Application brochure

ManSafe® for Telecoms

Fall protection for the telecommunications industry

TowerLatch®
LadderLatch®
Constant Force® post
Freestanding Constant Force post
VersiRail®

LATCHWAYS
FALL PROTECTION

Falls from height are the single biggest cause of death and one of the biggest causes of serious injury in the workplace today. For businesses whose workers need to operate quickly and effectively at height, fall protection is already a major issue—and it's going to become increasingly important as regulatory authorities introduce ever-stricter legislation concerning:

- Where height safety should be implemented
- The systems that are acceptable for use
- Who is responsible for ensuring worker safety

Are you responsible?

The answer could well be 'Yes'. According to the health and safety legislation these people are 'duty-holders'—responsible for ensuring adequate fall protection and potentially liable in the event of an accident.

Project/Design and Construction Manager

Design Controller/ Quantity Surveyor

Head of Network Deployment

Principal Contractor/ Sub-Contractors

Network Health and Safety Manager

Asset/Supply Chain Manager

What you need to do

The official advice to duty-holders can be summarised as follows:

- Avoid work at height, where possible
- When working at height is essential, ensure that workers are not exposed to unnecessary risks
- Where it is not possible to eliminate the risk of falling, **use a suitable fall protection system to minimise the consequences of a fall**

Latchways plc—global leaders in fall protection

Latchways' TowerLatch and LadderLatch systems offer outstanding personal safety for telecoms workers and their inherent flexibility means that they can be configured for use on the wide variety of ladders, towers, masts, monopoles and other structures employed in the industry today.

The systems are built around Latchways' innovative starwheel component—which provides continuous hands-free security—and its Constant Force energy absorber—a revolutionary technology that guarantees unrivalled protection for telecoms personnel working at height. Latchways' systems are installed on telecoms masts and rooftops around the world and specified by major, household-name companies.

Safety

- The systems' universal attachment device rotates freely through intermediate cable guides for continuous, hands-free protection.
- In the event of a fall, the TowerLatch or LadderLatch unit locks onto the cable to arrest the fall. At the same time, a fluorescent red indicator is exposed to indicate that a fall has occurred.
- The systems' built-in Constant Force energy absorber ensures that the maximum load on the worker and end anchor in the event of a fall does not exceed 6 kN.
- A webbing strop is incorporated into the TowerLatch® device to facilitate rescue.
- Both systems meet or exceed all relevant international standards.

A solution for every situation

As you might expect from the global leader in fall protection, Latchways has a full range of products designed to cater for a variety of sites and conditions. The Latchways range of horizontal fall protection solutions—which includes the Constant Force posts, freestanding Constant Force posts and the VersiRail guardrail system—is ideal for personnel working on rooftops or similar structures.

Ease of installation and use

- Can be incorporated at the design stage for new towers or retrofitted to existing structures
- Can be installed to follow the contours of any structure, including horizontal and inclined sections
- Comprehensive range of components enables quick and easy installation on any type of overhead line tower, vertical structure or ladder
- Can be designed for up to six users
- Attachment units can be attached or detached at any point in the system
- Can be installed in virtually any environment

Responding to your needs

Latchways' offer ensures that every customer gets the solution they need. Whether the systems are required for greenfield sites or rooftops sites; new build or retrofit; network roll out programme or upgrading of antennas, Latchways offer a tailor-made service with maximum support.

Consultation

Thanks to the company's close working relationships with network providers and telecoms structure manufacturers, Latchways is well-placed to offer expert support and advice on a range of working at height issues. These relationships also give the company a unique insight into customers' individual requirements and an unrivalled ability to satisfy those requirements.

System design/specification

Having established the customer's requirements, Latchways uses a detailed kit number list, based on the description of the structure, the height of the structure and the spacing required by the intermediate brackets to identify the correct system required. Our team then ensures that each system is correctly kitted, packaged into boxes and labelled with all relevant details for each customer.

Installation

The installation process can be arranged either by Latchways' own worldwide network of approved Installers or by the customer's own contractors. For this purpose, Latchways has a comprehensive training programme to help.

Training

Covering both installation and use of the system, a training programme can be conducted at Latchways' facilities or at the customer's premises, if required. A certificate and photo ID card is issued to all personnel who successfully complete the programme.

System users

Latchways systems are installed on structures around the world and specified by all of the following suppliers:

- Ericsson
- Orange
- KPN
- Nokia
- Arqiva
- Vodafone
- Viacom
- 3
- Network Rail
- MTN
- T-Mobile
- Vodacom

With over 30 years experience and a worldwide installer network, Latchways is the global leader in fall protection. Latchways revolutionised the industry with its patented Constant Force technology and the company continues to innovate, with new systems designed and manufactured specifically for the energy industry.

Engineering excellence

All Latchways' systems are manufactured to the highest international standards, using only the best materials.

Each component is individually numbered, batch conformance and dye penetrant tested—a quality standard unsurpassed in the industry.

In addition to rigorous in-house testing, all Latchways' products undergo external verification to ensure they meet or exceed the relevant industry standards.

The TowerLatch system has also been subjected to accelerated ageing, wind tunnel trials and cyclic testing—all of which have confirmed the inherent quality and durability of the system.

Latchways' products are specifically developed to take account of the latest structural innovations and the company's commitment to excellence means that its systems have a proven track record of safety and reliability—even in the most extreme environments.

