# piriSteel Technical product catalogue

## Rainwater systems, roof safety products and safety equipment

piSko

Piristeel is the leading manufacturer of rainwater systems, ladders and roof safety products in Finland. The products manufactured by Piristeel are identified by the Pisko brand. Other registered quality brands of the company are Pisko SafeLine, Pisko MultiFast, Pisko UniSeam, Pisko SafeGrip and Rainway. Piristeel has a wide selection of different sized rainwater systems. The Pisko rainwater systems include both round and K-style gutters and down pipes. The roof safety products include snow guards, ladders, roof walkways and safety equipment. From our range, you can find products for detached houses, apartment buildings and industrial construction. The products are suitable for both new constructions and renovations.

The history of Piristeel goes back 50 years. Through long experience and development, our company has become the leader in the Finnish market, with continuously growing exports. In 2019 Piristeel moved its operations to Kauhava, South Ostrobothnia. Piristeel employs approx. 100 people and has the most modern roof safety factory in Europe with total of 18 000 m2 production and office space. In 2019 Piristeel also became a part of Ruukki Construction and its roofing unit.

The Piristeel operations are controlled by a certified management system. ISO 9001 quality management system, ISO 14001 environmental management system and ISO 45001 occupational health and safety management system are certified by Kiwa Inspecta.

Pisko's roof walkways, roof ladders and vertical safety rail system adhere to European harmonized product standards. The products in these product groups have a CE marking. Through national approval, Piristeel has verification certificates for snow guards, wall ladders and horizontal safety rails. In addition, Piristeel has quality marking (P-mark) issued by the Research Institutes of Sweden (RISE). P-mark means that the product, e.g. anchor point meets the requirements of Swedish law and national regulations.

Piristeel manufactures most of its products using the world's cleanest, locally produced domestic steel. Coated products are made from GreenCoat® steel, which is an innovative and environmentally conscious coated steel for rainwater systems. GreenCoat® products are used extensively in sustainable architecture and their wide range of colours and coatings is based on Nordic rapeseed oil. GreenCoat® is a registered trademark of SSAB.

The declarations of performance and instructions for installation, use and maintenance can be downloaded on the company website www.piristeel.fi. Pisko products can also be found in ProdLib product library.

CE

kiwa certified
ISO 9001
ISO 14001
ISO 45001
Inspecta Sertifiointi Oy

GREENCOAT®
COLORFUL STEEL

## PISKO RAINWATER SYSTEMS

### Models and materials

The Pisko rainwater systems are manufactured in both round and K-style profiles. The wide range has suitable products for both new constructions and renovations. The product range can be applied to constructions in both detached houses as well as industrial buildings. The rainwater systems are constructed of GreenCoat RWS Pural, coated on both sides. The thickness of the rainwater system steel is 0.5mm or 0.6mm. Benefits of the Pural coating include outstanding corrosion resistance, good bending properties, a durable appearance, good dirt repellent properties and easy cleaning.

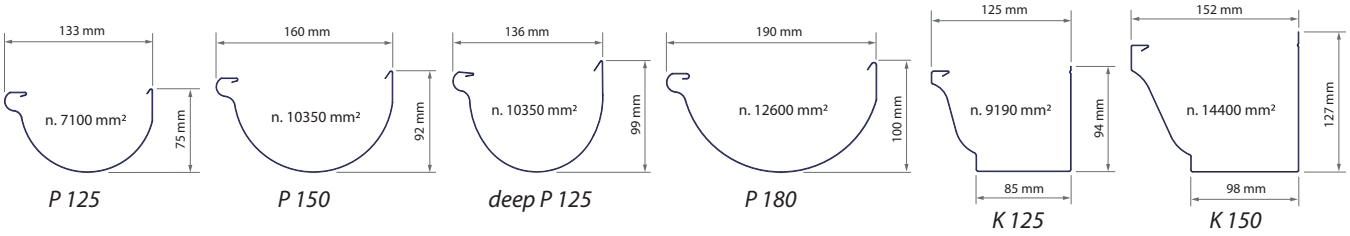
### Colors

The standard colors of the Pisko rainwater systems are white RR 20, light grey RR 21, grey RR 22, dark grey RR 23, red RR 29, tile red RR 750, dark brown RR 32, black RR 33 and anthracite RR 2H3. The rainwater systems can also be delivered in other RR and RAL color shades.

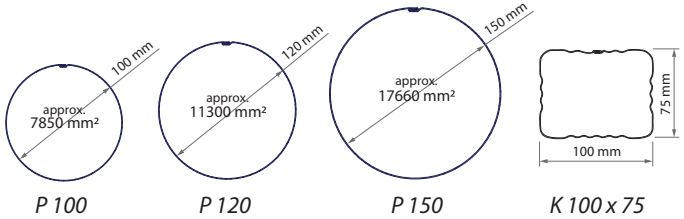
### Warranty

The Pisko rainwater system is provided with a technical warranty of 50 years and a coating warranty of 20 years, in accordance with the Piristeel product warranty.

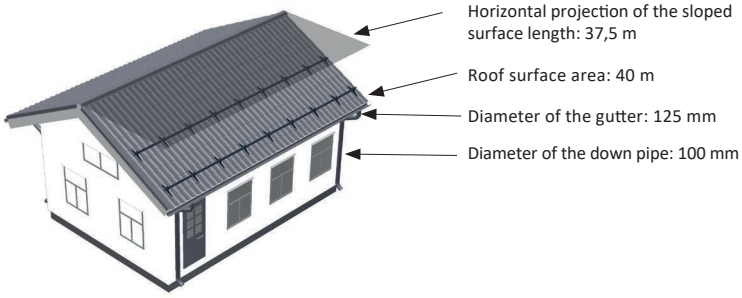
The gutter's cross-sections and the flow-through cross-sectional areas




Downspouts cross-sections and flow-through cross-sectional areas




Example picture: The rainwater system is measured in accordance to the table




**Downpipe's indicative dimensions (RT Reference Card 85-11020)**

| Horizontal projection of the flat surface (max) ($m^2$) [1] | Downpipe cross-sectional surface area ($mm^2$) | Round Pipe Diameter (mm) | Rectangular downpipes measurements (mm) |
|---|---|---|---|
| 80 | 4400...7900 | 75...100 [2] | 100 x 75, 120 x 80 |
| 150 | 7900...12300 | 100...125 | 120 x 100, 120 x 120 |
| 230 | 12300...17700 | 125...150 | 150 x 150 |

[1] For single down pipe

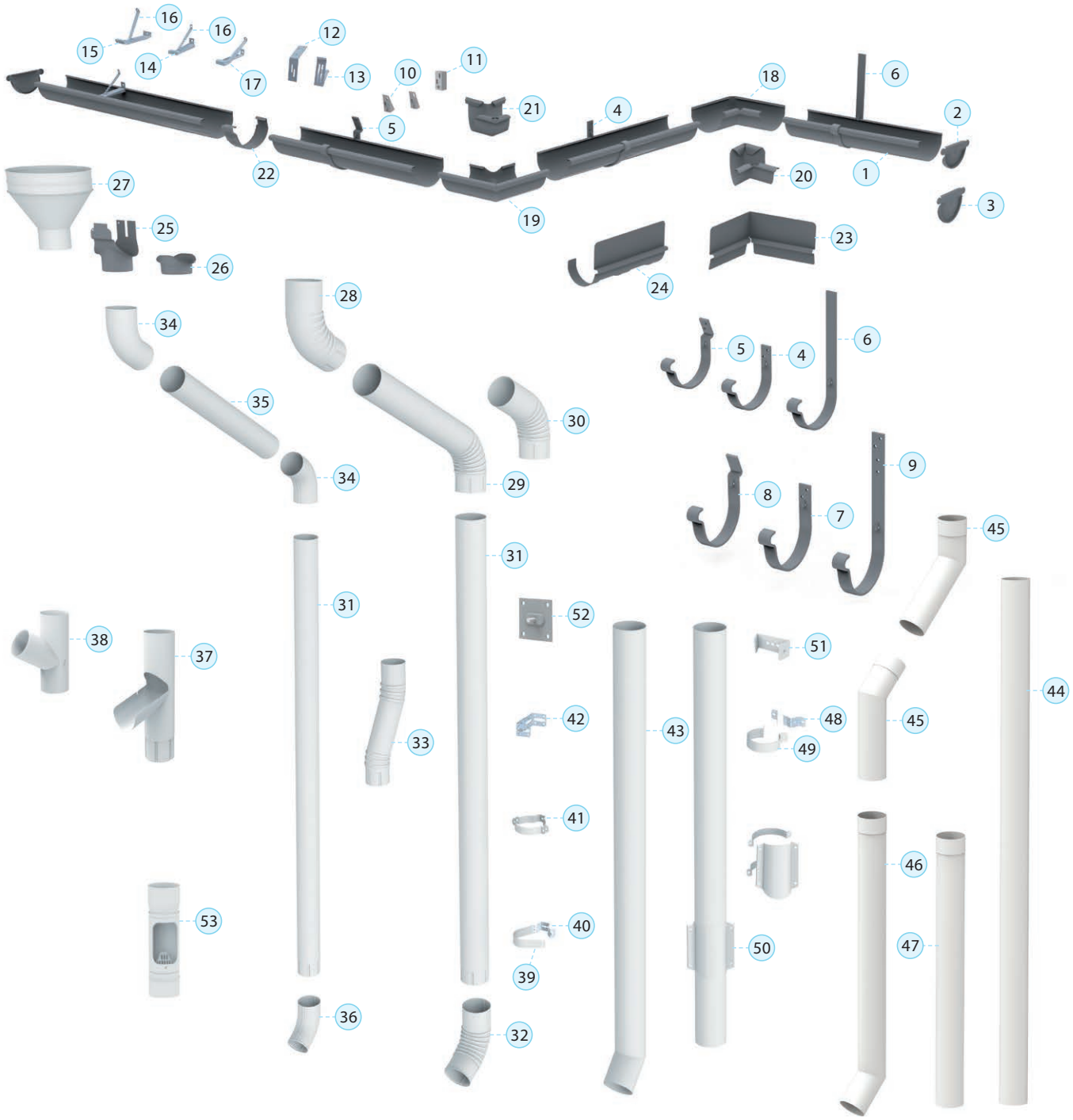
[2] Downpipes under 100 mm are not commonly used

**Guttering's indicative dimensions (RT Reference Card 85-11020)**

| Horizontal projection of the flat surface (maximum) ($m^2$) [1] | Gutter cross sectional surface area ($mm^2$) | Diameter of half round gutter (mm) |
|---|---|---|
| 40 | 3900... 6100 | 100...125 |
| 80 | 6100... 8800 | 125...150 |
| 150 | 8800...12000 | 150...175 |
| 230 | 12000...15700 | 175...200 |

[1] Equally falling toward the guttering. Running water distance is usually less than 10 m.

