

# Corrugated Roofing Guide

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## **Intro & disclaimer**

The help and advice section is useful for advice and guidance during your roofing project. Guide is for advice only on how to install a metal sheet roof. Advice is of a limited detail and is not to be relied on for exact requirements on installation safety and specific circumstances should be accounted for.

Within this easy to follow installation guide are different sections to help you with your installation sheets. This guide is intended for those who have an understanding of installing roofing sheets already and for beginners we would advise seeking advice from a professional before starting work.

## **Side & End Laps**

Side end laps benefit from mastic lapping tape and stitcher screws; these materials provide a weather proof joint on side laps helping to protect the interior from the elements. The Mastic Tape should be installed along the crest of the sheeting. Mastic lapping tape can often be considered more effective than silicone sealants.

Stitcher Screws can be used at 600mm spacings down the sheet which will then consolidate the joint between sheets with lapping tape between. This is the most effective way to seal end joints.

## **Roofing Sides & Lap Joints**

When overlapping, you should ensure a minimum overlap of 250mm. This will ensure enough of the steel sheeting is covered. The overlap section should be supported by a purlin below.

Side lap roofing should use mastic lapping tape across the width of the sheet to create a rain and weather resistant seal. It's advisable to leave a 25mm gap at the ends of the top and bottom.

Ensure you are happy with the placement of sheets before applying the mastic lapping tape as its very difficult to remove the sheets, ensure the sheet is positioned perfectly before securing.

## **Gaps at Eaves and Ridge**

In order for a roof to be completely weatherproofed, you must seal the gaps that occur under the sheeting at the eaves, and between the sheeting and the ridge flashing. This can be done using foam filler in the profiles of the sheeting being used. Of course, if you want ventilation, you can leave the foam fillers out.

## Filling Gaps in Roof Sheets

An eaves filler strip is designed to go under a sheet, while an opposite ridge filler strip is designed to go over a sheet. All foam filler strips should be bonded to the pans or valleys of the sheeting with a flexible, waterproof silicone sealant and should be continuous over the entire width of the sheeting. This silicone bonding will add an extra layer of protection when filling gaps in roof sheets and, if done correctly, will ensure nothing can get through the gaps.

## Handling Sheets

It's imperative to take precautions during sheet handling to ensure no damage is created to the product or injury to persons when installing the sheets.

Where possible, you may wish to use mechanical equipment for handling. It's strongly advised not to drag a sheet across another sheet as this can cause unnecessary damage or scratching to the sheet below, ensure sheets are lifted clear of anything below. It's important to remove any packaging prior to lifting roof sheets onto a building.

We will accept no liability for injury or loss caused during installation of roofing sheets when following this guide, so you should always contact an experienced professional prior to starting work.

At any point when in contact with roof sheets, it's imperative to keep hands and persons safe. Roof sheets can have sharp or pointed edges and working with them can be hazardous. We advise the use of level 5 cut protection gloves for safety which are available on our website.

## Equipment Advice for Roofing Sheets

We advise visiting the HSE website for legislative requirements and information on working above ground. Visit the website here: [www.hse.gov.uk](http://www.hse.gov.uk).

Roofing sheets should be placed on the roof before fixing them down. Sheets are advised to be secured to the roof as close to the rafter line as possible. It's also advised to spread the sheets out to distribute the weight across purlins. Debris must be removed including left over screws, fasteners and additional materials from the roof sheets.

If no mechanical handling equipment is available for lifting roofing sheets, then precautions should be taken to ensure you do not damage yourself, others or the roofing sheets. Ensure you use protective gloves when handling sheeting and ensure you always have a minimum of 2 persons handling sheets. Sheets can be heavy and it's advisable to check whether persons or machinery can