Company profile

- Patented technology
- Worldwide installer network
- Products regularly specified on high-profile projects around the world
- Listed on London Stock Exchange
- Products conform to EC, CSA and OSHA standards and carry the CE mark
- US Department of Defense approved
- ISO 9001 certified
- ISO 14001 certified

System materials

- Components: marine grade 316S stainless steel
- Cast components: 17/4 PH stainless steel
- System cable 8 mm diameter: 1 x 19 stainless steel

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Vertical fall protection— Testing, quality and maintenance

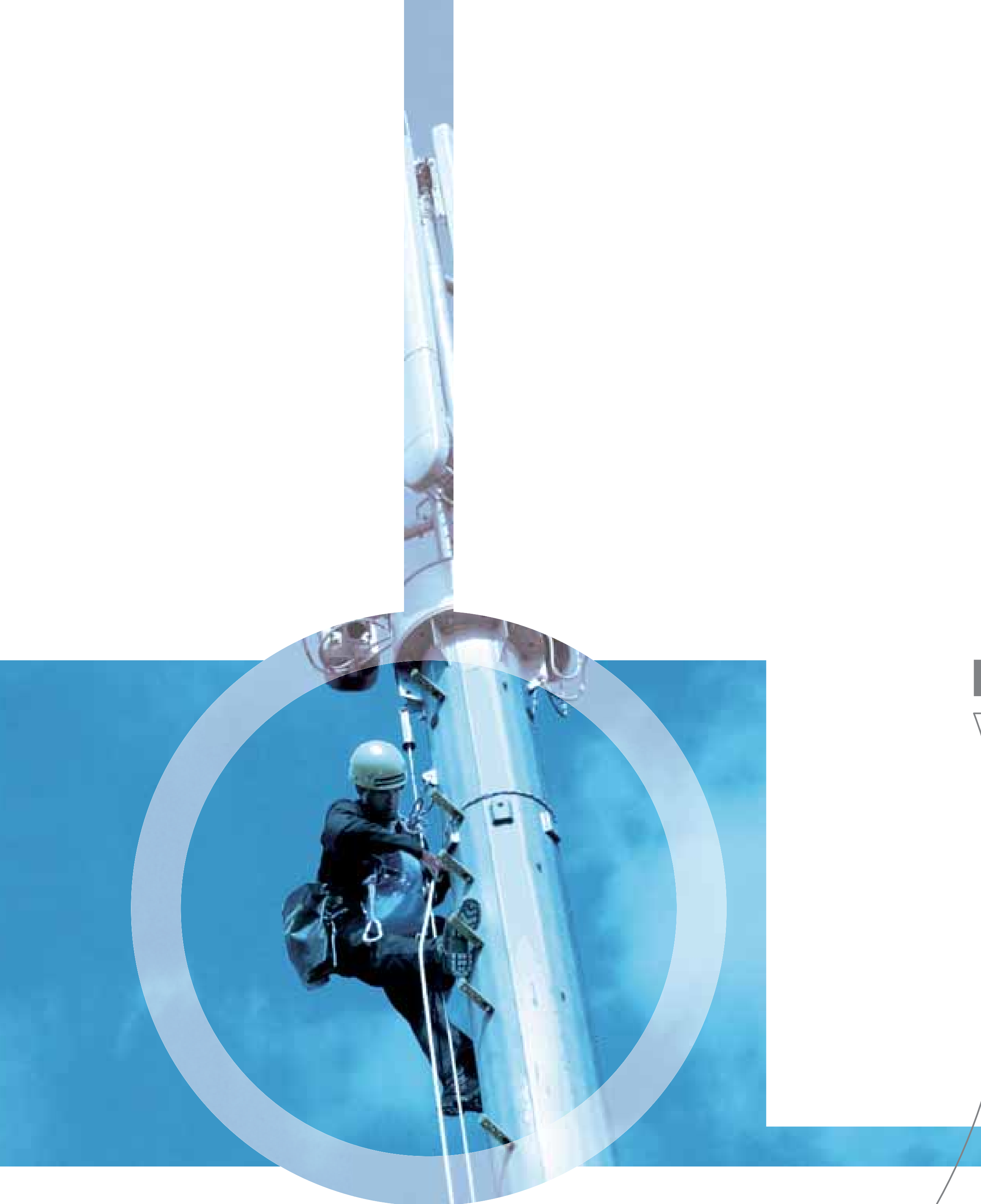
There are numerous standards which fall protection systems must comply with in order to be fit for purpose.

All Latchways products comply with the relevant standards and appropriate regulations.

