

pds

Future Protection

WORK AT HEIGHTS

Designs for Comfort and Protection



safety.com.sg



RISK OF WAH

WHERE COULD A FALL OCCUR?

A fall can happen both above and below ground. Any elevated area that a person may fall from is a risk.



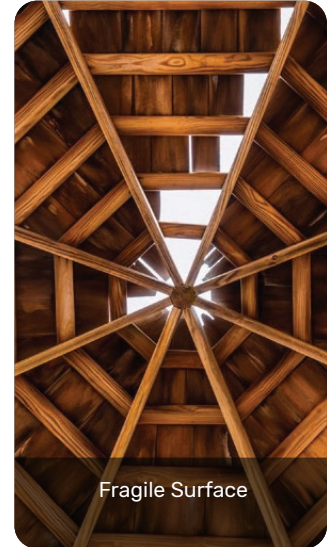
Elevated Structure, platforms, plants or vehicles



An Opening



Unguarded Edge



Fragile Surface

HAZARDOUS WAH SITUATION

MUST APPLY PERMIT TO WORK (PTW)

DIFFERENT ROLES UNDER PTW SYSTEM

- Workers
- Supervisors
- WAH Safety Assessors
- Authorised Manager

WHO SHOULD APPLY?

Anyone doing work with a risk of falling over **3 meters**.

*Under the WSH (WAH) (Amendment) Regulations 2014, effective since 1 May 2014.

SAFETY IS UNCONDITIONAL

Whether you are an EHS manager who cares for the safety of your team or a WAH worker who takes pride in your work, we've got the right safety gear for you.

Having the right gear not only makes you more productive, but more importantly, ensures you get home safely.



WORKSafe PEOPLE PROTECTION **WORKGard**



4 CATEGORIES OF FALL PROTECTION

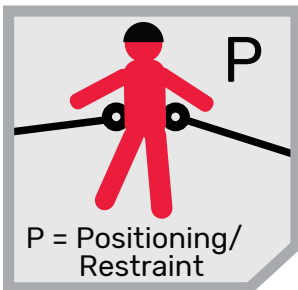


(I) Fall Arrest System

A fall arrest system is required if the risk of falling from an elevated level exists. It is designed to be passive: activating only if a fall occurs. The following components are recommended for a fall arrest system:

- (a) Anchorage Point (EN795) – Eye Bolt/Beam/Cross-Arm Anchorage Strap
- (b) Personal Protection Equipment (EN361) – Full Body Harness
- (c) Connecting Device (EN354, EN355, EN362) – Lanyard, Energy Absorber, Connector

A full body harness distributes the force throughout the body during a fall, reducing the chances of internal injuries. The shock-absorbing lanyard softens the impact on the worker, dramatically decreasing the total fall arresting forces. The third component of the system – the anchorage point – ultimately supports the worker.

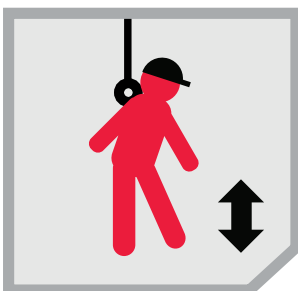


(II) Work Positioning and Restraint System

A personal positioning system allows workers to hold themselves in place, keeping their hands free to accomplish a task. Whenever a worker leans back, the system is activated, making this an “active” system. An effective positioning system would include the following components:

- (a) Anchorage Point (EN795) – Vertical Rods
- (b) Personal Protection Equipment (EN358, EN813) – Work Positioning Belt or Harness with work positioning attachments or Sit Harness with work positioning attachment point
- (c) Connecting Device (EN358, EN362) – Work Positioning Lanyard, Connector

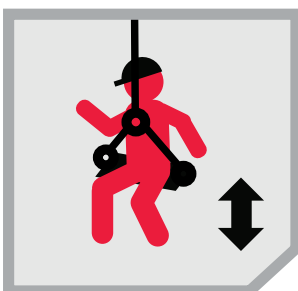
The use of a fall arrest system in conjunction with a personal positioning system is required because a personal positioning system is not specifically designed for fall arrest. By using a combination system, the fall arrest components will be activated should the worker fall.



(III) Retrieval

The third category of fall protection, the personal retrieval system, is mostly used in confined spaces. This system is primarily used where workers enter tanks, manholes etc. and may require retrieval from above if an emergency occurs. A typical personal retrieval system might include these components:

- (a) Anchorage Point (EN795) – Tripod Eye Bolt
- (b) Personal Protection Equipment (EN361) – Full Body Harness
- (c) Connecting Device (EN341, EN360, EN362) – Descender Device, Self-Retracting Lifeline with Emergency Retrieval Hoist, Connector



(IV) Suspension

The fourth fall protection category is the personal suspension system. This system is used widely in the window-washing and painting industries and is designed to lower and support a worker whilst allowing a hands-free work environment. The following are typical suspension system components:

- (a) Anchorage Point (EN795) – Anchor Bolt
- (b) Personal Protection Equipment (EN361) – Bos'n Chair/Full Body Harness
- (c) Connecting Device (EN341, EN360, EN362) – Descender Device, Self-Retracting Lifeline with Emergency Retrieval Hoist, Connector

Because the components of a suspension system are not designed to arrest a free fall, a back-up fall arrest system should be used in conjunction with the personal suspension system. This fall arrest system will only be activated if the worker experiences a free fall.



THE ABCS OF FALL PROTECTION

This guide is designed to provide you with some essential information you'll need to work safely, from calculating your fall distance to selecting the right equipment for the job.

Always consult our Fall Protection specialist if you are unsure about anything. We've got your back!

Call us at: **6776 6200**



PERSONAL FALL ARREST SYSTEM (PFAS)

A



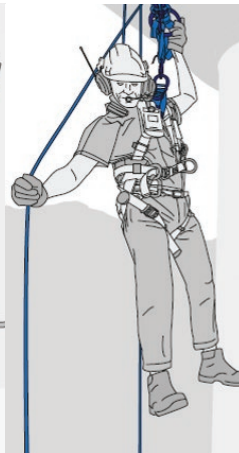
B



C



D



E



F



Anchorage

Anchorage are a secure point of attachment.

Anchorage connectors vary by industry, job, type of installation and structure. They must be able to hold fast under the load of a fall, working in suspension or a rescue.

Body Support

Harnesses distribute fall forces over the upper thighs, pelvis chest and shoulders.

They provide a connection point on the worker for the personal fall protection system.

Connecting Devices

Product such as shock absorbing lanyards or self-retracting lifelines connect a worker's harness to the anchorage.

Descent and rescue

Descent and rescue devices are used to raise or lower a fallen worker to safety. They can also be used to retrieve him from a confined space.

Education

We offer a variety of best-in-class certified training courses for work at height and confined spaces at our state-of-the-art training centres located around the world.

We can also bring training to your workforce to provide an excellent introduction to fall protection.

Fall protection for tools

These devices help make work environments safer and more productive by reducing dropped object incidents.

ANCHORAGE











Anchorage is a fixture or place for the secure attachment of a fall arrest system. A safety harness is able to provide protection from falls only if the harness is attached to a lanyard with shock absorber that is anchored to a secure anchor point or anchor device/connector.

Anchor Point or Anchorage (Also known as a secure tie-off point (e.g. structural beam):

- Must be assessed to be adequate by a competent person
- When assessing existing structural features for use as anchor points, avoid corners or edges that could cut, chafe, or abrade fall protection components.
- Wherever possible, the anchor points should be located above the user. This is to ensure that the anchor line or lanyard is taut or has as little slack as possible to reduce the free fall distance.



The following area should never be used as anchor points unless the minimum structural requirements have been determined to be safe and approved by a competent person:

 <p>Standard Guardrails, Balcony Railings</p>	 <p>Ladders/rungs</p>	 <p>Scaffolding</p>	 <p>Light fixtures</p>
 <p>Conduit or plumbing</p>	 <p>Ductwork or Pipe Vents</p>	 <p>Rebar (except for positioning during formwork)</p>	 <p>Roof Stacks, Vents, Fans or Chimney</p>
	 <p>TV Antennas</p>	 <p>Any point which does not meet the structural requirements</p>	

Anchorage Devices or Connectors (used to join the connecting device to the anchorage point e.g. webbing strap, steel sling, I-beam clamp). There are basically six types of anchor devices **(as specified in EN795 and SS570:2011)**.



ANCHORAGE

At PDS, we offer a wide range of anchors to suit your needs. Anchorage connectors can be fixed (permanent) or mobile (temporary). Both types provide a secure point for the system.

ANCHOR DEVICES ARE SPLIT INTO TWO TYPES:

PERMANENT ANCHORAGES

- Class A - Fixed anchorages. Usually secured to vertical, horizontal or inclined surfaces
- Class C - Horizontal Cable Lifelines
- Class D - Horizontal Rigid Rail Systems.

TEMPORARY ANCHORAGES

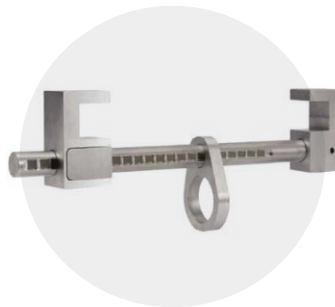
- Class B Mobile Anchorages - temporary transportable anchor devices
- Class C - Horizontal Cable Lifelines
- Class E - These are *dead weight anchors for use on horizontal surfaces.

***Note:** Dead weight anchor devices shall not be used where the distance to the edge of the roof is less than 2.5m.



Single Point Anchors

- Portable & permanent
- Ideal attachment for concrete or metal structures: walls, floors, decks & columns.



Beam Anchors

- Portable & permanent.
- Lightweight & easily installed.
- Ideal for beams, columns, or steel structures.



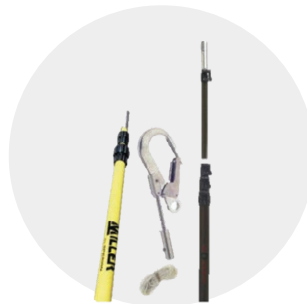
Slings

- "Choker-style" portable anchors
- Safe & easy way to anchor a fall protection device to hard-to-reach areas.



Tripod

- Mobile & easy-to-use.
- Commonly used for confined spaces.



Remote Anchoring System

- Provides a safe means to anchor a fall protection device to hard-to-reach areas.



Roof Anchors

- Portable & permanent anchors for flat or sloped roofs.
- Aims to keep you safe without damaging your roof.

WORKSafe® WSFAZ900 WEBBING SLING **WORKSafe® ANCHORAGE**

- Anchor sling suitable for almost all types of structures
- Made of 20mm-width polyamide webbing
- Static strength: 22kN
- Comes in standard lengths of 0.6m, 1.2m or 2m; other lengths available on request, up to a maximum of 2m
- Tested and approved to EN354 and EN795 Type B standards

Product Code	
710WSFAZ900060	WORKSafe® Webbing Sling, Red, Length: 0.6m
710WSFAZ900120	WORKSafe® Webbing Sling, Red, Length: 1.2m
710WSFAZ900200	WORKSafe® Webbing Sling, Red, Length: 2m



WORKSafe® WSFAZ410 STEEL CABLE CONNECTING LANYARD

- Steel cable anchorage connector with plastic cable protector
- Suitable for structures with sharp edges
- Static strength: 15kN
- Tested and approved to EN795 Type B standards
- Karabiner sold separately

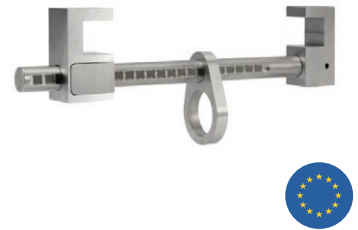
Product Code	
710WSFAZ410-1	WORKSafe® AZ410 Steel Cable Connecting Lanyard, Length: 1m



WORKSafe® WSFAT250 ALUMINIUM ANCHOR CLAMP

- Lightweight (1.37kg) aluminium I-beam anchor clamp
- Adjustable, fits I-beams of width 95mm to 400mm
- Dimensions: 440 x 100 x 45mm
- Designed for 1 worker
- Tested and approved to EN795 Type B standards

Product Code	
710WSFAT250	WORKSafe® AT250 Aluminium Anchor Clamp for 1 worker only



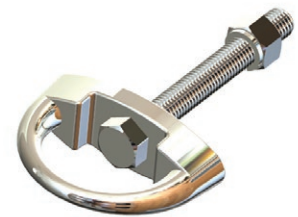
• *Non stocking item, place an order with us.*

MILLER® PERMANENT D-BOLT ANCHOR **MILLER® PERMANENT ANCHORAGE CONNECTORS**

- Designed as an intermediary for securing a connecting device to an anchorage point
- Made of drop forged alloy steel, zinc-plated
- Requires M16 bolts, bolts not included
- Designed for 1 user with a maximum working load at 181.4kg (400lb)
- Tensile strength: 22kN
- Meets OSHA 1910.66, OSHA 1926.502(d), ANSI A10.32, and ANSI Z359.1 requirements

- Note:*
- *Length of bolt may vary to accommodate different working thicknesses*
 - *User supplies mounting hardware - 5/8" grade 8 bolt, lockwasher and nut*

Product Code	
710MFP417	Miller Permanent D-Bolt Anchorage Connectors without hardware, Weight: 14.7oz (0.4kg)





MILLER® REUSABLE ANCHORAGE CONNECTORS



- Designed for use in fully cured concrete holes with a compression strength of at least 3,000psi
- Designed for 1 user with a maximum working load at 181.4kg (400lb)
- Tensile strength: 22kN
- Instructions: Insert at 3" deep into the substrate and 6" away from any edge or corner
- Complies with OSHA & ANSI Z359.1 standards

Product Code

710MFP496	Miller Grip Portable/Reusable Anchorage Connectors, Hole
	Diameter: 19mm(0.75")
	Weight: 0.20kg (0.45lbs)

MILLER® SOLL RAP SWIVEL EYE BOLT AND BASIC ANCHOR



- Approved for use by two users simultaneously
- The anchor eyebolt can be removed and reinserted into the anchor socket. It can only be released by the user pressing the unlocking button
- The eye bolt can swivel ensuring that the user can be safely connected in any position
- The anchor socket should be fixed with chemical adhesive appropriate for the substrate
- Complies to EN795, Type A standards

Product Code

710MFP23876	Soll RAP Swivel Eye Bolt
710MFP23875	Soll RAP Basic Anchor, Length: 100mm (other lengths, 125/200/250mm available on request), supplied with white plastic socket cap

MILLER® REUSABLE ANCHORAGE CONNECTORS

MILLER® TELESCOPIC POLE & JIRAF G065 CONNECTOR



Telescopic Pole

- Fixing an anchorage point from a distance
- Lightweight
- Compact for easy transportation
- Easy vertical deployment
- Fiberglass telescopic pole
- 3 elements for easier deployment from the ground
- MK00: retracted length: 2.7m, extended length: 7.5m
- Jiraf: retracted length: 2.5m, extended length: 9.4m

MK02 Scaffold Hook

- Easy-to-fit anchorage connector for use with telescopic pole
- Opening to suit scaffolding tubes
- Aluminium connector
- Opening: 63mm
- Weight: 1.05kg
- Conforms to EN795 Type B

Product Code

710MFP1002898	Miller® MK00 Telescopic Pole, Retracted Length: 2.7m (7.5m fully extended)
710MFP1002979	Miller® Jiraf Telescopic Pole, Retracted Length: 2.5m (9.4m fully extended)
710MFP1002900	Miller® MK02 Scaffold Hook, Aluminium Connector, Opening: 63mm, Weight: 1.05kg

CLIMBTECH ANCHORS

CLIMBTECH BTA012N BEAM TROLLEY



- Light, smooth and easy to use
- Constructed with lightweight aircraft aluminum bars and 360° swivel D-ring connector
- Beam flange width: 3" to 10"
- Breaking strength: 5,000 lbf/22kN
- Weight: 7.7lbs
- Meets ANSI Z359.7 and EN 795 Type B standards

Product Code

710CLTBTA012N	Climbtech Beam Trolley, 3" - 10"
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CLIMBTECH BWA012N SUPER I-BEAM ANCHOR

