

piriSteel Technical product catalogue

Rainwater systems, roof safety products
and safety equipment



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, Supraflow 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 almost 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. The quality and environmental systems are in accordance with ISO 9001:2015 and ISO 14001:2015, certified by Bureau Veritas. 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.



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. For more demanding constructions, we also have the Supraflow rainwater system available. Thanks to its silky surface containing fluorine, Supraflow repels dirt better than any other materials. The Supraflow's zinc layer is 27.3% thicker than normal.

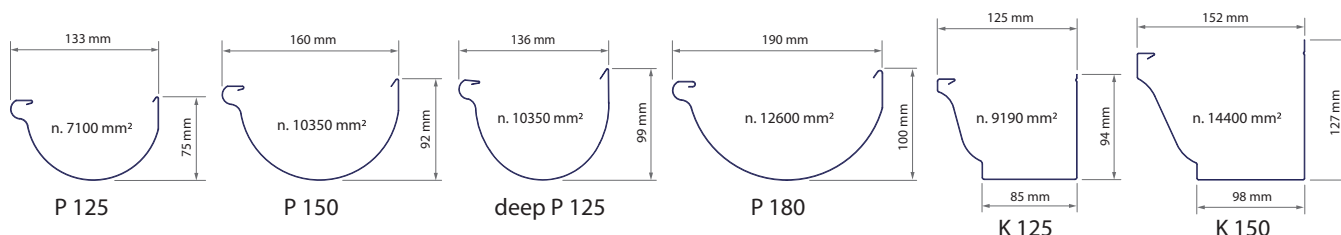
Colors

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. The Supraflow is available in the color matt metal graphite.

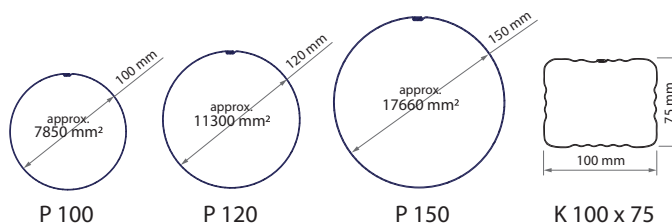
Warranty

The Pisko rainwater system is provided with a technical warranty of 50 years and a coating warranty of 20 years, in accordance with the Pirasteel product warranty. The Supraflow rainwater system is provided with a coating warranty of 25 years.

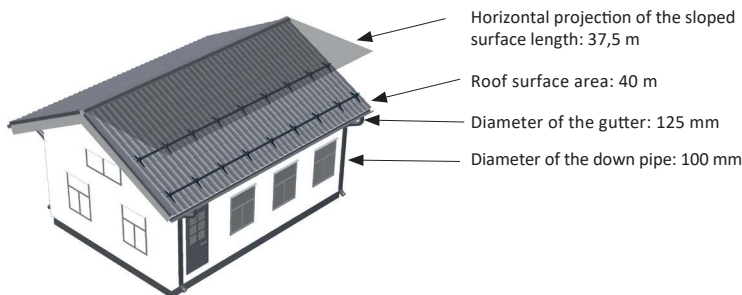
The gutter's cross-sections and the flow-through cross-sectional areas



