



roofart®

## FITTING INSTRUCTIONS

RWS

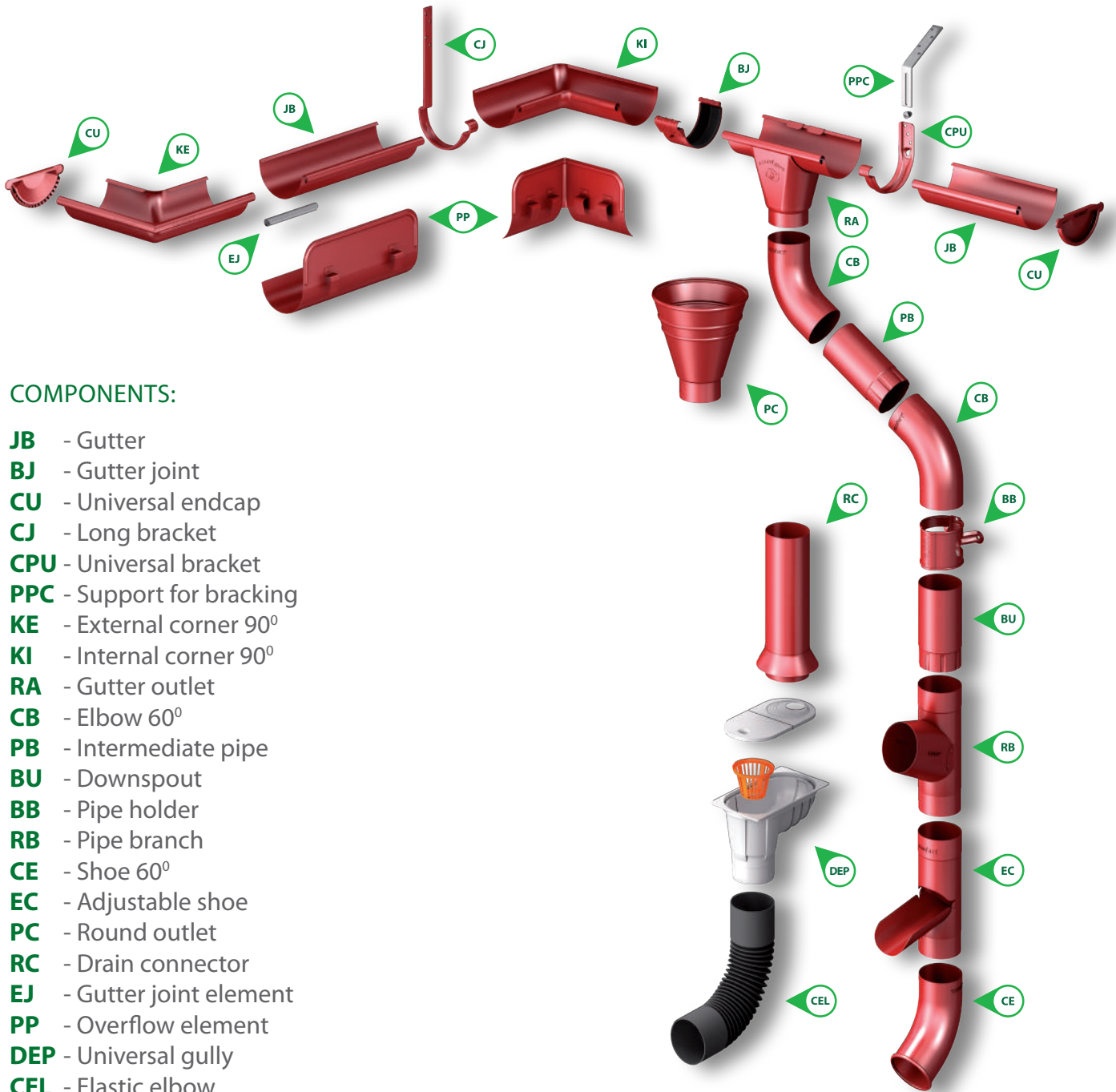
The ROOFART gutter systems ensure the outflow of rainwater from any type of roof.

This guide will help you select and install properly the **ROOFART Rainwater gutter Systems.**

**CONTENTS**

- 1. General Data .....2
- 2. System Elements .....3
- 3. Choosing the right system .....4
- 4. Required tools for fitting the systems .....5
- 5. Mounting brackets .....6
- 6. Mounting gutters.....8
- 7. Combining gutters .....9
- 8. Mounting both internal and external 90° corners.....9
- 9. Installing downspouts .....10
- 10. Mounting elbow pipes and shoe .....11
- 11. Other accessories.....12

## 2. ELEMENTS OF ROOFART SYSTEMS



**COMPONENTS:**

- JB** - Gutter
- BJ** - Gutter joint
- CU** - Universal endcap
- CJ** - Long bracket
- CPU** - Universal bracket
- PPC** - Support for bracking
- KE** - External corner 90°
- KI** - Internal corner 90°
- RA** - Gutter outlet
- CB** - Elbow 60°
- PB** - Intermediate pipe
- BU** - Downspout
- BB** - Pipe holder
- RB** - Pipe branch
- CE** - Shoe 60°
- EC** - Adjustable shoe
- PC** - Round outlet
- RC** - Drain connector
- EJ** - Gutter joint element
- PP** - Overflow element
- DEP** - Universal gully
- CEL** - Elastic elbow

The Roofart system is made of prepainted **Prelaq SSAB** sheets.