Standards

The key standards relating to fall protection systems within the telecoms industry are:

- EN 353-1 Personal Protective Equipment (PPE) against falls from a height—Specification for guided type fall arresters on a rigid anchorage line
- EN 353-2 PPE against falls from a height—Guided type fall arresters including a flexible anchor line
- EN 341 PPE against falls from a height—Descender devices
- EN 354 PPE against falls from a height—Lanyards
- EN 355 PPE against falls from a height—Energy absorbers
- EN 358 PPE for work positioning and prevention of falls from a height—Belts for work positioning and restraint and work positioning lanyards
- EN 360 PPE against falls from a height—Retractable type fall arresters
- EN 361 PPE against falls from a height—Full body harness
- EN 362 PPE against falls from a height—Connectors
- EN 363 PPE against falls from a height—Fall arrest systems
- EN 364 PPE against falls from a height—Test methods
- EN 795 PPE against falls from a height—Anchor devices—Requirements and testing
- AS/NZS 1891.3-1997 industrial fall arrest systems and devices—fall arrest devices
- ANSI Z359.1-2007 safety requirements for personal fall arrest systems, sub-systems and components
- CSA Z259.2.1-98 design and performance requirements for manufacturing fall arrest devices, vertical lifelines and rigid sections, including mounting components



ManSafe®

ManSafe®, TowerLatch®, LadderLatch®, VersiRail® and Constant Force® are registered trademarks of Latchways plc

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TowerLatch®—Face Mounted Monopole & MonoStep System

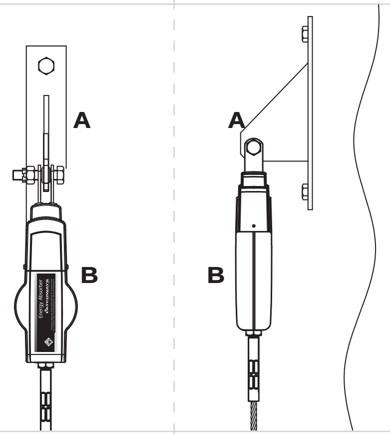
The TowerLatch system is fixed to the face of the monopole. Holes to fix top, intermediate and bottom anchors are drilled at the time of monopole manufacture. Screws and studs to fix the removable steps are also installed at this time.

Front elevation | Side elevation

Top anchor set

A Top anchor

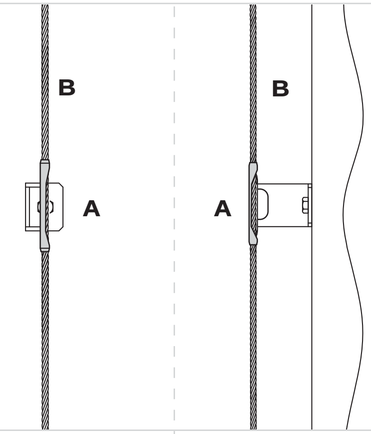
B Coil energy absorber



Intermediate set

A Intermediate helix wire guide

B 1 x 19 m ø8 mm stainless steel cable

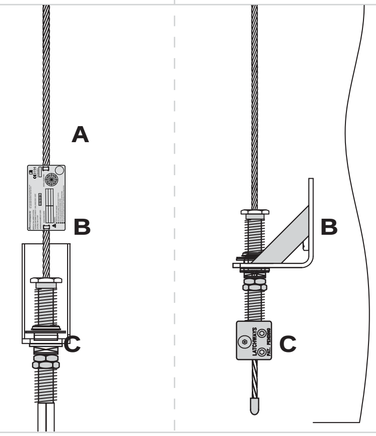


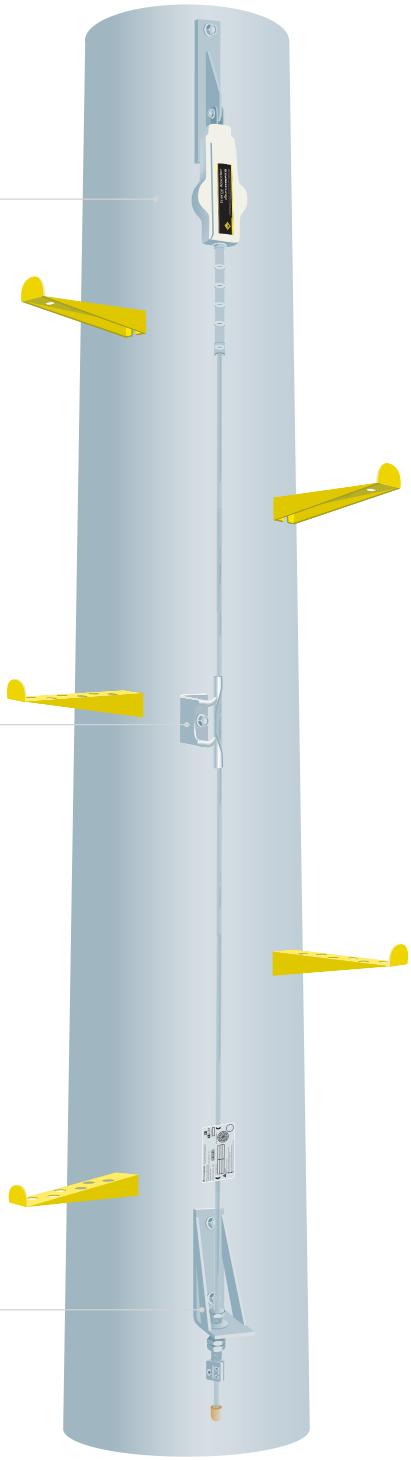
Bottom anchor set

A System warning label

B Bottom anchor bracket

C Cable clamp and tensioning device





LATCHWAYS FALL PROTECTION

System components

Top anchor

This bracket has a built-in factor of safety of 2½ times the potential load generated when a fall occurs. The system energy absorber is attached at this point.

Intermediate wire guides

These brackets support the cable, ensuring the correct stand-off distance from the structure is maintained. The spacing of the intermediates is dependent on the height and location of the structure. An extensive range is available to cater for all types of structure.

