



PERMANENT FALL  
PROTECTION  
SYSTEMS

**PROTEKT**<sup>®</sup>

**2014**

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PROTECT YOUR LIFE – USE IMAGINATION



All systems and devices manufactured by **PROTEKT** ensure safety during work where fall from height is real hazard.

Our equipment is used in wide variety of working fields - working at height, depth and mining, rescue and many others. We offer both individual protection equipment (safety harness, energy absorbers and lanyards) and complete permanent safety systems, which are described in details in the catalogue herein. We pay special attention to user comfort and reliability of our products. We always try to match all requirements of our customers as close as possible.

All products manufactured by **PROTEKT** are CE certified and officially allowed to be used.

For all current detailed information concerning application and technical parameters please contact our office or one of our technical-commerce consultants.

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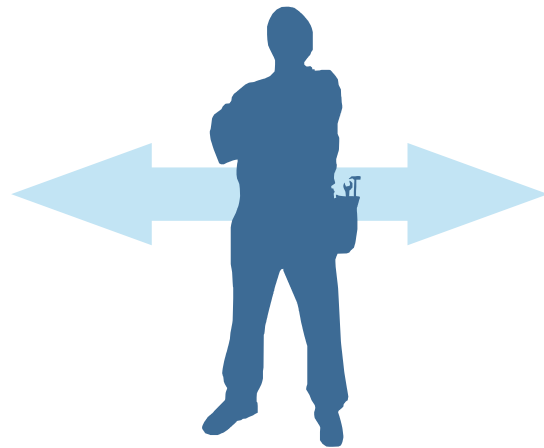
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# FALL PROTECTION SYSTEMS CLASSIFICATION

Horizontal movement



Cable  
systems

Prim system  
Duo system  
Proliner system

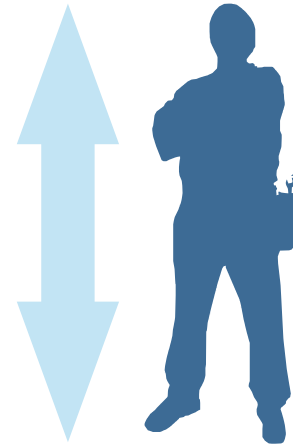
Rail  
systems

Traser system  
Maran system

Railing  
systems

PROSAFE system

Vertical movement



Cable  
systems

SKC BLOCK  
AC 360

Rail  
systems

AC 520

Safaty  
Ladders

AC 510











## Installing and maintenance

A client who is willing to install a fall protection system at his premises should contact the PROTEKT technical-commerce consultant, in order to arrange a conceptual meeting and inspection of existing facilities. The consultant will prepare technical project of the fall protection system and will send official commercial offer. After accepting the offer, the client is supposed to provide in written form formal order for materials and installation service. Once the order is received, PROTEKT representative contacts the client's project coordinator in order to develop suitable work schedule.

Already installed systems are to be subjected to inspection, performed by PROTEKT company or other authorized service, every 12 months. In order to perform the service or maintenance job, one should contact the PROTEKT company.

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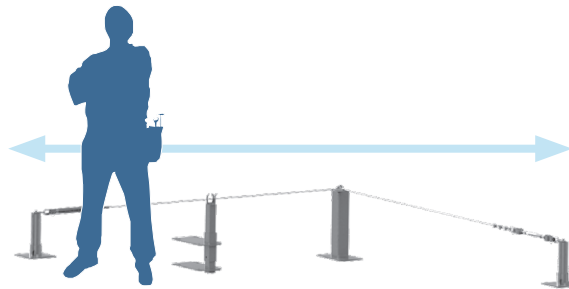
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# Prim

- The system consists of a horizontal guide made of stainless steel 8mm diameter wire rope.
- Prim system can be installed on roofs, by means of foot posts, as well as on walls to secure horizontal movement for people working close to edges.
- The system can be reconfigured for up to 7 users at the same time.







Sequence of passing the carabiner (which is a part of PPE) through the intermediate point of the system without compromising on fall protection.

## Universal, cable fall protection system

The PRIM system is an anchorage device for personal protective equipment against fall from height. The system can be easily reconfigured that is perfectly capable of providing protection despite different construction features of a building it is installed on. The system is intended to be used by 3 persons at the same time. Optionally it can be reconfigured for up to 7 users. The system consists of a horizontal guide, which is made of stainless steel wire rope with a diameter of 8 mm, equipped with an energy absorber and a tensioner. The guide is connected to a permanent construction in structural anchor points by a wide range of available foot posts or anchorage plates. The user is attached directly to the anchoring cable with a carabiner, being a part of the personal protective equipment against fall from height. The device complies with the EN 795 class C standard and is admissible to be used in blast hazard areas.

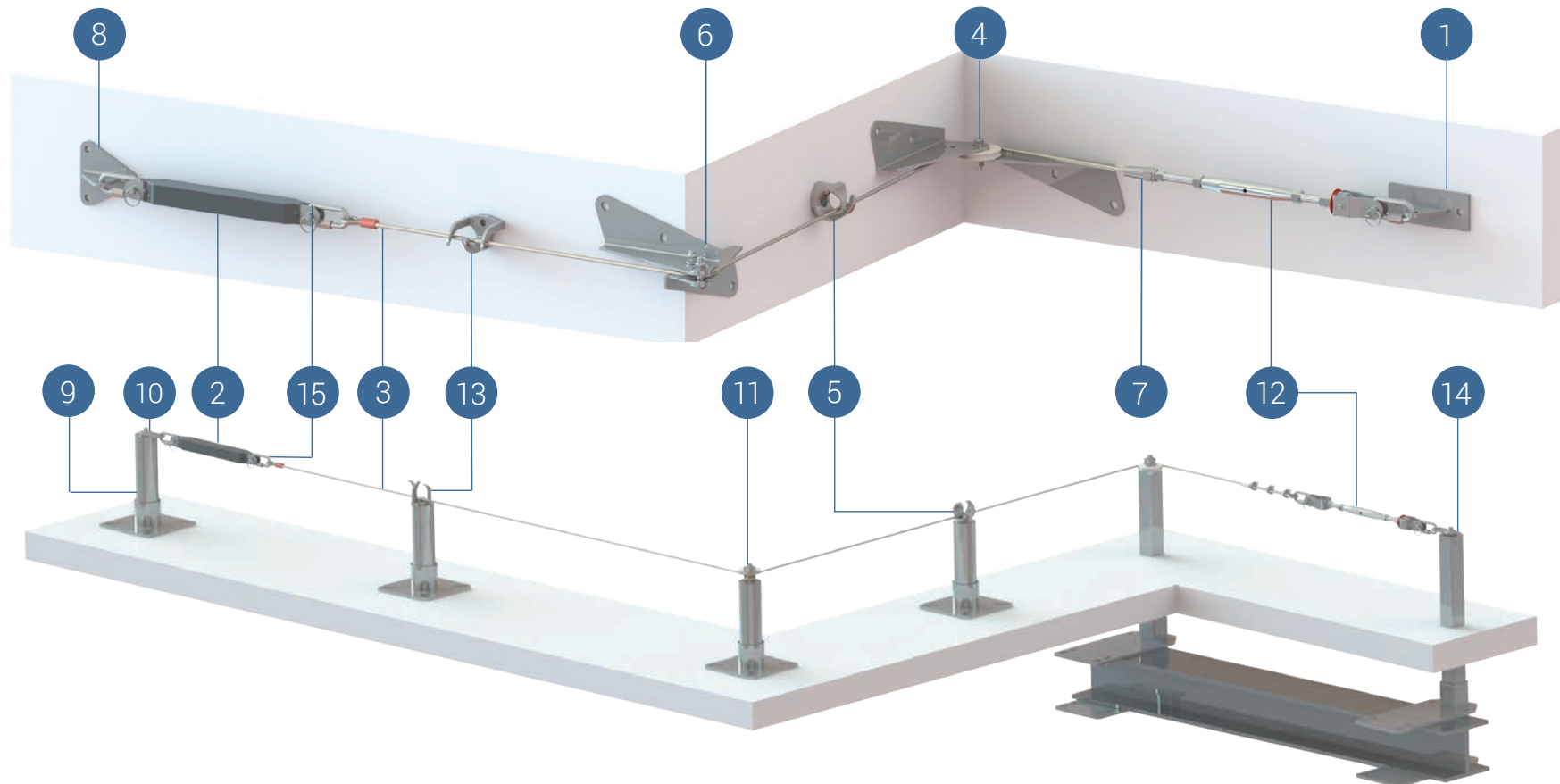


# Opis systemu PRIM

PRIM cable fall protection system is an anchorage device class C that complies with EN 795 standard, as well as FprCEN/TS16415 document. It is intended to be used by 3 persons at the same time. Optionally it can be reconfigured for up to 7 users. The system can be installed to walls of buildings or constructions, as well as on roofs or terraces, etc. The system consists of the following elements:

1. end, structural anchoring elements, such as foot posts or anchorage plates,
2. intermediate, structural anchoring elements, such as cable grabs or cable return rollers,
3. energy absorbers and rope stretching elements,
4. connecting elements
5. steel cable that acts as a guideline for carriage anchor point for personal protective equipment against fall from height,
6. protective equipment,

In case of PRIM system, the carabiners, being a part of personal protective equipment, are used as movable anchoring points. It is recommended to use oval carabiner, type PROTEKT – AZ011 which has been designed to cooperate smoothly with intermediate cable structural anchor points. All components of the system are made of corrosion resistant elements (stainless steel, brass, plastics), or hot-dip galvanized steel.





Structural anchor  
points:

HL 701

Central foot post



HL 702

Side foot post

14



HL 704

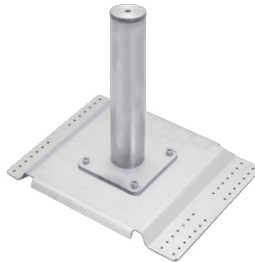
Central foot post

9



HL 720 A/HL 720 B

Post for trapezoidal  
sheets



HL 760 A/HL 760 B

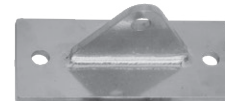
Trapezoidal sheet posts



HL 101

2-point end structural  
anchor point

1



HL 102

3-point end structural  
anchor point

8





## Structural anchor points:

HL 201

Intermediate structure  
anchor point

13



HL 202

Intermediate structure  
anchor point

5



HL 130

Wall type return roller  
(external turn)

6



HL 140

Wall type return roller  
(internal turn)

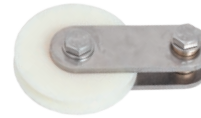
4



HL 740

Cable return roller

11



HL 721/722

2-point pivot plate

10



## Lanyard sets:

HL 500

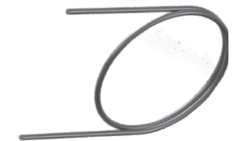
Lanyard set

3



HL 501

Stainless steel  
lanyard ø 8mm



## Information labels

HL 801/HL802

Stainless steel / pov





Connecting, energy absorbing  
and cable stretching elements:

