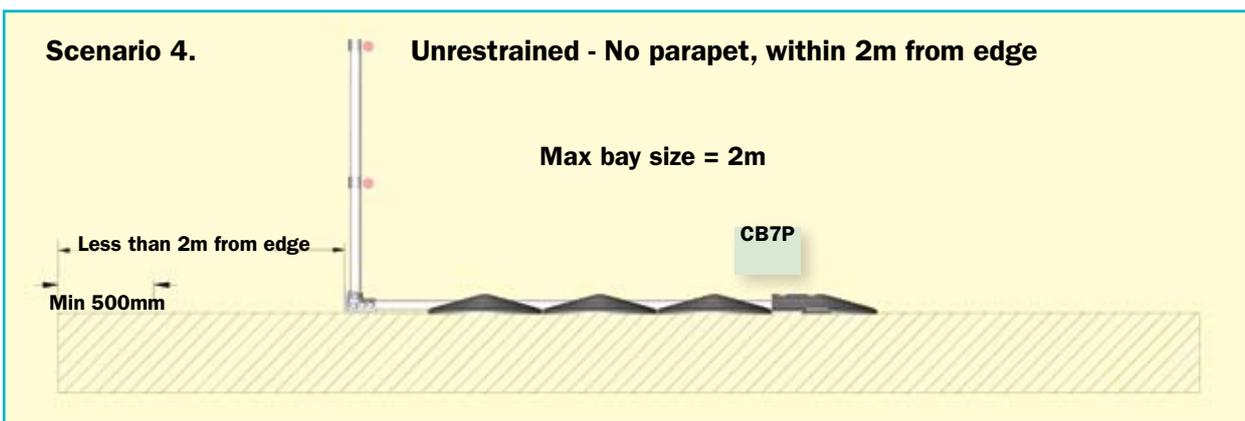
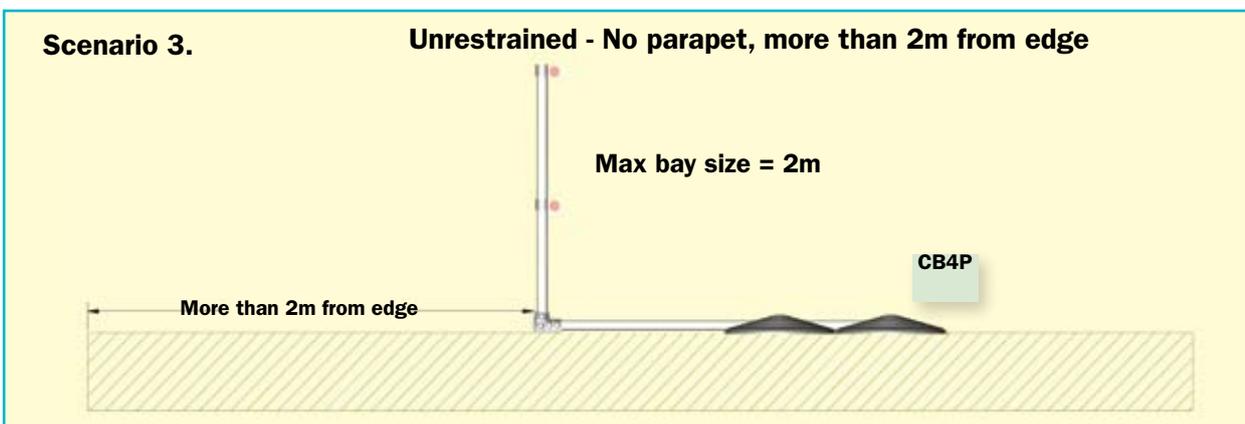
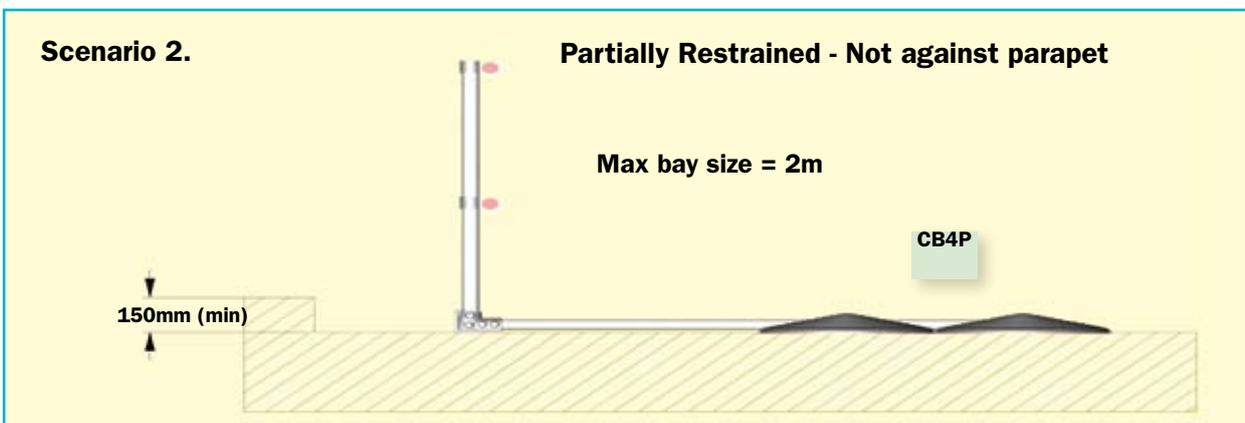
The diagram to the right details a CB1P main counterbalance configuration. When used in restrained situations, these should be placed a maximum distance of 2.2 metres apart in a straight run. Whenever a 90° corner is required, a **KEE KLAMP** fitting 15-8 should be used on each rail. It is essential that an upright is no further than 500mm from the corner and the total length between uprights around the corner is no greater than 2 metres. In a straight run, lengths of handrail are connected together using a **KEE KLAMP** fitting 14-8.



The diagram to the left shows a CB2P counterbalance configuration, for use on free ends when the system has secondary restraint available. Reducing the bay size further can reduce the weight requirement to 1.

The diagram on the right shows an end of run assembly in the CB4P configuration, for use in unrestrained applications. This should be used for end uprights when there is no tie in to the building and at the end of a run that exceeds 6 metres in length. For runs of less than 6 metres, please contact our technical team for advice.







## Features

- Conforms to EN 14122 pt.3
- Meets the test requirements of EN 13374 Class A
- Upright height above datum: 1100mm
- Mid Rail Inclusive 48.3mm O/D uprights and railings to EN 39
- Design load: 300 N/m applied horizontally along the top rail
- Corrosion resistant – galvanised to BS EN ISO 1461 finish on all fittings
- Third party certification
- Recycled PVC base weights
- Anti-slip rubber pads on base plates
- Can be colour coated to any RAL colour
- Coloured cover strip available to reduce trip hazard
- Installation can be customised to cope with ladder access and any other fixed rooftop obstructions.



# Aluminium Free Standing Roof Edge Protection



**KEEGUARD** Lite is the Aluminium safety solution for free standing roof edge protection, a lightweight alternative to the standard **KEEGUARD** system.



**KEEGUARD** Lite is supplied in prefabricated kit form, with the uprights, rails and fittings manufactured in Aluminium and grub screws supplied in Stainless Steel, and recycled PVC base weights. The lightweight system can be installed with minimal effort, thus saving time and money during on-site installation.

