



INSTALLATION INSTRUCTIONS FOR PROTEKTOR BOX-SHAPED GUTTERS

PROTEKTOR has been manufacturing gutters made of plastic since 1964. PROTEKTOR gutters are plasticiser-free and cannot become brittle. The high-quality raw stuff ensures the best possible impact strength, UV resistance and dimensional stability.

Professional installation always begins with the selection of the right gutter. The specified m² values of the roof surface areas provide a guide to finding the right gutter size.

According to DIN EN 12056-3 and DIN 1986-100, a calculation of the rainwater run-off should be made for the respective property in order to determine the exact gutter size. The following table refers to the relevant standards and can be used for the selection of the correct PROTEKTOR gutter.

PROTEKTOR-box gutters		
Roof area to be drained	Rainwater downpipe	Gutter box shaped
up to 15 m ²	DN 50	10-pcs. (NW 68)
up to 30 m ²	DN 75	8-pcs. (NW 83)
up to 80 m ²	DN 85	6-pcs. (NW 115)

The installation of PROTEKTOR gutters is carried out in simple steps. The specifications of the installation instructions must be observed to ensure permanent functionality.



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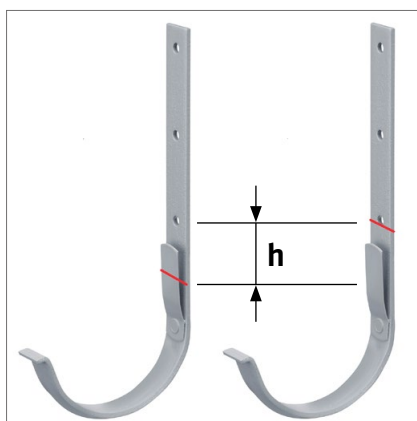


Marking the highest and deepest gutter bracket

Measure the distance between the highest and lowest gutter supports at the eaves and determine the height difference at a gradient of 13 mm/m.

The highest gutter bracket is marked on the upper edge of the fold.

The deepest gutter bracket is offset by the height difference (h). marked.



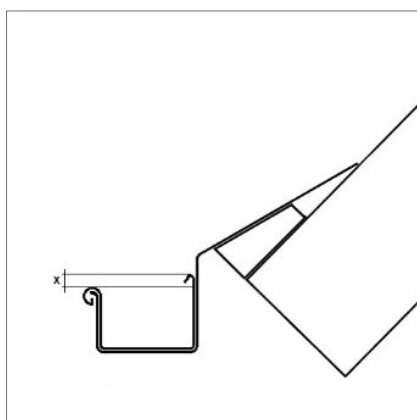
Bending of the highest and lowest gutter bracket

The highest and lowest gutter bracket is bent at the marking with the gutter iron bending pliers.

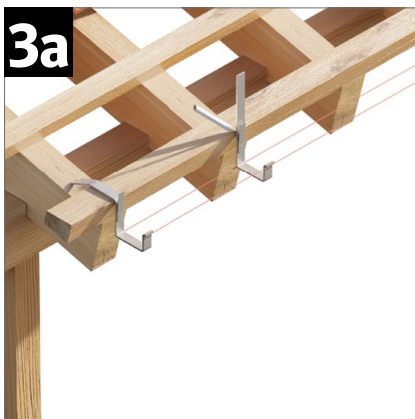
The inclination of the bend must be adjusted so that the bead of the half-round gutter is about $X = 10$ mm lower than the rebate (see picture).

The fastening leg must be flush with the eaves board and the rafter to ensure secure fastening.

Galvanised comb nails are to be used for fastening the gutter irons.



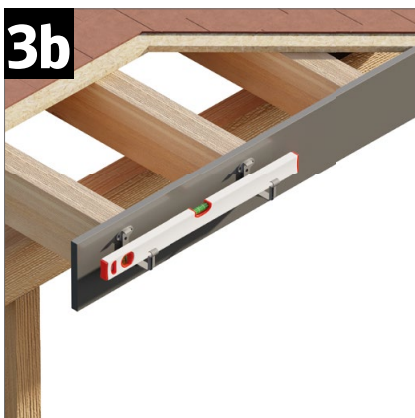
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Mounting of gutter brackets

The outer gutter brackets (highest and the lowest) are to be pre-assembled. The straightening cord is to be stretched between them.

