



TOP-FIXING

FALL RESTRAINT SYSTEM



FOR APPLICATIONS OF
KINGSPAN INSULATED
ROOF PANEL SYSTEMS

KS1000 RW
KS1000 BU
KS1000 LP/CR

Latchways plc is the world leader in the design and manufacture of cable-based Fall Arrest system equipment offering continuous protection to individuals working at height. Latchways distributes its products in twenty countries throughout the world including the United States, Japan and most European countries.

Latchways' products may be used on buildings, bridges, towers, chemical plants, aircraft hangers and offshore platforms – and may be installed on new or existing structures.

The company's reputation is built on the supply of products manufactured to unique patented designs and rigorously tested to international quality standards by independent testing laboratories both in the UK and overseas.

Latchways' and Kingspan's technical departments have worked together to produce a system that maintains the integrity of Kingspan's insulated roof panels. The top-fixing fall restraint system is a simple and cost effective solution that exceeds international safety standards.

Safety Regulations

The Construction, Design and Management regulations came into force in March 1995 to offer further protection to worker safety. This was reinforced when the Construction Safety and Welfare Regulations 1996 Statutory No 1592 Regulation 6 was introduced. It was incorporated into the HSE code of practice, which said, "it is the responsibility of the employer to ensure that any employee required to work at a height of 2m or more must be suitably protected from any potential fall hazards. In the event of a fall the equipment used must be of sufficient strength to arrest a worker's fall". This stimulated the demand for certified Fall Arrest Systems, which meet all the necessary safety standards. Latchways' systems comply with:

EC Declaration of Conformity

European Council Directive 89/686/EEC

European Standard EN795

Latchways is also an ISO 9002 company and a US Department of Defence contractor

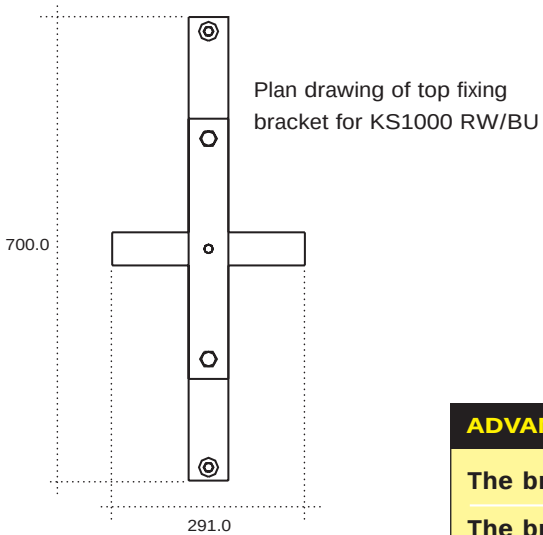
Load Control

Latchways' reputation has been built on their ability to provide unique technical solutions to arrest a falling weight. As a guide, a 100kg worker free falling 2m will generate approx. a one tonne force. The load when applied to a horizontal cable can be multiplied several times depending on the design of the system. It is the management and distribution of the forces generated by a fall that keeps Latchways Fall Arrest Systems ahead of the competition.

Latchways' systems are designed with the aid of Latchways for Windows™ software package. This ensures consistent predictions of end loadings. The number of workers required to use the system is entered into the end load calculation. Normally two workers are provided for, however this can be increased to accommodate up to 6 workers. The software is only issued to approved Latchways installer companies.