## Features

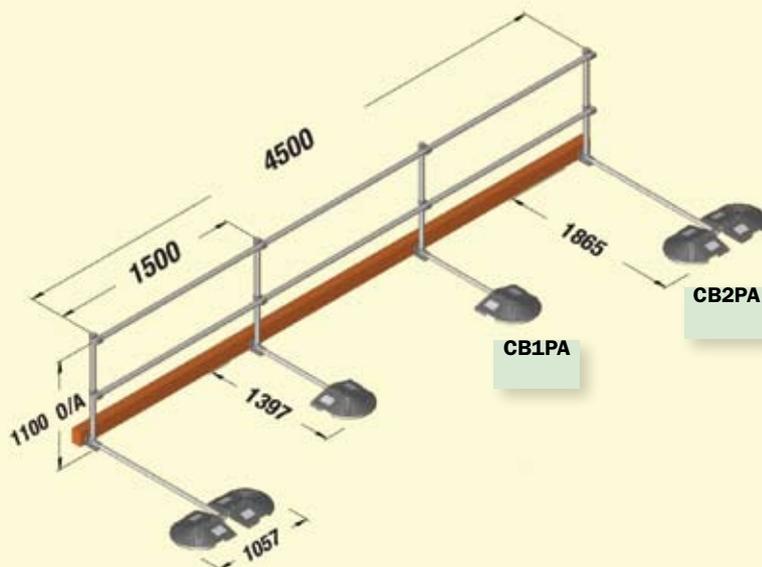
- Aluminium rails and uprights
- Modular system supplied in prefabricated kit form
- Recycled, easy to handle PVC base weights
- Complies with EN 14122 pt.3
- Uses Size 7 (horizontal) and 8 (vertical) tube with bay size a maximum 1.5 metres
- Independently tested at APAVE
- Available for standard, radiused and raked uprights

## Benefits

- Safe, reliable and versatile collective fall protection solution
- Savings in installation time and cost
- Does not penetrate the roof fabric
- Lightweight and corrosion resistant
- Aesthetically attractive
- Minimal long term maintenance keeps on going costs down
- Can be colour coated if required

## KeeGuard® Lite for Use when Secondary Restraint is Available

**KEEGUARD** Lite can be used where secondary restraint, such as a parapet wall (minimum height 150mm) is available.



## Open Fitting

Saves time and money on installation by using an open fitting.





## Essential Kee Lite® Fittings Used to Complete a KeeGuard® Lite System



L14-7

Type L14-7 Straight Coupling is used to connect lengths of tube.



L15-7

Type L15-7 Elbow is used for 'D' Returns and 90° corners.



L19-7

Type L19-7 can be used for variable angles and to accommodate slope irregularities.



L61-7

Type L61-7 Flange is used for wall attachments.



77-8

Type 77-8 Plastic Plug is used to cap open tube ends.



## KeeGuard® Topfix Lite for Standing Seam Metal Roofs

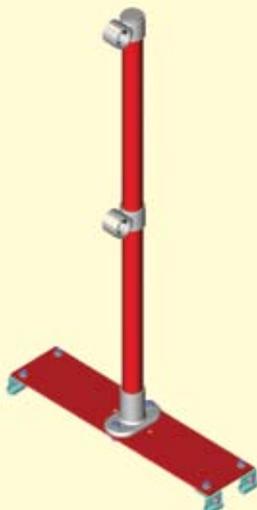
The **KEEGUARD** Topfix Lite standing seam guardrail system is a unique, fixed roof edge protection system especially designed for standing seam metal roofs.

The **KEEGUARD** Lite standing seam guardrail system is supplied in prefabricated kit form, with the uprights, rails, base plate and fittings manufactured in Aluminium, and the clamps and grub screws supplied in Stainless Steel. This lightweight system can be installed with minimal effort, thus saving time and money during on-site installation.

By virtue of the two part clamps which fix over the standing seam profile, the system does not penetrate the roof fabric. However this is not at the expense of strength as the system has been tested to ensure it meets the standards of BS EN ISO 14122 pt3.



### Upright Assembly



### Features

- The special fixing clamp suits most standing seam systems available
- Modular system supplied in prefabricated kit form
- Uses a non penetrative clamp system
- No need for drilling or penetration of the roof fabric
- Aluminium rails and uprights
- Stainless Steel grub screws as standard
- The maximum bay size for the system is 0.95m
- Complies with BS EN ISO 14122 Part 3.

# The Safety Solution for Skylight Fall Protection

**KEE DOME** is a modular system designed specifically to prevent falls through skylights. Sturdy recycled PVC bases lock the posts into position around the corners of a skylight and **KEE KLAMP** fittings and tube are used to construct a rigid frame. Various sizes are available designed around standard tube lengths of 1.5, 2.0 or 3.2 metres. Additionally a gate can be incorporated for access to roof hatches.



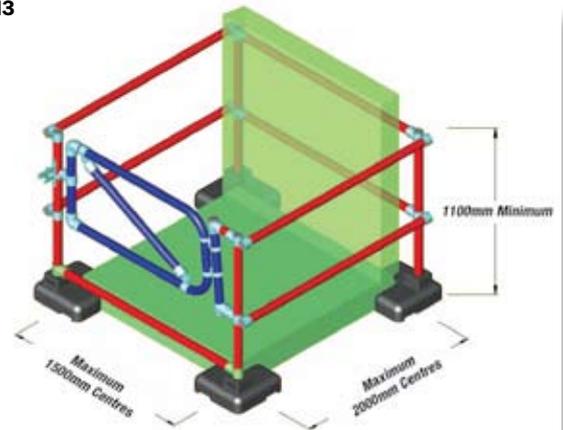
The **KEE DOME** structure is safety compliant, remains completely free-standing and eliminates the risk of damage to the roof membrane.

The main features of **KEE DOME** are:

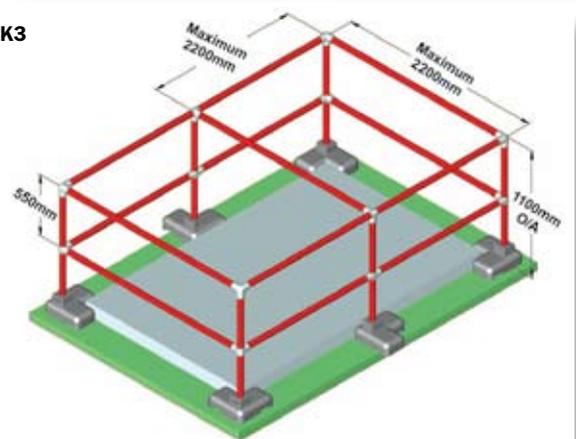
- Modular system using standard components
- Made from 48.3 O/D tube (Size 8)
- Recycled PVC feet
- Complies with EN 14122 pt3
- Suitable for use on all roof surfaces with a maximum pitch of 3°
- Available in any RAL colour if required.



