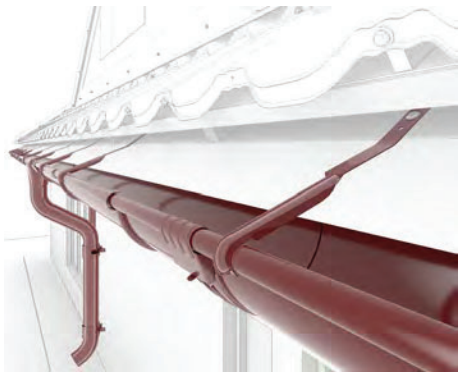


ARP

Metal Rainwater and Roofline Systems

One of the UK's leading suppliers of metal rainwater systems and recommended distributor of

ROOFART

The long-lasting roof

Step-by-step Installation instructions for Scandic® rainwater system

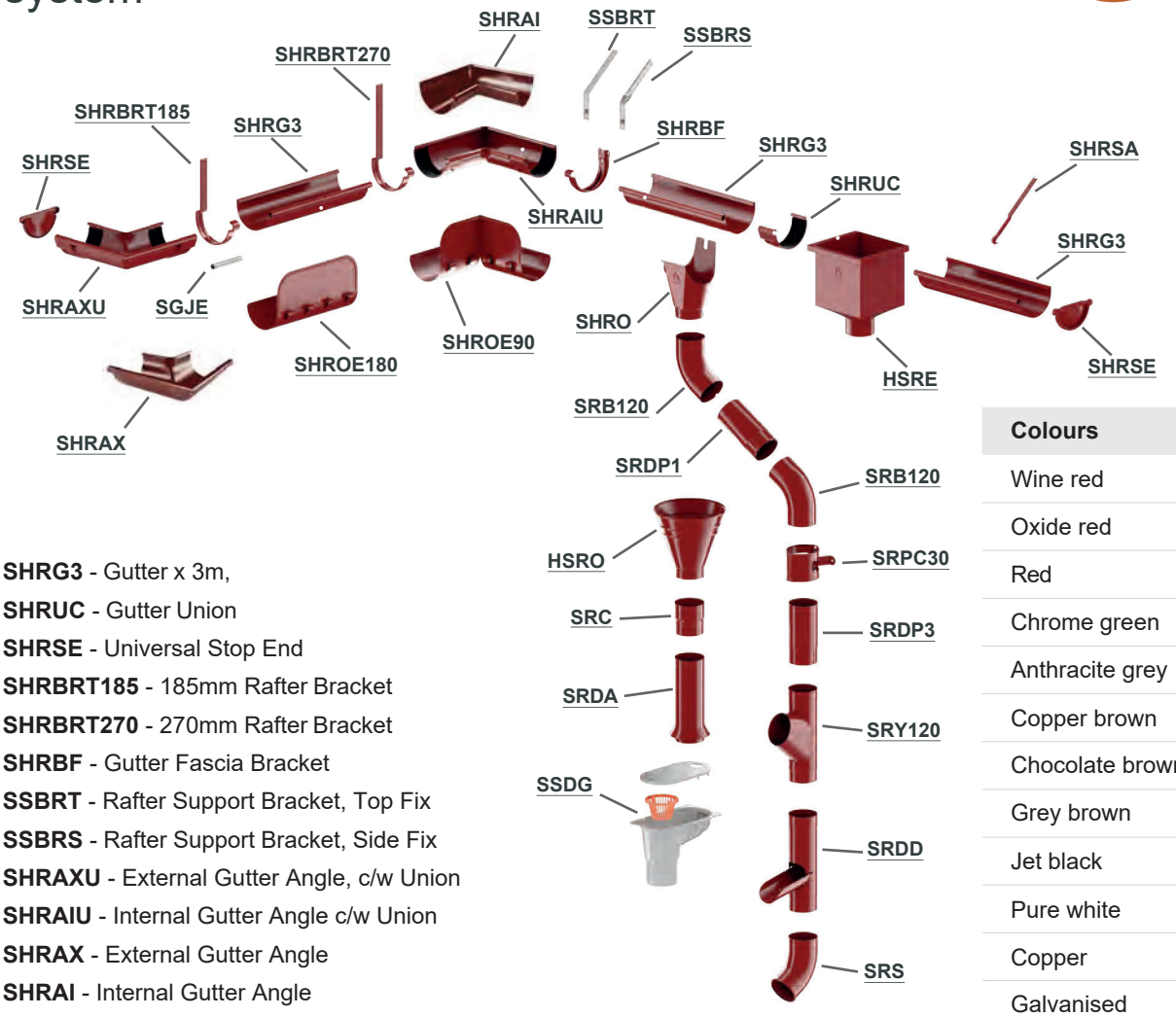
Scandic® rainwater system ensures the efficient discharge of rain from any type of roof.

The installation guide will help you select and install properly all the elements that are part of this innovative system.

CONTENT

The elements of Scandic® rainwater system

GALVANISED ★ ★ | COLOUR ★ ★ ★ | COPPER ★ ★ ★ ★



Colours	RAL
Wine red	3005
Oxide red	3009
Red	3011
Chrome green	6020
Anthracite grey	7016
Copper brown	8004
Chocolate brown	8017
Grey brown	8019
Jet black	9005
Pure white	9010
Copper	
Galvanised	

