



safety solutions for
ladders & vertical structures
easyclimber systems

Uniline Safety Systems produces a choice of technically superior anchorage solutions that provide protection for people working at height.

Together with a network of carefully trained systems integration specialists, we can help you to solve even the most complex of safety or access problems and deliver fall protection solutions that mitigate workplace risk and go well beyond minimum industry standards.

www.unilinesafety.com

because their

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lives depend on it

01

working safely at heights

Current workplace legislation requires that any person working at height should be properly protected against the risk of falling. This is especially important for workers required to climb ladders and vertical structures, as a slip or fall resulting from a moment's lapse in concentration or sudden feeling of illness will result in the worker falling backwards away from the structure or straight down, quickly generating great velocity.

The consequences of such a fall are likely to be significant upon the worker and the employer.

Contrary to popular thinking, ladders installed with safety cages offer workers no protection at all. Recent research carried out by the UK Health and Safety Executive** clearly shows that workers falling inside a caged ladder will suffer significant injuries from impact with the structure.

An impact force of 22G's could be suffered by a worker after only 2 seconds freefalling. (14G's is sufficient to cause a severe head injury.)

The EasyClimber® vertical climbing system, permanently installed to a ladder or vertical structure that requires frequent or predictable access can mitigate against such risks and provide a functional and practical means of access and egress.



** Further information on the safety concerns relating to caged ladders can be seen in the Health and Safety Executives Research Report 258. A link to this is available on Uniline's website.

The EasyClimber® System is a family of products for a variety of vertical structures and climbing applications, which when used with the patented Monkey® Attachment Device provides a highly functional, robust and cost effective safety solution.



EasyClimber® Systems are available for use in the following situations:

- Ladder access
- Mast and pylon access including lattice construction towers and monopoles
- Wind turbine access
- Lighting column access
- Bridge and inclined structure access

Common features of the easyclimber® system

No matter which EasyClimber® System suits your specific safety requirement, the same high quality of product and system functionality features throughout the product range. A tensioned 8mm, 1 x 19 construction, stainless steel cable runs the length of the climbing area, supported at intervals that suit site conditions by intermediate cable supports. The Monkey® Attachment Device allows hands free continuous movement on the system, bypassing the intermediate supports without the need for user intervention.

02

product

Buyer

- Components are made from high quality materials with corrosion resistant finishes ensuring they are suitable for installation in a range of aggressive environments**
- All system components are fully traceable in accordance with Uniline's strict quality system
- Systems can be retrofitted to existing structures or included as part of a new structural access solution
- The system can support multiple workers
- Systems conform to and are tested in accordance with EN353-1, AS/NZ, OSHA, CSA, and ANSI standards and are CE marked, providing international customers with a global safety solution

Safety

- A tension indicator at the bottom of the system provides visual indication that the system is safe for use
- Intermediate brackets support the cable and prevent adverse wind chatter and cable fretting. (30 million oscillations to simulate a 25m/s wind speed have been applied during product testing)
- Energy absorbing elements in either the top anchor or attachment device protect the structure and reduces the arrest force on the worker to safe limits

User

- Systems provide uninterrupted movement for the user during ascent and descent
- Users can attach and detach at any point along the length of the system, allowing access to platforms and adjacent work areas

** (Top and Bottom Anchors are available in galvanised steel or stainless steel. Galvanised steel supplied as standard.)

benefits



easyclimber for ladders



easyclimber for masts and pylons



easyclimber for wind turbines

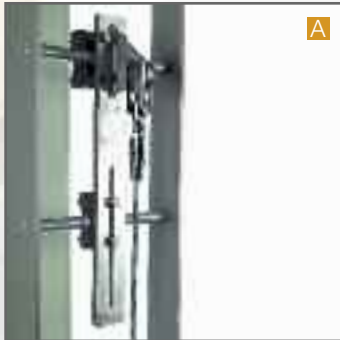
easyclimber[®] for ladders – with energy absorber integral in the monkey[®] (system type 1)



When used on ladders, Uniline recommends that systems are fitted to the centre of the rungs for best levels of functionality and safety.

Recommended for stronger structures and where a maximum of two climbers are required to be attached to the system at any time.

(Max user weight 136kg).



A

top anchor

top anchors

A simple anchor design that fits a wide range of ladder rung pitch distances due to its elongated slot. The attachment brackets enable it to fit to round or square rungs on a variety of structures.