**COLOUR PALETTE:**

|                     |            |
|---------------------|------------|
| 1. Red              | RAL - 3011 |
| 2. Red brick        | RAL - 3009 |
| 3. Cherry-coloured* | RAL - 3005 |
| 4. Brown            | RAL - 8017 |
| 5. White            | RAL - 9010 |



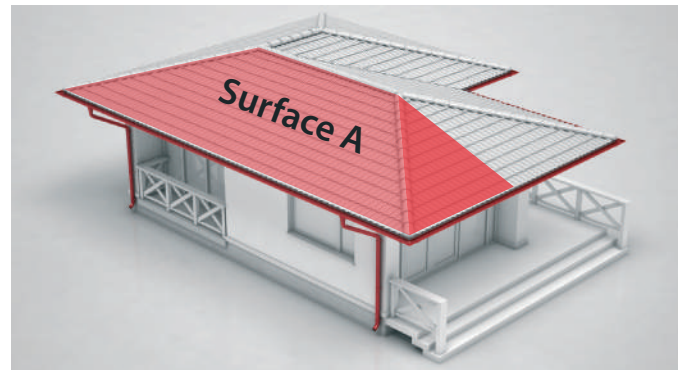
- TECHNICAL DETAILS:**
1. Steel sheet
  2. Zinc coating 275gr /m<sup>2</sup>
  3. Passivation layer
  4. Primer
  5. Prelaq Paint RWS 35mcr

### 3. CHOOSING THE RIGHT SYSTEM

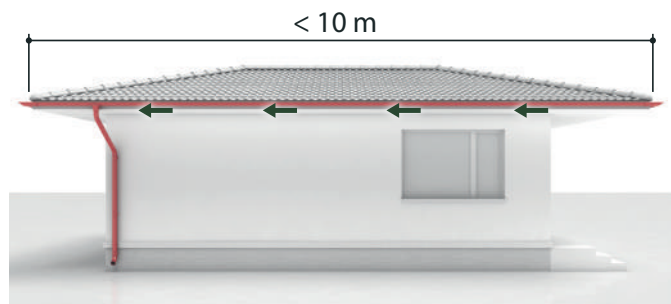
The rainwater gutter system is available in two sizes: 125/87mm and 150/100mm.

For roofs with surfaces of up to 150m<sup>2</sup> we recommend to use 125mm gutters and 87mm down pipes, whereas the 150mm gutters and 100mm down pipes are recommended to be fitted on roofs with surfaces that exceed 150m<sup>2</sup>.

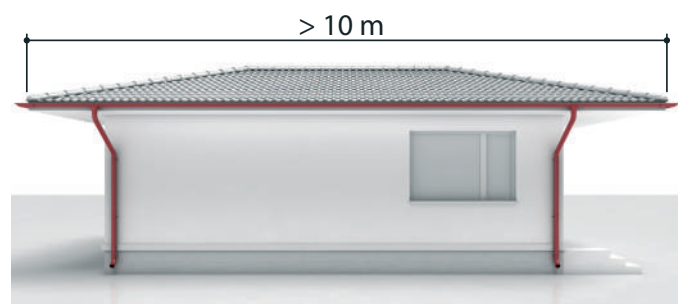
For eaves of up to 10m in length one downspout will be used, whereas in cases where the length of the eaves exceeds 10m then two down pipes will be fitted on both ends.



|                           |                           |
|---------------------------|---------------------------|
| 1 BU (A, m <sup>2</sup> ) | 2 BU (A, m <sup>2</sup> ) |
| 125-200                   | 200-300                   |

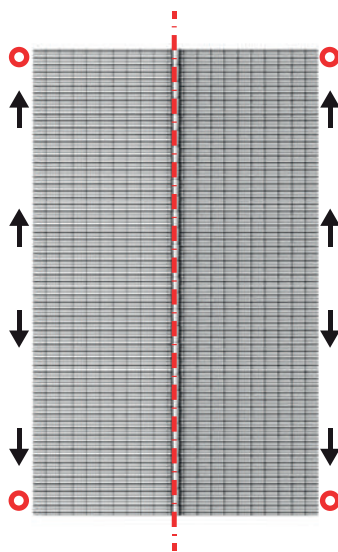


For roofs up to 10m in length, one drainage/down pipe is to be fitted.

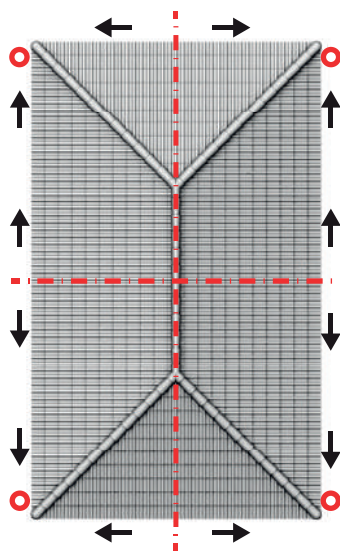


For roofs exceeding 10m in length, two downspouts are to be fitted on each of the corners.