SHRG3 - Gutter x 3m,
SHRUC - Gutter Union
SHRSE - Universal Stop End
SHRBRT185 - 185mm Rafter Bracket
SHRBRT270 - 270mm Rafter Bracket
SHRBF - Gutter Fascia Bracket
SSBRT - Rafter Support Bracket, Top Fix
SSBRS - Rafter Support Bracket, Side Fix
SHRAXU - External Gutter Angle, c/w Union
SHRAIU - Internal Gutter Angle c/w Union
SHRAX - External Gutter Angle
SHRAI - Internal Gutter Angle
SHRO - Gutter Outlet
SRB120 - Downpipe 120° Bend
SRDP3 - Downpipe x 3m
SRDP1 - Intermediate Downpipe x 1m
SRPC30 - Downpipe Pipe Clip
SRS - Shoe
SRY120 - Downpipe 120° Y-Junction
SRDD - Rainwater Diverter
HSRO - Round Hopper
HSRE - Rectangular Hopper
SGJE - Gutter Joint Element
SHRSA - Gutter Stabiliser Arm
SRC - Downpipe Connector
SHROE90 - 90° Overflow Element
SHROE180 - Straight Overflow Element
SRDA - Drain Connector
SSDG - Drain Gulley c/w Lid
SGBBT - Gutter Bracket Bending Tool

GreenCoat RWS Pro sheet structure:

1. Steel sheet min. 0.57mm
2. 275gr/m2 zinc coating - (310gr/m2 zinc magnesium coating for galvanised finish)
3. Passivation layer
4. Primer
5. GreenCoat RWS 35µm paint coating

SSAB

Manufacture technology, high-end equipment and high quality materials by SSAB guarantee the performance of our products. the roof drainage system elements are produced in compliance with the European standards SR EN 612:2006 and SR EN 1462:2006 The elements are produced within RoofArt factories that have implemented a quality management system certified by AEROQ according to SR EN ISO 9001:2015, certificate no. 2318/2021.

Roof drainage system elements are produced in compliance with the European standards SR EN 612:2006 and SR EN 1462:2006.

HOW TO CHOOSE THE RIGHT SYSTEM

The rainwater system is available in two sizes: 125/87mm and 150/100mm. For roofs with surfaces of up to 150m2, we recommend using gutters of 125mm width and downpipes of 87mm diameter. The 150mm gutters width and 100mm downpipes diameter are recommended to be fitted on roofs with surfaces that exceed 150m2.

For eaves of up to 10m in length one downpipe will be used, in cases where the length of the eaves exceeds 10m two downpipes will be fitted, one at each end.

For roofs up to 10m in length, one downpipe will be installed.

For roofs exceeding 10m in length, two downpipes will be installed, one at each corner.

The sketch for installing the downpipes on different types of roofs

(A) Roof with two-way water flow

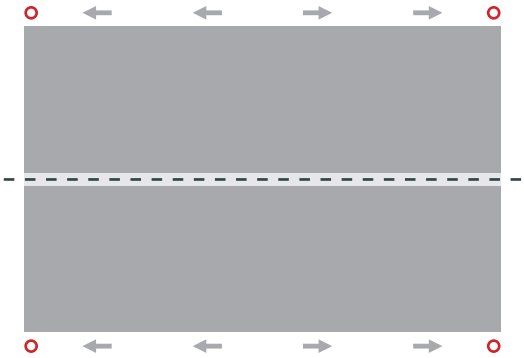
(B) Roof with four-way water flow

(C) Roof with many water flows

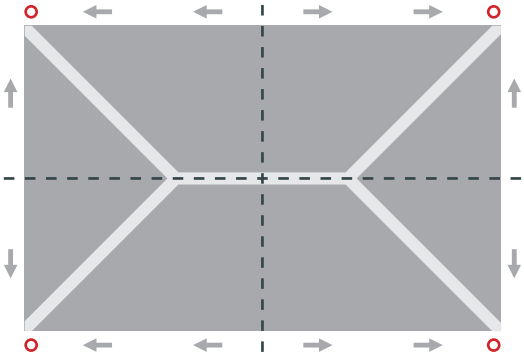
Please note that the above is for guidance only, and if in any doubt then assistance should be sought from ARP's Technical Department (Contact number on back page)