## PISKO ROUND RAINWATER SYSTEMS




**Round rainwater system parts**

1. Pisko gutters 125 mm, 150 mm and 180 mm
2. Pisko end cap
3. Pisko end cap, deep model
4. Pisko bracket, short
5. Pisko bracket, short, angled
6. Pisko bracket, long, bendable
7. Pisko bracket, deep model, short
8. Pisko bracket, deep model, short, angled
9. Pisko bracket, deep model, long, bendable
10. Bracket back wedge, thin 1:4 or thick 1:2,5
11. Bracket back block 19 mm
12. Bracket fastening piece under the roofing
13. Bracket back support
14. Hidden bracket 125 mm
15. Hidden bracket 150 mm
16. Support & adjustment piece for hidden bracket
17. Hidden bracket with support & adjustment piece
18. Pisko i/s miter
19. Pisko o/s miter
20. Pisko i/s miter, deep model
21. Pisko o/s miter, deep model
22. Pisko gutter joint
23. Gutter overflow protection, inside corner
24. Gutter overflow protection, straight
25. Pisko funnel pipe
26. Outlet
27. Large funnel
38. Upper bend, with wrinkles
29. Middle bend with wrinkles
30. Middle bend with wrinkles, short
31. Down Pipe, length 2,5 m
32. End pipe, with wrinkles
33. Passing bend
34. Down pipe bend, plain 100 mm
35. Middle pipe 100 mm
36. End pipe, plain 100 mm
37. Water robber, bendable end pipe
38. Y-pipe
39. Down pipe support strap
40. Down pipe support bottom
41. Down pipe support, 2-piece
42. Adjustable down pipe back support
43. Aggression pipe with end pipe, 2000 mm
44. Aggression pipe, straight 2000 mm
45. 100 mm bend for aggression pipe, 300 mm
46. 100 mm aggression pipe extension with end pipe, 1000mm
47. 100 mm aggression pipe extension, 1000 mm
48. Aggression pipe back support
49. Aggression pipe strap
50. Aggression pipe with checkout lid
51. Aggression pipe back support, center fastening
52. Fixing plate for down pipe support
53. Drain shoe with checkout lid 100/110 mm

## PISKO K-STYLE RAINWATER SYSTEMS


**K-Style Rainwater System**

1. K-style gutter 125 and 150 mm
2. End cap
3. Hidden Bracket
4. Support & adjustment piece for hidden bracket
5. Hidden bracket with support & adjustment piece
6. Bracket 5 x 25, short
7. Bracket 5 x 25, short, angled
8. Bracket 5 x 25, long, bendable
9. Bracket fastening piece under the roofing
10. Bracket back support
11. Bracket back wedge, thin 1:4 and thick 1:2,5
12. Bracket back block 19mm
13. Funnel pipe
14. Outlet
15. Upper bend, length 350 mm
16. Middle bend, length 900 mm
17. Down pipe, length 2200 mm
18. End pipe
19. Water robber, bendable end pipe
20. Down pipe support, strap
21. Down pipe support, bottom
22. Passing bend
23. B-bend
24. Aggression pipe with end pipe 2m
25. Aggression pipe back support
26. Adjustable down pipe back support

## PISKO RAINWATER SYSTEM APPLICATIONS

| Gutters | Applications |
|---|---|
| Half-round 125 mm<br>Half-round 125 mm, deep<br>K-style 125 mm | – detached and row houses<br>– constructed on-site with cut-to-size pieces |
| Half-round 150 mm | – detached and row houses, apartment buildings and industrial buildings<br>– constructed on-site with cut-to-size pieces |
| Half-round 180 mm<br>K-style 150 mm | – apartment buildings and industrial buildings, for expansive roofs |
| **Downpipes** | **Applications** |
| K 75 x 100 mm | – generally used model, well suited for buildings with K-style gutters |
| Round Ø 100 mm | – well suited for building with half-round or K-style gutters, row houses and detaches houses |
| Round Ø 120 mm | – apartment buildings and other buildings that require an oversized pipe due to their facade and expansive roof |
| Round Ø 150 mm | – for extremely expansive roofs, especially, if the number of pipes is limited<br>– renovations and constructions, where it is desired to maintain the building's original look, including the downpipe |

**Pisko Aggression Pipes**

Pisko's aggression pipes are designed for constructions, where the lower parts of the downpipes are exposed to damaging, and therefore the pipes require extra resistance.

Typical applications are, for example, factories,office buildings, schools and apartment buildings.

| | |
|---|---|
| Materials | Galvanized steel |
| Sizes | K-style:<br>1,5 x 85 x 105 mm<br>Round:<br>1,5 x 108 mm<br>1,5, x 127 mm<br>1,5 x 152,4 mm |
| Standard length | 2000 mm |

## PISKO SAFEGRIP LADDER SYSTEM

The Pisko SafeGrip ladders are designed for diversified use. The same ladder frames can be used as wall ladders, roof ladders and emergency ladders by using fasteners suitable for the application. A safe, easy and uninterrupted passage must be provided for chimneys, ventilation equipment and other structural elements that are situated on the roof and require regular access. A roof ladder must be used when the roof inclination is more than 1:8, but it is recommendable to use safe and appropriate passageways even on roofs with smaller inclinations. In addition, buildings that are more than 9 meters high must be equipped with fastening structures for safety ropes (Finnish Ministry of the Environment Decree on the safe use of buildings, January 1, 2018). When installed correctly, the Pisko SafeGrip ladder system can be used as a fixing point for a safety rope or fall protection equipment.

### Materials and dimensions

The parts for the Pisko SafeGrip ladder system are manufactured from steel that has been protected against corrosion. The ladder-frames are manufactured by riveting. Ladder frame material is galvanized steel and they are powder coated with paints that meet the requirements of Qualicoat standard class 1. The size of the rail is 25 x 45mm and the rung pipe has a diameter of 25mm. The rungs of the ladder have a unique mechanically made graining to improve the friction and safety significantly. The access width of the ladder is 400 mm. Standard lengths for ladders are 1.2 m, 2.1 m, 2.7 m and 3.3 m. The ladder frames are connected to each other using contractions already in place.

### Colors

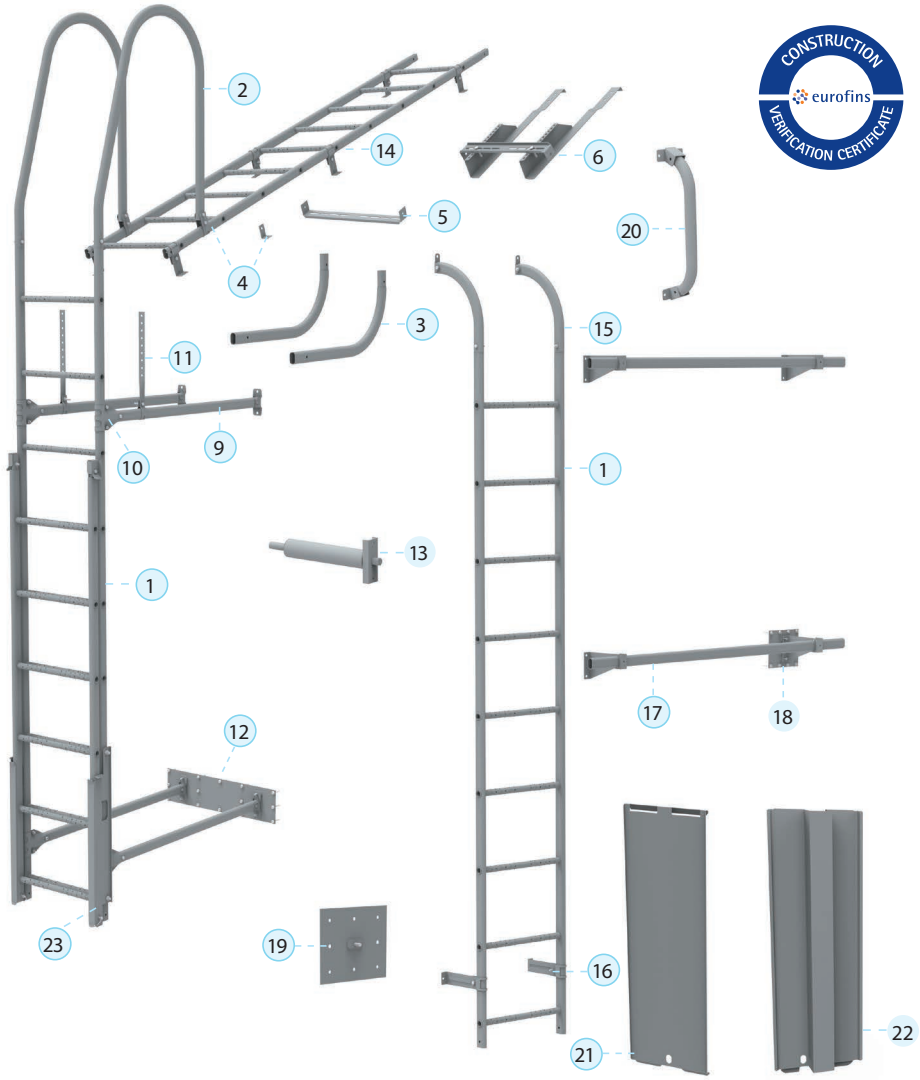
The Pisko SafeGrip ladder system has the following stock colors: spruce green RR 11, white RR 20, light grey RR 21, grey RR 22, dark grey RR 23, red RR 29, dark brown RR 32, black RR 33, tile red RR 750 and anthracite RR 2H3. The products can also be delivered in other RR and RAL color shades.