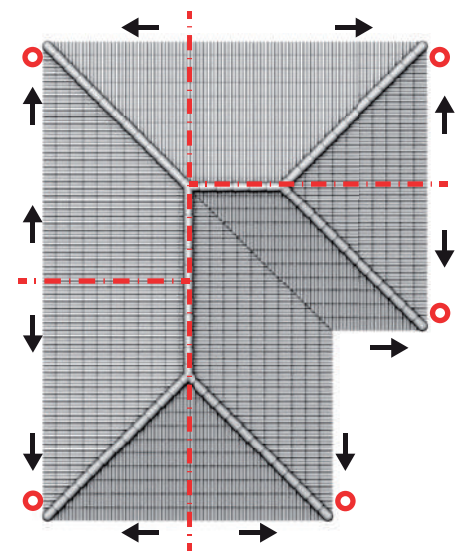
#### SKETCH FOR FITTING OUTLETS/DRAINAGES ON DIFFERENT TYPES OF ROOFS



Roof with two-way flow of water



Roof with four-way flow



Roof with many flows

## 4. REQUIRED TOOLS FOR FITTING THE SYSTEMS



Bubble level



Tool for bending bracket



Tape measure, pencil, rope



Metal saw



Pliers for bolts



Cordless drill



Rubber and metal hammers

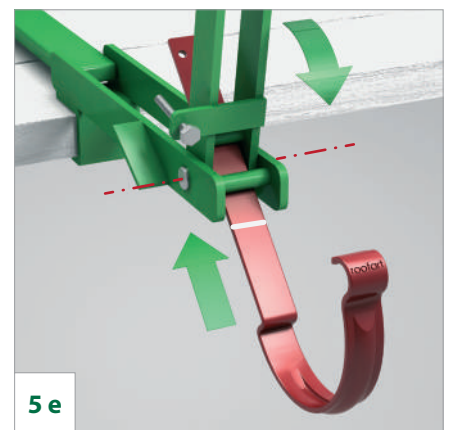
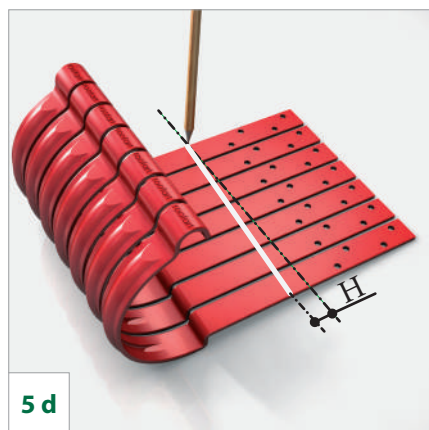
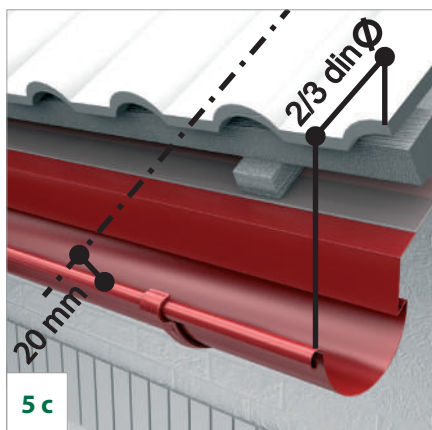
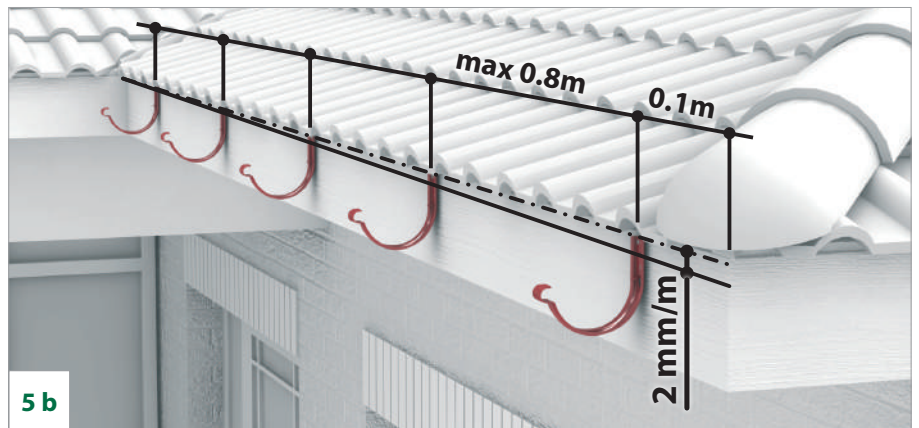
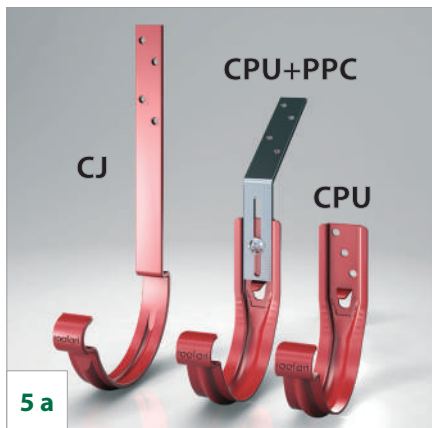


Pliers



Scissors for metal sheets

## 5. MOUNTING BRACKETS



**ROOFART** brackets are available in two types (fig. 5a):

- a) **CJ** - Long bracket, made of platband with 1,5mm thickness;
- b) **CPU** - Universal bracket, made of platband with 1,5mm thickness.

Before mounting the brackets it is necessary to draw a slope which will indicate the flow of water to the downspout. It is advisable to have a slope of approx. 2mm for 1 linear meter (fig. 5b).

The distance between brackets will not exceed 0.8m, and the brackets at the ends will be at 0.1m distance from the edge of the roof (fig. 5b).

**NOTE:** When using the External corner the distance of 0.1m from the edge of the roof is not applicable.

Universal brackets can be mounted both on rafters (using Support for Bracking **PPC**) and directly on the fascia board (fig. 5h).