Sketch for fitting outlets/ drainages on different types of roofs

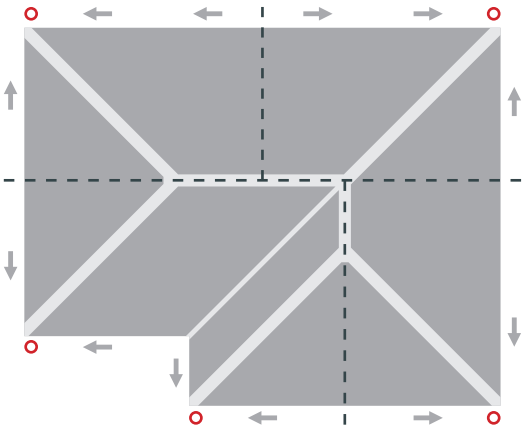
(A) Roof with two-way flow of water



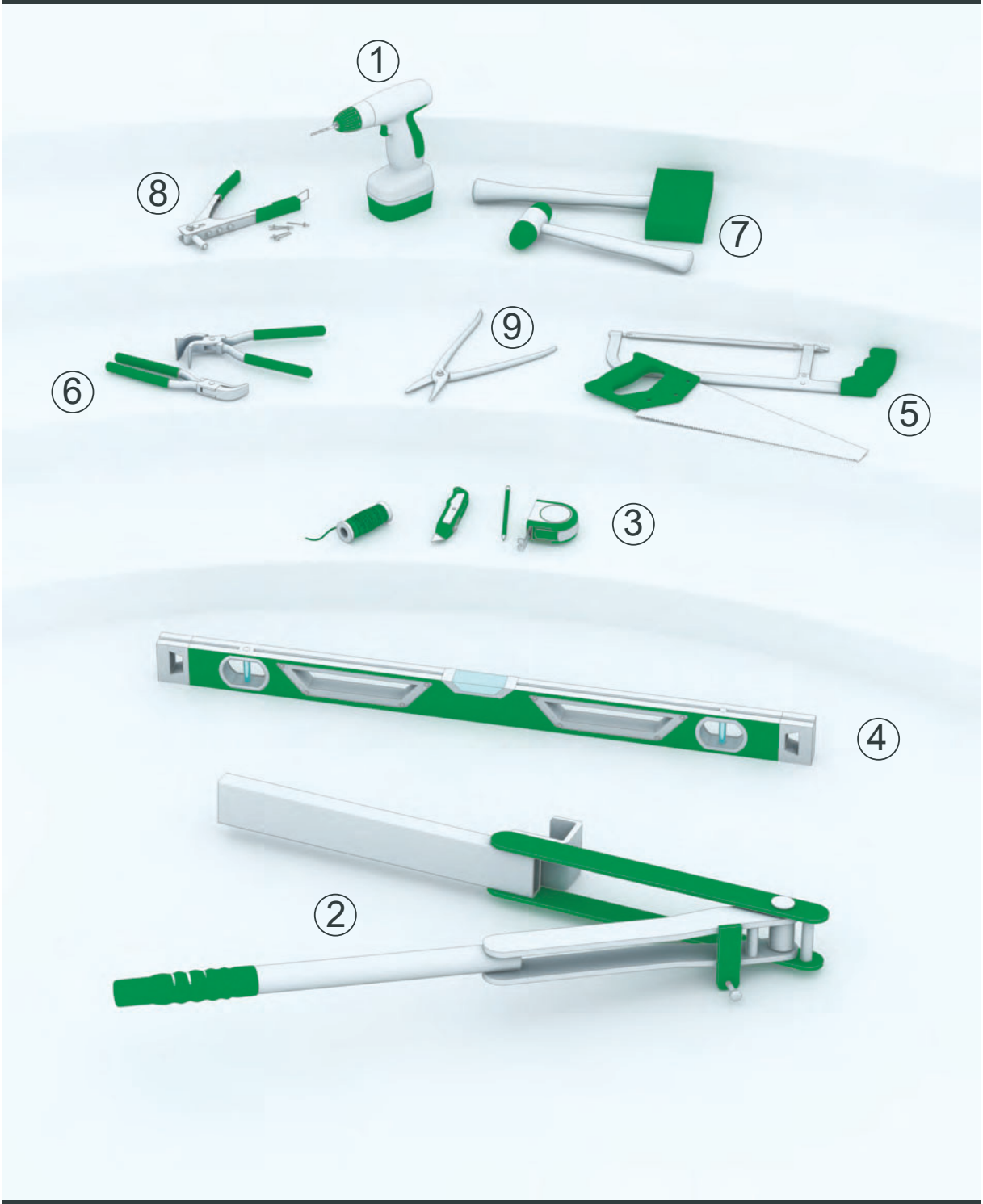
(B) Roof with four-way flow



(C) Roof with many flows



REQUIRED TOOLS FOR INSTALLING THE RAINWATER SYSTEM

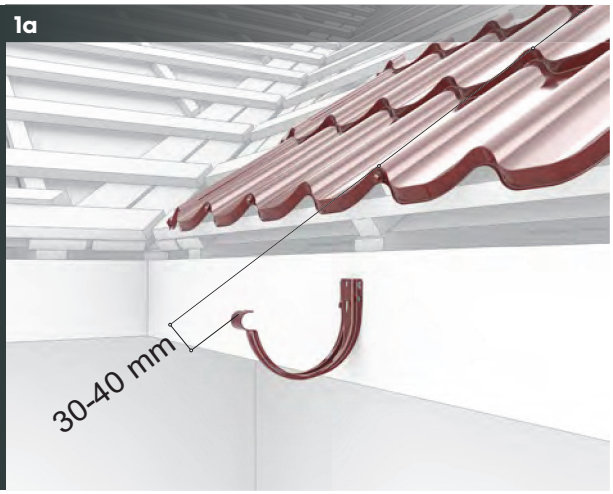


1. Cordless drill	4. Spirit level	7. Rubber and metal hammers
2. Bracket bending tool	5. Hack Saw or Specialist Saw	8. Rivet Gun
3. Measure tape, pencil, string line, knife	6. Metal sheet pliers	9. Metal sheet scissors

INSTALLING THE BRACKETS

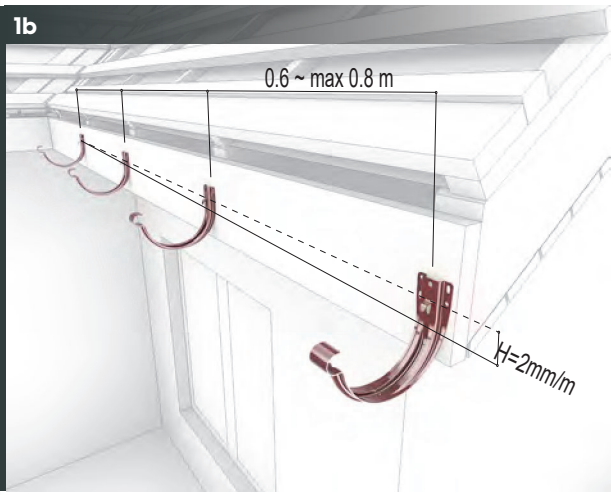
Attach the first gutter fascia bracket (SHRBF), so that its front edge is 30-40mm lower than the imaginary extension of the roof.

1a



Before actually installing the fascia brackets, we need to draw a drainage slope to where the downpipes will be. A 2mm slope is recommended for every 1m of gutter run. The fixing centres for the brackets should be set at 750mm for standard fascia board application or between 600-800mm for exposed rafter fixing.

1b



If the installation is on open rafters, then using a chisel, cut out 4mm for the thickness for the short or long gutter brackets (SHRBRT), or the same for the bracket supports (SSBRT/SSBRS), which are used when working with fascia brackets.

