



Döcke

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Rain Gutters

Installation
manual

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1. OVERVIEW

1.1 The Döcke PVC rain gutter system is a prefabricated structure designed to drain rainwater off roofs. The elements of Döcke PVC rain gutter systems are made by co-extrusion and injection molding from polyvinyl chloride and/or vinyl chloride copolymers with various additives.

1.2 This manual contains the basic requirements for the installation and maintenance of Döcke PVC rain gutter systems. For a detailed description and characteristics of the elements included in this rain gutter systems, please visit www.en.docke.ru.

1.3 The manual covers the wide experience gained in the installation and operation of Döcke PVC rain gutter systems across various climatic zones.

1.4 When designing a rain gutter system, one shall comply with national building codes and regulations, given the discharge performance of the drainage elements, the intensity of precipitation in the area of installation, and the roof area to be drained.

1.5 The Döcke PVC rain gutter systems should be installed in the following order:

- water collection elements
- drainage elements

1.6 The Döcke rain gutter systems come with PVC expansion joints, which allows maintaining stable geometry within the temperature range of -40 °C to +50 °C.

1.7 The Döcke rain gutter systems are installed at temperatures not lower than -0 °C.

2. SAFE INSTALLATION GUIDE:

2.1 The organization of work shall preclude falling from height.

2.2 To prevent slipping, do not leave the packaging in the installation work area.

2.3 Use scaffolding and other devices to move along the facade at a height.

PVC RAIN GUTTER

3. DÖCKE LUX RAIN GUTTER SYSTEM ELEMENTS

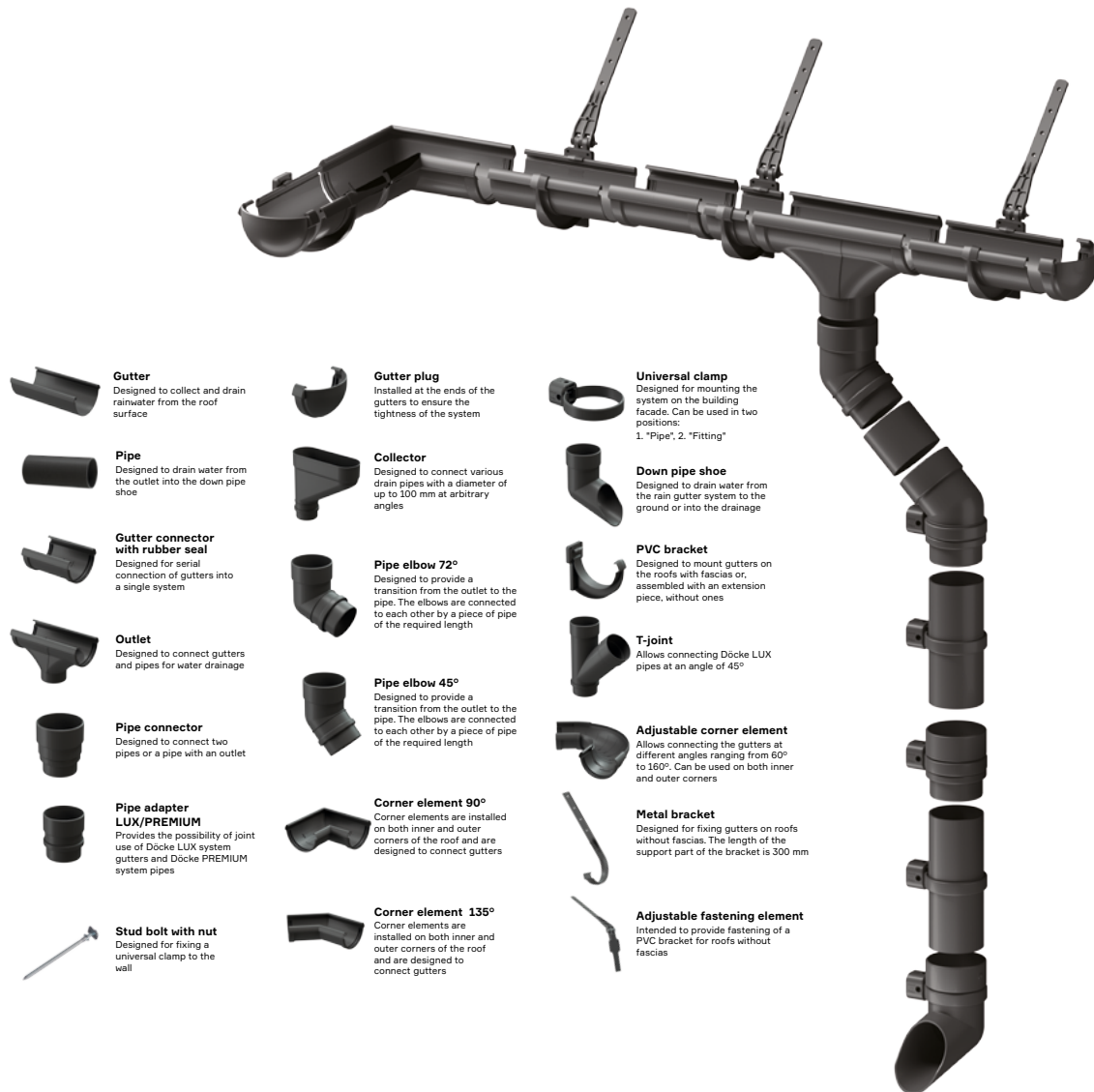


Figure 1 – Döcke LUX rain gutter system elements

PVC RAIN GUTTER

4. DÖCKE PREMIUM RAIN GUTTER SYSTEM ELEMENTS

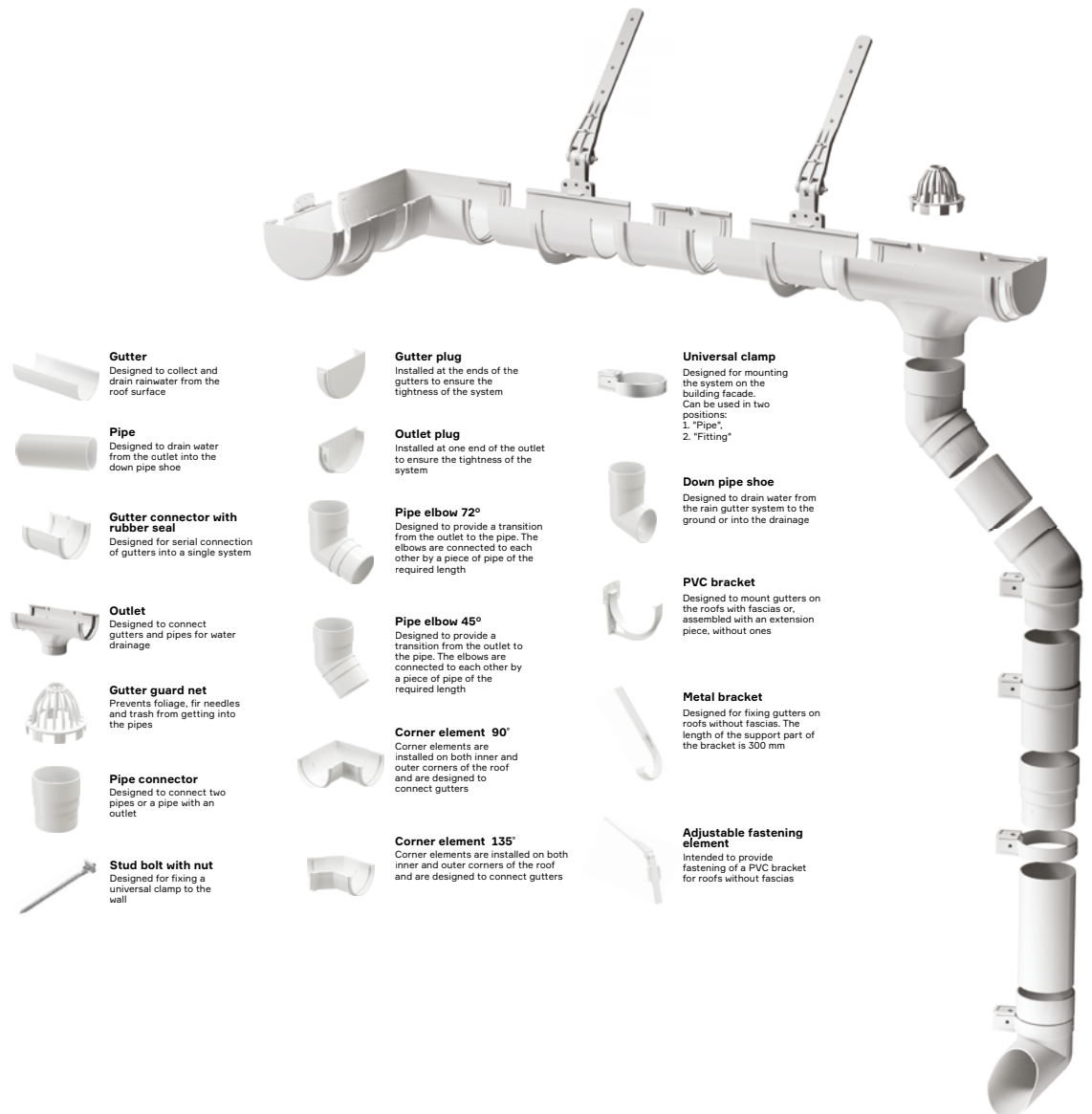


Figure 2 – Döcke PREMIUM rain gutter system elements

PVC RAIN GUTTER

5. DÖCKE STANDARD RAIN GUTTER SYSTEM ELEMENTS

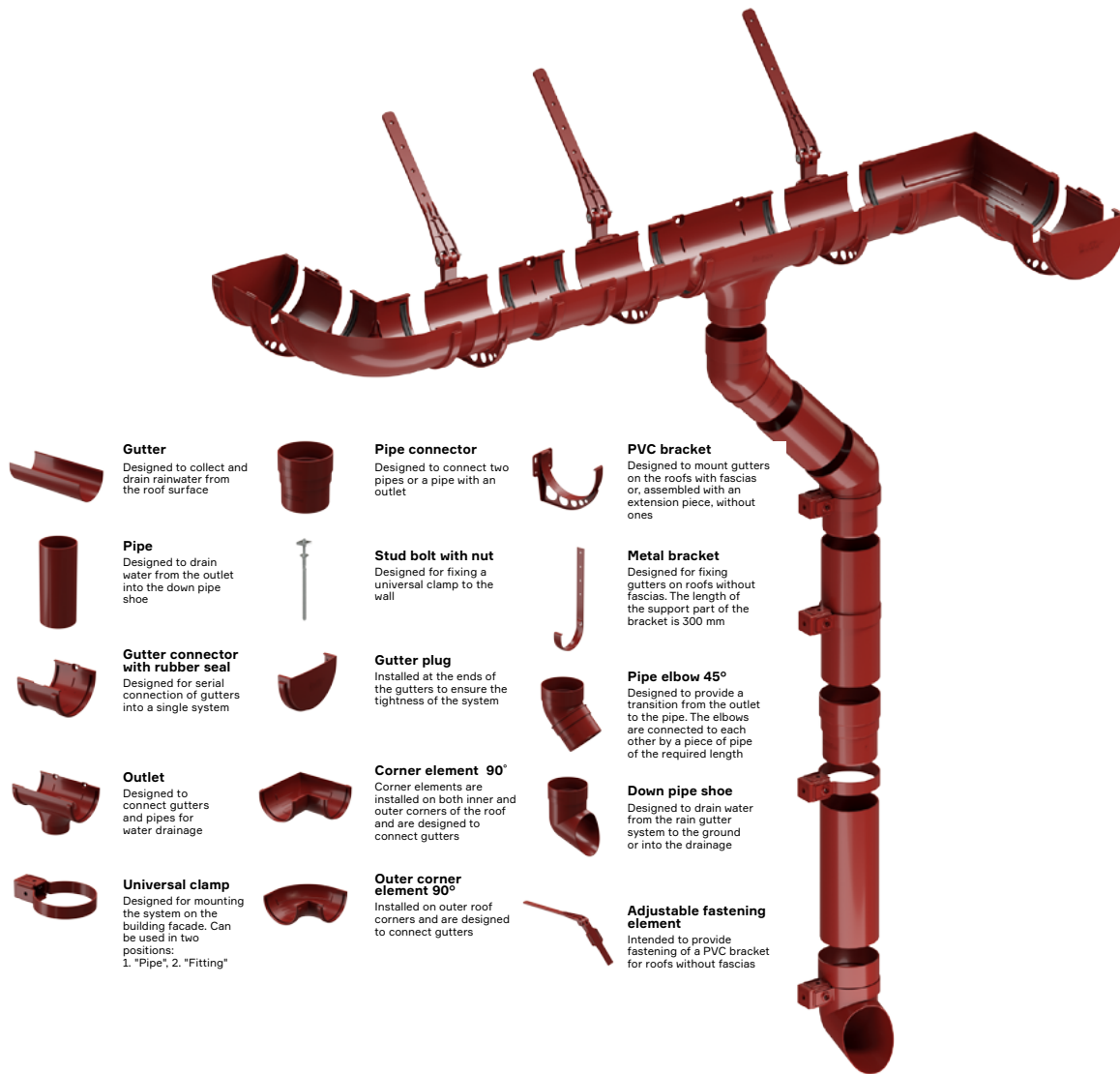


Figure 3 – Döcke STANDARD rain gutter system elements

TOOLS AND FASTENERS

6. CUTTING AND INSTALLATION TOOLS

- MARKING
Pencil/marker, measuring tape, marking cord
- BRACKET MOUNTING
Screw gun, screwdriver, bit (10-12 mm), fasteners
- BRACKET INSTALLATION
Bracket bender (for steel brackets), marker/pencil, marking cord, measuring tape
- PIPE AND GUTTER CUTTING
Angle grinder with cutting wheel, fine-toothed saw



Figure 4 – Installer tools

TABLE NO. 1 – REQUIREMENTS FOR FASTENING PLASTIC AND STEEL BRACKETS AND ADJUSTABLE FASTENING ELEMENTS

Application scope	Fastener	Length	Thickness