Bottom anchors

This bottom bracket provides a swage-free system termination and an integral tensioning device. At the correct cable pre-tension, the unit's indicator disc will spin freely. Unauthorised system adjustment is prevented through the use of captive security bolts.

Cable

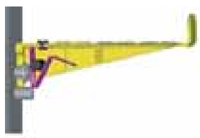
Latchways use a ø8 mm 1 x 19 stainless steel cable that has a unique identification system. The cable is factory tested to check its physical properties and to ensure performance is consistent.

TowerLatch unit

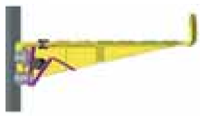
The TowerLatch unit secures the climber to the fall protection cable via the chest D-ring, which allows free movement up and down the structure, but immediately locks onto the cable in the event of a fall. The unit incorporates a webbing strop to facilitate rescue.

Constant Force® energy absorber

This energy absorber ensures that the load applied back to the structure and the climber in the event of a fall is limited to a maximum of 6 kN. A three or six person version is available, with both units having a red fluorescent indicator showing if a fall has occurred.



Unlocked position



Locked position

The MonoStep removable climbing system is designed to be used in conjunction with the Latchways TowerLatch system for monopoles.

The installation and removal of the MonoStep is simple. The spring locates over the stud and positively locks the step in place.

Latchways has a comprehensive training programme to help customers install these systems using their own contractor companies. The training—which covers both installation and use of the system—can be conducted within Latchways' facilities or at the customer's premises.

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ManSafe® for Telecoms

TowerLatch®—Lattice Tower

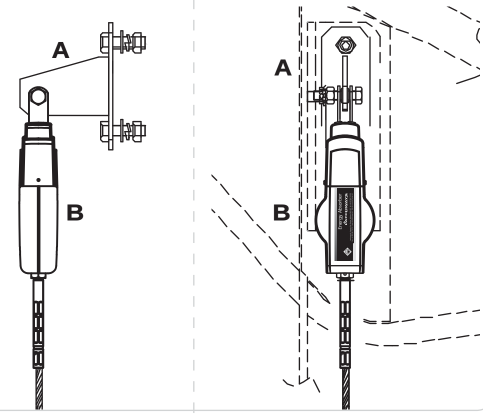
Designed to be fitted to lattice towers with pre-installed fixing plates for top and bottom anchors. Intermediate wire guides are offered in two lengths to ensure cable stand-off distance remains constant.