### Warranty

The Pisko SafeGrip ladder system is provided with a coating warranty of 15 years and a technical warranty of 50 years, in accordance with the Piristeel product warranty.

## PISKO SAFEGRIP WALL LADDERS

The Pisko SafeGrip wall ladders have been awarded with verification certificates through national approval.





**Ladder components**

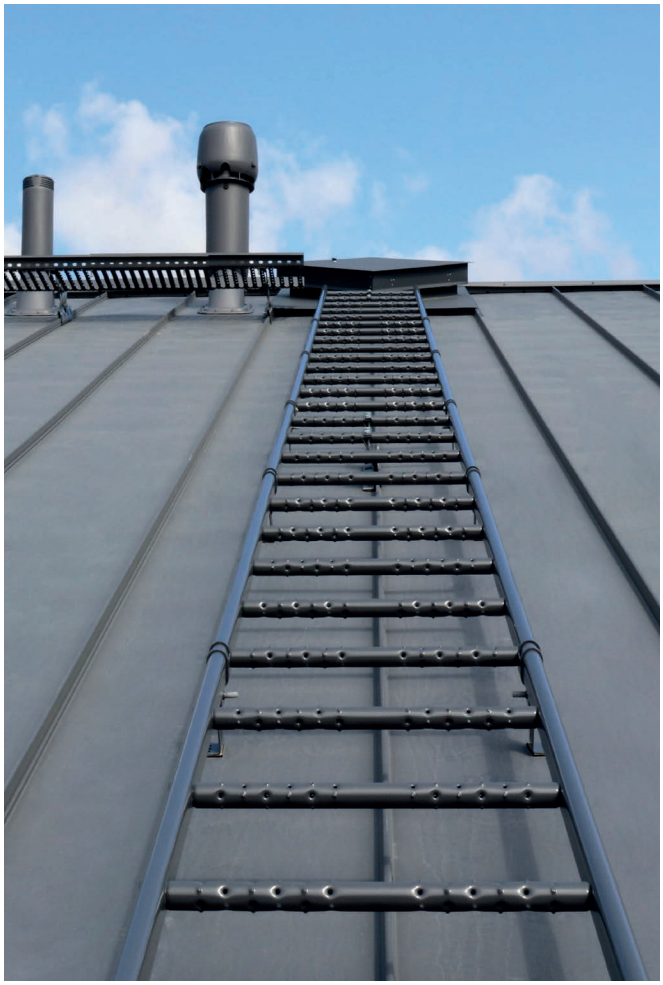
1. Pisko SafeGrip ladder
2. Arch / wide arch
3. Arch fastener to wall ladder
4. Arch fastener to roof, U and L models
5. Arch fastener to roof walkway
6. Arch fastener to tile roof
7. 600 mm fixing bracket for wide arch
8. Wide arch fasteners for roof ladder
9. Wall ladder fastener
10. Wall ladder clip
11. Eaves support
12. Fixing plate for wall ladder fastener
13. Insulating plaster fastener for wall ladder fastener
14. Roof ladder
15. Safety ladder arch
16. Safety ladder fastener
17. Emergency exit bar
18. Fixing plate for emergency exit bar fastener
19. Fixing plate, 1-bolt
20. Safety handle
21. Anti-climb plate
22. Anti-climb plate for vertical safety rail
23. Pisko sliding ladder

## PISKO SAFEGRIP ROOF LADDERS

The Pisko SafeGrip roof ladders are installed using fasteners suitable for each roof type. Standard EN 12951 provides two installation options for roof ladders: class 1 and class 2. Performance level of each roof ladder type is stated in respective Declaration of Performance. Using personal fall protection equipment, a person is only allowed to attach themselves to a roof ladder, which is installed in accordance with class 2. The Pisko SafeGrip roof ladders meet the requirements of class 2.

The standard for fixed roof ladders also requires that the rung surfaces must be designed so that they prevent slipping and the collecting of water and snow. EN 12951 standard does not apply to tile roof steps. The Pisko SafeGrip ladders also meet the requirements of the harmonized product standard in regard to the rung grip. Roof ladders cannot be used as snow guards therefore it is recommended that roof ladders are also protected with snow guards.

CE



### Bitumen roof

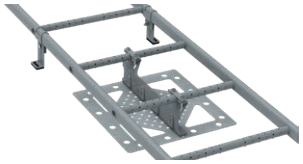
Roof ladder fastener, low
Total foot height 134 mm

### Profile metal sheet roof

Roof ladder fastener, high
Total foot height 173 mm

### Bitumen roof with mounting plate

Roof ladder central fastener + mounting plate for bitumen roofing + roof ladder fastener



### Standing seam roof, UniSeam

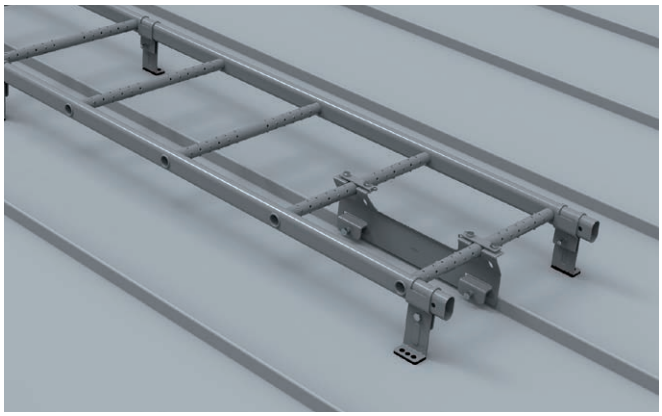
Roof ladder central fastener, Pisko UniSeam + SG Tightening Clamp, Pisko UniSeam + roof ladder fastener, low

### Tile roof

Roof ladder fastener, tile roof + batten bracket

### Lock seam roof 25/38 mm

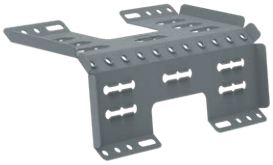
Roof ladder central fastener + Striking plate RK 25 mm/Striking plate RK 38 mm + Roof ladder fastener, low



On low slope roofs, a roof ladder solution with steps/treads should be used to make it easier to move on the roof. The Pisko product family's ladder steps can easily be installed on a SafeGrip ladder frame to facilitate moving on a low slope roof and maintaining balance underfoot. RT Card (RT 85-11132) which provides guidance on roof safety equipment, states that "Roof treads (roof ladder steps) are recommended for roofs with an inclination of ≤ 1:3 (≤ 18.4°)". In practice, steps usually improve the user experience even with inclination steeper than this recommendation, up to a 1:1 inclination. Pisko ladders steps for roof ladder can be adjusted at 9°-45° roof inclination angles and it can be fixed to already installed ladders. On roofs with pitch smaller than this it is reccommended to use roof walkway with Pisko MultiFast fastening solution as access way parallel to the slope (see more information on MultiFast on page 10.)

### Tile roof step*

### Roof step



### Roof ladder step level kit

Roof step acts as climbing and access solution on the roofs. The product is designed so that the opening in the product acts as a handhold when climbing. The roughened surface and raised edges prevent the foot from slipping off the step.

* The tile roof step is not covered by the standard EN 12951.

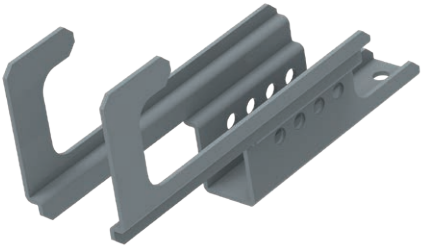
## Slip guard for loose ladder

Slip guard for loose ladder is a solution for sites where traditional wall ladders cannot be used to access the roof. The slip guards can also be installed in different parts of the building to secure the user's climbing on the ladder for various maintenance and inspection works. The slip guard solutions for loose ladders are tested according to SS 831342. The slip guard products are intended to prevent loose ladders from falling to the side or sliding backwards. The slip guard for loose ladder can also be attached to Pisko roof ladders and roof walkways using the slip guard for loose ladder, access way. The suitability of the products for different installation methods is described in more detail in the installation instruction.