HL 506

Cable clamp with opening

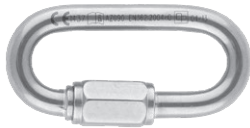
7



AZ 090

Screw secured connecting  
carriage

15



HL 300

Energy absorber

2



HL 401

Rope stretcher

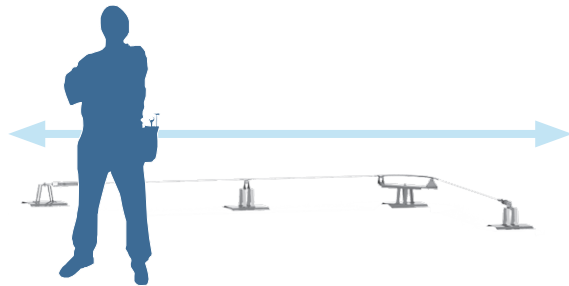
12



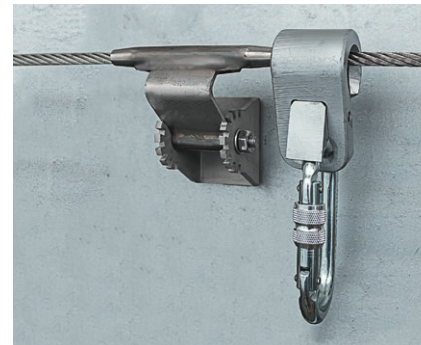
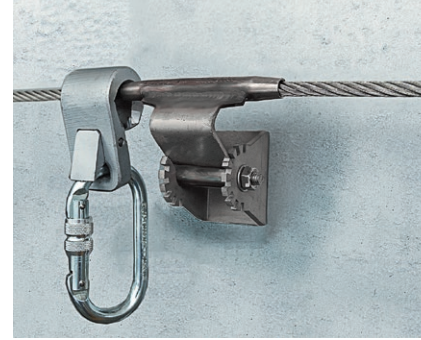


# Duo

- The system consists of a horizontal guide made of stainless steel 8mm diameter wire rope.
- Duo system can be installed on roofs, by means of foot posts, as well as on walls to secure horizontal movement for people working close to edges.
- The system can be reconfigured for up to 7 users at the same time.
- Slider working as mobile anchoring point allowing for secure movement along the system with constant protection maintained.







## Advanced, cable fall protection system.

Horizontal anchoring system DUO is an anchorage device for personal protective equipment against fall from height. The system is intended to be used 3 persons at the same time. Optionally it can be reconfigured for up to 7 users. DUO system consists of a horizontal guide which is made of stainless steel rope with diameter of 8 mm and equipped with an energy absorber and a rope stretcher. The horizontal guide is fastened to structural anchorage points of a permanent construction using posts or anchorage plates. Every person using the system is attached to personal carriage carabiner which is a movable anchoring point of personal protective equipment that enables free movement along the cable with constant protection maintained. The device complies with the EN 795 class C standard and it is admissible to be used in blast hazard areas.

Sequence of passing the slider which is being a mobile anchor point, along the system through the intermediate point, with constant protection being maintained.

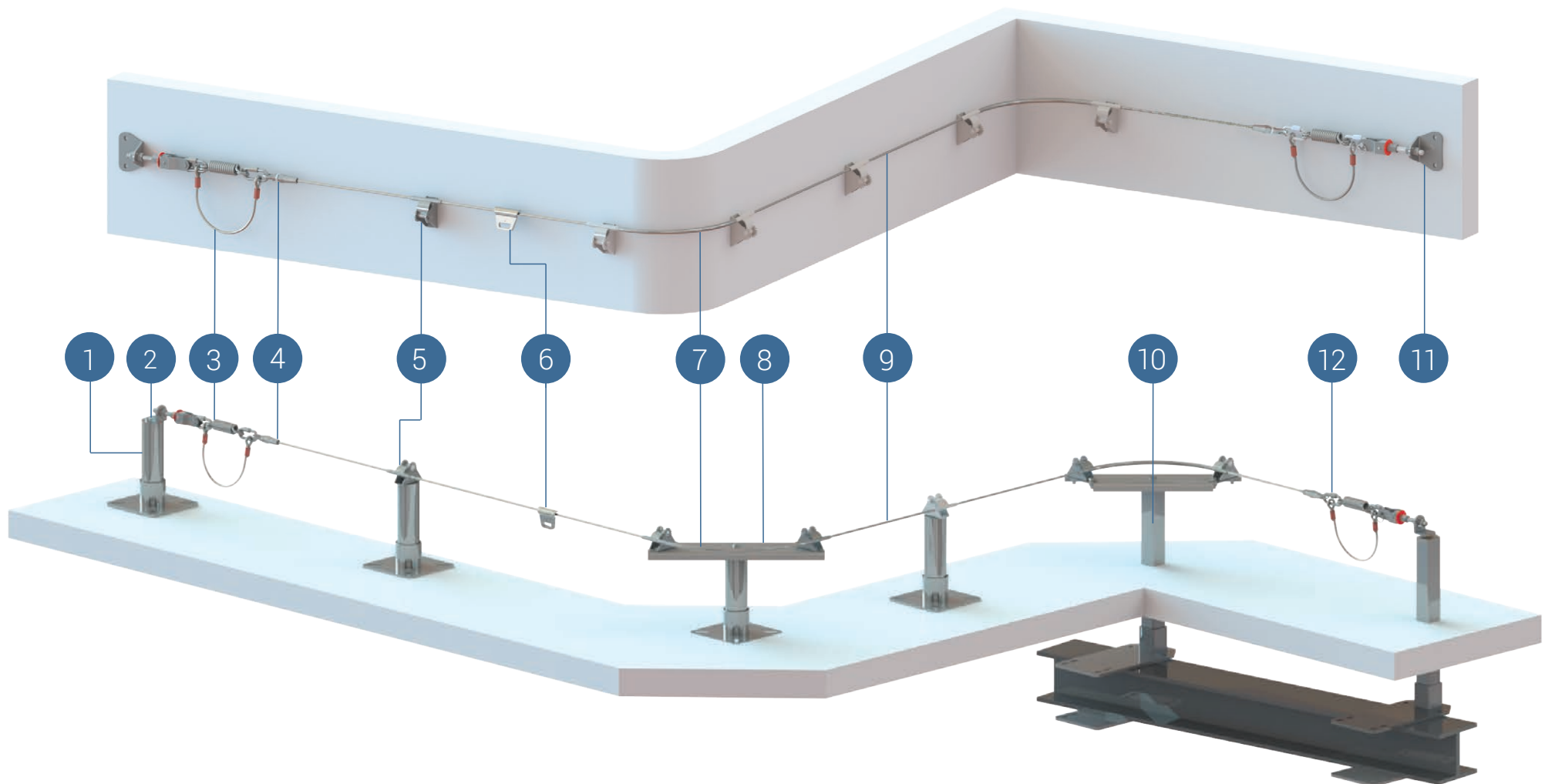


# DUO system description

DUO cable fall protection system is an anchorage device class C that complies with EN 795 standard. It is intended to be used by 1, 2 or 3 persons at the same time. The system can be installed to walls of buildings, steel constructions, as well as on roofs or terraces, etc. The system consists of the following elements: end, structural anchoring elements, such

as foot posts or anchorage plates, intermediate, structural anchoring elements, such as cable grabs or pipe turns, energy absorbers and rope stretching elements, connecting elements, steel cable that acts as a guideline for carriage anchor point for personal protective equipment. In case of DUO system, the quick-attached sliders are used

as movable anchoring points to used with intermediate system anchoring points and carabiners being a part of personal protective equipment. All components of the system are made of corrosion resistant elements - stainless steel, brass, plastics, or hot-dip galvanized steel.





## Structural anchor points:

HL 701

Central foot post



HL 704

Central foot post



HL 702

Side foot post

10



HL 103

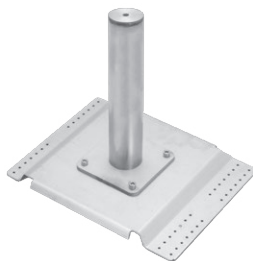
2--point end structural anchor point

11



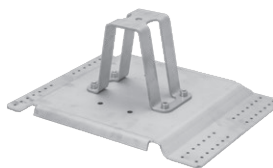
HL 720 A/HL 720 B

Post for trapezoidal sheets



HL 760 A/HL 760 B

Trapezoidal sheet posts





## Structural anchor points:

HL 203

Intermediate structure  
anchor point

5



HL 750

Plate (turn mounting)

8



HL 603

Slider acting as mobile  
anchoring point

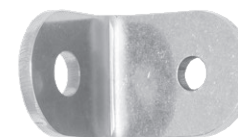
6



HL 724

Plate (system termination)

2



HL 204

Cable shield (turn R250)



HL 205

Cable shield (turn R300)

7





## Connecting, energy absorbing and cable stretching elements:

HL 506

Cable clamp with opening

4



AZ 090

Screw secured connecting  
carriage

12



HL 320

Connecting - Energy absor-  
bing set

3

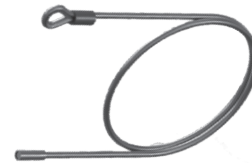


## Lanyard sets:

HL 500

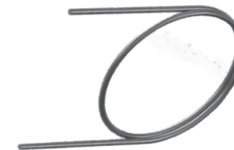
Lanyard set

9



HL 501

Stainless steel lanyard  
ø 8mm



## Information labels

HL 804/HL803

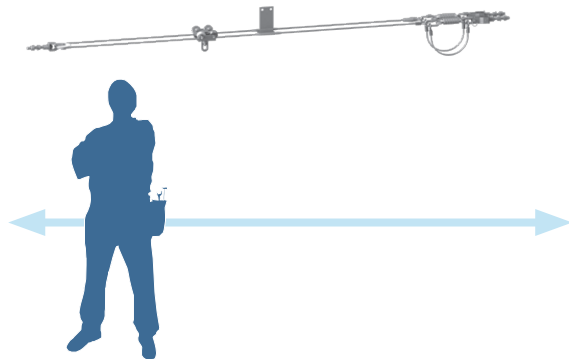
Stainless steel / PVC



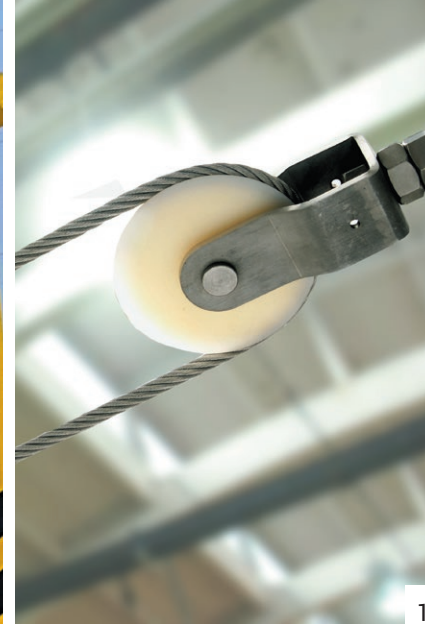


# Proliner

- The system is intended to be used by maximum 3 persons at the same time.
- The guide made of stainless steel wire rope with a diameter of 8 mm is a guide way for the anchor trolley.
- The trolley is a mobile anchoring point for person being protected vertically while moving along the system.







1.



2.