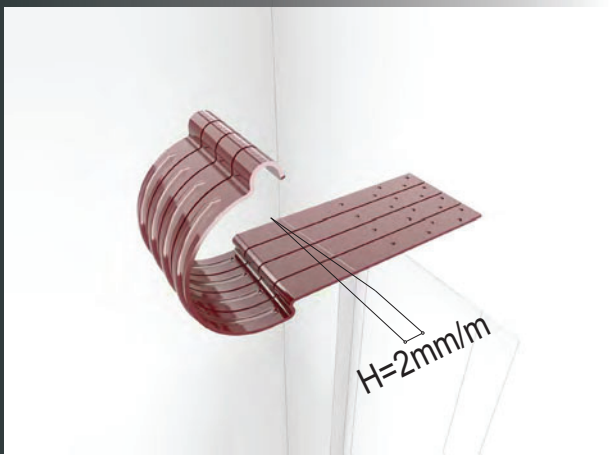
1c

If using the rafter support bracket (can be used in both top and side fix applications), the fascia bracket is attached with the nut and screw and can be secured up to a maximum of 70mm from the top edge of the clamping slot.

1d

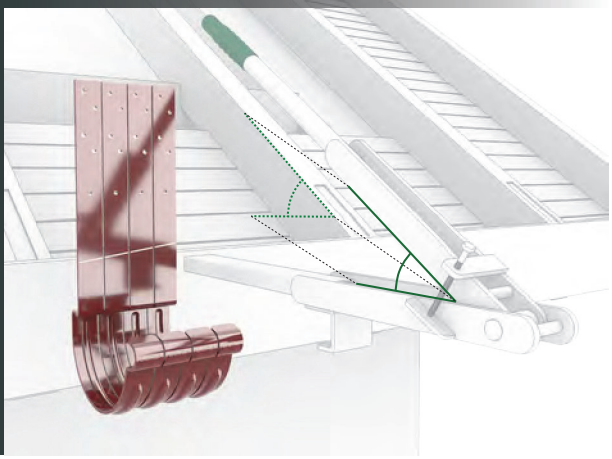
In the case of the short or long gutter brackets, they should be aligned side-by-side so that a bending line can be drawn, using the calculation of 2mm drop for every 1m run of gutter.

1e



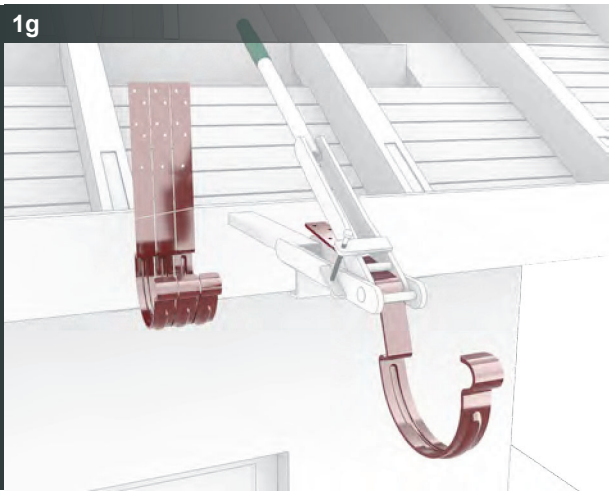
Set the roof inclination angle into the Gutter Bracket Bending Tool (SGBBT), as per the drawing.

1f



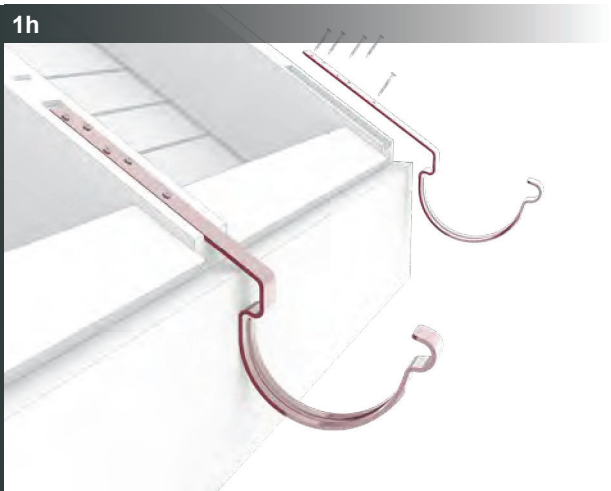
The brackets can now be bent according to the slope fixed in the bracket bending tool.

1g



Brackets installation. For a proper alignment, between the two end brackets two strings are stretched: at the lower side of the brackets and in the bend of the bracket tip. Based on this, the rest of the brackets are aligned and attached.