Side elevation | Front elevation

Top anchor set

A Top anchor

B Coil energy absorber

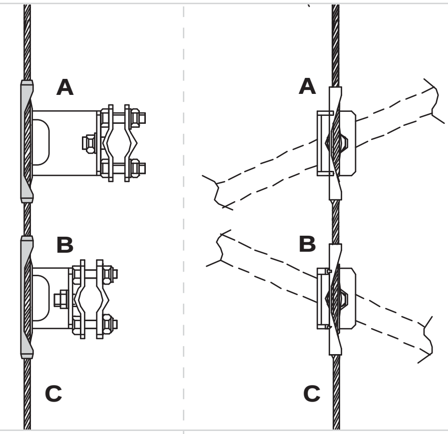


Intermediate set

A Standard intermediate helix wire guide

B Short intermediate helix wire guide

C 1 x 19 m ø8 mm stainless steel cable

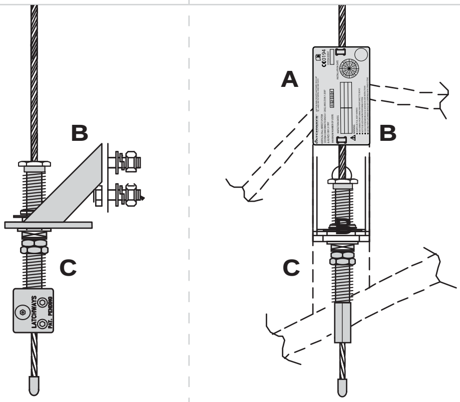


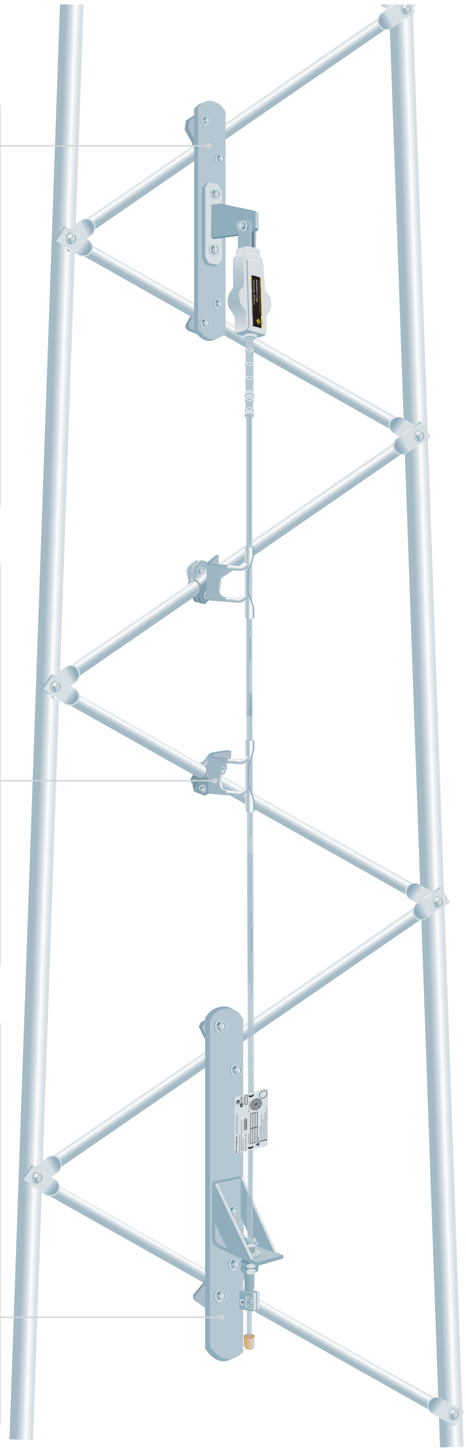
Bottom anchor set

A System warning label

B Bottom anchor bracket

C Cable clamp and tensioning device





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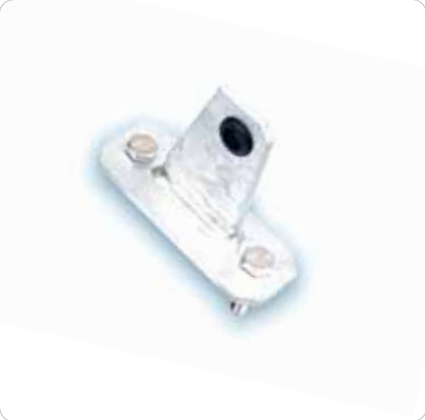
System components



Top anchor

This bracket has a built-in factor of safety of 21⁄2 times the potential load generated when a fall occurs. The system energy absorber is attached at this point.

Intermediate wire guides

These brackets support the cable, ensuring the correct stand-off distance from the structure is maintained. The spacing of the intermediates is dependent on the height and location of the structure. An extensive range is available to cater for all types of structure.

Bottom anchors

This bottom bracket provides a swage-free system termination and an integral tensioning device. At the correct cable pre-tension, the unit's indicator disc will spin freely. Unauthorised system adjustment is prevented through the use of captive security bolts.

Cable

Latchways use a ø8 mm 1 x 19 stainless steel cable that has a unique identification system. The cable is factory tested to check its physical properties and to ensure performance is consistent.

TowerLatch unit

The TowerLatch unit secures the climber to the fall protection cable via the chest D-ring, which allows free movement up and down the structure, but immediately locks onto the cable in the event of a fall. The unit incorporates a webbing strop to facilitate rescue.

Constant Force® energy absorber

This energy absorber ensures that the load applied back to the structure and the climber in the event of a fall is limited to a maximum of 6 kN. A three or six person version is available, with both units having a red fluorescent indicator showing if a fall has occurred.

Latchways has a comprehensive training programme to help customers install these systems using their own contractor companies. The training—which covers both installation and use of the system—can be conducted within Latchways' facilities or at the customer's premises.

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LadderLatch®—Rung Mounted / Stringer Mounted

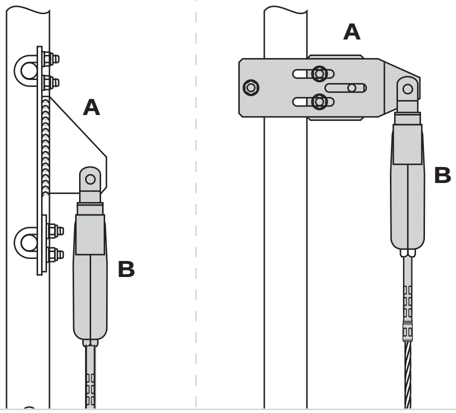
LadderLatch utilises a variety of brackets, allowing systems to be fitted to ladder rungs (round, square, triangular, L shaped), box section ladders, T-section ladders and flat or round ladder stringers.