Metal brackets	Galvanized, anodized, or galvanized wood self-tapping screws	Not less than 40 mm	Not less than 4 mm
PVC brackets and adjustable fastening elements	Galvanized, anodized, or galvanized wood truss head self-tapping screws	Not less than 40 mm	Not less than 4 mm

7. PREPARING FOR INSTALLATION

If any dirt buildup is found, clean the interfaces of drainage elements (gutters, outlets, connectors, corners) before installation.

Check that seals in each of the connecting elements are in their proper place.

MOUNTING STAGES

8. RAINWATER COLLECTION SYSTEM LAYOUT.

RAINWATER DISCHARGE CAPACITY AND COLLECTION AREA

The distance from the bracket's outer part to the slope line shall be not less than 20 mm (Fig. 5).

This requirement is valid for sloping roofs with a slope of not more than 40°. For steeper slopes, the distance may be smaller, absent, or even negative (when the bracket protrudes above the slope line).

Roof or eave overhangs shall be 1/3 to 1/2 the diameter of the gutter (Fig. 5).

If there is an eave trim, its lower part shall be inside the gutter. The minimum permissible distance from the bottom edge of the eave trim to the gutter bottom is 20 mm.

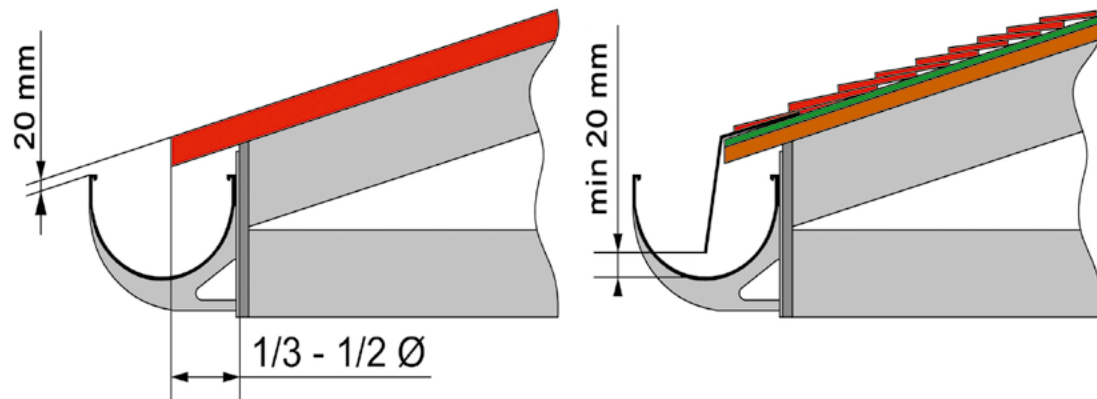


Figure 5 – Installation diagram of the Döcke gutter system

Gutters shall be installed with a protrusion of 50 mm beyond the vertical plane of the gable, if any.

No structural solutions employed in the drainage design shall impede the entry of air into the roof void if supply ventilation openings are arranged from the side of the eave's fascia.

To prevent stagnation of water, the rainwater collection line shall have a slope towards the outlet of 3 mm per meter of the eave (Fig. 6).

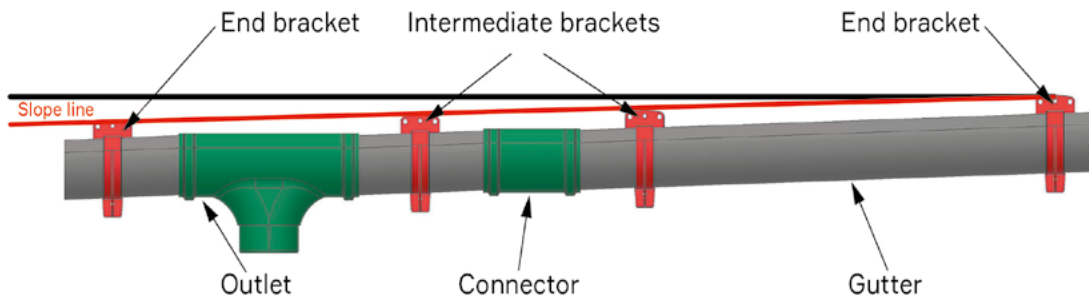


Figure 6 – Position of the rainwater collection line relative to the eave

MOUNTING STAGES

With one outlet at the end of the collection line, the maximum permissible gutter length shall not exceed

10 meters; With two outlets at the extreme points of the collection line, 20 meters (Fig. 7).

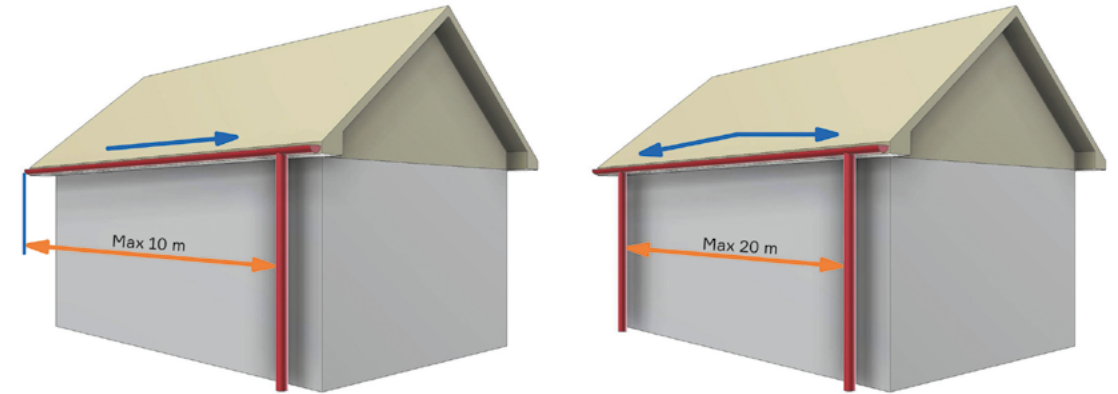


Figure 7 – Maximum permissible gutter length

TABLE 2 – RAINWATER DISCHARGE CAPACITY AND COLLECTION AREA

System	Pipe, mm	Gutter, mm	One pipe, m ²	Two pipes, m ²
Döcke STANDARD	80	120	55	110
Döcke PREMIUM	86	120	66.8	133.6
Döcke LUX	100	141	80.45	160.9

9. INSTALLATION OF BRACKETS

Before mounting brackets, decide on the installation locations for outlets, gutter connectors, plugs, and, if necessary, 90° or 135° corner elements.

The maximum distance from the bracket to the end of the 90° or 135° corner element as well as to the

outlet and connector from each side shall not exceed 100 mm, unless they are fixed to the fascia (Fig. 8).

The maximum distance from the bracket to the plug shall not exceed 100 mm.