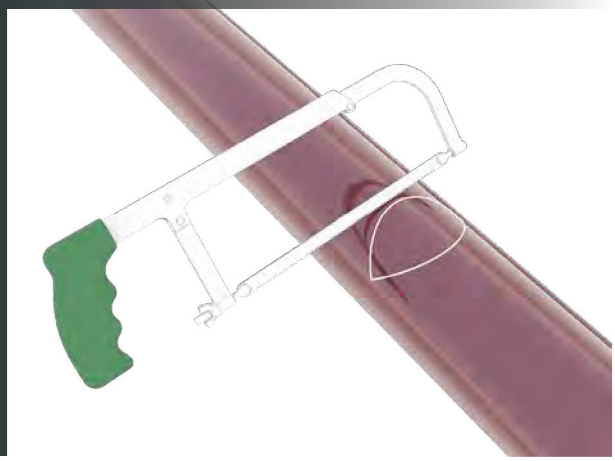
1h



INSTALLING THE GUTTERS

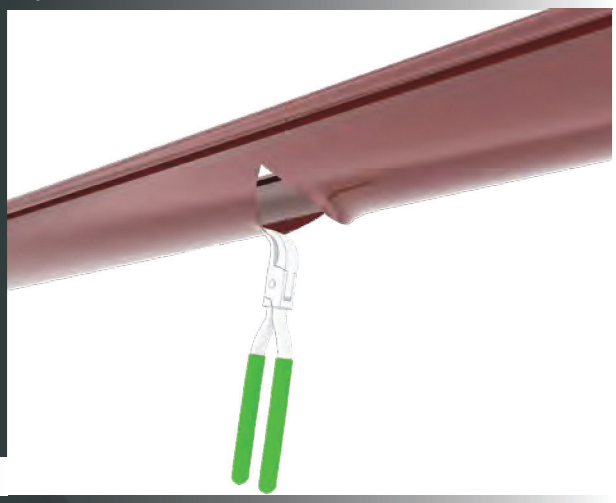
Once the gutter lengths (SHRG3) and any angles have been laid on their respective brackets, establish where the gutter outlets need to be and then make cuts as per the drawing. This should be done using a hacksaw, ideally with a 24TPI or Bi-Metal blade.

2a



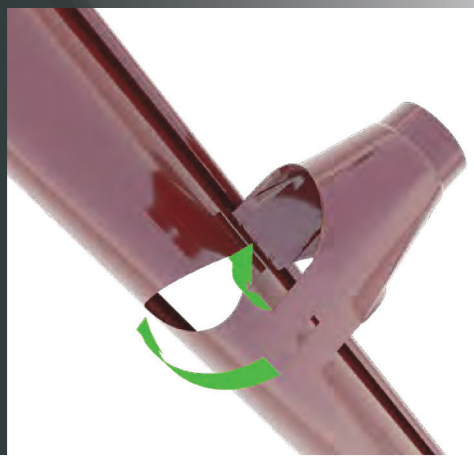
After cutting, bend the bottom edges of the open hole down with a set of pliers.

2b



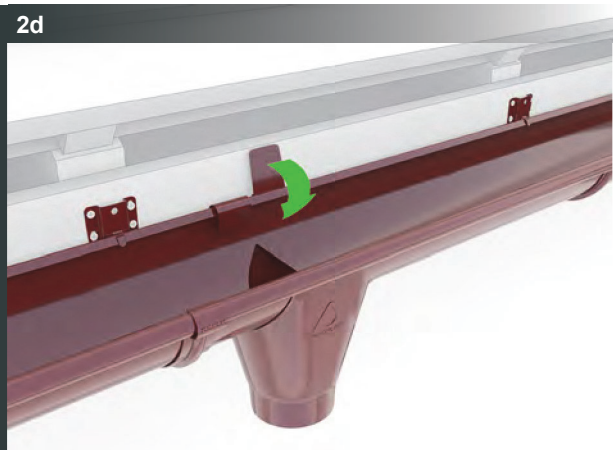
The gutter outlet (SHRO) is mounted in two stages. First, attach the bent edge of the connector to the front edge of the gutter and then swing the outlet down so that the two tabs on the rear edge of the outlet come up to the rear of the gutter.

2c



Installation of the gutter outlet is completed by bending the two clips over the gutter.

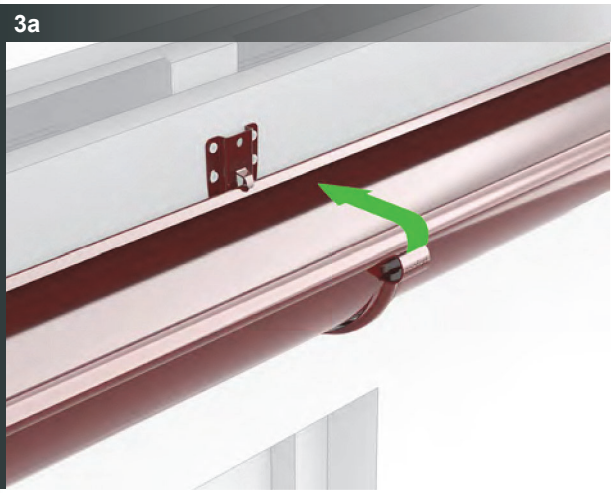
2d



JOINING THE GUTTERS

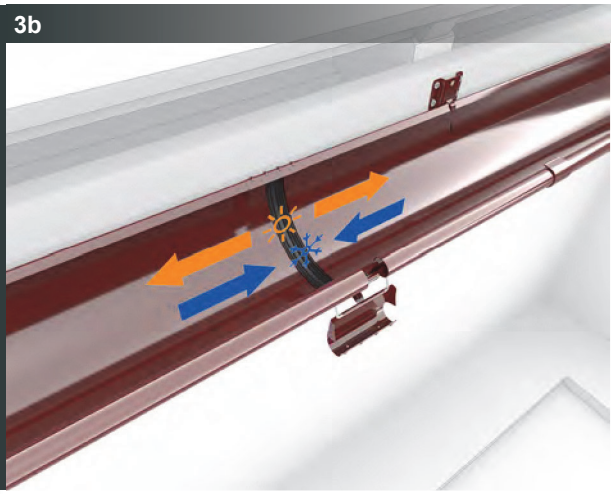
The gutter is placed on the fitted brackets and is secured by sliding the gutter under the notch on the bracket and pressing down on the front edge until it is engaged.

