

# MSA Fall Protection Vertical Lifelines



#### **Global Leaders in Fall Protection**

Because we provide customized fall protection solutions all around the world with our range of Latchways® systems, MSA has a thorough understanding of any given country's safety concerns and needs. We have wide-ranging support, too, as our product leadership is backed by a worldwide network of highly trained registered installers and contractor companies.

And MSA is always thinking ahead— monitoring legislative developments around the world so that we can respond quickly with products and services designed to comply with new regulations without sacrificing productivity.

Simply put: MSA is fluent in the global language of fall protection.

No wonder our trusted systems and award-winning components can be found on structures as far away as Sydney's Harbour Bridge and as close by as Milwaukee's Miller Park Stadium.

#### Premium fall protection solutions tailored to your project needs

MSA is comprehensive in its care and concern for those working at height. Our versatile fall protection systems— from roof to tower—offer solutions for nearly every work environment. Our experience working with so many different industries, from aerospace to tourism, means we have thorough knowledge of the particular fall protection needs specific to a variety of applications.

So tell us what you're looking for. With our Latchways range of smartly engineered systems and best-quality products, you're in the hands of experts.



Imagine providing safe access without damaging roof integrity. Latchways horizontal and inclined systems, with their Constant Force® Posts, do just that. We created systems like WalkSafe® to help further reduce wear and tear and LadderLatch™ to keep workers safe as they climb new heights.

# Transmission Towers, Distribution and Telecommunications

From towers to masts to monopoles, Latchways vertical systems can be seen protecting workers on transmission towers and distribution and telecommunication structures all over the world—even those in the most icy, rainy conditions.

#### **Bridges and Infrastructure**

Each bridge and infrastructure project has different fall protection requirements. Latchways inclined, horizontal and vertical systems deliver unprecedented versatility, making it safe for workers to maintain cables, traverse bridge undersides, or safely access towers—no matter how harsh the conditions.

### **Industrial Manufacturing**

From overhead systems for above machinery operation to permanently installed lifelines, to temporary SRLs for one-off maintenance jobs, Latchways brings safety solutions to virtually any industrial manufacturing project. Our systems can link together horizontally, vertically and up inclines, and can be retrofitted or included as part of a new build.

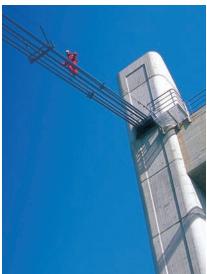
#### Oil and Gas

Our range of user-friendly safety solutions, from Latchways Self-Retracting Lifelines to Latchways Personal Rescue Device®, meet the demands of the oil and gas industry—and then some. With vertical, horizontal and inclined cable systems designed to follow complex contours found on rigs, pipe racks, gantries and more, we bring fall protection to the most severe environments.

#### Wind Energy

From wind farm owners to maintenance contractors to global turbine manufacturers, wind energy professionals rely on innovations like our Latchways Sealed Self-Retracting Lifeline for safety and our TowerLatch™ unit for uninterrupted ladder ascension.









# MSA Latchways Vertical Lifelines (VLL)

MSA Latchways Lifeline Systems are trusted around the world to ensure workers' safety on all manner of structures.

Featuring our brilliantly engineered guided Type Fall Arrestors (GTFA), the MSA Latchways systems offer outstanding personal safety for those working at height, particularly in the telecom, agriculture, utility and energy industries. The TowerLatch and LadderLatch units emphasise inherent flexibility, meaning they can be configured for a wide variety of applications, including ladders, towers, masts, monopoles, silos and other structures specific to these industries







#### **Dedicated to Safety**

- Flexible system: Vertical, horizontal, inclined, easily combined with ladders, bespoke bracketry
- Flexible freedom: Each systems' universalattachmentdevicerotatesfreelythrough intermediate cable guides for continuous hands-free protection
- Load control: In the event of a fall, the load applied to the worker is limited to a maximum
  of 6 kN by either a Constant Force absorber at the top of the system or a webbing energy
  absorber on the device
- Inspection: Tension and visible deployment indicators provide immediate confirmation the system is safe to use
- Pedigree: Database of 2000 tower types
- Usability: Suitable for 3 users at the same time (400kg)
- Reliability: Proven problem free field use (15 years)
- Engineered to Last: Life expectancy 30+ years

#### **Engineering excellence**

All MSA systems are manufactured to the highest international standards, using only the best materials. Critical components are individually numbered and batch-conformance and dye-penetrant tested—a quality standard unsurpassed in the industry. In addition to rigorous in-house testing, all MSA products undergo external verification to ensure they meet or exceed relevant industry standards.

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

MSA products are specifically developed to take into account the latest structural innovations, while 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.

## **Fixed Ladder Systems**

With its simple design concept built for optimal flexibility and superior protection, MSA TowerLatch and LadderLatch systems can be installed to follow the contours of any structure, maximizing the system's safety value in a working environment.