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

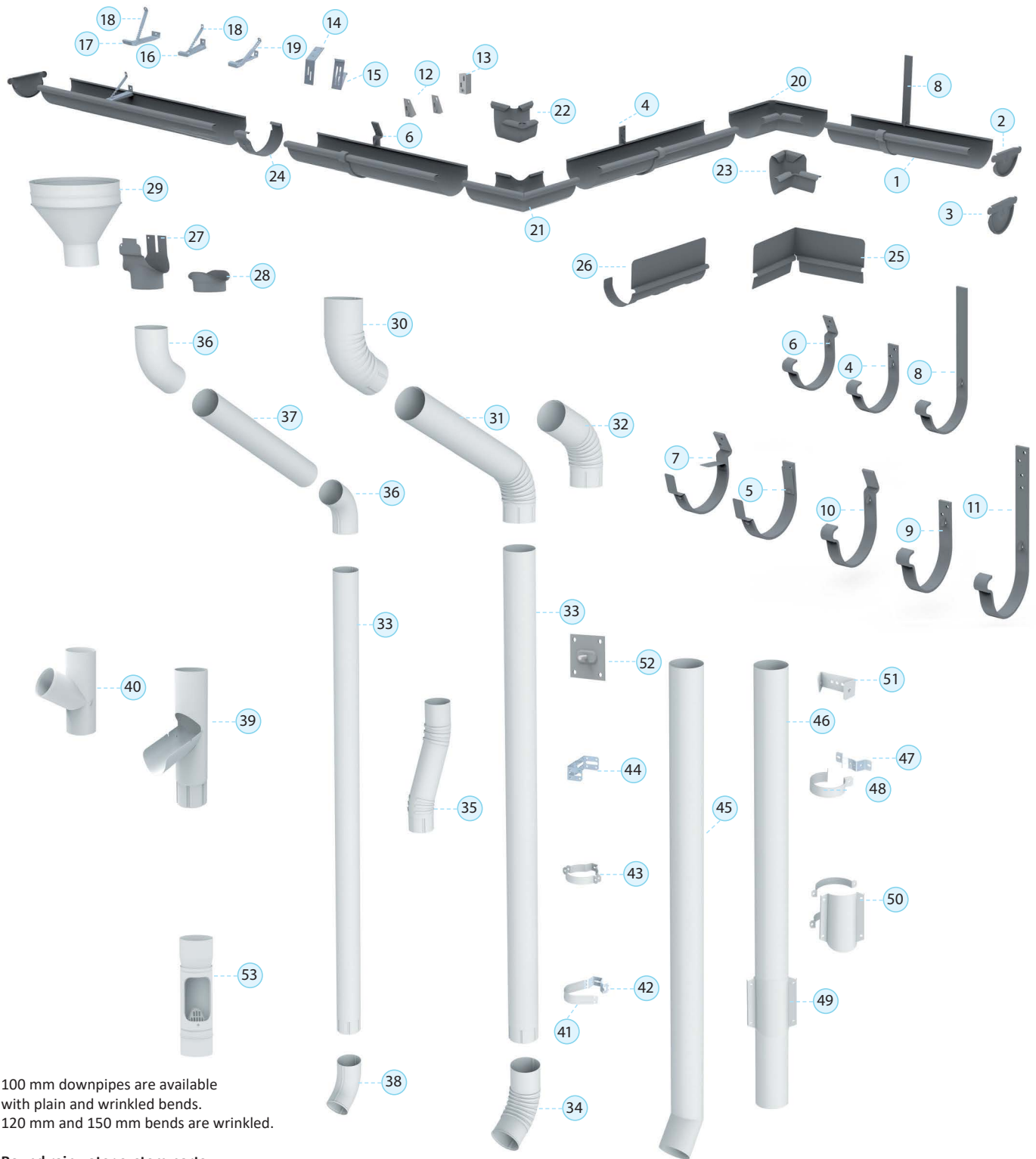
²⁾Downpipes under 100 mm are not commonly used

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



100 mm downpipes are available with plain and wrinkled bends. 120 mm and 150 mm bends are wrinkled.

Round rainwater system parts

- | | | |
|---|---|---|
| <ul style="list-style-type: none"> 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 with bendable clips, short 6. Pisko bracket, short, angled 7. Pisko bracket with bendable clips, short, angled 8. Pisko bracket, long, bendable 9. Pisko bracket, deep model, short 10. Pisko bracket, deep model, short, angled 11. Pisko bracket, deep model, long, bendable 12. Bracket back wedge, thin 1:4 or thick 1:2,5 13. Bracket back block 19 mm 14. Bracket fastening piece under the roofing 15. Bracket back support 16. Hidden bracket 125 mm 17. Hidden bracket 150 mm 18. Support & adjustment piece for hidden bracket | <ul style="list-style-type: none"> 19. Hidden bracket with support & adjustment piece 20. Pisko i/s miter 21. Pisko o/s miter 22. Pisko i/s miter, deep model 23. Pisko o/s miter, deep model 24. Pisko gutter joint 25. Gutter overflow protection, inside corner 26. Gutter overflow protection, straight 27. Pisko funnel pipe 28. Outlet for 125 mm and 150 mm gutter 29. Large funnel 30. Upper bend, with wrinkles 31. Middle bend with wrinkles 32. Middle bend with wrinkles, short 33. Down Pipe, length 2,5 m 34. End pipe, with wrinkles 35. Passing bend 36. Down pipe bend, plain 100 mm | <ul style="list-style-type: none"> 37. Middle pipe 100 mm 38. End pipe, plain 100 mm 39. Water robber, bendable end pipe 40. Y-pipe 41. Down pipe support strap 42. Down pipe support bottom 43. Down pipe support, 2-piece 44. Adjustable down pipe back support 45. Aggression pipe with end pipe, 2000 mm 46. Aggression pipe, straight 2000 mm 47. Aggression pipe back support 48. Aggression pipe strap 49. Aggression pipe with checkout lid 50. Checkout lid for aggression pipe 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. Miter i/s
- 12. Miter o/s
- 13. Bracket back wedge, thin 1:4 and thick 1:2,5
- 14. Bracket back block 19mm
- 15. Funnel pipe
- 16. Outlet
- 17. Upper bend, length 350 mm
- 18. Middle bend, length 900 mm
- 19. Down pipe, length 2200 mm
- 20. End pipe
- 21. Water robber, bendable end pipe
- 22. Down pipe support, strap
- 23. Down pipe support, bottom
- 24. Passing bend
- 25. B-bend
- 26. Aggression pipe with end pipe 2m
- 27. Aggression pipe back support
- 28. Adjustable down pipe back support