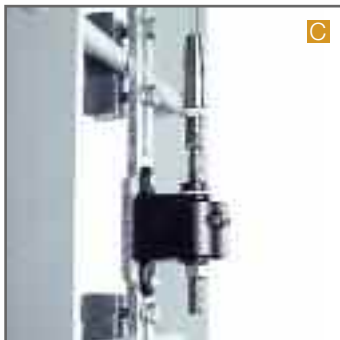
B

intermediate bracket

intermediate brackets

Intermediate brackets are designed to position the cable away from the structure and prevent adverse wind chatter and cable oscillations in systems attached to tall structures. They can also be used to limit cable deflection in confined climbing spaces, where deflections may cause dangerous collisions in the event of a fall.

The brackets are manufactured from 316 stainless steel and are suitably isolated from the ladder in order to prevent corrosion of the structure.



C

tensioning unit

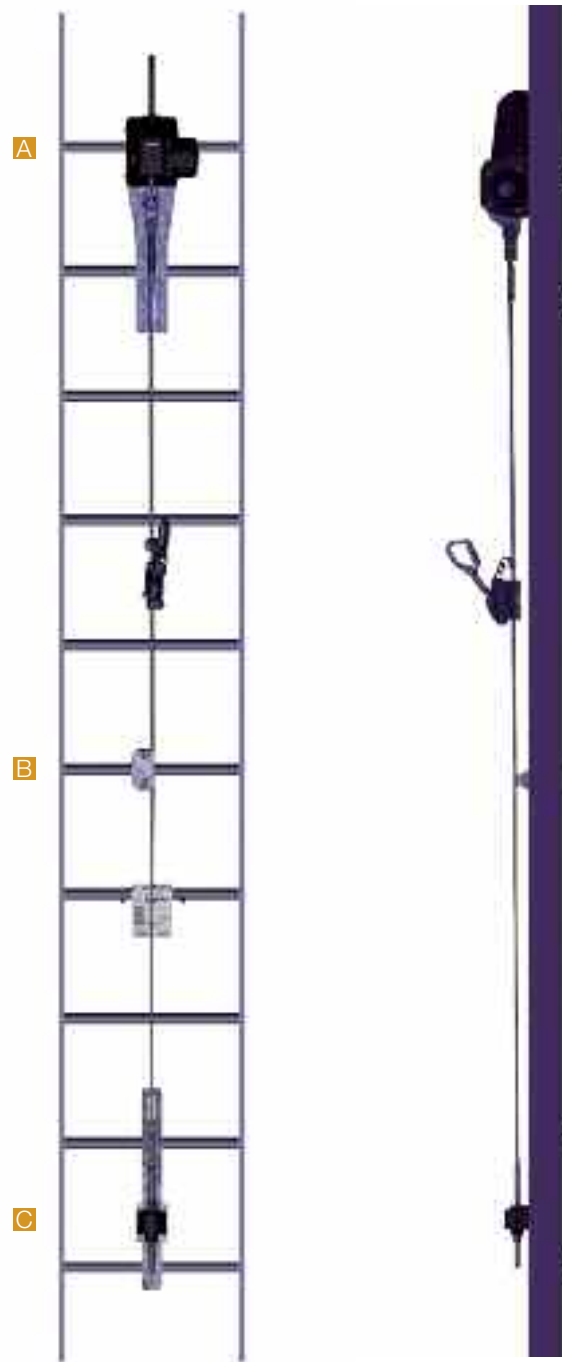
tensioning units

The tensioning unit provides an important visual indication that the system is correctly set for use and identifies that the system may have been subjected to a fall or impact load.

A system pre-tension of 1.2kn is applied when installed, ensuring the Monkey® travels beautifully along the system.

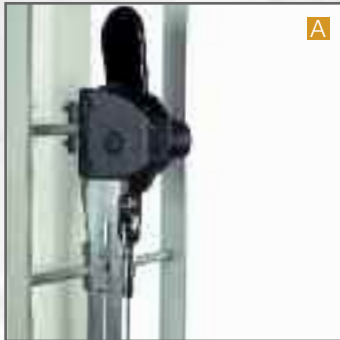
An extension bracket is available to enable safe access and egress from ladders at the eaves of a roof.

easyclimber[®] for ladders – with energy absorber attached to the structure (system type 2)



When used on ladders, Uniline recommends that systems are fitted to the centre of the rungs for best levels of functionality and safety.

