

**Fabrications, Safety
& Lighting Solutions**

Safety



Height Safety Solutions
Personal & Collective Fall Protection Systems

Contents

Introduction	3
Design & Specification	4
Safepro2	6
Safetraxx	7
Saferidge	8
Safeside	9
Case Study	
Red Scar Business Park, Preston, UK	10
Contacts	11

Introduction

Fabrications, Safety & Lighting Solutions, a sub-division of Kingspan Insulated Panels, offers a comprehensive range of high performance and aesthetic insulated gutters and flashings, personal and collective fall protection systems, superior-quality natural daylighting products and intelligent LED luminaires.

Our range of safety products provides proven and discreet personal and collective fall protection systems for working at height, and includes:

- Safepro2, an innovative roof anchor system that employs force minimisation technology to limit the load transferred to the roof in a fall arrest event;
- Safetraxx, a flexible high-grade, precision-extruded aluminium rail designed to be fixed continuously across a variety of roof positions to minimise potential roof damage;
- Saferidge, a high-grade precision-extruded aluminium rail which is factory-fitted to a bespoke steel ridge capping and is designed to dissipate fall arrest forces across a wide roof area;
- Safeside, a cost-effective collective fall protection system that provides a perimeter guard rail to prevent access to the edge of the roof.

Compatibility

All four systems have been carefully chosen and tested in house to ensure full compatibility with our range of insulated roof panels, and are designed to minimise the dynamic load applied to the roof in a fall arrest event. Please refer to the table below.

Product Compatibility Matrix

	KS1000 RW				KS1000 TS			KS500 ZIP IP		
	KS2000 RW	KS1000 LP	KS1000 CR	KS1000 DR	KS2000 TS	KS1000 RT	KS1000 TD	KS1000 SRW	KS1000 ZIP IP	KS1100 CS
Safepro2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓*
Safetraxx	✓	✓	✓	✓	•	•	•	✓	✓	✓*
Saferidge	✓	✓	✓	✓	•	✓	•	✓	✓	•
Safeside	✓	✓	✓	✓	•	•	✓	•	✓	✓

Notes:

* Subject to structural capacity.



Kingspan Benefits

Guarantee

All four systems are available with the Kingspan Guarantee and, for added peace of mind, we also offer extensive product and installation training.

Safepro2, Safetraxx, Saferidge and Safeside are the only fall protection systems fully tested and approved for use on our range of insulated roof panels, ensuring protection of our insulated panels guarantee.

Quality & Durability

Our height safety systems are manufactured from the highest quality materials, ensuring long-term reliability and service life. All four systems are fully compliant with ISO 9001 (Quality), ISO 14001 (Environmental) and OHSAS 18001 (Health & Safety).

Design & Specification

When designing personal fall protection systems, it is important to consider which areas of the roof are to be accessed and how competent the worker is at working at height.

Access is generally required to the whole roof area to allow for inspection, cleaning and maintenance, however the designer may also choose to focus on specific areas of the roof such as the guttering.

It may not always be possible to provide the same level of protection to all areas of the roof, but a risk-based approach should be taken in order to offer the highest levels of protection to the largest possible roof area. The roof edge poses the most obvious hazard when working at height, but other areas, such as rooflights, should also be taken into account.

It is best practice to design personal fall protection systems for workers with low levels of competency in working at height. This approach is by no means foolproof, but should protect all workers with basic roof access training.

The Work at Height Regulations stipulate that work restraint protection should be considered before fall arrest protection. Fall arrest should only be considered where it is not "reasonably practicable" to provide work restraint.

The technical standard EN 795 states that, to allow for foreseeable misuse, all anchor devices should be capable of arresting a fall, even if their intended use is for restraint. This means that, in order to comply with national standards, all personal fall protection systems should be proven capable of restraining and arresting a fall when installed on site.

The difference between designing a system for arrest and for restraint lies with the location of the system on the roof, and the type of PPE that is used by the worker.

When specifying personal fall protection systems, please refer to one of the personal protection (PP) levels in the table below.

Personal Protective Equipment (PPE)

When designing personal fall protection systems, it is essential that PPE is taken into consideration and included as an integral part of the specification process. Kingspan offers a complete range of PPE including:

- Harnesses;
- Lanyards (single and double);
- Ropes and grabs;
- Rescue kits.