3a



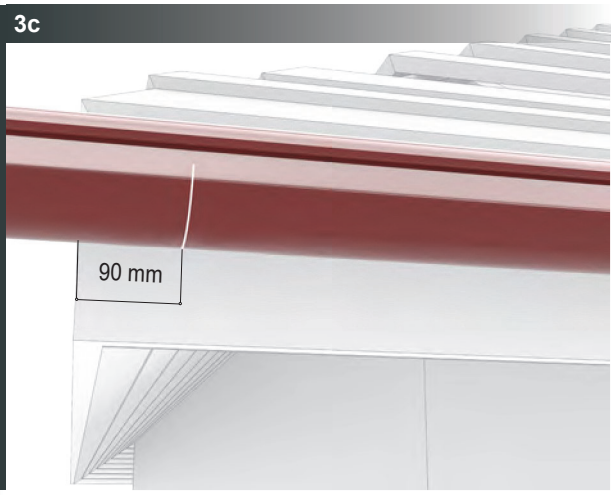
Gutter Unions (SHRUC) have a loose clip on the front edge. They are installed by placing them between the 2 lengths of gutter to be joined and ensuring the back edge of the gutters are pushed up under the rear edge of the union. The loose clip is then drawn up over the front edge of the gutter and then pulled down to lock it in place. There is a small tab on the front of the union which is then pushed to secure the union in place. Rivets or screws can also be fitted for extra security.
The gutters and the angles have the property to expand and contract according to variations in temperature. In consideration of this, you should allow for an expansion gap of 2-3mm between every fitting.

3b



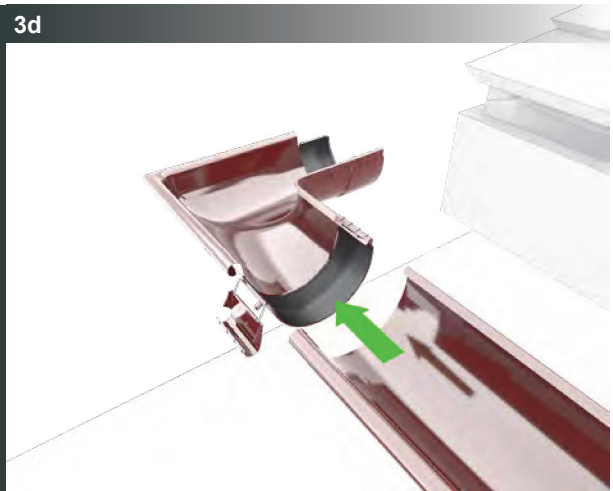
If an external or internal angle (SHRAX/U,SHRAI/U) needs to be installed, then you can cut the gutter a distance of 90mm from the edge of the eaves, so to allow the angles to fit correctly.

3c



Gutter angles are either supplied with unions attached or plain ended. Unions are installed as per previous instructions with the recommendation that a 2-3 mm expansion is allowed for.

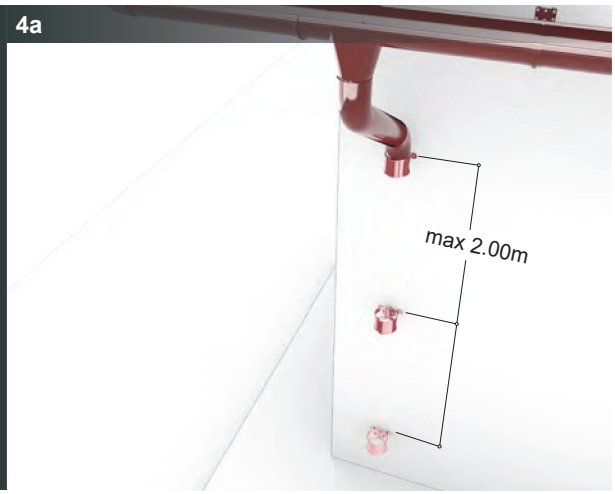
3d



INSTALLING DOWNPIPES

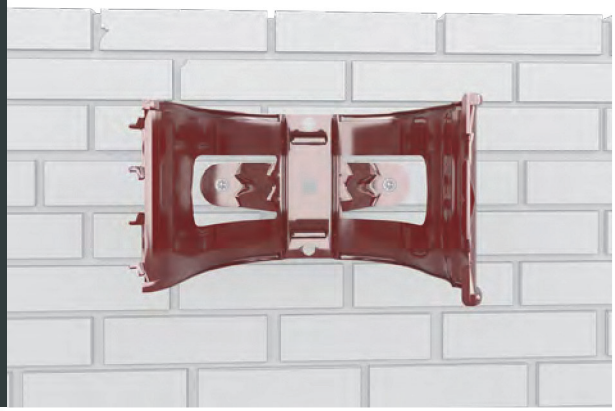
For installation of downpipes (SRDP3), attach the downpipe clips (SRPC30) to the wall, using a plumb line as a guide to ensure that the drop is vertical. Note that the maximum fixing centres for the clips should not exceed 2m.

4a



The downpipe clips are attached to the wall by means of wall plugs and stainless steel screws.

4b



Downpipe Clips are closed using a "click" method, by drawing the two halfs of the open clip together and overlapping them until they click into place.This will prevent them opening accidentally.

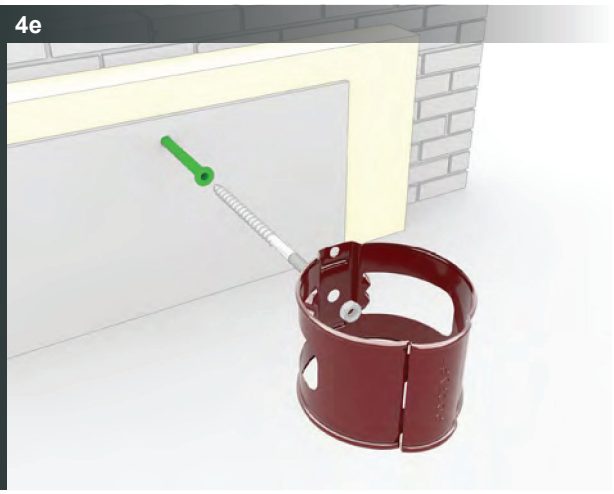
4c

In the case of external faces being insulated with a heat-insulating product, the downpipe clip is secured to the wall with an extended screw. The two ears on the clip are removed by cutting.

4d

The downpipe clip is attached to the wall using a facade fixing.