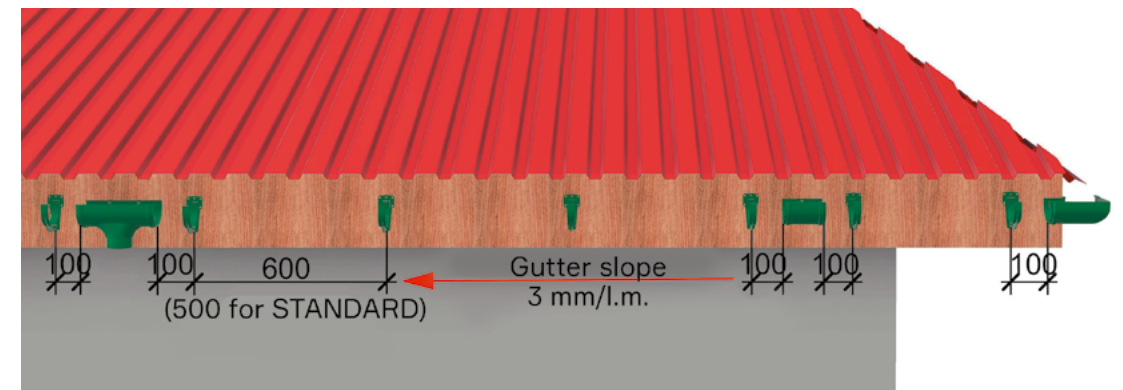


Fig. 8 – Position of brackets

MOUNTING STAGES

To create a slope, install the first and last brackets so that the height difference between them ensures a slope of the gutter line towards the outlet of 3 mm per linear meter of the eave. Next, stretch a cord between the installed brackets and fix the required number of brackets along the shaped line with a spacing of 600 mm (500 mm for Döcke STANDARD) within axes (Fig. 9).

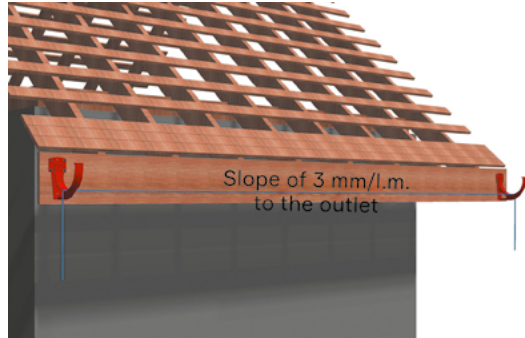


Figure 9 – Creating a gutter slope

9.1 MOUNTING PLASTIC BRACKETS ON THE FASCIA.

PVC brackets are fixed to the fascia with fasteners through mounting holes (Fig. 10).

If the fascia is finished with a polymer material, 10-12 mm holes shall be made at the points where the fasteners pass through it. Then install shim washers on the fasteners. The shim washers shall be at least 2 mm thick, with a diameter smaller than the hole in the polymer material. The already mounted brackets shall not interfere with the thermal expansion of the material used to protect the fascia (Fig. 11).

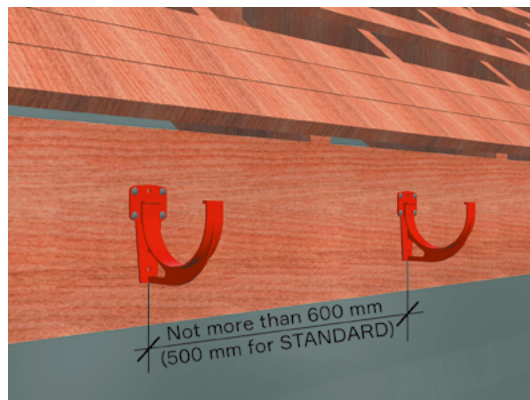


Figure 10 – Position of plastic brackets on the fascia

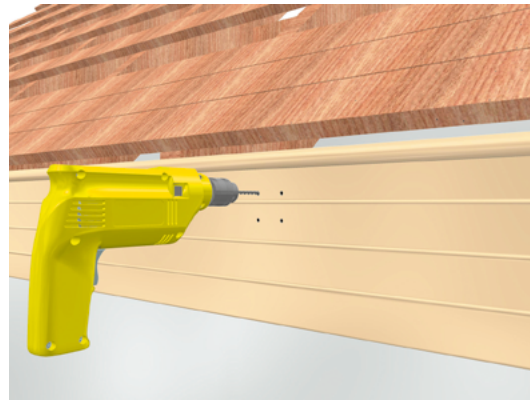


Figure 11 – Specifics of mounting brackets on polymer materials

9.2 MOUNTING METAL BRACKETS.

When using metal brackets, before mounting, mark and bend the brackets using a bracket bender to shape the gutter slope line.

When mounting metal brackets at ambient temperatures of 0 °C to +15 °C, before bending, expose the brackets to a room temperature not less than +15 °C for at least 8 hours.

Before marking, assign numbers to all the brackets. Next, find and mark the bending point A on Bracket 1 (the bracket to be located above the rest) (Fig. 12).

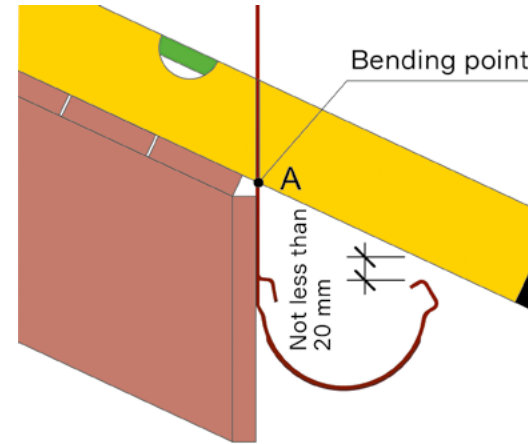


Figure 12 – Finding the bending point on the uppermost bracket

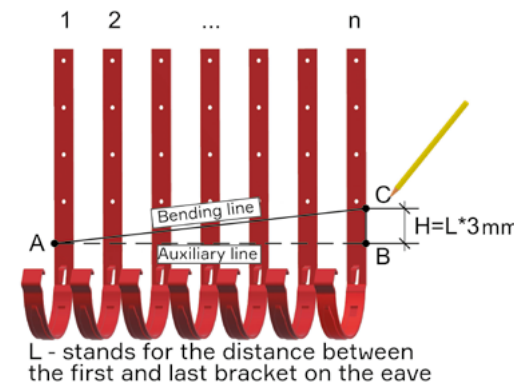


Figure 13 – Marking brackets for subsequent bending

MOUNTING STAGES

This shall be done by attaching the level to the roof slope and placing the bracket strictly vertically. The lower plane of the level shall be at least 20 mm higher than the bracket nose (true for roofs with a slope of not more than 40°; for steeper slopes, the distance may be smaller, absent or even negative (when the bracket nose is higher than the lower plane of the level). The point of intersection of the level's lower plane with the long side of the bracket will be the bending point of the upper bracket (Point A).

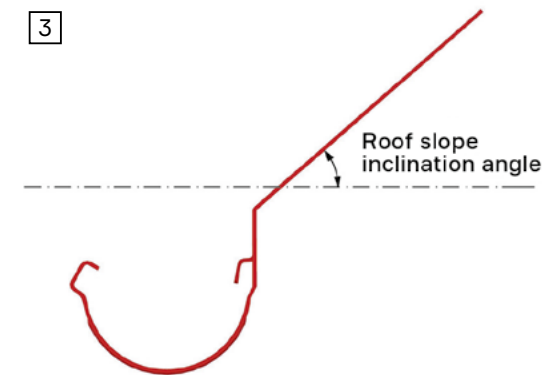
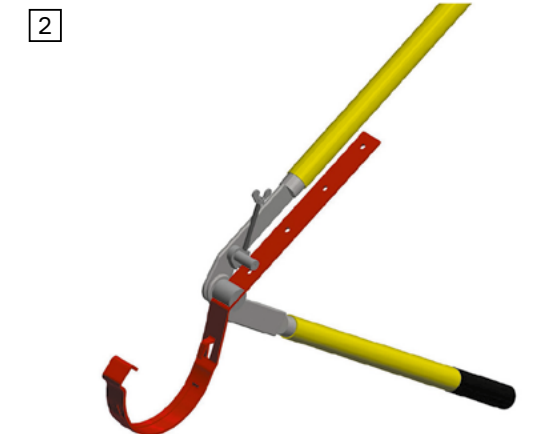


Figure 14 – Bending brackets using a bracket bender

MOUNTING STAGES

The numbered brackets should then be laid out and aligned. Draw a perpendicular from the previously found point A and find point B (see the auxiliary line AB in Fig. 13). Next, plot the H value from point B. The H value is the distance on the eave overhang between the highest and lowest brackets, in meters * 3 mm. That is, if the distance between the brackets is 5 m, then $H = 5 * 3 = 15$ mm. This produces point C. Then you need to connect points A and C. The resulting segment will be the bend line.

After marking, bend the brackets using a bracket bender (Fig. 14).

It is important that after bending, the angle of the bracket mounting plane corresponds to the angle of the roof slope (Fig. 14, part 3) and allows the positions shown in Section 8 to be observed.

Steel brackets only hold the gutter, therefore, if the outlets and gutter connectors are not fixed to the fascia, the distance from the bracket to the end of the connecting element (outlet, gutter connector, 90° or 135° corner element) on each side should not exceed 100 mm, with a spacing between the brackets as follows (Fig. 15):

- for LUX and PREMIUM systems – not more than 600 mm within axes;
- for STANDARD system – not more than 500 mm within axes;

Metal brackets shall be installed on the roof framing before mounting the main roofing by fixing with fasteners through mounting holes (Fig. 15). If necessary (depending on the roofing), brackets can be recessed to the level of the upper plane of the roof sheathing.

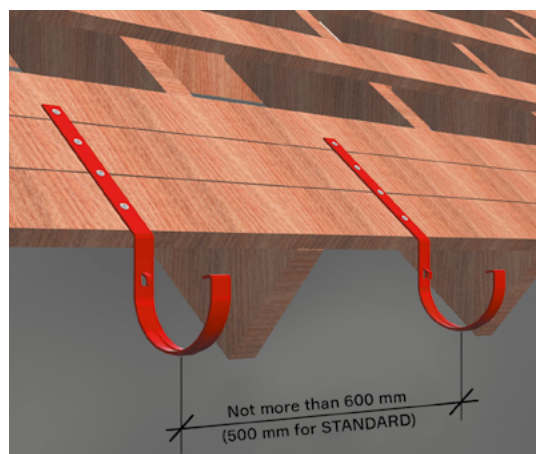


Figure 15 – Positioning metal brackets on the sheathing

9.3 INSTALLING ADJUSTABLE FASTENING ELEMENTS.

When installing adjustable fastening elements, please observe the following requirements:

- PREMIUM and STANDARD outlets shall be installed on two adjustable fastening elements (Fig. 27).
- PREMIUM and STANDARD gutter connectors shall be installed on a single adjustable fastening element (Fig. 29).