Personal Protection Levels

PP Level	Summary	Description	Application Example
1	Restraint without requirement for PPE adjustment.	Workers are restrained from reaching all fall hazards by attaching themselves to the fall protection system with PPE that requires no manual adjustment. The system, as installed, should be proven capable of arresting falls.	<ul style="list-style-type: none"> ■ System is fixed 2.5m back from the edge of a low pitch roof. ■ Worker is using a 2m long lanyard. ■ Within 5m of the roof edge, the worker is restrained from reaching the edge without the need to adjust PPE. ■ For roof locations over 5m from the edge, there is negligible risk of a fall. There is no need for PPE attachment.
2	Restraint with requirement for PPE adjustment.	Workers are restrained from reaching all fall hazards by attaching themselves to the fall protection system with PPE that requires correct manual adjustment. The system, as installed, should be proven capable of arresting falls.	<ul style="list-style-type: none"> ■ System is fixed centrally on a roof. ■ Worker uses a rope with a grab. ■ For protection when accessing different areas of the roof, workers should manually adjust the length of their connection to the system. ■ Incorrect adjustment may result in a fall.
3	Fall arrest.	Workers are not restrained from reaching fall hazards, but any fall occurrence will be arrested in a controlled manner. Fall clearance must be taken into consideration, and a rescue plan must be implemented before work begins.	<ul style="list-style-type: none"> ■ A narrow roof area where it is not possible to prevent workers from reaching the edge, even when they are connected to a fall protection system.

Design & Specification

Where personal fall protection systems are fixed directly to the roof, i.e. not fixed to the primary structure, energy-absorbing anchor posts / rails should be installed to reduce the load applied to the roof in a fall arrest event.

Rail-based anchor systems can be used to dissipate loads across a larger area of the roof.

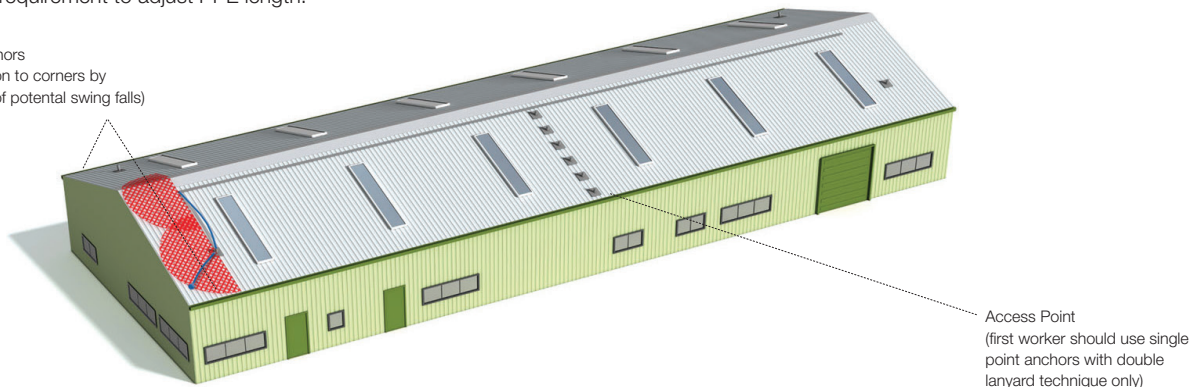
In addition to absorbing energy, anchor posts should also deploy so that fall arrest loads are applied as close to the roof surface as possible. This reduces turning moments in the post, thus minimising tensile forces in the fixings and twisting of the roof panel. For roof slopes greater than 15°, rail-based anchor systems should be used, as rails are not prone to deployment due to incidental loading such as pulling on ropes while walking up or down the roof slope. For all system types, the fixings used should be proven on the specific roof type to which they are installed.

Central Life Line System

Provides work restraint protection to the majority of roof areas, and fall arrest protection around rooflights and end edges (please refer to PP level 2 in the table on p.4).

- Suitable for workers of medium competency in working at height.
- Moderate requirement to adjust PPE length.