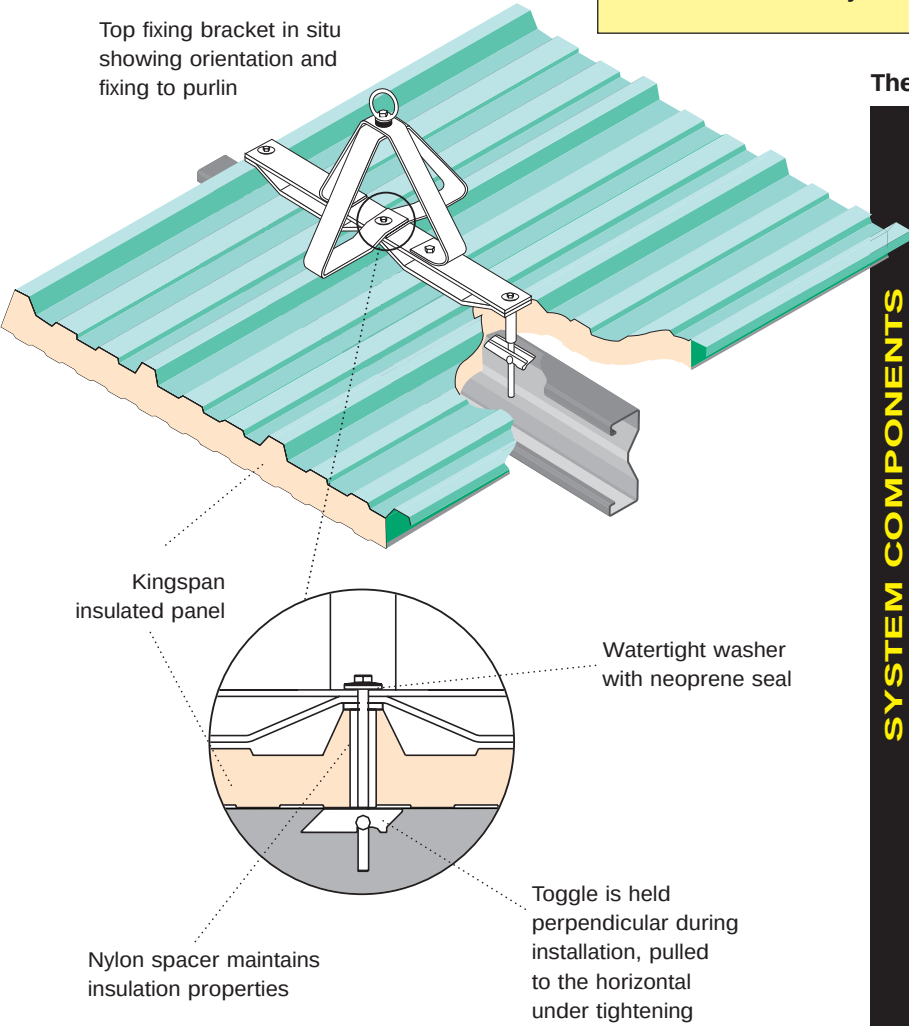


Latchways Windows™ software for system design



ADVANTAGES OF THE TOP-FIXING BRACKET

- The bracket can be fixed from above
- The bracket is self-sealing with airtight and watertight seal
- The bracket has inbuilt load absorption
- The bracket is quick and easy to fit
- The bracket is easy to inspect and maintain



KINGSPAN APPROVAL

The Kingspan-Latchways designed top-fixing safety system is approved by Kingspan for use on their insulated panels.

Inspection and Maintenance

Inspection is required on an annual basis to comply with the EN 795 and Latchways' recommended programme. A Latchways approved installer must carry out the inspection.

Annual maintenance is kept to a minimum, the only need for a further maintenance is in the event of a fall when the system must be checked immediately.

The key elements in the system are as follows:

SYSTEM COMPONENTS	Top fixing panel bracket Designed to withstand a load in excess of 9kN	
	Toggle bolts Designed to hold the bracket in place and form a watertight seal between the bracket and the panel	
	Cable Latchways 8mm cable is strung between the brackets and identified by the yellow strand that runs through its entire length	
	Shock Absorber An integrated part of the Latchways load control system that deploys for loads in excess of 8kN	
	ManSafe Transfastener The unique Transfastener runs freely through the brackets allowing worker's hands-free movement	
	Corner Units These allow system direction to be altered by 90°	



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Latchways Windows™ software for system design

System Design

The Latchways fall restraint system has been designed to match the same exacting specifications as Kingspans' insulated panels. Consultation between Latchways and Kingspan means that the system has been developed to be fast and simple to install without affecting the unique insulating weatherproofing properties of the Kingspan panels.

System Installation

Systems can only be installed by Latchways' network of national and international installers.

The top-fixing bracket can be attached anywhere along the length of the purlins utilising the Latchways toggle bolts. An 8mm stainless steel cable is threaded through the Latchways cable hangers. The cable is swaged at either end into Latchways' end anchor components, which will vary according to the requirements.