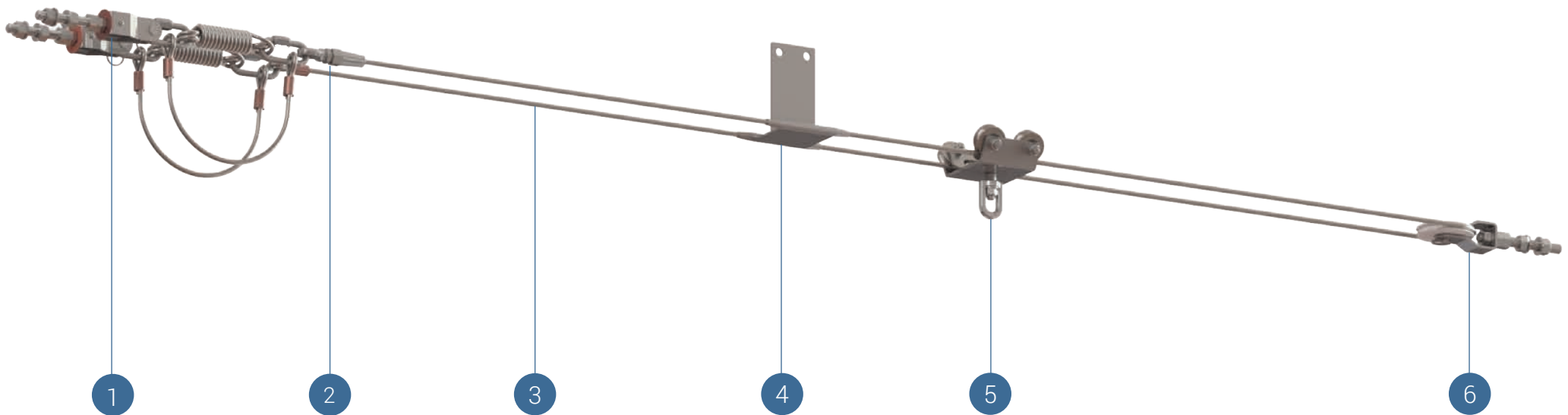
1. Return roller
2. Trolley acting as mobile anchor point.

## Easy moving, horizontal, line anchorage system

The horizontal line anchorage system PRO-LINER is the C class device, which complies with the EN 795 standard. The system is intended to be used by maximum 3 persons at the same time. All the components of the PROLINER system are made of stainless steel. The trolley is a mobile anchor point of the system for personal protective equipment. It enables to move along the system simultaneously with the vertical protection. The guide made of stainless steel wire rope with a diameter of 8 mm is a guide way for the anchor trolley. The absorbing set serves to reduce the forces acting upon a construction and the return roller adjusts proper line tension. The system is admissible to be used in blast hazard areas.

## Proliner system description

The horizontal line anchorage system PROLINER is the C class device, which complies with the EN 795 standard. The system is intended to be used by maximum 3 persons at the same time. It is equipped with the absorbing – tensioning set. The systems that are longer than 12 meters have additional intermediate supports that allow for trolley passing. The trolley is a mobile anchor point of the system for personal protective equipment. The name plate consists of basic information concerning system use, as well as an individual serial number, installation date (month and year) and date of next technical check.





## Structural anchor points:

HL 420

Return roller

6



HL 220

Intermediate line support  
with pass-through

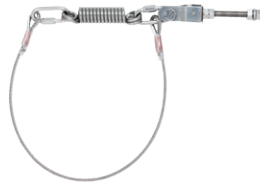
4



HL 320

Connecting - Energy  
absorbing set

1



AZ 090

Screw secured con-  
necting carriage



## Connecting, energy absorbing and cable stretching elements:

HL 620

Trolley

5



HL 500

Lanyard set

3



HL 506

Cable clamp with opening

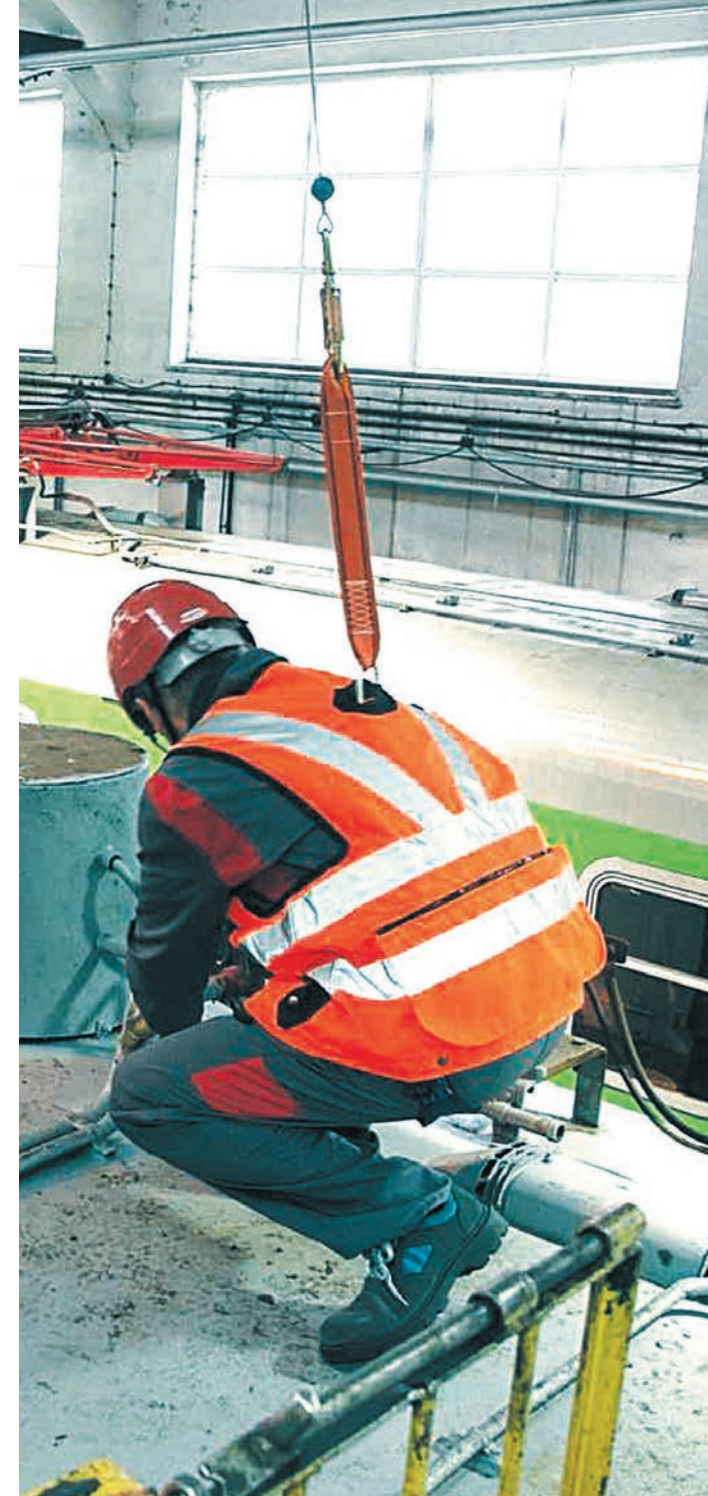
2



## Information labels

HL 806/HL805

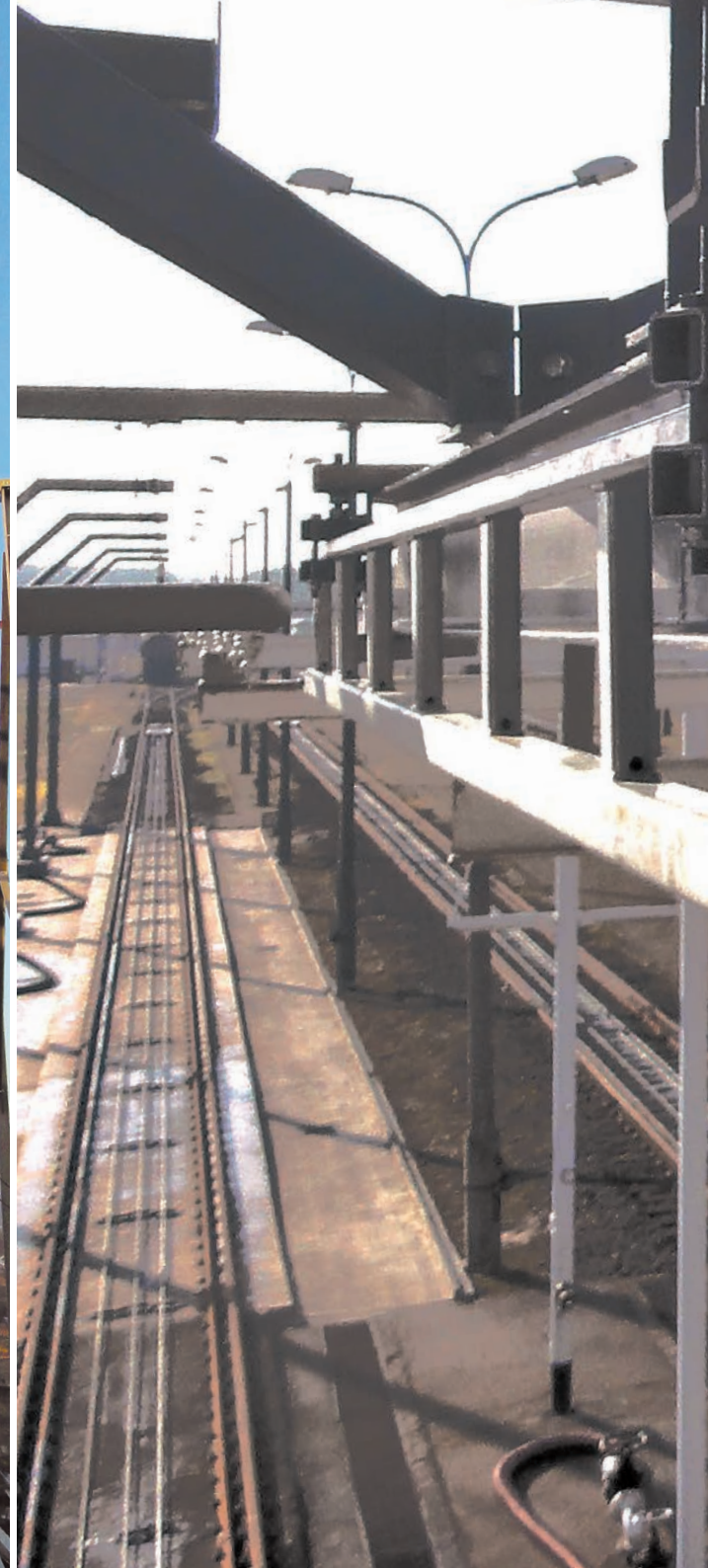
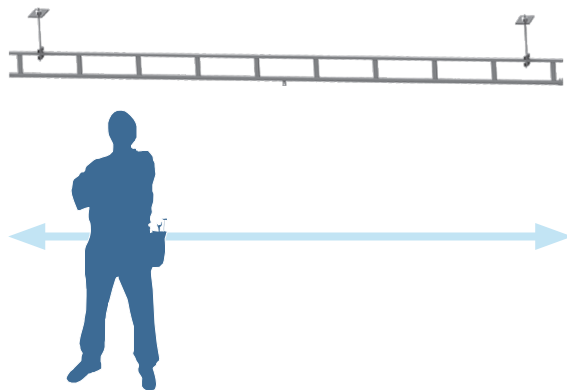
Stainless steel / PVC





# Traser

- Rail horizontal anchorage system made of galvanized steel, enabling for free movement in horizontal position.
- The system serves as protection for 3 persons.
- Ideal for ramps and platforms
- It can be used for performing task while hanging.