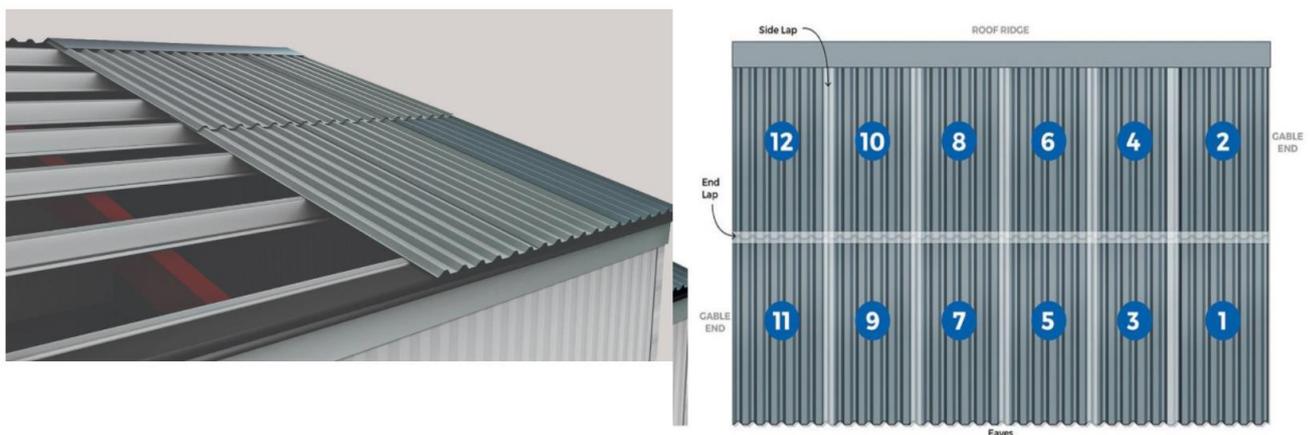
handle the weight of the product. Taking the above precautions can prevent the sheet from being bent.

## How to Lay Corrugated Roof Sheets

After purchasing your roofing sheets, it's imperative that you know which way to lay the sheeting, whether its tile form, box profile or corrugated sheets, they need to be laid in an appropriate order for effectiveness against prevailing winds. It's advised to lay metal sheets in sets of runs and we advise starting at the eaves and at the corner which is furthest away from the prevailing direction of wind (this is the case for a single run sheet). Installing in this manner helps to prevent any side laps which are facing the wind having water penetrate.

It is advised to lay the first few sheets but not to fix them down until you have ensured they are all correctly aligned with the purlins *and* each other. Installing in this way can ensure you do not have to re-fit any sheeting during the installation, or after.

When installing a double sheet run, it's advised to follow the image:



When creating a single pitch roof out of corrugated sheeting the minimum pitch advised is 10°.

When installing a single sheet project start with the eaves and begin with the corner furthest away from prevailing wind. Installing in this way will prevent water ingress and ensure a weatherproof seal. If the building is not square you may end up with an effect known as sawtooth, this may not be avoidable.

The initial first row of corrugated sheets should extend well over the purlin below and eaves, this will enable rainwater to drain into the gutter and fall well away from the wall.

Corrugated sheeting should always overlap by a minimum of one corrugation. This is known as side laps. When overlapping corrugated sheeting, it's advised you use lapping tape.

For maximum sheet lengths in corrugated, we can supply 5m in a 0.5mm thickness and up to 6m length in the 0.7mm thickness. For projects which require a longer length, you will need to create a two- sheet run.

## Advice for laying box profile corrugated sheets:

When installing a roof that is single pitch, it's advisable to have a minimum pitch of 4-5°, ideally, the pitch will be higher than this to ensure adequate water runoff. As above, you should start with the eaves and choose the corner furthest away from prevailing wind direction (as before this can prevent water ingress and wind from penetrating).

If you find that the first sheet has not been installed perpendicular to the ridge and eaves you may need to make adjustments regularly throughout the installation. You may experience a sawtooth effect at the eaves, if the building is uneven or is not square this may be something you cannot avoid.



It's important to allow the sheets to extend beyond the bottom purlin to enable rainwater to effectively drain into the gutters below or fall beyond the below wall.