Rung Mounted System | Stile / Stringer Mounted System

Top anchor set

A Top anchor

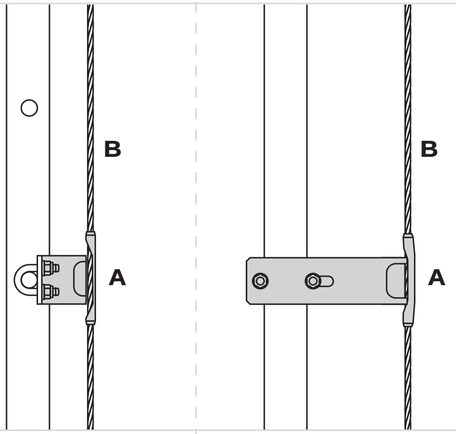
B Coil energy absorber



Intermediate set

A Intermediate helix wire guide

B 1 x 19 m ø8 mm stainless steel cable

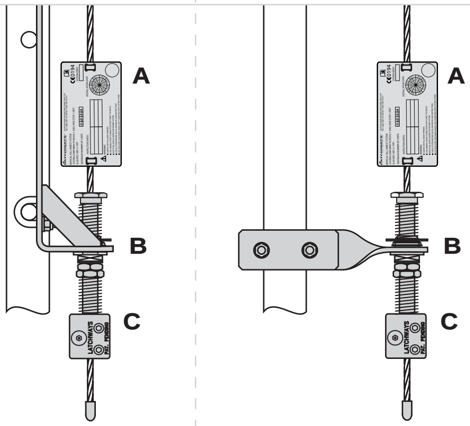


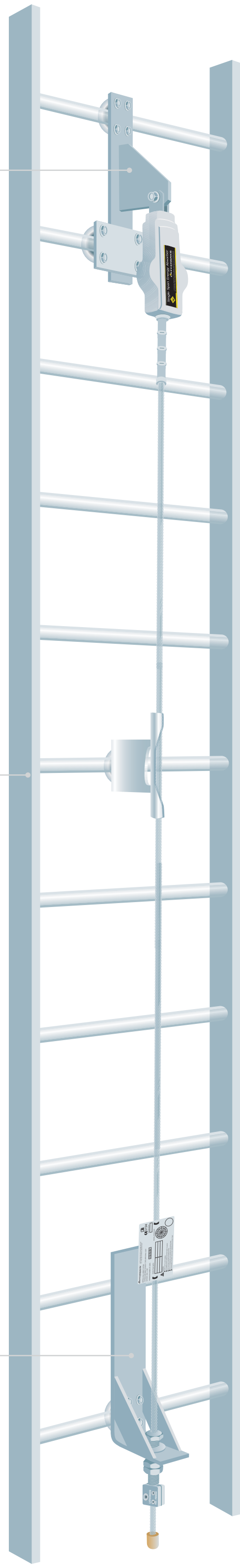
Bottom anchor set

A System warning label

B Bottom anchor bracket

C Cable clamp and tensioning device





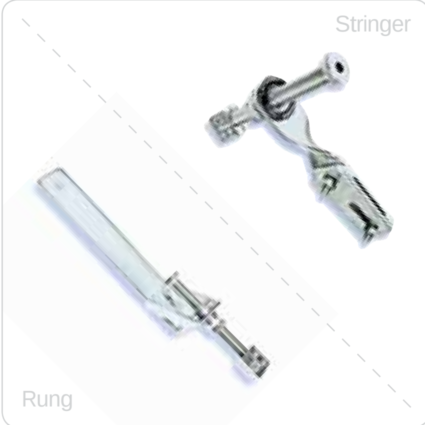
System components

Top anchors

These brackets have a built-in factor of safety of 2½ times the potential load generated when a fall occurs. The system energy absorber is attached at this point.

Intermediate wire guides

These brackets support the cable, ensuring the correct stand-off distance from the structure is maintained. The spacing of the intermediates is dependent on the height and location of the structure. An extensive range is available to cater for all types of structure.



Bottom anchors

These bottom brackets provide a swage-free system termination and an integral tensioning device. At the correct cable pre-tension, the unit's indicator disc will spin freely. Unauthorised system adjustment is prevented through the use of captive security bolts.

Cable

Latchways use a ø8 mm 1 x 19 stainless steel cable that has a unique identification system. The cable is factory tested to check its physical properties and to ensure performance is consistent.

LadderLatch unit

The TowerLatch unit secures the climber to the fall protection cable via the chest D-ring, which allows free movement up and down the structure, but immediately locks onto the cable in the event of a fall. The unit incorporates a webbing strop to facilitate rescue.

Constant Force® energy absorber

This energy absorber ensures that the load applied back to the structure and the climber in the event of a fall is limited to a maximum of 6 kN. A three or six person version is available, with both units having a red fluorescent indicator showing if a fall has occurred.

Latchways has a comprehensive training programme to help customers install these systems using their own contractor companies. The training—which covers both installation and use of the system—can be conducted within Latchways' facilities or at the customer's premises.

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TowerLatch®—T-Spine

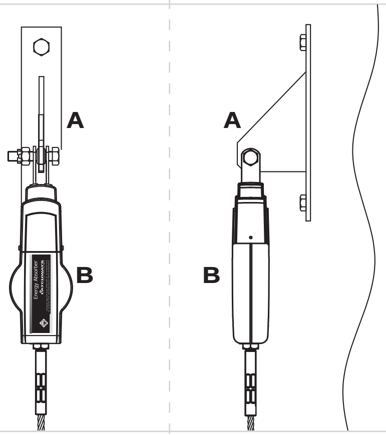
The T-Spine climbing ladder, complete with cable fall arrest system, provides a simple and easy to install solution for clamping around stub masts and poles.