The end anchor components are attached to a heavy duty D-ring that is mounted on top of the end brackets. Tension of 80kg is introduced into the cable utilising turnbuckle and toggles. The exact tension is verified when the tension disc can be rotated freely by hand.

For low pitch roofing panels the end brackets are different in design to the intermediate brackets. Depending on the length of the system, the Latchways installer may recommend incorporating the unique Latchways shock absorber to one end of the cable.

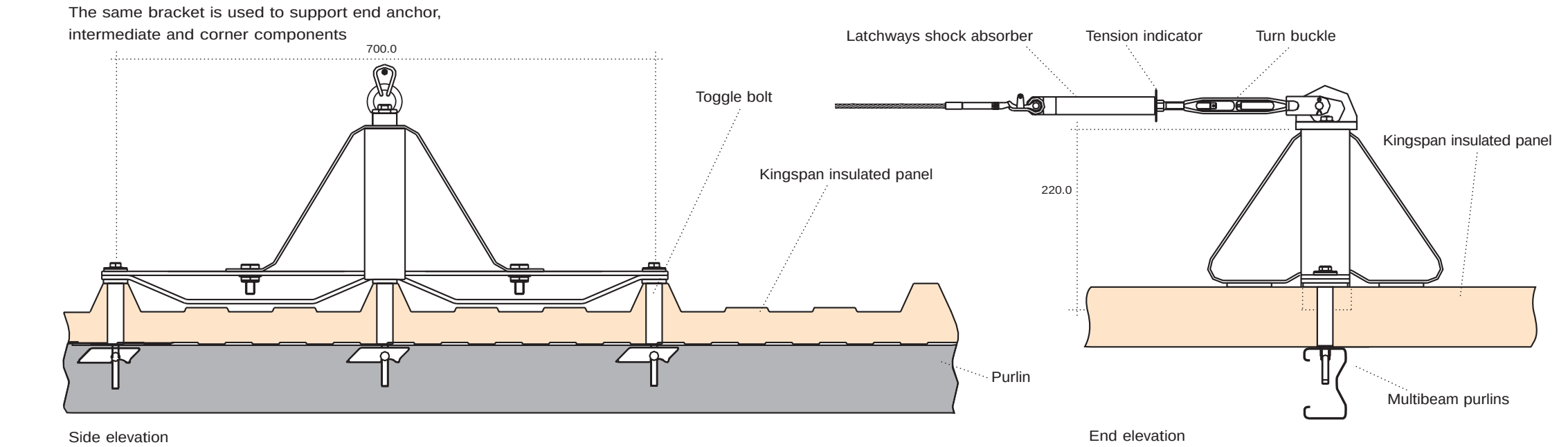
The worker attaches to the cable with a Latchways Transfastener. This device enables the operator to pass freely through the intermediate supports without having to detach from the cable. It is essential that the worker wears a full body harness and is attached to the Transfastener with a CE approved shock-absorbing lanyard.