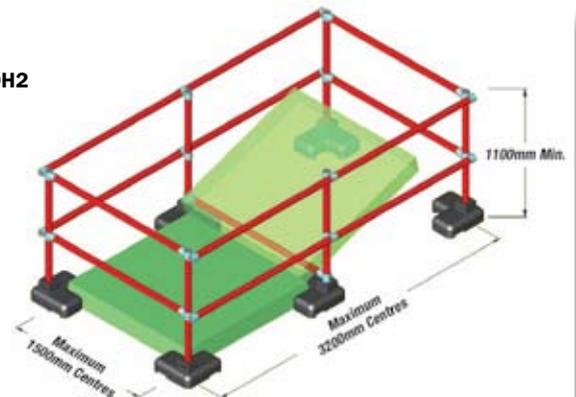
**KDH3**



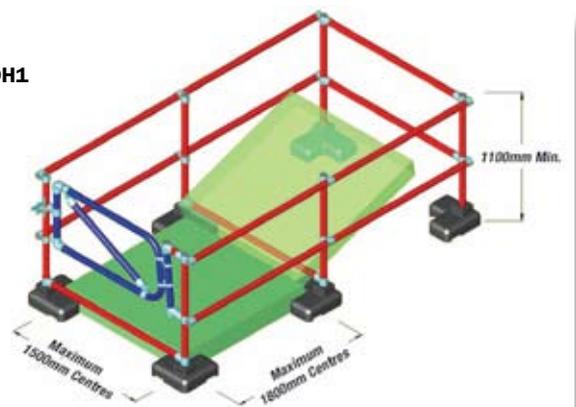
**KDK3**



**KDH2**



**KDH1**

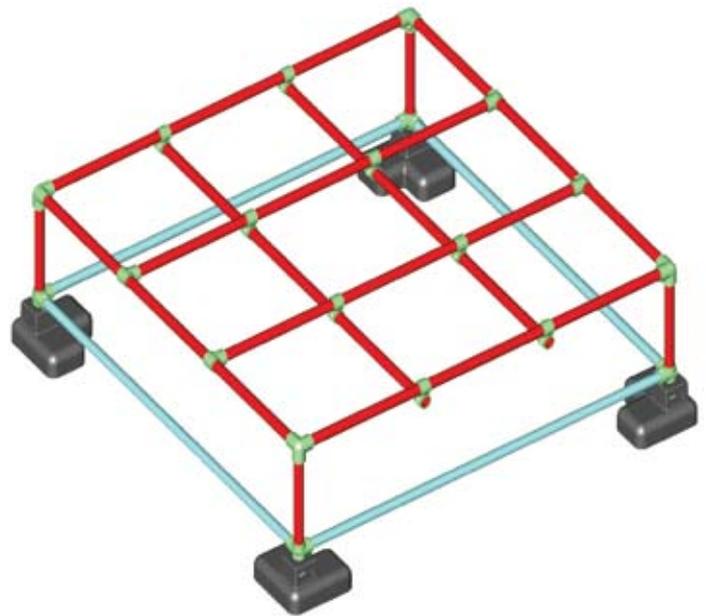


The **KEE DOME** Mini is the latest design in our range of skylight fall protection products. Made from size 6 fittings and tube and incorporating new smaller recycled PVC bases, the product has been developed to maximize safety without being obtrusive when a building rooftop is visible.

By keeping the **KEE DOME** Mini close to the height of the skylight; the product will often not be visible above a building roofline and yet the skylight is securely covered.

The top cover of this new **KEE DOME** is very easy to assemble using **KEE KLAMP** fittings, making this a quick and effective collective protection solution.

**KEE DOME** Mini is designed to fit 1.2m x 1.2m skylights, other sizes up to a maximum of 1.8m x 1.8m available as special orders.



## Features

- Modular system
- Complies with EN 14122 pt3
- Suitable for use on all roof surfaces with a maximum pitch of 3°
- Designed using size 6 tube and fittings, galvanised to BS EN ISO 1461
- Recycled PVC bases
- Designed for 1.2m x 1.2m skylights.

## Benefits

- Cover top minimizes the risk of anyone falling through the skylight
- Unobtrusive solution on visible roof tops
- Rapid assembly
- Designed as a permanent solution, but can be dismantled, moved and re-erected elsewhere.

**Kee Safety** provides a range of personal protection solutions under the **KEE ANCHOR**, **KEE LINE**, **KEE WALK**, **KEE I-BOLT** and **KEE ROOFPOINT** brands. Designed to offer enhanced personal safety when working at heights, each of these products is tested and approved by the relevant bodies to comply with the required standards.

The **KEE ANCHOR** range of Class B, E and supports for Class C roof anchor devices is designed for use where the installation of collective protection or permanent anchor devices is not viable.

The **KEE ANCHOR** range is centered on the **WEIGHTANKA** portable deadweight anchor designed for use where the installation of collective protection or permanent anchor devices is not viable. If anyone needs to abseil down a building, **ACCESSANKA** provides a stable platform for the attachment of rope access lines. **WIREANKA** is the first anchor device to be approved for use as supports for Class C horizontal life lines.

Each of the products has been independently tested by the National Engineering laboratory and is CE approved to meet the PPE Directive.

**KEE LINE** is a wire based personal protection system for roof installation or horizontal / overhead applications on structures.

**KEE LINE** conforms to EN 795 Class C and is CE approved to meet the PPE Directive. The **KEE LINE** system is patent protected by GB 2389386.



**KEE WALK** is a modular system which provides a safe, anti-slip, level walking surface for anyone who needs to access a roof. It can be used on flat, barrel and sloping roofs, with steps and a traverse option. The product complies with the test requirements of EN 516:2006.

**KEE ROOFPOINT** fall arrest anchor solutions provide a range of permanently fixed roof anchor points designed to promote safer working on roofs. **ROOFANKA** and **RIDGANKA** offer solutions to solve different access problems when used correctly in conjunction with the appropriate PPE (Personal Protection Equipment). Each product has been independently tested by the National Engineering Laboratory and is CE approved to meet PPE Directive.

The **KEE I-BOLT** range offers a comprehensive selection of Class A1 safety anchors. The **RINGANKA** portfolio comprises three different lengths of eyebolt suitable for use in a range of materials; brick, concrete, masonry and steel. **KEYANKA** is a removable eyebolt which is unobtrusive where visual presentation is important. Each of the products is CE approved to meet the PPE Directive.

**Kee Safety** also offers a range of Personal Protective Equipment for use in conjunction with the above products.



# Safety Solutions for a Portable Deadweight Anchor

The **KEE ANCHOR** range of products comprises:

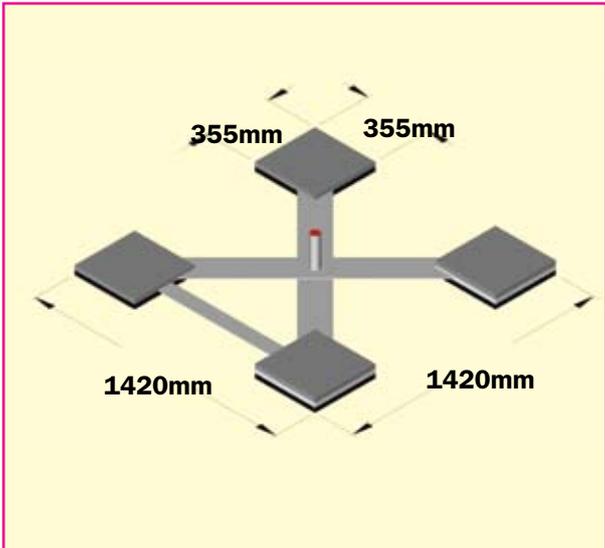
- **WEIGHTANKA** – portable deadweight anchor
- **ACCESSANKA** – portable deadweight anchor system for rope access
- **WIREANKA** – deadweight anchor system for flexible safety lines.



## Weightanka®

A KEE SAFETY PRODUCT

## Deadweight Anchor



**WEIGHTANKA** is a mobile, deadweight anchor device for use on roofs of up to 5 degrees pitch, where the absence of guardrails or permanent anchor devices would otherwise preclude safe means of access. **WEIGHTANKA** is the first Class 'E' anchor device to be approved for use on all roof surfaces when wet and also for use downhill on metal clad roofs (subject to the addition of two extra weights). **WEIGHTANKA** utilises a central pedestal (attachment point) which raises the height at which the arrest force is applied, thus reducing the distance the anchor device moves during a fall arrest event.

A basic system weights only 250Kg and uses individual, smaller components, with no single item weighting more than 25Kg. The modular construction makes it a very practical and convenient option, easy to lift and carry to and from the point of use.

### Features

- Does not penetrate the roof surface
- Base layer weights fully encased in rubber moulding
- Raised central pedestal reduces the distance of travel during a fall arrest event
- Galvanised to BS EN ISO 1461
- Conforms to CLASS E EN 795, BS 7883 & ISO 14567
- CE Approved to PPE Directive
- Independently tested at N.E.L. (National Engineering Laboratory, East Kilbride, N.B. 0320).