### Installation options for slip guard for loose ladder

- Wall
- Standing seam roofs
- Profiled sheet metal roofs
- Waterproofing membrane roofs
- Underlay for tiled roofs
- Pisko roof walkways (Slip guard for loose ladder, access ways)
- Pisko roof ladders (Slip guard for loose ladder, access ways)

Slip guard for loose ladder



Slip guard for loose ladder, access ways

## PISKO FIXING PLATES

There must be a secure and safe way to fasten articled on the surfaces of the buildings. For instance when fastening different products on the surface of sandwich panel it must be taken into account that the load caused by the product is distributed evenly on the sheet metal surface of the panel. Pisko fixing plates can be used in various projects and purposes when there is a need for extra strong fastening solution or the regular fasteners do not fit properly.

Plates are installed on the wall with Pisko sheet metal screws or for example with HVAC screws. Water-tightness between the fasteners, plates and the surface of the building must be taken care of when installing the products. Possible requirements for fastening strength must be taken into account on a case-by-case basis.

### Material

Hot-dip galvanized structural steel that is coated with Finnish-made powder paint that meet the requirements of Qualicoat standard class 1. Bolts are of stainless steel. For compatible nut we recommend the M8 serrated flange bolt (used also in the SafeLine system) that has been specially treated to improve installability, or stainless steel M8 nyloc nut.

#### Fixing plate for wall ladder fastener

- Suitable for fastening Pisko Safegrip as a wall ladder on e.g. Sandwich panel
- Bolts on the fixing plates fit the wall ladder fasteners therefore it is very easy to adjust the wall ladder on the plate with a nut

#### Fixing plate for side ladder

- Suitable for fastening Pisko side ladder on e.g. Sandwich panel
- Fixing mathot is analogous to the fixing plate for wall ladder fastener

#### Fixing plate for downpipe support

- Used for fastening Pisko rainwater system's downpipes on Sandwich panels

#### Fixing plate for emergency exit bar fastener

- Two-bolt solution for fastening for fastening e.g. emergency exit bart that are used with Pisko safety ladders
- Suitable for fastening emergency exit bars on Sandwich panels
- Can also be used on other surfaces to distribute the working load of emergency exit bard on a larger area

#### Fixing plate, 1-bolt

- Multi-purpose fixing plate for fastening items on e.g. Sandwich panels
- Suitable for fastening Pisko safety ladder
- 1-bolt fixing plate can also be used to install other small articles, such as lighting fixtures on Sandwich panels to create a firm, quality result

## PISKO SHEET METAL SCREW

Pisko sheet metal screw Ø 6,3 x 19 HX8 A2 is a special screw for vaious fastening applications where only sheet metal is used as the fastenin substrate. The Pisko sheet metal screw can be used to fasten accessories and products reliably and safely. Made of stainless steel, the screw can withstand harsh conditions for a long time and the high-quality EPDM sealant prevents water from entering the structure through the screw body. The sealant also insulates metal surfaces from each other, avoiding the possibility of galvanic corrosion. The Pisko sheet metal screw has been extensively tested, so we can provide designers with test-based sizing values for the design of screw fastenings.

Pisko sheet metal screw is also primarily recommended for fixing Pisko fixing plates designed for Sandwich panels and for fixing other Pisko products directly to the sheet metal (e.g. Pisko MultiFast or Pisko Solar products fixed directly to the surface of a steel roof).

## PISKO ROOF SAFETY PRODUCTS

The roof walkways are used as extensions of the wall and roof ladders in order to create safe access routes to maintenance targets on the roofs, such as the chimney. Snow guards are used to prevent dangerous situations that may be caused by snow and ice falling from the roof. In additions, the snow stoppers can be used to protect structures installed on the roof, such as roof ladders. The snow guard must be positioned as close to the eaves as possible so that the load of the snow is directed towards load-bearing structures.

### Colors

The Pisko roof safety equipment has the following stock colors: spruce green RR 11, light grey RR 21, grey RR 22, dark grey RR 23, red RR 29, dark brown RR 32, black RR 33, tile red RR 750 and anthracite RR 2H3. The products can also be delivered in other RR and RAL color shades.

### Warranty

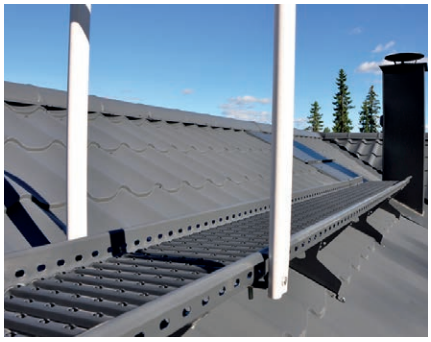
The Pisko roof safety equipment is provided with a coating warranty of 15 years and a technical warranty of 50 years, in accordance with the Piristeel product warranty.

## PISKO ROOF WALKWAYS

An uninterrupted passage must be provided for structural elements on the roof that require maintenance and regular access. Furthermore, a roof walkway must be used when the roof inclination is more than 1:8, but it is recommendable to use safe and appropriate passageways even on roofs with smaller inclinations. If the height of the building is more than 9 meters, safety rope fixing structures must be provided (Ministry of the Environment Decree on the safe use of buildings on January 1, 2018). Standard EN 516 provides two installation options for roof walkways: class 1 and class 2. Using personal fall protection equipment, a person is only allowed to attach themselves to a roof walkway, which is installed in accordance with class 2.

The Pisko roof walkways are of solid construction, highly durable and the snow will permeate them easily, and they meet the strength requirements of the standard EN 516 class 2. The roof walkways are CE marked.

– material galvanized steel + powder coating
– length 3000 mm and access width 350 mm
– solid construction
– can be easily and solidly extended by overlapping
– anti-slip in the grating
– material of the fasteners: galvanized steel + powder coating

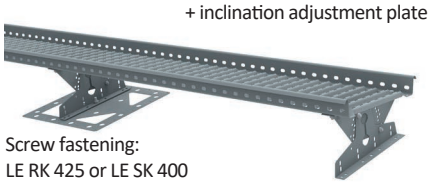


## PISKO ROOF WALKWAYS

Roof walkways and snow guards can be fastened using the same roof fasteners. When installing the roof walkways the inclination adjustment plate is used in addition to the roof fastener.

### Bitumen roof

Mounting plate + LE SK 350
+ inclination adjustment plate



Screw fastening:
LE RK 425 or LE SK 400
+ inclination adjustment plate

### Tiled steel roof with 400 mm batten spacing

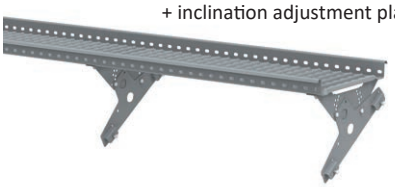
SG Tile sheet roof 400
+ inclination adjustment plate

### Tile roof

LE TK AP 2-bar
+ inclination adjustment plate

### Standing seam roof, UniSeam

SG Fastener, Pisko UniSeam
+ SG Tightening Clamp, Pisko UniSeam
+ inclination adjustment plate



### Tiled steel roof with 350 mm batten spacing

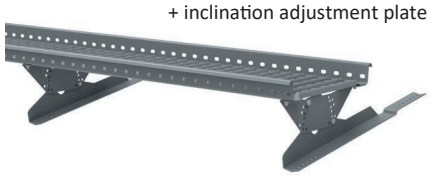
SG Tile sheet roof 350
+ inclination adjustment plate

### Load bearing profiled sheet, height over 45 mm*

LE 350 on top of profile metal sheet roof
+ inclination adjustment plate

### Minerit roof

LE vartti (length 500...1350)
+ inclination adjustment plate

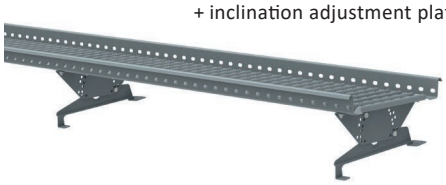


### Decra roof

LE DECRA + inclination adjustment plate

### Ruukki Finnera and Ruukki Hyygge roofs

SG Ruukki Finnera 330 / SG Ruukki Hyygge 290
+ inclination adjustment plate



*For low profiles (h≤45 mm) the recommended method is to fix the brackets to the under structures (battens) for example with a bracket LE SK 400.

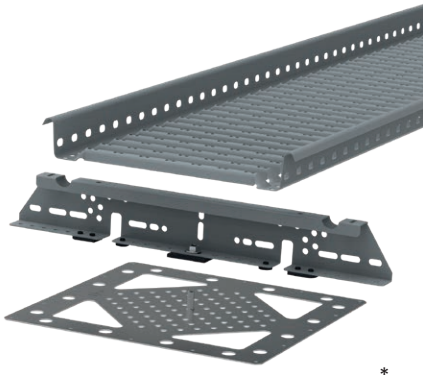
## PISKO MULTIFAST OPTIM FASTENING SOLUTION

Pisko MultiFast Optim fixing solution has been developed based on customer needs, especially for the secure and safe fixing of access ways on low slope roofs. Pisko Multifast Optim has been type-tested on wide range of roofing materials. Roof walkway can be installed on low slope roofs either parallel to the slope or in normal installation direction. For roof ladders there is no limitations on slope – the choice of access ways should always be made to the advantage of the user experience. Rung ladders are not user-friendly on low slope roofs.