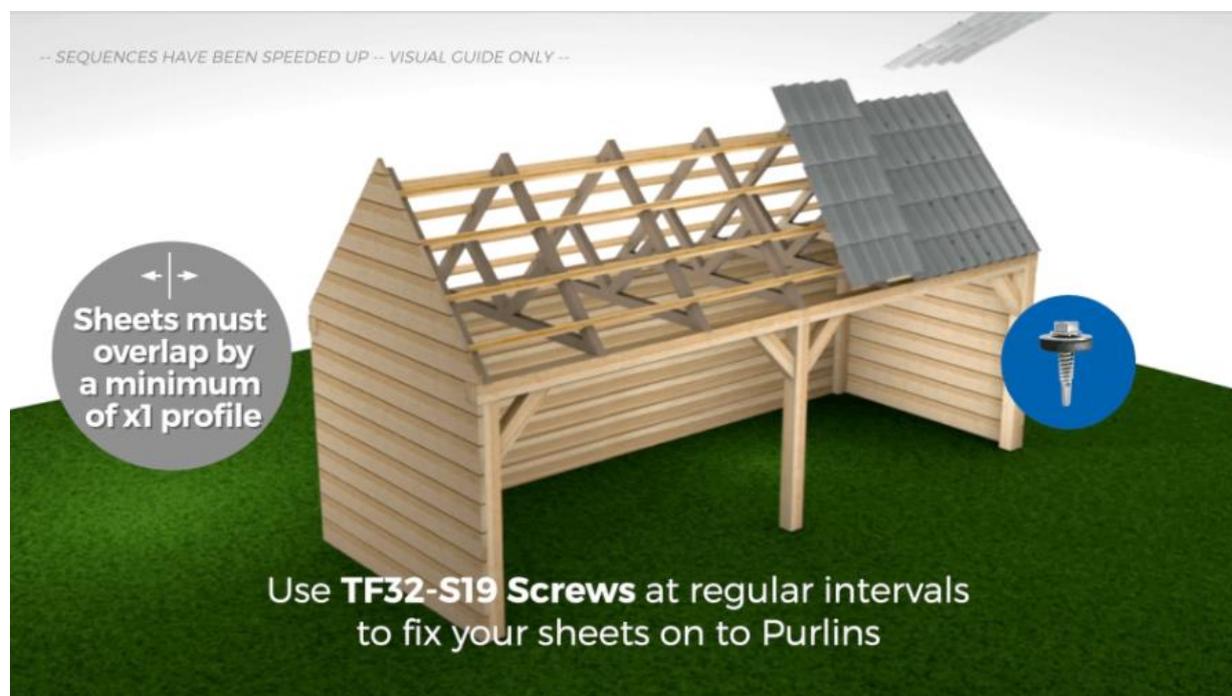
The roofing sheets should overlap by one corrugation when installed side by side, missing this step may cause water ingress into the building below. The overlaps are recommended to have mastic tape lapping down the sheeting.

## Advice for laying tile form corrugated sheets

Single Pitch Tile Form roofing projects should have a minimum degree of pitch of 12. It's imperative to lay tile form sheeting from right to left. The first sheet put onto the roof purlins should be installed in the correct place and secured, screws should line up with purlins below. The fixings should be installed just beneath the tile form drop (Which is the curved aspect of the tile form sheeting)

The maximum sheet length we can supply is 5m. Any projects which need a longer length than this will need to be done in a two-sheet run. Two sheet runs should be installed using the same instructions as above.

Continued on next page



The Tile form sheets ought to be laid starting from the right to left and each sheet should lap over the next sheet with the small gully aspect on the final lap of the sheet. Tile form sheeting should always overlap by at least one corrugation to create an adequate cover.

Each new tile form sheet should be secured into the correct position before applying the mastic tape and screws. You can use a wood block and heavy object such as a mallet with a piece of soft material between the wood and sheet to avoid any potential scratches or damage to the sheets coating.

## Fixing the sheets

Any fixings which are to be used to attach steel roofing to purlins must be able to withstand wind pressures and varying weather conditions. The specific fixing required is dependent on what roofing profile you are using, the purlin type (light steel, heavy steel or timber). We recommend the use of self-drilling TEK screws which are created with 5/16th hex head for superior performance.

The screws we provide have a specific drill point to drill through the steel sheeting and purlin before then tapping into the purlin itself. Beneath the head there is a stainless steel washer which is 19mm fitted with a neoprene bonded pad that will compress to ensure a seal to the roof sheet.

Depending on the sheeting which you are installing, the screws can be installed into the sheeting's crest profile or use a longer screw and BAZ washer when installing corrugated sheeting. All screws provided are self-drilling TEK screws, however if you prefer you can centre punch an indent into the metal sheet at the point you wish to install, this can help to ensure the screw stays straight when drilling.

Remember – do not overtighten or under tighten your screws as this can affect the performance of the washer and prevent it from sealing correctly. See diagram below.

When installing tile form sheeting the screws which are required depend on the purlin composition. To install tile form sheeting we recommend installing into trough 1, 3 and 5. As above the lower end of the sheet can be installed through every trough to prevent wind uplift. When installing through thicker material or insulation you can use longer screws of up to 175mm length. As above, colour caps can be installed on the screw hex head to cover the stainless steel material and match into the steel sheeting coating colour.



## Ridge Caps

Ridge flashing installation is a task that should be carried out towards the end of your roofing project. If you have a sloped roof with two sides, which meet at an apex in the middle, you will need to know how to install roof cap ridges.

Roofs without adequate ridge capping could be a costly error that you may end up paying for in years to come. Rain, snow and winds can seep through the gaps in the apex of the roof, and they'll compromise your energy supply and allow heat to escape.

## How to install ridge flashings

Begin by determining which end of your ridge is least affected by the wind. Your first ridge flashing should be laid at this point, and each flashing thereafter overlapped by the next flashing on the run by an absolute minimum of 150mm.