### Benefits

- System for up to two users for restraint
- Rubber moulded base layer weights prevent rubber pads 'peeling' at the edges
- With the correct model it can be used on any of the following roof surfaces in WET or DRY conditions:
 

Single Ply Membrane	Asphalt
Steel Cladding	Concrete
Stone Chippings (Brushed)	Mineral Felt
- Can be used on roofs up to 5° pitch
- Easy to assemble, minimal amount of components and no need for extra tools.

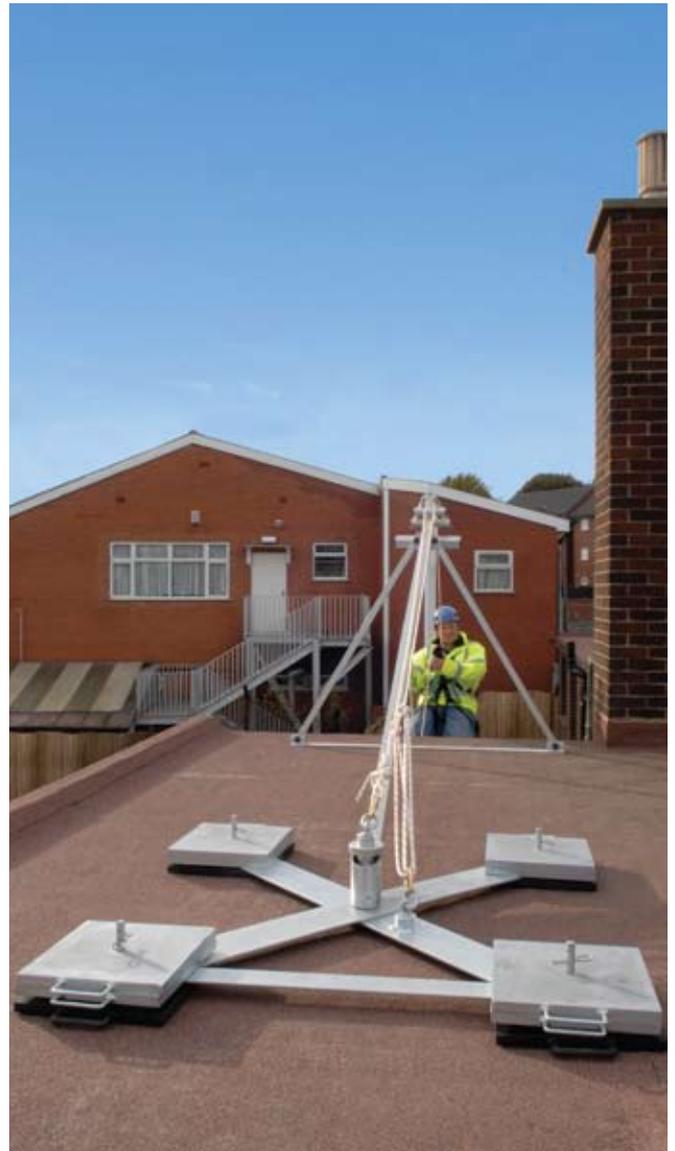
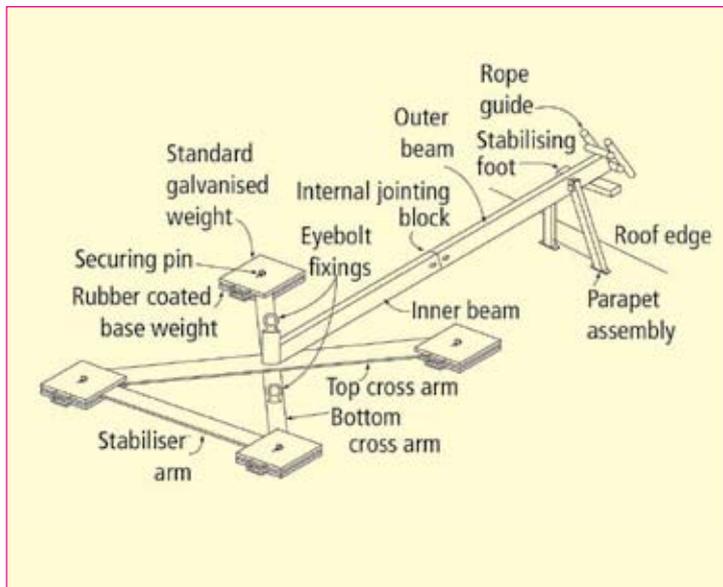
# Portable Deadweight Anchor System for Rope Access

# Accessanka®

A KEE SAFETY PRODUCT

**ACCESSANKA** is designed as an accessory to **WEIGHTANKA** to provide a portable anchor device for rope access workers, allowing them to work safely in accordance with BS 7985, the 'Code of Practice for the Use of Rope Access Methods for Industrial Purposes'. When correctly installed, the system is extremely stable and will not migrate across the roof surface either in normal use or when arresting the fall of both a worker and a rescuer up to a 200Kg limit.

**ACCESSANKA** has been designed for easy transportation and installation with no part over 25Kg or 2 metres.



## Features

- Does not penetrate the roof surface
- Self contained portable anchor device
- Separate anchor points for the working line and back up line
- Modular construction
- Internally force balanced system allows the assembly to remain static, even when arresting the fall of both worker and rescuer
- Conforms to CLASS B EN 795, BS 7883 & ISO 14567
- CE Approved to PPE Directive
- Independently tested at N.E.L.. (National Engineering Laboratory, East Kilbride N.B. 0320).

## Benefits

- Requires no attachment to structural members
- Easily moved across roof surface, removing need for multiple attachment points
- Rope lines held away from edge of building reducing risk of abrasion
- Provides full fall arrest protection before approaching edge
- Aluminium, galvanised and rubber coated parts requiring minimum maintenance.

**WIREANKA** is a system of deadweight anchor devices designed to support **KEE LINE** Class 'C' horizontal, flexible safety lines to EN 795. It is intended for use on flat roofs, in temporary situations, or where it is preferable that penetration of the roof surface be avoided.

For fall arrest purposes no more than one user may be attached to the system at any one time. Special configurations (at extra cost) allow for additional users. For restraint use, up to three users may be attached at any one time. To be classified as restraint, the position of the **WIREANKA** and the length of the lanyard must ensure it is not possible to approach within 500mm of a roof edge or other opening.



### Features

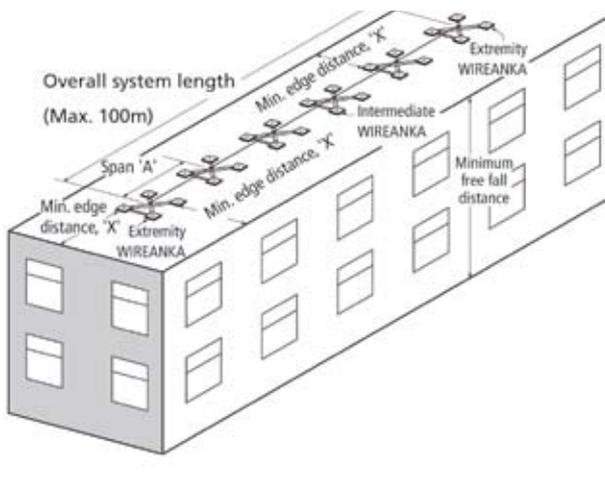
- Does not penetrate the roof surface
- First deadweight support to be approved for Class 'C' horizontal flexible safety lines
- Base layer weights fully encased in rubber moulding
- Conforms to Class C EN 795 & ISO 14567
- CE Approved to PPE Directive
- Galvanised to BS EN ISO 1461
- Independently tested at N.E.L. (National Engineering Laboratory, East Kilbride N.B. 0320).