## Rail anchorage system

TRASER rail anchorage system is a D class anchorage device, which complies with the EN 795 standard. The system serves to attach personal protective equipment against fall from height to a permanent structure. It also makes it possible to move in the horizontal direction for up to 3 persons at the same time. The rail system consists of: a horizontal rail as a frame, a trolley, which is a mobile anchor point for the equipment, end stops of the guide way, rail connectors and elements fastening the guide to a permanent structure. The rail guide is made of hot-dip galvanized steel. The trolley, rail connectors, end stops of the guide way and the elements fastening the guide to a permanent structure are made of cold galvanized steel, stainless steel or plastics. The system is admissible to be used in blast hazard areas.

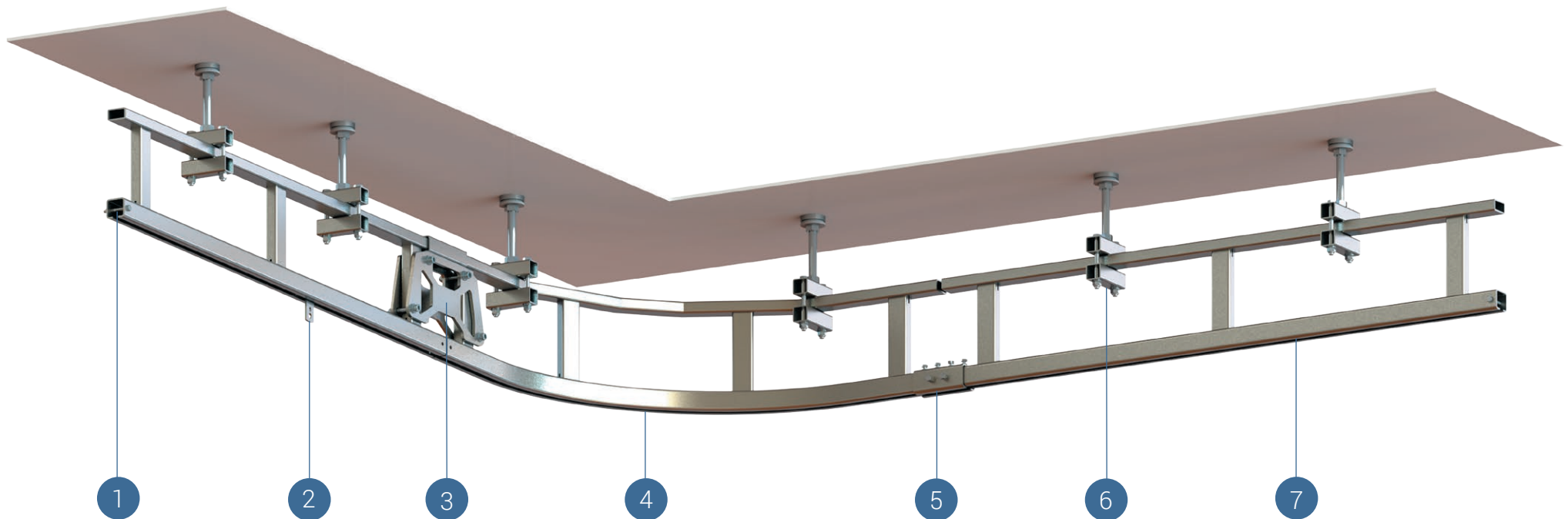
# TRASER system description

The TRASER system provides protection at the same time for 3 persons connected to it via personal protection equipment against fall from height. The system is made of straight (HR201) or bended (HR202) truss segments that create guide way for the trolley (HR 101). The trolley is a mobile anchor point of the system for personal protective equipment. Individual elements of the rail guide way are interconnected with

connectors (HR301/HR302) stabilizing adjacent elements. The end of the guide way are terminated and closed with rail stops (HR501) that prevents from uncontrolled ejection of the trolley from the guide way. The system includes also hangers (HR401), fixing the rail to permanent construction elements, as well as information labels (HR801 or HR802). TRASER system is made mainly of hot-dip galvanized steel. Screws are

made of galvanized steel, hangers' joints and trolley guide ways are made of plastic. Information labels are made of stainless steel or plastic.

TRASER horizontal anchorage system meets the requirements defined by FprCEN / TS16415.





## Structural anchor points:

HR 401

Hanger

6



## Structural mounting elements and guide way

HR 201-Le

Rail segment (Le – length in cm)

7



HR 202

Turn segment  
90 deg

4



## Structural mounting elements and guide way

HR 101

Trolley

2



HR 501

End block

1



HR 301

Rail connector

5



HR 302

X-type rail connector

3



## Information label

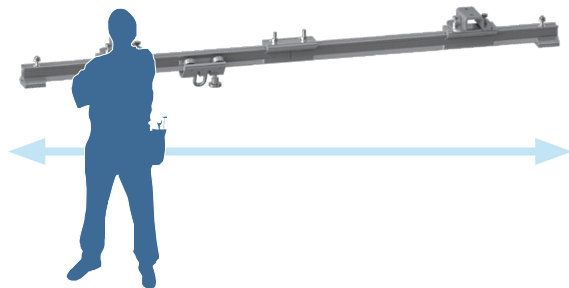
HR 802/HL801

Stainless steel / PVC



# Maran

- Rail horizontal anchorage system MARAN with a trolley locking option, creating immobilized anchoring point.
- The system is intended to be used by maximum 2 persons at the same time.
- It can be used for performing task while hanging.







1.



2.



3.

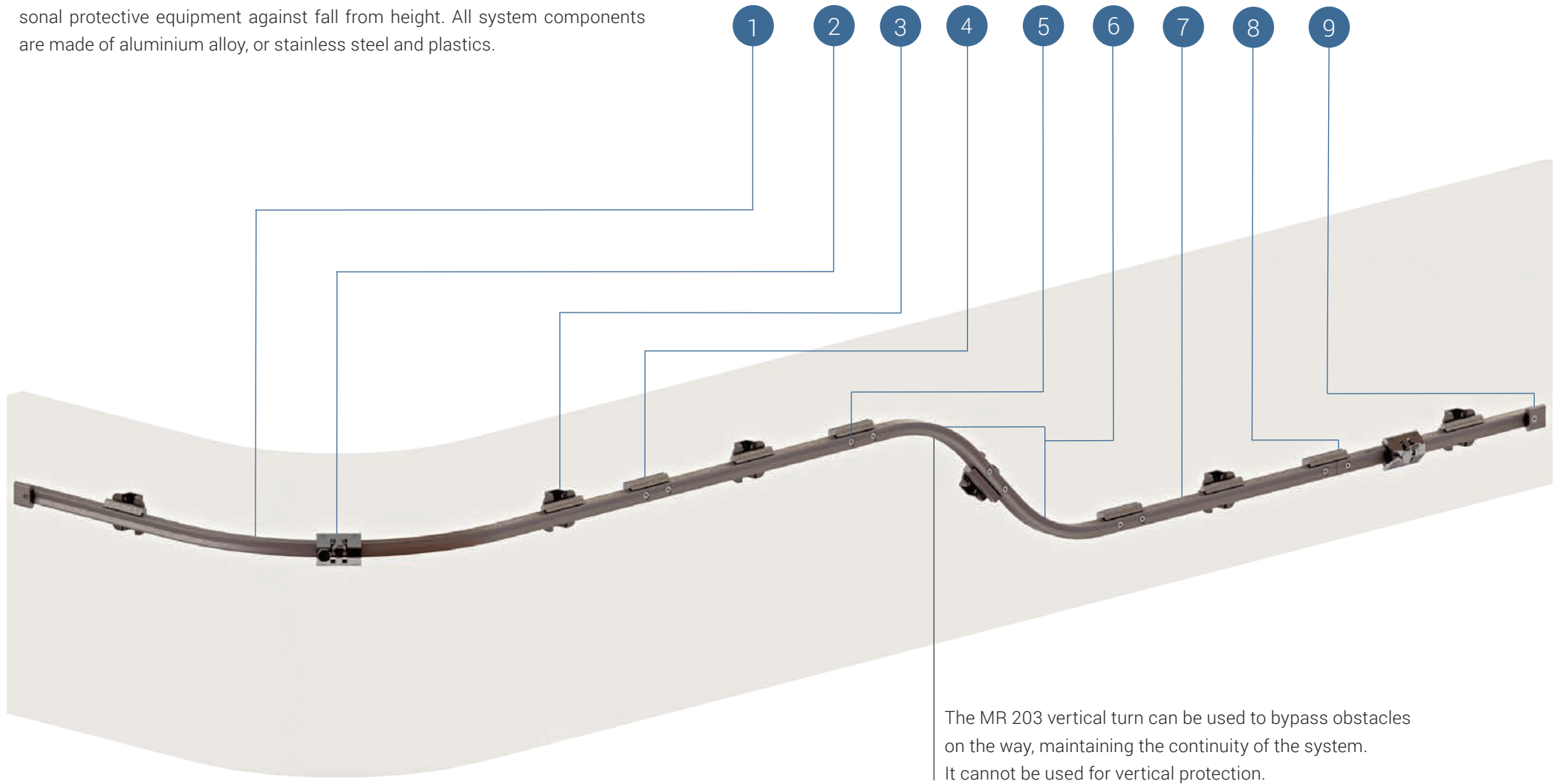
1. Rail and anchor plate.
2. End stop.
3. Trolley with end stop and snap hook.

## Horizontal rail anchorage system

The system serves to attach personal protective equipment against falls from height to permanent structures. It also ensures safe moving. The system is intended to be used by maximum 2 persons at the same time, whereby each person is connected to an individual trolley. The rail system consists of: a rail as a guide way for a trolley, which is a mobile anchor point for personal protective equipment, end stops of the guide way, rail connectors and elements fastening the guide to permanent structures. The rail guide is made of aluminium alloy. The trolley, rail connectors, end stops of the guide way, elements fastening the guide to a permanent structure are made of aluminium alloy, the connecting elements (bolts) are made of stainless.

# MARAN system description

The MARAN system consists of a rigid guide way mounted permanently to solid structure. The guide way is equipped with end stops, elements mounting to supporting structure, as well as rail segments connectors. There is one or two trolleys installed on the rail that serve as moving anchoring point for personal protective equipment against fall from height. All system components are made of aluminium alloy, or stainless steel and plastics.





## Structural anchor points:

### MR 401

Mounting plate



### MR 402

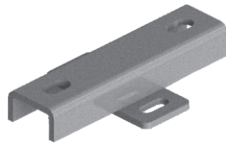
Mounting plate

3



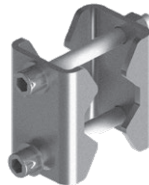
### MR 403

Mounting plate



### MR 404

Pipe mounting element



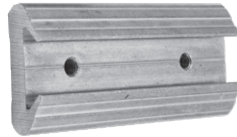
## Structural anchor points and trolley rail:

---

MR 301

Connector

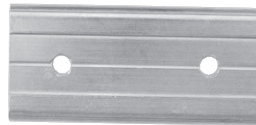
5



MR 302

Reinforcing plate

8



MR 710

Screw set



MR 720

Screw set



MR 730

Screw set

4



## Information labels

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MR 802/HL801

Stainless steel





#### Trolley rail elements:

MR 101

Trolley

2



MR 501

Bumper

9



MR 601

Bolt



#### Trolley rail

MR 201

Rail

7



MR 202

Horizontal turn

1



MR 203

Vertical turn

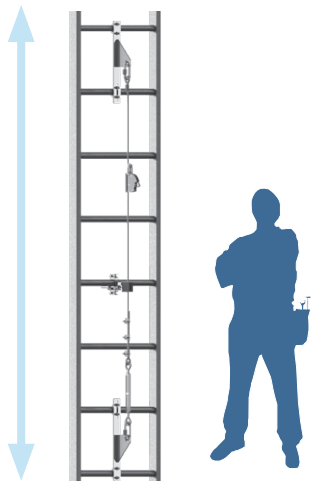
6





# SKC-Block

- The system is intended to be mounted on ladders, chimneys, towers, masts or buildings.
- The system serves as protection for 1 person.
- The system is anchorage device, which complies with the EN 353-1 standard.