Adjustable fastening elements shall be installed on the roof framing before mounting the main roofing through the mounting holes in the fastener's mounting part. Spacing between adjustable fastening elements (Fig. 16):

- for LUX and PREMIUM systems – not more than 600 mm within axes;
- for STANDARD system – not more than 500 mm within axes;

To comply with the requirements of Section 8 hereof, give each fastener an angle corresponding to the roof slope inclination angle. To do this, loosen the screw and nut in the hinged part of the connecting element, give the required bending angle and firmly tighten the screw (Fig. 17).

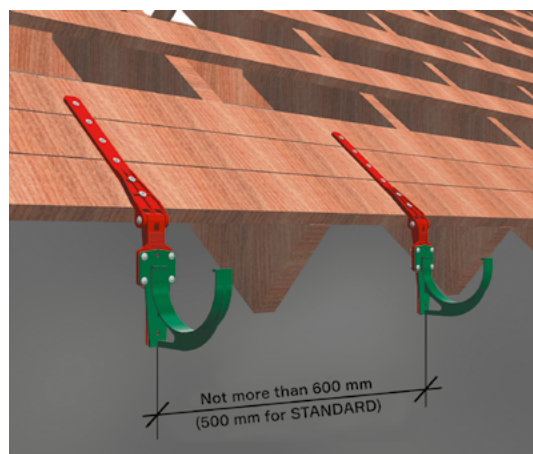


Figure 16 – Positioning PVC brackets with adjustable fastening elements on the sheathing

To install gutters, use PVC brackets connected to fasteners through eyelets. The brackets shall be fixed to the adjustable fastening element using screws (Fig. 17).

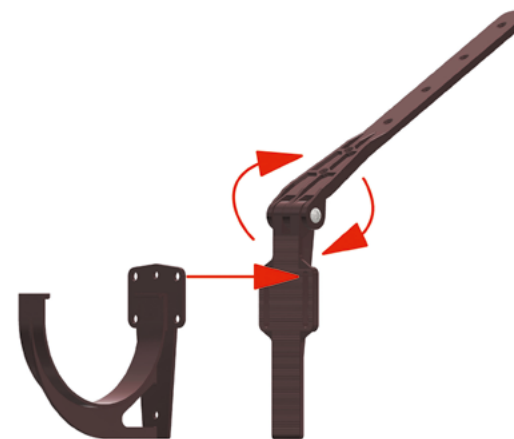


Figure 17 – Assembling brackets with adjustable fastening elements

The gutter slope line shall be shaped by vertically moving the plastic brackets and connecting elements along the front side of the adjustable fastening element (Fig. 18).

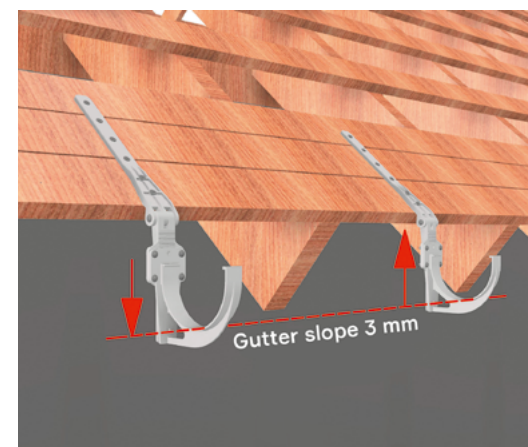


Figure 18 – Mounting PVC brackets with adjustable fastening elements on the sheathing

MOUNTING STAGES

10. SAFETY SYSTEM OF RAINWATER COLLECTION

To maintain a stable geometry of the gutters during temperature changes, the design of the connecting elements (outlet, gutter connector, 90° or 135° corner element) provides for thermal expansion joints. To simplify the mounting of gutters and maintain thermal expansion joints, patented installation limiters and marking boundary lines are used in each connecting element (Fig. 19).

Using sealing compounds such as silicone or others is strictly prohibited as they would interfere with the normal operation of the safety system.

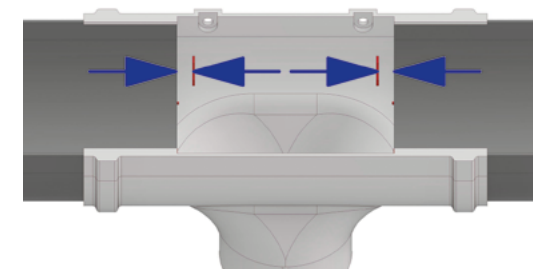


Figure 19 – Safety system of rainwater collection

Please note that the end of the gutter installed in the connecting element shall be exactly on the line marked "Insert to here" (Fig. 20).

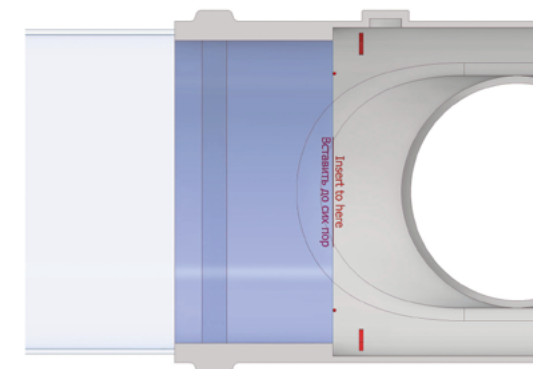


Figure 20 – Maintaining a thermal expansion joint

MOUNTING STAGES

11. INSTALLING GUTTERS

Before installing gutters, determine the locations of outlets and, if necessary, gutter connectors and 90° or 135° corner elements. Next, mark the gutter length, given that the gutter installed in the brackets should collect rainwater from the entire slope surface. To do this, measure the length of each gutter element and, using a cutting tool, prepare gutters of the required size as per the rules set forth in Section 10 hereof (Fig. 19 and 20). Regardless of the brackets and mounts used, the installation of gutters shall begin from the lowest point of the rainwater collection line.

11.1 INSTALLING GUTTERS INTO PVC BRACKETS.

To install gutters into PVC brackets, insert the back side of the gutter into the bracket mount closest to the fascia, and then bending the outer part of the bracket, press the edge of the gutter's front part until it locks (Fig. 21).

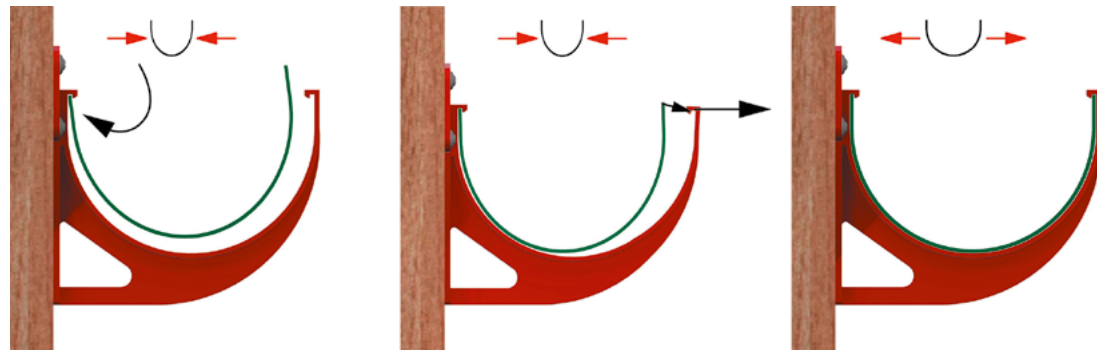


Figure 21 – Installing gutters into PVC brackets

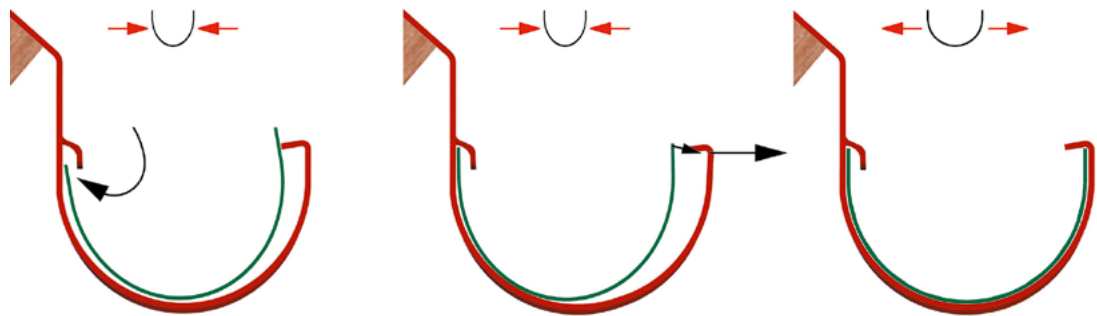


Figure 22 – Installing gutters into metal brackets

11.2 INSTALLING GUTTERS INTO METAL BRACKETS.

When using metal brackets, fix the gutters therein given that the length of the gutter is to allow for the subsequent installation of connecting elements (outlet, gutter connector, 90° and 135° corner element) and comply with the requirements of Section 8.

To install gutters into metal brackets, insert the back side of the gutter into the bracket mount closest to the fascia, then slightly pull the front part of the metal bracket and lower the gutter (Fig. 22).

11.3 INSTALLING GUTTERS INTO CONNECTING ELEMENTS.

To install gutters into connecting elements, insert the back side of the gutter into the mount of the connecting element closest to the eave of the building, then press the outer edge of the gutter towards the eave, and next, pulling the outer part of the connector, press the edge of the gutter's front part until it locks (Fig. 23).

MOUNTING STAGES

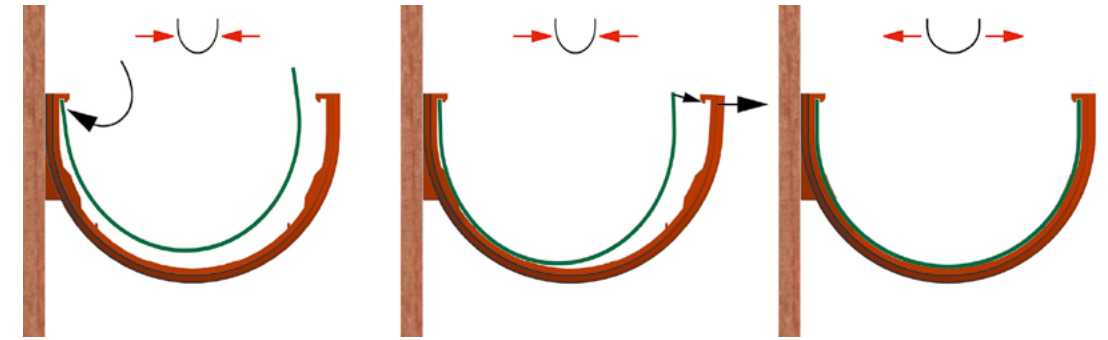


Figure 23 – Installing gutters into connecting elements

12. MOUNTING CONNECTING ELEMENTS

12.1 MOUNTING A LUX OUTLET ON PVC AND METAL BRACKETS; MOUNTING PREMIUM AND STANDARD OUTLET ON METAL BRACKETS.

Before mounting, make sure that rubber seals are installed in the grooves. To fix the outlet on the gutters, install the rear mount of the outlet on the part of the gutters closest to the eave, then alternately press the edge of the front part of each of the gutters towards the eave and lower the gutter into the outlet until it clicks (Fig. 24).

