Conservatory Self Installation Guide
Lead Flashing

Flashing

There are two methods for flashing a roof, method 1 uses Flash Band and method 2 uses Lead. Both have different advantages and drawbacks, it is for you to chose which methods suits you the best.

Flash band comes on a roll, and is similar to roofing felt on one side, the other side of the material is made of a sticky tar like substance, which is used to stick the band to the wall and the edge of the frame. There is very little preparation required to fit flash band, but the draw backs are that it is not as long lasting as lead flashing and the look of the finished job is not as pleasing to the eye.

Lead flashing comes on a roll, and the preparation required to fit the lead flashing is considerable in comparison to the flash band, but the expected life time of the lead flashing is many times that of flash band and the final finished appearance of the job is very neat and pleasing to the eye.

Flash Band Method

To use flash band is very simple. Ensure that the surfaces where the flash is to go is clean and free of grease and grit etc. Take the roll of flash band and lay one edge so that the frame section that abuts to the wall is covered, but do not allow the flash band to go too far over and cover the space where the roofing materials will fit. Unroll the the flash band down the length of the frame, pressing it lightly into place. When you reach the bottom of the frame, cut the flash band.

Go back to the top of the frame and holding the flashing on the frame, using a blunt edge e.g. a bolster chisel, push the flashing into the corner where the wall and frame meet, working your way down the fame. Go to the top again and this time, push the flash band firmly into place against the frame and the brick work.

Lead

Lead flashing comes in rolls, either 3 or 6 meters long by 300mm wide. It also comes in various grades or weights of lead, the grade of lead you will need is Code 4.

Lean-To or Flat Roof Flashing

Take a line from between the two end bars of the roof and to this line add the height of the roofing clips, between 20mm and 35mm. The flashing requires at least 100mm up stand, so The first clear line of mortar above the 120mm - 135mm line is to be used as the flashing line.

To fit the flashing, the mortar between the two layers of bricks must be removed. There are two methods of doing this. The first method is with a large hammer and plugging out chisel, chipping out the mortar, the second method is much faster and neater and that is to use a 4 inch grinder. The depth of mortar removed should be around 25mm.

Take the roll of lead flashing and unroll it along the top of the roof frame. Starting at one end, slide the flashing into the slot in the mortar, working along the flashing line until the lead has been inserted into the slot.

Once the flashing has been inserted into the slot the remaining gap should be filled with mortar mixed to 5 to 1 strength, and neatly pointed.

Do not bend the flashing down at this point.

Pitched Roof Flashing

There are two methods for doing this using lead. Method one is Parallel flashing and the other is Step Flashing.

Parallel Lead Flashing

Parallel Leading is by far the simplest, but is not common nor the most pleasing finish. To do this, Measure the length the roof by laying a tape down the side of the roofing bar that should be fixed to the wall. You should measure from the the first line of mortar above the roof apex down to the first line of mortar below the end of the roof bar. This is the length of lead required to flash this section of roof. Measure up from this point 100mm for the Up Stand and Mark this line on the wall.

Using a 4 inch grinder and the appropriate safety gear, cut a slot following the line on the wall, this slot should be no more that 25mm in depth and approximately 4mm wide.
Now fit the lead into the slot, and using the methods described below, fix the lead flashing in place.

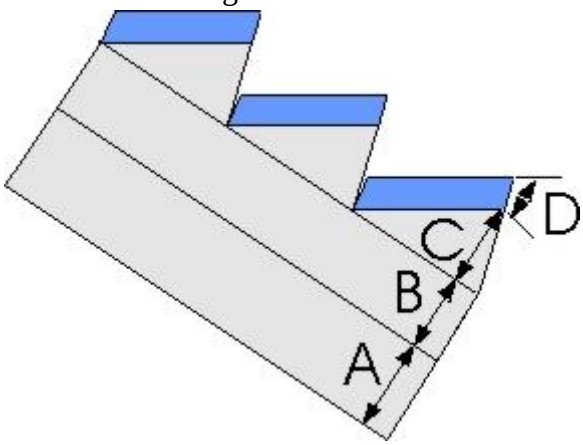
Stepped Lead Flashing

Measure the length the roof by laying a tape down the side of the roofing bar that should be fixed to the wall. You should measure from the the first line of mortar above the roof line and measure down to the first line of mortar below the end of the roof bar. This is the length of lead required to flash this section of roof.

Make the template as a guide to marking and cutting out the lead.

How the template is made depends upon the width and depth of the frame. Measure the width and depth of the frame, half the measurement for the depth of the frame and add the two measurements together.

This distance is the material you will need for the lead flashing that will cover the roofing bars, marked as A on the diagram..