Single Point Anchors
(provide protection to corners by reducing extent of potential swing falls)

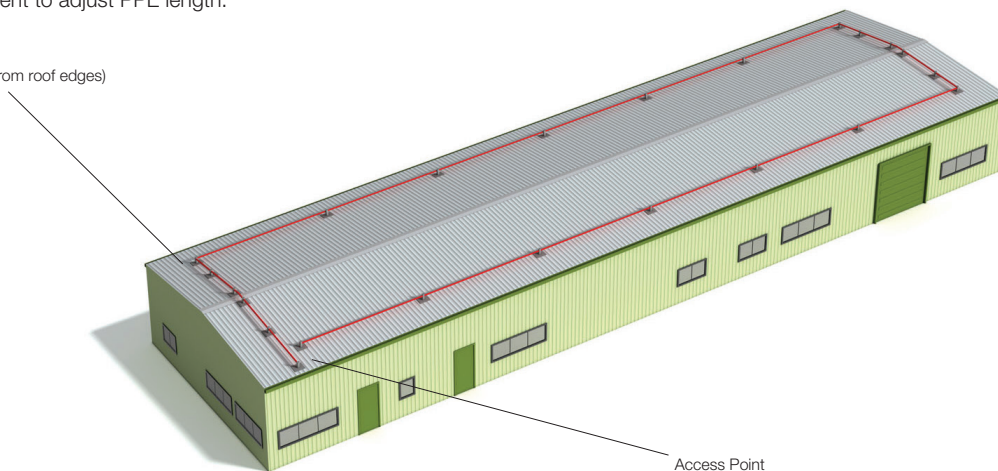


Perimeter Life Line System

Provides work restraint protection to all roof edges (please refer to PP level 1 in the table on p.4).

- Suitable for workers of basic competency in working at height.
- No requirement to adjust PPE length.

Work Restraint
(minimum of 2.5m from roof edges)



Safepro2

Safepro2 is an innovative personal fall protection system, designed to protect both the worker and the roof to which it is fixed. The Safepro2 system comprises a high-strength steel cable, supported on energy-absorbing roof anchor posts.

Roof anchor posts incorporate force minimisation technology, which limits the load transferred to the roof in a fall arrest event to less than 6kN. This is a significant improvement on previous types of force control posts which applied a load of 10kN or more.

Safepro2 is one of the easiest systems available on the market when it comes to design, installation and usage.

Applications

Safepro2 is fully compliant with BS EN 795: C, and has been designed specifically for use with various Kingspan insulated roof panel systems, including Trapezoidal Roof, Lo-Pitch, KingZip IP and Topdek (see full compatibility matrix on p.3). Safepro2 can be installed anywhere on the roof to ensure the most practicable solutions are provided.

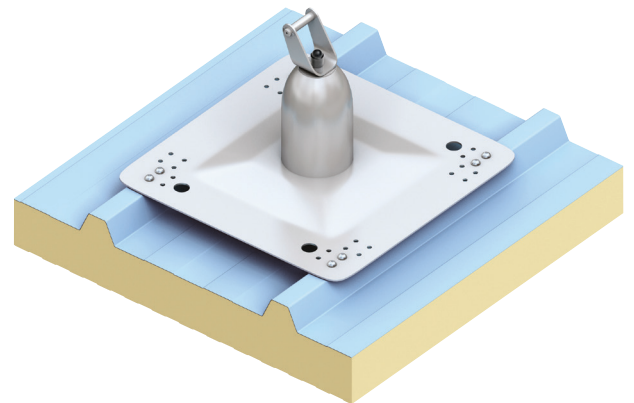
Features & Benefits

- Fully compliant with BS EN 795: C.
- Fully compliant with ACR[M]002: 2009 Testing of Roof Anchors on Roof Systems.
- Compatible with most Kingspan insulated roof panels.
- Available with the Kingspan Guarantee.
- Does not affect the Kingspan insulated panels guarantee.
- High-grade stainless steel and aluminium components, providing superior levels of corrosion resistance, durability and service life.
- Advanced fixing design allows efficient installation without the need to access the underside of the roof.
- Systems are fixed to the top skin only, with no penetration of the insulation, eliminating thermal bridging. (For Topdek membrane-lined insulated panel applications, fully-insulated toggle fixings are used).
- Can be installed to ensure safe installation and maintenance of Kingspan Energy Rooftop Solar PV.
- Highly-evolved force minimisation technology.
- Can be installed during or after construction.

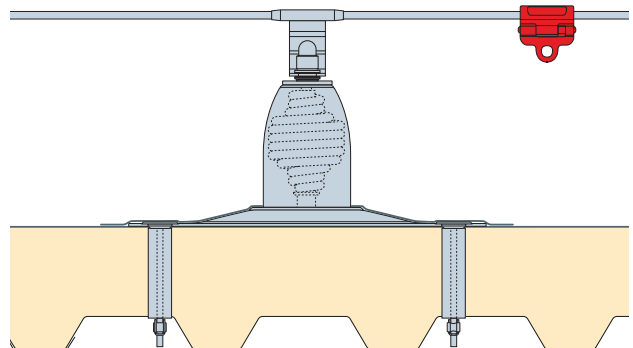
Safepro2 with KingZip IP Base Plate



Safepro2 with Trapezoidal Roof Panel Base Plate



Safepro2 with Topdek Roof Panel Base Plate



Safetraxx

Safetraxx is a robust personal fall protection system, comprising a high-grade precision-extruded aluminium rail. This flexible rail-based anchor system dissipates forces in a fall arrest event to minimise potential damage, and provide protection, across the whole roof area.