CLIMBTECH ANCHORS

- Light, smooth and easy to use
- Constructed with lightweight aircraft aluminum bars and 360° swivel D-ring connector
- Range: 3.5" to 12"
- Breaking strength: 5,000 lbf/22kN
- Weight: 3.5lbs/1.58kg
- Meets ANSI Z359.7 and EN 795 Type B standards



Product Code	
710CLTBWA012N	Climbtech Super I-Beam Anchor, 3.5" - 12"

CLIMBTECH BWA030N SUPER I-BEAM ANCHOR

- Light, smooth and easy to use
- Constructed with lightweight aircraft aluminum bars and 360° swivel D-ring connector
- Range: 12" to 30"
- Breaking strength: 5,000 lbf/22kN
- Weight: 7.4lbs/3.35kg
- Meets ANSI Z359.7 and EN 795 Type B standards



Product Code	
710CLTBWA030N	Climbtech Super I-Beam Anchor, 12" - 30"

CLIMBTECH RAF075N RB REMOVEABLE ANCHOR

- Lightweight and easy to deploy
- Work in horizontal, vertical and overhead surfaces
- Reusable
- Portable concrete anchorage connector
- Size: 3/4"
- Breaking strength: 5,000 lbf/22kN
- Weight: 0.4lbs
- Meets ANSI Z359.7 and EN 795 Type A standards



Product Code	
710CLTRAF075N	Climbtech Removeable Anchor, 3/4"

CLIMBTECH TLA075 N RTL TOGGLE ANCHOR

- Lightweight and easy to deploy
- Work in horizontal, vertical and overhead surfaces
- Reusable
- Versatile, portable concrete/steel anchorage connector
- Can be inserted inside precast concrete and steel flanges
- Size: 3/4"
- Breaking strength: 5,000 lbf/22kN
- Weight: 0.45lbs
- Meets ANSI Z359.7 and EN 795 Type A standards



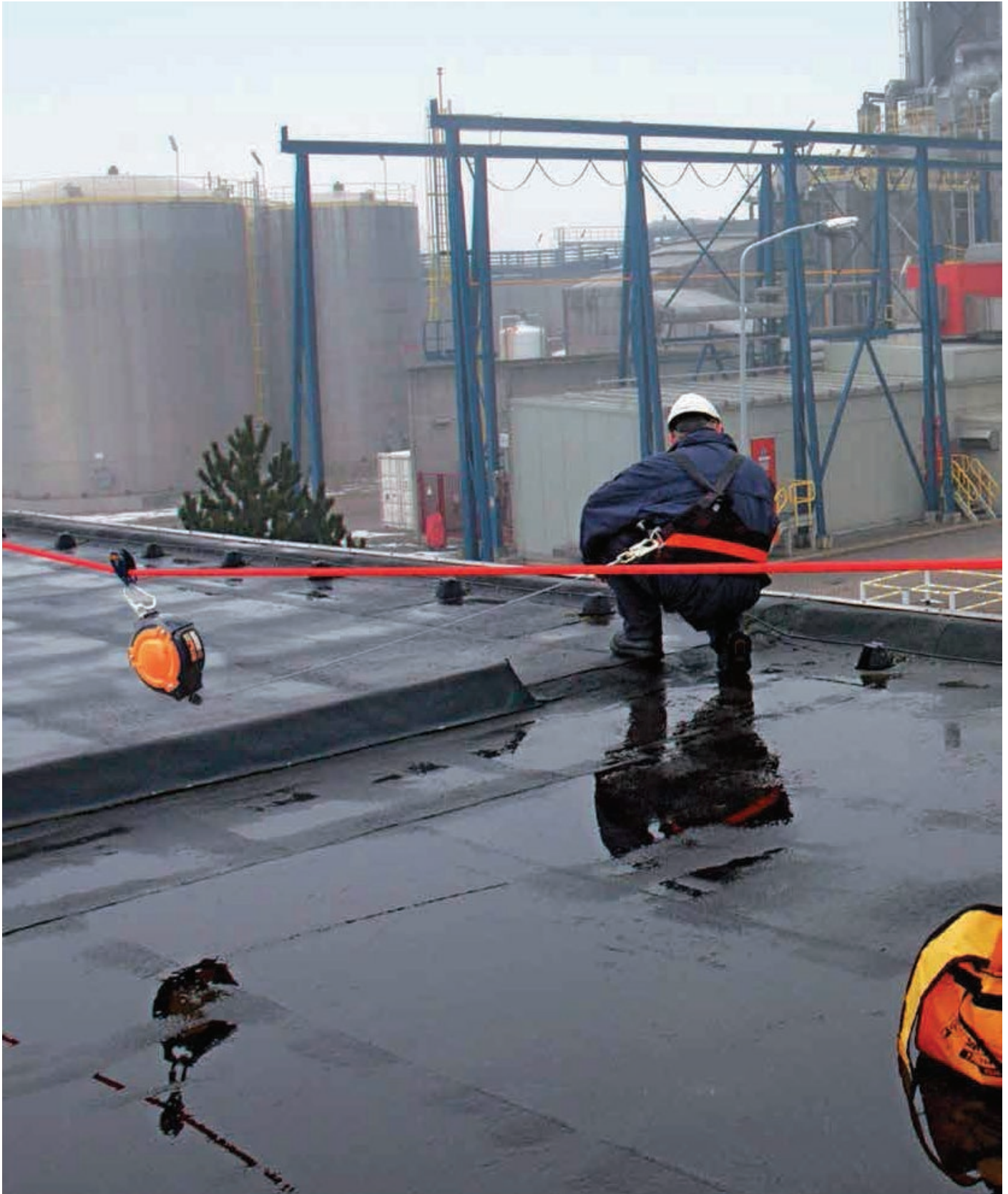
Product Code	
710CLTTLA075N	Climbtech RTL Toggle Anchor, 3/4"



TEMPORARY HORIZONTAL SYSTEMS

Usage: To secure your safety when you are moving horizontally from point A to B.

Light, portable and easy-to-use synthetic lifelines would be the best option for temporary jobs.





WORKSafe® HORIZONTAL ADJUSTABLE WEBBING WITH RED SLING BAG AND SNAP HOOK

WORKSafe® TEMPORARY HORIZONTAL LIFELINES

- Temporary horizontal adjustable webbing lifeline that comes with a ratchet tensioner and snap hook on each end for quick and easy installation
- Webbing length: 10m or 20m
- Webbing width: 35mm
- Has connecting webbing sewn to bag to stow excess webbing
- Allows up to 3 workers at the same time
- Tested and approved to EN795 Type B standards

Product Code

710WSFAE320-10-50-60	WORKSafe® Horizontal Adjustable Webbing, 10m, Red Sling Bag, 2 Snap Hooks
710WSFAE320-20-50-60	WORKSafe® Horizontal Adjustable Webbing, 20m, Red Sling Bag, 2 Snap Hooks



MILLER® SOLL XENON HORIZONTAL LIFELINE SYSTEM

MILLER® TEMPORARY HORIZONTAL LIFELINES

- The Miller® Soll Xenon Horizontal Lifeline is an anchorage device incorporating a flexible wire rope
- The principal components of the system are: shuttles, shock absorbers, intermediate anchors and end anchors

- The Xenon Horizontal Lifeline System provides the perfect safety solution for installation, maintenance and cleaning work at height. It can be used in industrial plants, on roof, on cranes and over vehicles
- Designed with a long fixing span between 15 to 20m, it has fewer components for cost-effectiveness
- Key components are made of high-quality stainless steel
- Tested and certified to EN795 Class C standards



HONOR HONOROPE®-T TEMPORARY HORIZONTAL LIFELINE

HONOR TEMPORARY HORIZONTAL LIFELINE

- Consists of 25m kernmantle rope, HoPress® eyelet and Rope Vice Tensioner (RVT), made of stainless steel for rapid tensioning
- Max. span: 25m
- Max. no. of workers: 5
- Max. end anchorage load: 7.7kN
- 16mm kernmantle rope
- Tested and approved to EN795 Type C standards

Product Code

710HSCR010330007	Honor HONORope-T Temporary Horizontal Lifeline, 5 Users, 25m
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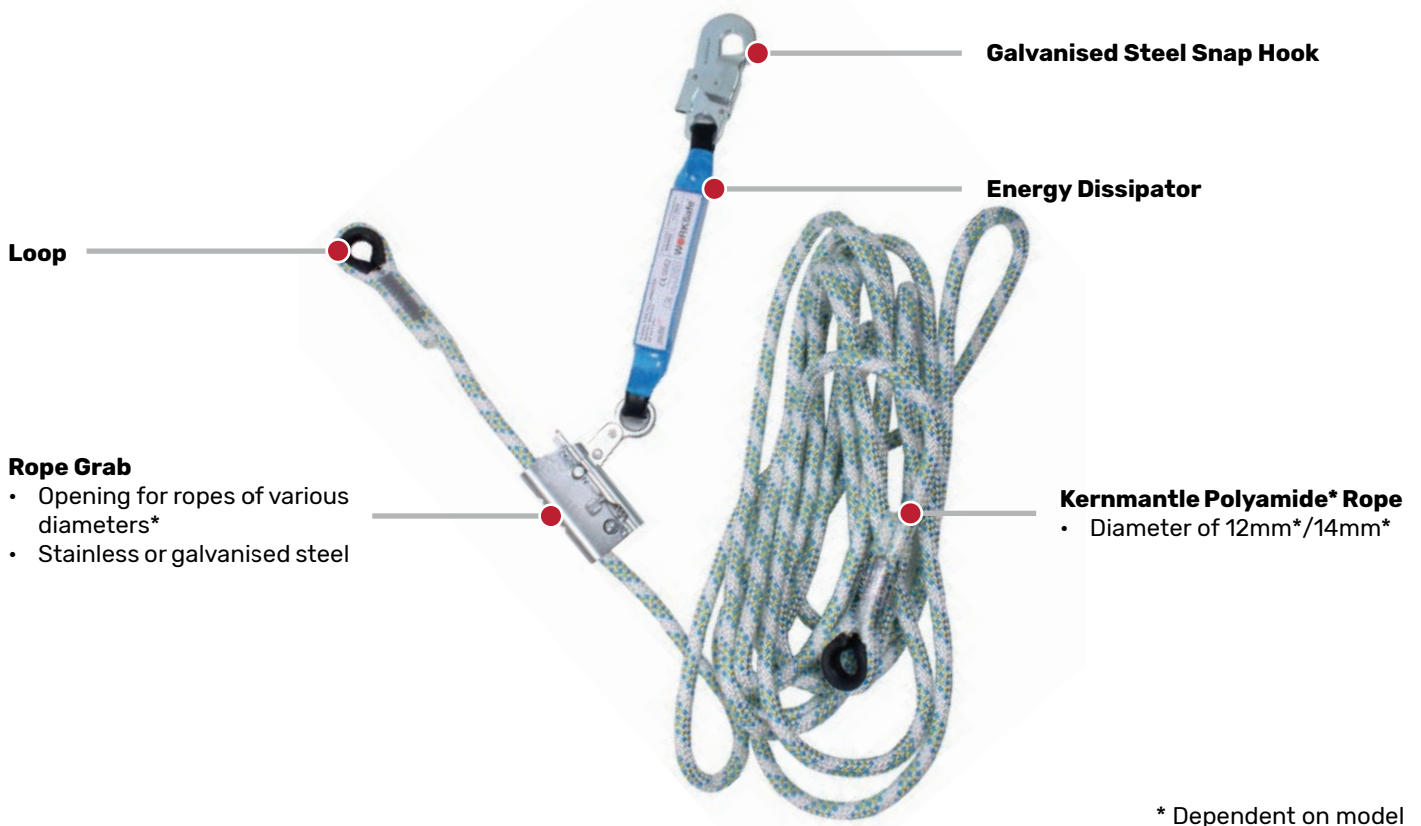


ROPE GRAB

Guided type fall arresters, rope grabs, permanent and flexible vertical lifelines

WORKSafe[®] offers a variety of solutions to ensure a safe and secure environment for personnel working at heights. Our range of Flexible and Rigid Vertical Lifeline Systems comply to EN 353-2, EN 353-1 and SS528: Part 4 standards and are designed to provide maximum freedom of movement and virtually hands-free operation. WORKSafe[®] Fall Protection allows the user to climb and work in safety!

FEATURES OF A FLEXIBLE VERTICAL LIFELINE



WORKSafe® WSFAC080 GUIDED TYPE FALL ARRESTER WITH AC300 WORKING ROPE

WORKSafe® ROPE GRABS

- Guided-type fall arrester on a flexible anchorage line
- Made of forged aluminium alloy, lightweight at 194g
- For use with 12mm kernmantle polyester rope, AC300, comes in standard lengths of 10m, 20m and 30m. Other lengths available on request
- Tested and approved to EN 353-2, EN358 and EN12841 standards

Product Code	
710WSFAC080-RD	WORKSafe® AC080 Guided Type Fall Arrester, Red
710WSFAC300-XX	WORKSafe® AC300 Kernmantle Working Rope, Diameter: 12mm, Rope Length (X): 10/15/20/30m



WORKSafe® WSFAC010 ROPE GRAB WITH AC100 WORKING ROPE

- Guided-type fall arrester on a flexible anchorage line
- Steel rope grab for working rope of diameter 14mm
- Galvanised steel snap hook (opening: 18mm, weight: 220g)
- Energy dissipator
- Tested and approved to EN353-2 standards

Product Code	
710WSFAC010	WORKSafe® AC010 Rope Grab with Energy Dissipator, Snap Hook for Working Rope, Dia: 14mm
710WSFAC100-X	WORKSafe® AC100 Kernmantle Working Rope, Diameter: 14mm, Rope Length (X): 10/20/30/40/50/120m



WORKSafe® WSFAC012 ROPE GRAB WITH AC100 WORKING ROPE

- Guided-type fall arrester on a flexible anchorage line
- Galvanised steel rope grab for working rope of diameter 14mm
- Tested and approved to EN353-2 standards

Product Code	
710WSFAC012	WORKSafe® AC012 Rope Grab, Galvanized Steel for Working Rope, Diameter: 14mm
710WSFAC100-X	WORKSafe® AC100 Kernmantle Working Rope, Diameter: 14mm, Rope Length (X): 10/20/30/40/50/120m





CUSTOMISED FIXED FALL PROTECTION.

All systems and components comply with EN353-1 and EN795 Class A1 & C standards

We provide a complete package of fall protection service and solutions to our customers. These include site assessment, engineering and design, installation, system commissioning, comprehensive training and annual inspection and maintenance. One important aspect of fall protection is a custom-designed engineered system, which involves creating anchors for the personal fall arrest systems. In collaboration with VERTIC (France) and Miller Soll (Germany), we are a total solutions provider for all your needs and requirements in various industries and applications, such as:



Construction



Roof Access



Building Maintenance



Façade Access



Telecommunication Towers



Energy/Utilities Plant



Chemical Processing Plant



CABLE SYSTEM

A lifeline is a **flexible anchor** device that enables free movement at heights safely. It can be fitted to a wide range of structures, (roofs, facades, machines, over-head cranes etc) and can be used by one or more people at the same time.

ATEX versions are available for hazardous environments. It can either be a Vertical Cable Lifeline System complying with EN353-1 or a Horizontal Cable Lifeline System complying with EN795 Class C or a combination of both systems.

All horizontal lifelines have a designed deflection distance. This should be taken into account with the clearance height required by the system during the design stage.



RAIL SYSTEM

The rigid design of the rail systems permits working at heights and allows the carriage to slide easily. Owing to its rigidity, this is the ideal solution where there is very little clearance distance and a cable life line is not suitable. It can either be a Vertical Rail System complying with EN353-1 or a Horizontal Rail System complying with EN795 Class C or a combination of both systems incorporating a switching system to permit multiple changes in direction without uncoupling. It can also be used on ladders or roofs and is available in 3 or 4 directions.



SUPPORTS & ANCHORAGE

The anchorages are designed to take the loads applied by the associated anchor devices. They can be installed on a wide variety of structures and roofs. VERTIC has developed a range of products which are compatible with all waterproofing material and various types of roofing systems.