- 20. End pipe
- 21. Water robber, bendable end pipe
- 22. Down pipe support, strap
- 23. Down pipe support, bottom
- 24. Passing bend
- 25. B-bend
- 26. Aggression pipe with end pipe 2m
- 27. Aggression pipe back support
- 28. Adjustable down pipe back support

PISKO RAINWATER SYSTEM APPLICATIONS

| Gutters | Applications |
|--|---|
| Half-round 125 mm Half-round 125 mm, deep K-style 125 mm | – detached and row houses – constructed on-site with cut-to-size pieces |
| Half-round 150 mm | – detached and row houses, apartment buildings and industrial buildings – constructed on-site with cut-to-size pieces |
| Half-round 180 mm 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 – 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: 1,5 x 85 x 105 mm Round: 1,5 x 108 mm 1,5, x 127 mm 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.



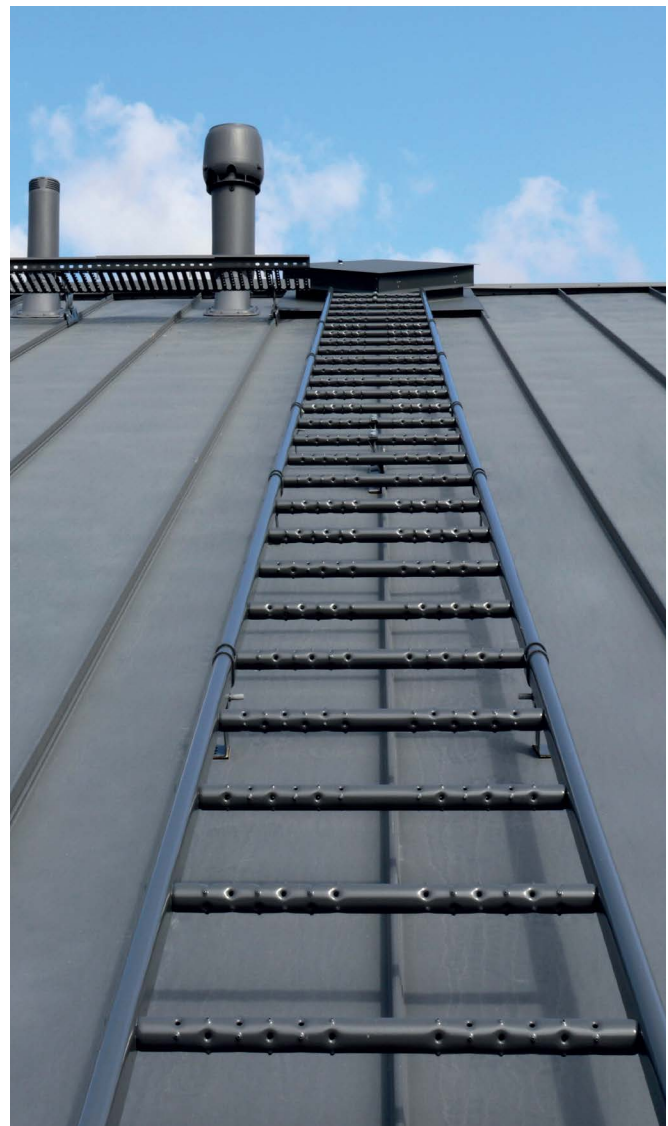
Ladder components

- 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.