**CJ** type brackets will be installed above the rafters.

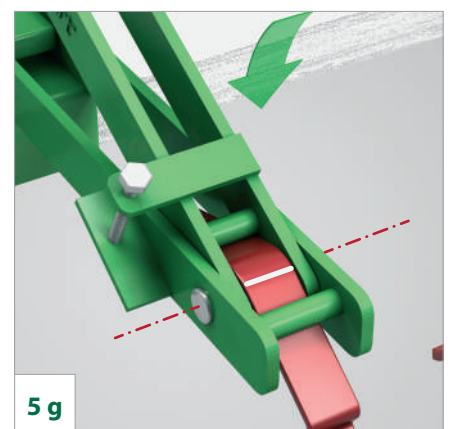
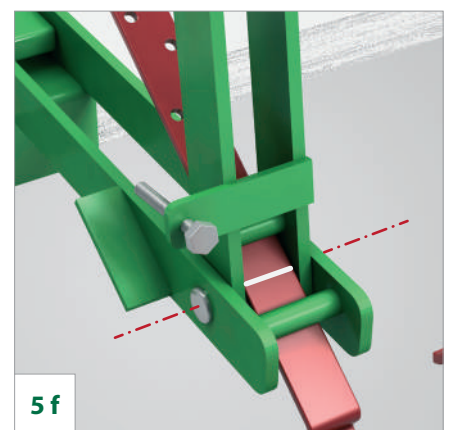
It is also recommended that the outside part of the gutter to be 20-30mm below the imaginary extension of the roof structure (fig. 5c).

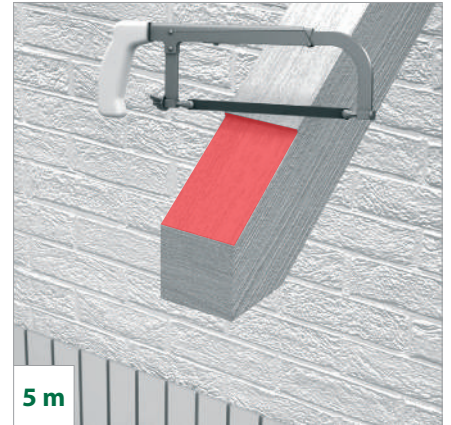
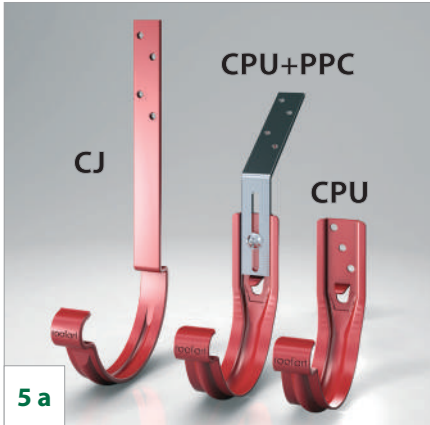
The installation of the brackets starts with finding the horizon line and the slope of water drainage.

The brackets are to be fitted from center to the ends, between which a string will be attached which marks the necessary slope.

From the horizon line the first bracket is installed. After the last one is mounted a rope is to be attached which marks the slope. Taking into account the shift of each bracket from the slope, one will install the other brackets.

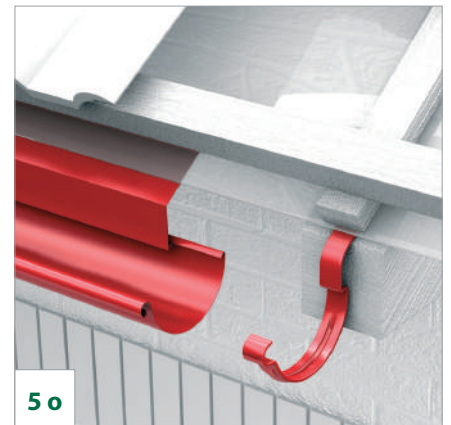
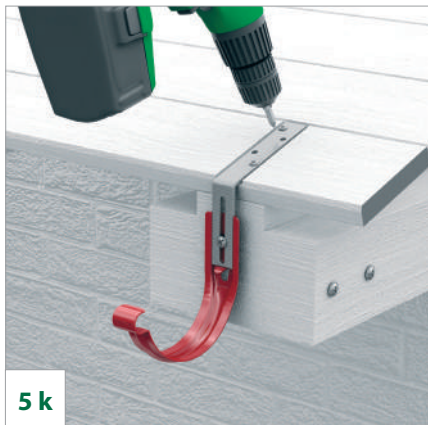
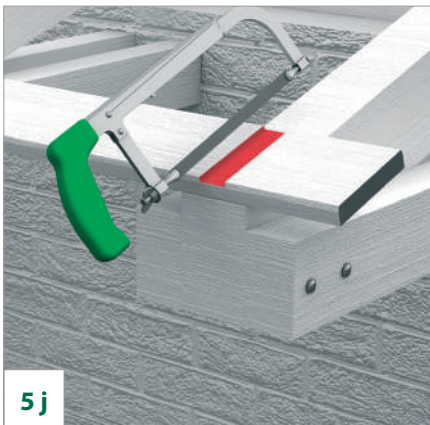
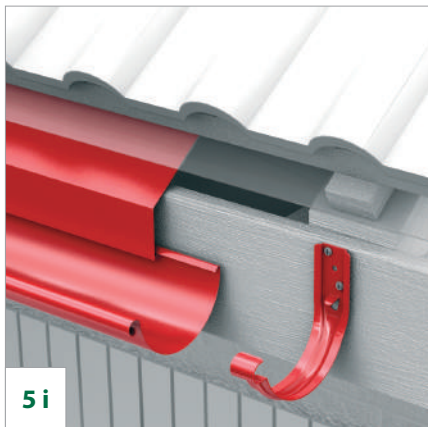
Before mounting the brackets (**CJ**) these will be bent using the special instrument in the places marked previously (fig. 5e - fig. 5g).