They can be used as a temporary or permanent single anchor point or as supports to the structure for the cable and rail systems. Some versions come with an built-in energy absorber to reduce damage to the roofing and structure when a fall occurs.

They are in compliance with EN795 Class A1 and Class C standards.

PERMANENT HORIZONTAL SYSTEMS

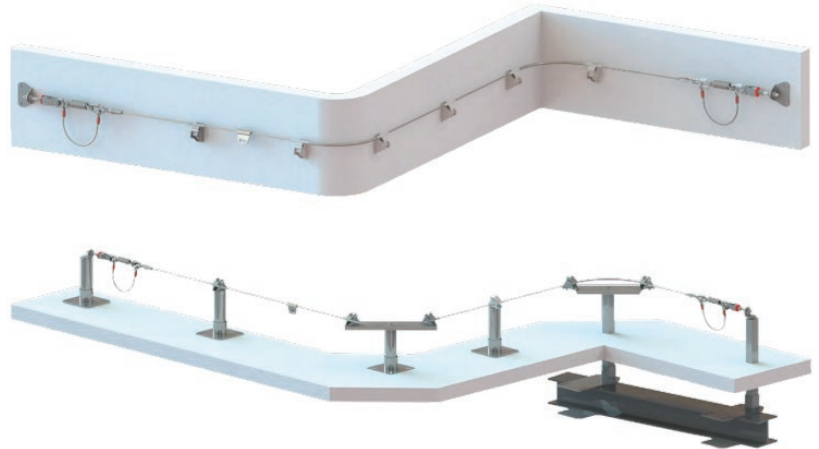
The PROTEKT range of permanent engineered horizontal fall protection products has been developed to provide a choice of solutions that allow our customers to most effectively resolve the risks associated with working at height in a wide range of applications and comply with workplace safety regulations.



PROTEKT DUO LINE HORIZONTAL ANCHORAGE SYSTEM, UP TO 7 USERS

PROTEKT HORIZONTAL ANCHOR SYSTEM

This system is an anchor device intended for use with personal fall protection equipment. The system is designed for use by a group of 3 persons at the same time, and can be re-configured to provide protection for 7 persons. It comprises a horizontal guide made of stainless steel cable of 8 mm in diameter equipped with energy absorbers, tensioners and turns. The guide is attached to a fixed structure at structural anchor points by means of support poles or anchor plates. Each user is attached to an individual slide being a movable anchor point for personal fall protection equipment and enabling free mobility along the system without hampering the fall protection. The device conforms to EN 795 class C and is suitable for works in explosion-hazard zones.



- System is based on stainless steel cable of 8 mm in diameter
- Duo can be installed on roofs by means of poles, and walls so that persons near the edges are provided with fall protection in horizontal
- System can be configured for up to 7 users at the same time
- Movable anchor point enables mobility along the system without hampering the fall protection capability



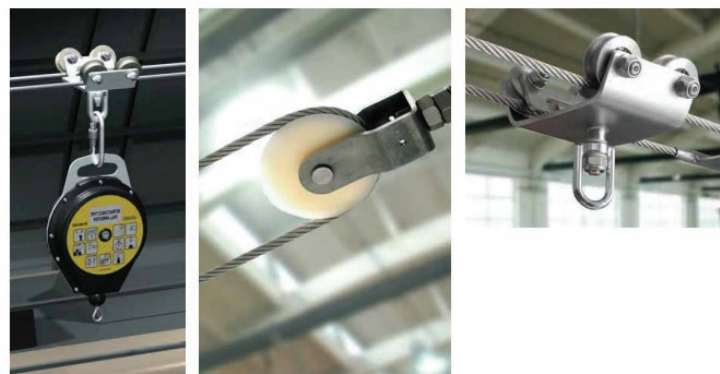
Sequence for travelling the slide, a movable anchor point, along the system including passing through a lug without hampering the fall protection capability

PROTEKT PROLINER LINE HORIZONTAL ANCHORAGE SYSTEM, UP TO 3 USERS

This is a C class anchor device conforming to EN 795. The system is intended for use by up to 3 persons at the same time. All the PROLINER system components are made of stainless steel. The trolley is the system's movable anchor point for personal protective equipment. It enables mobility along the system while providing fall protection in vertical. The guide being trolley's runway is made of double stainless steel cable of 8 mm in diameter. Fall arrester is used to reduce forces affecting support structures, and return roll to properly tension the cable used within the system. The system is suitable for works in explosion-hazard zones.



- System is intended for use by up to 3 persons at the same time
- Trolley guide is formed by steel cable \varnothing 8 mm
- Trolley is movable anchor point for user while moving along system





PROTEKT FIXED SYSTEMS

PROTEKT MARAN RAIL HORIZONTAL ANCHORAGE SYSTEM, UP TO 2 USERS



Rail mounting

Rail end lock

Trolley- movable anchor point with lock

The system is used for attaching personal fall protection system on a fixed structure and at the same time enables mobility while keeping full protection. The system can be used by 2 persons at the same time, each of whom should be attached to a separate trolley. The rail anchorage system comprises a rail being the trolley runway (movable anchor point for personal fall protection equipment), runway end locks, rail guide connectors, turns and elements for mounting the guide on a fixed structure. The rail guide is made of aluminium alloy. Trolley, rail connectors, runway locks, elements for mounting the guide on a fixed structure are made of aluminium alloy, and connecting elements (bolts) are made of stainless steel.

- Rail horizontal anchorage system with lockable slide being an anchor point
- System can be used by 2 persons at the same time
- The device conforms to EN 795 class D
- System can be used for works in a harness

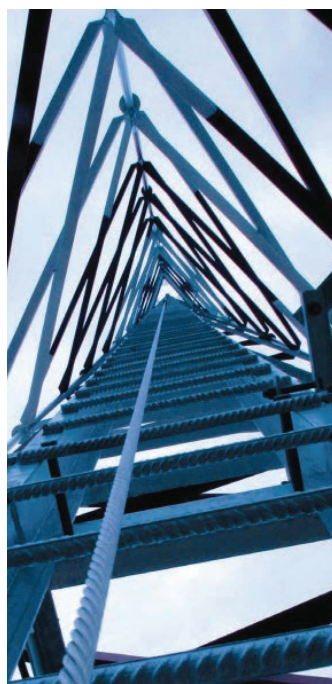
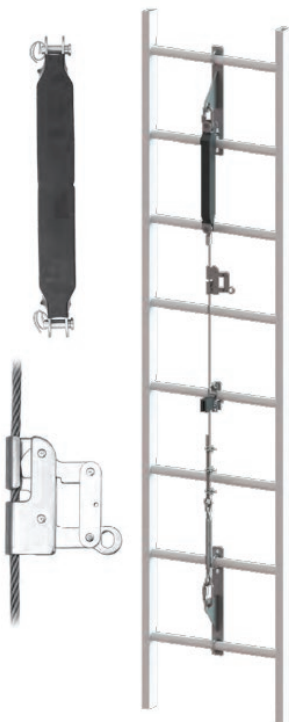
PERMANENT VERTICAL SYSTEMS

To access a tower / plant building, a permanent Vertical Fall Arrest System solution from MILLER & PROTEKT would be the ideal choice. Permanent systems require corrosion resistant galvanised or stainless steel lifelines.



PROTEKT VERTICAL ANCHORAGE SYSTEM

PROTEKT AC360 LINE VERTICAL ANCHORAGE SYSTEM, UP TO 2 USERS



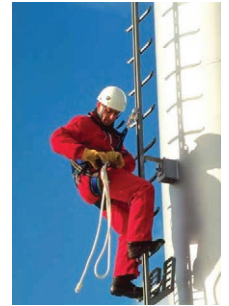
This fall arrester with stiff guide system is designed to provide protection for up to 2 persons at the same time during their mobility in vertical. The system can be installed on any type of fixed ladders onto structures such as chimneys, towers, masts or buildings. The essential element within the system is a guided type mechanism, installed on a steel cable of 8 mm in diameter, connected to a front attachment D-ring on full body harness. General elements within the system such as cable, guided type mechanism, cable connector, steel bolt clamps and tensioner are all made of stainless steel. The device conforms to EN 353-1.

- System is intended for mounting on vertical facade ladders, chimneys or masts
- System provides protection for 2 persons ascending the ladder
- System is an anchor device conforming to EN 353-1

MILLER® SOLL SAFETY LADDERS PERMANENT SAFE CLIMBING SYSTEM

MILLER® FIXED SYSTEMS

- Soll Safety Ladders, the permanent safe climbing system
- Glideloc Fall protection ladders have an integrated guide rail for the guided type fall arrester in the centre stile. They are available in aluminium. Galvanized steel and stainless steel both as central-stile ladders (Y-spar) and with side stiles (twin ladder). The distance between rungs is 280mm
- It can also be integrated to horizontal guide rail system
- Customised designs are available. Certified to DIN 18799-1 and 2 standards, Ladders for construction works
- The guided type fall arrester is certified to EN353-1 standards



MILLER® SOLL PIVOTLOC ALUMINIUM LADDER SYSTEM

- The Miller Soll PivotLoc Aluminium ladder system is a cost effective and innovative system
- Through its unique design the PivotLoc can be closed when not in use, thus preventing unauthorised access onto a worksite
- Can be used in conjunction with Soll Y-Spar, Twin ladder systems and guided type fall arresters
- Standard height at 2.8m, complete with entry point, locking device and connection parts
- Certified to DIN 18799-1 and 2 standards



MILLER® SOLL VI-GO VERTICAL ARREST SYSTEM

- Miller Soll Vi-Go is a new, remarkably ergonomic and versatile vertical steel rope system with integrated fall protection
- Soll Vi-Go is a fall protection system that can be retrofitted onto existing climbing devices such as ladders, rungs used in wind turbine, power supply, telecommunications and other industries
- It is basically made up of a steel rope or cable, fastening elements and a revolutionary guided type fall arrester
- Certified to EN 353-1 standards



MILLER® SOLL MULTIPOST

- Miller® Soll Multipost Anchorage Point are additionally supplied with a 360-degree rotatable anchorage eye made of stainless steel
- Its large opening allows two users to be anchored to it at the same time. The rotary design ensures that the eye always follows the movements of the user around the anchorage point, thereby preventing the karabiner from bending out of line and being at risk of fracturing
- There are various types of Multipost available for fixing on reinforced concrete, steel girders or wooden beams and comes in different height
- They can also be used in conjunction with the Miller® Soll Xenon Horizontal Lifeline system
- Certified to EN795 Class A and B standards





VERTIC FIXED SYSTEMS

VERTIC CABLE SYSTEMS



Vertic Altiline Lifeline System



Vertic Vertiline Lifeline System



Vertic Combiline System

Vertic cable systems is a flexible safety device that enables free movement at height in complete safety. It can be fitted to a wide range of structures, (roofs, facades, machines, over-head cranes, etc) and can be used by one or more persons at the same time.

There are 3 types of Vertic cable systems available: Vertic Altiline Lifeline System, Vertic Vertiline Vertical Lifeline System, Vertic Combiline System.

- Vertic Altiline is a Horizontal Lifeline System, certified to standard span at 12m. Extension of certification to 25m has been achieved with use of IFR25. Energy Absorber is tested to reduce the load on the structure to less than 10kN
- Vertic Vertiline is a Vertical Lifeline, fitted with a tension checking device at the bottom and energy absorber at the top, reusable after loading. Travelling locking carriage comes with built in energy absorption mechanism

Vertic Combiline is a flexible safety device patented by Vertic to meet safety requirements for roof with a slop of more than 15%. It combines Horizontal, Inclined and Vertical Lifeline Systems into one system. Two carriages have been developed specially to permit working at a distance between cable supports and perform fall arrest functions (uni and bidirectional) for the combiline

- All components are made of high quality stainless steel
- Certified to EN795 Class C and EN353-1 standards

VERTIC RAIL SYSTEMS



Vertic Altirail Horizontal System



Vertic Vertirail Vertical System



Vertic Combirail System

The rigid design of Vertic Rail Systems permits working at height and allows the carriage to slide very easily. This is the ideal solution when the rail is installed at a distance from the operator, especially when connected to a heavy weight (safety block).

There are 3 types of Vertic Rail Systems available: Vertic Altirail Horizontal System, Vertic Vertirail Vertical System, Vertic Combirail System.

- Vertic Altirail is a rigid anchor line for use when the angle of the support is less than 15 degrees. It is certified for distance between supports of up to 6 meters and can support up to 6 persons. It reduces the height of fall owing to the rigidity of the system as compared to a cable system

Vertic Vertirail is a rigid vertical anchor system. The unidirectional fall arrest locking is fitted with a metal energy absorber to reduce maintenance costs. The rail support can be mounted directly on a ladder or converted into a means of access using the rail with built-in steps

- Vertic Combirail is a rigid vertical, inclined or horizontal anchor line all combined into one system. The moving fall arrest device is fitted with a bidirectional centrifugal locking system. It can be installed on a wide range of structures
- Certified to EN795 Class C and EN353-1 standards

VERTIC ANCHORAGE SUPPORT - ALTIFIX

VERTIC FIXED SYSTEMS

- Vertic Altifix are mounting points for lifeline or rail system. It can also be used as a single anchor point
- Vertic patented design with a release and energy absorption mechanism included in the Altifix tube to reduce the loads on the fixing
- The ball pivot link enables multidirectional release
- Comes in various fixings for all roof types: Steel Deck, Zinc/Copper covers, PVC sealing, Bituminous seal, Fibre cement and aluminium covers with upright joints
- Certified to EN795 Type A1 standards and compatible with Type C for Vertic Lifeline systems



VERTIC GUARDRAIL - FREE-STANDING ALTILISSE

VERTIC GUARDRAILS

- Made of aluminium
- No need to drill or penetrate the roof
- Effective protection of the waterproofing membrane with ergonomic, rounded shape of the counterweight and front bumper
- Plastic covering of counterweight prevents any cracking of the concrete block
- Ease of installation
- Stability of system - can be handled by one person
- Free circulation of rainwater under crossbar

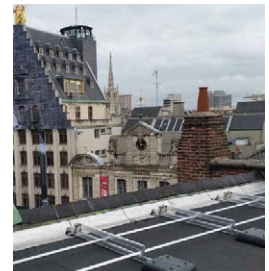
Product Code
710VERGR-FS | Vertic Altilisse, Free-Standing



VERTIC GUARDRAIL - FREE-STANDING, FOLDABLE ALTILISSE

- Can be folded by one person
- Made of aluminium
- Effective protection of the waterproofing membrane with ergonomic, rounded shape of the counterweight and front bumper
- Plastic covering of counterweight prevents any cracking of the concrete block
- Ease of installation
- Counterweight includes ergonomic handle and assures stability of system
- Free circulation of rainwater under crossbar

Product Code
710VERGR-FSF | Vertic Altilisse, Free-Standing, Foldable



VERTIC GUARDRAIL - ALTILISSE ON PARAPET

- Adjustable fixing system of the rails - top and middle rails are maintained by a patented clamping mechanism
- Made of aluminium
- Ease of installation
- A specific plate allows fixing the guardrail up to an insulating inner layer of 130mm, to isolate parapet

Product Code
710VERGR-PP | Vertic Altilisse, On Parapet



VERTIC GUARDRAIL - ALTILISSE ON STEEL DECK

- Can be installed on all steel roofing, dry or sandwich panels
- Made of aluminium
- Watertightness of the roof is guaranteed owing to EPDM seals and use of 6 waterproof rivets
- Modular installation - can be mounted on support perpendicular or parallel to corrugations
- Ease of installation - top and middle rail use an ingenious, patented clamping mechanism

Product Code
710VERGR-SD | Vertic Altilisse, On Steel Deck





COLLECTIVE FALL PREVENTION

We should always eliminate risk through the use of fall prevention systems or make a change in work procedures to ensure safety.

To implement a collective fall prevention system, install a set of fixed **permanent guard rails** or **temporary guardrails**.