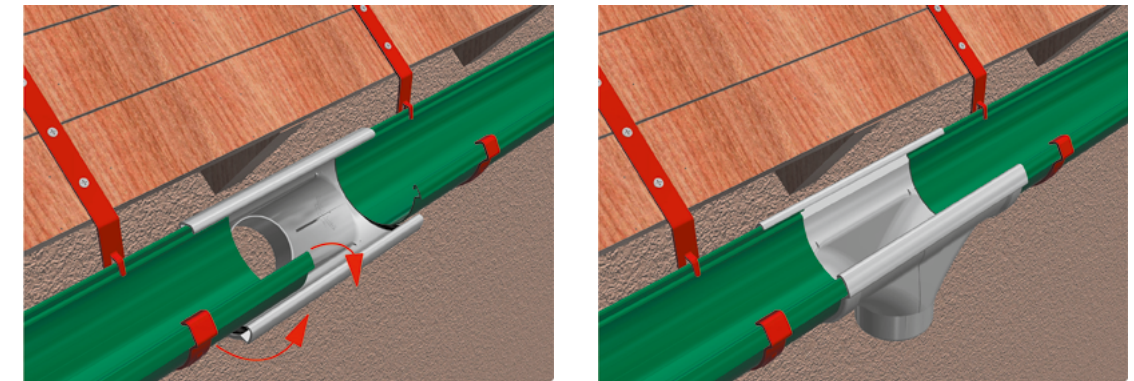


Figure 24 – Mounting outlets on gutters

12.2 MOUNTING PREMIUM AND STANDARD OUTLETS ON PVC BRACKETS AND ADJUSTABLE FASTENING ELEMENTS.

When mounting PREMIUM and STANDARD outlets, please consider the aspects as follows:

- If there is a fascia, the outlets shall be fixed through the mounting holes on the back side of the element (Fig. 25).
- If the fascia is finished with a polymer material, 10-12 mm holes shall be made at the points where the fasteners pass through it. Then install shim washers on the fasteners. The shim washers shall be at least 2 mm thick, with a diameter smaller than the hole in the polymer material. The already mounted elements shall not interfere with the thermal expansion of the material used to protect the fascia (Fig. 26).



Figure 25 – Mounting outlets on the fascia

MOUNTING STAGES

■ When using adjustable fastening elements, each outlet should be installed on two elements. The outlets should be fixed on the adjustable fastening elements through the eyelets using screws (Fig. 27).

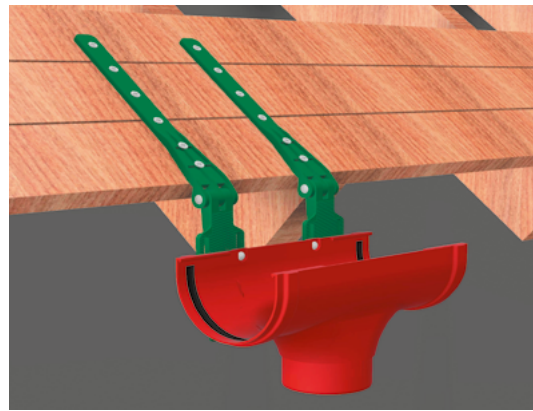
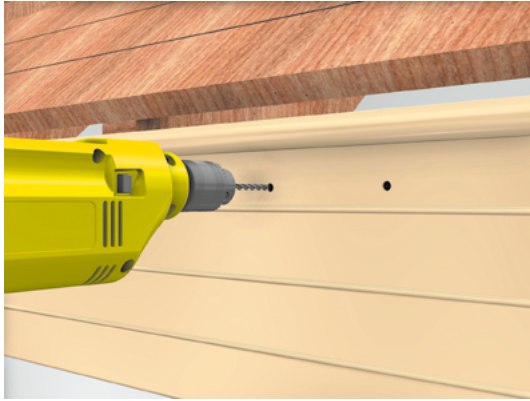


Figure 27 – Mounting PREMIUM and STANDARD outlets on adjustable fastening elements

12.3 MOUNTING A GUTTER CONNECTOR.

Should one gutter be not long enough to collect rainwater from the roof, use a gutter connector to connect gutter pieces.

The technology and sequence of gutter connector installation fully corresponds to the outlet mounting technology (p. 12.1 and 12.2), except that PREMIUM and STANDARD connectors shall be fixed to the fascia through a single hole (Fig. 28).

When using adjustable fastening elements, PREMIUM and STANDARD gutter connectors shall be installed on a single adjustable fastening element and fixed through the eyelets using screws (Fig. 29).

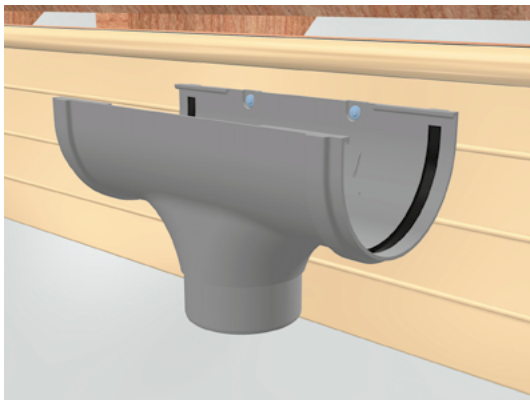
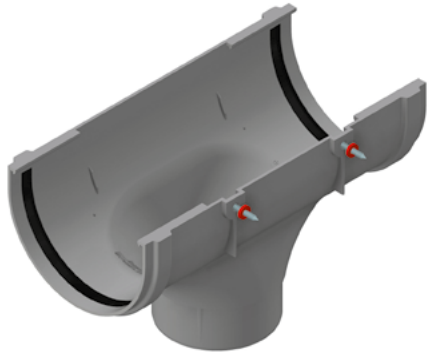


Figure 26 – Specifics of mounting PREMIUM and STANDARD outlets



Figure 28 – Mounting PREMIUM and STANDARD connectors on the fascia

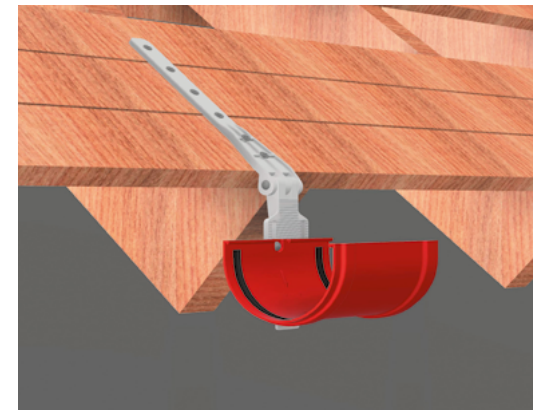


Figure 29 – Mounting PREMIUM and STANDARD connectors on adjustable fastening elements

12.4 INSTALLING 90° AND 135° CORNER ELEMENTS.

With the complex geometry of the eave overhang, to shape a single line of gutters, 90° or 135° corner elements shall be used, which are universal and can be installed on both external and internal corners.

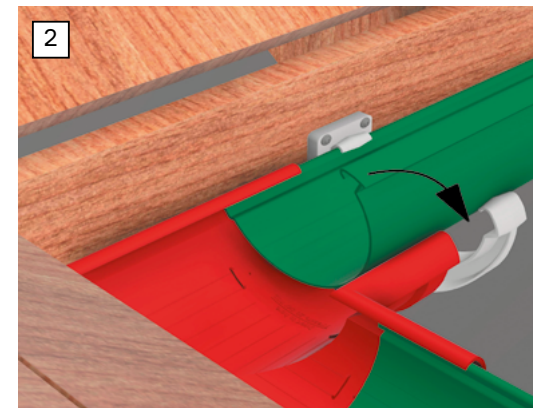
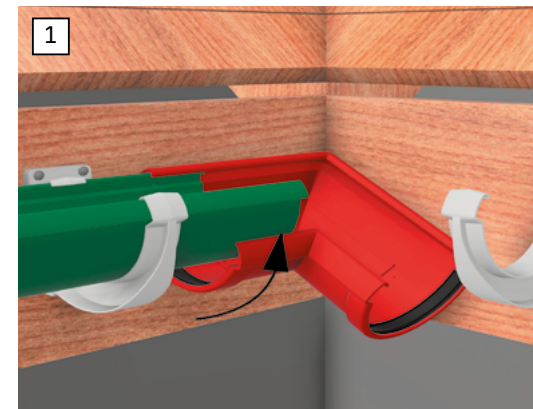


Figure 30 – Mounting the inner corner

MOUNTING STAGES

Corner elements shall be mounted in the sequence as follows:

■ To mount a corner element on the inner corner, install the rear mount of the corner element on the part of one of the adjacent gutters closest to the eave and, pulling the outer part of the corner element, press the edge of the front part of the gutter until it locks (Fig. 30, Part 1).

■ Next, bring the part of the other of the adjacent gutters closest to the eave into the rear mount of the corner element and brackets, and then, alternately pulling the outer part of the corner element and brackets, press the edge of the front part of the gutter until it locks (Fig. 30, Part 2).

The corner element shall be installed on the outer corner in the same way as on the inner one. It is prohibited to fix 90° or 135° corner elements to the roofing using different mounts.

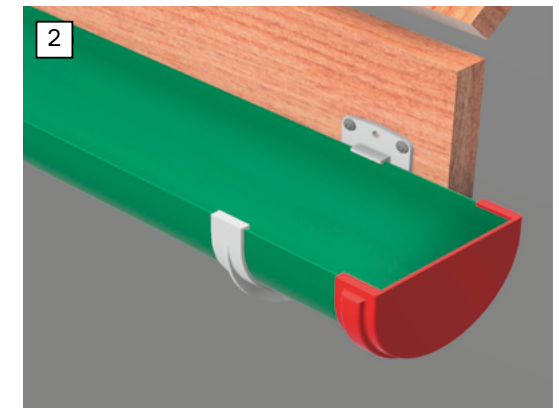
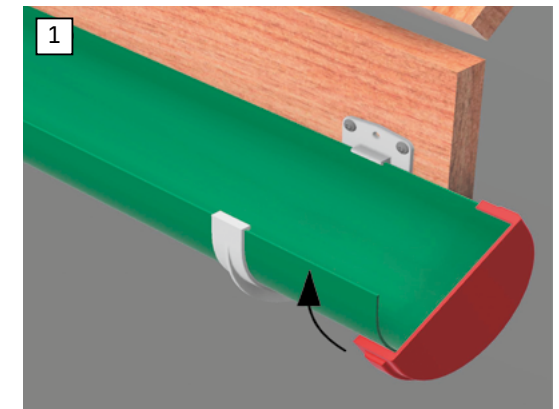


Figure 31 – Installing a gutter plug

MOUNTING STAGES

12.5 INSTALLING A GUTTER PLUG.

To seal the line of gutters, a gutter plug shall be used. When mounting it, install the back part of the plug on the part of the gutter closest to the eave and press on the edge of the front part of the gutter until it locks (Fig. 31). Please note that the distance from the plug to the nearest bracket shall not exceed 100 mm.