Featuring a discreet low profile rail, the Safetraxx system minimises aesthetic impact whilst also providing high resistance to wind and snow loading. Various colour options are available to offer a complementary or contrasting finish.

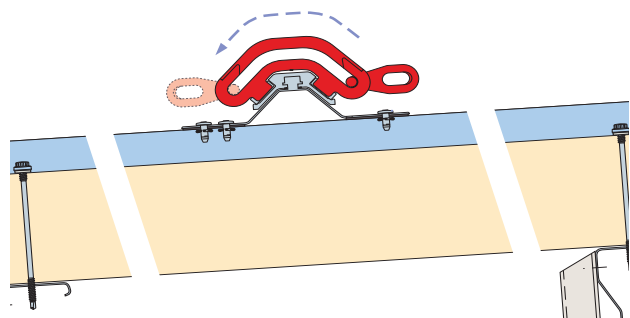
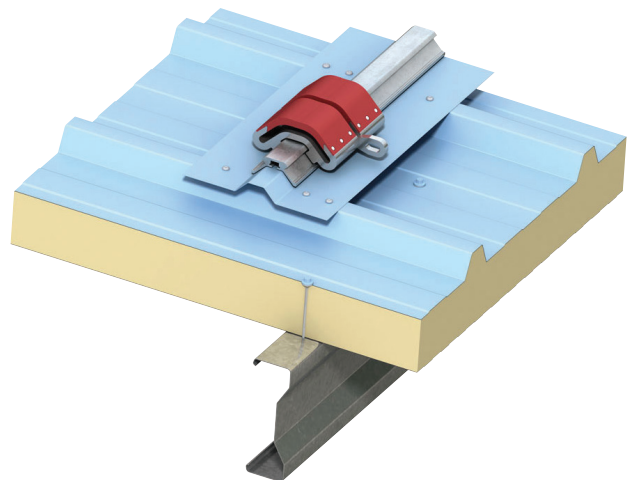
Applications

Safetraxx is fully compliant with BS EN 795: D, and has been designed specifically for use with various Kingspan insulated roof panel systems, including Trapezoidal Roof, Lo-Pitch and KingZip IP (see full compatibility matrix on p.3).

Features & Benefits

- Fully compliant with BS EN 795: D.
- Compatible with most Kingspan insulated roof panels.
- Available with the Kingspan Guarantee.
- Does not affect the Kingspan insulated panels guarantee.
- High-grade steel and aluminium components, providing superior levels of corrosion resistance, durability and service life.
- Advanced fixing design allows efficient installation without the need to access the underside of the roof.
- Systems are fixed to the top skin only, with no penetration of the insulation, eliminating thermal bridging.
- Can be installed to ensure safe installation and maintenance of Kingspan Energy Rooftop Solar PV.
- Can be installed during or after construction.

Safetraxx with Trapezoidal Roof Panel



Saferidge

Saferidge is a personal fall protection system comprising a high-grade precision-extruded aluminium rail, factory-fitted to a steel ridge capping (which is bespoke and fabricated for each roof). This unique rail-based anchor system is designed to dissipate fall arrest forces across a wide roof area, minimising potential damage to the roof.

Featuring a discreet low profile rail, the Saferidge system minimises aesthetic impact whilst also providing high resistance to wind and snow loading. Various colour options are available to offer a complementary or contrasting finish.