### Benefits

- Suitable for use on any premises where disruption of day-to-day running by opening the roof is to be avoided
- With the correct model it can be used on any of the following roof surfaces in WET or DRY conditions:
 

Single Ply Membrane	Asphalt
Steel Cladding	Concrete
Stone Chippings (Brushed)	Mineral Felt
- Rubber moulded base layer weights prevent rubber pads 'peeling' at the edges.

## Minimum Edge Distances and Minimum Free Fall Distances Relative to the Span



### Fall Arrest Systems

<b>Maximum 'A' Span (m)</b>	5	6	8	10	12	15
<b>Minimum Free Fall Distance (m)</b>	5.2	5.4	5.8	6.2	6.6	7.2
<b>Minimum Edge 'X' Distance (m)</b>	2.5	2.5	3.0	3.0	4.0	4.0

### Restraint Only Systems

<b>Maximum 'A' Span (m)</b>	5	6	8	10	12	15
<b>Minimum Edge 'X' Distance (m)</b>	2.5	2.5	2.5	2.5	Consult our Technical Department	

## The Safety Solution for Horizontal Life Lines

**Kee®  
Line**

**KEE LINE** is a 8mm Gr.316 stainless steel wire system with electro-polished brackets, detachable travellers and powder coated anchors that provide flexible, continuous protection for multiple users working at height.

The system incorporates an Inline Shock Absorber that minimises the loads to an acceptable level for both the user and structure in the event of a fall.

The Inline Shock Absorber also allows the system to be installed to lightweight modern roof constructions. Unlike other systems, there is no need for expensive 'fall-over' posts at every support, but instead **KEE LINE** features unique 'see through' top fix posts with minimal roof penetration required.

**KEE LINE** is a development of Kee Safety's **LINEANKA** wire system and **TOPANKA** top fix roof anchors which have been successfully sold and installed in Europe since 2003 for a wide range of applications.

**KEE LINE** for Roofs comprises the wire system and brackets, top fix roof anchors for modern roof types and **POSTANKA** anchors where through fixing to the main building structure is preferred.

**KEE LINE** for Structures is available for mounting directly to concrete, steel, brick or stonework either in the horizontal or overhead application.



To ensure simple specification **KEE LINE** installations can be designed using the bespoke calculation software.

**KEE LINE** is also available for use with the **WIREANKA** range of deadweight anchors where it is preferred not to penetrate the roof at all, for permanent or temporary applications.

**KEE LINE** conforms to EN795 Class C, OSHA 1915.159, 1926.502M, ANSI Z359.1 2007 and AS/NZS 1891.2 and is CE Marked.

As Kee Safety offers one of the widest ranges of both collective and personal height safety products and systems; our approved partners are able to offer you the most suitable solution for your application.





## Benefits

- Provides users with total fall protection through continuous attachment whilst travelling the system
- Adaptable to different usage situations
- Durable and weather resistant
- Easy to design and install
- The design and specification process is simplified by the bespoke calculation software.

## Features

- Conforms to EN795 Class C, ANSI Z359, CSA Z259, AS/NZS 1891
- CE Approved to the PPE Directive
- Development of existing LINEANKA & TOPANKA system's which have been successfully sold and installed in Europe for over 6 years
- Tested on 'as built' roofs in advance of EN795
- Efficient in-line absorber negates the need for expensive 'fall over' style posts at every bracket position
- Maximum span in between supports 15m
- Accommodates corners and varying building shapes
- Open style, low profile top fix posts to suit modern roof constructions including metal profile, standing seam and membrane roofs
- Comprehensive range of fixing options
- Horizontal or Overhead applications
- Traveller enables users to detach or re-attach at any point of the system
- Multiple users
- Modular design for easier specification
- Gr.316 Stainless Steel 8mm dia. wire and bracket
- Available with non-penetrative WIREANKA option.



## Wire



8mm dia 7x7 IWRC Gr. 316 Stainless Steel.  
Available cut to length or 1000m reels.



## Swage Assembly



Used to terminate system.  
Available Swaged or Swageless

## Upright Post



Extremity upright post:  
200mm x 100mm x 85mm  
  
Intermediate/Corner  
Upright Post:  
150mm x 100mm x 85mm

## Intermediate Bracket



One piece bracket for intermediate supports.

## Corner Bracket



Available in 90° or 135°. Accommodates internal or external bends.

## Absorber

Used at both ends of the system, minimises loads on structure to below 10 kN.



## Extended Intermediate Bracket



One piece bracket. Each extended arm adjustable up to 15° to accommodate site variations such as ridges and gutters.

## Tension Indicator



Used at start of system (or both ends for systems over 150m).  
Indicates when system is correctly tensioned.  
Available Swaged or Swageless.

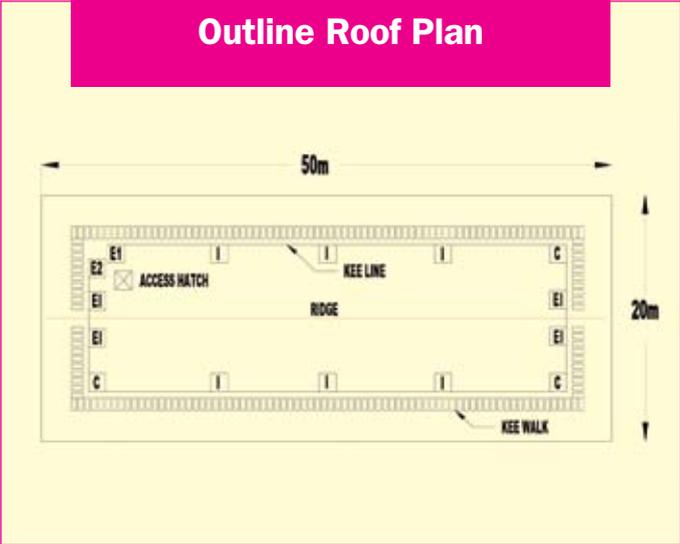
## KeeLine® Traveller



Allows user to attach at any point on system.  
No moving parts.  
Passes corners and intermediates without needing to detach from the system.

# KeeLine® for Roofs

## Outline Roof Plan



## E1 Extremity Assembly (start of system)



## E2 Extremity Assembly (end of system)



## I Intermediate



## C Corner Assembly (90° or 135° options)



## EI Extended Intermediate



## Base Plate Options

To enable easier specification and minimise stock holding the **KEE LINE** for Roofs range of base plates have been designed to suit end, corner and intermediate brackets.

**MR Base plates** for Metal profiled and Standing Seam roofs.

**FR Base plates** for Membrane roofs incorporate recessed holes for fixings to allow waterproofing membrane to sit flat on top of the baseplate.



### MR Base plates for profile metal roof panels

- Fixed with rivets - minimal penetration required
- Includes butyl sealing strip to maintain roof integrity
- Fixing centres: 400, 500, 333, 310 to suit wide range of roof profiles.



### MR Base plates for standing seam roofs

- Fixed with non penetrative S5 clamps
- Fixing centres: 305, 400, 500.



### FR Base plates for membrane roofs with metal deck

- Top fixed with 4 toggle bolt assemblies
- Fixing centres: 400, 333, 470 to suit wide range of standard deck profiles.



### FR Base plates for membrane roofs with concrete deck

- Top fixed with resin fix anchors centres: 400, 333, 470.

The Kee Safety **POSTANKA** range offers an alternative fixing method when the roof structure is unsuitable for **KEE LINE** Top Fix anchors.