Front elevation | Side elevation

Top anchor set

A Top anchor

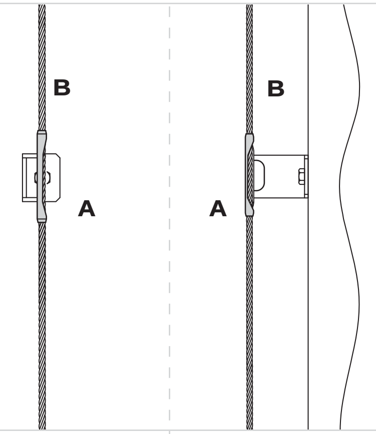
B Coil energy absorber



Intermediate set

A Intermediate helix wire guide

B 1 x 19 m ø8 mm stainless steel cable

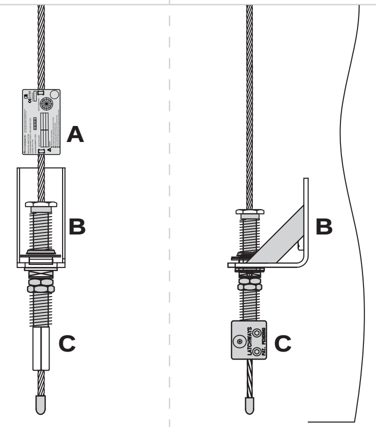


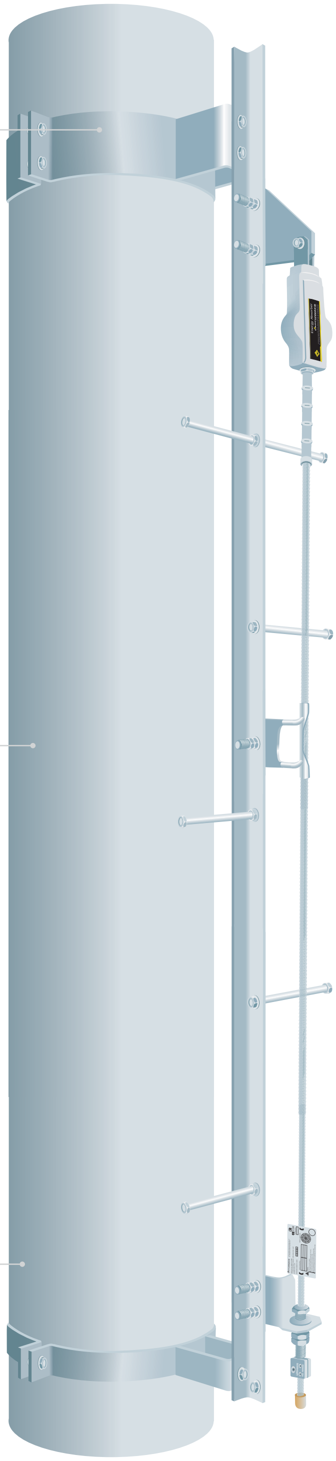
Bottom anchor set

A System warning label

B Bottom anchor bracket

C Cable clamp and tensioning device





LATCHWAYS FALL PROTECTION

System components

Top anchor

This bracket has a built-in factor of safety of 21⁄2 times the potential load generated when a fall occurs.

Intermediate wire guides

These brackets support the cable, ensuring the correct stand-off distance from the structure is maintained. The bracket features a key-hole design to allow for easy retro-fit without removing the step bolts. The spacing of the intermediates is dependent on the height and location of the structure. An extensive range is available to cater for all types of structure.

Bottom anchor

This bottom bracket provides a swage-free system termination. The tensioning slider has a wedge-shaped profile to ensure tension is maintained, or alternatively can also be supplied with a built in tension indicator.

Cable

Latchways use a ø8 mm 1 x 19 stainless steel cable that has a unique identification system. The cable is factory tested to check its physical properties and to ensure performance is consistent.

TowerLatch unit

The TowerLatch unit secures the climber to the fall protection cable via the chest D-ring, which allows free movement up and down the structure, but immediately locks onto the cable in the event of a fall. The unit incorporates a webbing strop to facilitate rescue.

Constant Force® energy absorber

This energy absorber ensures that the load applied back to the structure and the climber in the event of a fall is limited to a maximum of 6 kN. A three or six person version is available, with both units having a red fluorescent indicator showing if a fall has occurred.

Latchways has a comprehensive training programme to help customers install these systems using their own contractor companies. The training—which covers both installation and use of the system—can be conducted within Latchways' facilities or at the customer's premises.

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Technical specification

ManSafe® for Telecoms

Rooftop Fall Protection

Latchways' Constant Force® systems offer a complete rooftop fall protection solution for both fall restraint and fall arrest. The simplicity of the fixings allows a quick and easy installation, providing safe solutions where workers are exposed to a fall hazard.

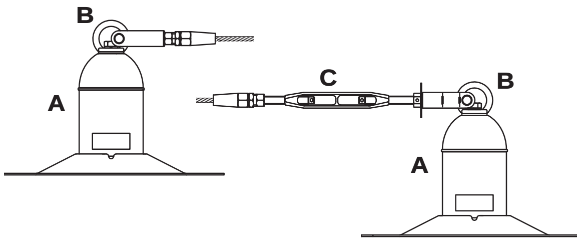
Latchways works with all major roof manufacturers and a variety of base plates are available to fit all roof configurations.