13. SAFETY SYSTEM OF RAINWATER DRAINAGE.

Like all materials, PVC has its specific coefficient of thermal expansion, therefore, in order to compensate for thermal expansion during temperature changes and to maintain a stable geometry of the drain, it is necessary to provide for thermal expansion joints.

Using sealing compounds such as silicone or others is strictly prohibited as they would interfere with the normal operation of the safety system.

13.1 PREMIUM AND STANDARD RAIN GUTTER SYSTEMS.

The 45° and 72° elbows and the connector on the outer part of the section entering the drainpipe have installation limiters and the marked line "Insert to here". The socket design does not provide for any gaps (Fig. 32).

The end of the installed drainpipe shall be on the line marked "Insert to here" (Fig. 32).

Rigid fixation of pipes and incorrect installation without observing thermal compensation gaps result in the deformation of the system.

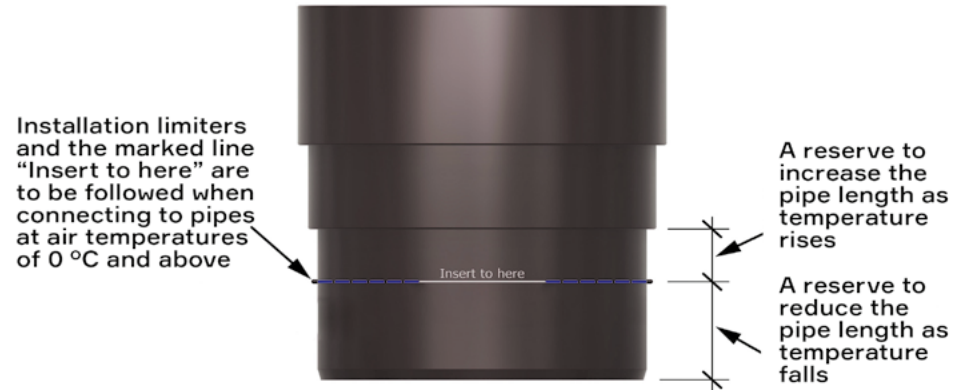


Figure 32 – Safety system of rainwater drainage in PREMIUM and STANDARD accessories



Figure 33 – Safety system of rainwater drainage in LUX accessories

13.2 LUX RAIN GUTTER SYSTEM.

While installation the position of the end of the pipe must be placed on the line shaped by the lower edge of the stopper ring located in the lower part of the fitting (45° and 72° elbow, connector, 45° T-joint, collector, LUX/PREMIUM adapter).

Rigid fixation of pipes and incorrect installation without observing thermal compensation gaps result in the deformation of the system.

14. UNIVERSAL CLAMP. SPECIFICS AND MOUNTING ASPECTS.

14.1 UNIVERSAL CLAMP AND STUD BOLT WITH NUT.

A universal clamp is a prefabricated piece designed to fix the rain gutter system to building facades (Fig. 34-36).

14.2 SPECIFICS OF USING A UNIVERSAL CLAMP.

This clamp is called universal as it can be used for fastening both pipes and fittings. In the "PIPE" position, the clamp allows the pipe to freely lengthen or shorten depending on the air temperature. In the "FITTING" position, the clamp rigidly fixes

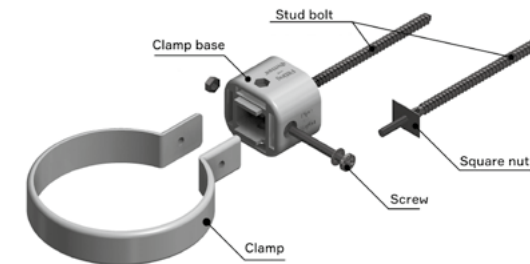


Figure 34 – LUX universal clamp and stud bolt with nut

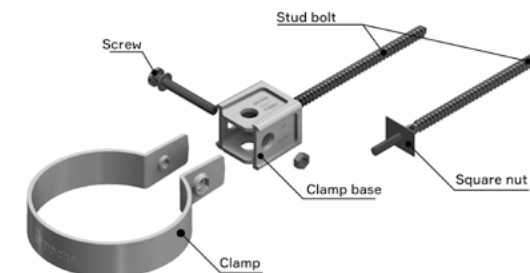


Figure 35 – PREMIUM clamp and stud bolt with nut

MOUNTING STAGES

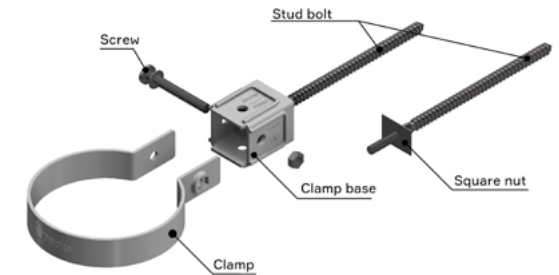


Figure 36 – STANDARD clamp and stud bolt with nut

the elements of the rain gutter system (Fig. 37). Depending on the drain element to be fixed, when mounting, clamp supports shall be installed so that the "FITTING" or "PIPE" mark be on the lateral side of the clamp base:

- Mounting pipes – the clamp support is in the "PIPE" position (Fig. 37).
- Mounting fittings (45° or 72° elbow, connector, down pipe shoe, T-joint, collector, LUX/PREMIUM adapter) – the clamp support is in the "FITTING" position (Fig. 37).

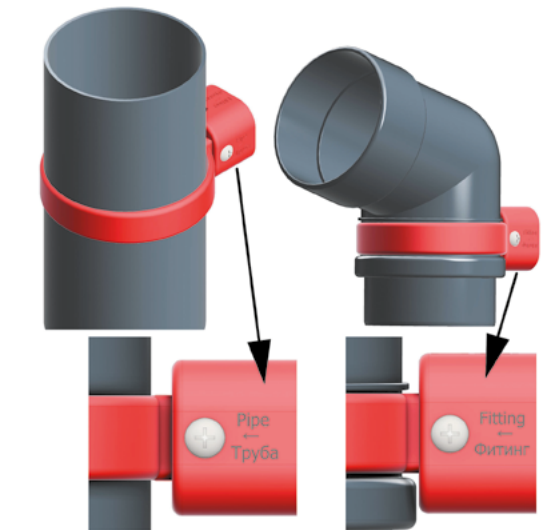


Fig. 37 Clamp positions

MOUNTING STAGES

14.3 MOUNTING UNIVERSAL CLAMPS.

A universal clamp shall be fastened to the building facade using a stud bolt with a nut. The stud bolt shall be buried at a distance of at least 40 mm into the supporting element of the wall structure or a vertical sheathing of the appropriate thickness. When fixing it in a wooden base, screw the stud bolt into a prepared hole; When fixing it in materials of higher density, use an appropriate dowel.

If the facade is sheathed with polymer materials, the hole for the stud bolt should be 10-12 mm in diameter, and the installed clamp support should not interfere with the thermal expansion of the facade materials.

The stud bolt fixed, install the clamp support so that it abuts the stud bolt's retainer ring. Next, a rectangular nut shall be inserted into the support so that the threaded part of the stud bolt passes through the nut hole. After that, the element shall be fixed on the stud bolt due to the rotation of the clamp support.

The clamp and support shall be fixed using a screw and nut supplied with the clamp.

When installing, the maximum spacing between universal clamps shall not exceed 1 500 mm (Fig. 38).

It is mandatory to fix all fittings (45° and 72° elbow, connector, down pipe shoe, T-joint, collector) and pipes to the building facade (Fig. 38 and 39).

The upper elbow may be the only exception.

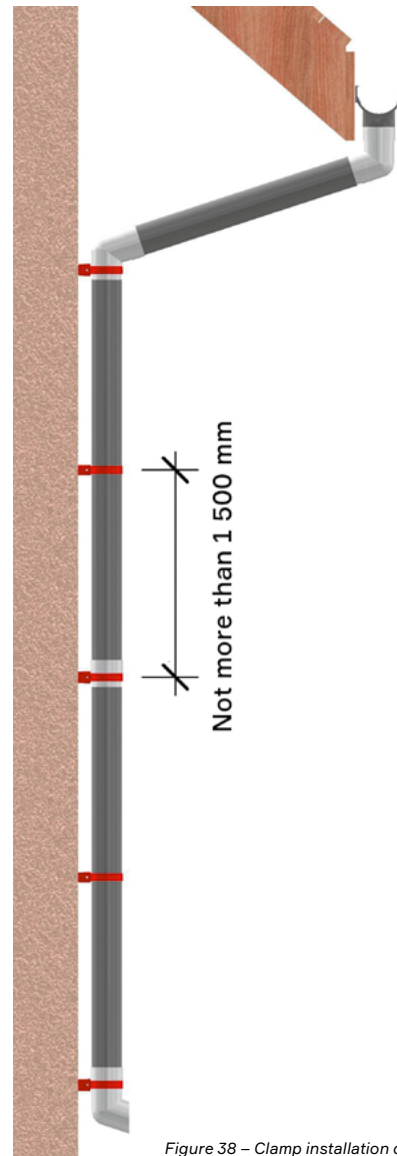


Figure 38 – Clamp installation diagram

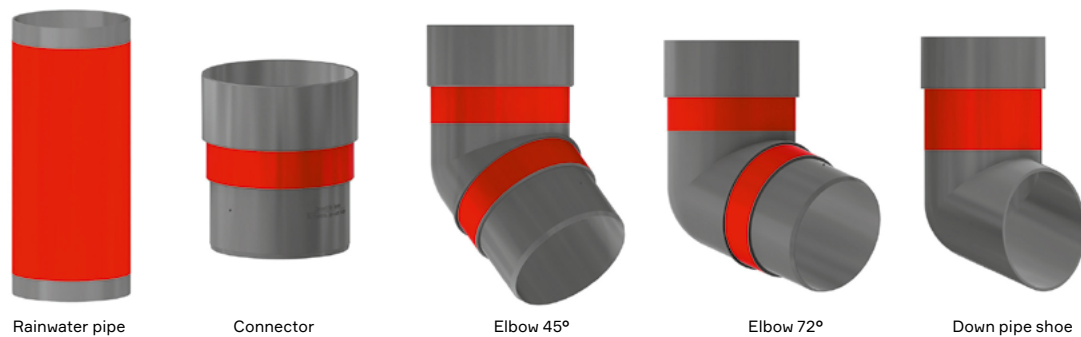


Figure 39 – Clamp installation locations

MOUNTING STAGES

15. MOUNTING THE WATER DRAINAGE SYSTEM

The water drainage system can be mounted top to bottom or vice versa.