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



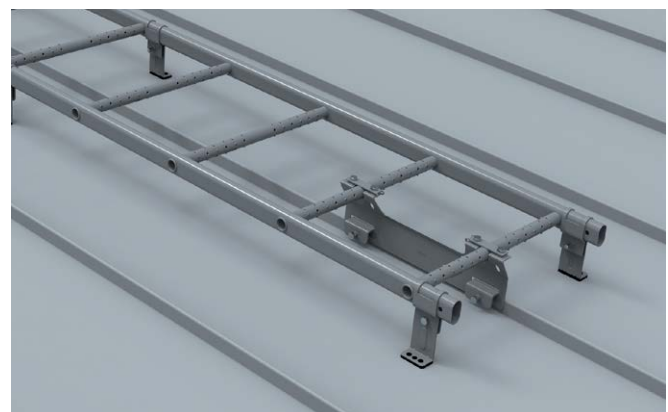
Tile roof

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 $\leq 1:3$ ($\leq 18.4^\circ$)". 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 recommended to use roof walkway with Pisko MultiFast fastening solution as access way parallel to the slope (see more information on MultiFast on page 9.)

Tile roof step



Roof ladder step level kit



PISKO FIXING PLATES

There must be a secure and safe way to fasten articles 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



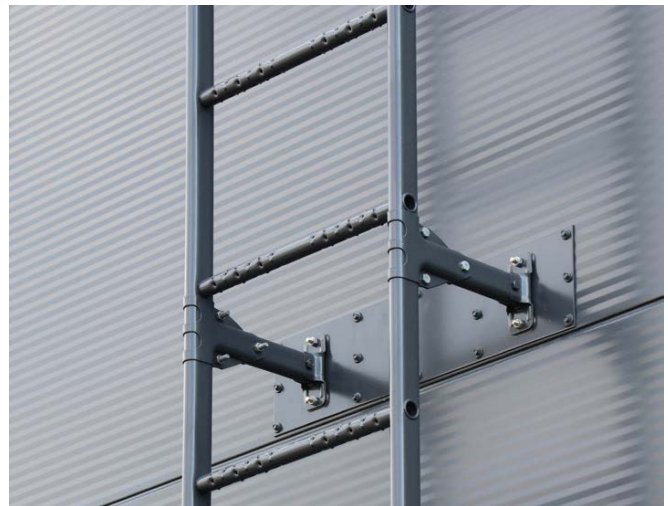
Fixing plate for side ladder

- Suitable for fastening Pisko side ladder on e.g. Sandwich panel
- Fixing plate 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 emergency exit bars 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 bars 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 \varnothing 6,3 x 19 HX8 A2 is a special screw for various fastening applications where only sheet metal is used as the fastening 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

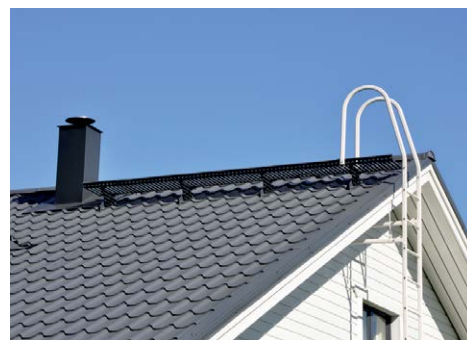
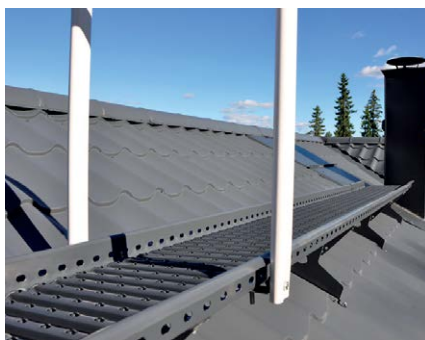
The Pisko roof safety equipment is provided with a coating warranty of 15 years and a technical warranty of 50 years, in accordance with the Piristeel product warranty.

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

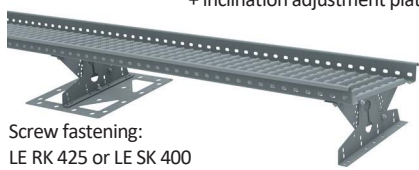


PISKO ROOF WALKWAYS

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

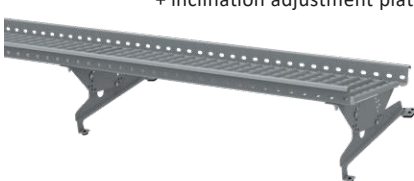
Mounting plate + LE SK 350 + inclination adjustment plate



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



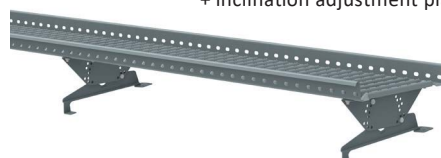
Decra roof

LE DECRA + inclination adjustment plate



Ruukki Finnera and Ruukki Hygge roofs

SG Ruukki Finnera 330 / SG Ruukki Hygge 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 FASTENING SOLUTION

Pisko MultiFast 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 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.