Materials and Quality Control

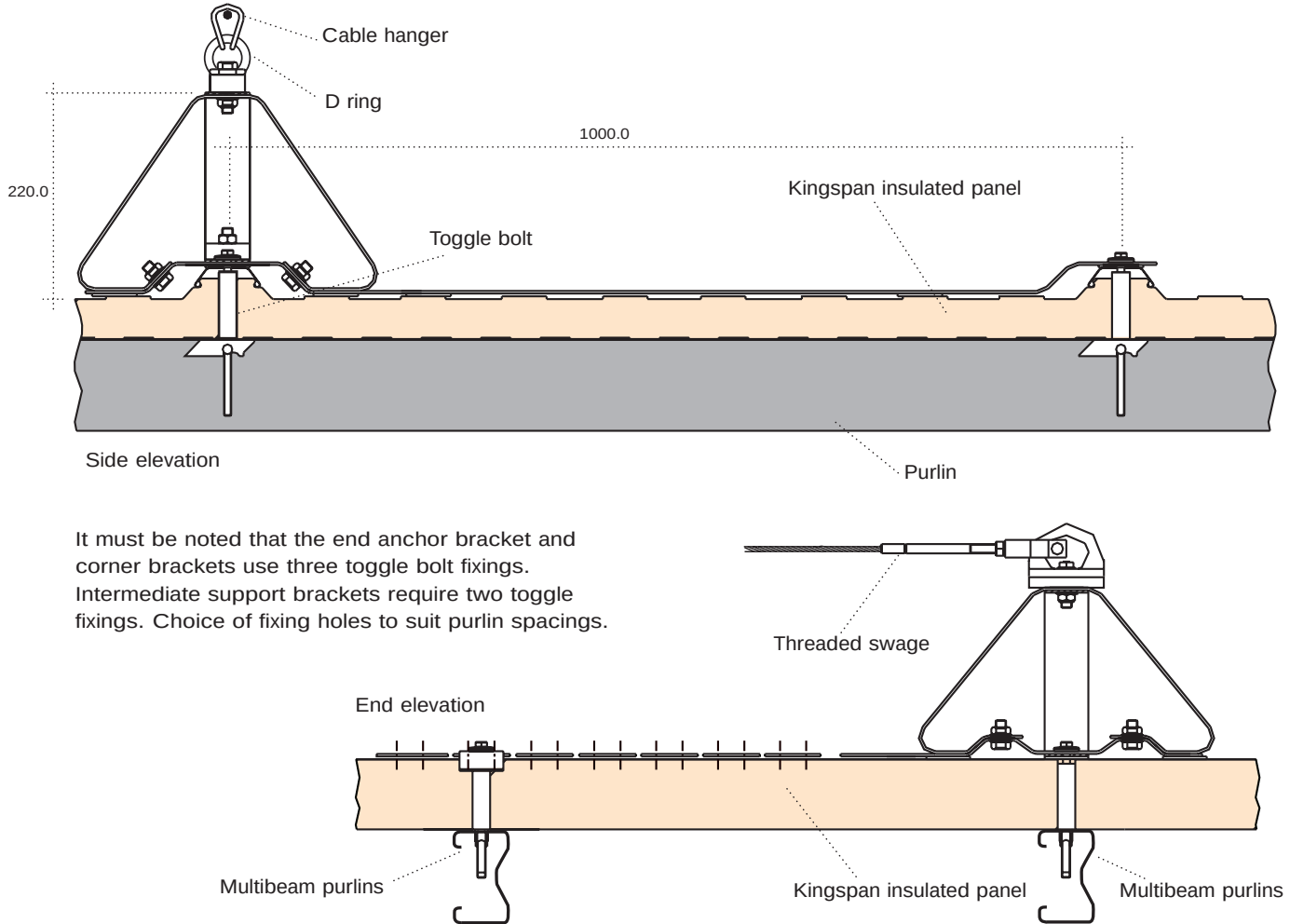
Latchways' products are made of 316S grade stainless steel because of its corrosion-resistant properties. All brackets are electroplated to add further protection and to provide a professional finish. The brackets can be supplied with a powder coat finish in any British Standard colour.

As part of Latchways' ISO 9002 procedures all components are batch tested and serial numbered for traceability. In addition, all critical coatings are subject to dye penetrant or magnetic particle analysis and X-ray inspected.