When installing water drainage systems on buildings without an eave overhang, the outlet shall be connected to the pipe using a connector.

All elements of the water drainage system shall be positioned according to the principle of cascading water, that is, socket up.

15.1 TRANSITION FROM THE EAVE TO THE BUILDING FACADE

If it is necessary to arrange the transition from the eave part of the roof to the building facade, the elements of the rain gutter system shall be installed in the sequence as follows:

- Slide a 45° or 72° elbow in the drain hole of the outlet until it stops. Please note that the return elbow fixed on the building facade shall be similar (Fig. 40).

- Next, a universal clamp shall be installed on the return elbow in the area of the retainer ring, and applied to the surface of the building facade in such a way that the hole in the socket of the elbow located on the facade lies in line with the hole of the elbow coming from the outlet (Fig. 41).

- Mark the mounting location of the universal clamp on the facade with a pencil and, using a stud bolt with a nut, install the clamp. Please note that the base of the universal clamp shall be in the "fitting" position.

- Next, using a cutting tool, prepare a pipe segment of the required size, which will connect the elbows to one another thus letting the water drainage system transit from the eave to the building facade. To do this, measure the distance from the pipe stopper in the socket of the elbow located on the facade to the mounting stops of the elbow installed on the outlet and prepare the pipe of the desired size given the requirements of Section 13.

WARNING: It is prohibited to connect the elbows directly to one another, without a drain pipe.

- Next, install a pipe connecting the elbows with one another considering the gap compensating for thermal expansion (Fig. 42).



Figure 40 – Installing the elbow on the outlet's drain hole

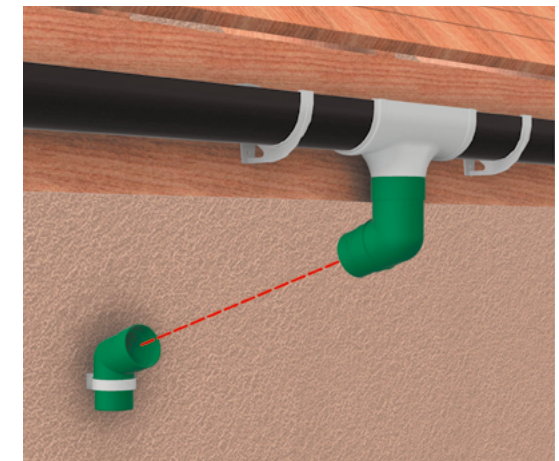


Figure 41 – Installing the return elbow

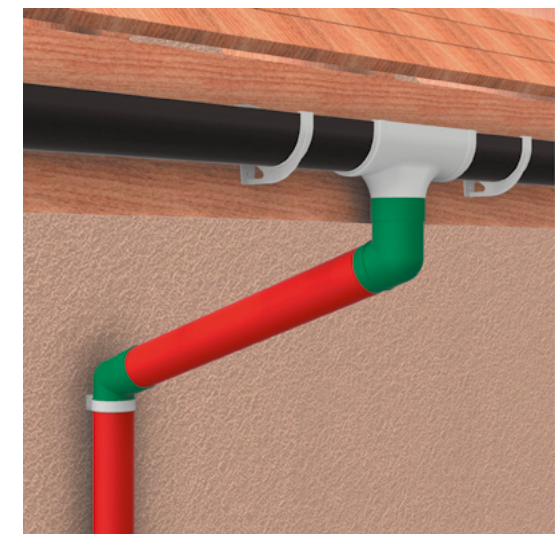


Figure 42 – Installing the pipe connecting two elbows

MOUNTING STAGES

15.2 MOUNTING CONNECTORS.

Should the length of one pipe be insufficient for making a drain, the pipes shall be spliced using a connector.

The connector shall be attached to the facade similarly to the down pipe shoe, using a universal clamp and a stud bolt with a nut. But, in this case, the clamp shall be installed in the regular groove on the connector.

15.3 INSTALLING DRAIN PIPES.

Cut a pipe piece to connect the upper elbow to the down pipe shoe, and at a higher height of the building, to a connector. To do this, measure the distance from the pipe stopper in the socket of the down pipe shoe or connector to the mounting stops of the upper elbow and prepare the pipe of the desired size given the requirements of Section 13 (Fig. 38).

When using a connector, the pipe piece for installation between the connector and the down pipe shoe shall be prepared in the same way.

Install the pipe connecting the fittings to one another given the gap compensating for temperature expansion. During mounting, please note that the pipes shall also be fixed on the building facade with the help of universal clamps. The maximum spacing between the clamps on the facade shall be 1 500 mm (Fig. 38), with the base of the clamp installed in the "PIPE" position (Fig. 37).

15.4 BYPASSING THE GAS PIPE OR OTHER PROTRUDING FACADE ELEMENTS.

To bypass gas pipes or other protruding facade elements, use 45° elbows (Fig. 43).

For additional fixation of fittings, it is allowed to fix Elbow 1 to the pipe segment and Elbow 2, as well as Elbow 3 to the pipe segment and Elbow 4 using self-tapping screws with rubber truss heads (Fig. 43).

15.5 MOUNTING THE DOWN PIPE SHOE

The final element of the water drainage system is the down pipe shoe, which shall be installed at the lowest point of the system.

To fix the down pipe shoe to the building facade, install it in the clamp so that the stopper ring formed by the socket lies on the clamp's upper edge. Next, with the clamp support installed in the "fitting" position, mark the fixing point of the universal clamp on the building facade and fix it using a stud bolt with a nut.

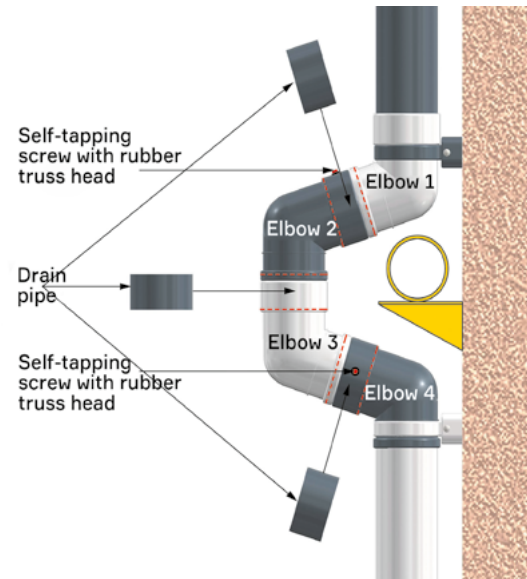


Figure 43 – Bypassing the gas pipe or other protruding facade elements

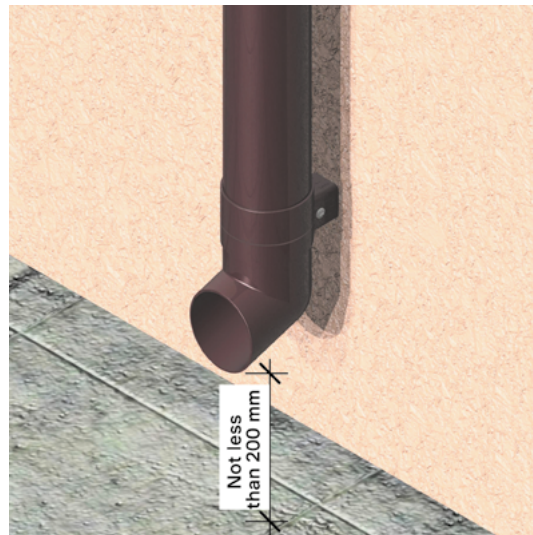


Figure 44 – Mounting the down pipe shoe

Please note that the distance from the bottom point of the down pipe shoe to the horizontal plane shall consider the height of the possible snow cover, but shall be not less than 200 mm in any case (Fig. 44).

16. UNIVERSAL WATER COLLECTOR

A Döcke universal rainwater collector (Fig. 45) is used to discharge water from the drain pipe to the tank for further use for household needs.

Installing the universal rainwater collector on 80 to 110 mm pipes is possible when mounting the rain gutter system or later.

To install the universal rainwater collector, determine the location of the element on the downpipe (it depends on the height of the rainwater collection tank). The universal rainwater collector is supplied with a mounting template (Fig. 46) which allows correctly marking and preparing the pipe for the installation of the element, depending on its diameter and the maximum expected water level in the tank.

To prepare the opening in the pipe, place the template on it so that the line "max water level in the tank" determines the maximum level of rainwater in the tank and fix it (Fig. 47, Part 1).

Depending on the pipe diameter, make cuts along the marking lines on the template using a cutting tool to allow for further removal of the pipe element (Fig. 47, Part 2).

The next step is to install additional universal clamps for fixing the pipe to the building structure. The clamps shall be located no further than 100 mm off the ends of the universal rainwater collector (Fig. 48, Part 1).

Then, press the rainwater collector with a cone-shaped grate to the end of the upper pipe and then lift the lower pipe all the way up. Thus, the rainwater collector will be fixed in the gap between the two pipes (Fig. 48, Part 2).

