Nesco product catalogue

Rainwater systems - Roof safety products - Emergency exit routes

TEHTY SUOMESSA
MADE IN FINLAND

KEHITYKSEN KARJESSÄ
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KATTOTURVATUOTTEET
NESCO
SADEVESIJÄRJESTELMÄT
YLI
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NESCO

Product catalogue version 1.0

Tuotteet kestää, toimitus ei.

Our products are durable and our deliveries swift

Founded in 1981, Nesco Oy is Finland's leading manufacturer of rainwater and roof safety products. We serve all kinds of professionals in the field. Our strong expertise in the field is based on a long history. Furthermore, we are the only manufacturer in Finland with its own experience of installation. We are a pioneer of product development in Finland. In addition to our extensive range of products, we design and manufacture special products for our customers, even for complex projects.
Our production facilities are located in Orimattila, and our products have a very high domestic content.

Approximately one hundred employees and advanced robots work in Nesco's factory in Orimattila. Our guiding principle is to combine flexibility and efficiency in the production. Nesco provides the best security of supply (99.5% in August 2019), service and technical competence in the sector.

Our robot-assisted production with 10 robots guarantees that the quality is uniform and that we can make deliveries fast. Tiku and Taku ("Chip 'n' Dale") manufacture fasteners, representing the new, smart generation of industrial robots: they utilise machine vision. The first fingerprint comes to the fastener only when it is hung on the painting track.

Our efficiency and technology are top-level, but when all is said and done, the quality of products and customer service depend on competent and motivated people. They ensure that you have everything that you need on the site.

Equality promise
We only have one kind of customer — important, each and every one.

Service promise
Tell us what you want, and we'll tell you what you need.

Delivery promise
You get what you need, and always on time.

NESCO

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Contents

Rainman rainwater system....4
- Rainman rainwater system parts....4
- Rainman rainwater system installation kit....5
- Nesco rainwater systems....7
- Rainman rainwater system installation instructions....8
- Water collector....11

Roof safety products....12
- Roof walkways....12
- Horizontal rail....13
- Roof ladder....14
- Roof treads....15
- Wall ladders....16
- Vertical rail....17
- Safety barrier....18
- French balcony railing....19

Emergency exit routes....20
- Safety ladder and side bars....20
- Launchable ladder....21

Snow guards....22
- Snow guards....22

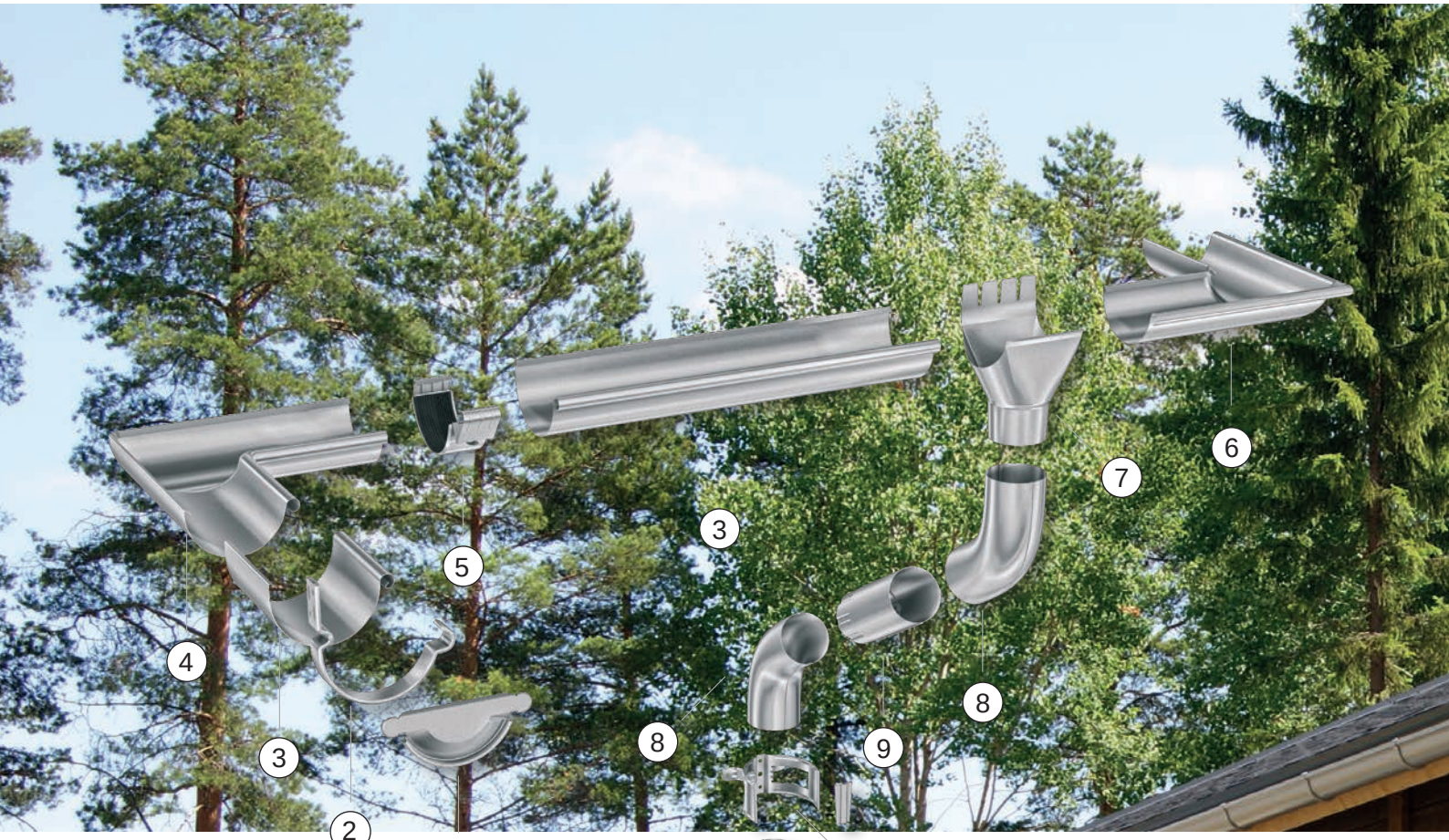
Special products....24
- Wires....24
- Bollards and fire pipes....25

Balcony products....26
- Balcony drainage systems....26
- Partsi products....27

Installation kits....28

Instructions and tips....31

Rainman rainwater system



Rainman rainwater system parts

1. Gutter end section
2. Gutter fixture
3. Half-round gutter 125 mm
   standard lengths 3 m, 4 m and 6 m
4. Internal corner of the gutter 90° or 135°
5. Gutter connection piece
6. External corner of the gutter 90° or 135°
7. Outer collar
8. Downpipe angle
9. Intermediate tube 1 m
10. Downpipe fixture for wood and stone walls
11. Downpipe ø87 mm
    standard lengths 1 m, 2.5 m, 3 m and 4 m
12. Downpipe outlet pipe
13. Water collector

The half-round, durable gutters are reinforced with external brackets, making it easy to clean the guttering.

The task of a high-quality rainwater system is to efficiently collect rainwater and meltwater from the roof. It should lead the waters in a controlled manner down from the roof and further away from the vicinity of the foundations. The Finnish Nesco rainwater system is a functional, long-lasting and impressive solution to this challenge.

The Rainman rainwater system is an easy to install, durable solution for the builder. The ready-made installation kits and connector parts make it easy to plan the rainwater system for the house. The Rainman rainwater system is made of the best materials in accordance with the European standard, providing excellent functionality for a long time. The half-round, durable gutters are reinforced with external brackets, making it easy to clean the guttering.

High-quality, smooth-shaped bends reduce blockages and give your house a finished look. Our system is suitable for steel, tile and bitumen roofs. Thanks to dimensional accuracy, the parts of the rainwater system fit tightly together. The system is easy and fast to install and can be done without special tools.

Downpipe angle set

The downpipe angle set includes the necessary parts for the downpipe structures, in addition, a downpipe of the correct length is required. The set increases the length by about 0.5 m. The downpipe is sold separately.

Gutter fixture set

External gutter fixture for installing a 125 mm gutter. One set is enough to install a 3 m gutter. The adjustable background support fits the most common slopes.

Gutter ends pair

125 mm gutter end sections. The end section is suitable for both right- and left-handed installation. The joint can be finished with a sealant.

Gutter connection pair

For installing and extending a 125 mm gutter. The joint can be finished with a sealant.

Downpipe fixtures pair

Downpipe ø 87 mm fixtures pair. Used in downpipes over 4 m as an additional fixture. Can be installed on wood and stone walls.

Water collector ø 87 mm

Utilisation of rainwater with a water collector. Available with a brass hose fitting for ø 87 mm downpipes. Compatible with a 3/4 inch (19 mm) hose.

Internal corner of the gutter 90°

Internal corner of the 125 mm gutter 90°. Connecting to the gutter with a connecting piece.

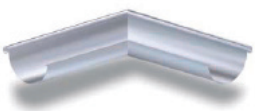
External corner of the gutter 90°

External corner of the 125 mm gutter 90°. Connecting to the gutter with a connecting piece.

Internal corner of the gutter 135°

Internal corner of the 125 mm gutter 135°. Connecting to the gutter with a connecting piece.