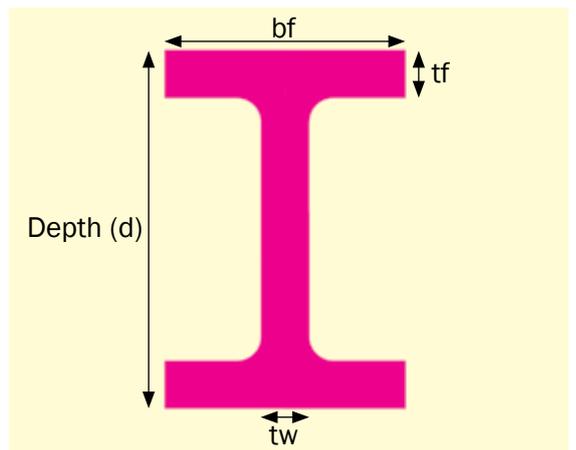
**POSTANKA'S** are designed to be installed directly to the building supporting structure for example on traditional tiled sloping roofs, historical buildings or directly to concrete roof decks for **KEE LINE** systems on green roofs or for abseil anchor points. Conforms to EN 795 Class A2.

## Type 6 Standard

A standard version of the type 6 welded pedestal anchor has a flat baseplate with slotted holes to enable it to be specified for a wide range of steelwork flange widths or alternatively for fixing directly to the top of concrete roof decks with suitable fasteners. The design does not require any strengthening gussets so it makes it easy to weatherproof by an approved roofing contractor.

Suits flange sizes 90 to 190mm wide.  
Available 250, 350 or 450mm high.

Rated to 10kN.  
Galvanised finish to BS ISO EN 1461.



## Postanka® Bespoke Options

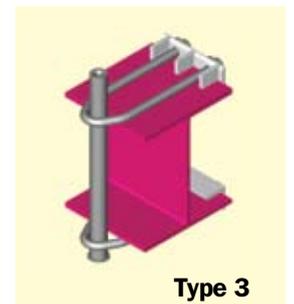
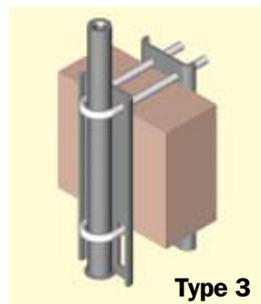
Kee Safety provides a range of **POSTANKA** types quickly designed and manufactured to suit the clients specific application.

Galvanised finish to BS ISO EN 1461.

### Site information required:

- Detail of support beam
- Height of **POSTANKA** above beam
- Fastener/fixing detail
- Loading

E.g. <b>KEE LINE</b> Extremity/Corner post:	10kN
Single point anchor/ <b>KEE LINE</b> intermediate post:	6kN
Abseil anchor:	15kN



### Options

**Type 3** for Steelwork

**Type 3** for Timber

The **Type 3** post features an adjustable pedestal, ideal for irregular support structures or roof constructions.

### Type 6

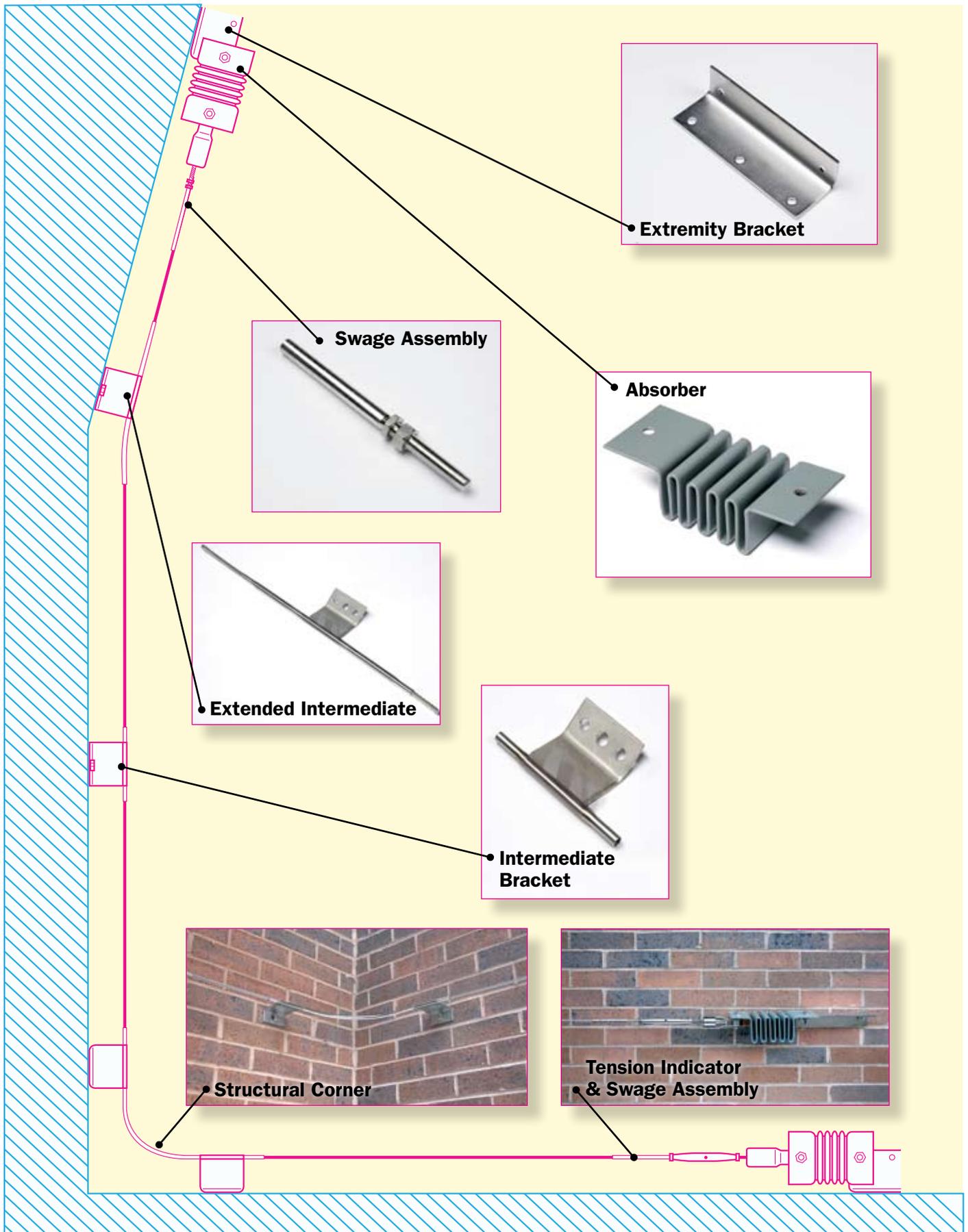
Welded pedestal anchor, multiple fixing options.  
Suitable for Steelwork or concrete fixing.



# KeeLine® for Structures

Kee®  
Line

Brackets for fixing directly to Steel, Concrete, Brick or Stone work, Suitable for horizontal or overhead applications.





**KEE WALK** provides a safe, anti-slip, level walking surface for anyone who needs to access a roof in the course of their work. It provides a clear demarcation route which protects the roof from unnecessary damage and uniformly distributes the pedestrian load across its surface.

The product caters for flat, barrel and sloping roofs, with steps and a traverse option allowing access to be created for virtually any roof configuration from 0 to 35 degrees.

**KEE WALK** is a modular system complying with the test requirements of EN 516:2006 (Prefabricated Accessories for Roofing – Installations for roof access – Walkways, treads and steps).

Easy assembly utilising standard components removes the need to have parts specifically manufactured off-site, making installation and specification quick and simple.

**KEE WALK** is designed for modern roof types including trapezoidal profile composite or built up and standing seam roofs.



## Features

- Provide a safe, level walkway across a roof surface
- Compliant with the test requirements of EN 516 Class 1-C (Prefabricated Accessories for Roofing – Installations for roof access – Walkways, treads and steps) and assists compliance with the Work at Heights regulations
- 1.5m & 3m pre-assembled lengths supplied as standard from stock
- Designed for use on composite, trapezoidal metal profile and standing seam roofs
- Flexible, modular system adaptable to changing roof angles from 0 to 35 degrees; fully adjustable on-site
- Contrasts with roof surface to provide a clear demarcation route
- Nylon treads with enhanced slip resistance for adverse weather conditions
- Lightweight aluminium bearer bars for all roof types
- Minimal selection of brackets required to install a complete system
- Fixings do not damage the integrity of the roof surface
- No bespoke parts required
- Fire Rated to Class HB of UL94 (harmonised with ISO 9772)
- Open tread ensures water drains away easily.