1. Upper terminating element - line end with anchor plate.
2. AC 350 rope grab with AZ 011 carabiner.

## Vertical anchorage system designed for ladders, single user protection

Guided type rope grab fall arrester device mounted on a rigid line – the SKC Block system serves as protection against fall from height for a person moving on vertical ladders. The system is intended to be mounted on all kinds of permanent access to constructions, e.g. chimneys, towers, masts or buildings. A rope grab installed on a steel wire rope with a diameter of 8 mm and connected to a front attaching buckle of the safety harness is a base of the system. The essential components of the system such as a wire rope, rope grab, rope connector, screw clips and rope tensioner are made of stainless steel.

# SKC - BLOCK system description

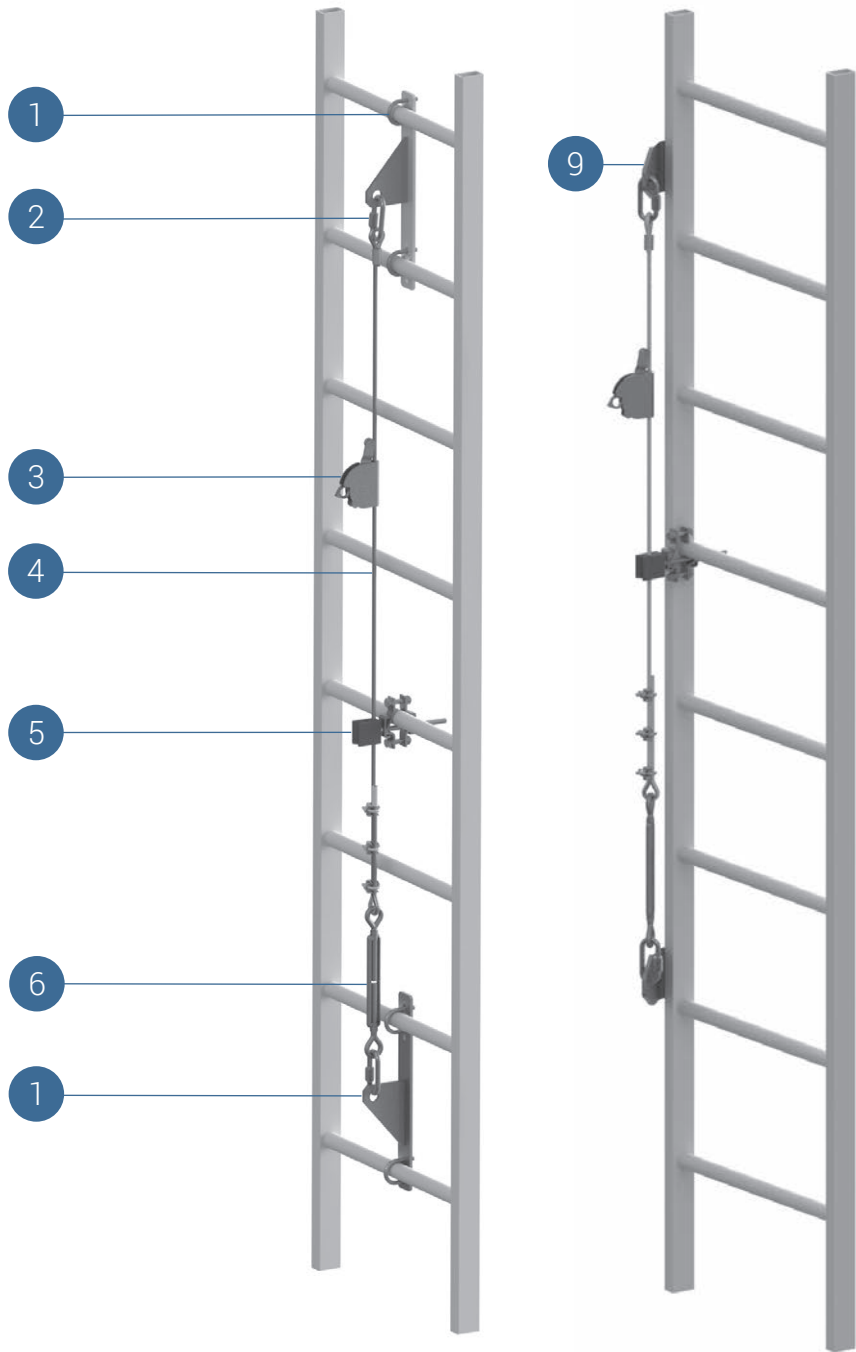
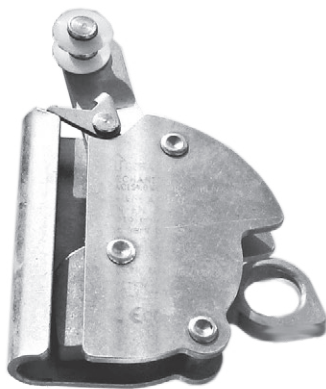
Permanent vertical protection system SKC- BLOCK is a guided-type rope grab fall arrester on a rigid anchorage line and it is a energy absorbing and connecting element, according to the EN 363 standard. The SKC – BLOCK system complies with requirements defined by the European Union Directive 89/686/EEC. The general system design is presented by the graphics on the right hand side. The system is composed of vertical guide line, made of stainless steel cable of 8 mm diameter (ref. No AC 850). Lower end of the guide is equipped with a stainless steel tensioner (ref. No AC 910). Upper termination of the line guide is attached to a permanent construction by means of screw type carabiner AZ090 made of stainless steel. The vertical line guide of more than 10m length is equipped with rope guiding element (ref. No AC 921) that protects the line against vibrations caused by wind. The rope grab slider (ref. No AC 350) is a part of personal protective equipment that is installed onto the vertical line whenever protection is needed. The slider moves up and down the line following user’s movement and it blocks itself on the line in case of fall accident, protecting the user.

## Mobile anchoring point

AC 350

Rope grab slider mechanism

3





## Structural anchor elements:

### AT 160/AT160-i

Side mounting plate (galvanized/stainless steel)

9



### AT 161/AT 161-i

4-point ladder rung mounting plate (galvanized/stainless steel)



### AT 162/AT 162-i

2-point ladder rung mounting plate (galvanized/stainless steel)

1



### AT 163/AT 163-i

6-point ladder rung mounting plate (galvanized/stainless steel)



### AT 165

6-point ladder rung mounting beam (galvanized steel)



## Structural connecting elements:

### AZ 090

screw type carabiner

2



### AC 910

Rope tensioner (stainless steel)

6



### AC 921

Rope guide

5



## Lanyard set

### AC 850

Guiding rope

4



## Information labels

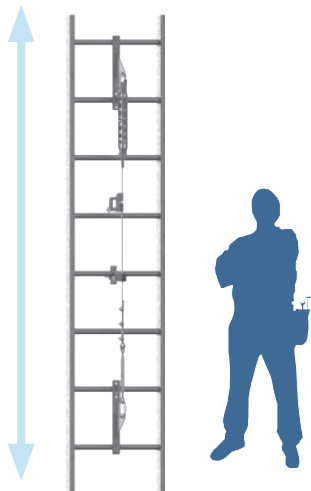
### AC 804/AC 803

Stainless steel / PVC



# AC 360

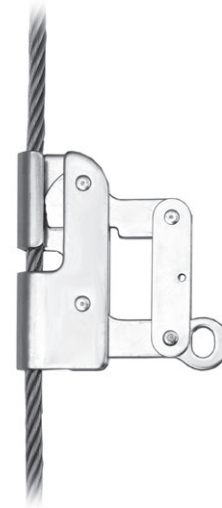
- The system is intended to be mounted on ladders, chimneys, towers, masts or buildings.
- The system serves as protection for 2 persons.
- Guided-type fall arrester on a rigid anchorage line, which complies with the EN 353-1 standard.







1.



2.

## Vertical rope anchorage system offering protection for 1 or 2 users

AC 360 rope grab guided-type fall arrester on a rigid anchorage line serves as safeguard and protection against fall from height for 2 persons moving in a vertical direction at the same time. The system is intended to be mounted on all kinds of permanent access (ladders) to constructions, e.g. chimneys, towers, masts or buildings. A rope grab installed on a steel wire rope with a diameter of 8 mm and connected to a front attaching buckle of safety harness is the base of the system. The essential components of the system such as a wire rope, rope grab, rope connector, screw clips and rope tensioner are made of stainless steel. The system conforms to EN 353-1 standard.

- 1. Energy absorber
- 2. AC 360 rope grab slider

# AC 360 system description

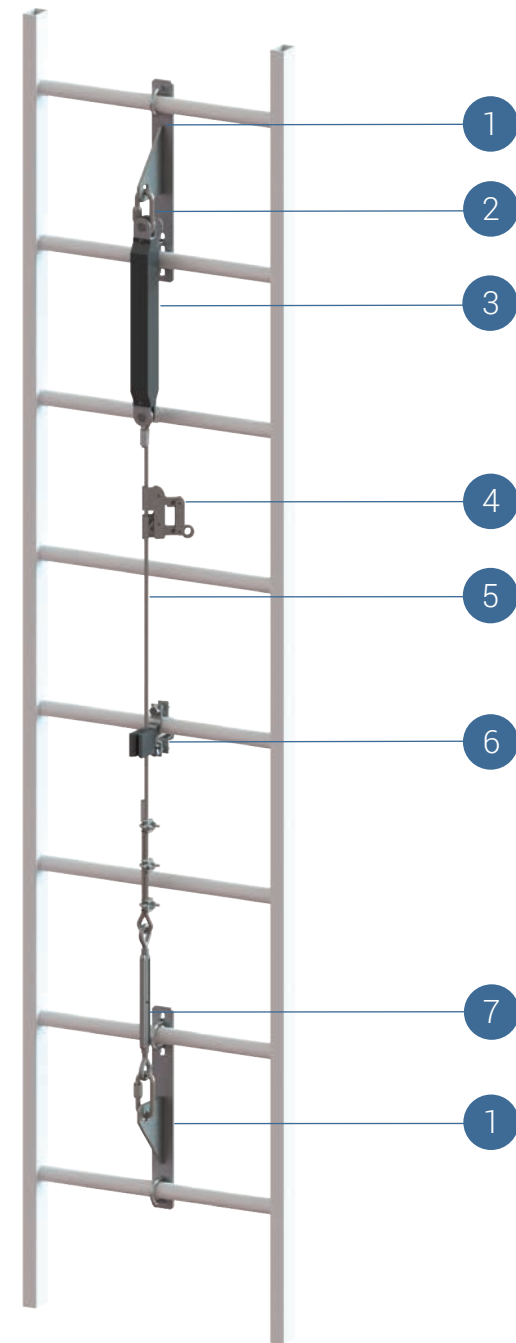
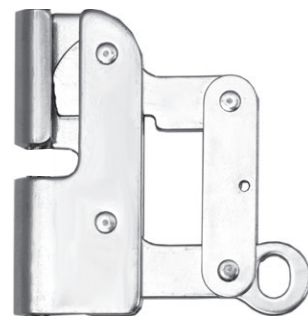
Permanent vertical protection system AC 360 is a guided-type rope grab fall arrester on a rigid guide way and it is a energy absorbing and connecting element, according to the EN 363-1 standard. The AC 360 system complies with requirements defined by the European Union Directive 89/686/EEC. The general system design is presented by the graphics. The system is composed of vertical guide line, made of stainless steel cable of 8 mm diameter (ref. No AC 850). Upper end of the line guide is equipped with the energy absorber (ref. No AC 361 / AC 362). Lower end of the guide is equipped with a stainless steel tensioner (ref. No AC 910). Upper and lower termination of the line guide is attached to a permanent construction by means of screw type carabiner AZ090 made of stainless steel. The vertical line guide of more than 10m length is equipped with rope guiding element (ref. No AC 921) that protects the line against vibrations caused by wind. The rope grab slider (ref. No AC 360) is a part of personal protective equipment that is installed onto the vertical line whenever protection is needed. The slider moves up and down the line following user's movement and it blocks itself on the line in case of fall accident protecting the user.