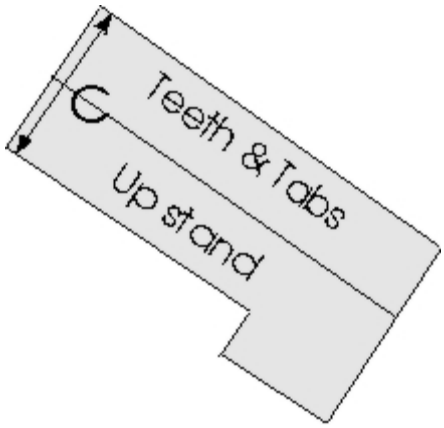


The vertical part of the flashing is broken into three parts, marked as B, C & D. The up stand, shown as B, which is a continuous band of lead that run next to the roofing bar, and the more obvious teeth like sections, C. The final section is marked as 'D' and these are the tabs that are cemented into the wall to hold the flashing in place.

A: Roof Flash
B: Up Stand 100mm
C: Teeth (dependent on brick size)
D: Tabs 25mm

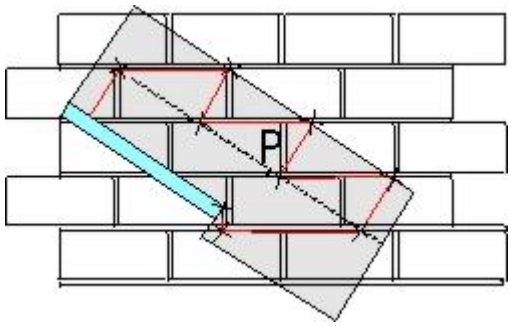
After deducting the length for the roof flash (A) , the remainder of the lead is for the teeth (C), Up Stand (B) and tabs (D).

Let us say that the roofing bar roof flash measurements are 65mm. This will leave 235mm for the formation of the Up Stand, 'teeth' and 'tabs', shown as C. This is the width you should make the MAIN section of your card to mark out section 'C'. The length of the card should be enough to cover 3 bricks, but at the end of the card, leave it large enough to mark out the bottom end of the lead flashing. This is shown opposite.

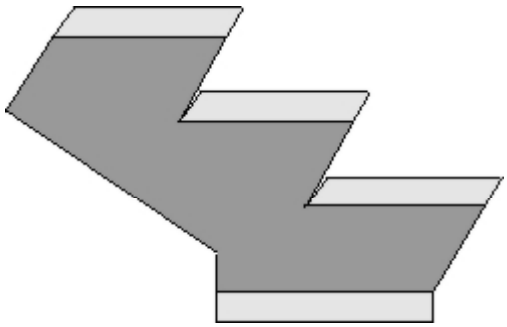


To create the pattern, take the card and cut it to the width required by YOUR calculation. Note that the width of the card will in most cases, and therefore the width of the lead, be wider than required. Do not trim any of the width off the card at this point.

Place the card against the angle of the roof bar and wall, and mark on the card the points as shown. Next draw lines linking the points to give the triangles. Note that the width of the card may be larger than required. The width of the card has been calculated after taking into account the lead required for the up stand, etc. So the lead that remains after taking the other measurements into account may may be to wide. The amount of cover required by the 'teeth' is half a brick, this means that you may have to trim the card, and therefore the lead flashing.



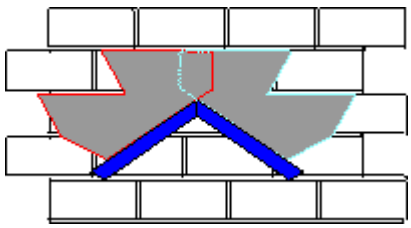
On all the points of the triangles, punch a small hole, just large enough to take the point of a center punch or large nail.

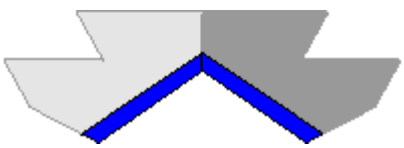


This should give the pattern shown opposite as the dark shading. The light shaded parts are the tabs that will be plugged and cemented into the brick work. These can be marked onto the card by adding 25mm depth to the teeth as shown.

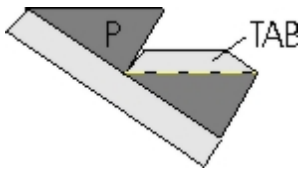
Now to complete the full pattern, using another piece of card, cut it to the width needed for the roof flash, and tape it to the main template card.

When you come to flash the apex of the roof ridge, there are two methods, one is to cut the lead flashing so that it will overlap on each side of the roof ridge by about 100mm. The other is to make a roof ridge capping, with this method, the two sections of lead that run up each side of the roofing frame and wall butt together, and the capping lead covers both sections of lead flashing. For more information on the lead capping method, see Capping Flash.





To start marking out the lead, place the pattern on the lead, it SHOULD NOT over hang the edge of the lead, but should be smaller. Place the pattern with the straight edge against a straight edge of the lead. Mark out onto the lead the various point on the pattern. The first time the pattern is used, use of the full pattern, including the bottom tab for ending the flashing. On subsequent use of the pattern to mark out the lead, do not include the bottom tab of the pattern.