**Slope limitations**
Roof walkway as an access way parallel to the slope: Max. 12°
Roof walkway for low slope roof: Max. 14°

Comprehensively tested MultiFast Optim is a versatile solution, which reduces the number of special products, thus speeding up project delivery. Versatile solution also allows planners to use appropriate access routes in much more varied and simple way than before.

**Applications**
* waterproofing membrane roof bracket in the pictures



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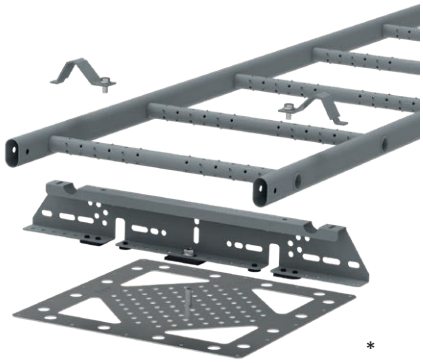

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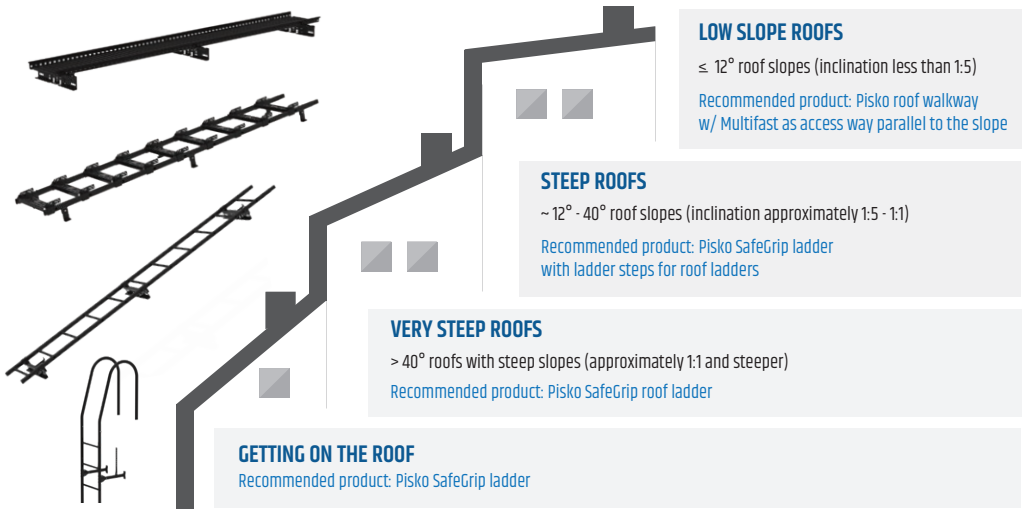
**Roof walkway as access way parallel to the slope**
- Low slope steel roofs (profiled sheets)
- Low slope waterproofing membrane roofs
- Low slope standing seam roofs

**Roof ladder**
- Steel roofs
- Tile roofs
- Waterproofing membrane roofs
- Standing seam roofs

**Roof walkway for low slope roofs**
- Low slope steel roofs
- Low slope waterproofing membrane roofs
- Low slope standing seam roofs

## RECOMMENDATIONS FOR THE USE OF ACCESS ROUTES PARALLEL TO THE SLOPE OF THE BUILDING ROOF




Roof-mounted access ways parallel to the slope in this picture can be implemented with Pisko MultiFast fastening solution or with suitable fastener for the roofing material in question.

## PISKO SNOWDEFENCE SNOW GUARDS

Snow guards are a very important part of building safety. Snow guards should always be used at least at the entrance and access points and to protect the winter play and living area, the street and other public areas around the building from falling snow and ice. In addition snow guards are used to protect roof ladders, ventilation pipes and inlets as well as other elements on the roof. It is recommended that snow guards are always installed at eave length on all buildings to allow for efficient performance and simplified planning.

The Pisko SnowDefence product family offers suitable solutions for even the most demanding projects and the range enables the designer to make the right choice based on a site-specific and needs assessment. In addition to pipe snow guard, the range also includes higher performance snow fences that are more effective in preventing hazardous situations.

The snow guard and its fixing shall withstand at least a load of 5kN/m parallel to the pitched roof area. The Pisko snow guards meet the requirements of the RT 85-11132 instruction card (roof safety equipment). The Pisko snow guards have been awarded with verification certificates through national approval.

- material of the snow guards and fences: galvanized structural steel + powder coating
- diameter of the snow guard pipe 32 mm and length 3000 mm
- length of the snow fences: 150 Compact 1200 mm and 2400 mm, 200 Heavy 3000mm
- length of the snow rake 1200 mm
- material of the snow guard fasteners: galvanized structural steel + powder coating

## PISKO SNOWDEFENCE BASIC SNOW GUARDS

The 2-pipe Pisko snow guard is a functional basic solution that meets the minimum requirements of regulations and design guidelines in terms of both height and strength. The 2-pipe system works best on roofs that are not particularly sloped. A range of additional profiles are also available for the 2-pipe snow guard system to more effectively prevent the movement of snow and ice under the pipes. The additional profiles can also be retrofitted.

### Bitumen roof

Mounting plate + LE SK 350
Screw fastening: LE RK 425 or LE SK 400

### Tiled steel roof with 400 mm batten spacing

SG Tile sheet roof 400

### Tile roof

LE TK AP 2-bar

### Standing seam roof, UniSeam

SG Fastener, Pisko UniSeam
+ SG Tightening Clamp, Pisko UniSeam

### Tiled steel roof with 350 mm batten spacing

SG Tile sheet roof 350

### Load bearing profiled sheet, height over 45 mm*

LE 350 on top of profile metal sheet roof

### Minerit roof

LE vartti (length 500...1350)

### Decra

LE DECRA

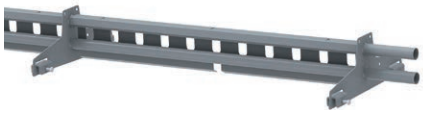
### Ruukki Finnera and Ruukki Hyygge roofs

SG Ruukki Finnera 330
SG Ruukki Hyygge 290

## ADDITIONAL PROFILES

Additional types of snow guards can be used to ensure even the smallest amounts of snow or ice drips are prevented.

Extra profile for snow guard pipes



Ice stoppers for profile valleys

*) For low pro les (h≤45 mm) the recommended method is to x the brackets to the under structures (battens) for example with a bracket LE SK 400.

## PISKO SNOWDEFENCE PREMIUM SNOW GUARDS

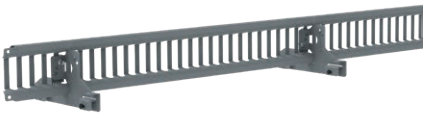
When more is required of the snow guards in your building, the Premium models in the Pisko SnowDefence range are the right choice. The Premium range includes a 3-pipe snow guard and two snow fences.
Pisko SnowDefence 200 Heavy, the most powerful and efficient snow fence in the range is specifically designed for high and large seam roof buildings where the snow fence is required to perform at its best. The snow fence 150 Compact and the 3-pipe snow guard are suitable for larger houses and buildings where the heavy is unnecessarily rigid or where the roof is other than a standing seam roof.
When designing, it is also important to pay attention to the installation method. The fences are fixed in place with brackets at the point of installation, so that they can also be installed between roof structures. The pipes, on the other hand, are inserted into the snow guard brackets at the end of the snow line, which in some cases can be difficult or even impossible.

## PISKO SNOWDEFENCE 150 COMPACT SNOW FENCE

The Pisko SnowDefence 150 Compact snow fence is stylish and sturdy. Its size makes it particularly suitable for larger houses and buildings. With seam roofs, the snow fence can be equipped with a snow rake. The snow rake effectively prevents snow and ice from falling from under the snow guard.
The height of the snow fence profile is 150 mm and when installed the total height with standing seam roofs is 181 mm. The 150 Compact snow fence is higher than a conventional pipe snow guard and is therefore recommended for use on steeper slippery roofs (>1:4) as well as under solar panels, for example, where sufficient snow guard height is important.

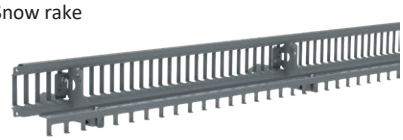
### Snow fence for standing seam roof

SG Fastener UniSeam 150 Compact
+ SG Tightening Clamp, Pisko UniSeam
+ Locking bracket for snow fence 150 Compact



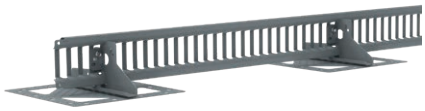
### Snow fence for standing seam roof with snow rake

SG Fastener UniSeam 150 Compact
+ SG Tightening Clamp, Pisko UniSeam
+ Locking bracket for snow fence 150 Compact
+ Snow rake



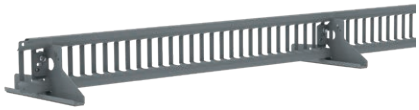
### Snow fence for bitumen roof

Bracket for sheet metal roofs 150 Compact
+ Mounting plate for waterproofing membrane roof + Locking bracket for snow fence 150 Compact



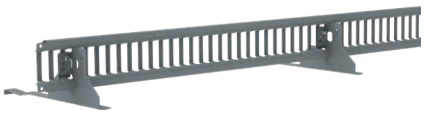
### Snow fence for profiled sheet metal roof

Bracket for sheet metal roofs 150 Compact
+ Locking bracket for snow fence 150 Compact



### Snow fence for tile roof

Bracket for tile roof (aux. batten) 150 Compact
+ Locking bracket for snow fence 150 Compact



### Snow rake for standing seam roof

Multi-purpose standing seam bracket
+ SG Tightening Clamp, Pisko UniSeam

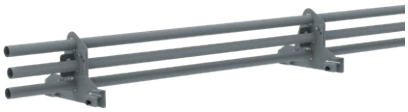
Snow rake can also be installed on a standing seam roofs as a separate solution.