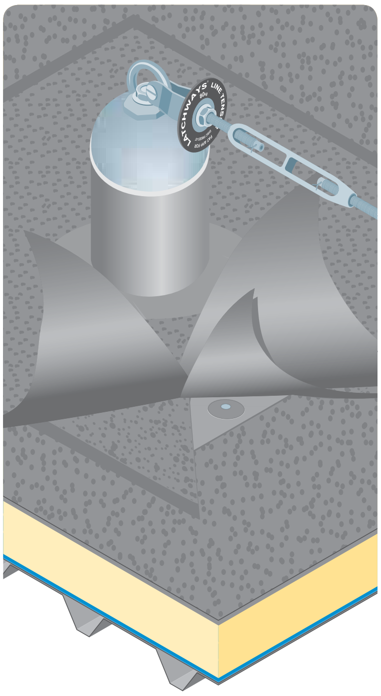
End anchor set

A Constant Force posts

B D-rings and fixings

C Swageless terminal to yoke and swageless tensioning device

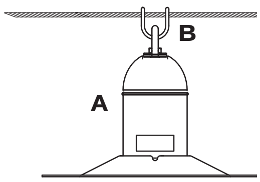




Intermediate anchor post set

A Intermediate Constant Force post

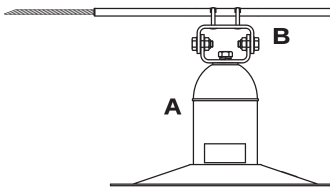
B D-ring, hanger and fixings



Variable anchor post set

A Constant Force post

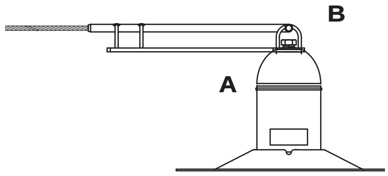
B Variable bracket and fixings

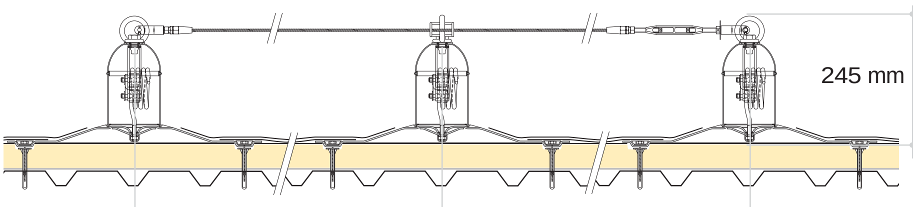


90° Corner anchor post set

A Constant Force post

B Corner bracket and fixings





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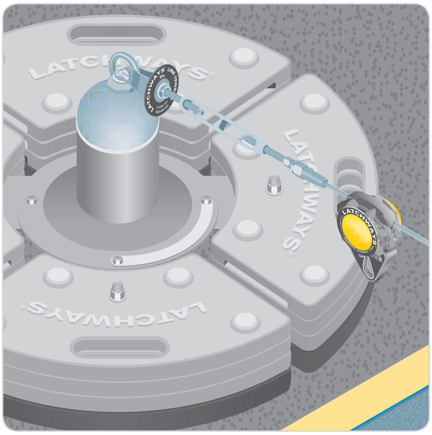
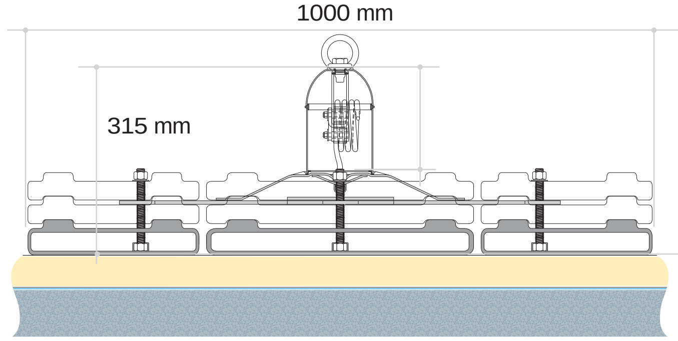
Rooftop fall protection





Dimensions of a 300 kg Freestanding Constant Force post

Freestanding Constant Force post

The Freestanding Constant Force post is suitable for applications where roof penetration is not required or possible. It is available as a restraint or an arrest system and can be used as a single point anchor or supplied as a horizontal cable system.

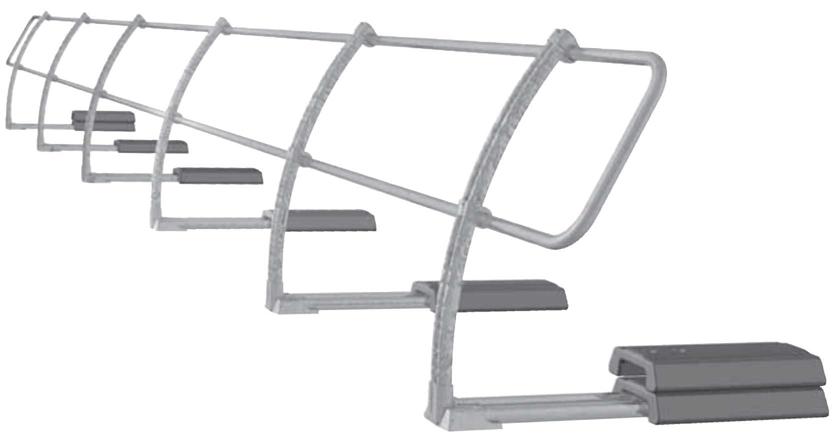
VersiRail®

Where you need to restrict access to the hazard, Latchways' curved VersiRail offers an aesthetically pleasing collective protection solution compared to traditional systems.

No penetration of the roof is required as the system is entirely freestanding. No welding, bending or threading is necessary on site as VersiRail is totally modular in construction.

The variety of fittings gives VersiRail the versatility to match any configuration you would typically find on a flat roof up to a 10° slope.

For more information on specifying the correct fall protection system for your requirements, contact Latchways.



Latchways has a comprehensive training programme to help customers install these systems using their own contractor companies. The training—which covers both installation and use of the system—can be conducted within Latchways' facilities or at the customer's premises.

LATCHWAYS
FALL PROTECTION

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