## Mobile anchoring point

AC 360

Rope grab slider mechanism

4





## Structural anchor elements:

### AT 160/AT160-i

Side mounting plate (galvanized/stainless steel)



### AT 16 /AT 161-i

4-point ladder rung mounting plate (galvanized/stainless steel)



### AT 162/AT 162-i

2-point ladder rung mounting plate (galvanized/stainless steel)

1



### AT 163/AT 163-i

6-point ladder rung mounting plate (galvanized/stainless steel)



### AT 165

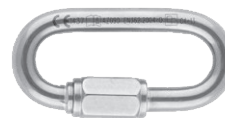
6-point ladder rung mounting beam (galvanized steel)



### AZ 090

screw type carabiner

2



### AC 910

Rope tensioner (stainless steel)

7



### AC 361

Energy absorber for a single user

3



### AC 362

Energy absorber for 2 users



### AC 921

Rope guide

6



## Lanyard set

### AC 850

Guiding rope

5



## Information labels

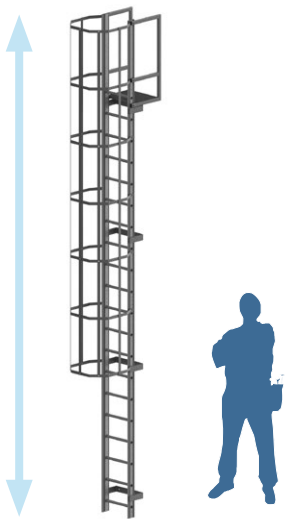
### AC 802/AC 801

Stainless steel/ PVC



# AC 510

- AC 510 Ladder with basket conforms to DIN 18 799-1 standard: vertical ladders used for inspection, maintenance and service purposes for building structures.
- It is designed to be set on fixed structures such as chimneys, towers, masts or buildings enabling vertical movement.
- It can be installed wherever it is possible to attach it to the permanent structure.







## Facade ladder with double rail safety system.



1.



2.

1. Mobile anchoring point - trolley with self-locking mechanism, energy absorber and carabiner.

2. Ladder rung with anti-slide surface.

AC 510 system is a façade ladder with rail fall protection system. Self-locking device with rigid guide - AC 510 system is designed to prevent falls from height for people moving in vertical direction. The system is fixed to the aluminium ladder with double rail and is designed to be set on fixed structures such as chimneys, towers, masts or buildings. The essential part of the system is self-blocking mechanism that can be fastened on rigid guide. It allows the user to move vertically being connected to moving trolley. Self-locking mechanism in the shape of a trolley can be set on the right or left side of the ladder. The trolley prevents sudden falls from height. It also has an integrated energy absorber which reduces dynamic force below 6 kN in case of a fall. The shape of the trolley prevents from the wrong setup on the guide. The system consists of 3 m long segments which enable an easy adjustment of the length of the entire system on a certain structure. The trolley can move smoothly along the whole ladder length. Protection is ensured at the entire length of the ladder. The AC 510 system conforms to PN-EN 353-1 standard.

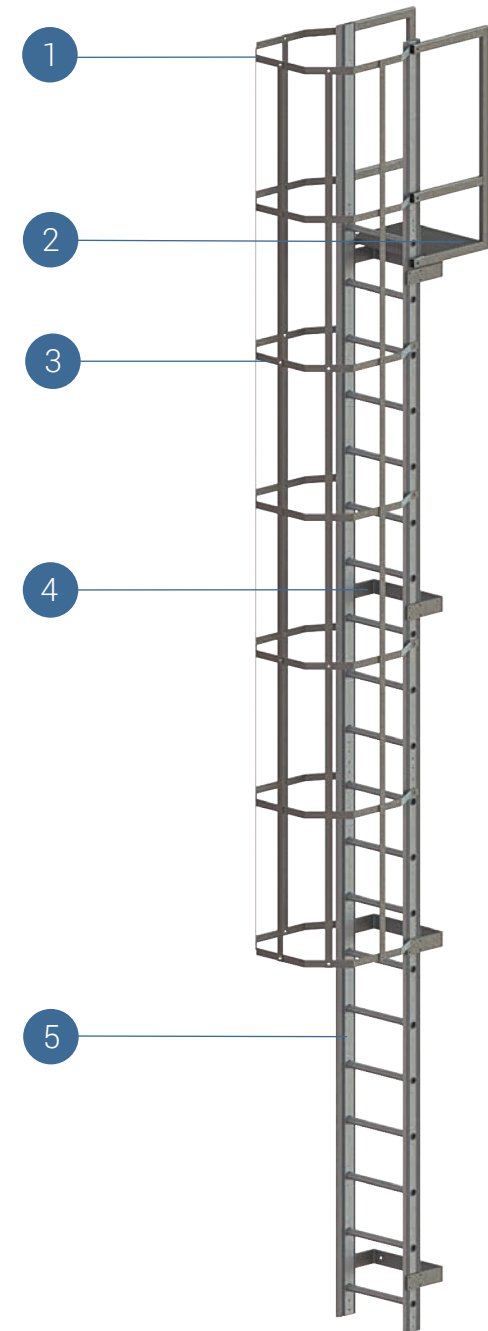
## AC 510 Ladder with basket

The ladder can be attached to walls of the building with M12 mechanical or chemical anchors, in case of steel structures installation can be done with screws or plates, etc. Every single 3m element of the ladder should be installed (attached) to the permanent structure in at least two points. The maximum distance between consecutive support points for the ladder cannot exceed 1.8m. Depending on the total length of the ladder one should design both the number of supporting points and their localization with respect to permanent structure. Installation of supports to side profiles of the ladder is done by means of 4 or M8 screws on each side. The supports can be easily moved along the whole length of the ladder thanks to screws being mounted inside the "rail" of ladder profiles. It allows for simple adjustment of support place. The supports are made of galvanized or stainless steel. The ladder is made of aluminium profiles and the basket is made of galvanized or stainless steel. The surface of rungs of the ladder have anti-slip surface. On the top of the ladder there is an entrance railing with a platform securing safety transition from the ladder onto the roof, platform, etc. The railing size guarantees safety and was designed according the regulations: 1.1m.

The AC 510 ladder has a modular design. It can be constructed from unlimited number of segments, the length of which equals 3m. If different ladder length design is required, the segments can be easily cut to desired length during installation. The only requirement is that the length of a cut element is multiplication of 300mm ( $n \times 300$ ). It enables proper instal-

lation and use of every rung. The basket of the ladder meets the requirement of DIN 18 799-1 standard. The internal basket diameter equals 700mm, which is enough to ensure easy movement inside the basket. The basket has modular design as well. Each segment of it is 1.65m in length and it can be further segmented (cutting off part of vertical elements results in length reduced to 850mm) maintaining full functionality. The total length of the basket needs to be selected to match total length of the ladder. The upper edge of the basket should be levelled with the ladder and the lower end, according to the standard, it should start 2-3 m above the ladder lower edge, thus allowing free access to the ladder. Particular modules of the basket are interconnected by means of screws. Screws are used also to attach the basket to the ladder itself. The upper protection railing is designed to secure the user while entering and exiting the ladder onto the roof, platform, etc. The railing is permanently attached to the basket and the ladder. It is equipped with anti-slip platform. The whole railing is made of galvanized steel. It is connected to the basket and the ladder with screws.

It is possible to expand the AC 510 ladder with a vertical, permanent protection system conforming to EN 353-1 standard, e.g. SKC-BLOCK by PROTEKT. It is installed within the basket, which provides additional safety (double protection: basket and protection system).





## Components of AC 510 ladder system:

AC 510-100  
Ladder segment

5



AC 510-200  
Support

4



AC 510-300  
Basket segment

1



AC 510-330  
Access limitation



AC 510-310  
Basket termination

3



AC 510-320  
Entrance platform

2



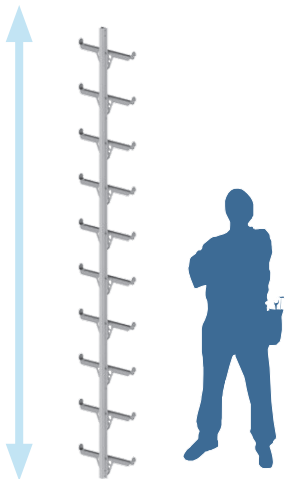
Information labels

AC 810/AC 809  
Stainless steel/ PVC



# AC 520

- The AC 520 system conforms to EN 353-1:2002 VG11 Rfu 11.073 standard.
- The system can be used as a ready-to-use ladder with fall protection system for structures without permanent ladder.
- The system can be integrated with existing permanent ladder.
- The self-locking trolley mechanism with energy absorber and carabiner, used as an anchoring point, secures against fall from height and allows for resting while climbing the ladder.