COLLECTIVE FALL PREVENTION



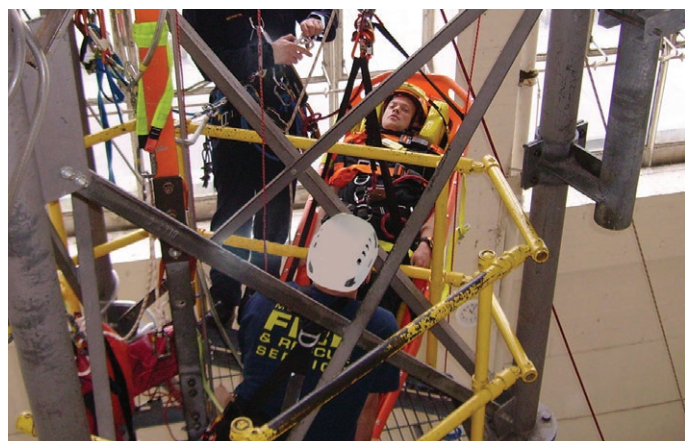
FALL RESTRAINT



FALL ARREST



RESCUE



WORKSafe® EDGE PROTECTION BARRIER SYSTEMS**WORKSafe® COLLECTIVE SAFETY PROTECTION**

Research shows that up to 60% of all accidents involving workers and or materials in construction sites occurs from the Formwork operation and the floors below.

WORKSafe® Edge Protection Barrier Systems is a reliable Collective Safety at Height Solution due to its simplicity in design, ability to be installed quickly, and flexibility.

- A wide range of attachments are available to cater for installation on all types of formwork, scaffolding, concrete, steel or wooden structures
- The advantages of WORKSafe® Edge Protection Barrier System are: strong and durable, lightweight (one man operation), very quick installation, less active components than conventional tube and fittings, fewer tools needed and many more
- The Edge Protection Barrier System has 6 to 8-year lifespan during normal use
- Can be delivered in corporate colors and with your preferred corporate logos

**COMPLIES WITH EN13374 STANDARDS****WORKSafe® SAFETY NETTING SYSTEMS**

WORKSafe® Safety Netting Systems protect the building facade and workers

- A modular and flexible system to fit any type of slab
- Wide range of attachments available for steel structures and scaffolding as well as parapet walls
- Can be shifted from level to level without using towercrane
- Foldable for crane access to levels below
- Made of High Tenacity Polypropylene
- Each net is individually numbered with recyclable ID tags for annual testing and maintenance
- Net components of 3-year lifespan and steel components of 6 to 8-year lifespan

**COMPLIES WITH EN1263-1 STANDARDS**



BODY SUPPORT

Body Wear (the personal protective equipment worn by the worker such as a full body harness) provides a connection point on the worker for the personal fall arrest system. It's used as part of a system to protect the worker from falling and to limit the extent of potential injury in case of a fall.

- The only form of body wear accepted is the full body harness
- Should be selected based on the work to be conducted and the work environment
- Each anchorage point on the harness should have a static resistance > 15kN for 3 minutes
- Side and front D-rings are for positioning only



1
Hold the harness by the back D-ring. Allow all straps to fall in place.



2
Put on the shoulder straps one at a time and ensure D-ring is located in the middle of the back between the shoulder blades.



3
Connect both thigh straps and adjust as required.



4
Connect chest strap and position at mid-chest region. Adjust as required.



5
Adjust shoulder straps and keep excess straps neat by using the strap keepers.



6
Make last adjustments and check that your harness is fitted properly and not too tight or too loose. You should be able to put your hand between your leg strap and your thigh.



FEATURES OF A PREMIUM HARNESS



Rear D-Ring

- Basic attachment point for fall arrest
- Suitable for standard site work where worker needs to be attached for safety
- Dorsal Anchorage Point



Polyamide Webbing

- UV-resistant
- Abrasion-resistant



Strap Adjustment Buckles

- Fully adjustable shoulder & leg straps



Front Anchorage Loops

- Karabiner is used to connect the loops
- Used to connect to Fall Arrest Intermediate Attachment
- Used in climbing with rope grabs, confined space, rescue & work positioning situations



Work Positioning Belt

- Provides support for the user
- With attachment loops at the back for tools & accessories



Front & Side Hip D-Rings

- Front D-Ring is used in various types of climbing, work positioning & restraint applications
- Side D-Rings are used for work positioning & restraint





WORKSafe® PREMIUM HARNESES

WSFAB190-01 FULL BODY HARNESS WITH FRONT, DORSAL ANCHORAGE POINTS, AND WORK POSITIONING BELT



- Designed for a person weighing up to 140kg
- Harness with front and dorsal anchorage points, attachment point for sitting position, side attachment point for work positioning and an additional back attachment point
- Separate adjustment for leg and shoulder straps
- Comes with shoulder padding and accessory attachment on the work positioning belt
- Tested and approved to EN358, EN361 and EN813 standards



Product Code

710WSFAB19001XXL	WORKSafe® Full Body Harness with Front, Dorsal Anchorage Points, Work Positioning Belt, Size: XXL
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WSFAB170-01 FULL BODY HARNESS WITH FRONT, DORSAL ANCHORAGE POINTS, AND WORK POSITIONING BELT



- Harness with front and dorsal anchorage points and work positioning belt
- Separate adjustment for leg and shoulder straps
- Tested and approved to EN361, EN358 and EN813 standards



Product Code

710WSFAB170-01	WORKSafe® Full Body Harness with Front, Dorsal Anchorage Points, Work Positioning Belt, 2 Side D-Rings
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WSFAB150-01 FULL BODY HARNESS WITH FRONT, DORSAL ANCHORAGE POINTS, AND WORK POSITIONING BELT



- Harness with front and dorsal anchorage points and work positioning belt
- Separate adjustment for leg and shoulder straps
- Tested and approved to EN361 and EN358 standards



Product Code

710WSFAB150-01	WORKSafe® Full Body Harness with Front, Dorsal Anchorage Points, Work Positioning Belt, 2 Side D-Rings
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FEATURES OF A BASIC HARNESS



Rear D-Ring

- Basic attachment point for fall arrest
- Suitable for standard site work where worker needs to be attached for safety
- Dorsal Anchorage Point

Polyamide Webbing

- UV-resistant
- Abrasion-resistant

Strap Adjustment Buckles

- Fully adjustable shoulder & leg straps

Mating Buckles

- Lock & secure the harness in position at the chest & thigh areas

Front Anchorage Loops

- Karabiner is used to connect the loops
- Used to connect to Fall Arrest Intermediate Attachment
- Used in climbing with rope grabs, confined spaces, rescue & work positioning situations

Strap Management

- Hold your straps in place, keeping them organised

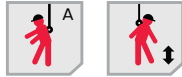


WORKSafe® HARNESSSES

WORKSafe® WSF122 FULL BODY HARNESS WITH FRONT AND DORSAL ANCHORAGE POINTS



- Harness with front and dorsal anchorage points
- Separate adjustment for leg straps
- Body height adjustment
- Reflective threads on webbing - suitable for low visibility conditions
- Comes with 2 lanyard keepers
- Tested and approved to EN361 and SS528: Part 1 standards



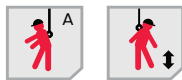
Product Code

710WSF122	WORKSafe® Full Body Harness with Front and Dorsal Anchorage Points
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WORKSafe® WSF160 FULL BODY HARNESS WITH FRONT AND DORSAL ANCHORAGE POINTS



- Harness with front and dorsal anchorage points and quick connector at chest and leg straps
- Separate adjustment for leg straps
- Body height adjustment
- Reflective threads on webbing - suitable for low visibility conditions
- Comes with 2 lanyard keepers
- Tested and approved to EN361 and SS528: Part 1 standards



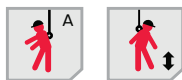
Product Code

710WSF160	WORKSafe® Full Body Harness with Front and Dorsal Anchorage Points
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WSFAB141-01 FULL BODY HARNESS WITH SHOULDER AND DORSAL ANCHORAGE POINTS



- Harness with shoulder and dorsal anchorage points
- Separate adjustment for leg and shoulder straps
- Stainless steel buckles
- Can be used for rescue
- Tested and approved to the EN361 standard



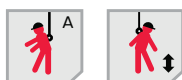
Product Code

710WSFAB141-01	WORKSafe® Full Body Harness with Shoulder, Dorsal Anchorage Points, Stainless Steel Buckles
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WORKSafe® WSFAB131-10 FULL BODY HARNESS WITH FRONT AND DORSAL ANCHORAGE POINTS



- Harness with front and dorsal anchorage points
- Separate adjustment for leg and shoulder straps
- Body height adjustment
- Stainless steel buckles
- Tested and approved to the EN361 standard



Product Code

710WSFAB131-10	WORKSafe® Full Body Harness with Front, Dorsal Anchorage Points, Stainless Steel Buckles
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WORKSafe® WSFAB110-01 FULL BODY HARNESS WITH DORSAL ANCHORAGE POINT

WORKSafe® HARNESSES

- Harness with dorsal anchorage point
- Separate adjustment for leg and shoulder straps
- Body height adjustment
- Tested and approved to the EN361 standard

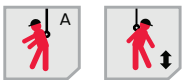


Product Code	
710WSFAB110-01	WORKSafe® Full Body Harness with Dorsal Anchorage Point

WORKGard® WGF512 FULL BODY HARNESS WITH FRONT AND DORSAL ANCHORAGE POINT

WORKGard® HARNESSES

- Polyester webbing with reflective threads
- Harness with front and dorsal anchorage points
- Comes with 2 lanyard keepers
- Separate adjustment for leg straps
- Body height adjustment
- Tested and approved to EN361 and SS528:Part 1 standards



Product Code	
710WGF512	WORKGard® Full Body Harness with Front and Dorsal Anchorage Point

WORKSafe® WSFAP010 WORK POSITIONING BELT

- Work positioning belt with 2 side-attaching D-rings
- Tested and approved to the EN358 standard



Product Code	
710WSFAP010	WORKSafe® Work Positioning Belt, 2 Side D-Rings



MILLER®DURAFLEX FULL BODY HARNESS WITH FRONT AND REAR ANCHORAGE POINTS

MILLER® HARNESSES

- Harness with front and rear anchorage points
- Front anchorage - 2 sternal D-rings
- Conforms to shape of worker, stretching with every movement
- Webbing repels water, oil, grease and dirt - helps to extend service life of the harness
- DuraFlex® elastomer webbing
- Manual chest and leg buckles
- Complies with EN361



Product Code	
710MFP1002853	Miller Duraflex Full Body Harness with Front, Rear Anchorage Points



HARNESSES & BODY BELT INSPECTION



1

Webbing

Hold the webbing with your hands 15.2cm to 20.3 cm apart. Bend the webbing so that it forms an inverted "U". The surface tension created makes damaged fibers or cuts easier to detect.

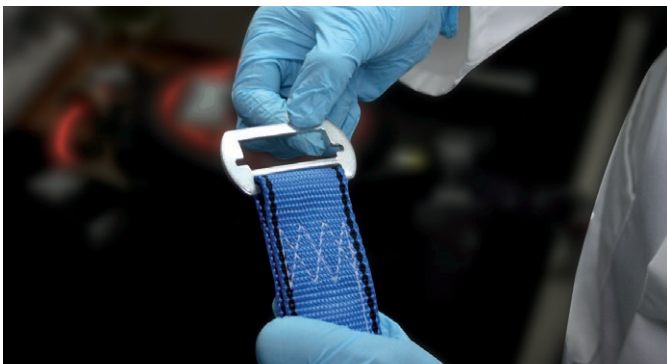
Repeat the process to check the the entire length of the webbing. Inspect both sides of the strap. Look for frayed edges, broken fibers, pulled stitches, cuts, burns and chemical damage.



2

D-Rings/Back Pads

Check D-rings for distortion, cracks, breaks and rough or sharp edges. The D-ring should pivot freely. D-ring back pads should also be inspected for damage.



3

Stitching

Inspect for any unusual wear, frayed or cut fibers or broken stitching on the harness.



4

Friction and Mating Buckles

Check the buckle for distortion. The outer bars and center bars must be straight. Pay special attention to corners and attachment points at the center bar.

CONNECTING DEVICES

Connecting Devices are critical links that join the body wear to the Anchorage / Anchorage Connectors such as lanyards, energy absorbers, rope grabs, or retracting lifelines that are used to connect the worker's full body harness to the Anchor system. It limits the free fall of the worker and arrests a fall.

- Selected based on work to be performed and the work environment
- Potential fall distance must be calculated to determine the type of connecting device to be used

CHOOSING YOUR LANYARDS.



Shock Absorber

Lanyards have an energy absorbing unit that will limit the force on the worker to below 6 kN (with up to 4 m free fall). Most manufacturers now keep the arresting forces below 4 kN.



Webbing

Webbing safeguards the durability of the lanyard. It should be strong enough to withstand rough use and other elements without tearing or fraying. It's often coated with polyurethane to provide protection against grease, oil, dirt and grime.



Connector/Hook

Most lanyards are available with traditional auto-locking snap hooks. Lanyards can also be fitted with larger snap hooks or carabiners for connection to larger anchorages.



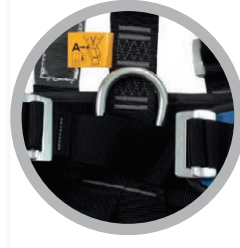
Length

The maximum lanyard length is 2m. A lanyard should be long enough to be user friendly, but kept as short as possible to minimize the free fall distance. Don't shorten the length by tying knots as this can reduce the lanyard's strength by 50%.



Fall/Impact Indicator

If the lanyard has been used to arrest a fall or if the energy absorber has been deployed, the lanyard must be retired immediately. An impact indicator helps you identify a deployed shock absorber at a glance.



Tie-backs Attachment

Some lanyards have additional connection point(s) allowing them to be passed around large anchor points, connecting back onto themselves, and may also be adjustable.



Cable

Some lanyards are made of vinyl-covered cable for extra durability and for working in high heat environments.



LANYARDS

Energy Absorber Lanyards

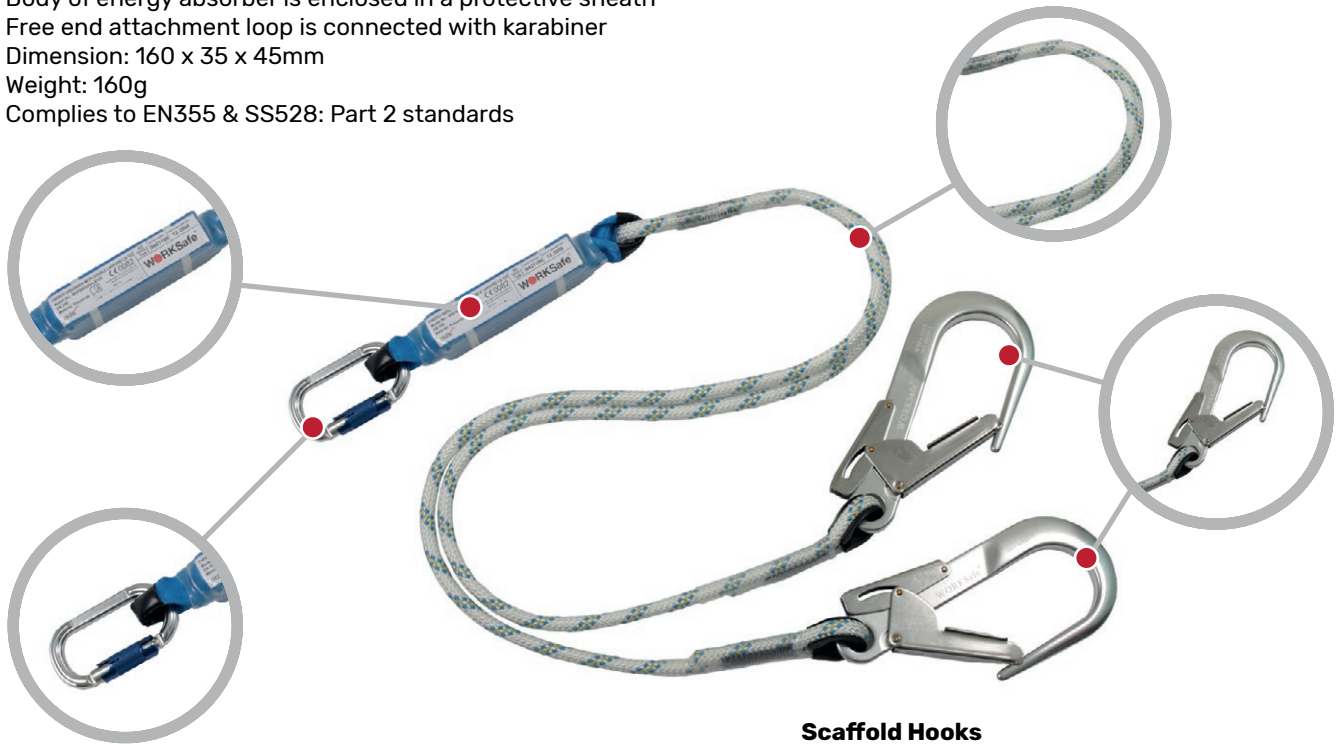
Lanyards are used to connect the anchorage to the harness worn by the worker. They must include an energy absorber to limit the impact forces to the body in the event of a fall to a maximum of 6 kN. The maximum length of an EN 355 compliant lanyard is 2m.