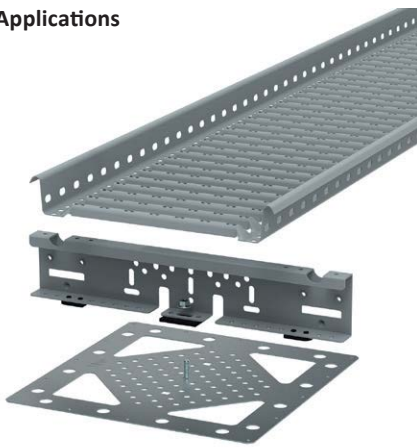
Slope limitations

Roof walkway as an access way parallel to the slope: Max. 12°

Roof walkway for low slope roof: Max. 14°

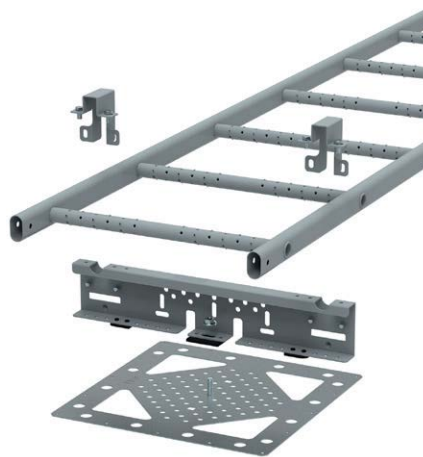
Comprehensively tested MultiFast is a versatile solution, which reduces the number of special products, thus speeding up project delivery. Versatile solution also allows planners to use appropriate access routes in much more varied and simple way than before.

Applications



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

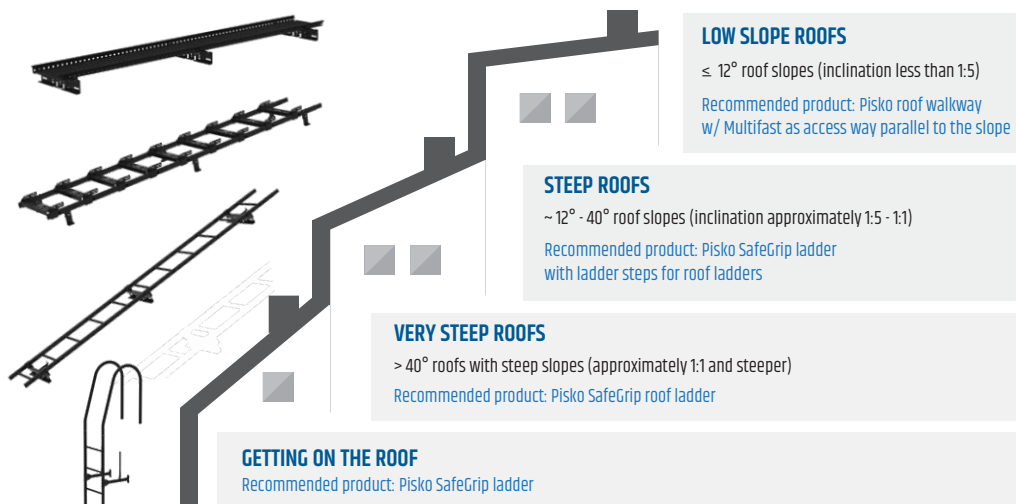
- Steel roofs
- Tile roofs
- Waterproofing membrane roofs
- Standing seam roofs



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 SNOW GUARDS

The snow guards must be used at minimum in the entrance and access route areas, and during winter, around playground and recreational areas as well as the street area and other public areas surrounding the building to protect 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. 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 guard pipe: galvanized structural steel + powder coating
- diameter of the snow guard pipe 32mm and length 3000mm
- material of snow fences and extra profiles: galvanized structural steel + powder coating
- material of the snow guard fasteners: galvanized structural steel + powder coating