We recommend fixing your ridge flashings with a self-drilling TEK type stitching screw into the highest point of each profile they cover, ensuring they also penetrate any ridge filler being used. Foam fillers can be used for eaves and ridges if required to seal off ends or left out if you wish to keep the ventilation. Fillers can help ensure a robust weather resistant joint as well as keeping out birds and vermin.

## Dealing with protrusions

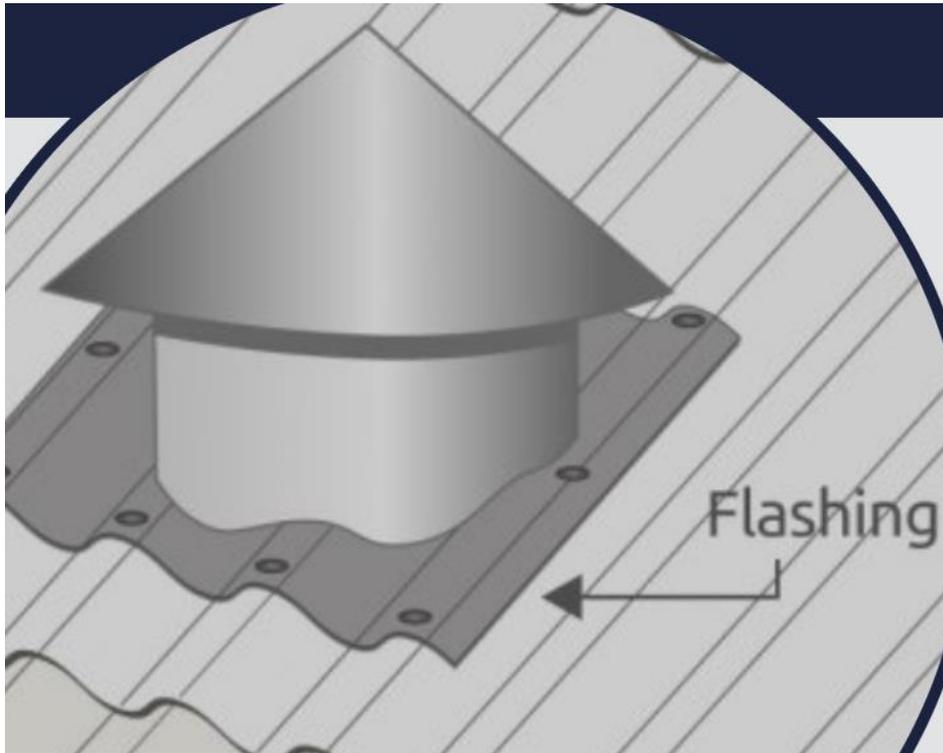
Any part of a roof that needs an external pipe, duct or flue should ensure they have adequate flashing surrounding where they pass through the steel sheet surface. If you need to cut any of the steel sheeting away, you should ensure you have created additional framing support in order to adequately support the steel sheets.

Depending on the angle and position you choose to cut, you will need to give additional attention to the back of the flashing. Ensure provisions are made for adequate drainage of corrugations and troughs. Some protrusions have their own specialty flashings kits such as Velux windows, or temperature pipes. Pipes that run hot or cold usually use a kit known as dektite. If you are using one of these protrusions you may wish to check the manufacturer's website for your kit requirements.

When creating your roofing project, you may have no choice but to have protrusions. If this is the case you will need to install suitable flashings and suitable additional framing to support the steel sheeting. Dependent on where the cut through position is, you should give additional attention to vent pipes.

Our flashings can be made as standard or custom and can be used around skylights, pipes, vents and other additional protrusions. The flashings are made using galvanised steel to ensure they resist rust.

Flashings can be made from materials such as rubber, roofing felt or plastic materials depending on the supplier.



## Safety

Roofing work can be hazardous. Caution should be exercised and appropriate safety precautions taken including the wearing of suitable protective gloves, clothing, footwear and hard hat.

Two people may be able to lift a single sheet at a time off a delivery truck, depending on their own physical ability and weather conditions. This will also depend on the length of sheet and weight. The weight of sheets are given on the website. Extra care should be taken in windy or exposed areas. The edges of sheets and flashings can be sharp so remember to wear protective gloves with rubber palms for grip.

UK law requires employers and self-employed contractors to formally assess the risks associated with each roofing job and, before starting their work, to plan and organise their work so that it is carried out in a safe manner. Further information on this and working at heights, other applicable legislative requirements can be found by visiting the Health and Safety Executive's website [www.hse.gov.uk](http://www.hse.gov.uk).