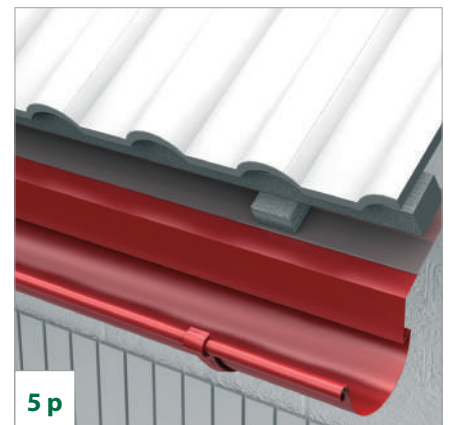
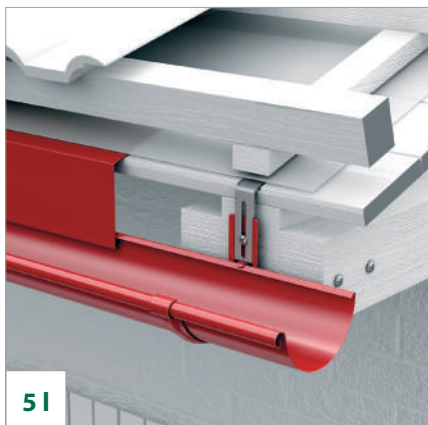


Depending on the type of the eaves and the building structure, one can use different types of support brackets. For perpendicular eaves, (CPU) brackets are to be used, whereas for inclined ones CJ.

Long support brackets CJ are mounted in the network of slats, above the rafters (fig. 5m, 5n). Universal brackets can be fitted both directly on the roof, and also CPU on the rafters using (PPC) support for bracketing. (fig. 5j-5l).



**NOTE:**  
It is forbidden to use the angle grinder for these activities.



## 6. MOUNTING GUTTERS

Before fitting the gutter in the brackets, one must mark the location of the Gutter Outlet (RA).

For this, the gutter is placed on the brackets, without being fixed. Between the first two brackets, where the downspout will be installed, using a pencil one shall mark the position of the Gutter Outlet (RA) (fig. 6a and fig. 6b).

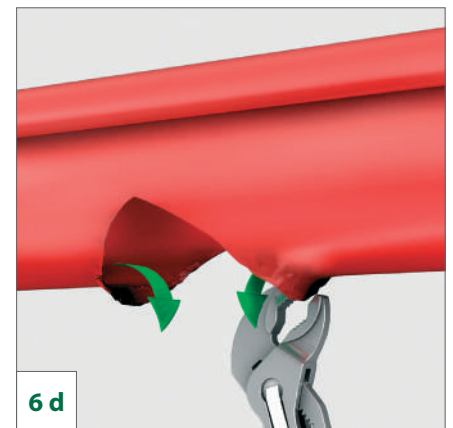
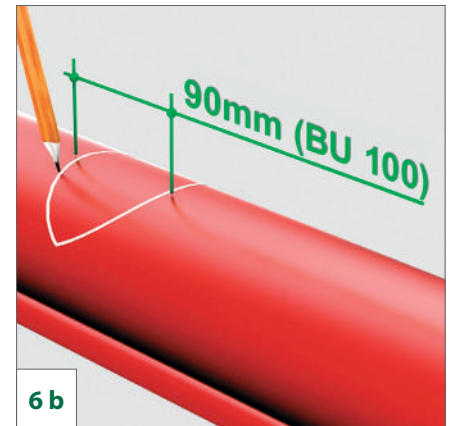
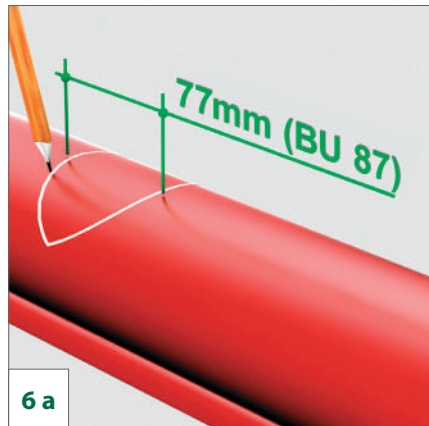
On the place marked previously, using a metal saw and later scissors, one will cut a part of the gutter to form a drain through, which shall not be larger than the diameter of the downspout (fig. 6c).

To facilitate a easier flow of water in the downspout, using pliers, one will fold the edges of the place where the drainthrough was cut (fig. 6e).

The exterior part of the Gutter Outlet (RA) is attached to the gutter, however, the clips (after fitting the (RA) on the gutter) will be folded on the inside part of the gutter (fig. 6e and 6f).

After installing the Gutter Outlet (RA) one can mount the Universal Endcap (CU) at the ends. It is equipped with locking teeth and a rubber garnish to ensure a good fit on the gutter. The (CU) can be installed either by using a plastic hammer or manually.

Finally, the gutter is placed on the brackets and secured by pressing with the hand on each bracket individually.