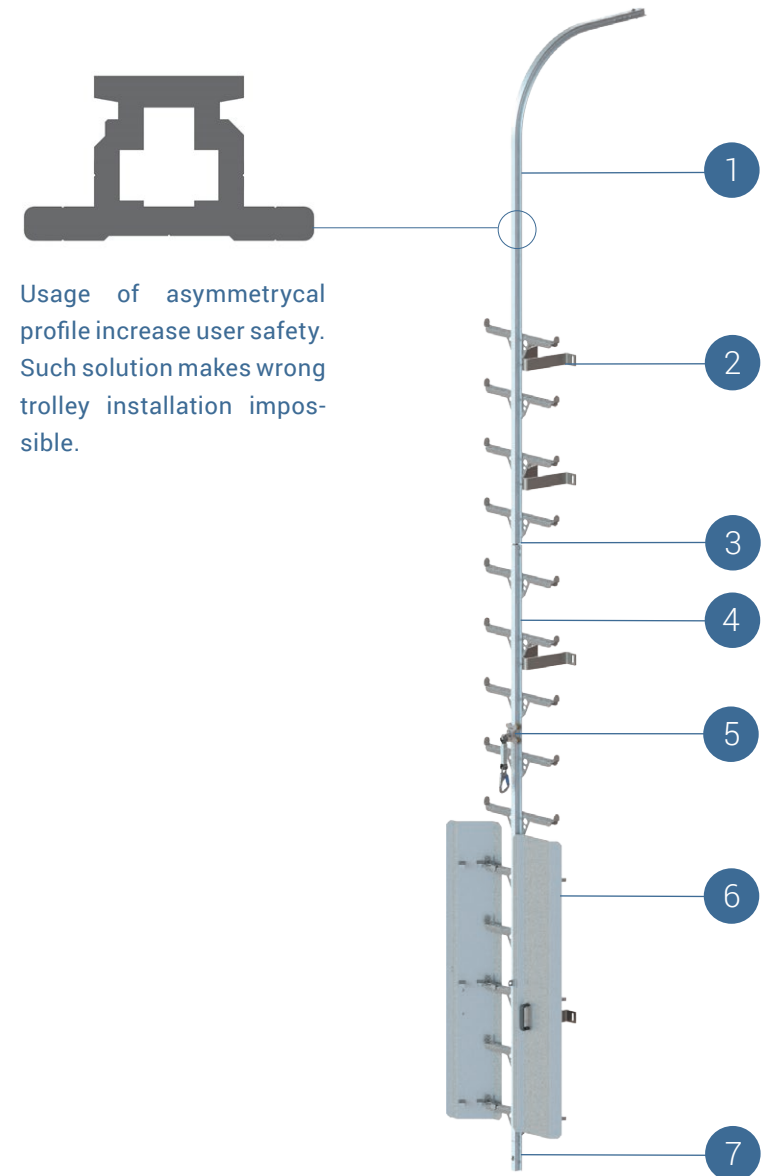


## Facade mast ladder with integrated vertical rail safety system.

AC 520 mast ladder with integrated Self-locking device with rigid guide is designed to prevent falls from height. The system is designed to be set on fixed structures such as chimneys, towers, masts or buildings. The essential part of the system is the self-locking mechanism (protection trolley) that can be fastened to the rigid guide. It allows the user to move vertically in a safe way, being connected to the trolley. The self-locking mechanism in the shape of trolley can be set on the central guide of the ladder. The trolley prevents from sudden falls from height. It also has an integrated energy absorber which reduces dynamic force below 6 kN in case of a fall. The shape of the trolley prevents from the wrong setup on the guide. The system consists of segments of different length (maximum 3 meters) which enable an easy adjustment of the length of the entire system on a certain structure. The trolley can move smoothly along the whole ladder length. Protection is ensured at the entire length of the ladder. The AC 520 system conforms to EN 353-1:2002 VG11 Rfu 11.073 standard.

## AC 520 system description

AC 520 system is a self-locking device with rigid guide designed as energy absorbing and connecting element, according to the EN 353 standard. The AC 520 system complies with requirements defined by the European Union Directive 89/686/EEC. It can be used both as a ladder, or as a rail mounted onto already existing permanent ladder. The system is composed of ladder segments connected to one another and mounted directly to a building and rail segments mounted to already existing ladder. The ladder can be also equipped with access limiting element, designed as door made of stainless steel secured with a padlock (not included within the set). In order to get access to the ladder, one needs to lift wings of the door, open them and secure in working position. The AC520 system is equipped with asymmetrical rail made of aluminum. Thanks to the asymmetrical rail design the anchoring trolley AC 501 can be mounted only in one, proper way. In order to do that, one has to pull with a single move through the clamp of a segment with end stop element. The protecting trolley is equipped with fabric-made energy absorber, terminated with AX K10 carabiner, used to connect to a front buckle of safety harness protecting against fall from height (conforming to EN 361). Both upper and lower ends of the AC 520 system are made of segments with end stop elements (with locking clamp mechanism). They serve to protect anchoring trolley against accidental derailing. In order to detach the trolley from the rail it is necessary to make two separate movements: unsecure and hold the clamp lock (by pulling the lever situated at the back of the rail near the segment with end stop element) and pull the trolley through the blocking mechanism removing it from the rail. The vertical rail protection system AC 520 can be used by maximum two users at the same time. While climbing the system, users have to maintain the minimum distance of 3 meters. The system can be mounted to all vertical structures, as well as to other structures whose maximum inclination from vertical direction is lower than 30°. The rail itself can also be mounted to an already installed, permanent ladder. The AC 501 anchoring trolley does not require any other energy absorbing elements. The device can be used in negative temperatures (up to -30°C).





Components of  
AC 520 ladder system:

AC520-100

Intermediate ladder  
segment

4



AC520-110

Ladder segment –  
straight roof exit



AC520-120

Terminating segment  
– bended roof exit

1



AC520-101

Standard rail segment  
without rungs



AC520-111

Rail segment – straight  
roof exit



AC520-121

Terminating segment  
without rungs – bended  
roof exit



AC520-200

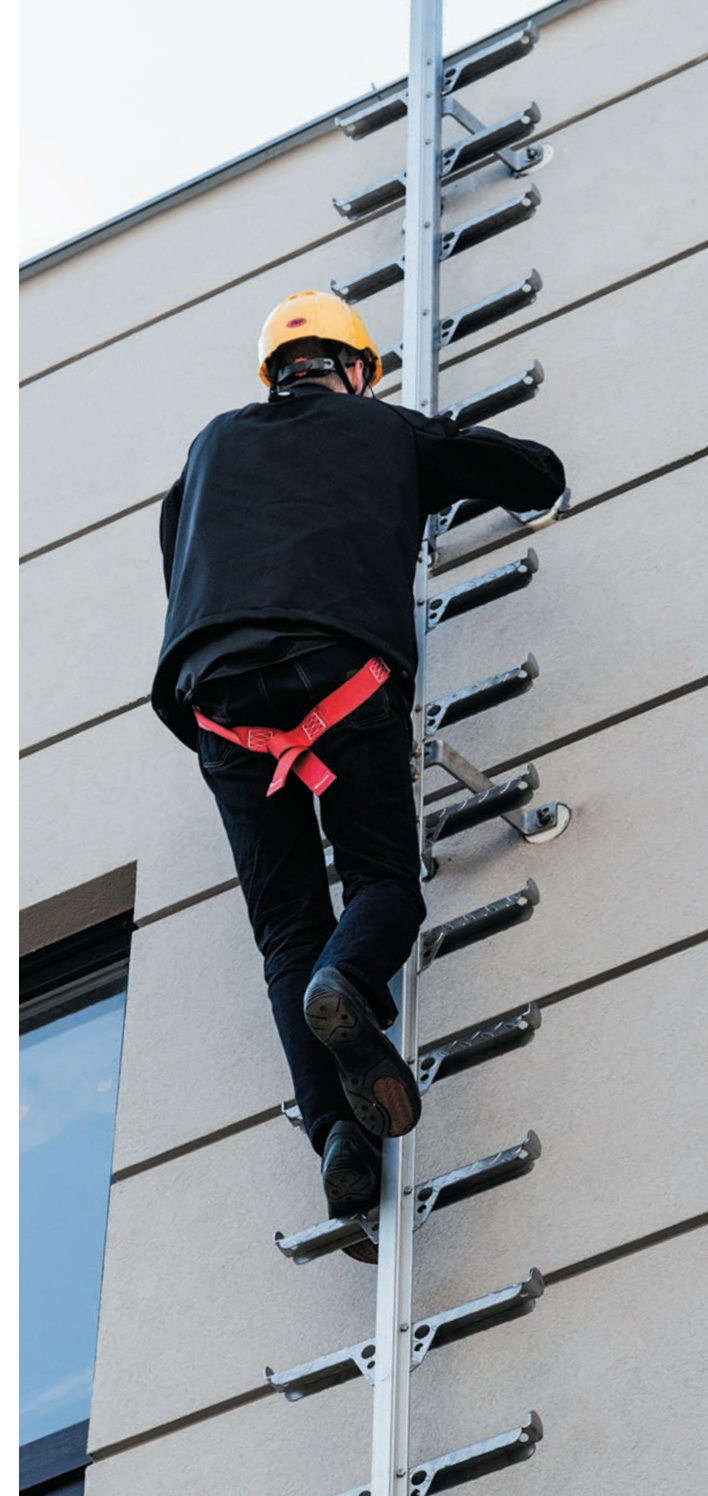
Lower segment with end  
stop element

7



AC520-210

Upper segment with  
end stop element



## Components of AC 520 ladder system:

### AC501

Anchoring trolley with  
energy absorber

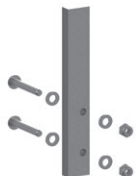
5



### AC520-300

Intermediate segments  
connector

3



### AC520-310 / AC520-320

Ladder segments wall  
anchoring elements

2



### AC520-320

Ladder segments wall an-  
choring elements



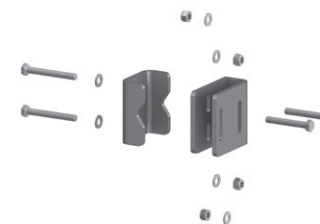
### AC520-330

Rung connectors



### AC520-340

Rung connectors



### AC520-350

Rung connectors



### AC520-400

Security door

6





## HL 704

Segment supporting foot  
post



## Information labels

### AC 808/AC 807

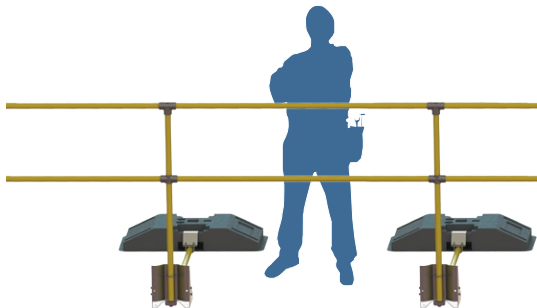
Stainless steel / PVC





# PROSAFE

- Modular design and low number of components.
- No welding, bending or other processing works needed as installation premises.
- Possibility of de-mounting and re-mounting segments of the railing in other places, as well as no need to interfere with roof sheathing.
- Possibility to create passes, closing gates and snow chute zones.
- Railing tilt adjustment feature by 15 degrees in 90 degrees range starting from vertical direction.







1.



2.



3.

## Self-supported edge protection

PROSAFE is a system of module self-supporting railings which do not damage the roofing. It is a system which ensures flexible adjustment to any shape of the roof, allowing protection of almost any surface.