4e

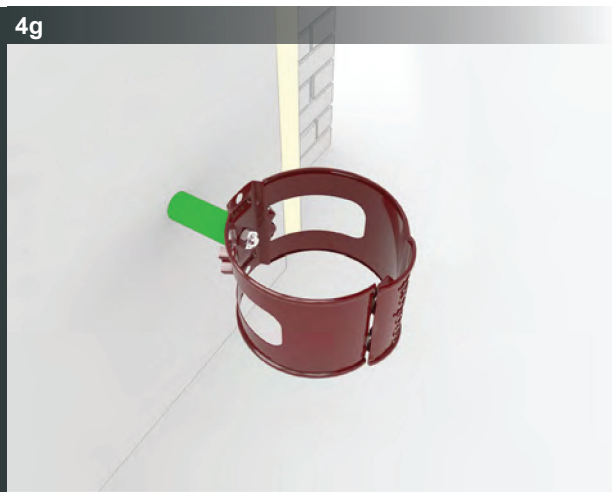


The downpipe clip is then attached and open to insert the downpipe.

4f

The visible screw can be masked with plastic tube or copper pipe.

4g



Attaching downpipe clips to a metal sheet wall is done using pop-rivets.

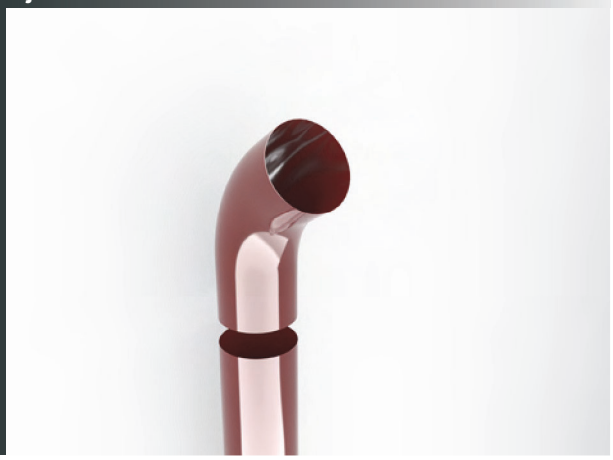
4h

Once the downpipe clips have been installed, the first pipe bend (SRB) is attached to the gutter outlet (SHRO). For this the drill and either rivets or stainless steel screws are used.

4i

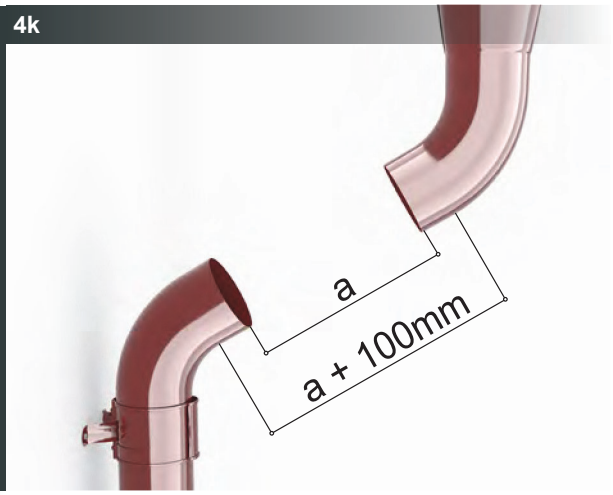
The second pipe bend (SRB) for the bottom of the swan-neck is inserted into the larger diameter end of the main downpipe run (SRDP3).

4j



Between the two bends, a downpipe section is provided (SRDP1), which has a maximum length of 1m. The length of the projection required will be equal to the distance between the ends of the two downpipe bends, plus 100mm. The cut to the downpipe must be made to the plain end, not the reduced diameter end.

4k

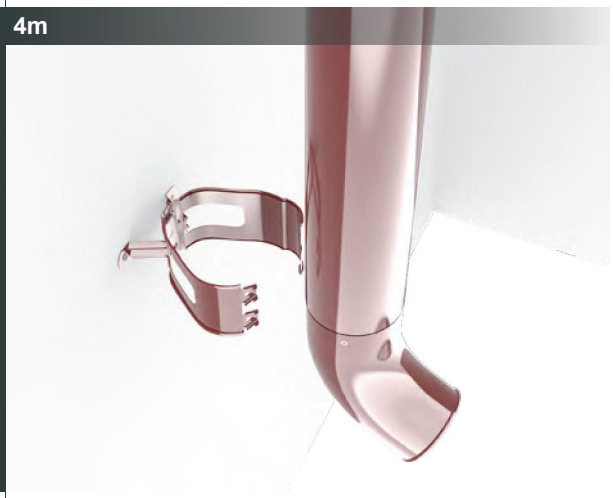


Connect the reduced diameter section of the downpipe into the larger diameter end of the bottom bend. Then slide the larger diameter end of the section of downpipe over the fitted top bend, completing the swan-neck assembly. The lower sections of downpipe can now be secured to the downpipe clips.

4l

The shoe (SRS) is fitted at the bottom of the downpipe. It is secured in place with a downpipe clip.

4m



The rainwater system can also be connected directly to the drainage system. In this case, the downpipe is connected to the drain connector (SRDA), and this to the surface gulley (SSDG) through which the water flows into the drain system. The gulley comes with a balloon strainer which will retain the impurities accumulated through the gutters.