Recommended for weaker structures or where more than 2 climbers are required to be attached to the system at any time. Also for ladders with restricted space due to the close proximity of the system and Monkey to the structure.



energy absorber and top anchor

energy absorber and top anchors (patent pending)

EasyClimber's patented energy absorbing system is a significant advancement in the fall protection industry, providing consistent and reliable energy absorption for multiple workers.

The system utilises a friction break assembly to maintain a force of less than 3kN on both the structure and the worker in the event of a fall, reducing risk of structural failure and user trauma.

The number of workers permitted to climb on the system can be increased and the system can be adapted to accommodate heavier workers if necessary. As standard, fall energy can be reliably and repeatedly controlled for 2 workers weighing up to 150kg each, often the case when a worker is carrying equipment. Four workers can be accommodated, and system loads increase to 5kN.

Following a fall, the energy absorber can be reset on site and used again.

Attachment brackets enable it to fit to round or square rungs on a variety of structures. It is housed in a tough composite casing, protecting the internal mechanism from environmental conditions.

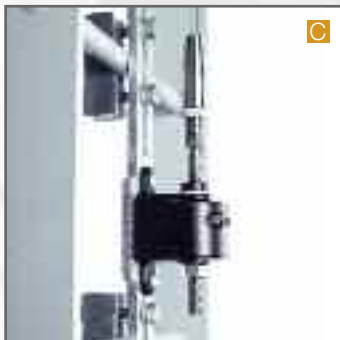


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tensioning unit

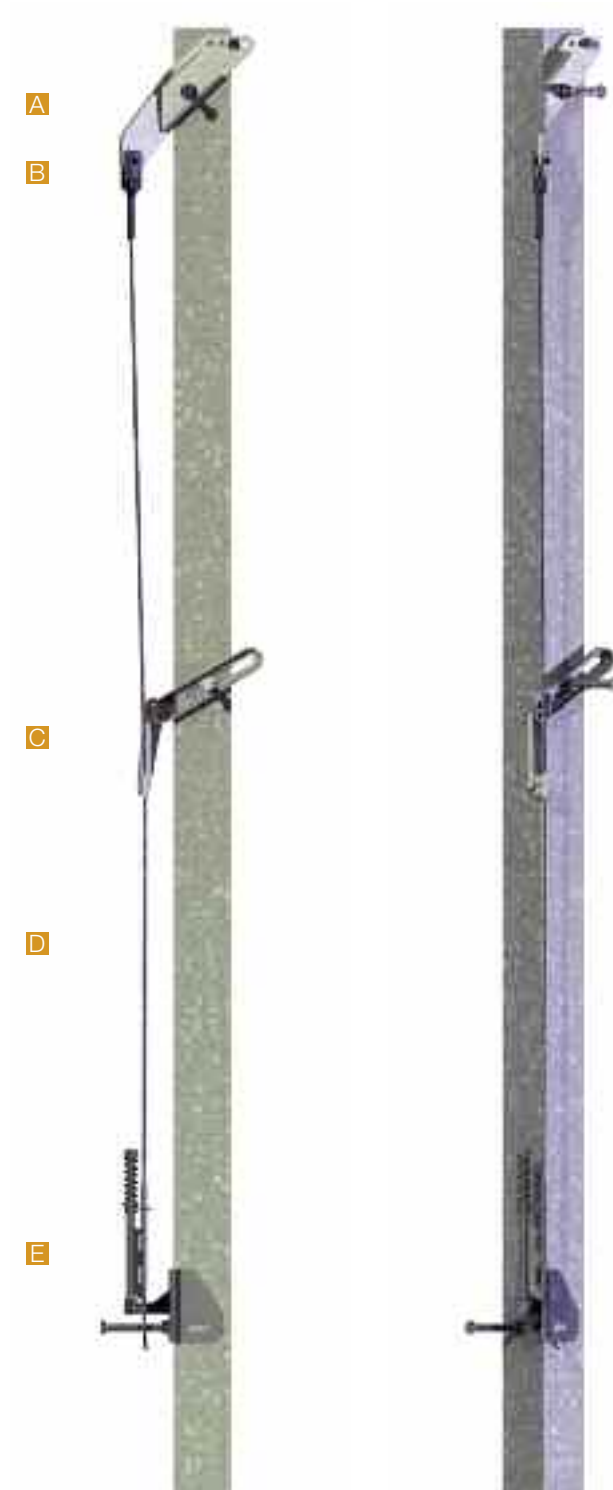
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An extension bracket is available to enable safe access and egress from ladders at the eaves of a roof.

easyclimber[®] for lattice construction electricity towers



Uniline have developed EasyClimber® for Lattice Construction Electricity Towers with guidance from major electricity network operators.

