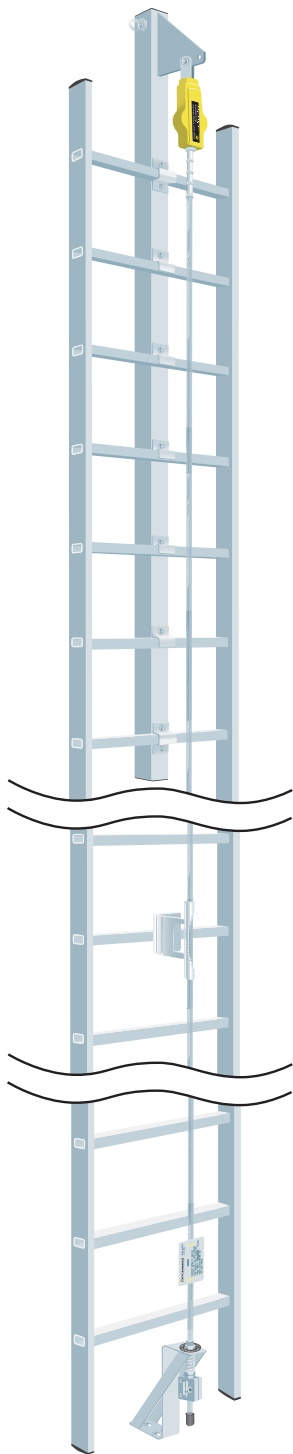


ManSafe® for Utilities

Technical Specification

Vertical ManSafe®—Rung mounted system for aluminium ladders.



Top Anchor Set

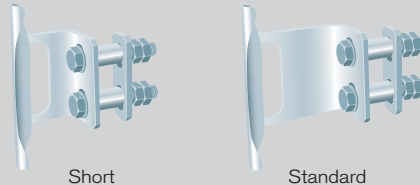
Top anchor featuring two energy absorber fixing points.



- A** Side D Ring single point anchor for transferring off ladder system onto platform.
- B** Top anchor featuring two energy absorber fixing points

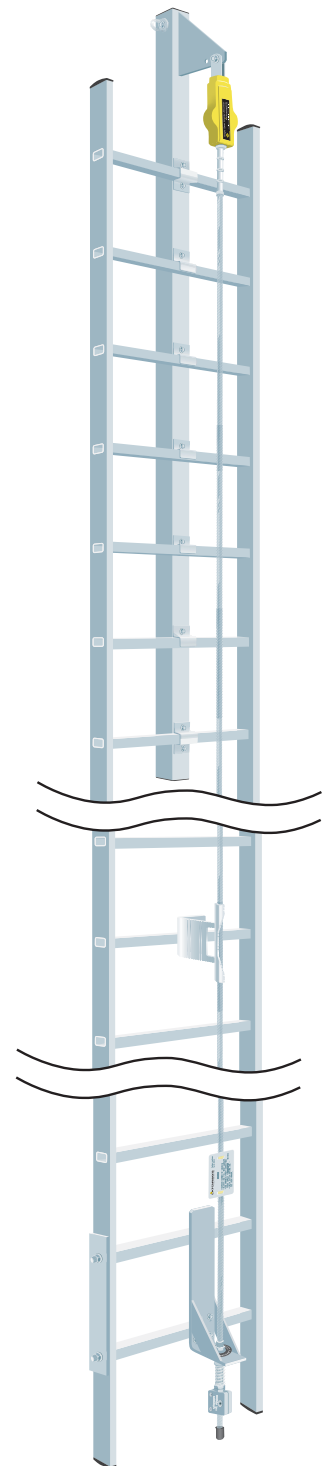
Intermediate Anchor Set

Intermediate brackets featuring two locking nuts and rung spacers.
Options:



Bottom Anchor Set

Rung reinforcing structure to accommodate fixing of bottom anchor.

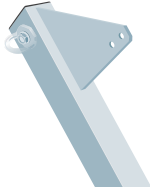


Testing

The Latchways system is CE marked and tested to and complies with BS EN 353:1 2002 100 kg Steel Weight, FALL BACK 75 kg DUMMY BS EN353:1:2002/pr A1 : 2007, SIT BACK 75 kg DUMMY 2 Feet on same rung, SIT BACK 75 kg DUMMY 2 Feet on different rungs 1 foot 1 rung higher, FALL BACK 100 kg DUMMY BS EN353:1:2002/pr A1 : 2007, M1 OSHA STD 1104 (02/06) Part 3, CSA Z259.2.1-98 and is OSHA compliant.

ManSafe® for Utilities Technical Specification

System Components



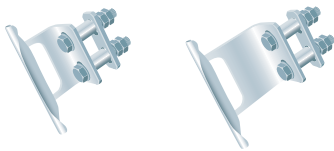
Top Anchor

This bracket has a built in factor of safety of 2.5 times the maximum input load of 6 kN. The top anchor is incorporated into a support post which is secured to the aluminium ladder rungs. There is a choice of two positions for the Constant Force® energy absorber to be positioned, depending on the system positioning in relation to the top platform trap door should a lift be present.



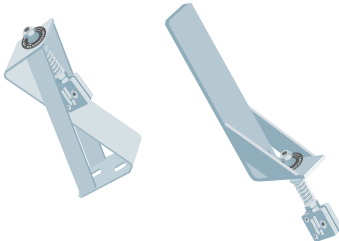
Constant Force Energy Absorber

The energy absorber is swaged onto the cable and pull tested in our factory to 15 kN for 3 minutes and certified as compliant. The absorber has a unique identification number laser etched onto it to provide complete traceability for the system. The standard system is supplied with a coil absorber rated for two men to be attached to the cable of the system at the same time, it has an additional capacity to allow a third person to be attached to carry out a rescue. The system can be upgraded with a double coil absorber rated for use by 6 people.



Intermediate Wire Guides

These coated brackets support the cable in the optimum climbing position. As they are contained within the turbine and not exposed to wind they can be spaced at 10 metre intervals. The unique helix profile enables the cable to be easily inserted during the installation and once the tension is introduced from the bottom anchor it retains the cable in place. A short and long version is available depending on the distance that the cable system is positioned from the ladder should a lift be present. The kits for both length wire guides use a double locking nut fixing for safety. Spacers are also provided to ensure the ladder rung is not compressed when tightening the wire guide fixings.



Bottom Anchor

These coated anchors provide a swage-free system termination and an integral tensioning device. When the correct level of tension is reached the tension indicator disc will spin freely. There are two options available to accommodate the different cable system distance from the ladder should a lift be present—a rung mounted bottom anchor incorporating rung strengthening kit and a floor fixed bottom anchor. Both bottom anchors incorporate a spring mechanism to accommodate movement of the wind turbine, ensuring that a consistent cable tension is maintained.



Cable

Latchways use $\varnothing 8$ mm 1 x 19 stainless steel cable which 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 cable via the chest D-ring on their harness, The device passes through the intermediate supports without having to pull the cable out of the support allowing free movement up and down the system. In the event of a fall the device will immediately lock onto the cable. The unit incorporates a webbing strap to facilitate rescue using the cut away technique.

As required by the BS EN 353:1 standard the system is supplied with a label which details the system usage requirements. Installation can be provided through Latchways approved contractors who have been trained. Training can also be provided for turbine manufacturers who wish to conduct their own installations. Training is split into theory and practical. Photograph ID cards and a certificate are issued. Database records are maintained at Latchways.

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