Energy Absorber

- Available in polyamide webbing
- Equipped with attachment loops at the two ends
- One of the attachment loops is permanently fixed to lanyard
- Body of energy absorber is enclosed in a protective sheath
- Free end attachment loop is connected with karabiner
- Dimension: 160 x 35 x 45mm
- Weight: 160g
- Complies to EN355 & SS528: Part 2 standards

Kernmantle Polyamide/Polyamide Rope

- Available in kernmantle polyamide*/polyamide*
- Diameter 12mm
- Maximum length 1.8m or 2m*
- Available in single or double ropes*



Karabiner

- Steel twist-lock*/screwgate* karabiner
- Complies to EN362 & SS528: Part 5 standards

Scaffold Hooks

- Available in hot-dipped galvanised steel*/aluminium alloy*
- Corrosion-resistant
- Used to connect the individual parts of the fall arrest equipment in a complete system
- Gate opening: 53mm*/60mm*
- Complies to EN362 & SS528: Part 5 standards

* Dependent on model
+ For models made in Europe

Restraint Lanyards

A connecting lanyard must only be used for restraining purposes. The user should not be able to maneuver in an area where there is a risk of falling. The restraint system is precisely defined for each place where it will be used.

WORKSafe® WSFBW200+LB122 ENERGY ABSORBER WITH DOUBLE ROPE SAFETY LANYARD WORKSafe® LANYARDS

- Kernmantle polyamide rope and polyamide energy absorber
- Maximum length: 2 x 2m
- Diameter: 12mm
- Includes 2 aluminium alloy connecting scaffold hooks
- Tested and approved to EN355, EN354, EN362 standards
- Aluminium alloy twist-lock karabiner, certified with EN362 standards, sold separately



Product Code	
710WSFBW200+LB122	WORKSafe® Energy Absorber with Double Rope Safety Lanyard, 2 Scaffold Hooks, Twist-lock Karabiner sold separately



WORKSafe® WSFBW200+LB121 ENERGY ABSORBER WITH SINGLE ROPE SAFETY LANYARD

- Kernmantle polyamide rope and polyamide energy absorber
- Maximum length: 2m
- Diameter: 12mm
- Includes aluminium alloy connecting scaffold hook
- Tested and approved to EN355, EN354, EN362 standards



Product Code	
710WSFBW200+LB121	WORKSafe® Energy Absorber with Single Rope Safety Lanyard, Scaffold Hook, Twist-lock Karabiner sold separately



WORKSafe® WSF221 ENERGY ABSORBER WITH SINGLE ROPE SAFETY LANYARD

- Kernmantle polyester rope and polyester energy absorber
- Maximum length: 1.8m
- Diameter: 12mm
- Includes 1 hot-dipped galvanised steel connecting scaffold hooks and steel twist-lock karabiner
- Tested and approved to EN355, EN354, EN362 and SS528: Part 2 and Part 5 standards



Product Code	
710WSF221	WORKSafe® Energy Absorber with Single Kernmantle Rope Safety Lanyard, 1 Scaffold Hook, Twist-Lock Karabiner



WORKSafe® WSF222 ENERGY ABSORBER WITH DOUBLE ROPE SAFETY LANYARD

- Kernmantle polyester rope and polyester energy absorber
- Maximum length: 2 x 1.8m / 2 x 1m
- Diameter: 12mm
- Includes 2 hot-dipped galvanised steel connecting scaffold hooks and steel twist-lock karabiner
- Tested and approved to EN355, EN354, EN362 and SS528: Part 2 and Part 5 standards



Product Code	
710WSF222	WORKSafe® Energy Absorber with Double Kernmantle Rope Safety Lanyard, 2 Scaffold Hooks, Twist-Lock Karabiner
710WSF222-1M	WORKSafe® Energy Absorber with Double Kernmantle Rope Safety Lanyard, 2 Scaffold Hooks, Twist-Lock Karabiner

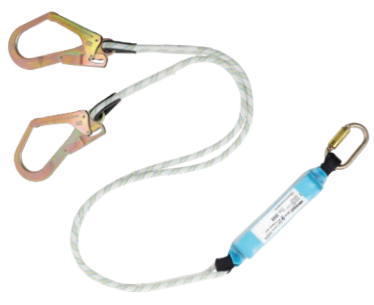


WORKGard® WGF622 ENERGY ABSORBER WITH DOUBLE KERNMANTLE ROPE SAFETY LANYARD WORKGard® LANYARDS

- Kernmantle polyester rope and energy absorber
- Maximum length: 2 x 1.8m
- Diameter: 12mm
- Includes 2 hot-dipped galvanized steel connecting scaffold hooks and steel twist-lock karabiner (certified according to EN362 & SS528:Part 5 standards)
- Tested and approved to EN355, EN354 and SS528:Part 2 standards



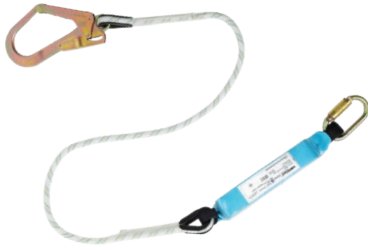
Product Code	
710WGF622	WORKGard® Energy Absorber with Double Kernmantle Rope Safety Lanyard, 2 Scaffold Hooks, Twist-lock Karabiner





WORKGard® LANYARDS

WORKGard® WGF611 ENERGY ABSORBER WITH SINGLE KERNMANTLE ROPE SAFETY LANYARD



- Kernmantle polyester rope and energy absorber
- Maximum length: 1.8m
- Diameter: 12mm
- Includes 1 hot-dipped galvanized steel connecting scaffold hook and steel twist-lock karabiner (certified according to EN362 & SS528:Part 5 standards)



- Tested and approved to EN355, EN354 and SS528:Part 2 standards

Product Code

710WGF611	WORKGard® Energy Absorber with Single Kernmantle Rope Safety Lanyard, 1 Scaffold Hook, Twist-lock Karabiner
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WORKGard® ADJUSTABLE WORK POSITIONING/RESTRAINT LANYARD WITH SCREWGATE KARABINER



- Kernmantle polyester rope and energy absorber
- Maximum length: 1.2M-2M
- Diameter: 12mm
- Includes 1 hot-dipped galvanized steel connecting scaffold hook and steel twist-lock karabiner (certified according to EN362 & SS528:Part 5 standards)



- Tested and approved to EN355, EN354 and SS528:Part 2 standards

Product Code

710WGFWPL2401	WORKGard® Adjustable Work Positioning/Restraint Lanyard with Screwgate Karabiner
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WORKSafe® RESTRAINT LANYARDS

WORKSafe® WSF231 CONNECTING LANYARD



- Kernmantle polyester rope
- Maximum length: 1.8m
- Diameter: 12mm
- Equipped with 1 galvanized steel scaffold hook and steel screw-gate karabiner
- Tested and approved to EN354 and EN362 standards



Product Code

710WSF231-1.8M	WORKSafe® Connecting Lanyard, Scaffold Hook, Screw-gate Karabiner
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WORKSafe® FALL PROTECTION CONNECTORS

WORKSafe® ALUMINIUM TWIST-LOCK KARABINER WSF320 (TÜV SÜD PSB)



- Gate opening: 18mm
- Weight: 80g
- Tested and approved to EN362 and SS528: Part 5 standards

Product Code

710WSF320	WORKSafe® Aluminium Twist-lock Karabiner, Silver Blue
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WORKSafe® FALL PROTECTION ACCESSORIES

WORKSafe® LANYARD KEEPER



- Lanyard keeper for harness
- Provides place to park lanyard's scaffold hook
- Comes with velcro attachment
- This item is not meant for fall arrest use.

Product Code

710WSFLK08	WORKSafe® Lanyard Keeper
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Understanding your fall clearance

LL = Lanyard Length (max. 2 m)

DD = Shock Absorber Deployment Length (1.75 m max.)

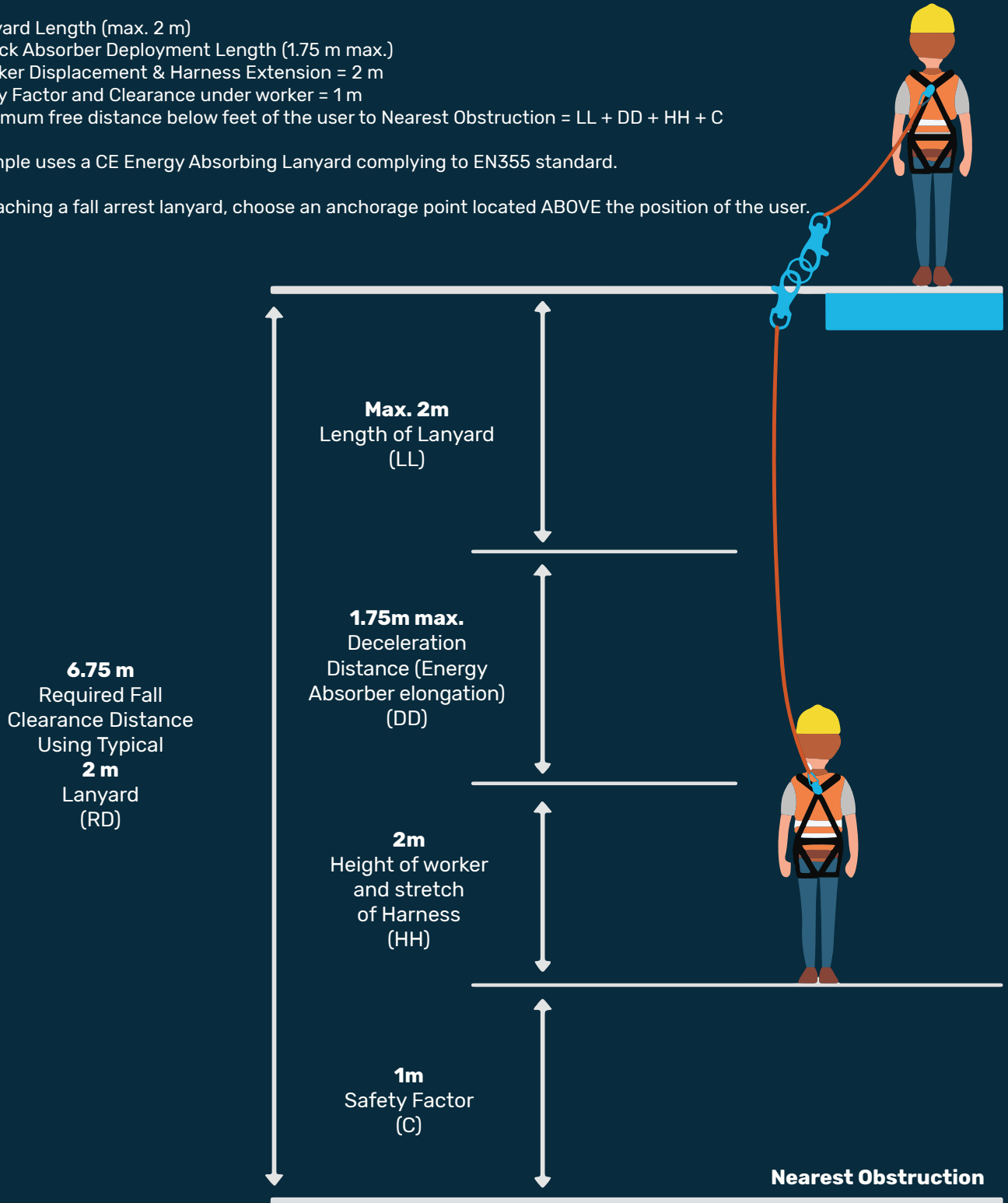
HH = Worker Displacement & Harness Extension = 2 m

C = Safety Factor and Clearance under worker = 1 m

RD = Minimum free distance below feet of the user to Nearest Obstruction = LL + DD + HH + C

This example uses a CE Energy Absorbing Lanyard complying to EN355 standard.

When attaching a fall arrest lanyard, choose an anchorage point located ABOVE the position of the user.



Note: This information is provided as a general explanation. Always read and follow your product's manual before deployment.



LANYARD INSPECTION



1

Snap Hook

Inspect closely for hook and eye distortions, cracks, corrosion or pitted surfaces. The keeper (latch) should sit into the nose without binding and should not be distorted or obstructed. The keeper spring should exert sufficient force to firmly close the keeper. Keeper locks must prevent the keeper from opening when the keeper closes.



2

Thimbles

The thimble must be firmly seated in the eye of the splice and the splice should have no loose or cut strands. The edges of the thimble must be free of sharp edges, distortion or cracks.



3

Rope Lanyard

Rotate the rope lanyard while inspecting from end-to-end for any fuzzy, worn, broken or cut fibers. Weakened areas from extreme loads will appear as a noticeable change in original diameter. The rope diameter should be uniform throughout, following a short break-in period.



4

Shock Absorber Pack

The outer portion of the pack should be examined for burn holes and tears. Stitching on areas where the pack is sewn to D-rings, belts or lanyards should be examined for loose strands, rips and deterioration.

SELF-RETRACTING LIFELINE (SRLs)

Self-retracting lifelines are longer than lanyards, allowing the worker greater freedom of movement while providing fall protection. The SRL (connected to an anchorage point) automatically locks when weight is suddenly applied to it. SRLs are available in several configurations for different types of work.