## Benefits

- Standard parts available from stock
- Ease of installation
- Slip resistance compliant to British Standard BS 4592
- Flexible, modular system adaptable to changing roof levels
- Rigid, solid construction ensures **KEE WALK** is secure under foot
- Treads and bearer bars are recyclable
- Clear on-roof demarcation to prevent roof surface being damaged.

# The Kee® Walk System

**KEE WALK** provides a flexible, easy to assemble walkway system designed for use on most modern roof types. To demonstrate the flexibility of the system, a brief explanation of the key constituent parts; the longitudinal configuration, the configuration to traverse a roof, the step configuration and the treads is given below.

The anti-slip characteristics of the walkway are essential for user safety. The British Standard (BS 4592) requires a minimum co-efficient of 0.4 as a measure of the friction and **KEE WALK** achieves almost double this in both wet and dry conditions. Specific fixing packs are supplied for the different roof types.



## Longitudinal 3m Configuration

Supplied pre-assembled by Kee Safety to facilitate rapid on-site installation and thus minimise installation costs, these standard lengths have 12 treads per 3m. Weighing only 24kg, the standard lengths are easily positioned and aligned. They are joined together by a simple 100mm long straight connector which attaches to the bearer bars.



## Traverse Configuration

**KEE WALK** is designed to make the task of building a walkway across a sloping roof a straight forward installation, again using a standard set of components. A traverse section of walkway uses a standard **KEE WALK** section for the level walking surface which is mounted onto a sub-frame fixed to the roof. The two sections are joined with hinged brackets at the rear of the assembly and use the rotating arms at the front to level the walking surface, as depicted on the adjacent photograph.



## The Treads



**Rotating Arms**

Kee Safety provides pre-assembled step configurations in 3m or 1.5m lengths which require only minor adjustment on-site. The rotating arms (shown above) allow the installer to set the angle of the steps simply by removing the locating bolt, setting the horizontal angle and then replacing the bolt. The steps configurations will change depending on the pitch of the roof. Standard components are available for 5° - 10°, 10° - 15°, 15° - 25°, 25° - 35°, all which comply with the requirements of EN 516. Kee Safety can provide specific information on all the different step configurations as required.



**KEE WALK steps**

## Steps



**A KEE WALK tread**

Manufactured in high grade nylon incorporating raised roughened sections, the treads are developed to comply with EN 516 (Prefabricated Accessories for Roofing – Installations for roof access – Walkways, treads and steps), exceeding the deflection criteria and slip resistance requirements of the standard.

The treads, when supplied separately to build steps or walkway sections less than the standard 1.5 or 3m pre-assembled sections, are quickly secured onto the aluminium bearer bars using two self drilling screws, fixed in the centre holes. Additional fixing holes are provided either side of the centre hole. Their design incorporates spacers to ensure simple, correct spacing and alignment. Treads can be cut down if required to fit between fixed points.

Each tread is 625mm long, 225mm wide and 35mm deep.

## Test Requirements - EN 516-2006

- **EN 516 (Prefabricated Accessories for Roofing Installations for roof access – Walkways, treads and steps) Test Requirements**
- **Deflection Criteria on Walkways & Steps** - 1.5 kN concentrated load applied over an area of 100mm x 100mm. The deflection under load must not exceed 15mm or 1/100 of the span, whichever is the lesser.
- **Residual Deformation on Walkways & Steps** - 2.6 kN concentrated load applied over an area of 100mm x 100mm at the front edge of the tread applied for 1 minute. The residual deformation after the load is removed should not exceed 5mm.

These criteria have been surpassed in all testing. The raised surfaces on the tread have a slightly coarse finish to enhance the slip resistance.

# Fall Arrest Anchor Solutions

Kee®  
Walk

**KEE ROOFPOINT** fall arrest anchor solutions provides a range of permanently fixed roof anchor points designed to clamp around roof timbers.

**ROOFANKA** and **RIDGANKA** offer solutions to solve different access problems when used correctly in conjunction with the appropriate PPE (Personal Protection Equipment).

Each of the products has been independently tested by the National Engineering Laboratory and are CE approved to meet the PPE Directive.



## Slope Mounted Fall Arrest Anchors

# Roofanka®

A KEE SAFETY PRODUCT

**ROOFANKA** is a range of fall arrest anchors for use on traditional sloping roofs, designed clamp around roof timbers.

Available as either as a single point anchor device or as an anchor for the **KEE LINE** horizontal life line system.

When used for fall protection purposes the single point anchor serves as an attachment point for harnesses and connectors as well as a ladder hook and crawling board clamp in compliance with EN 795 Class A, EN 517, BS 7883 and ISO 14567.



### Features

- Provides single point attachment for fall protection use, ladder hook to position roof ladder and clamp to support crawling boards
- Incorporates patented weatherproof seal
- All components above the roof are stainless and internal components are galvanised
- Slope mounted, therefore can be placed next to a roof access point
- Conforms to Class A2 & C EN 795, BS 7883, Class A EN 517 & ISO 14567
- CE Approved to PPE Directive
- Independently tested at N.E.L. (National Engineering Laboratory, East Kilbride, N.B. 0320).



### Benefits

- Low cost solution to fall protection on tiled roofs
- Removes the need to erect scaffolding for short term maintenance work
- Always available for immediate use once installed
- Easily installed during roof construction or re-roofing
- Adjustable to limit component variants.

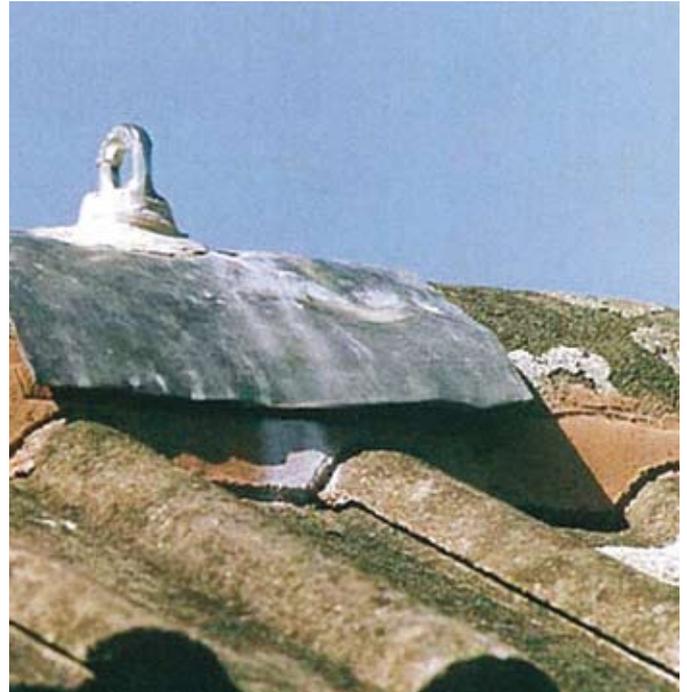
**RIDGANKA** is a permanently fixed, secure fall arrest anchor specifically designed to be mounted at the ridge of a pitched roof.

**RIDGANKA** is manufactured from high quality carbon steel, and all components within the roof space are galvanised to EN ISO 1461.

The eyebolt which projects above the ridge is a Class A1 steelwork fixing anchor device produced in grade 316 Stainless Steel.

**RIDGANKA** is designed in accordance with EN 795: CLASS A1 and meets the testing requirements of that standard. It also withstands the BS 7883 test force of 10kN along the slope of the roof without distortion.