SNOW GUARDS

| | | |
|--|---|--|
| <p>Bitumen roof</p> <p>Mounting plate + LE SK 350 Screw fastening: LE RK 425 or LE SK 400</p>  | <p>Tiled steel roof with 400 mm batten spacing</p> <p>SG Tile sheet roof 400</p>  | <p>Tile roof</p> <p>LE TK AP 2-bar</p>  |
| <p>Standing seam roof, UniSeam</p> <p>SG Fastener, Pisko UniSeam + SG Tightening Clamp, Pisko UniSeam</p>  | <p>Tiled steel roof with 350 mm batten spacing</p> <p>SG Tile sheet roof 350</p>  | <p>Load bearing profiled sheet, height over 45 mm*</p> <p>LE 350 on top of profile metal sheet roof</p>  |
| <p>Minerit roof</p> <p>LE vartti (length 500...1350)</p>  | <p>Decra roof</p> <p>LE DECRA</p>  | <p>Ruukki Finnera and Ruukki Hyygge roofs</p> <p>SG Ruukki Finnera 330 SG Ruukki Hyygge 290</p>  |

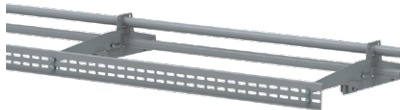
ADDITIONAL PROFILES

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

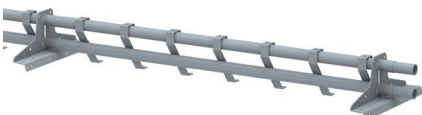
Extra profile for snow guard pipes



Snow guard profile for eaves



Ice stoppers for profile valleys



SNOW FENCE



Extra profile for snow fence



*) 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.



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)

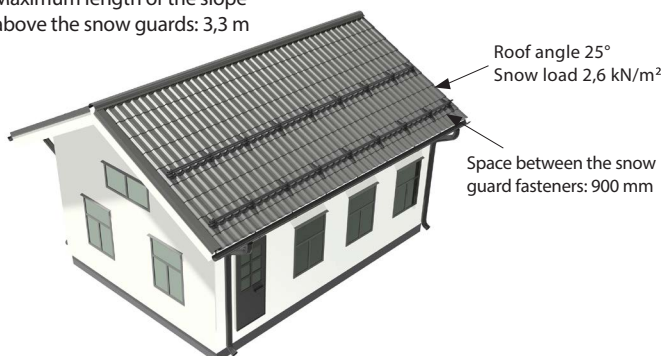
Maximum length of slope above the snow guards

| The characteristic value of the snow load on the roof: 1,8 kN /m ² | | | | | | |
|---|-------|-------|--------|-------|-------|-------|
| 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/m ² | | | | | | |
| 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/m ² | | | | | | |
| 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 |

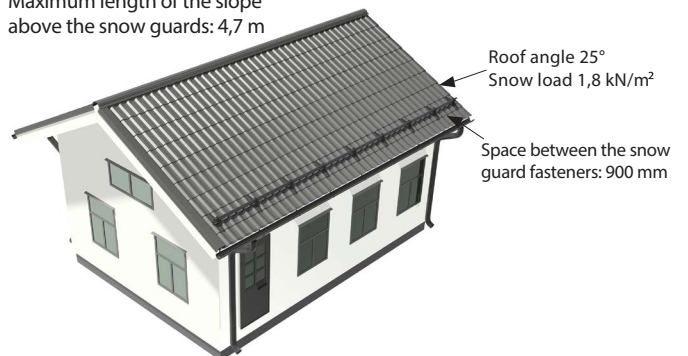
Pisko Snow Guards are capable of bearing a load of at least 5 kN/m, in the direction of the inclined roof. By following the values in the table these requirements are fulfilled.