External corner of the gutter 135°



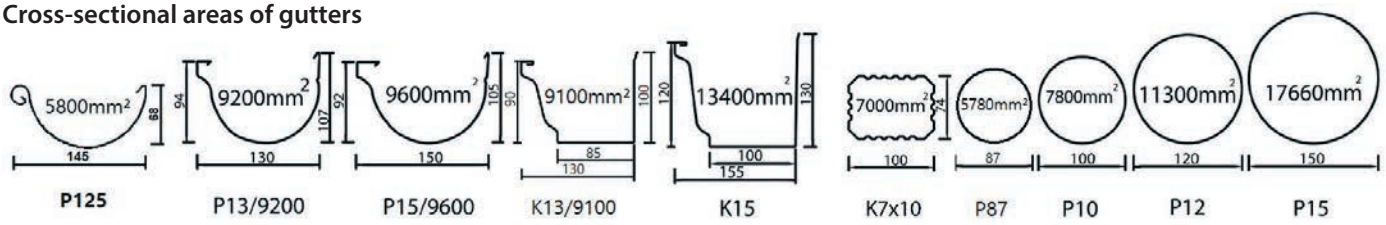
External corner of the 125 mm gutter 135°. Connecting to the gutter with a connecting piece.

Nesco rainwater systems

Nesco manufactures components and accessories for all common steel gutters and downpipes. We have several gutter shapes for all kinds of projects. The half-round gutters P13 and P15 and rectangular gutters K13 and K15 allow you to choose the correct guttering for each purpose. Our product range also includes special parts, such as various fastening methods, vandal-resistant downpipes, slanted bends and plinth dents.

As material, we use 0.6 mm galvanised steel with Nova/Nova coating. In addition to standard colours, we manufacture rainwater products in special colours as well as special raw materials such as copper. Read more about the models at www.nesco.eu.

Cross-sectional areas of gutters



Indicative maximum roof plane areas

Maximum horizontal roof plane area (A)			
	1 downpipe	2 downpipes	3 downpipes
K13 gutter and 70 x 100 mm or Ø 100 mm downpipes	132 m²	264 m²	396 m²
P125, P13 or P15 gutter and Ø 73 mm downpipes	71 m²	142 m²	213 m²
P125, P13 or P15 gutter and Ø 87 mm downpipes	100 m²	200 m²	300 m²
P125 gutter and Ø 100 mm downpipes	135 m²	270 m²	405 m²
P13, P15 or K15 gutter and Ø 100 mm downpipes	146 m²	292 m²	438 m²
P13, P15 or K15 gutter and Ø 120 mm downpipes	173 m²	346 m²	516 m²
K15 gutter and Ø 150 mm downpipes	224 m²	448 m²	672 m²

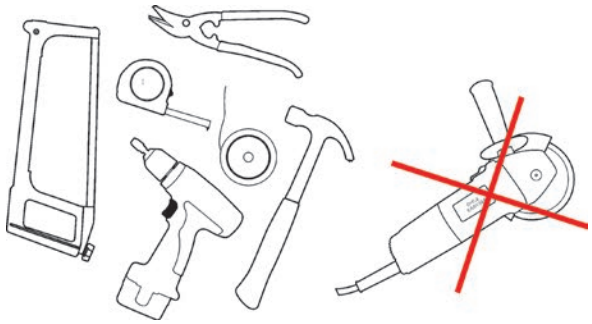
Installation instructions of the Rainman rainwater system

1. INSTALLATION TOOLS AND ACCESSORIES

Installing Nesco rainwater system is easy and quick, and you don't need any special tools. Measure, screwdriver or cordless drill, alignment wire, hacksaw, hammer, sheet metal scissors and possibly some pop rivet pliers are enough. In addition, sealant and fixing screws (e.g. 4.8 x 35 mm) and possibly pop rivets are required.

Note! Do not use an angle grinder for cutting. Possible sparks may damage the paintwork.

1

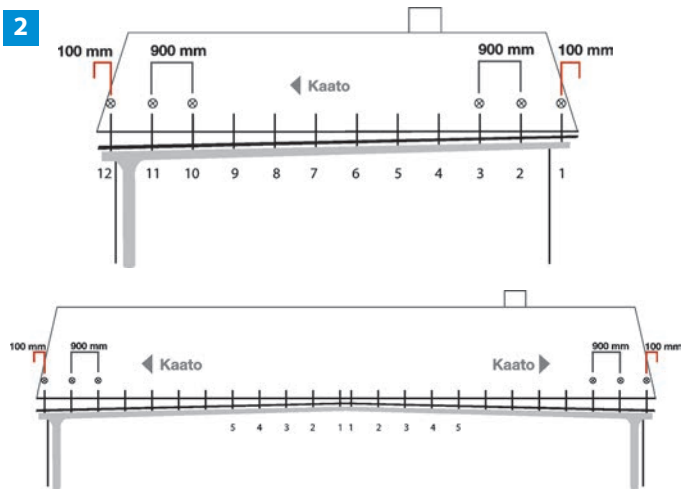


2. GUTTER SLOPES

Place the gutter fixtures at 0.9 m intervals. The first and the last fixture is installed 100 mm from the edge of the roof. A suitable slope for the gutter is 3 to 5 mm per metre. Check the slope with an alignment wire.

Rules of thumb:
- One slope should not be over 10 m.
- There should not be more than 100 m2 of roof per one down-pipe.

2



3. INSTALLATION OF THE BACKGROUND SUPPORT AND FIXTURE

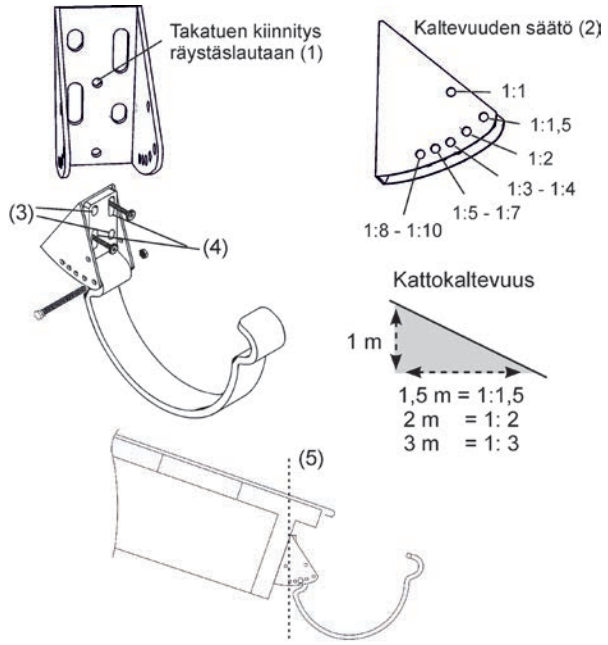
The gutter fixture is installed vertically (5) from its attachment point, despite the slope of the fascia. A vertical position is obtained with an adjustable background support.

The adjustable background support is first fastened from the mounting hole (1) with 5 x 25 mm screw to the fascia. The slope is adjusted by inserting an M4 x 35 mm hexagonal screw through the slope adjustment hole (2). The correct slope is found when the straight part of the gutter fixture is vertical. If the fascia is already vertical, the background support can be omitted and the fixture attached directly to the fascia.

The fixture is attached crosswise from the mounting holes, using either oval (3) or round (4) holes. Attach from the upper hole with a 5 x 40 mm screw and from the lower with either a 5 x 40 mm or 5 x 70 mm screw, depending on the slope. With the three steepest slopes, a longer screw is used for the lower mounting.

Note! According to regulations, the front edge of the gutter must be at least 6 mm lower than the rear edge. This has already been taken into account in the sizing of the fixtures.

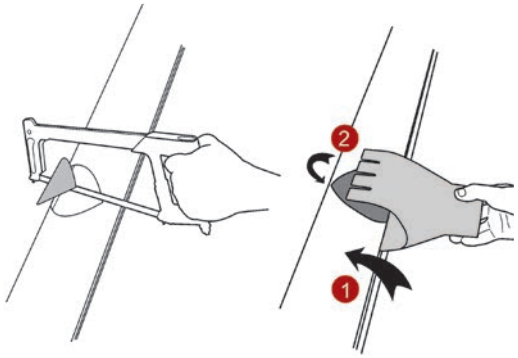
3



4. OUTER COLLAR INSTALLATION

Before lifting the gutters into place, the locations of the down-pipes are measured and marked. At the marked point, saw a connection hole with a hacksaw for the outer collar of the downpipe. Sawing should be done from two directions. The diameter of the connection hole must be approx. 100 mm. The edges are shaped downwards with sheet metal scissors/ hammer to improve water flow. Finally, the outer collar is placed in its place and the tabs are bent around the rear edge of the gutter.

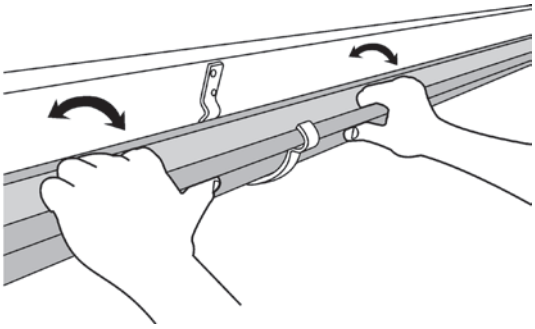
4



5. END SECTION INSTALLATION

A sealant is extruded into the mounting groove of the gutter end section, after which the end section is pressed into the gutter. Make sure that the gutter goes all the way and sits on the bottom of the mounting groove and level the sealant. The junction lug at the back of the gutter is folded against the gutter. It is a good idea to secure the end piece with a screw or a pop rivet.