As a result, the product meets the requirements of this demanding industry sector and provides a robust, well tested solution that will last for many years without the need for significant maintenance.

Dynamic load tests, longevity tests and functionality tests have been conducted on the structures for which this product was designed.

Top anchors

Designed to support the dynamic arrest force of up to four workers falling simultaneously.



clamp version

clamp version

This design allows a single style of anchor to fit a wide range of angle sections and deals with converging angles. Quick and easy to fit, even above the last cross arm of the electricity tower.



step bolt version

step bolt version

The design does not deform following a fall and reduces shear forces that would be applied to step bolts. This mitigates the risk of step bolt failure as the main loads are transferred in to the back of the structure, which is more robust.



wire termination

wire termination

Factory swaged and proof load tested.
Min strength 38kN



intermediate bracket

Intermediate brackets (patent pending)

Uniline's intermediate bracket design reduces the complexity in planning the installation of the safety climbing system. One size bracket covers all possibilities for the required stand off to ensure the wire does not come in to contact with the structure. This is especially beneficial, as there can be so many variables in design from one pylon to another. The double articulating brackets cover a range from 84mm to 190mm stand off and are fitted using a step bolt. The brackets design ensures it fits to a very wide range of pylon sections.

Furthermore the bracket, once installed and set has a robust locking mechanism to prevent accidental displacement and is built to point downwards, thereby discouraging workers from standing on the brackets and causing damage.

The brackets are made of high-grade alloy, making them lightweight for carrying whilst the design ensures they are both strong and robust. Powder coating means they can blend in to the pylon and provides additional long-term corrosion protection.

cable supports

Uniline's cable supports for the EasyClimber® System encapsulate the wire and prevent damage from wind oscillation and adverse cable deflections.



double helix

double helix (patent pending)

The double helix design can be installed after the cable has been fitted, making installation easier and more forgiving if the installer forgets one! Additionally, in the event that a cable support becomes damaged in the future, it can easily be removed, without the need to dismantle the system.

As the double helix design completely encapsulates the cable, it reduces the risk of the cable coming free during use and subsequently being damaged.

The part is manufactured using a stainless steel casting process, ensuring a tight tolerance and robust design for long-term functionality.



simple support

simple support

Due to the design of the intermediate brackets, the idea of sliding the cable supports on to the cable is made much simpler than in other systems, where the entire bracket has to be fed on to the cable.

This becomes frustrating if they are accidentally put on in the wrong order. In the EasyClimber® System, because all of the brackets are the same, putting an extra cable support on, or taking one off is much less of an annoyance!



variable support

variable support

To carry the cable around a more acute angle thereby mitigating the risk of damage to the cable support and bracket and providing better passage for the user. The bend can be formed during installation with a simple tool.



D
1 x 19 wire rope

cable

1 x 19 lay, 316 stainless steel cable. Stiff and robust in design to ensure smooth passage for the user and system longevity in harsh environments.



E
system termination and tensioner

system termination and tensioner

When the system is installed the wire must be terminated and tensioned.

The system termination and tensioner can be anchored to either side of the climbing leg of the tower, providing flexibility. The installer cuts and swages the wire and then sets the tension in the system using a removable tension indicating device, which helps to keep the cost of the system down. Very helpful in a big network!

Terminations installed above an anti-climbing gate can be supplied with a 'tail' adaptor to enable workers to attach to the system at ground level. The first man up must be secured to the structure whilst carrying out the task of fixing the tail.



F
tail kit

tail kit

Quick lock and release mechanism, with no screw threads! Cannot accidentally work its way free and a gate prevents inadvertent access on to the tail (one user at a time to prevent dangerous collisions) or worse still falling off the end of the system!

Supplied in a storage bag to keep it tidy and a weight, stand off and rope grip to keep it taught for climbing.

Uniline's EasyClimber® System for electricity towers has been designed to offer a robust and highly cost effective solution for major network operators. It is uncompromising in its quality and functionality and has undergone stringent development testing at every stage.

This product will be a sound investment.