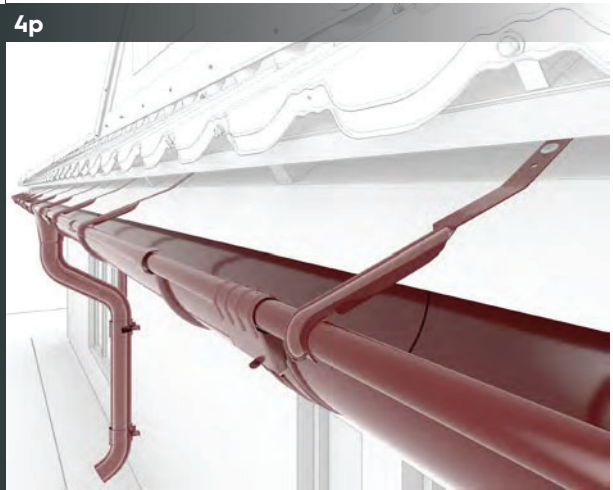
4n

The universal stop end (SHRSE) is attached to the end of the gutter by manually pressing or using a non-rebound rubber hammer.

4o

In geographical locations where there is the liklihood of massive snow or ice accumulations, or on the roofs where the snow stops are lacking, gutter stabilisers (SHRSA) are recommended. They will provide extra support for the gutters to avoid the risk of rainwater system damage.

4p



5. OTHER ACCESSORIES

Water can be drained from the roof in situations where the eaves are restricted and gutter is not an option, by using the round hopper (HRSO). The hopper is equipped with double reinforcement for a better rigidity and strength.

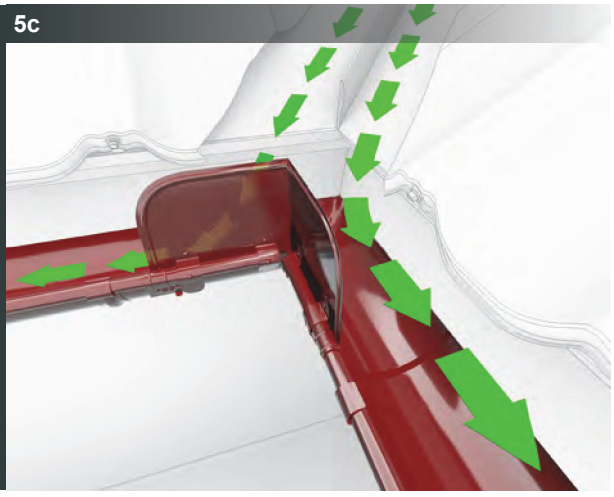
5a

In instances where it is not possible, or correct to make a standard connection from a gutter to a downpipe, or where more than one downpipe needs to meet, the rectangular hopper (HSRE) can be used. A further example of installation is in the case of discharge from flat roofs, where water is drained through the wall.

5b

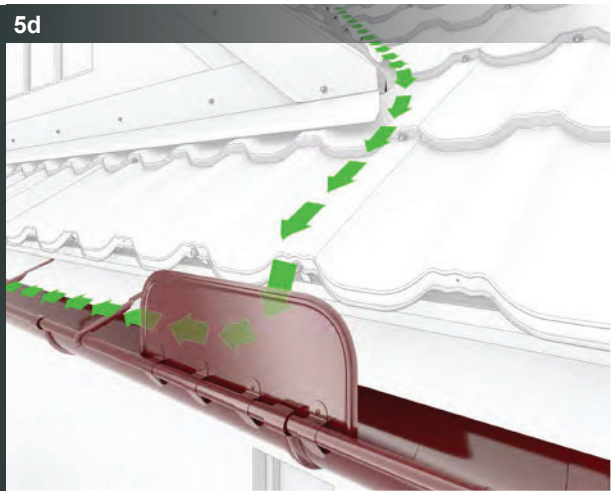
At a roof valley, and where there is high volume of flowing water, a 90° overflow element (SHROE90) can be fitted to the internal gutter angle. This will allow the volume of water to be contained within the gutter and minimise any overflow.

5c



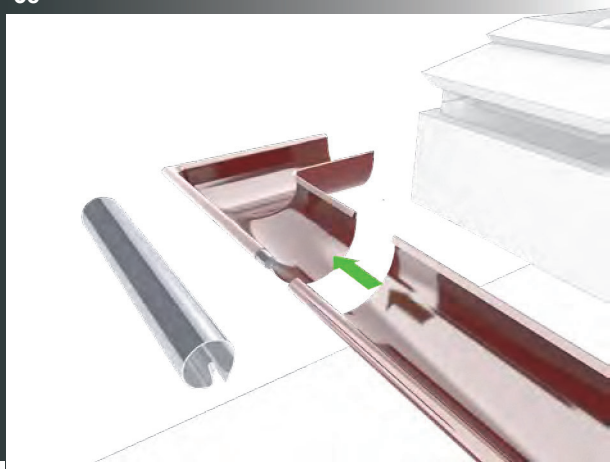
In other areas where it is estimated that the accumulated water flow will also be high, a straight overflow element (SHROE180) can be fitted to the outside of the gutter. This will prevent the flow of water over the front edge of the gutter.

5d



Where the internal or external angle (SHRAX/U,SHRAI/U) overhangs the eaves and does not sit on the brackets, it can be better attached to the gutter using the gutter joint element (SGJE), which offers a greater connection strength. The joint element can also be used in standard installations to strengthen the joint between two gutters if desired.

5e



Two downpipes can be joined using a Y-Junction (SRY120). This is the best solution for routing where there is only a single drain outlet at ground level. The diverter has an adjustable tilt angle.

5f

Rainwater can be collected for garden/household purposes using the rainwater diverter (SRDD). This ensures that water is routed to another area or water butt. The diverter is adjustable and offers the possibility to keep it open to catch the water, or closed, so the water flows into the drain.

5g

The drain gulley or decanter (SSDG) routes the water directly into the drainage system or to another tank, eliminating any possible infiltrations to the ground. The balloon strainer included, offers the possibility to clean the accumulated leaves.

5h

Aluminium Roofline Products Ltd.

Unit 2, Vitruvius Way, Meridian
Business Park, Braunstone,
Leicester LE19 1WA

0116 289 4400
sales@arp-ltd.com
www.arp-ltd.com

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