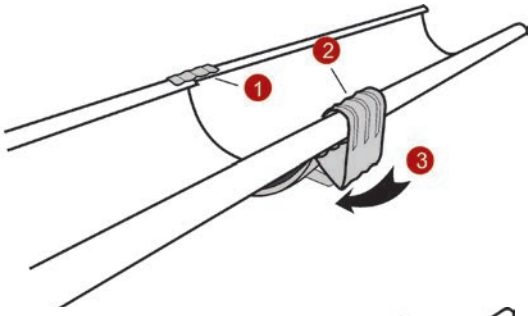
6

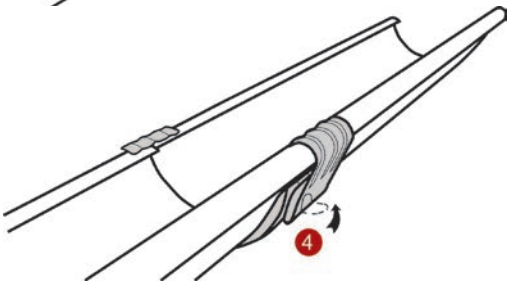


6. GUTTER INSTALLATION

Lift the gutter and place it on the fixtures with the round edge facing outwards. To fasten the gutter, first press the rear edge into place and then the front edge.

7





7. CONNECTING GUTTERS

The gutters are easily connected to each other with a gutter connecting piece. The ends of the gutters are placed opposite each other and the rear edge of the connecting piece is fastened in place. Then the connecting mechanism on the front edge is bent and locked. A sealant can be extruded on top of the seal of the connecting piece before installation. When using sealant, the excess sealant going inside the gutter must be levelled.

8. CONNECTING CORNER PIECES

The internal and external corners of the gutter are also connected with suitable connecting pieces (see section 7 of the manual).

Note! Gutter fixtures must be installed on both sides of the gutter connections.

9 DOWNPIPE INSTALLATION

The length of the sloping pipe installed between the bends of the downpipe is determined by the eaves. The sloping pipe is cut at the top with a hacksaw to a suitable length, (see table below).

The lower bend is installed with a single screw to the lower end of the sloping pipe. Next, the upper bend is installed to the upper end of the sloping pipe. Then, the sloping pipe with the suitable bends is installed in place to the outer collar and the line and the height of the joint of the downpipe attached adjacent to the wall is marked.

The outlet pipe is attached to the lower end of the downpipe and the downpipe is cut to the correct length.

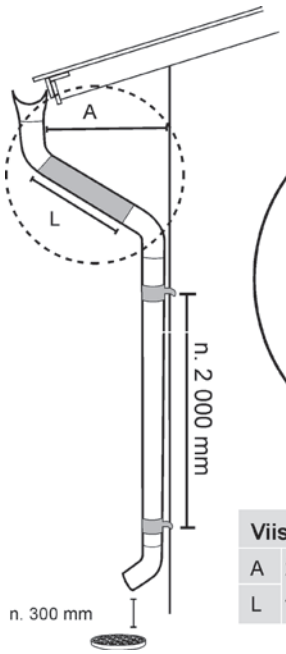
Note! The outlet pipe should be approx. 300 mm from the ground.

The lower fixtures of the downpipe are attached to the wall in line with the lowest outlet of the downpipe. The upper fixture is attached approximately 100 mm from the upper end of the downpipe and the lower fixtures are attached 2 m apart. As a main rule, the wall fixtures should be placed as close as possible to the downpipe joints.

Note! In brick walls, you need to drill a hole for the fixture in the seam between the bricks, not the brick itself.

Then, all the parts of the downpipe are assembled together and attached to the wall fixtures.

9



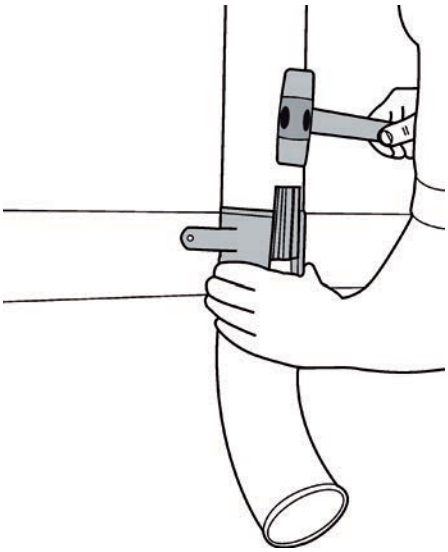
Viistoputken mitoitus (mm)								
A	200	300	400	500	600	700	800	900
L	100	210	325	430	550	665	785	905

10. INSTALLING THE DOWNPIPE

Check that all parts are straight and lock the wall fixtures. The locking wedges of the fixtures are struck in place, preferably with a rubber or wooden hammer.

Note! The locking wedges can also be removed easily if necessary for future painting or plastering of the facade.

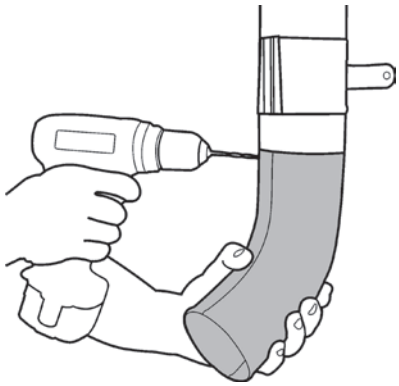
10



11. FINISHING THE INSTALLATION

Secure all connections of the downpipe with 1-2 screws or pop rivets. Sawing and drilling debris generated during installation should be carefully removed as they may rust and discolour the coating. Finally, the installation and functionality of the system as a whole is checked.

11



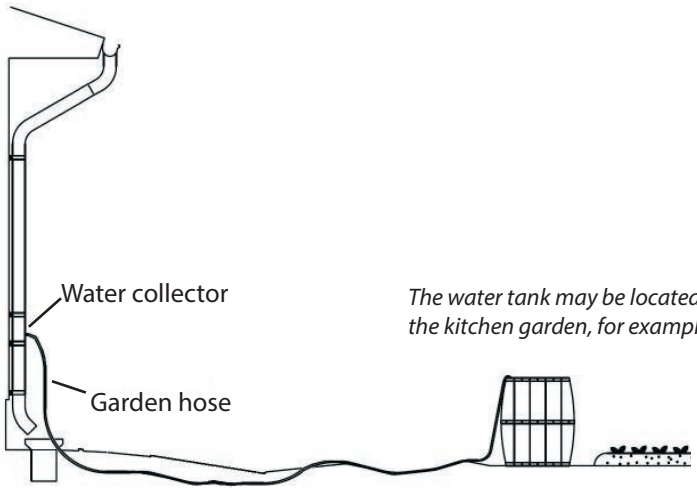
Instructions and tips

- The length of the rainwater gutter is determined by the width of the eaves. The recommended maximum length for one gutter per downpipe is 10 m. There should not be more than 100 m2 of roof per one downpipe.
- A suitable slope for the gutter is 3 to 5 mm per 1 m of gutter.
- The fixture set includes background adjustment pieces that allow you to always select the correct mounting angle, regardless of the roof's slope. Place the gutter fixtures at 0.9 m intervals.
- The height of the downpipe is measured from the lower edge of the fascia to the ground. Downpipe angle set adds height max. 0.5 m. For example, an angle set connected to a 2.5 m downpipe is sufficient for a maximum of 3 m of downpipe.

Water collector - Utilisation of rainwater

The water tank may be placed where water is needed so that you don't have to carry water over a long distance. The top surface of the water tank must, however, be placed lower than the water collector in order for the collector to work.

When placed further away from the building, the water tank does not overflow next to the building.



The water tank may be located by the kitchen garden, for example.

Unlike the traditional flap-type water collectors, this model does not cause splashes that otherwise often wet the wall. Debris falling from the trees, for example, can be easily removed from the water collector through the cleaning lid. The water collector is fitted with a brass hose fitting, suitable for a 19-mm garden hose.

Collects water efficiently.

Available with a brass hose fitting for ø87 mm downpipes.

Roof walkways

In addition to providing safe access routes on the roof, a roof walkway also allows efficient maintenance actions to be performed. The surface of the roof walkway, manufactured of durable material, is roughened to prevent slipping. Several accessories improving safety are available. These include a handrail for the roof walkway as well as a horizontal rail that can be used as a safety line anchor point.

The regulations for safety equipment of the roofs require safe access to service and inspection sites. Nesco's roof walkway is accepted according to the regulations, and when installed according to the instructions, it can be used as a safety line anchor point. The roof walkway meets the CE requirements for class 2 installation.

Fixture sets for different roofing materials and types. The roof walkway fixture is adjustable according to different roof slopes. One set is enough to install one roof walkway.

Technical information

- Roof walkway T350 for installations of classes 1 and 2; can be used as a safety line anchor point when installed correctly.
- The total length of the roof walkway is 2.92 m and its effective length is 2.80 m.
- The roof walkway can be extended without separate extension parts.
- The width of the walking platform is 350 mm and the snow permeability is over 50%.
- The maximum installation distance of the roof walkway fasteners is 1.2 m.
- The products are designed to sustain a point load of 1.5 kN, (approximately 150 kg).
- The angle of the fixtures can be adjusted at 11-degree intervals between 0–45°.

Planning

- If the building has ventilation or sewer lead-throughs, the best location for the roof walkway is usually above them since the roof walkway protects the lead-throughs from any snow sliding on the roof.

Horizontal rail

The horizontal rail can be attached on the roof walkway or directly on the roof or wall using its own fixtures.

The horizontal rail is installed on the roof walkway for improved safety. It makes moving on the roof with a safety line easier when you don't have to move the safety line from one anchor point to the next one. It also makes working on the roof safer because the line length does not need to be adjusted constantly.