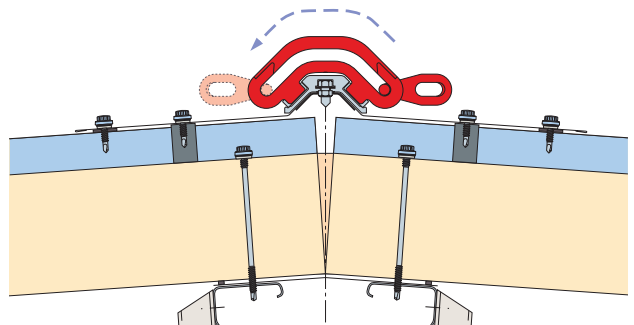
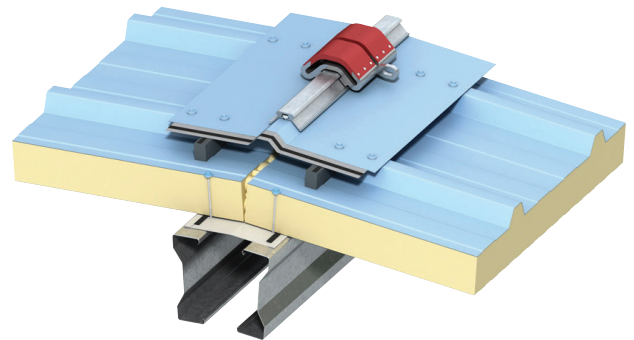
Applications

Saferidge is fully compliant with BS EN 795: D, and has been designed specifically for use with various Kingspan insulated roof panel systems, including Trapezoidal Roof, Lo-Pitch and KingZip IP (see full compatibility matrix on p.3).

Features & Benefits

- Fully compliant with BS EN 795: D.
- Compatible with most Kingspan insulated roof panels.
- Available with the Kingspan Guarantee.
- Does not affect the Kingspan insulated panels guarantee.
- High-grade steel and aluminium components, providing superior levels of corrosion resistance, durability and service life.
- Advanced fixing design allows efficient installation without the need to access the underside of the roof.
- System is fixed to the top skin only, with no penetration of the insulation, eliminating thermal bridging.
- Can be installed to ensure safe installation and maintenance of Kingspan Energy Rooftop Solar PV.

Saferidge with Trapezoidal Roof Panel



Safeside

Safeside is a cost-effective collective fall protection system for flat roof or suspended ceiling applications. This flexible guard rail system provides high levels of fall protection to the perimeter of the roof, and is suitable for accessible areas of any size and layout.

Installation is simple and quick, with no specialist tools required, and approved installation contractors can offer a cost-effective full design, supply and installation service.

Applications

Safeside is fully compliant with BS EN 13374: A, and is compatible with various Kingspan insulated roof panel systems, including Trapezoidal Roof, Lo-Pitch, KingZip IP and Topdek as well as Controlled Environments' UltraTemp (KS1 100 CS) panels (see full compatibility matrix on p.3). Safeside can be used for external flat / pitched roofs up to 10°, and internal walk-on ceilings.

Features & Benefits

- Fully compliant with BS EN 13374: A.
- Compatible with most Kingspan insulated roof panels, and suitable for suspended ceiling applications.
- Available with the Kingspan Guarantee.
- Does not affect the Kingspan insulated panels guarantee.
- High-grade steel components, providing superior levels of corrosion resistance, durability and service life.
- No penetration of the insulation, eliminating thermal bridging.
- Can be installed to ensure safe installation and maintenance of Kingspan Energy Rooftop Solar PV.
- Can be installed during or after construction.

Safeside with Controlled Environments Panel



Red Scar Business Park Preston, UK

Industrial

Project Type:

Commercial Units, New Build

Installer:

Valent Roofing (panels) & Harcon Services (safety system)

Products Used:

- Safetraxx Fall Protection System
- Kingspan Day-Lite Trapezoidal Roof System
- Trapezoidal Roof Panel

"We have a great deal of experience installing Kingspan's height safety solutions, and have found that clients are always extremely pleased with both the speed and ease with which they can be fitted and used."

Paul Harvey, Harcon Services.



Contacts



Technical Services

Our technical engineers are a key part of our design and development process, providing a wide range of technical support and working with customers on an individual project basis to ensure that the correct products are specified and ordered.

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Quotes

To receive a quote and expected lead times for your project requirements, please call one of our team on:

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Email: safety@kingspanpanels.com

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Marketing Support

Our marketing team aims to provide a fast turnaround on literature requests, eliminating delays with material planning and client approval. Brochures, case studies and videos are all available on the website at www.kingspanpanels.co.uk.

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Field Service & Training

We recognise that customer staff training is key to maximising the performance of our products, there we provide extensive installation training on each of our personal and collective fall protection systems.

Area Sales Managers

To find your nearest area sales manager, simply visit: www.kingspanpanels.co.uk/asm

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For the product offering in other markets please contact your local sales representative or visit www.kingspanpanels.com

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