## PISKO SNOWDEFENCE 150 COMPACT 3-PIPE SNOW GUARD

The 3-pipe snow guard has the same functionality as the 150 Compact snow fence. The height is exactly the same as the snow fence, so the 3-pipe snow guard also provides a higher snow guard solution than the traditional 2-pipe snow guard.

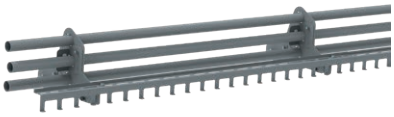
**Snow guard for standing seam roof**

SG Fastener UniSeam 150 Compact
+ SG Tightening Clamp, Pisko UniSeam
+ Locking bracket for snow guard pipes



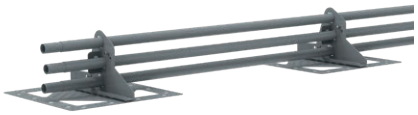
**Snow guard for standing seam roof with snow rake**

SG Fastener UniSeam 150 Compact
+ SG Tightening Clamp, Pisko UniSeam
+ Locking bracket for snow guard pipes
+ Snow rake



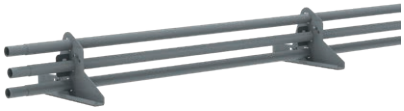
**Snow guard for bitumen roof**

Bracket for sheet metal roofs 150 Compact
+ Mounting plate for waterproofing membrane roof + Locking bracket for snow guard pipes



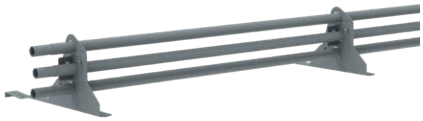
**Snow guard for profiled sheet metal roof**

Bracket for sheet metal roofs 150 Compact
+ Locking bracket for snow guard pipes

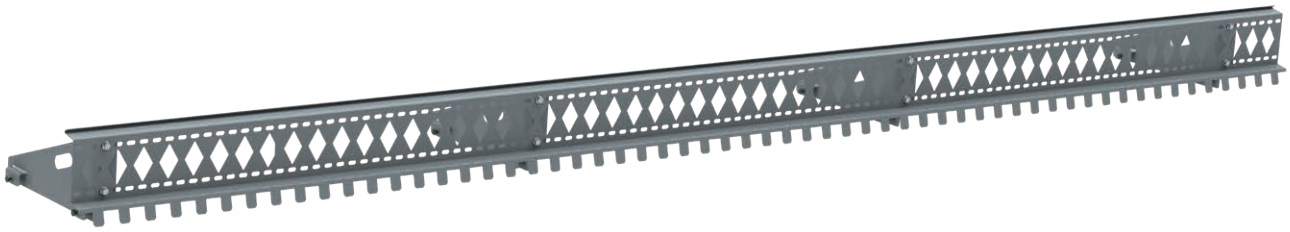


**Snow guard for tile roof**

Bracket for tile roof (aux. batten) 150 Compact
+ Locking bracket for snow guard pipes

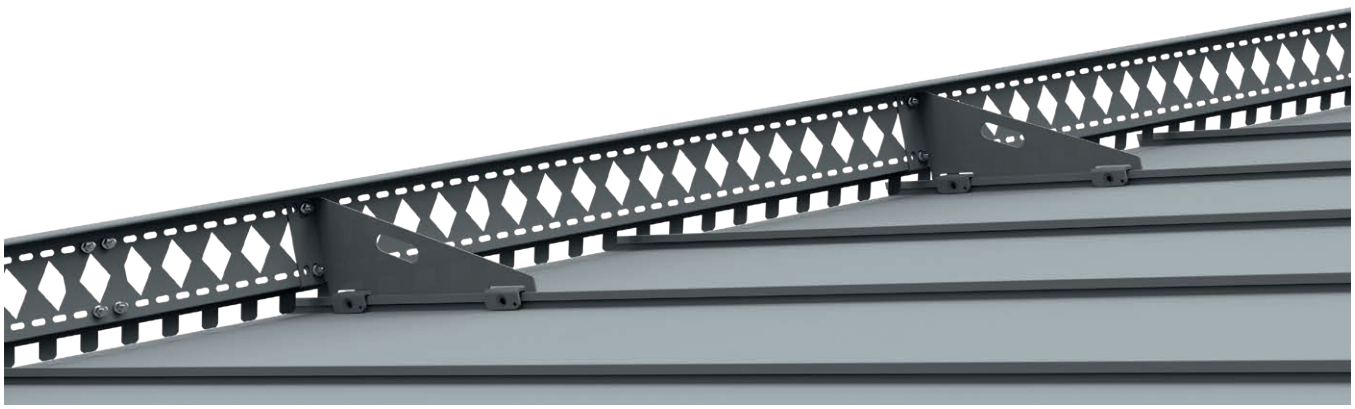


## PISKO SNOWDEFENCE 200 HEAVY SNOW FENCE



The Pisko SnowDefence 200 Heavy is the most powerful and efficient snow fence in the Pisko SnowDefence family. 200 Heavy is designed for tall and large buildings where the highest performance is required especially from a snow guard with a seam roof.

The snow fence 200 Heavy is recommended when the best possible protection against falling snow and ice is required, for example from the roofs of tall buildings in cities. Snow fence has an integrated ice rake at the bottom of the profile to prevent dangerous snow and ice run-off under the snow fence. The height of the snow fence is 200 mm.



## MAXIMUM LENGTH OF ROOF SLOPE (RT Reference Card 85-11132)

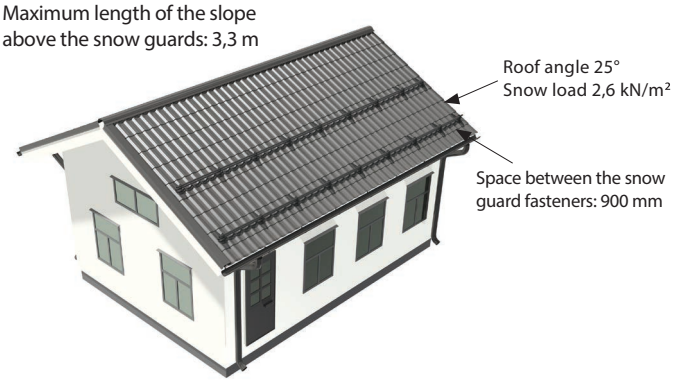
Indicative figures for the maximum distance (m) of the roof slope above the snow guard on a smooth surface. The maximum distance on coarse roofs, such as bitumen roofs can be increased by 1.3 – 1.5 times the stated amount. The snow load values shown are the actual snow loads on a roof.

| Roof's inclination angle (°) and snow ratio (the ratio of the slope to the horizontal width of the roof pane) | Maximum length of slope above the snow guards | | | | | |
|---|---|---|---|---|---|---|
| **The characteristic value of the snow load on the roof: 1,8 kN /m²** | | | | | | |
| **Space between the snow guard fasteners** | 0,5 m | 0,6 m | 0,75 m | 0,9 m | 1,0 m | 1,2 m |
| Roof's inclination angle and snow ratio | | | | | | |
| < 15°, (1:3,7) | 21,4 | 17,9 | 14,3 | 12,0 | 10,7 | 9,0 |
| 15…22°, 1:3,7…1:2,5 | 11,4 | 9,5 | 7,6 | 6,3 | 5,7 | 4,8 |
| 22…27°, 1:2,5…1:2 | 8,4 | 7,0 | 5,6 | 4,7 | 4,2 | 3,5 |
| 27…37°, 1:2…1:1,3 | 7,4 | 6,2 | 4,9 | 4,1 | 3,7 | 3,1 |
| 37…45°, 1:1,3…1:1 | 9,0 | 7,5 | 5,9 | 5,0 | 4,5 | 3,7 |
| **The characteristic value of the snow load on the roof: 2,0 kN/m²** | | | | | | |
| **Space between the snow guard fasteners** | 0,5 m | 0,6 m | 0,75 m | 0,9 m | 1,0 m | 1,2 m |
| Roof's inclination angle and snow ratio | | | | | | |
| < 15°, (1:3,7) | 19,1 | 16,1 | 12,9 | 10,8 | 9,6 | 8,1 |
| 15…22°, 1:3,7…1:2,5 | 10,2 | 8,6 | 6,9 | 5,7 | 5,1 | 4,3 |
| 22…27°, 1:2,5…1:2 | 7,6 | 6,3 | 5,1 | 4,2 | 3,8 | 3,2 |
| 27…37°, 1:2…1:1,3 | 6,7 | 5,6 | 4,4 | 3,7 | 3,3 | 2,8 |
| 37…45°, 1:1,3…1:1 | 8,2 | 6,8 | 5,3 | 4,5 | 4,1 | 3,3 |
| **The characteristic value of the snow load on the roof: 2,6 kN/m²** | | | | | | |
| **Space between the snow guard fasteners** | 0,5 m | 0,6 m | 0,75 m | 0,9 m | 1,0 m | 1,2 m |
| Roof's inclination angle and snow ratio | | | | | | |
| < 15°, (1:3,7) | 15,0 | 12,5 | 9,9 | 8,3 | 7,5 | 6,2 |
| 15…22°, 1:3,7…1:2,5 | 8,0 | 6,6 | 5,3 | 4,4 | 4,0 | 3,3 |
| 22…27°, 1:2,5…1:2 | 5,8 | 4,8 | 3,9 | 3,3 | 2,9 | 2,4 |
| 27…37°, 1:2…1:1,3 | 5,2 | 4,3 | 3,4 | 2,8 | 2,6 | 2,1 |
| 37…45°, 1:1,3…1:1 | 6,2 | 5,2 | 4,1 | 3,5 | 3,1 | 2,6 |