Technical information

- The length of the horizontal rail is 3 metres and it can be shortened or extended as necessary.
- The horizontal rail can be attached on the roof walkway or directly on the roof or wall using its own fixtures.
- The system may be used by one person at a time over a distance of six metres.
- The maximum weight of the user, including equipment, is 100 kg.

Roof ladder

Roof ladders are installed on the roof to secure passage in line with the roof plane.

Roof ladders make it safe to access the areas requiring maintenance on the roof. We manufacture individual attachment solutions for all roof types and materials. On low pitch roofs, roof treads can be used instead of roof ladders.

Roof ladders are installed in line with the roof plane as an extension of the wall ladder to provide safe access. When installed according to the instructions, the roof ladder can be used as a safety line anchor point. Nesco's roof ladder meets the CE requirements for class 2 installation.

Technical information

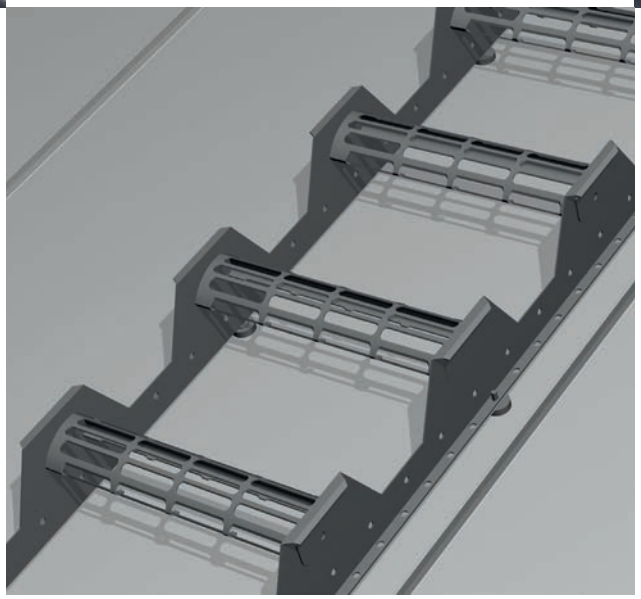
- The roof ladder frame lengths are 2.4 m, 3.0 m, 3.6 m and 4.2 m. The roof ladders can be extended.
- The distance of the bottom rung of the roof ladder from the top rung of the wall ladder may not exceed 400 mm.
- The rung distance is 300 mm and the internal distance of the side rails is 400 mm.
- The products are designed to sustain a point load of 1.5 kN, (approximately 150 kg).
- The ladder frame length of the roof ladder is determined based on the distance from the eaves to the maintenance object or roof walkway.

Planning

- Plan the placement of the roof ladder and the wall ladder so that they are at the same place.
- Roof ladders longer than 3 m must be protected on both sides by snow guards.
- Nesco's vertical safety rail can be installed on the roof ladders.

Roof treads

Roof treads can also be used as safety line anchors on most roof materials.



Roof treads can be used instead of roof ladders on low pitch roofs (slope 1:2.5 or gentler). They allow safe access in the vertical position. They can also be used as safety line anchors on most roof materials.

Technical information

- Designed, manufactured and tested according to the requirements of SFS-EN 12951, class 2.
- The roof tread elements can be extended.

Wall ladder

The ladders should be protected on both sides by snow guards.

It is recommended to install the ladders at the end of the house so that they are not covered in snow.

Wall ladders provide safe access to the roof. Our product range includes solutions for all kinds of projects ranging from one-family homes to large public and industrial properties. Nesco's wall ladders meet all the requirements of the National Building Code of Finland.

Sliding ladders are usually used at day-care centres, schools and other buildings where ladder access needs to be restricted. A sliding ladder is installed on a ladder permanently installed on the wall and locked into its top position. To climb the ladder, you simply open the lock and pull the sliding ladder frame down.

The side ladder is a stylish option that can be used to attach the ladder to the wall at a 90-degree angle.

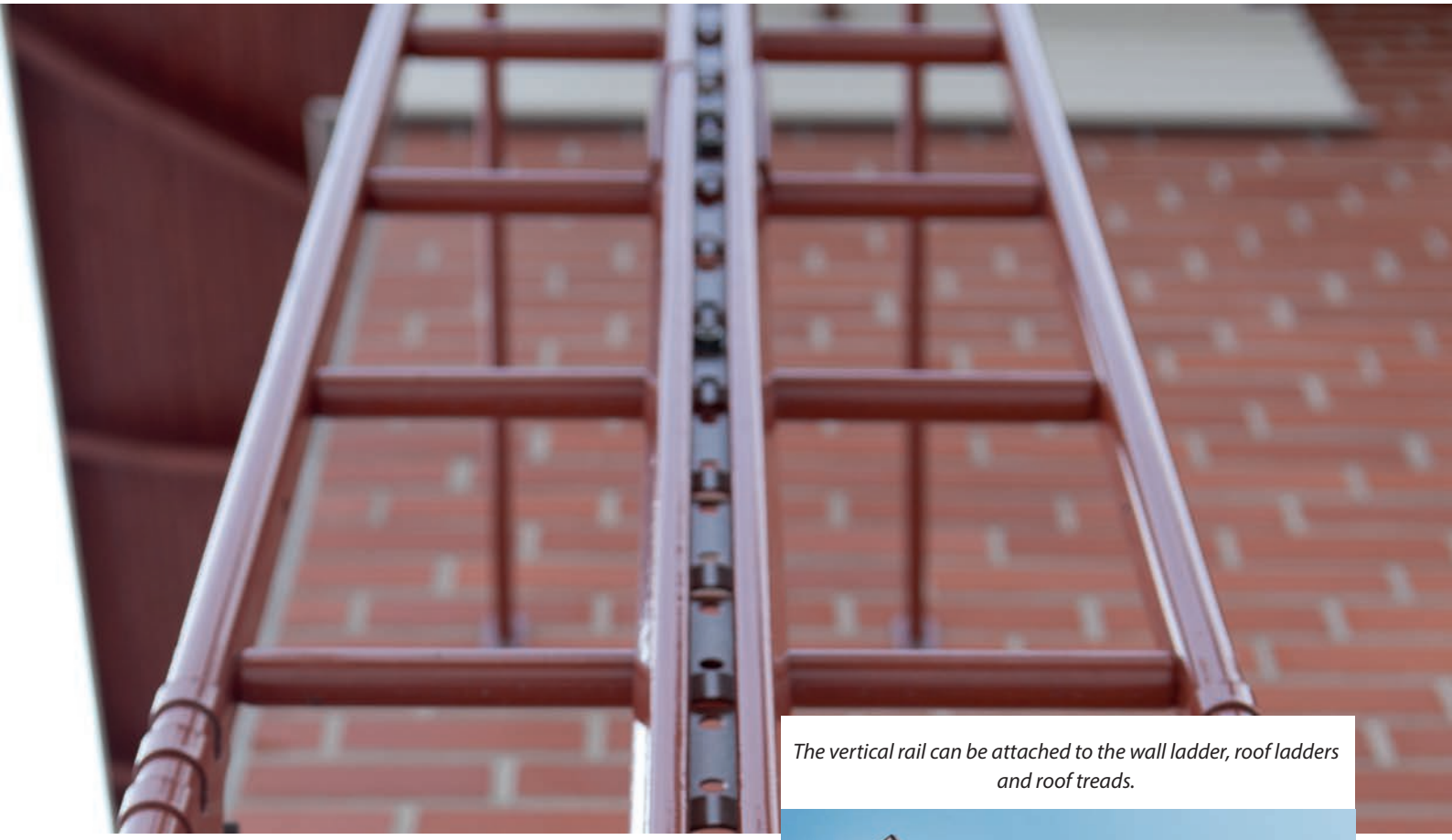
Technical information

- The ladder frame lengths are 2.4 m, 3.0 m, 3.6 m and 4.2 m. The wall ladders can be extended.
- The frame length of the standard ladder usually equals the distance from the ground to the eaves minus -0.8 m.
- The highest step of the ladder must be placed at +/- 0.1 m from the eaves.
- In the case of normal side eaves, 1 m feet are adequate.
- The height of the lowest step of the ladder from the ground is about 1-1.2 m.