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

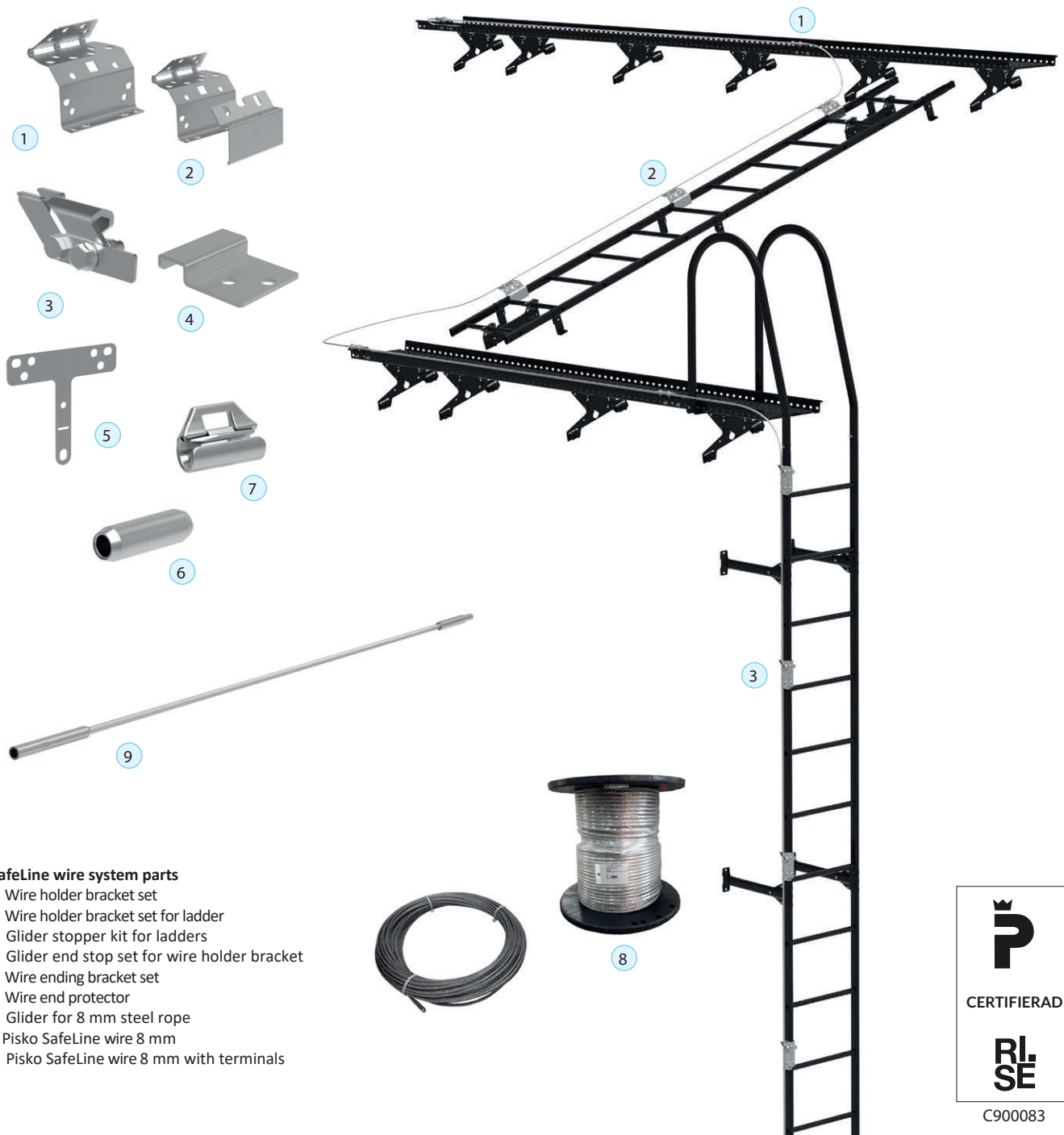
separately. System is installed to the appropriate tension at once. Wire can be installed in one length and, if necessary, in shorter lengths. The system is certified as a whole, i.e. type testing has been carried out with the fixing systems in such assembly as it is meant to be used in a building. This 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 Pisko SafeLine wire 8 mm with terminals



C900083

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



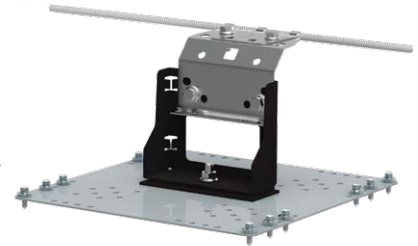
Pisko SafeLine can be installed on seamed roofs with mounting platform for anchor point which is based on the patented UniSeam fastening technology. Wire holder bracket is mounted on the specially developed fixing support, which can also be equipped with anchor point indicator. The slope of the seamed 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 0.50 mm using Pisko sheet metal screws. The fixing plate has been designed to allow installation on a wide range of patterns. The hole pattern on the plate can be further diversified during installation by turning the plate. The wire holder bracket is mounted on the specially developed fixing support, which can also be equipped with anchor point indicator. The slope of the roof must be taken into account, as Pisko SafeLine is primarily a fall arresting safety system.

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.