Importantly, **RIDGANKA** is designed for single user applications only.



### Features

- Provides single point attachment for fall protection use
- Installation at ridge provides access to both pitches of the roof
- Installation at ridge ensures anchor point is always above the user
- Adjustable to fit a wide range of roof trusses
- Two sizes available to accommodate roof trusses from 72mm x 97mm up to 175mm x 230mm
- All components below the roof are galvanised to EN ISO 1461
- Conforms to EN 795, BS 7883 & ISO 14567
- CE Approved to PPE Directive
- Independently tested at N.E.L. (National Engineering Laboratory, East Kilbride, N.B. 0320).



### Benefits

- Low cost solution to fall protection on tiled roofs
- Removes the need to erect scaffolding for short term maintenance work
- Always available for immediate use once installed.

# Safety Eyebolt Solutions

Keep  
i-bolt®

The **KEE I-BOLT** range offers a comprehensive selection of Class A1 safety anchors.

**RINGANKA** is a range of fixed Class A1 safety eyebolts and fixing components conforming to EN 795 and BS 7883.

**KEYANKA** is a removable eyebolt and a range of fixing solutions, which is unobtrusive where visual presentation is important.

Each of the products has been independently tested at the National Engineering Laboratory and is CE approved to meet the PPE Directive.

It is important that the correct eyebolt is used to suit the material and that the positioning is determined by a competent person.



## Safety Eyebolt

# Ringanka®

A KEE SAFETY PRODUCT

**Fixed safety eyebolts for installation to an external or internal face of a structural element adjacent to a window or other access point.**

**RINGANKA** is available in three different lengths suitable for use in a range of materials; brick, concrete, masonry and steel.

Available in three finishes, Electro-polished Grade 316 stainless steel, high tensile carbon steel with a galvanised or white plastic-coated finish.

BS 7883 requires that, wherever possible, all safety anchor devices are removable for periodic inspection; this is easily achieved by using our Knurled Inserts in conjunction with suitable resin. PPE Warning Labels are also available, which are required for compliance with EN 795.

A range of standard components allow the **RINGANKA** range to be fitted to a wide range of constructions including cavity walls and also can accommodate cantilevers up to 175mm (100mm in brickwork), for example to when installing into building with false walls or cladding.

The positioning selection for these products should only be carried out by a competent person.



### Features

- Comprehensive range of anchor bolts and accessories to suit most installations
- Available in Galvanised, White plastic coated and Stainless Steel
- Conforms to CLASS A1 EN 795, BS 7883 & ISO 14567
- CE Approved to PPE Directive
- Independently tested at N.E.L. (National Engineering Laboratory, East Kilbride, N.B. 0320).

### Benefits

- Provides workers with safe means of access
- White plastic coated finish blends with most interior decor.

The **KEYANKA** safety eyebolt offers a removable unobtrusive solution to traditional eyebolts for use where aesthetics mean a detachable eyebolt is preferred. The permanently installed grade 316 stainless steel anchor socket is concealed by a flush fitting white plastic cover, which blends in with most interior designs.

Equipped with the **KEYANKA** eyebolt at the end of his lanyard, the operator uses a simple 'key' action with sprung locking movement, to provide a fast and safe attachment. The eyebolt is able to rotate 180° whilst still attached to the socket to provide the best orientation in event of a fall arrest situation, and can only be removed by five simple, separate but deliberate, sequential movements.



### Features

- Removable Eyebolt
- Produced from Grade 316 Stainless Steel
- Spring loaded locking action
- Variety of fixing options including concrete, brick, steelwork and cavity walls
- Flush fitting white plastic cover to blend in with most interior designs
- Optional Stainless Steel Cap
- Conforms to CLASS A1 EN 795, BS 7883 & ISO 14567
- CE Approved to PPE Directive
- Independently tested at N.E.L. (National Engineering Laboratory, East Kilbride, N.B. 0320).

### Benefits

- An unobtrusive solution to traditional eyebolts in more prestigious buildings
- Fast and safe attachment
- Eyebolt is able to rotate 180° whilst still attached to socket to provide best orientation in event of fall arrest situation
- Removes trip hazard when is required to be fitted into floor
- Removes the potential of unauthorised or inappropriate use of eyebolt.

## Harnesses



**P10**  
Single Point Full Body  
Harness with dorsal  
attachment point.  
Conforms to EN 361.



**P35**  
Two Point Full Body Harness  
with front and dorsal  
attachment points.  
Conforms to EN 361.



**P56**  
Four Point Body Harness with  
front and dorsal attachment  
points, with additional work  
positioning belt. Conforms to  
EN 361 & 358.



**P10F**  
Female's Single Point Full  
Body Harness with dorsal  
attachment point.  
Conforms to EN 361.

## Lanyards



**ABM/LB100A c/w Snap Hook**  
**ABM/LB100B c/w Scaffold Hook**

Adjustable energy absorbing  
lanyard available with either  
snap hook or scaffold hook.  
Conforms to EN 355 & 354.



**ABM-TA c/w Snap Hook**  
**ABM-TB c/w Scaffold Hook**

Energy absorbing 2m lanyard  
available with either snap hook  
or scaffold hook. Conforms to  
EN 355.



**ABM-2TA c/w Snap Hook**  
**ABM-2TB c/w Scaffold Hook**

Energy absorbing twin legged 2m  
lanyard available with either snap  
hook or scaffold hook.  
Conforms to EN 355.



**LB101**

1m Restraint Lanyard  
Conforms to EN 354 & En 358.



**AH210**

2.25m Retractable energy  
absorbing lanyard fitted with swivel  
snaphook Conforms to EN 360.



**AC010**

**AC100**

Removable fall arrest ropes grab.  
Rope available in 5m, 10m, 20m and  
30m lengths. Conforms to 352-2.

# PPE Accessories

## Webbing Temporary Lifeline

A temporary webbing horizontal lifeline that can span between 2 anchor points for up to 3 users, fitted with spring gate karabiner both ends. Available in 10m and 20m lengths and stored in its own protective bag. Conforms to EN 795 Class B.



**AE320 10**  
**AE320 20**

## Temporary Anchor Points

### Anchor Clamp



**AT250**

A temporary lightweight aluminium anchor point for use with steel beams. Tested to EN795 Class B, adjustable for beams between 95mm and 400mm flange.

### Anchor Beam



**AT060**

A temporary anchor point for one user tested to EN795 Class B.

Adjustable to suit 350mm - 1240mm clamping range.



## Miscellaneous Accessories

### Suspension Trauma Strap



**AY201**

Retrofit to any full body harness the Suspension Trauma Strap provides the means for a worker who has fallen to stand in their harness, while waiting for rescue. Standing relieves pressure on the legs and prevents the effects of suspension trauma.



**AZ011**

Screw Gate Snap Hook Zinc Plated.

Dimensions 108 x 60mm.

Conforms to EN 362.

## The Inspection and Assessment Service



**KEE CHECK** is an Inspection Service Scheme offered on an annual basis for new and existing roof top protection systems. Our trained inspection representative can inspect and assess all roof top installation works which have been carried out using **Kee Safety** products. The inspection representative will check that all fall protection systems in place comply with current Health and Safety legislation regarding Working at Heights and National and European Design Standards.

In addition we offer a full Working at Height Assessment Service to your roof top areas. We will inspect and issue a full report indicating the potential Health and Safety hazards identified on your roof areas, and provide our recommendations on solutions to overcome future hazards and potential injuries.

Both our **KEE CHECK** Inspection Service Scheme and our Working at Height Assessment Service will give you peace of mind and ensure that all your roof top protection systems comply with current Health and Safety regulations.



- **Inspection of roof top protection systems**
- **Identification of Health and Safety hazards**
- **Recommendation of possible solutions**
- **Compliance with Health and Safety legislation**



# Fall Protection Photo Gallery



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