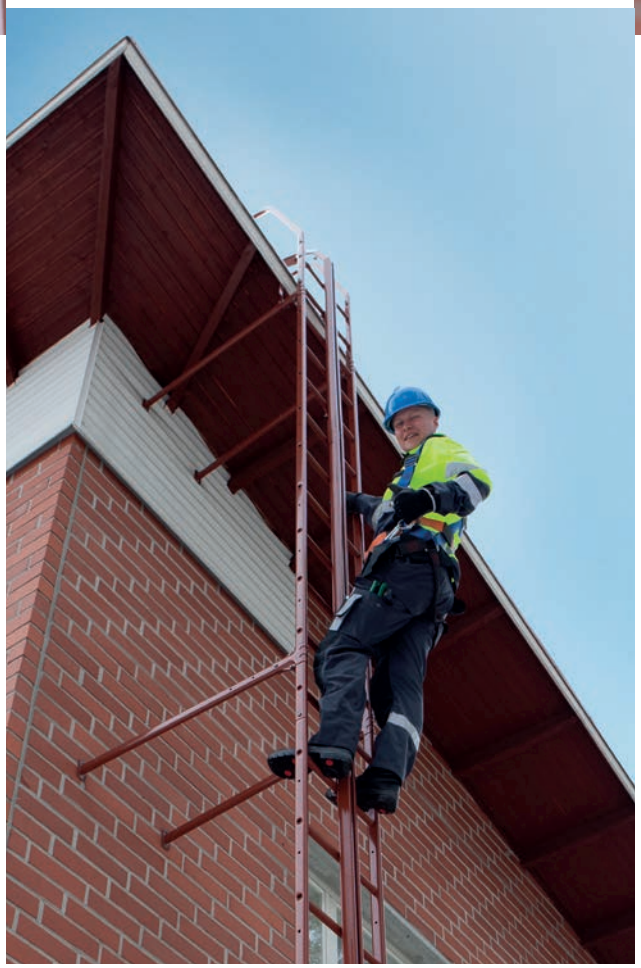
Planning

- The wall ladder should always be installed at the end of the building, if possible.
- The ladder is installed at the end of the building at the same place as the roof walkway (max. 3 m from the ridge). This protects the ladder from snow loads, and the top curves can be attached firmly to the roof walkway.
- If the wall ladder is placed at the side eaves, the ladder is exposed to snow loads, and installing a snow guard on both sides of the ladder is recommended.
- When you ascend from the wall ladder to the roof, a safe passage to the roof service points continues either along the roof walkway, a roof ladder or a roof staircase on a sloping roof.
- If the climbing height is over 8 m, the ladder must be equipped with a vertical rail or ladder cages.

Vertical rail



The vertical rail can be attached to the wall ladder, roof ladders and roof treads.



The vertical rail is used to ensure the climber's safety when the climbing distance is long. The rail will stop the fall if the climber loses their grip. When the ladder is more than 8 m high, it must be equipped with a vertical rail or ladder cages.

Technical information

- The length of the vertical rail is 3 metres and it can be shortened or extended as necessary.
- The vertical rail always has anti-slip devices on the base.
- The maximum weight of the vertical rail system user, including equipment, is 120 kg.
- The system may be used by one person at a time over a distance of 6 metres.
- The vertical rail can be attached to the wall ladder, roof ladders and roof treads.

Safety barrier

Safety barrier is suitable for a 400 mm wide ladder.

A safety barrier is used to prevent access to the ladder, if necessary. Safety barriers are usually used at day-care centres, schools and other public buildings.

Technical information

- The height of the safety barrier is 1,250 mm.
- The standard model can be used in stairs with a width of 400 mm, rung distance of 300 mm and diameter of 22–25 mm.
- Customised dimensions made to order.
- The safety barrier can also be locked with a separate lock included in the building's key system (for example, Abloy PL340 Sento 50 mm with handle. The lock is not included in the delivery).
- Available also with a vertical rail cover.

French balcony railing

Safety barrier is suitable for a 400 mm wide ladder.

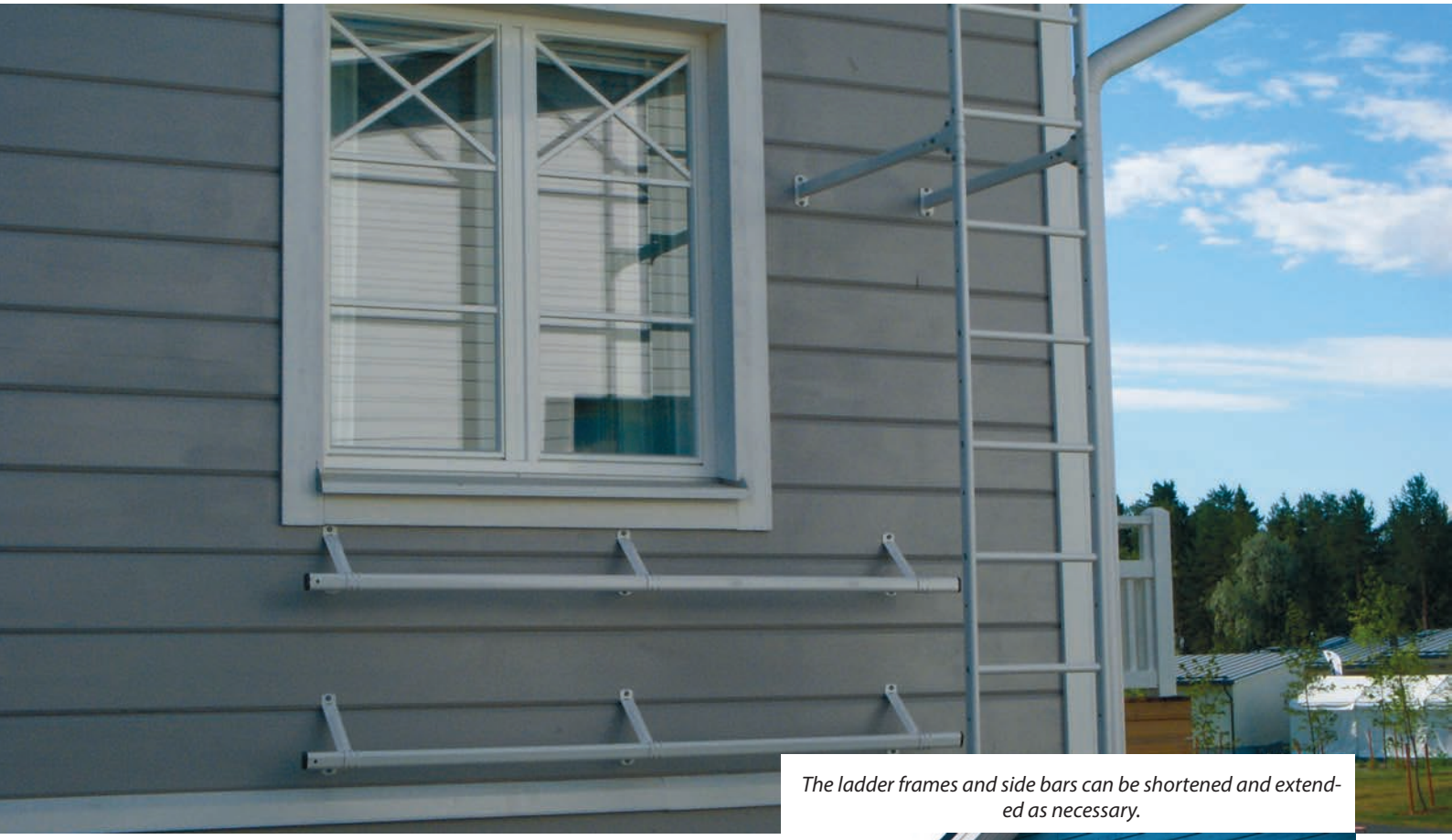
The French balcony railing is an easy and care-free solution to prevent falling from doors that lead to a balcony without a landing.

The railing and its fixtures are made of hot-dip galvanised steel. It is powder coated, ensuring durability against corrosion stress even under demanding conditions. The standard railing can be used for balcony door widths of M9 or smaller; other dimensions made to order.

Technical information

- The railing and its fixtures are made of hot-dip galvanised steel.
- Powder coated, ensuring durability against corrosion stress even under demanding conditions.
- The standard railing can be used for balcony door widths of 900 mm or smaller; other dimensions made to order.

Safety ladder and side bars



The ladder frames and side bars can be shortened and extended as necessary.

The safety ladder is used in buildings where the bottom edge of the window or the floor of the balcony used as an emergency exit is higher than 3.5 m from the ground or other safe place. The wall ladder can also be used as an emergency exit ladder. The safety ladder can be mounted on the wall of the building using a ladder frame as well as a separate safety ladder installation kit.
Side bars and side bar feet can be used to construct horizontal side bars and vertical grips. Side bars can be shortened and extended as necessary. Side bars allow moving horizontally on the wall to the escape ladder. The horizontal exit route can also be fitted with a handrail that facilitates movement.

Technical information

- The safety ladder frame lengths are 2.4 m, 3 m, 3.6 m and 4.2 m.
- The recommended distance from the lowest rung of the ladder to the ground is 1.8 m.
- The side bar feet are attached to light concrete walls with a chemical sealant and threaded bars.
- The side bar is made of oval-shaped tube 45 x 25 x 1.0 mm.
- The maximum distance between side bar feet is 0.8 m.
- The end of the side bar may protrude at maximum 100 mm from the foot.
- The side bar package includes 2 x 1.5 m side bars.

Planning

- The ladders as well as other structural parts and equipment of emergency exits must be designed and constructed in such a way that they can be used in case of emergency.
- Instructions applicable to wall ladders apply to safety ladders as far as possible. A suitable side bar or other support is fitted on the wall to facilitate moving horizontally.

Launchable escape ladder

The launchable ladder is a ladder package folded into a case-shape that can be opened by pulling the launching pin.

A launchable escape ladder can be used when an indiscernible yet safe emergency exit route on the facade is needed. Unauthorised climbing from the ground up is, therefore, almost impossible. The ladder opens by itself when the pin is removed. The section of the ladder beneath the removed launching pin will always open.

Typical installation locations include apartment buildings as well as multi-storey detached or semi-detached houses. In apartment buildings, emergency exit through the ladder is arranged for apartments if people cannot be rescued using the fire department's ladder truck. Another option is a hatch ladder placed in the balcony slab.

Technical information

- Ladder side rails and steps are made of aluminium profile. The fixture parts are made of stainless steel.
- Ladder size when folded: 76 x 38 mm.
- When launched, the total ladder width is 410 mm and the free distance between side rails is 335 mm.
- The step distance is 300 mm.
- The launching of the ladder can also be modified so that the ladder is launched from the bottom.
- The standard lengths of the ladder frames are 2.7 m, 3 m, 3.3 m, 3.6 m and 4.2 m.