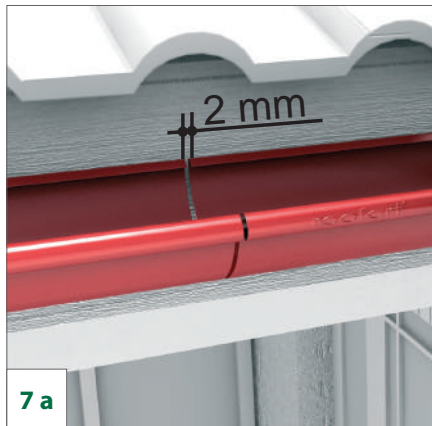


**NOTE:**

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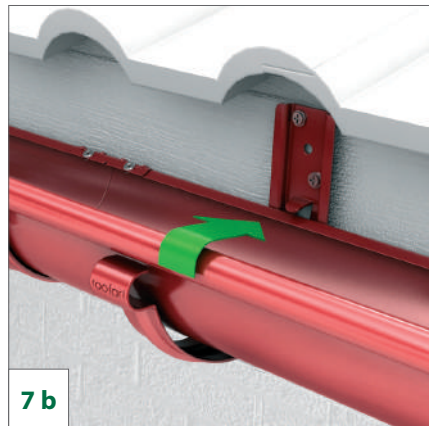


## 7. COMBINING GUTTERS

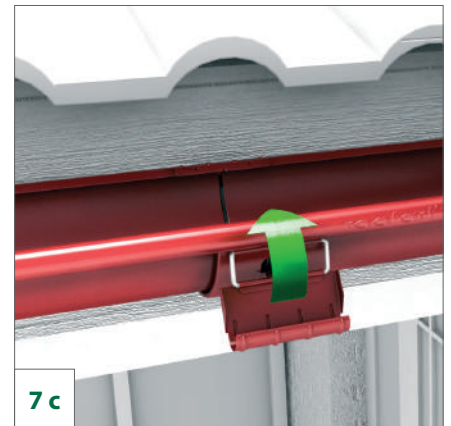


Two gutters that need to be connected will be placed on the brackets. The distance between the edges of the gutters will be 2-3mm (fig. 7a).

After that, the gutters are fixed simply by pressing manually on each bracket (fig. 7b).



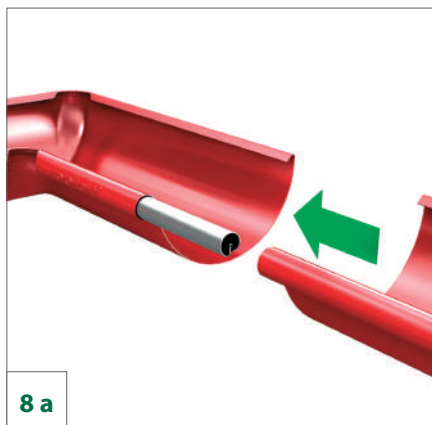
For joining two gutters a Gutter Joint (**BJ**) will be used. (**BJ**) will be placed first on the lower edge of the gutters, and then on the outer edge (the round part). (**BJ**) is placed at an equal distance from the line joining the two gutters (fig. 7c).



Close the attachment over the outer edges of the gutters and, ultimately, press the safety element.

**BJ** is equipped with a rubber garnish which allows a good fit with the gutters. It is not necessary to use silicone or other adhesive material.

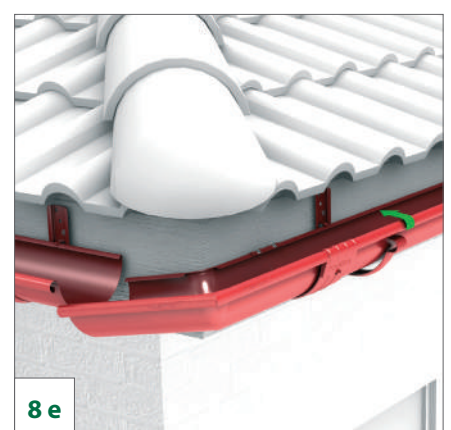
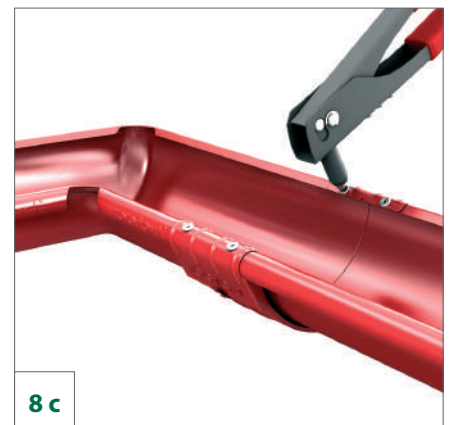
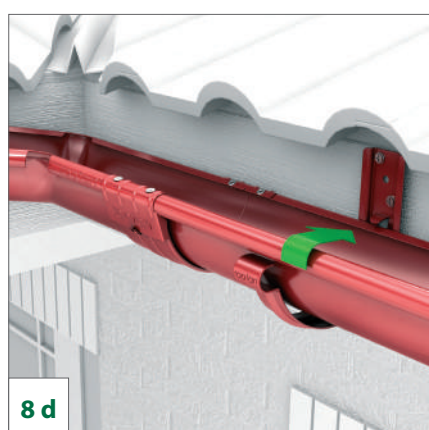
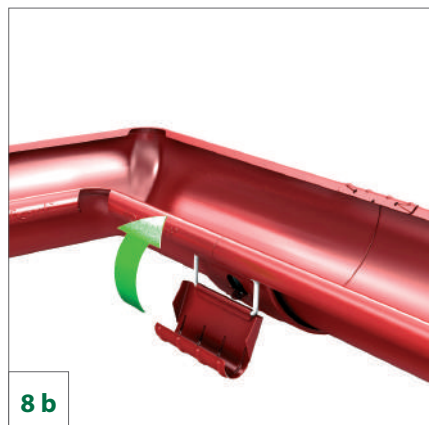
## 8. MOUNTING BOTH INTERNAL AND EXTERNAL 90° CORNERS



Internal Corners / External (**KI/KE**) are fixed by joining them with **BJ** and **EJ** (Gutter Joint Element) (fig. 8b-8c).

Before fitting the **BJ**, to ensure there is resistance to bending of the connection, one will install the **EJ** at the ends of the **JB** and **KI/KE** (fig. 8a).