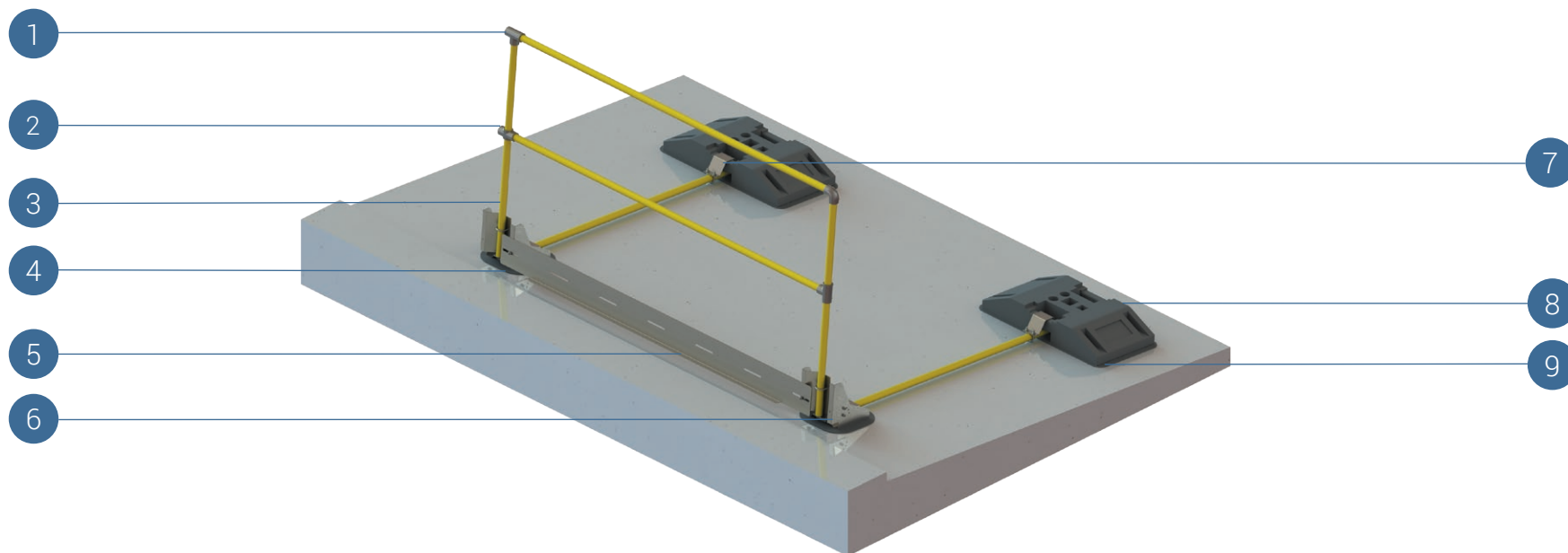
The system of pipe connectors allows adjustment of the barriers to any shape of the roof, its surface configuration and different levels. The pipe connectors allow making gates, passages, openings and snow discharge zones. Versatility of the system ensures its adaptability to virtually any conditions. Where the parapet wall is lower than 150m, or the barriers are assembled in open spaces, the system allows mounting a toeboard, which will stop the worker's feet from slipping and the tools from rolling off the roof over the edge.

- 1. Cross connector
- 2. Counterweight
- 3. Aluminium fender

# PROSAFE system description

Free standing barriers PROSAFE system is intended to guarantee collective security for employees performing tasks at elevated heights, on roofs or non-public building surfaces. The system complies with the regulation by the Ministry of Labour and Social Policy dated to September 26 1997, concerning general Health and Safety regulations. The document defines the minimum railing height to be 1.1 m and states that it has to be equipped with edge boundary of at least 150mm height, as well as an additional crossbar situate in the middle between edge boundary and upper bar of the railing. The system can be used on areas of inclination not greater than 5 degrees and bituminous, concrete, tarmac and membrane finished surfaces, as well as surfaces covered with combination of the above materials with stone and gravel topping. The system was verified according to EN ISO 14122-3:2001 and EN 13374:2004 – class A standards, which means practically that it is perfectly capable of withstanding forces

acting upon: falling of a person, who holds the railing, leans against it, climbs the railing or falls outside the railing while grabbing it. The system includes elements isolating the ballast extenders from supporting surface by means of special rubber pads made of EPDM. Such a material selection guarantees resistivity to weather conditions and protects the roof against abrasions or deformations caused by exposure to high temperatures. The modular design of the PROSAFE system enables employees who read user manual concerning mounting and de-mounting of the system, to install it easily, without any specialized tools. Before starting the installation one has to make sure the roof surface is capable of supporting loads up to 0.68 N/cm<sup>2</sup>. The system allows for creation of gates, passages, snow chute areas as well as access points and protection of access points to ladders and other devices.





## Railing connectors:

AT240 - 003

Elbow

6



AT240 - 002

2 elements connector

1



AT240 - 004

Tee – connector

2



AT240 - 001

X - connector



AT240 - 005

Advanced connector

4

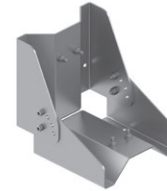


## Other construction elements:

AT240 - 014

Railing base

6



AT240 - 016

External connector

1



AT240 - 015

Ballast extender mounting element

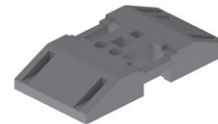
7



AT240 - 017

Ballast extender

8



AT240 - 020

Ballast rubber pad

9



AT240 - 021

Base rubber pad

4



AT240 - 018

Edge board

5



AT240 - 019i

Edge board connector

3



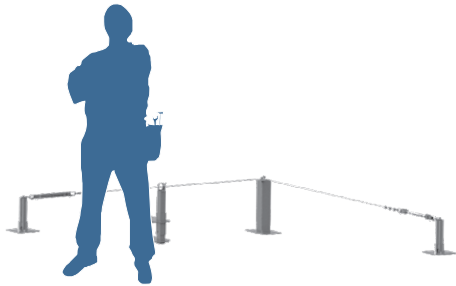
AT240- [011 - 009]

Railing

3



# Security systems comparison

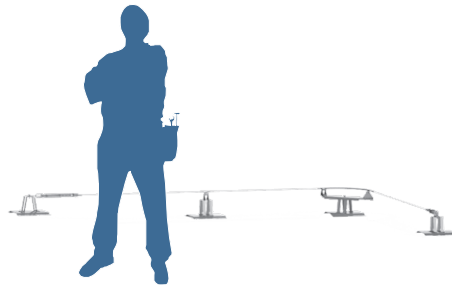


## PRIM

System type: line, horizontal  
Material: stainless steel, steel cable  
Cable type: 8 mm stainless steel

Max number of users: 3 – 7 persons  
System can be assembled on roofs, ceilings and walls.

Standard: EN 795 class C



## DUO

System type: line, horizontal  
Material: stainless steel, steel cable  
Cable type: 8 mm stainless steel

Max number of users: 3 – 5 persons  
System can be assembled on roofs, ceilings and walls.

Standard: EN 795 class C

Prim »







## PROLINER

System type: line, horizontal

Material: stainless steel, steel cable, plastics

Cable type: 8 mm stainless steel

Max number of users: 3 persons

System can be assembled under roof.

Standard: EN 795 class C

## TRASER

System type: rail, horizontal

Material: hot-dip galvanized steel, plastics

Max number of users: 3 persons

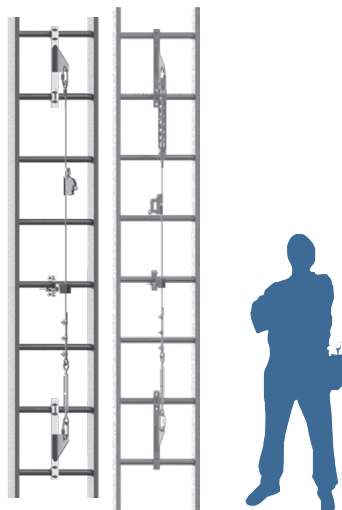
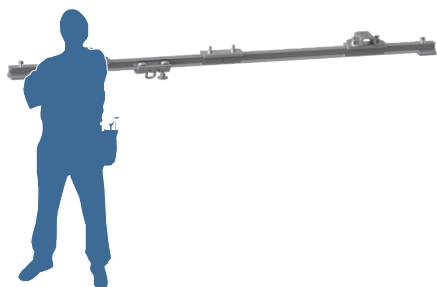
System can be assembled under roof, inside or outside, under ramps.

Standard: EN 795 class D

Traser »



# Zestawienie systemów asekuracji



## MARAN

System type: rail, horizontal  
Material: aluminum, stainless steel, plastics

Max number of users: 2 persons  
System can be assembled on roofs, ceilings and walls.

Standard: EN 795 class D

## SKC Block / AC 360

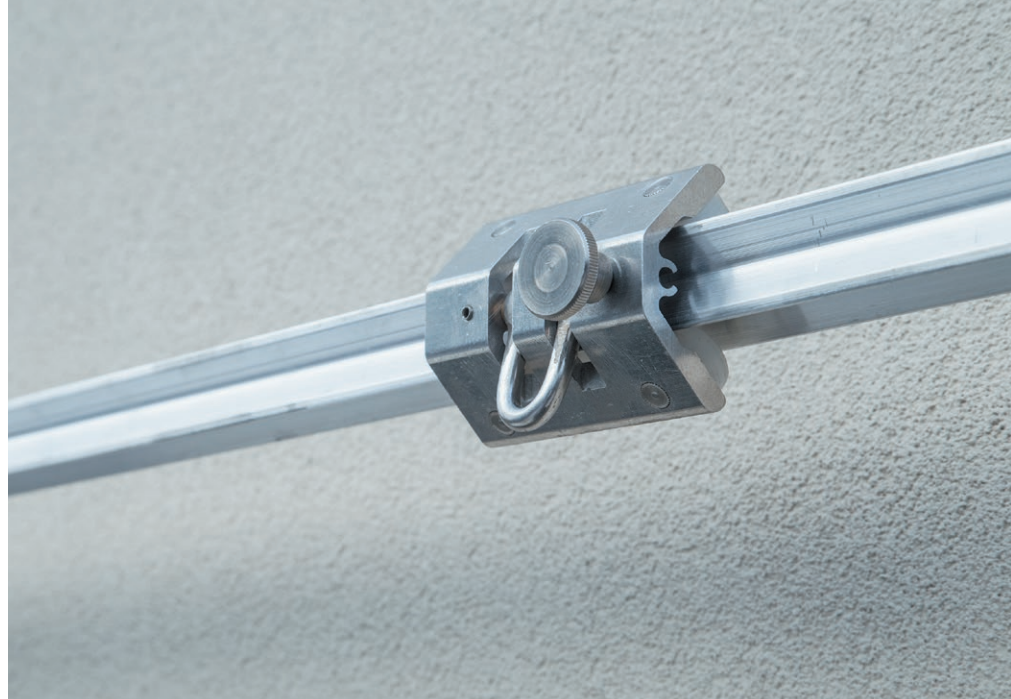
System type: line, vertical  
Material: stainless steel, galvanized steel  
Cable type: 8 mm stainless steel  
SKC Block

Max number of users SKC Block: 1  
Max number of users AC 360: 2  
Systems can be assembled on industrial ladders.

Standard: EN 353-1:2002

SKC-Block >>

Maran >>







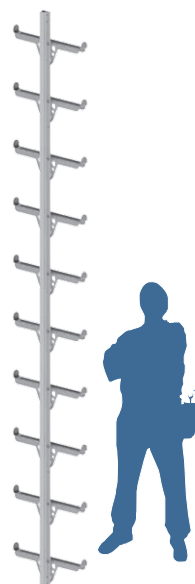
## AC 510

System type: ladder with basket

Material: aluminum alloy, stainless steel

Max number of users: 2 persons

Standard: EN 353-1:2002



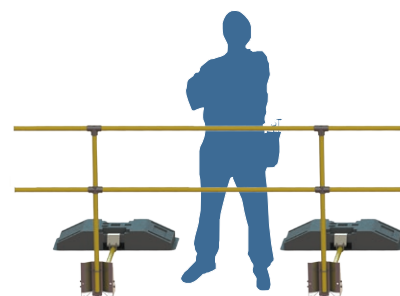
## AC 520

System type: rail, vertical, being a part of façade mast ladder

Material: aluminum alloy, stainless steel

Max number of users: 2 persons

Standard: EN 353-1:2002



## PROSAFE

System type: self supporting railing

Material: steel, EPDM, composite rubber

Standard: EN 13374:2004  
– protection class A

PROSAFE »



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