Planning

- The height of a balcony handrail is usually 1.1 m. The first or highest step of the launchable ladder is located 0.4 m down from the top of the ladder. The correct location for the top of the ladder is, therefore, at approximately 1.8 m from the balcony floor. Extensions must also be placed at corresponding heights. Residents must be able to reach the launching pin.
- The overall space needed for launching is 440 mm.

Snow guards

Snow guards are needed to prevent damage to people, buildings and property caused by snow and ice. Nesco snow guards are made of durable materials, taking into account construction requirements.

You can choose a traditional 2-pipe or modern profile snow guard. A snow guard made of oval tube is suitable for a sloping roof in a low-rise building. A snow guard bent into a V-shaped profile is a durable alternative for a low-rise building. The grid-type snow guards have been specially developed for seamed roofs and are the safest option in apartment buildings and public buildings such as schools and kindergartens.

Fixture sets for different roofing materials. The snow guard fixture can be used both with pipe and profile snow guards.

Technical information

- The length of the snow guard is 3 metres, and it can be extended.
- On steep and long roof planes, you might need to add more fixtures, see the dimensioning table.
- The size of the oval pipes is 45 x 25 x 1.0 mm, length 3.0 m.
- The snow guard tubes can be extended using M8 x 30 mm screws.

Planning

- The snow guard is placed where snow falling from the roof presents a hazard or some other reason exists for preventing the snow from falling.
- The snow guard must always cover the entire length of the eaves. It should not be used as short sections (e.g. 3 m) over the entrances only, for example. If this is necessary, however, two rows of snow guards must be used if the length of the roof plane above the snow guard is more than 4 metres.
- Snow must always be prevented from falling from one roof plane to another as well.
- Place the snow guard close to the side eaves so that the snow loads are transferred to the load-bearing structures.

Installation kit includes all needed fixtures, parts and screws.

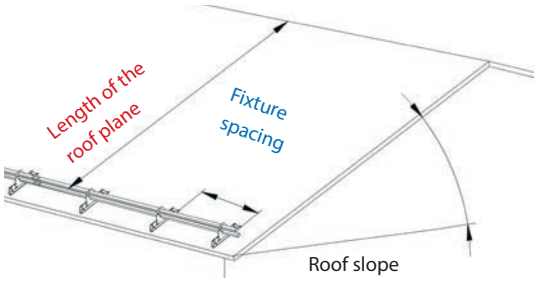
2-pipe snow guard

LP3 profile snow guard

Varma 120 and 180 snow guard profile

Roof slope	Length of the roof plane					
	0,5 m	0,6 m	0,75 m	0,9 m	1,0 m	1,2 m
<15°, (1:3,7)	21,4 m	17,9 m	14,3 m	12,0 m	10,7 m	9,0 m
15...22°, 1:3,7...1:2,5	11,4 m	9,5 m	7,6 m	6,3 m	5,7 m	4,8 m
22...27°, 1:2,5...1:2	8,4 m	7,0 m	5,6 m	4,7 m	4,2 m	3,5 m
27...37°, 1:2...1:1,3	7,4 m	6,2 m	4,9 m	4,1 m	3,7 m	3,1 m
37...45°, 1:1,3...1:1	9,0 m	7,5 m	5,9 m	5,0 m	4,5 m	3,7 m

Please note that snow loads vary regionally.



Wires

Vertical safety rails and wires ensure the safety of persons climbing on the roof, thereby facilitating roof maintenance.

Nesco designs and manufactures roof safety and rainwater products according to the needs of its customers. In addition to galvanised steel, we also make products from copper, stainless steel and acidproof steel as well as aluminium, amongst others. We also manufacture internal drainage systems for balconies and dry risers for the fire departments.

When a fall protection system is used for anchoring the user even in complex buildings, the need to detach and reattach the safety line is minimised with safety wires, allowing the safe maintenance of the roof.

Technical information

- A safety wire can be fixed permanently on the roof bollards or to the wall.
- The attachment carriage runs freely over the system's attachment point, facilitating moving on the roof without unnecessary and unsafe wire detachments.

Bollards and fire pipes

Dry riser pipes can be attached directly on the wall or, using additional support parts, to the wall ladder. The shutoff valves speed up and increase the efficiency of the fire department's work in case of fire.

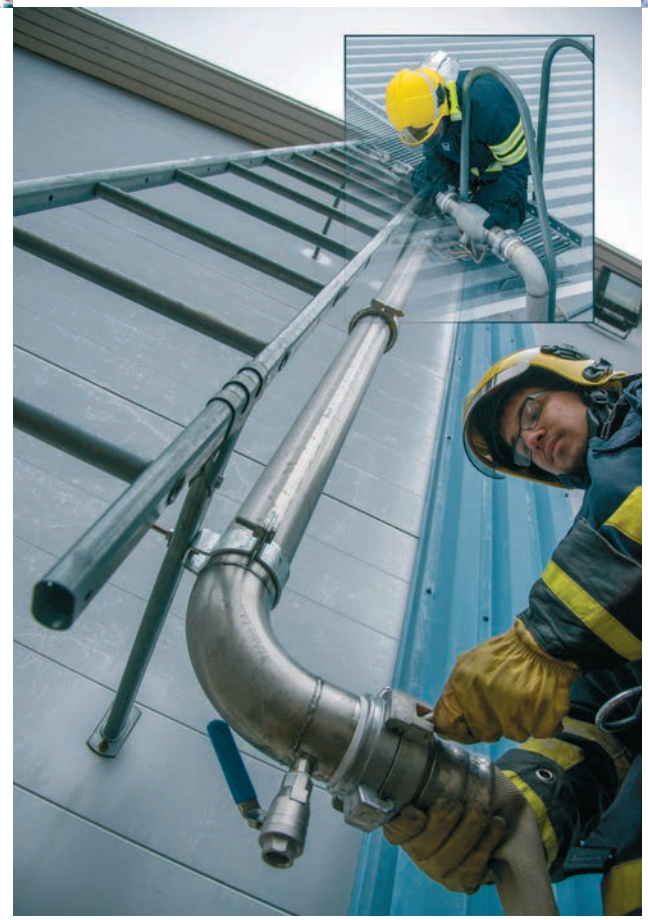
The roof bollard is intended for attaching for suspended platforms and is best suited for standing seam roofs.

The weight of a counterweight bollard is 300 kg, and it can be used as an anchor point for two people.

Technical information

- The wire or lanyard is attached to the attachment axle, ø 30 mm, length 280 mm, in the middle of the bollard.
- Traction must be directed at the bollard from the direction indicated by the arrow.
- The tightness of the fixing screws must be inspected after the first spring season.
- The counterweight bollard can be installed temporarily or permanently on flat roofs.
- Installing the counterweight bollard is easy.
- The counterweight bollard weighs 300 kg.

Dry riser pipes can be attached directly on the wall or, using additional support parts, to the wall ladder. The top and bottom of the pipe must be supported properly. The lowest feet of the ladder are attached to the plinth. The length of the dry riser piping is dimensioned on a case-by-case basis. The maximum length of individual pipe is 6,000 mm. Pipes longer than that are equipped with connections that facilitate the installation and transport of the pipes. The shutoff valves speed up and increase the efficiency of the fire department's work in case of fire.



Balcony drainage systems

The removal of water from balconies must usually also be renovated in conjunction with facade renovations and renovations of entire blocks of flats. We have solved the removal of water from the inside of balconies with tested products that can be used in new buildings and in the renovation of old apartment buildings alike.

Our balcony drainage systems are tested and approved, and they meet the EI60 fire rating requirements. The system is certified, certificate no. VTT-C-10518-13. Read more about the products at www.nesco.eu.