KS1000 RW & BU INSTALLATION



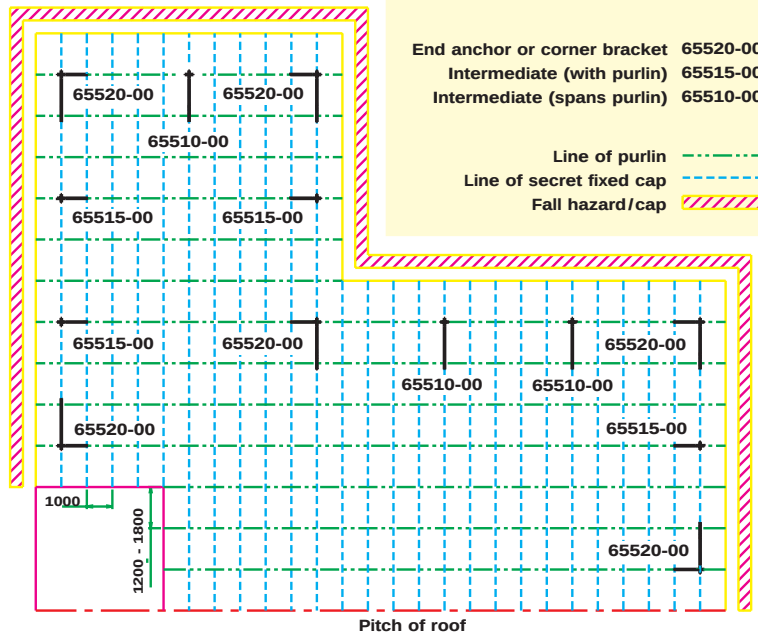
KINGSPAN KS1000 LP /CR INSTALLATION



It must be noted that the end anchor bracket and corner brackets use three toggle bolt fixings. Intermediate support brackets require two toggle fixings. Choice of fixing holes to suit purlin spacings.

System configuration for Specification

The roof layout shown below indicates key considerations when specifying the Latchways top fixing brackets. Part numbers are dependent on both the orientation of the bracket in relation to the purlin and the function of the bracket i.e. it must be clearly defined whether the bracket is an end anchor, corner bracket or intermediate. Please note the different part numbers when specifying.



For full details on the range of Kingspan products shown please call: 01352 716100 or fax: 01352 716161

Latchways plc guarantees that its products will meet the life cycle as laid out below subject to the terms set out in this guarantee.

This guarantee applies to any systems installed on buildings in the UK. Apart from the mobile attachment devices which are guaranteed for one year only, the Latchways products are guaranteed for a period of 20 years or 15 years for any installation situated within 3km of the coast. This guarantees that the products are defect-free and conform to Latchways' specifications. It does not cover the installation of the system or the appearance of the products when they have been in service for a number of years. Should a defect be identified in any of the Latchways products within the guarantee period Latchways will replace that product free of charge.

Obligations

1. To bring the Latchways guarantee into effect, the building owner or his agent must register the building within three months of hand-over by completing and posting the pre-addressed building registration card available from Latchways.
2. Latchways will issue a guarantee showing a registration number and design specification that apply to the building being registered. The document should be kept in a safe place.
3. The system must be inspected and re-certified at intervals recommended by an approved Latchways Installer but not exceeding 12 months.
4. In the event of arresting a fall, the system must be inspected and re-certified by an approved Installer before the system can be returned to service.
5. To invoke the guarantee, the building owner or his agent must notify Latchways in writing within ten days of the identification of any defect indicating a failure of the product. Latchways must be given a reasonable opportunity to inspect the defect.

Notification must include the registration number or a copy of the registration details and be sent to the Latchways plc registered office.

Limitations and Exclusions

1. The period of the guarantee runs from the date on which the product was delivered to site.
2. This guarantee is limited exclusively to the cost of labour and material (including any necessary hire of equipment) for restoring the defective component to meet the original guarantee period. It will be at the sole discretion of Latchways to determine appropriate measures to provide suitable restoration.
3. The guarantee does not cover the installation of the system itself as this is the approved Installers responsibility.
4. All mobile attachment devices e.g. the Transfasteners, are guaranteed for one year only.
5. The guarantee does not apply to defects arising from:
 - 5.1 Corrosion or other effects arising from elements within the building; arising from entrapment of pollutant; arising from abnormal atmospheric pollution and contact with aggressive fumes or chemicals.
 - 5.2 Fire, lightning, flood, explosion, abnormal winds, earthquake, acts of war, riots, civil commotions, radiation, falling objects, vandalism and other extraneous causes.
 - 5.3 Misuse, wilful act or negligence.
 - 5.4 Damage to the system incurred during fabricating, storage, transport or erection.
 - 5.5 Accumulations of dirt or debris.
 - 5.6 Emissions of harmful gases, fumes or chemicals from either natural or man-made sources.
 - 5.7 Exposure to continuous temperatures, howsoever caused, greater than 60°C or less than -25°C.
 - 5.8 Direct or indirect contact with corrosive materials.