Key features

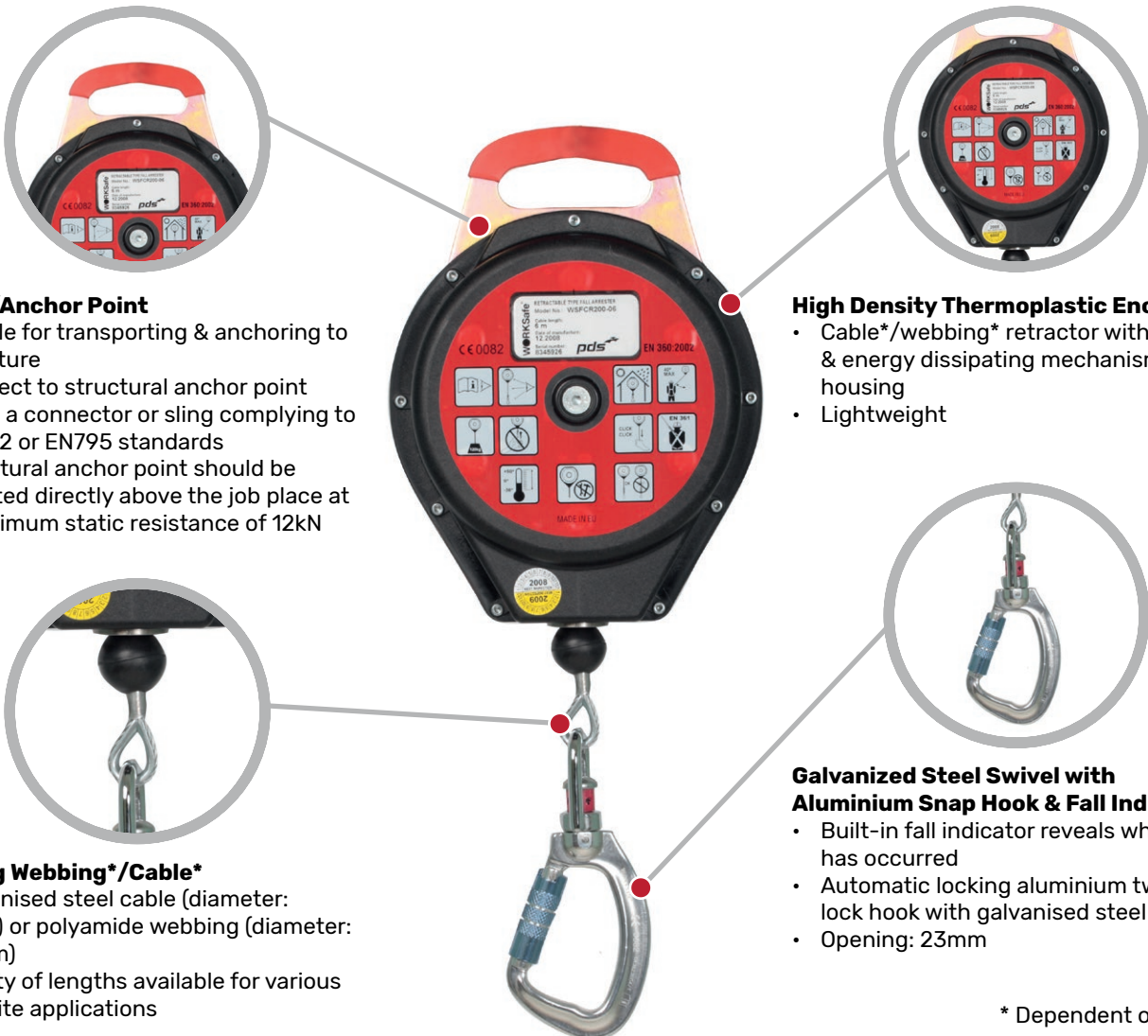
- In the event of a fall an SRL will minimise free fall distance
- Available in various working lengths
- The line can be steel, fibre or webbing
- Offer limited freedom of movement whilst maintaining continuous attachment
- In the event of a fall, the reel will lock at a pre-determined speed

Limitations

- Attachment wire must not deviate by more than a specified angle from the vertical or the user must remain within a specific working radius/area (See specific product instructions)
- The wire must not run over an edge.

FEATURES OF A SELF RETRACTING LIFELINE

WORKSafe® CR and WR series Self-Retracting Lifelines (SRL) are fast-acting fall arresters limiting free-fall distance, deceleration distance and fall arrest forces to under 6kN while allowing users freedom of movement. WORKSafe® SRL is a component of a personal fall arrest system and must be used in conjunction with a WORKSafe® full body harness, anchorage connector and a qualified anchorage point.



Holder/Anchor Point

- Handle for transporting & anchoring to structure
- Connect to structural anchor point using a connector or sling complying to EN362 or EN795 standards
- Structural anchor point should be situated directly above the job place at a minimum static resistance of 12kN

High Density Thermoplastic Enclosure

- Cable*/webbing* retractor with brake & energy dissipating mechanism inside housing
- Lightweight

Working Webbing*/Cable*

- Galvanised steel cable (diameter: 4mm) or polyamide webbing (diameter: 22mm)
- Variety of lengths available for various job-site applications

Galvanized Steel Swivel with Aluminium Snap Hook & Fall Indicator

- Built-in fall indicator reveals when a fall has occurred
- Automatic locking aluminium twist-lock hook with galvanised steel swivel
- Opening: 23mm

* Dependent on model



WORKSafe® FALL ARRESTERS



- Self-locking device for vertical operation
- Available in 6m, 10m, 12m and 15m
- Composite Housing Galvanised Steel / Stainless
- Dimensions: 270 x 260 x 90 mm
- Weight: 10m length - 4.20kg / 15m length - 4.90kg



WORKSafe® CR250V SELF-RETRACTING LIFELINE

- Tested and approved to EN 360:2002 standards

Product Code

710WSFCR250V-10-2	WORKSafe® Self-retracting
710WSFCR250V-15-2	Lifeline, Galvanised Steel
	Cable (10M) / (15M) with Fall
	Indicator Snap Hook

WORKSafe® WSFCR250HV SELF-LOCKING DEVICE FOR VERTICAL AND HORIZONTAL



- Self-locking device for vertical and horizontal operation
- Available in 6m, 8m and 11m
- Composite Housing Galvanised Steel / Stainless
- Dimensions: 270 x 260 x 90 mm
- Weight: 11m length - 5.50kg
- Tested and approved to EN 360 standards



Product Code

710WSFCR250HV-11-2	Self-locking Device for
	Vertical and Horizontal
	Operation, Galvanised
	Steel Cable (11m)

WORKSafe® FCR300 STEEL CABLE RETRACTOR



- Zinc galvanised steel cable of diameter 4mm
- Stainless steel ring
- High Density Thermoplastic Enclosure
- Dimensions: 260 x 120 x 340mm
- Available in 20m (11.25kg) and 28m (11.65kg)



- Includes galvanised steel swivel aluminium snap hook and fall indicator (opening: 23mm, weight: 200g)
- Tested and approved to EN360 standards

Product Code

710WSFCR300-20/28	WORKSafe® CR300 Steel Cable
	Retractor, Swivel Snap Hook,
	Fall Indicator, Cable Length:
	20m/28m

WORKSafe® WSFAH220 ROLEX WEBBING RETRACTOR



- Energy dissipating element
- Polyamide webbing width: 45mm
- Dimensions: 96 x 98 x 320mm (without snap hook)
- Working length: 2.4m
- Weight: 1,680g



- Includes swivel galvanised steel scaffold hook (opening: 60mm) and aluminium swivel galvanised steel snap hook (opening: 24mm)
- Tested and approved to EN360 standards

Product Code

710WSFAH220S	WORKSafe® Rolex Webbing
	Retractor, Swivel Scaffold Hook,
	Swivel Snap Hook, Energy
	Absorber, Webbing Length: 2.4m

WORKSafe® WSFAH210 ROLEX WEBBING RETRACTOR



- Energy dissipating element
- Polyamide webbing width: 45mm
- Dimensions (without webbing and snap hook): 115 x 80 x 150mm
- Working length: 2.25m
- Weight: 1,150g



- Includes steel twist-lock karabiner, galvanised steel swivel aluminium snap hook (opening: 22mm, weight: 220g)
- Tested and approved to EN360 standards

Product Code

710WSFAH210	WORKSafe® AH210 Rolex Webbing
	Retractor, Twist-lock Karabiner,
	Swivel Snap Hook, Energy
	Absorber, Webbing Length: 2.25m

WORKSafe® WR100 WEBBING RETRACTOR

WORKSafe® FALL ARRESTERS

- Lightweight webbing retractor
- High density thermoplastic enclosure
- Dimensions: 160 x 70 x 230mm
- Working length: 6m
- Weight: 1,700g

- Includes galvanized steel screw-gate karabiner, aluminium swivel snap hook and fall indicator (opening: 24mm, weight: 220g)
- Tested and approved to EN360 standards



Product Code	
710WSFWR10006/AZ011	WORKSafe® WR100 Webbing Retractor, Swivel Snap Hook, Fall Indicator, Webbing Length: 6m



MILLER® MIGHTYLITE SELF-RETRACTING LIFELINE

MILLER® FALL ARRESTERS

- 30% lighter than competitive models
- Corrosion-resistant stainless steel and aluminium components promote longer service life
- Lightweight and portable
- Double-swivel design allows for greater maneuverability while preventing the lifeline from twisting or kinking
- Consistent spring tension regardless of the amount of wire rope or webbing in use
- Meets OSHA, ANSI, Z259.2.2 Type 2 and CE standards

Product Code	
Miller® MightyLite Self-retracting Lifeline, Galvanized Cable, Lifeline with Karabiner and Tagline	
710MFPRL65G/65FT	Cable Length: 20m (65 ft), Weight: 10.9kg (24lb)
710MFPRL100G/100FT	Cable Length: 30m (100 ft), Weight: 24.5kg (54lb)
710MFPRL175G/175FT	Cable Length: 53m (175 ft), Weight: 31.8kg (70lb)



MILLER® FALCON™ SELF-RETRACTING LIFELINE (SRL)

- Corrosion-resistant stainless steel and aluminium internal components
- Lightweight and portable
- Designed not to pull or drag on a worker to improve productivity and reduce fatigue
- Moulded handle on the 15m and 20m cable units for easy installation
- Dual swivels (unit top and snap hook) prevents lifeline from twisting
- New and improved load indicators identify when the unit needs to be removed from service
- Meets all applicable OSHA, EN360, ANSI A10.32, Z359-2007 and CSA standards

Product Code	
710MFP1011728	Miller® Falcon™ SRL, 3/16" (5mm) Galvanized Wire Rope with Tagline and Karabiner, Nylon Housing, Cable Length: 6m (20ft), Weight: 4.0kg (8.9lb)
710MFP1011742	Miller® Falcon™ SRL, 3/16" (5mm) Galvanized Wire Rope with Tagline and Karabiner, Nylon Housing, Cable Length: 10m (30ft), Weight: 4.8kg (10.7lb)
710MFP1011746	Miller® Falcon™ SRL, 3/16" (5mm) Galvanized Wire Rope with Tagline and Karabiner, Nylon Housing, Cable Length: 15m (50ft), Weight: 6.7kg (14.8lb)
710MFP1011750	Miller® Falcon™ SRL, 3/16" (5mm) Galvanized Wire Rope with Tagline and Karabiner, Nylon Housing, Cable Length: 20m (65ft), Weight: 7.7kg (17.1lb)



MILLER® TURBOLITE™ PERSONAL FALL LIMITER (PFL)

- Extremely compact and lightweight
- Engineered webbing for greater abrasion resistance and long service life
- High-strength, impact-resistant nylon housing
- Built-in swivel prevents lifeline from twisting
- Rated for a user weighing up to 400lb (181.4kg)
- Meets all applicable OSHA, EN360, ANSI A10.32, Z359-2007, and CSA standards

Product Code	
Miller® TurboLite™ PFL, 1" (25.4mm) Webbing, Webbing length: 1.8m	
710MFPML-11/6FT	Aluminium Twist-Lock Karabiner, Aluminium Locking Snap Hook, Nylon housing, Weight: 0.86kg
710MFPML-12/6FT	Aluminium Twist-Lock Karabiner, Aluminium Locking Rebar Hook, Nylon housing, Weight: 1.18kg





MILLER® FALL ARRESTERS



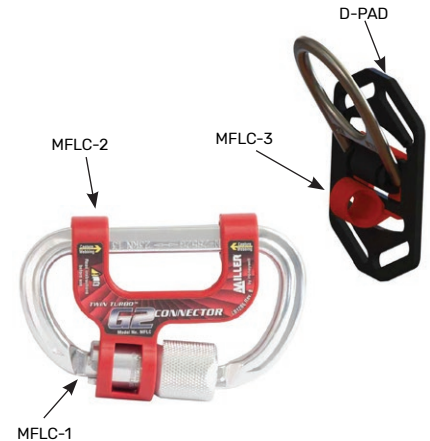
Ultimate Performance and Safety

- Reduces fall clearance requirements: Can be used in more applications
- PFLs swivel independently - Provides mobility and prevents webbing from twisting and binding
- Lightweight - Reduces worker fatigue
- Superior durability - Corrosion-resistant
- Webbing Retainer Clip rotates freely to prevent unintentional opening of karabiner gate during a fall
- D-Pad Clip - keeps harness webbing and D-Pad in place for harness adjustment
- Meets all applicable standards including OSHA, ANSI and CSA

Increased Versatility

- Connects to harness webbing below the D-Ring - Frees harness D-ring for rescue and connection to an overhead Self-Retracting Lifeline
- Webbing Retainer Clip offers generous webbing slot - Accommodates thicker webbing

MILLER® TWIN TURBO™ FALL PROTECTION SYSTEMS WITH G2 CONNECTOR



Product Code

710MFPMFLC-12/6FT	Miller Twin Turbo G2 Connector and two (2) MFLC-12/6FT TurboLite PFLs with Aluminium Locking Rebar Hooks
710MFPMFLC	Miller Twin Turbo G2 Connector Kit, includes MFLC-1, MFLC-2 and MFLC-3

HONOR FALL ARRESTERS



- Modular quick-acting braking system
- Minimum braking distance
- Very low fall arrest forces
- Lightweight, robust aluminium housing & modules - powder coated
- Corrosion-resistant stainless steel & aluminium internal components
- Saphook with non-resettable 'service-indicator'
- Swivable connection eye

- Max. 15m
- Max. load: 150kg
- Tested and approved to EN360 standards

Product Code

710HSCR011015001	Honor Star®-Series FAB15-S Fall Arrest Block, Stainless Steel Wire, 15m
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HONOR STAR®-SERIES FAB15 FALL ARREST BLOCKS

HONOR STAR®-SERIES FAB15R RECOVERY BLOCK



- Integrated manual recovery function
- Modular quick-acting braking system
- Modular recovery winch
- Very low force needed to raise or lower the worker
- Minimum braking distance
- Very low fall arrest forces
- Lightweight, robust aluminium housing & modules - powder coated
- Corrosion-resistant stainless steel & aluminium internal components

- Saphook with non-resettable 'service-indicator'
- Swivable connection eye
- Max. 15m
- Max. 150kg
- Tested and approved to EN360, EN1496, EN1808, EN1809 standards

Product Code

710HSCR011015101	Honor Star®-Series FAB15R-S, Stainless Steel Wire, 15m
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HONOR STAR®-SERIES FPED15 SELF RETRACTABLE DESCENDER AND FALL ARREST BLOCK



- Modular automatic descent-brake
- Maximum descent speed of 1.3m/s (100kg)
- Modular quick-acting braking system
- Very low fall arrest forces
- Lightweight, robust aluminium housing & modules - powder coated
- Corrosion-resistant stainless steel & aluminium internal components
- Swivable connection eye
- Max. 15m

- Max. load: 150kg
- Tested and approved to EN360, EN341 standards

Product Code

710HSCR012015100	Honor Star®-Series FPED15-G, Galvanized Steel Wire, 15m
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HONOR STAR[®]-SERIES CWD12 CLIMBING WALL DESCENDER **HONOR FALL ARRESTERS**

- Modular automatic descent-brake
- Descent speed max. 1.2m/s (150kg)
- Kernmantle rope, 12m
- Lightweight, robust aluminium housing & modules - powder coated
- Corrosion-resistant stainless steel & aluminium internal components
- Max. 12m
- Lifeline: kernmantle 9.5mm (EN1891 Type A)
- Max. load: 150kg, min. load: 30kg

Product Code	
710HSCR013015000	Honor Star [®] -Series CWD12, Kernmantle Rope, 12m



WORKSafe[®] ELASTIC TOOL LANYARD **WORKSafe[®] FALL PROTECTION ACCESSORIES**

- Prevents injury, damage and lost productivity from dropped tools
- High strength tubular webbing and self-retracting cord absorb shock
- Includes aluminium karabiner (not for climbing)

Product Code	
710WSFTL001	WORKSafe [®] Elastic Tool Lanyard





Understanding fall clearance. Self-retracting lifelines.

Fall clearance is the vertical distance needed to safely arrest a fall so that the worker does not hit the ground, or obstacles below.

DD = Free Fall, Lock Off and Deceleration (2.0 m Max. EN360)

C = Clearance to Obstruction During Fall Arrest (1.0 m minimum Safety factor required, EN 360)

RD = Required Distance Below Working Surface to Nearest Obstruction

$$\frac{DD + C}{RD}$$

This example of maximum fall Clearance requirements is of a CE retractable type fall arrester complying to the EN360 standard. Always refer to individual products Instructions for use for specific fall clearance requirements.