The ingenious Monkey[®] has been designed to improve climbing performance for the user and improve safety in the event of a fall.

The Monkey[®] attachment device provides the worker with maximum functionality and climbing performance. In addition, in the event of a fall, safety performance is second to none.



monkey[®] attachment

This is achieved through the design of the system and its position in relation to the structure and by the addition of a bespoke attachment karabiner. This prevents the Monkey from dropping too far below the workers harness attachment point when climbing.

In the event of a fall the Monkey locks on to the cable immediately, limiting freefall and safely arresting the user.

During testing Uniline consistently demonstrated that a fall, including energy absorber deployment, was arrested in less than 500mm, thereby reducing the velocity of the falling worker and significantly reducing the risk of additional injury and trauma.

The Monkey, which fits in the palm of the hand and weighs less than 900g, can be attached and detached from the system at any position by two simple manual

actions and is automatically secured when released by the user. This is a very positive safety feature.

Two versions of the Monkey are available. One which incorporates an energy absorbing element (System Type 1) and another which does not (System Type 2). Your product selection determines which Monkey you use.

All Monkeys come with a protective bag which incorporates a belt loop.

monkey for system type 1



monkey for system type 2



A close-up photograph of a mechanical device, possibly a filter or a part of a machine. The device features a prominent cylindrical mesh filter in the center, surrounded by various metal components, including a large silver-colored housing and a smaller cylindrical part. The background is a light, neutral color with a subtle grid pattern. The word "device" is written in a lowercase, orange, sans-serif font on the left side of the image.

device

If you have not seen what you need in the brochure, it does not mean Uniline cannot help you in your quest to provide a safe working environment for your employees. We have so many fixing alternatives, and great ideas it is hard to represent them all here. If you need something different, let us know. We can't promise, but we will always try to help you with your specific requirements.



Damen Tug Boat

case study

Uniline helped Damen Shipyards and provided a tailored solution for fitting EasyClimber® to the masts of their ships, which they export all over the world. We fitted in with their tight production deadline, made anchors in materials that suited their needs and got them out of a hole that their previous supplier had dropped them in.

support

system integration

Local design assistance, risk assessment, system installation and system maintenance is facilitated by our global network of Systems Integrators, all of which are trained and audited by Uniline to ensure our end user customers receive the best possible service.

Uniline can also provide CAD drawings for integration with production and building plans

and have user instruction and installation manuals for each system to assist you in training and monitoring of your own people. It is our aim to make the entire process of purchasing a fall protection solution as easy and trouble free as possible.

kitting

For operators of larger networks and infrastructure Uniline can package orders to enable quick and effective installation at site, eliminating the need for equipment sorting.



installation instructions



user instructions



kitting

services

training in safe climbing practices and rescue

Effective workplace fall risk mitigation is very much dependent on the competence of those who specify, design, manage and ultimately use systems intended for such purposes.

Appropriate and professional training is therefore essential.

Uniline and its 'Systems Integrators' have utilised their extensive experience and technical knowledge to develop a series of structured training programs that provide the essential knowledge, skills and practical appreciation required to ensure workplace safety at height.

For details contact Uniline or your local System Integrator.



live training



rescue training

associated equipment

To complete your safety system, Uniline provide harnesses, lanyards and rescue equipment. Full details can be provided on request.

16

a complete

harness (EN361)

A quality, comfortable harness is very important when you are working in it all day. Many great features ensure your workforce won't complain about wearing a Uniline climbing harness.

More importantly our harnesses are tested with our system to ensure compatibility and users safety.

lanyards (EN354 and EN355)

Essential to keep you safe when transferring from the safety system to another structural element or anchor point. Single or twin lanyards available.

work positioning device (EN358)

Need to work with two hands free and feel secure? Then you need a work positioning device. Fully adjustable with protective sleeves.



EN361



EN354 and EN355



EN358

solution

temporary vertical system (EN353-2)

You may feel a permanent climbing system is a bit over the top for your needs, or you may need both to complete your work safely. Look no further. Uniline provide a number of temporary attachment devices for nylon or kermantel ropes. Various rope lengths available.



EN353-2

rescue equipment (EN341)

If someone falls and injures themselves, you need to get them down and to a position of safety. Quickly! Uniline offers a range of intuitive devices to facilitate rescue.

In addition, once on a high structure or platform, fast self-rescue may be required in case of an emergency. Uniline offer a range of controlled rate self-rescue devices for such an event.



EN341



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