MOUNTING STAGES

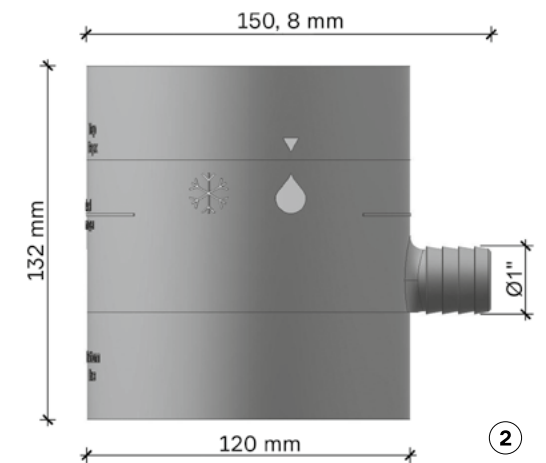
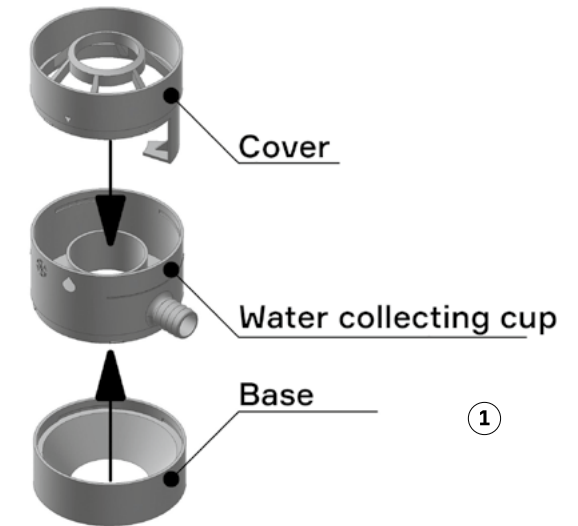


Figure 45 – Rainwater collector. Main elements and overall dimensions

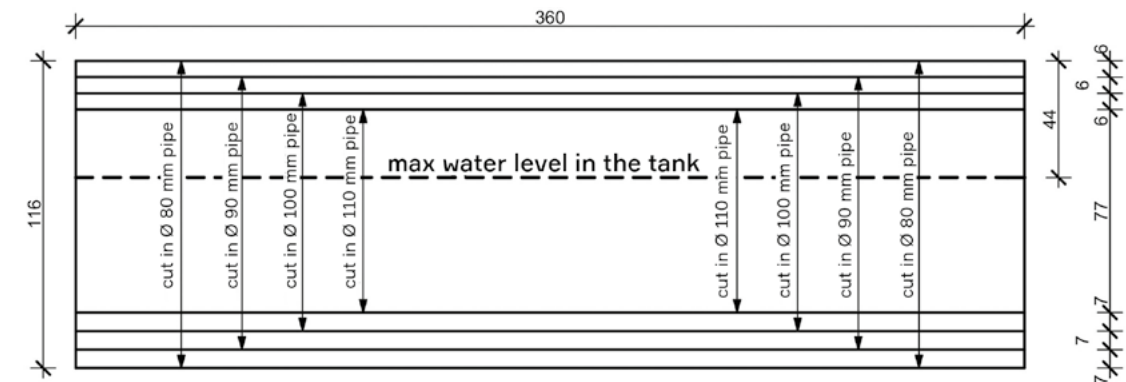


Figure 46 – Template for marking a downpipe before installing the rainwater collector

MOUNTING STAGES

When the collector is installed, connect its fitting to the hole in the rainwater collection tank. It is important to remember that the hole in the collection tank shall be located at least 20 mm below the rainwater collector fitting.

The rainwater collector has two operation modes: summer and winter. When switching the rainwater collector to winter mode, a shutter in the collector blocks the flow of water into the fitting. Also, winter mode can be used when there is no need to collect rainwater. To return to summer mode, rotate the upper part of the collector to position the pointer above the "drop" sign (Fig. 49, Part 1). Switching to winter mode is similar, but in this case the pointer shall be located above the "snowflake" sign (Fig. 49, Part 2).

To prolong the life of the rainwater collector, shift to winter mode when the temperature drops below 5 °C.

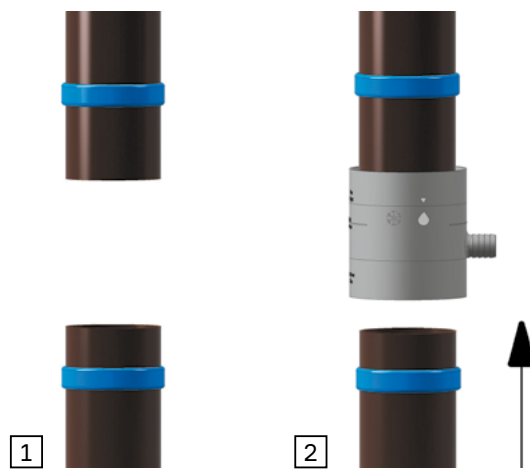


Figure 48 – Installing a universal rainwater collector

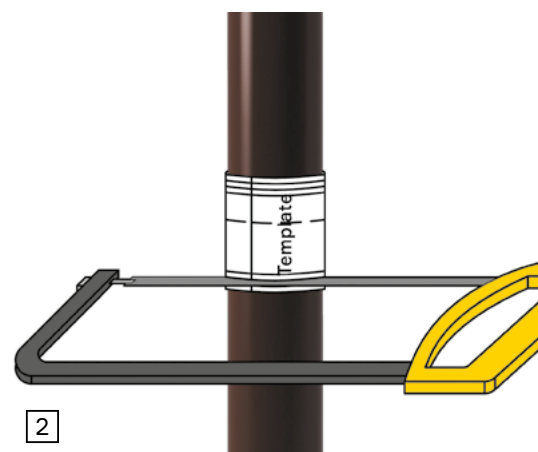
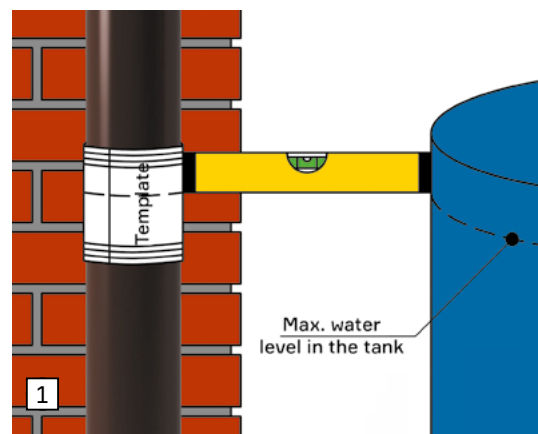


Figure 47 –Preparing the pipe opening

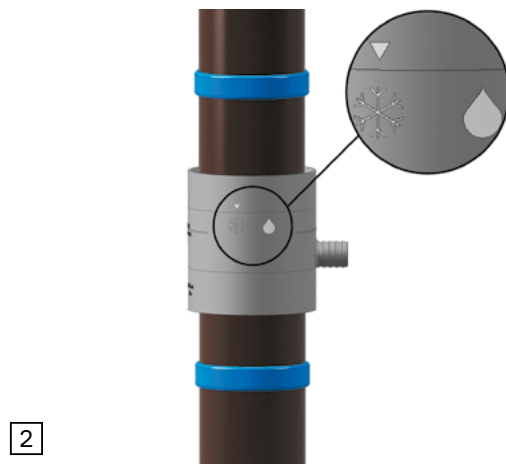
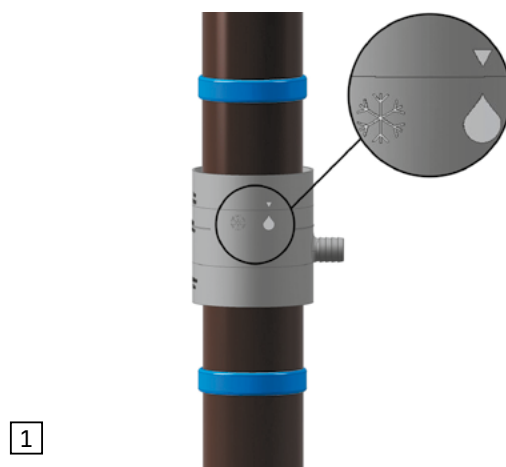


Figure 49 – Modes of the universal rainwater collector

17. MAINTENANCE AND CARE

To maintain the stability of the rain gutter system, regularly inspect it and eliminate possible buildups of leaves and other debris that impede water drainage from the roof.

If necessary, it is allowed to clean the drain elements with a soft-pile brush and non-aggressive detergents (soap solution / non-aggressive dishwashing detergent).

Never rest the ladder and other elements on the gutter outer edge of the rain gutter system.

In geographical areas with climatic loads (snow and ice), in order to protect the rain gutter system and the underlying elements from avalanche-like snowfall, it is necessary to provide for roof snow retention systems.

MAINTENANCE AND CARE

18. TRANSPORTATION AND STORAGE

The products shall be transported using vehicles with covered bodies, with a length not less than the length of the transported material.

The products shall be stored only in the manufacturer's original packaging.

The product shall be stored in conditions that prevent moisture and direct sunlight.

Storage is allowed only in covered rooms equipped with ventilation, at temperatures from -35 °C to +50 °C and relative humidity of 50-60%.

For long-term storage (over 10 days), use pallets or racks, with the maximum stacking height of the boxes of 1.5 m.

It is strictly forbidden to store the products:

- without manufacturer's packaging;
- in direct sunlight;
- near heating devices (at a distance of less than 1.5 m).



Figure 50 – Example of installation of the LUX rain gutter system

5 REASONS TO CHOOSE DÖCKE RAIN GUTTER SYSTEMS

1

DÖCKE RAIN GUTTERS – THE WIDEST PRODUCT RANGE

The range of PVC rain gutters offered by Döcke is superior to any other European manufacturer. Döcke offers three series of systems: basic STANDARD, advanced PREMIUM and designer LUX – to suit any taste and budget. More than ten color solutions of Döcke rain gutters will help you choose an aesthetically correct solution, while more than twenty accessories will guide water from any roof however complicated it may be.

2

DÖCKE RAIN GUTTERS – CHEAPER THAN METAL ONES

Often even those who chose metal roofing prefer PVC rain gutters by Döcke. It is because a significant part of the metal roofing market is economy and super economy segments, where the price is of decisive importance. For these customers, Döcke has designed the STANDARD series with colors popular in metal roofing. The price of such a rain gutter system may be up to 35% lower than that of metal gutters.

3

DÖCKE RAIN GUTTERS – UNBELIEVABLY EASY TO INSTALL

Döcke rain gutters are exceptionally easy to install even by a non-specialist person. The elements are connected to each other intuitively and snap on with ease. We have brought the simplicity of installation to perfection. Well-thought-out design, understandable and available manuals and ordinary tools - the installation of a rain gutter system has never been so simple.

4

DÖCKE RAIN GUTTERS – NO SCRIMPING ON QUALITY

Döcke has implemented quality management systems ISO 9001:2015 and IQNet in its production. It utilizes the equipment of the world's leading manufacturers, such as Reimelt Henschel MischSysteme, Krauss-Maffei Kunststofftechnik, Theysohn Extrusion and ENGEL Austria GmbH. Döcke uses exceptionally top-quality raw materials supplied by the world's best producers, such as Lechler, MasterTec, Reagens, Dow, DuPont and Renner.

5

DÖCKE RAIN GUTTERS – A REAL WARRANTY

Döcke does not just declare a warranty - it actually provides customers with a branded warranty card. The warranty terms apply in all climatic zones, unlike those of many other manufacturers. The warranty against any deformation caused by climatic factors is 25 years and up to 7 years for color stability.

siding facades
roofing gutters