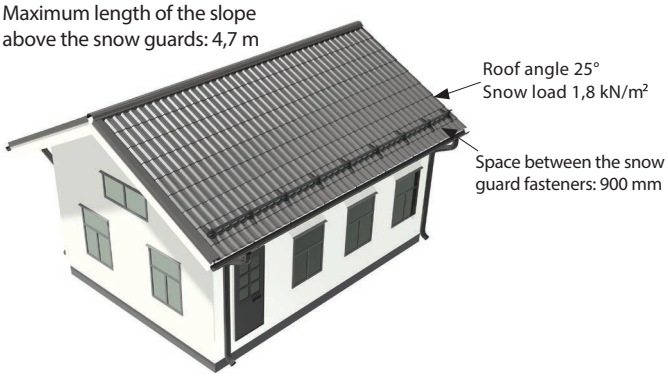
Pisko Snow Guards are capable of bearing a load of at least 5 kN/m, in the direction of the inclined roof. By following the values in the table these requirements are fulfilled.

**PICTURED IS AN EXAMPLE OF SNOW GUARDS BEING USED ACCORDING TO THE TABLE.**

Maximum length of the slope above the snow guards: 3,3 m




Maximum length of the slope above the snow guards: 4,7 m



## PISKO SAFELINE WIRE SYSTEM

With Pisko SafeLine wire system it is safer than ever to walk on building roofs. Pisko SafeLine wire system is safe and functional total solution for a uniform safety rope anchoring point. The user is attached to the wire system all the time to prevent falling. In the event of a fall, the system will safely stop the fall. The user attaches himself to the system at ground level and does not have to move the safety rope from one anchoring point to another at any point when moving above the ground level. The user only disconnects from the system when returning to the ground. The system also prevents the user from moving unnecessarily in the most dangerous areas of the roof.

Pisko SafeLine wire system is a simple package. It consists of a couple of main components and components supplementing the functionality of the system. The hinge part of the fastener locks the wire in place, so it is not necessary to thread the wire through the wire holder brackets. There is also no need to tension the system separately. System is installed to the appropriate tension at once. Wire can be installed in one length and, if necessary, in shorter lengths. The system is certified as a whole, i.e. type testing has been carried out with the fixing systems in such assembly as it is meant to be used in a building. This makes the work of designers much easier. The system has P-marking which indicates that the technical requirements are met in full. The glider has been certified as a part of the Pisko SafeLine system and also as a personal protective equipment and it has a CE-marking in accordance with EN 795.

### Material

Pisko SafeLine is a long-lasting system made of stainless steel. Glider is made of acid-resistant steel.

### Warranty

The wire system has a technical warranty for 50 years.


**SafeLine wire system parts**

1 Wire holder bracket set
2 Wire holder bracket set for ladder
3 Glider stopper kit for ladders
4 Glider end stop set for wire holder bracket
5 Wire ending bracket set
6 Wire end protector
7 Glider for 8 mm steel rope
8 Pisko SafeLine wire 8 mm
9 On-site wire extension terminal 12.5 / 8 mm

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## PISKO SAFELINE WIRE SYSTEM

Pisko SafeLine wire system enables easy and safe implementation of uniform safety rope anchoring point, also for roof ladders.

### PISKO SAFELINE WIRE SYSTEM STAND-ALONE FASTENING SOLUTIONS

System is recommended to be installed as a part of Pisko access ways, to comply with the building code and to improve the long-term durability of the roofing, but it can also be installed directly to roof structure with separately type-tested fastening solutions. Stand-alone systems need to be planned carefully to make sure walking on the roof is user-friendly, despite the lack of access ways, taking into account the long-term durability of the roofing.

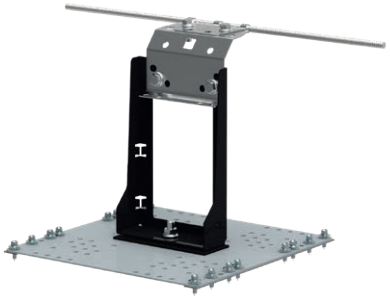
### Pisko SafeLine for standing seam roof

Pisko SafeLine can be installed on seamed roofs with mounting platform for anchor point which is based on the patented UniSeam fastening technology. Wire holder bracket is mounted on the specially developed fixing support, which can also be equipped with anchor point indicator. The slope of the seamed roof must be taken into account, as Pisko SafeLine is primarily a fall arrest system.

### Pisko SafeLine for bitumen roof

Pisko SafeLine can be installed on a suitable, at least TL2 class bitumen roof with mounting plate for waterproofing membrane roof. This method makes the fixing very strong and waterproof. Wire holder bracket is mounted on the specially developed fixing support, which can also be equipped with anchor point indicator. The long-term durability of the waterproofing membrane must be taken into account when planning and implementing the access route.

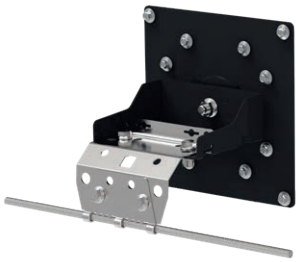
### Pisko SafeLine for steel roofs



Pisko SafeLine can be installed on structural steel roofs with a minimum thickness of 0.60 mm using Pisko sheet metal screws. The fixing plate has been designed to allow installation on a wide range of patterns. The slope of the roof must be taken into account, as Pisko SafeLine is primarily a fall arresting safety system.

### Pisko SafeLine for Sandwich-panel

The Pisko SafeLine can also be installed on a Sandwich-panel. Fixing is done with the Pisko Strong wall mounting plate. The wall fixing solution can also be fixed to other wall structures. The installation instructions provide more detailed information requirements for Sandwich-panels or other wall construction.

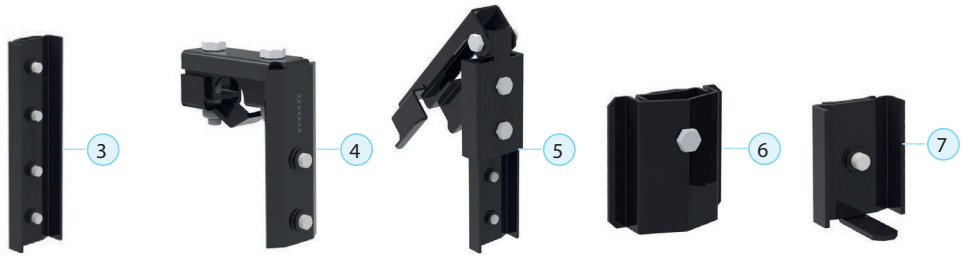


## SAFETY EQUIPMENT

Safety accessories are used with the Pisko ladder and roof safety products, according to the requirements of the site and to the valid building regulations. The safety equipment is delivered according to the roof safety equipment and ladder color selection.

### PISKO VERTICAL SAFETY RAIL SYSTEM

If the height of the building is more than 9 meters, safety rope fixing structures must be provided (Ministry of the Environment Decree on the safe use of buildings on January 1, 2018). The Pisko vertical safety rail is the safety equipment primarily used with the Pisko ladders. The Pisko vertical safety rail system has a CE marking. The benefits of the system include light weight, comfort and fast installing.



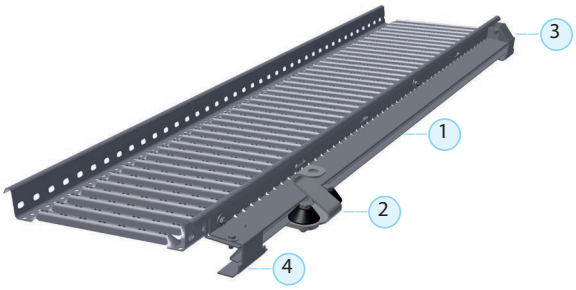


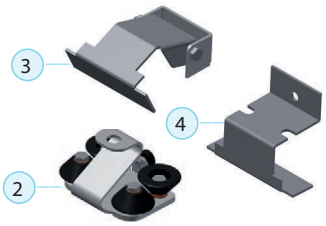
**Pisko vertical safety rail**

1. Pisko vertical safety rail 2400mm
2. Pisko end bow 1900mm
3. Pisko vertical safety rail joint, RR 33
4. Pisko rung fastener, RR 33
5. Pisko releasable carriage stopper (upper end), RR 33
6. Pisko fixed carriage stopper (upper end), RR 33
7. Pisko fixed carriage stopper (lower end), RR 33
8. Pisko climbing carriage


### PISKO HORIZONTAL RAIL SYSTEM

Buildings that are more than 9 meters high must be equipped with fastening structures for safety ropes. The preferred safety rope fixing structure is a safety rail installed on the roof walkway. The Pisko horizontal rail system has been awarded with verification certificates through national approval. The benefits of the Pisko horizontal rail system include light weight, comfort and fast installation.