To make the connection between the gutter and the corner firm, four pop-rivets are applied on the Gutter Joint (**BJ**) (fig. 8c).



## 9. INSTALLING DOWNSPOUTS

The (BU) downspouts are installed in places determined according to the size and type of roof, bearing in mind the length of the eaves (see *Choosing the right system*).

BU is mounted on the wall using Pipe Holders (BB), which are fitted one below another using dowels.

The BB is installed with or without fastenings according to the mounting surface.

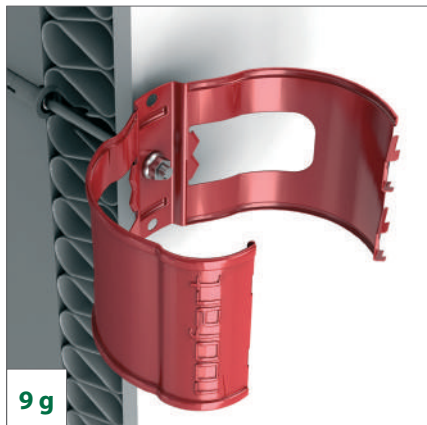
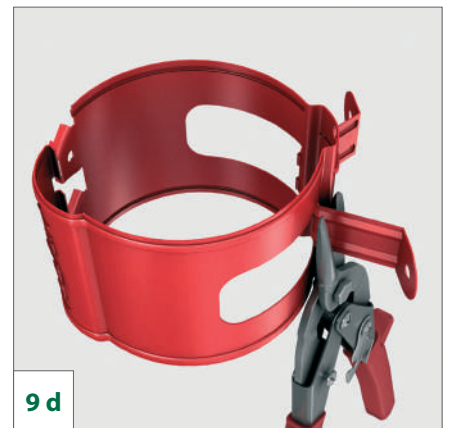
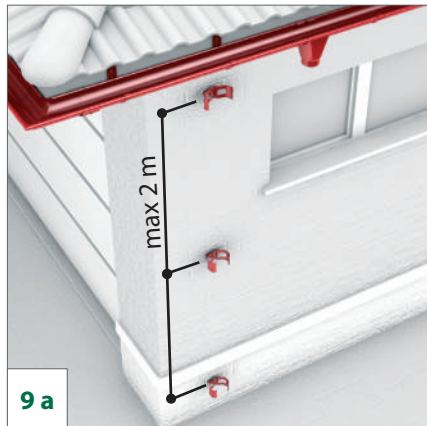
**NOTE:** For rigid surfaces BU is installed using two dowels on the fastenings (fig. 9c).

For soft surfaces (polisteren) BU is fitted with one dowel and without the fastenings (fig. 9e, 9f, 9g, 9h).

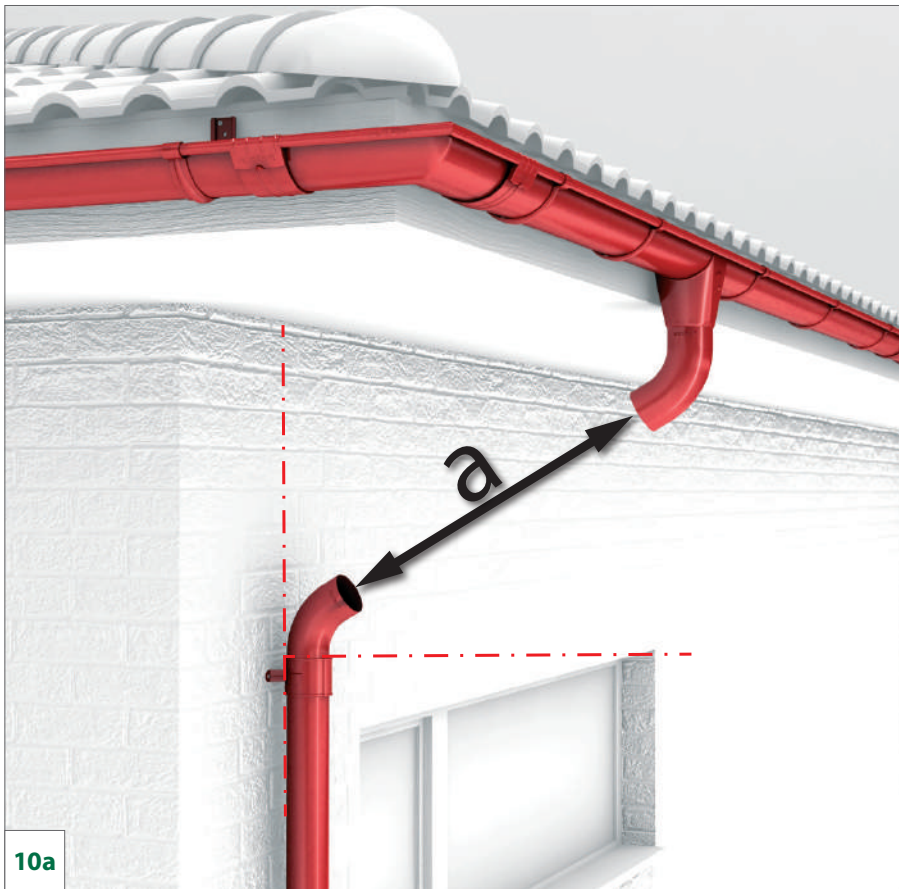
The maximum distance between two BB will not exceed 2m (fig. 9a).

BU is fitted in the Pipe Holder which is then manually closed in two clicks, (fig. 9i - 9j).

If necessary, BB can be opened using a screw driver.



## 10. INSTALLING ELBOW PIPES AND SHOE



The Elbow (CB) 60° will be used to by pass obstructions or change the direction of water flow.