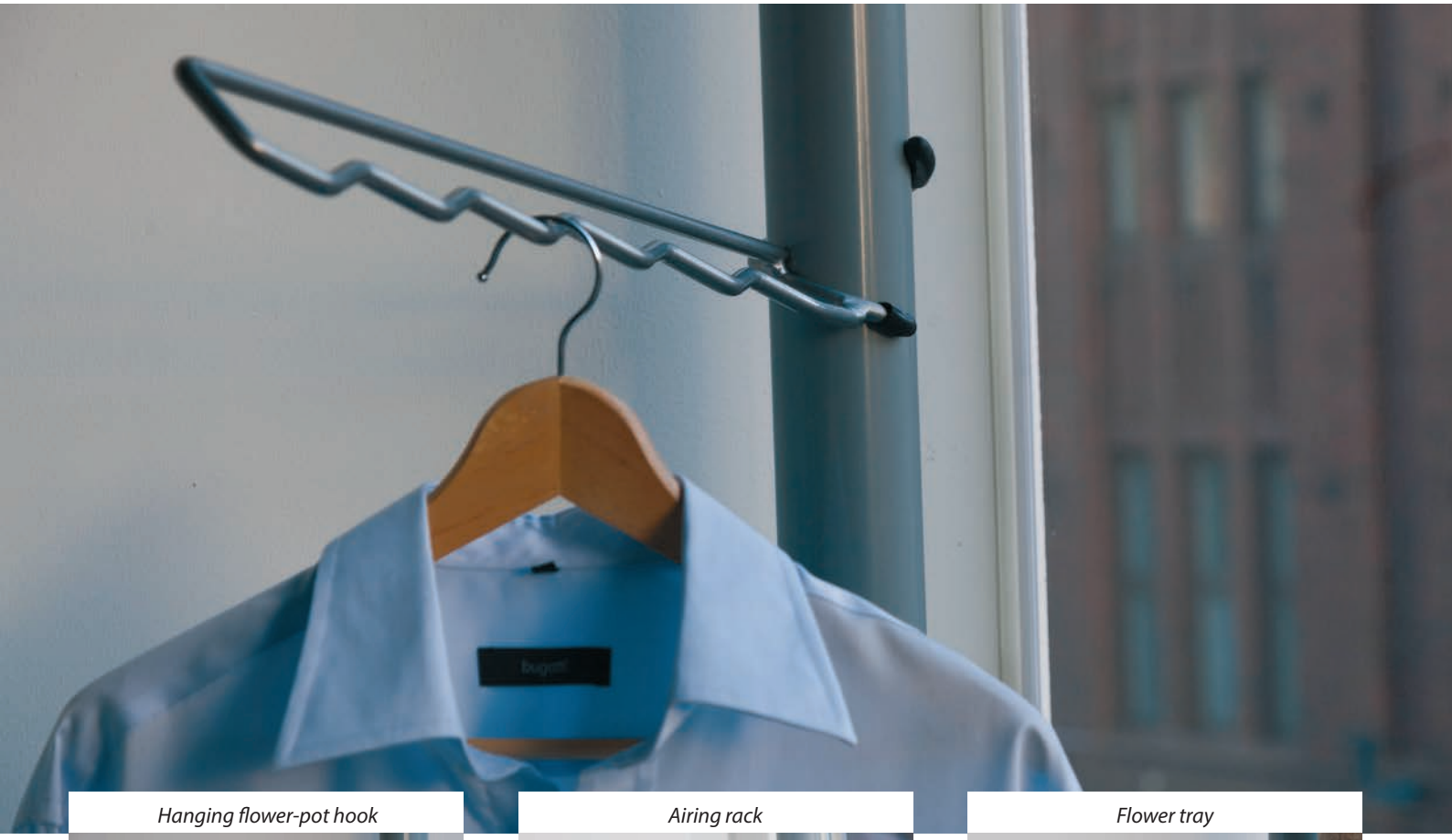
Products for construction and renovations

- Balcony drains for construction and renovations
- Balcony piping systems
- Pipe shoes and roof drains fitted with flanges
- Firestops for balcony drains
- Dry riser piping

Technical information

- Made of stainless steel.
- Easy and fast installation.
- No attachment to the wall needed on balconies.
- Powder-coated products, various colour options.
- Easy installation and maintenance.
- Partsi products can always be used with balcony piping.

Partsi products



Hanging flower-pot hook

Airing rack

Flower tray

Airing racks, flower trays and hanging flower-pot hooks to be attached to the drainage piping of the balconies.

The flower-pot hooks can be used for hanging flower pots and lanterns, for example, when the load does not exceed the allowed weights listed in the load instructions.

The airing rack can be used for hanging clothes, for example, in coat hangers. The rack is shaped so that it can be used for drying small amounts of laundry as well.

The trays can be used for flower pots or other items creating a cosy atmosphere. Installing several trays creates a living oasis of flowers or a versatile shelving system for items. The trays are easy to move.

Technical information

- Frame material ø 10 mm round steel.
- Standard colour: powder coated RAL 9006 silver grey; other colours by order.
- Compatible with ø 75 mm PVC, stainless steel, AL and Cu piping.
- Load-bearing capacity 10 kg.
- 1 year warranty.
- Hanging flower-pot hook, weight 0.35 kg, length 160 mm.
- Airing rack, weight 0.85 kg, length 500 mm.
- Trays, weight 0.75 kg, length 160 mm.
- Trays are made of aluminium.

Installation kits

Wall ladder products

RR20 white, RR32 dark brown, RR33 black, RR23 dark grey, RR29 red, RR750 tile red

Product	Installation kit	Description
Ladder frame 2.4 m 3.0 m 3.6 m 4.2 m	AS1 wall ladder installation kit	To install AS1 wall ladder to the side or end of the building. The installation kit is enough to install max. 5 m ladder frame. Ladder frame not included in the set. The arches at the top can be attached directly to the ceiling, a roof ladder or a walkway.
Ladder frame 2.4 m 3.0 m 3.6 m 4.2 m	AS1 L wall ladder additional installation kit	Wall ladder additional installation kit to extend the wall ladder. You can extend the height with one AS1 L set max. 3 m. Additional installation kits always require an AS1 set. Ladder frame not included in the set.
Ladder frame 2.4 m 3.0 m 3.6 m 4.2 m	AS4 safety ladder installation kit	The AS4 safety ladder installation kit is attached to the wall of the building when a window or a balcony door used as an emergency exit is higher than 3.5 m from the ground. The installation kit does not include a ladder frame.
Side bar set		Side bar set for 2 x 1.5 m pipes. The kit can be used to enable sideways movement to the ladder acting as an emergency exit route.
Launchable escape ladder package 2.7 m 3.0 m 3.3 m 3.6 m 4.2 m		A launchable ladder is an inconspicuous and safe solution for an emergency exit route. The ladder is locked with a pin from the top end, so it cannot be released from below.
French balcony railing package		The French balcony railing package can be used for balcony doors 900 mm wide or narrower. Easy to install. Height 1000 mm, width 1100 mm. Other widths are also available.
Safety barrier		The safety barrier is usually used in buildings to prevent unnecessary climbing. Safety barrier size 395 x 1200 mm. Also available with a vertical safety rail cover. Possible to use a padlock.

Roof ladders

RR20 white, RR32 dark brown, RR33 black, RR23 dark grey, RR29 red, RR750 tile red

Product	Installation kit	Description
Ladder frame 2.4 m 3.0 m 3.6 m 4.2 m	AS3 roof ladder installation kit for bitumen roofs	The installation kit includes the necessary parts to install a max. 6 m roof ladder. Can be used for bitumen roofs. Ladder frame not included in the set.
Ladder frame 2.4 m 3.0 m 3.6 m 4.2 m	AS3 roof ladder installation kit for metal multi-tile roofs, corrugated steel roofs and flat roofs	The installation kit includes the necessary parts to install a max. 6 m roof ladder. Suitable for metal multi-tile and corrugated steel roofs and flat roofs. NOTE! Not suitable for bitumen roofs. Ladder frame not included in the set.
Ladder frame 2.4 m 3.0 m 3.6 m 4.2 m	AS3 roof ladder installation kit for tile roofs	The installation kit includes the necessary parts to install a max. 6 m roof ladder. Suitable for the most common concrete tile roofs. Ensure suitability for clay tile and flat tile roofs. Ladder frame not included in the set.
Ladder frame 2.4 m 3.0 m 3.6 m 4.2 m	AS3 roof ladder installation kit for standing seam roofs	The installation kit includes the necessary parts to install a max. 6 m roof ladder. Suitable for traditional standing seam roofs at seam heights of 25 to 30 mm. Ladder frame not included in the set.
Ladder frame 2.4 m 3.0 m 3.6 m 4.2 m	AS3 roof ladder installation kit for snap-lock standing seam roofs	The installation kit includes the necessary parts to install a max. 6 m roof ladder. Suitable for snap-lock standing seam roofs up to a seam height of 32 mm.

Installation kits

Snow guards

RR20 white, RR32 dark brown, RR33 black, RR23 dark grey, RR29 red, RR750 tile red

Product	Installation kit	Description
Snow guard tube pair 3 m LP3 profile 3 m	Snow guard installation kit for metal multi-tile roofs, corrugated steel roofs and smooth metal roofs	Installation kit suitable for installing a 2-pipe OVA or an LP3 profile snow guard. One kit to install a max. 3 m snow guard. Includes screws needed for extensions. Suitable also for bitumen roofs.
Snow guard tube pair 3 m LP3 profile 3 m	Snow guard installation kit for tile roofs	Installation kit suitable for installing a 2-pipe OVA or an LP3 profile snow guard. One kit to install a max. 3 m snow guard. Includes screws needed for extensions. Ensure suitability for clay tile and flat tile roofs.
Snow guard tube pair 3 m LP3 profile 3 m	Snow guard installation kit for standing seam roofs	Installation kit suitable for installing a 2-pipe OVA or an LP3 profile snow guard. One kit to install a max. 3 m snow guard. Includes screws needed for extensions. Suitable for traditional standing seam roofs at seam heights of 25 to 30 mm.
Snow guard tube pair 3 m LP3 profile 3 m	Snow guard installation kit for snap-lock standing seam roofs	Installation kit suitable for installing a 2-pipe OVA or an LP3 profile snow guard. One kit to install a max. 3 m snow guard. Includes screws needed for extensions. Suitable for snap-lock standing seam roofs up to a seam height of 32 mm.

Roof walkways

RR20 white, RR32 dark brown, RR33 black, RR23 dark grey, RR29 red, RR750 tile red

Product	Installation kit	Description
T350 lk2	Snow guard installation kit for metal multi-tile roofs, corrugated steel roofs and smooth metal roofs	Installation kit T350 to install a roof walkway (2.92 m). Includes screws needed for extensions. Suitable also for bitumen roofs. Roof walkway handrail sold separately.
T350 lk2	Snow guard installation kit for tile roofs	Installation kit T350 to install a roof walkway (2.92 m). Includes screws needed for extensions. Ensure suitability for clay tile and flat tile roofs. Roof walkway handrail sold separately.
T350 lk2	Snow guard installation kit for standing seam roofs	Installation kit T350 to install a roof walkway (2.92 m). Includes screws needed for extensions. Suitable for traditional standing seam roofs at seam heights of 25 to 30 mm. Roof walkway handrail sold separately.
T350 lk2	Snow guard installation kit for snap-lock standing seam roofs	Installation kit T350 to install a roof walkway (2.92 m). Includes screws needed for extensions. Suitable for snap-lock standing seam roofs up to a seam height of 32 mm. Roof walkway handrail sold separately.