Note that when you reach the top of the of the lead, the section that will be at the roof ridge, you should allow the lead to cover the apex by roughly 100mm.
Once you have marked out enough lead to do he section you are working on, you are now ready for cutting out the lead. You can use a strong pair of scissors, tin snips or a Stanley knife and steel ruler, but please note, if you are using a Stanley knife to cut the lead, to cut away from you and not towards you. Where the corner of the tab is in the bottom of the triangles or teeth, it should be cut to the point of the internal angel, this is to allow the tab to be folded to a 90 degree angle to fit into the slot cut out of the mortar in the bricks.

Once you have marked out enough lead to do he section you are working on, you are now ready for cutting out the lead. You can use a strong pair of scissors, tin snips or a Stanley knife and steel ruler, but please note, if you are using a Stanley knife to cut the lead, to cut away from you and not towards you. Where the corner of the tab is in the bottom of the triangles or teeth, it should be cut to the point of the internal angel, this is to allow the tab to be folded to a 90 degree angle to fit into the slot cut out of the mortar in the bricks.

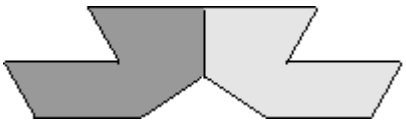
Note, When cutting the pattern from the lead, you should not cut along the bottom of the tab, this line is a fold point.

After the lead flashing has been cut out, it should look similar to the drawing shown here.

After cutting away the waste lead, the next task is to bend or fold the lead along the appropriate lines. The first fold on the lead is for the tabs, which run along each tooth. Placing the lead over the edge of a table, line up each tab so that the teeth overhang and the solid part rest on the table, and bend the tabs to a 90 degree angle.

Next turn the lead over so the bended tabs point up, and now align the .long strip of lead the will fold over the roof of the conservatory overhanging the edge of the table, with the bottom points of the triangles on the edge, and then fold this strip the opposite direction of tabs again to an angel of 90 degrees.

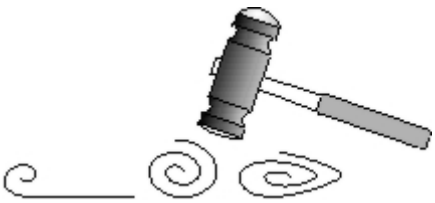
Capping Flash



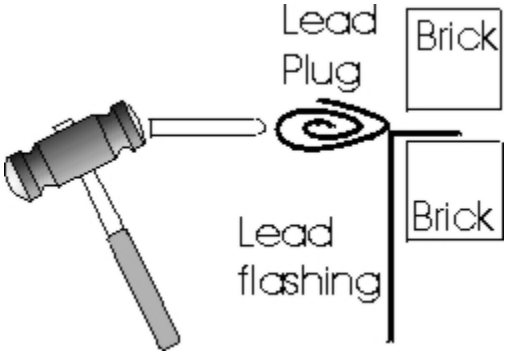
The capping flash is a seperate piece of lead, which is made from the pattern used for making the flashing. Using the pattern, mark out the point on the lead, then, revers the pattern, align it with the previous point and mark out again. The number of steps in the capping lead should be enough to go from the top sections of the lead flashings running down the side of the roof, to the first band of mortar below the apex of the ridge. This means the capping lead could be either 1 or 2 steps of bricks in depth. At the point where the capping stops on both the top and bottom mortar line, the lead should be cut horizontally across the top and bottom a shown. Note also that the drawing dose not show the tabs that are required to be cemented in to the brick work, these should be added in the same way as when the main flashing was made. In the drawing, the capping is shown in two colours to represent the pattern that has been flipped to make the capping.

When you have the capping flash, it is fitted in the same manner as the side flashing, into the same slots in the brick work as used for the side flashing, and then sealed in place.

Plug and Mortar lead



The lead flash is held in place by small rolls of lead. These are made by cutting the lead into strips, approximately 1 inch by 3 - 5 inches. The length of the lead strips will vary depending upon the gap width of the mortar between the bricks, find the correct length by cutting a test length and making a plug. Roll strips of lead up into a loose spiral, then flatten along one side so that the plug tapers.



The lead plugs are then tapped into place above the tab of the lead flashing, until it has been sunk in sufficiently for the mortar pointing to cover it. The lead plug should be a fairly tight fit.

Tamping the lead into place

This should be done with care, as the lead is soft and ductile, it is possible to damage the lead by puncturing it, and this would defeat the entire object of the exercise.

Using a soft wooden block with the edges rounded off and a mallet, place the wooden block against the lead and tap it with the mallet until the lead is flush to the wall and roof supports. Work from the top of the lead where it is mortared into the brick work and down over the supporting structure, traveling along the length of the lead as you do so. Ensure that the lead is tight into any angles or corners.

While bright when new, the lead will take on a gray mat patina within six months to a year.

The finished flashing with top capping is shown right. The different colours have been used to show the left, right and top capping flashings.