The Elbow Pipe (CB) is combined up with the Gutter Outlet (RA), and down with the downspout which is already attached to the wall (fig. 10a).

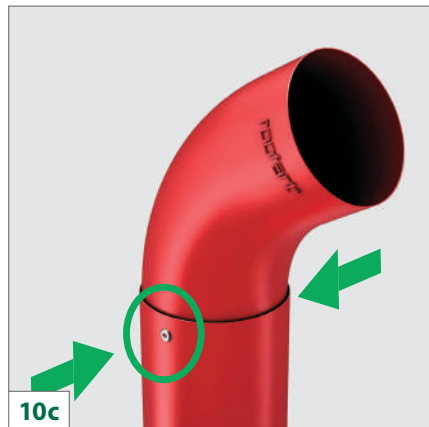
Between the two elbows (CB) one must install an Intermediate Pipe (PB). Measure the distance (A) between the elbows, to which 100mm has to be added for both ends of the pipes, which enter in the elbows each by 50mm.

The Shoe (CE) is fitted at the bottom of the downspout. The elbow pipe (CB) and the Shoe (CE) are attached to the downspout by using rivets on both sides (fig. 10b - 10e).

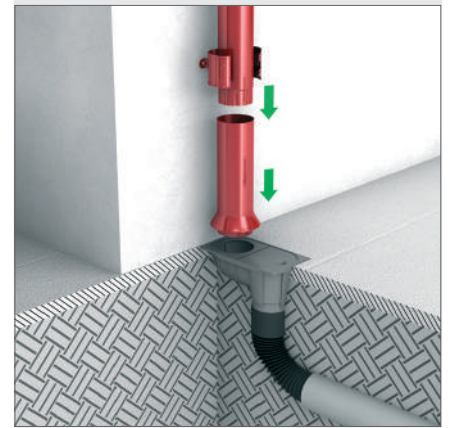
**NOTE:** In case of installing rainwater systems connected to the sewage, one shall not apply the Shoe. Hence, the downspout is directly attached to the Drain Connector (RC) and Universal Gully (DEP).



10b



10c



10d



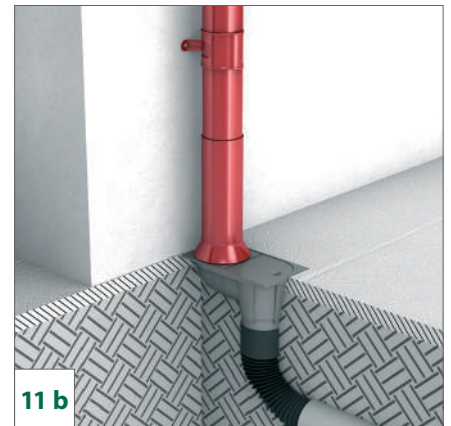
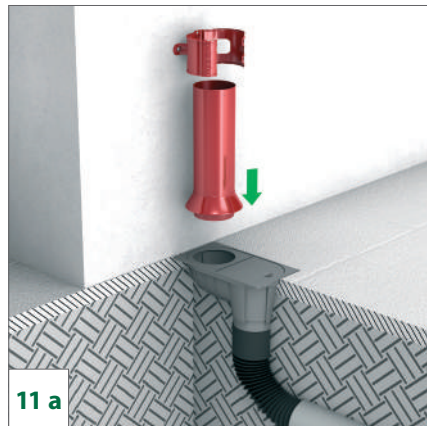
10e



10f

## 11. OTHER ACCESSORIES

For the rainwater to flow directly into the sewage, between the downspout and the sewer pipe one must install the Drain Connector (**RC**) (fig. 11a-b).

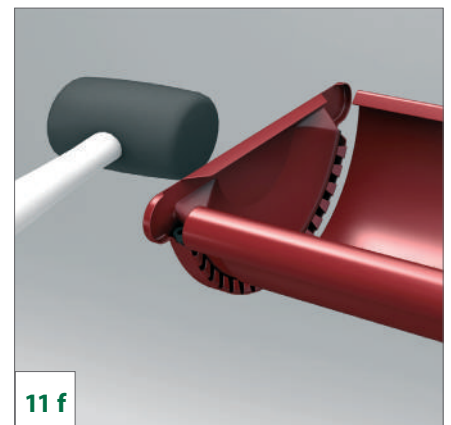
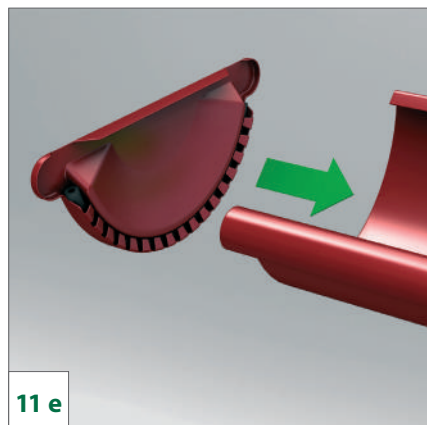


To combine two **BUs** in one drain the Pipe branch (**RB**) is used, which is fitted like the downspouts (fig. 11c).

The Adjustable Shoe (**EC**) is attached to the downspout (**BU**) and allows to capture and consequently, use the rainwater (fig. 11d).



The Universal Endcap (**CU**) is fitted at the end of the gutter by manually pressing on it, or by using a plastic hammer. The **CU** is installed without using silicon (fig. 11e - 11f).



For roofs without eaves to direct rainwater in the downspout, one can use the Round Outlet (**PC**). Holes are cut inside the element according to the direction angle of the gutters and is connected to them (fig. 11g - 11h).