The alignment cord is fixed at the lowest point of the gutter brackets and at the outermost point of the bead side. The gutter brackets in between are held in the sectional framework, marked on the adjacent edge of the eaves board and bevelled and fixed in alignment as described in point 2.



Mounting of headboard gutter brackets

Headboard gutter brackets can be used as an alternative to gutter brackets.

Headboard gutter brackets are screwed to the front board and can be adjusted to the inclination of the front board via an adjustment bracket if required.

The slope can be checked using a spirit level.



Shortening the gutter

Always use the maximum technically feasible gutter length. length must always be used.

The gutter length must be adjusted in such a way that the box gutter connecting piece sits centrally between the gutter brackets and at a distance of at least 10 cm to the next gutter bracket.

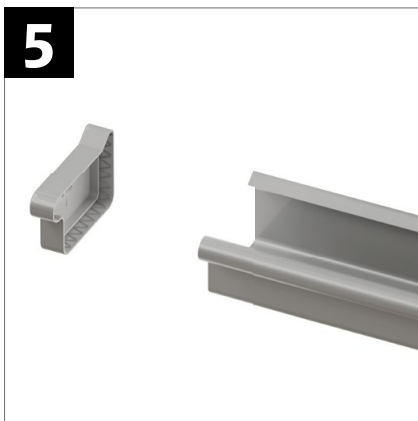
The gutter must be in line at the point of impact and must not have any offset.

The cut edge of the gutter must be cleaned of sawing residues.

From a gutter length of 12 m, an intermediate gutter piece for expansion compensation must be used instead of the box gutter connecting piece.



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Installation of gutter end-pieces

End-pieces are attached to the ends of the box-shaped gutter. These are to be glued with the release adhesive for moulded parts recommended by PROTEKTOR.

For this purpose, the adhesive is applied linearly into the end piece connector.

The two parts must be joined within the „open- time”: For further information, see the data sheet and safety data sheet of the adhesive glue.



Position of the drain socket

The drain socket must be positioned in such a way that there is a gutter bracket on the left and right, with a distance of at least 10 cm between the gutter bracket and the drain socket.

The gutter must not be butted in the area of the drain socket.

Drain sockets are to be glued with the adhesive for moulded parts recommended by PROTEKTOR. The adhesive is applied linearly to the adhesive surface of the drain socket. The two parts must be joined within the „open-time”: For further information, see the data sheet and safety data sheet for the solvent cement.



Marking the hole

The drain hole should be placed in the centre of the gutter.

The diameter of the hole should be at least diameter of the downpipe.

When using screw sockets, the drain hole must be made according to the diameter specifications in the respective data sheet.



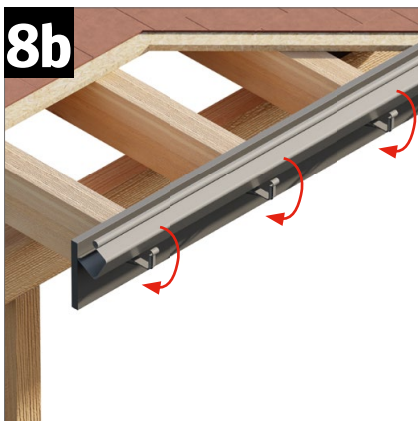
Hanging the gutter in gutter brackets

The gutter must first be hooked into the gutter bracket on the bead side and can then be screwed into the gutter bracket.

The springs that hold the gutter in the gutter bracket are to be pressed on only slightly. This allows the gutter to expand and contract with temperature fluctuations.



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Hanging the gutter in headboard gutter brackets

When using headboard gutter brackets, the gutter is first hooked onto the seam and then clipped into the bead.

The gutter must be able to expand and contract with temperature changes.



Forming a fixation point

A fixed point is to be formed in the centre of each gutter section. must be created in the middle of each gutter section.

To create a fixed point, the fold is cut to the right and left of the gutter bracket spring and the spring is pressed on with increased pressure.



Installation of the downpipe

The downpipe is fixed plumb every 2 m, but at least on each downpipe section, with a clamp.

Clamps must be placed at least 20 cm from the edge of the building.

Arches resp curves and junction parts may only be plugged in.

PROTEKTORWERK

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