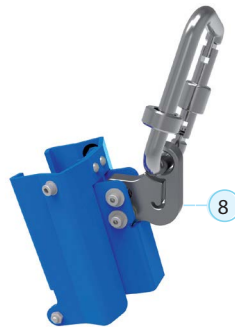
PISKO VERTICAL SAFETY RAIL SYSTEM

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.



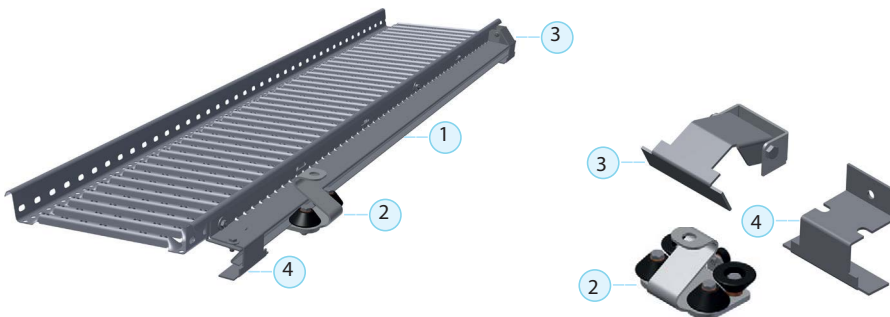
Pisko vertical safety rail

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



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



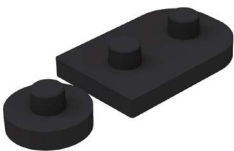
Roof ladder safety railing



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.

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 waterproofing membrane roof



Pisko anchor point for standing seam roof, Pisko UniSeam



PISKO EMERGENCY EXIT HATCH

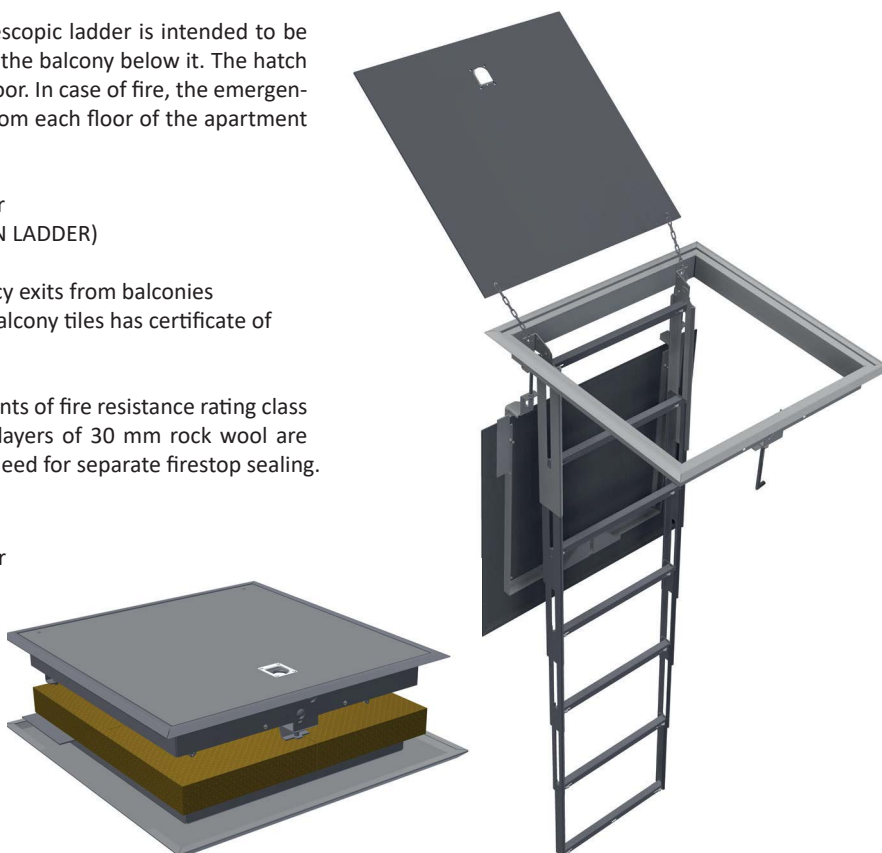
The emergency exit hatch equipped with a telescopic ladder is intended to be used as an emergency exit from one balcony to the balcony below it. The hatch is installed in an opening made in the balcony floor. In case of fire, the emergency exit hatch guarantees a safe and quick exit from each floor of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