Installation kits

Nesco rainwater system 125/87mm, gutters

RR20 white, RR32 dark brown, RR33 black, RR21 light grey, RR23 dark grey, RR29 red, RR750 tile red

Product	Installation kit	Description
Gutters 3 m, 4 m and 6 m. Half-round 125 mm gutter is manufactured of steel with Nova coating on both sides, material thickness 0.6 mm. Available also in other colours.	Fixture set	External gutter fixture for installing a 125 mm gutter. One set is enough to install a 3 m gutter. The adjustable background support fits the most common slopes.
	Gutter ends pair	125 mm gutter end sections. The end section is suitable for both right- and left-handed installation. The joint can be finished with a sealant.
	Gutter connection pair	For installing and extending a 125 mm gutter. The joint can be finished with a sealant.
Internal corner of the gutter 90° or 135°		Internal corner of the 125 mm gutter. Connecting to the gutter with a connecting piece.
External corner of the gutter 90° or 135°		External corner of the 125 mm gutter. Connecting to the gutter with a connecting piece.

For example: 12 m eave width
You need: 3 x 4 m gutter, 4 x gutter fixture set, 1 pcs gutter ends pair, 2 pcs gutter connection pairs

For example: 25 m eave width
You need: 4 x 6 m gutter, 1 x 3 m gutter, 9 x gutter fixture set, 1 pcs gutter ends pair, 2 pcs gutter connection pairs

Gutters should always be attached so that there are as few joints as possible. By combining different gutter lengths you can also calculate the optimal lengths to keep the remaining waste pieces as short as possible.

Nesco rainwater system 125/87 mm, downpipes

RR20 white, RR32 dark brown, RR33 black, RR21 light grey, RR23 dark grey, RR29 red, RR750 tile red

Product	Installation kit	Description
Downpipes 1 m, 2.5 m, 3 m and 4 m. Round ø87 mm downpipe is manufactured of steel with Nova coating on both sides, material thickness 0.6 mm. Tapered pipe end.	Downpipe angle set	The downpipe angle set includes the necessary parts for the downpipe structure. In addition, you need a bottom section of the correct length. The set increases the descent height by approximately 0.5 m. The downpipe is sold separately.
Downpipe additional fixture		Downpipe ø 87 mm fixture pair. Used in downpipes over 4 m as an additional fixture. Can be installed on wood and stone walls.
Water collector		With a water collector you can collect and use rainwater. Available with a brass hose fitting for ø87 mm downpipes. Compatible with a 3/4 inch (19 mm) hose.

For example: 3 m downpipe (eave) height
You need: 1 pcs 3 m downpipe, 1 pcs downpipe angle set

For example: 5 m downpipe (eave) height
You need: 2 x 3 m downpipe, 1 pcs downpipe angle set, 1 pcs downpipe additional fixture set

The downpipes are always attached to the wall at their upper and lower ends and, in higher downpipe structures, at the connections.

Instructions and tips

Rainwater systems

- The length of the gutter is determined by the width of the eaves. The recommended maximum length for one gutter per downpipe is 10 m. There should not be more than 100 m2 of roof per one downpipe.
- A suitable slope for the gutter is 3 to 5 mm per 1 m of gutter.
- The fixture set includes background adjustment pieces that allow you to always select the correct mounting angle, regardless of the roof's slope. Place the gutter fixtures at 0.9 m intervals.

Roof safety products

- When choosing a **wall ladder**, you need to know the height of the building from the top edge of the eaves to the ground (1). The recommended length of the ladder frame is the height minus -0.8 m.

- The installation kit of the **wall ladder** (AS1) includes 1 m long feet. The feet can be shortened according to the width of the eaves. Standard feet are sufficient for max. 0.8 m eaves width (2).

- **The ladder frame length of the** roof ladder is determined based on the distance from the eaves to the maintenance object or roof walkway.
- Roof ladders longer than 3 m must be protected on both sides by snow guards.

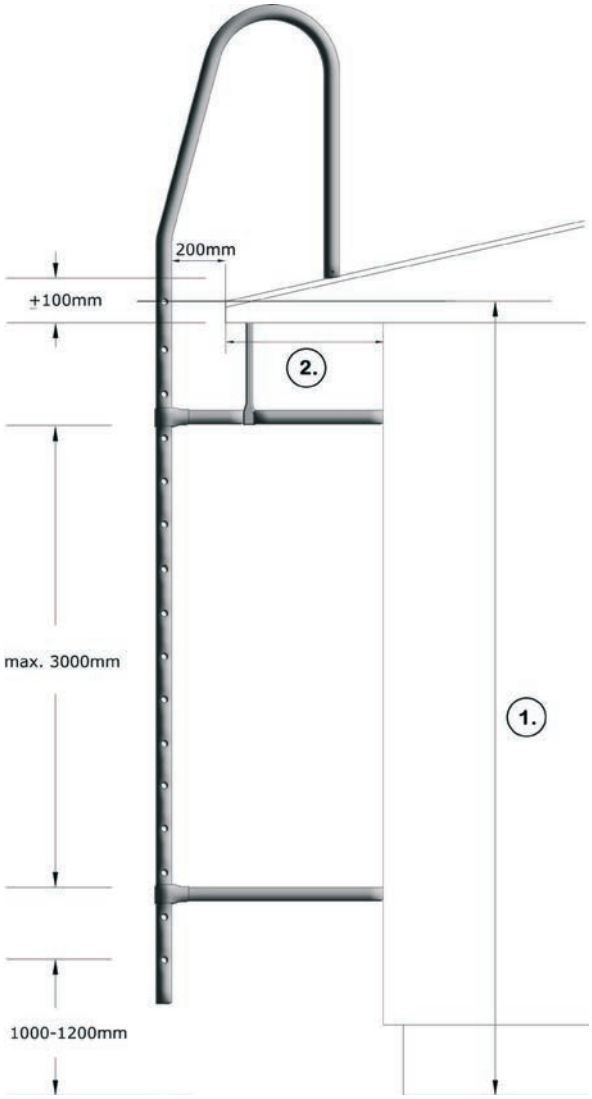
- **Safety ladders** are individually designed for the building. The safety ladder is used when an emergency exit, window or balcony door, is higher than 3.5 m from the ground. The lower end of the safety ladder is left at a height of approx. 1.8 m from the ground.

- **When determining the length of the roof walkway**, unobstructed and safe access to objects requiring maintenance and inspection must be taken into account.
- On steep roofs, a roof walkway is recommended to be installed above the maintenance site to facilitate work.

- **Snow guards** should be installed above entrances and walkways. It is recommended to install snow guards across the entire width of the roof to protect canopies, cars, plantings and children playing around the house.
- When installing snow guards, short sections of less than 3 m should be avoided, see the dimensioning table for snow guards on the next page.

More information on dimensioning and installation: www.nesco.eu

- The height of the downpipe is measured from the lower edge of the fascia to the ground. Downpipe angle set adds height max. 0.5 m. For example, a angle set connected to a 2.5 m downpipe is sufficient for a maximum of 3 m of downpipe.

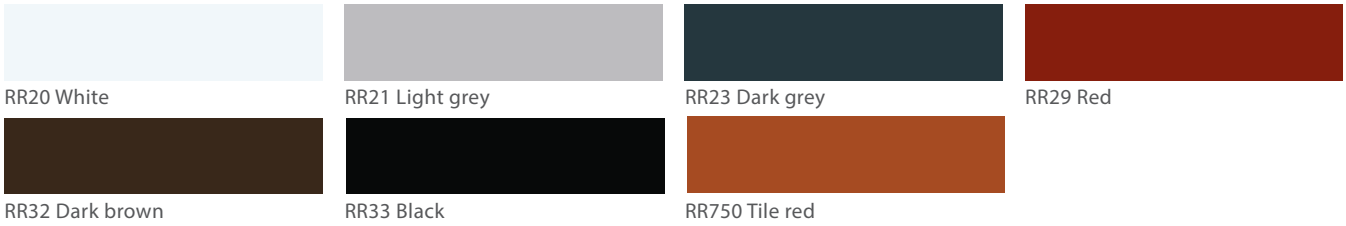


Dimensioning of wall ladder

Colour chart

Rainwater systems and roof safety products

Standard colours



RR20 White | RR21 Light grey | RR23 Dark grey | RR29 Red

RR32 Dark brown | RR33 Black | RR750 Tile red

Roof safety products

Special colours

RR11 Pine green | RR22 Rock grey | RR40 Silver

Special colours according to the RRR colour chart made to order.
The colours on the colour chart are as close to real as technically possible.

NESCO
Tuotteet kestää, toimitus ei.

RAINMAN

CE

TEHTY SUOMESSA
MADE IN FINLAND

Founded in 1981, Nesco Oy is Finland's leading manufacturer of rainwater and roof safety products. Our production facilities are located in Orimattila, and our products have a very high domestic content. We are a pioneer of product development in Finland.

We grant a 15-year material warranty for our NESCO rainwater system.
We grant a 10-year material warranty for our NESCO roof safety products.

NESCO rooftop walkways meet all regulatory requirements. The products have been tested by VTT Technical Research Centre of Finland and are CE marked as proof of compliance.

Additional information: www.nesco.eu

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