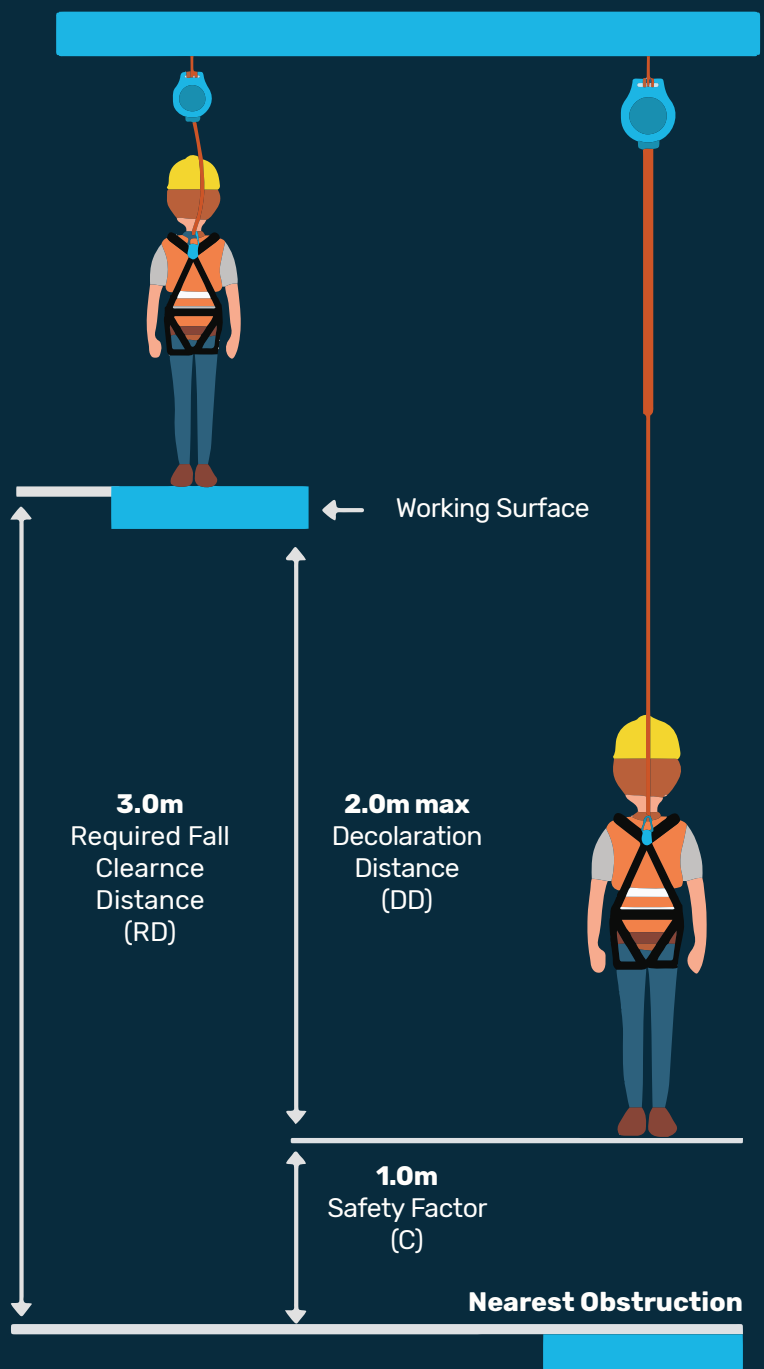
Self-retracting lifelines

Fall clearance is the vertical distance needed to safely arrest a fall.

To determine fall clearance, add these two factors together.

1. Free fall, lock off and deceleration (which is max 2m under EN360) and
2. clearance to obstruction during fall arrest (which is min 1m under EN360)

This will give you the required distance below working surface. Your lifeline should not exceed this value.



Swing fall hazards

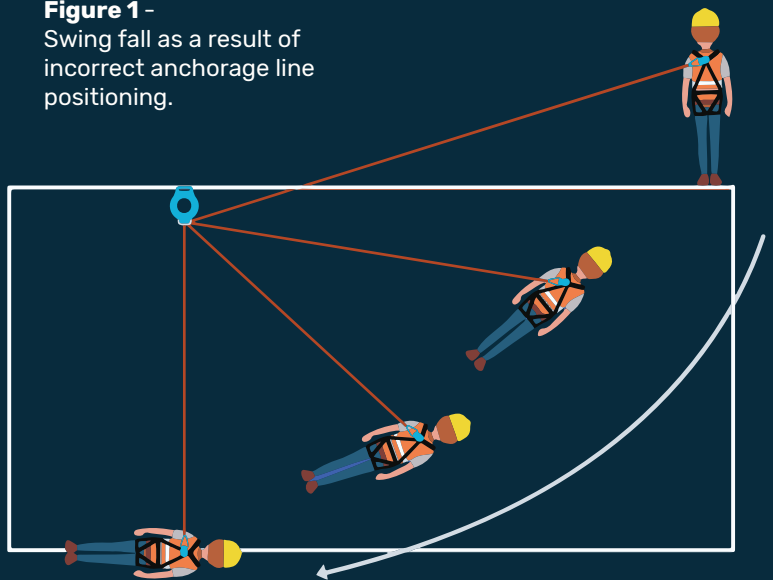
Swing fall can occur when using a shock absorbing lanyard or self-retracting lifeline (SRL) whilst working at height.

A swing fall is a pendulum-like motion that can occur when the operator falls and their connector device is in a position located horizontally away from the anchorage point. This is most likely to occur when connected to an anchorage point that is not positioned directly overhead.

Precautions to avoid this hazard include removing working slack from the rope working line, using restraint techniques and ensuring the person does not approach a leading edge such that they may be subjected to an unplanned fall.

Operators should ensure they do not subject themselves to swing fall by taking measures to avoid the risk. Refer to Figure 1 and 2 for examples of swing fall hazards. Fig 1 illustrates how swing fall can increase fall height and cause impact with the surface below.

Figure 1 -
Swing fall as a result of incorrect anchorage line positioning.



Note: It is important to position your anchor point directly overhead to minimize Swing Fall Hazards. Particular attention is required when using self-retracting lifelines due to the extra mobility they provide.

Coming into contact with an object while swinging during a fall can lead to serious injuries.

Anchorage location golden rules

- Above the user where possible.
- Behind the User/ perpendicular to the leading edge where possible

Figure 2 -
Illustrates sideways impact with an adjacent vertical structure.





SELF-RETRACTING LIFELINE INSPECTION



1

Check Housing

Before every use, inspect the unit's housing for loose fasteners and bent, cracked, distorted, worn, malfunctioning or damaged parts.



2

Lifeline

Test the lifeline retraction and tension by pulling out several feet of the lifeline and allowing it to retract back into the unit. Always maintain a light tension on the lifeline as it retracts. The lifeline should pull out freely and retract all the way back into the unit. Do not use the unit if the lifeline does not retract. Check regularly for signs of damage. Inspect for cuts, burns, corrosion, kinks, frays or worn areas. Inspect any sewing (web lifelines) for loose, broken or damaged stitching.



3

Braking Mechanism

The braking mechanism must be tested by grasping the lifeline above the impact indicator and applying a sharp steady pull downward which will engage the brakes. There should be no slippage of the lifeline while the brakes are engaged, once tension is released, the brakes will disengage and the unit will return to the retractable mode. Do not use the unit if the brakes do not engage.



4

Snap Hooks

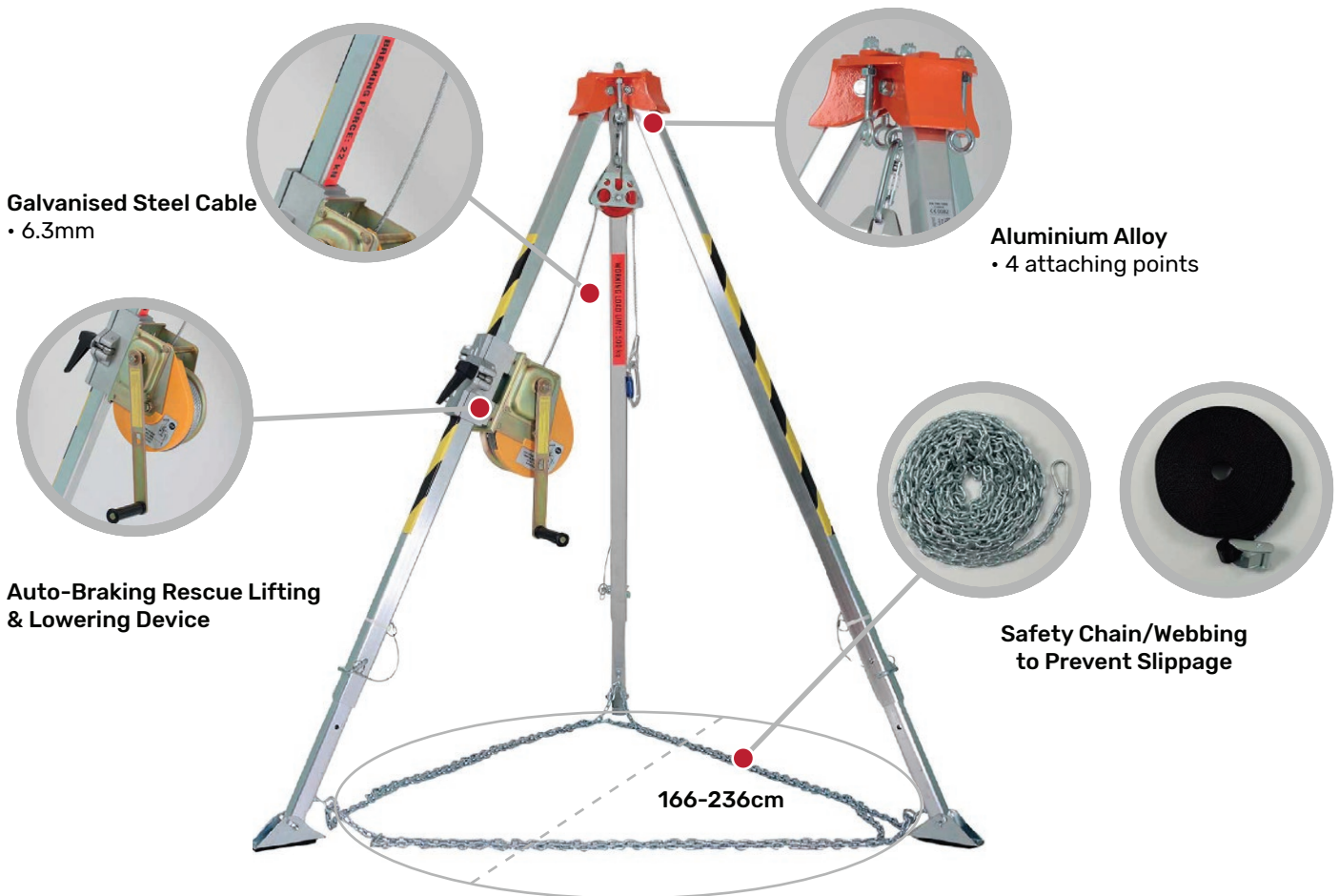
Inspect closely for hook and eye distortions, cracks, corrosion, or pitted surfaces. The keeper (latch) should sit into the nose without binding and should not be distorted or obstructed. The keeper spring should exert sufficient force to firmly close the keeper. Keeper locks must prevent the keeper from opening when the keeper closes. The snap hook load indicator is located in the swivel of the snap hook. The swivel eye will elongate and expose a red area when subjected to fall arresting forces. Do not use the unit if the load impact indicator has been activated.

DESCENT & RESCUE DEVICES

RESCUE DEVICE

In the event of a fall, the worker must be rescued as soon as possible to prevent further injury. The immediate rescue of fall victims can prevent the onset of further injury such as suspension trauma, which can occur when the victim is left suspended in a harness for an extended period of time. The retrieval of fall victims or self-rescue is an essential component of any fall protection plan. All 4 components, when used properly and in conjunction with each other, form a personal fall arrest system that is essential for maximum protection during work at heights.

FEATURES OF A TRIPOD & RESCUE LIFTING DEVICE





Dual Mode SRL & Descent Device

These devices allow the user to select between two modes of operation. This lowers the cost of ownership by reducing the need for separate rescue equipment.

- Standard fall arrest mode
- Remote/Assisted descent activation options
- Automatic descent mode - self rescue



WORKSafe® FALL PROTECTION CONNECTORS



- Working load limit: 500kg and breaking force: 22kN
- Zinc-plated, painted steel head with four anchor points
- Aluminium adjustable legs, come with webbing and chain to prevent legs spreading and collapsing
- Weight: 14.3kg with webbing, 17.3kg with chain
- Tested and approved to EN795 Type B standards



WORKSafe® WSFAT011 SAFETY TRIPOD

- Height: 147 to 229cm
- Diameter: 119 to 182cm

(Tripod Bag 710WSFAX016 available for purchase separately)

Product Code

710WSFAT011	WORKSafe® AT011 Safety Tripod, with Webbing and Chain
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WORKSafe® WSFAT050 RESCUE LIFTING DEVICE



- Rescue lifting and lowering device
- Automatic brake
- Steel galvanised cable of diameter 6.3mm
- Available in 20m and 25m length
- Weight: 13kg
- Working load: 180kg and breaking force: 1,800kg
- Tested and approved to EN1496 Class B standards



Product Code

710WSFAT050-20/25	WORKSafe® RUP 502 Rescue Lifting Device AT050, Galvanised Steel Cable Diameter: 6.3mm, Cable Length: 20m/25m
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MILLER® RESCUE EQUIPMENT

MILLER® TRIPOD AND MANHANDLER™ HOIST/WINCH



- Self-locking fully adjustable tripod without chains to reduce risk of tripping
- 5:1 gear ratio with anti-backlash crank handle braking system to prevent freewheeling
- Miller® Pulley included
- Load indicator
- Meets OSHA 1910.146 and ANSI Z117.1 requirements

Product Code

710MFP1005041	Miller® Aluminium Tripod, 2 Anchorage Points, Self-locking/ Fully Adjustable Legs, Rubber feet, Height: 2.1m
710MFP1005042	Miller® ManHandler™, 3/16" (5mm) Galvanised Wire Rope with Steel Locking Snap Hook, Steel/Zinc Housing, Cable Length: 20m (65ft), Weight: 18kg (39lb)

CONFINED SPACE SYSTEMS

Tripod Unit

WORKSafe® portable tripod is an anchorage device used for confined space applications. It is constructed using three fully adjustable aluminium alloy telescopic legs with integral leg-base chain or webbing strap and rubber-studded pad providing slip-free footing. Custom designed aluminium alloy head with 4 attachment points provides flexibility for use with winch and retractable lifeline or with retractable rescue lifeline. It has a working load limit of 500kg and working height of 130cm to 230cm.

Rescue Lifting Device

WORKSafe® RUP series rescue lifting system is a rugged, versatile economical device for lifting, lowering and positioning of personnel and materials. It is designed for both rescue and lifting materials of up to 180kg with integrated braking system.