#### **Networks and Telecoms**

MSA's mission is to make sure every customer gets the solution they need. Whether the systems you require are for greenfield sites or rooftops sites, new build or retrofit, network roll-out programs or upgrading of antennas, MSA offers tailor-made service with maximum support.

#### **Transmission Towers**

Flexible enough to accommodate every safety need for working at height, Latchways vertical systems are ideal for personnel accessing high-voltage transmission towers or transformers in substations.

#### **Wind Turbines**

When ascending a ladder within a new build or retrofit turbine, rely on Latchways TowerLatch to deliver the ideal hands-free solution, securing the climber to the cable via the chest D-ring on their full-body harness.

## **Fixed Ladder Systems**

For use on stadiums, oil rigs, land-based wind towers and other elevated work environments, Latchways fixed ladder systems are always ready for climbing. Featuring our innovative LadderLatch™ unit, with its unique starwheel component that provides continuous security with hands-free climbing, our fixed ladder systems are designed to maximize confidence and productivity. And, because they are flexible enough to follow the contours of virtually any structure, these fixed ladder systems maximize the safety value in a working environment, too.



#### Putting a typical system together

A typical vertical system usually consists of a top anchor, a bottom anchor and a Constant Force energy absorber in between.

#### Top anchor

The top anchor is a bracket with a built-in safety factor greater than 2 times the potential load generated when a fall occurs.

#### **Constant Force energy absorber**

The Constant Force 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 1349 lbs (6 kN).



Fixed ladder systems use the LadderLatch attachment device.



#### Intermediate cable guides

These brackets support the cable, ensuring that a 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 to all types of structures.



#### **Bottom anchor**

The bottom anchor is a bracket that 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. Captive security bolts prevent unauthorized system adjustment.



# **Latchways MonoStep System for Telecom Masts**

MSA always searches for ways to satisfy our customers' fall protection needs. One great example of this is our MonoStep removable step system, developed in response to telecom companies' need for unobtrusive, tamper-proof climbing systems for their monopole structures. The Latchways MonoStep is an ideal system for use on the first 9 to 13 ft (3 to 4 m) of a pole and designed to work in conjunction with the Latchways TowerLatch device.

#### Top anchor

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

#### **Constant Force energy absorber**

The Constant Force energy absorber ensures that, in the event of a fall, the load applied back to the structure and the climber is limited to a maximum of 1349 lbs (6 kN). A three- or six-person version is available, with both units having a red fluorescent indicator showing if a fall has occurred.



#### MonoStep

You can easily install and remove the smartly designed MonoStep: simply click the step over studs mounted on the monopole.



#### **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. Unauthorized system adjustment is prevented through the use of captive security bolts.







The Monostep system uses the **TowerLatch™ attachment device**.

# **TowerLatch™ Engineered Cable Lifelines**

There are two types of systems for overhead line towers: StepBolt and L-Bolt.

#### StepBolt

Latchways StepBolt is a vertical fall protection system for retro-fitting to overhead line tower climbing legs. Fixed to the structure by the step bolts, the system has no in-line energy absorber. The TowerLatch SP attachment device incorporates a built-in energy-absorbing pack to reduce the end load in the event of a fall. The system is designed for use by up to four workers at the same time.

#### L-Bolt

Like the StepBolt, Latchways L-Bolt system is also for retrofitting to overhead line tower climbing legs—though it is fixed to the tower by L-bolts, which are available in a range of sizes to suit each structure. The TowerLatch attachment device incorporates a webbing strop to facilitate rescue.



#### Top anchor

This bracket has a built-in safety factor of greater than 2 times the potential load generated when a fall occurs. The Constant Force energy absorber can be attached at this point.

# Constant Force energy absorber (L-Bolt system only)

The Constant Force energy absorber ensures that, in the event of a fall, the load applied back to the structure and the climber is limited to a maximum of 1349 lbs (6 kN). A three- or six-person version is available, with both units having a red fluorescent indicator showing if a fall has occurred.







## Intermediate cable guides

These brackets support the cable, ensuring that a correct stand-off distance from the structure is maintained and also controls the cable against the effects of wind. The spacing of the intermediates depends on the height and location of the structure. An extensive range is available to cater to all types of structures.





#### **Bottom anchor**

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. Captive security bolts prevent unauthorized system adjustment.





TowerLatch systems for overhead towers use the TowerLatch or TowerLatch SP attachment devices.



# MSA – The Safety Company

Our business is safety. We've been the world's leading manufacturer of high-quality safety products since 1914. MSA products may be simple to use and maintain, but they're also highly-sophisticated devices and protective gear — the result of countless R&D hours, relentless testing and an unwavering commitment to quality that saves lives and protects thousands of men and women each and every day. Many of our most popular products integrate multiple combinations of electronics, mechanical systems and advanced materials to help ensure that users around the world remain protected in even the most hazardous of situations.

#### Our Mission

MSA's mission is to see to it that men and women may work in safety and that they, their families and their communities may live in health throughout the world.

MSA: Because every life has a purpose.

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