**Horizontal Safety Rail Accessories**

1. Horizontal Profile Package 3000 mm
2. Horizontal Carriage
3. Releasable Carriage Stopper
4. Fixed Carriage Stopper

VTT EXPERT SERVICES OY
VARMENNUSTODISTUS
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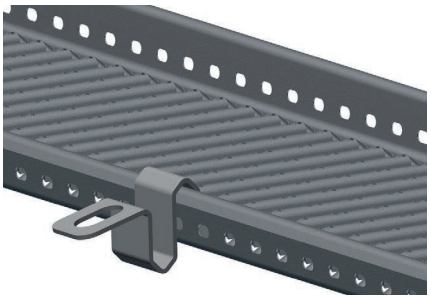
## SAFETY EQUIPMENT

### SAFETY RAILING FOR ROOF WALKWAY, ROPE FASTENER AND SAFETY RAILING FOR LADDER

The roof walkway safety rail and rope fastener, and roof ladder safety rail are also included in the Pisko safety equipment product range. Safety railings have not been tested as fixing point for safety ropes so they can only be used as additional security.

Rope fastener



Roof walkway safety railing

Roof ladder safety railing

## PISKO SEALANTS

When products are fastened appropriately on the roof they serve their purpose for a long time. It is recommended that correctly fastened products are sealed with Pisko sealants that are specially designed to fit perfectly with Pisko fasteners. These sealants ensure fixings are waterproof and they also minimize the strain on the roof caused by the fasteners. The Pisko sealants are easy to use, easy to install and long-lasting. They are manufactured in Finland from recyclable and weatherproof thermoplastic elastomer (TPE).

Pisko 2+1 seal

Seal set, SG tile sheet 350

Rubber sealant pair

Seal for roof ladder fastener

## SAFETY EQUIPMENT

The Pisko solar brackets are carefully tested to be safe and easy to use. The durability of the Pisko Solar brackets has been tested for each roof type 1) directly from the fastening surface out and 2) in the direction of the incline of the roof. Pisko Solar roof brackets are extremely strong. At the same time, the brackets are highly resistant to deforming. Brackets that endure wind and snow loads without bending boost the life of a roof significantly and keep the roof covering functional and watertight. Individual Pisko Solar brackets endure static pulls of up to 4.5 kN straight away from the fastening surface. As a system, the durability is multiplied as the number of brackets and size of the solar panel field increase as well as with the stiffening effect of the fixing rails and fastening of the panels.

Piristeel manufactures Pisko Solar brackets using high-strength galvanized steel that is always powder-coated with Finnish-made paints that meet the requirements of Qualicoat standard class 1 to maximize the corrosion protection. Color in all Pisko solar brackets is black RR33. Brackets are provided with a coating warranty of 15 years and a technical warranty of 50 years, in accordance with the Piristeel product warranty. The Pisko Solar roof bracket range includes four standard bracket models. The brackets make it possible to fasten the solar panel fastening rails from the underside or from the front on the eaves side. Pisko solar brackets are versatile and their edges are rounded and safe to handle. This makes them easy to install.

Pisko Solar bracket, Pisko Uniseam

for snap-lock and mechanically seamed roofs

Pisko Solar bracket, flat roofs

for e.g. bitumen and PVC roofs

Pisko Solar bracket 425

for e.g. trapezoidal profiles, tile sheet roofs, bitumen and PVC roofs

Pisko Solar bracket, tile roof

for tile roofs

Pisko Solar bracket, tile roof

auxiliary batten fastening
for tile roofs / straight tile roofs

Additional fastening for tile roof

## PISKO ANCHOR POINTS

The Pisko anchor point can be used for creating anchor points on all surfaces able to withstand at least 10 kN of static and dynamic loads at the anchor point. The product is particularly well-suited for creating anchor points on low-pitched roofs. The Pisko anchor point, tested to meet the EN 516 Class 2 requirements, is intended to secure a suddenly falling person. The anchor point has been granted a RISE product certificate for the installation configurations shown below, in accordance with the Swedish national approval criteria.

CERTIFIERAD
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C900083

The Pisko anchor point is securely installed on the platform with the customized stainless steel fixings. These fixings specifically designed for this purpose are available from Piristeel. Water tightness and heat insulation are secured with a high-quality EPDM sealing solution customized for the product. Especially on large roof surfaces, we recommend installing an easy-to-spot Pisko anchor point indicator sign with a reflecting surface. This makes it easier to find the anchor point even from under heavy snow loads. The Pisko anchor point is made of strong, hot dip galvanized structural steel and coated with completely TGIC-free, Finnish-made high quality powder paint, fulfilling the Qualicoat 1 criteria. When properly installed, used and maintained, this product provides a long-lasting solution for improving the operational safety of buildings.

### Pisko anchor point for standing seam roof, Pisko UniSeam

### Pisko anchor point for standing seam roof, Pisko UniSeam

### Pisko anchor point for waterproofing membrane roof

The Pisko anchor point can also be installed on a Sandwich-panel. Fixing is done with the Pisko Strong wall mounting plate. The wall fixing solution can also be fixed to other wall structures. The installation instructions provide more detailed information requirements for Sandwich-panels or other wall construction.

## Roof ridge safety rail

With the Compact 150 snow guard fasteners, a roof ridge safety rail with pipe solution can be conveniently implemented on the roof ridge, in areas where a safety rope fastening solution has not been implemented, e.g. in connection with a roof walkway. In this case, the snow guard is equipped with only one snow guard pipe. This solution allows for an easy and safe attachment of the safety rope to the roof ridge, e.g. for cleaning gutters or to secure snowfall.

The roof ridge safety rail with pipe is intended as a fall arrest safety rope anchor point. Since the pipe and its attachment systems form a rigid unit, it can also be used to work while leaning on the safety rope.

One person can be connected to a single continuous line of safety rail at the same time. On the roof, it is possible to have separate working areas for each safety rail, allowing several people to work on the same roof using a safety rope.

### Roof ridge safety rail for standing seam roof

SG Fastener UniSeam 150 Compact + SG Tightening Clamp, Pisko UniSeam
+ Locking bracket for ridge rail

### Roof ridge safety rail for waterproofing membrane roof

Bracket for sheet metal roofs 150 Compact
+ Mounting plate for waterproofing membrane roof
+ Locking bracket for ridge rail

### Roof ridge safety rail for profiled sheet metal roofs

Bracket for sheet metal roofs 150 Compact
+ Locking bracket for ridge rail

### Roof ridge safety rail for tile roofs

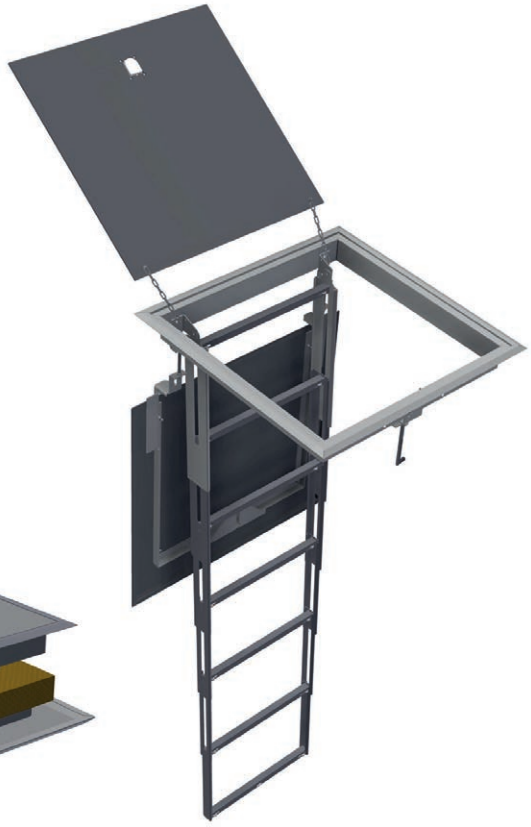
Bracket for tile roof (aux. batten) 150 Compact
+ Locking bracket for ridge rail

## PISKO EMERGENCY EXIT HATCH

The emergency exit hatch equipped with a telescopic ladder is intended to be used as an emergency exit from one balcony to the balcony below it. The hatch is installed in an opening made in the balcony floor. In case of fire, the emergency exit hatch guarantees a safe and quick exit from each floor of the apartment building.

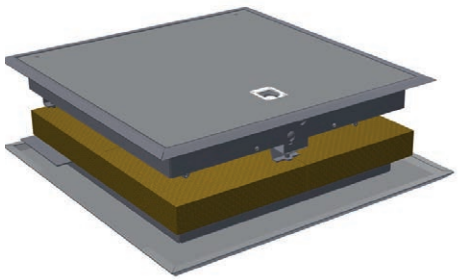
- A patented, extremely sturdy telescopic ladder
  (Patent 2383418 - EPO - TELESCOPIC HANG-ON LADDER)
- Easy to descend and ascend, if necessary
- An inconspicuous safety product for emergency exits from balconies
- Pisko emergency exit hatch for 200-260 mm balcony tiles has certificate of onformity of type-approval.

Pisko emergency exit hatch fulfils the requirements of fire resistance rating class EI 60. Fire resistance class EI 60 requires two layers of 30 mm rock wool are placed on top of the bottom cover. There is no need for separate firestop sealing.



### Technical details

- Material: galvanized steel, aluminum top cover
- Coating: Powder-coated
- Ladder dimensions, unfolded 1900 x 45 mm



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