MILLER® SafEscape™ ELITE RESCUE/DESCENT DEVICE

MILLER® RESCUE EQUIPMENT

- Designed for self-rescue, assisted rescue or provides the capability for more users to evacuate in a short period of time
- Provides greater flexibility to address changing environments and ever-increasing height requirements
- Lightweight and portable
- Meets OSHA, ANSI/ASSE Z359.4, EN341:2008/1A, EN1496:2007/B, ISO22159:07/1/A requirements

Product Code	
710MFPSEKIT50	Miller® SafEscape™ Elite Rescue/Descent Device, Length : 50m
710MFPSEKIT100	Miller® SafEscape™ Elite Rescue/Descent Device, Length : 100m



MILLER® MIGHTEVAC® SELF-RETRACTING LIFELINE (SRL) WITH EMERGENCY RETRIEVAL HOIST

- Promotes quick and easy rescue with a 4:1 mechanical advantage
- For emergency evacuation only
- Load indicator
- Meets OSHA 1926.502, 1910.66, ANSI A10.32, ANSI Z359-2007, CSA Z259.2.2 requirements

Product Code	
710MFP1005149	Miller® MightEvac® SRL, Galvanized Wire Rope with Steel Locking Snap Hook, Aluminium Alloy/Stainless Steel Housing, Cable Length: 15m (50ft)



MILLER® DURAHOIST™ COMPLETE FOUR-PIECE HOIST/WINCH SYSTEMS

MILLER® CONFINED SPACE SYSTEMS

- System breaks down into four lightweight aluminium components for easy storage, transport and set-up. No tools required for assembly
- Overall system height adjusts from 79" (2.01 m) to 100" (2.54 m)
- Modular design allows the use of various fixed and portable bases and an optional mast with extensions
- Multiple winches and/or lifeline systems may be mounted as required

Product Code	
710MFPDH-1	Miller® Four-Piece System with ManHandler hoist/winch, Length: 65ft (20m), Diameter: 3/16" (4.76 mm) galvanized steel cable, Weight: 133.5 lbs. (60.6 kg)



MILLER® ROOFSTRIDER™ SYSTEM KIT

MILLER® ROOFSTRIDER™ SYSTEM KITS

- A combination of Mightylite Self-retracting Lifeline and uniquely designed roof mounting system to provide workers with maximum maneuverability and fall protection
- By rotating 360°, workers can maneuver in all directions
- Roof mounting assembly for variable pitch wood roofs (roof peaks or flat sides), most ridge vents, studs, joists, etc.
- Meets OSHA and ANSI standards

Product Code	
710MFPDM50P/50FT	Miller® RoofStrider™ Complete System with 15m (50ft) Mightylite SRL with webbing; includes DuraFlex Stretchable Harness, Instructional Video, Carry Bag



HONOR STAR®-SERIES MOD450 MULTIPLE PERSON DESCENT AND RESCUE DEVICE

HONOR RESCUE EQUIPMENTS

- Modular automatic descent module
- Descent speed max. 0.6m/s (100kg)
- Modular integrated manual rescue function
- Very low force needed to winch to lift worker
- Lightweight, robust aluminium housing & modules - powder coated
- Corrosion-resistant stainless steel & aluminium internal components
- Swivable connection eye
- Max. 450m

Product Code	
710HSCR013400000	Honor Star®-Series MOD450 Multiple Person Descent and Rescue Device, 450m

- Lifeline: kernmantle 9.5mm (EN1891 Type A)
- Max. load: 240kg, min. load: 60kg
- Tested and approved to EN341, EN 1496, EN 1808, EN 1809 standards





HONOR RESCUE EQUIPMENTS



HONOR STAR®-SERIES MRW15 MANRIDING WINCH

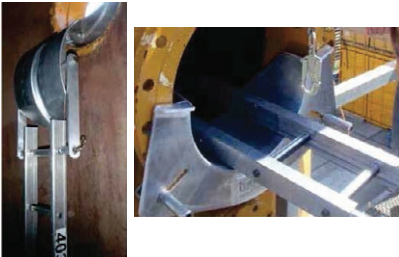
- Designed specifically for confined space entry and retrieval - man-rated for raising, lowering or supporting workers
- Usage counter monitors extent of winch use
- Load can only move if the handle is turned - friction brake is engaged by min. 2kg weight
- Double redundant braking mechanism with centrifugal safety back up brake
- Easy manual operation: simply rotate the handle
- Gear ratio: 5:1
- Swiveling self-locking snap hook

- Durable and lightweight cast aluminium housing cover, winch module and overspeed brake
- Corrosion resistant rope drum gears and stainless steel internal components
- Tested and approved to EN1808 standards

Product Code

710HSCR011015001	Honor Star®-Series MRW15 Manriding Winch, 15m
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HONOR RESCUESLIDE® FOR SAFE ENTRY AND RESCUE THROUGH HORIZONTAL MANHOLES



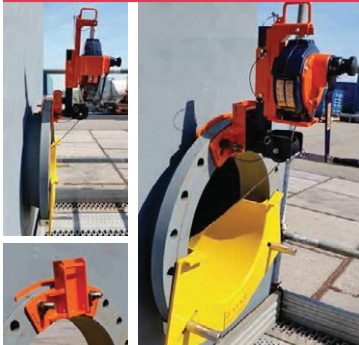
- Can be used self-contained or with FlangeClamp® and a fall arrest or recovery block - this combination is ideal for confined entry and rescue
- Ergonomic design
- Rescue people through horizontal manholes preventing injuries and reduce loss of free manhole space (while body is passing through)
- Horizontal manhole dia. 500mm and 600mm
- Clamped onto flange by 2 clamps
- Aluminium
- Weight: 18kg

Product Code

710HSCR010210200	Honor RescueSlide®, Aluminium
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HONOR MOBILE ANCHORS

HONOR FLANGECLAMP® MOBILE ANCHOR FOR HORIZONTAL MANHOLES



- Ideal in case of little space between vessel and flange in front of the manhole (platform)
- Anchor point for: SRLs, recovery blocks, rescue devices, manriding winches
- Standardized for ANSI and API 20" and 24" flanges
- Evacuation devices can be mounted on FlangeClamp
- Steel, galvanized and colour coated
- Max. 1 worker
- Tested and approved to EN795 Type B standards

Product Code

710HSCR010210030	Honor FlangeClamp® Mobile Anchor, 1 worker
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HONOR TANKCLAMP® MOBILE ANCHOR ON STORAGE TANKS, PITS, ETC.



- Can be used for both vertical fall arrest, rescue equipment and horizontal lifeline systems
- Mobile anchor for: height safety devices, recovery blocks, lanyards, (temporary) horizontal lifeline systems, rescue systems and descent device's (evacuation)
- Fixed by 2 steel fixation bolts with locking nuts
- Erlaton® slide parts on the inside of clamp
- TankClamp & Star-series devices can be used in a vertical application for safe entry of confined spaces

- Horizontal lifeline can be installed between 2, TankClamp placed opposite each other
- Steel, galvanized and colour coated
- Max. 2 workers
- Tested and approved to EN795 Type B standards

Product Code

710HSCR010210020	Honor TankClamp® Mobile Anchor, 2 workers
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HONOR STAR®-SERIES LA15 LOAD ARRESTOR



- Arrests the accidental fall of heavy objects
- Max. load rating 300kg
- Double redundant braking mechanism with centrifugal safety back up brake
- Inertia activated brake
- Energy absorbing system
- Self-retracting lifeline
- Portable and self-contained system
- Lightweight, heavy duty durable construction
- Corrosion-resistant aluminium rope drum and stainless steel internal components

- Swiveling self-locking snap hook provides secure connection to the load and prevents cable from twisting for smoother operation
- Safety hook with non-resetable impact indicator
- Reserve lifeline system - allows brake to activate and absorb energy if fall occurs at the end of the lifeline

Product Code

710HSCR010015500	Honor Star®-Series LA15 Load Arrestor
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RESCUE SYSTEM

This allows you to lift a fallen person. It's often used when a fallen person is suspended by their lanyards and needs to be lifted to release it. The system allows you to lift the fallen person onto a safe platform or perform a pick off rescue.

In a pick off rescue, the rescuer descends to the fallen victim, connects their system together, then descends to the ground together in safety.

HEIGHTEC RESCUEPACK FALL ARREST RESCUE SYSTEM

HEIGHTEC RESCUE EQUIPMENTS

- Mechanical advantage for lifting of around 3:1
- Rope device can pay rope out but lock when a load is applied
- Telescopic pole extends for 3.5m to reach a casualty on an extended energy absorbing lanyard
- Does not require the rescuer to be part of the system
- Able to raise a casualty over an edge or hand rail
- Requires only one quarter of the rope used by competing designs

Product Code

710HTGWK32025	Heightec RescuePack Fall Arrest Rescue System, 25m
710HTGWK32050	Heightec RescuePack Fall Arrest Rescue System, 50m



HEIGHTEC CHRYSALIS RESCUE STRETCHER

- Can be used for both horizontal and vertical lifting for rescue from a wide range of confined, exposed or high locations
- Integral support stirrup of the stretcher enables vertical lifting from one lifting point
- Rescue stretcher has six patient restraint straps to ensure the casualty is kept secure as well as one head restraint system
- Contains full body casualty harness providing an unrivalled combination of fit, comfort and strength
- Quick buckle system means using the harness is

fast and simple

- High abrasions resistance of the outer case and the high visibility design ensures ultimate protection of the casualty
- Complete with durable PVC storage bag
- Tested with 4m fall with a test mass of 125kg
- Conforms to the dynamic performance of EN 361

Product Code

710HTGMS01	Heightec Chrysalis Rescue Stretcher
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MILLER® EVAC BODY SPLINT PORTABLE STRETCHER

MILLER® CONFINED SPACE SYSTEMS

- Lightweight body splint ideal for confined space evacuation
- Fitted with foot supports, it can be lifted vertically
- Can be stored in a compact bag and is easy to transport
- Once wrapped around a casualty, it provides a rigid splint
- Padded shoulder straps provide extra support and protection for the casualty

Product Code

710MFP1007046	Miller® Evac Body Splint Portable Stretcher, Length: 2m (open), 1m (folded), Depth: diameter 250mm, Weight: 5.48kg
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MILLER® RELIEF STEP™ SAFETY DEVICE

- OSHA states that potentially fatal suspension trauma can occur within minutes while waiting for rescue after a fall
- Average fall rescue time is 15 minutes
- When used, the Relief Step Safety Device provides support and enhances blood circulation until rescue - permitting the ability to move and flex leg muscles
- Small and lightweight; the Relief Step Safety Device attaches to any brand full-body harness
- Utilizing two Relief Steps (one for each leg) assures greater comfort until rescue is completed

Product Code

710MFP9099	Miller® Relief Step™ Safety Device, available in 12pcs/box, 36pcs/box
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DESCENT & RESCUE DEVICES

Can you provide a prompt rescue?

Without a prompt rescue, a worker risks sustaining medical complications due to the fall.

Make sure you have a solid rescue plan by ensuring these factors:

1. Your team has trained and competent rescuers
2. You possess the necessary equipment to conduct a rescue
3. You and your team are wearing the equipment correctly.

Suspension intolerance can result from the restricted blood flow due to suspension in a harness. It can cause immobility and dehydration. People in poor health or advanced age are more susceptible to it. Fallen workers should be rescued in less than 10 minutes to prevent suspension intolerance.



EDUCATION & TRAINING



GEAR UPKEEP

We offer our customers a one-stop solution in inspections, servicing and maintenance with our on-board technicians, trained and certified directly by our manufacturers.

KNOW-HOW

PDS, in collaboration with independent specialist fall protection training centres, provides certified training courses such as:

- Fall Protection Awareness
- Fall Protection Competency
- "Train the Trainer"
- Work-At-Height Safety Orientation Course
- Fall Protection for Managers
- Personal Fall Protection Equipment Inspection
- IRATA certificates on user competency, rescue and rope access training.

Let us conduct training that's relevant to your workers' everyday experience.

Call us at: 6776 6200

WORKSafe® - Designs for Comfort and Protection

WORKSafe® is renowned for its range of high quality personal protective equipment (PPE) designed to protect industry personnel. WORKSafe® is synonymous with Design, Comfort, Protection and Reliability. Continuous research in design and ergonomics, together with the support from competent manufacturing partners and qualified training facilities guarantee that WORKSafe® products are of superior quality for maximum comfort and protection. Apart from strict internal quality control systems, WORKSafe® products are subjected to stringent third-party tests according to international standards such as American ANSI, European EN or Singapore SS standards or others specific to our wide array of PPEs. We relentlessly upgrade and update our capabilities, human assets and R&D in correspondence with workplace safety regulations to deliver high quality, reliable and affordable systems and solutions to our customers.

WORKSafe® Fall Protection Systems And Solutions

WORKSafe® aims to protect your employees working at heights or in confined spaces with WORKSafe® Fall Protection Systems and Solutions. WORKSafe® Fall Protection Systems are developed to exceed industry expectations. Made with the best materials, technology and specialist ISO-certified manufacturing facilities, WORKSafe® wants to deliver maximum protection to your employees. When working at heights, trust that you can always FALL BACK on WORKSafe®!



LIMITATION AND HAZARDS OF USING FALL ARREST SYSTEMS

- WORKSafe® Fall Arrest Systems should only be used in the event that it is not reasonably practicable to use other risk control measures to prevent falls. Should the user not be trained in the proper usage techniques, he or she may sustain injury during an arrested fall.
- Height clearance must be taken into consideration before employing the use of a WORKSafe® Fall Arrest System. The total length of the lanyard, sag in life-line, and the shock-absorbing lanyard may be longer than the height of the fall. For industry professionals working at shorter heights, a short lanyard or a retractable fall arrest block is recommended. However, some hazards might occur during activation of individual fall arrest systems due to a fall. One such occurrence is the swinging motion caused by a pendulum effect of a person falling off the edge.

KEEP IT CLEAN

Basic care of all safety equipment will prolong the durable life of the unit and will contribute towards the performance of its vital safety function. Proper storage and maintenance after use are as important as cleansing the equipment of dirt, corrosives or contaminants. Storage areas should be kept clean, dry and free of exposure to fumes or corrosive elements.



1

Polyamide and polyester

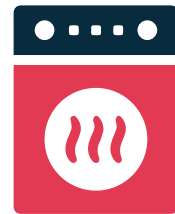
Remove all surface dirt with a sponge dampened in plain water. Squeeze the sponge dry. Dip the sponge in a mild solution of water and commercial soap or detergent. Work up a thick lather with a vigorous back and forth motion; then wipe with a clean cloth. Hang freely to dry, but away from excessive heat.



2

Housing

Periodically clean the unit using a damp cloth and mild detergent.
Towel dry



3

Drying

Equipment should dry thoroughly without close exposure to heat, steam or long periods of sunlight.

INDUSTRIAL STANDARDS

LOCAL & INTERNATIONAL

	SG STANDARD (SS)	EU STANDARD (EN)	DESCRIPTION
Workplace Safety and Health (Work at Heights) Regulations 2014			
FULL BODY HARNESS	SS528: Part 1	EN361	PPE against falls from height - Full body harnesses (Letter "A" for Arrest is attached on each harness)
LANYARDS	SS528: Part 2	EN354	PPE against falls from height - Lanyards
ENERGY ABSORBERS	SS528: Part 2	EN355	PPE against falls from height - Energy absorbers
RETRACTABLE TYPE FALL ARRESTERS	SS528: Part 3	EN360	PPE against falls from height - Retractable type fall arresters
GUIDED TYPE FALL ARRESTERS + RIGID ANCHOR LINE	SS528: Part 4	EN353-1	PPE against falls from height - Part 1: Guided type fall arresters including a rigid anchor line
GUIDED TYPE FALL ARRESTERS + FLEXIBLE ANCHOR LINE	SS528: Part 4	EN353-2	PPE against falls from height - Part 2: Guided type fall arresters including a flexible anchor line
CONNECTORS	SS528: Part 5	EN362	PPE against falls from height - Connectors
PERSONAL FALL PROTECTION SYSTEMS	SS528: Part 6	EN363	PPE against falls from height - Fall arrest systems
BELTS & RESTRAINT LANYARDS FOR WORK POSITIONING	SS541	EN358	PPE for work positioning and prevention of falls from height - Belts for work positioning and restraint and work positioning lanyards (Warning! Do not use for fall arrest purposes)
ANCHOR DEVICES	SS570	EN795	PPE against falls from height - Anchor devices - Requirements and testing
SIT HARNESSES	N.A.	EN813	PPE for prevention of falls from height - Sitting harnesses (Warning! Do not use for fall arrest purposes)
RESCUE HARNESSES		EN1497	
SAFETY HELMETS		EN397	
DESCENDER DEVICES	N.A.	EN341	Personal Protective Equipment (PPE) against falls from height - Descender Devices
TEST METHODS	N.A.	EN364	PPE against falls from height - Test methods
INSTRUCTIONS FOR USE & MARKING	N.A.	EN365	PPE against falls from height - General requirements for instructions for use and for marking
RESCUE LIFTING DEVICES		EN1496	
LIST OF EQUIVALENT TERMS	N.A.	EN1868	PPE against falls from height -List of equivalent terms
	SS607	N.A.	Specification for design of active fall-protection systems
SAFETY NETTING SYSTEMS		EN1263-1	Temporary works equipment. Safety nets. Safety requirements, test methods
EDGE PROTECTION BARRIER SYSTEMS		EN13374	Temporary edge protection systems. Product specification. Test methods

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Brand Owner & Distributor of WORKSafe®

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