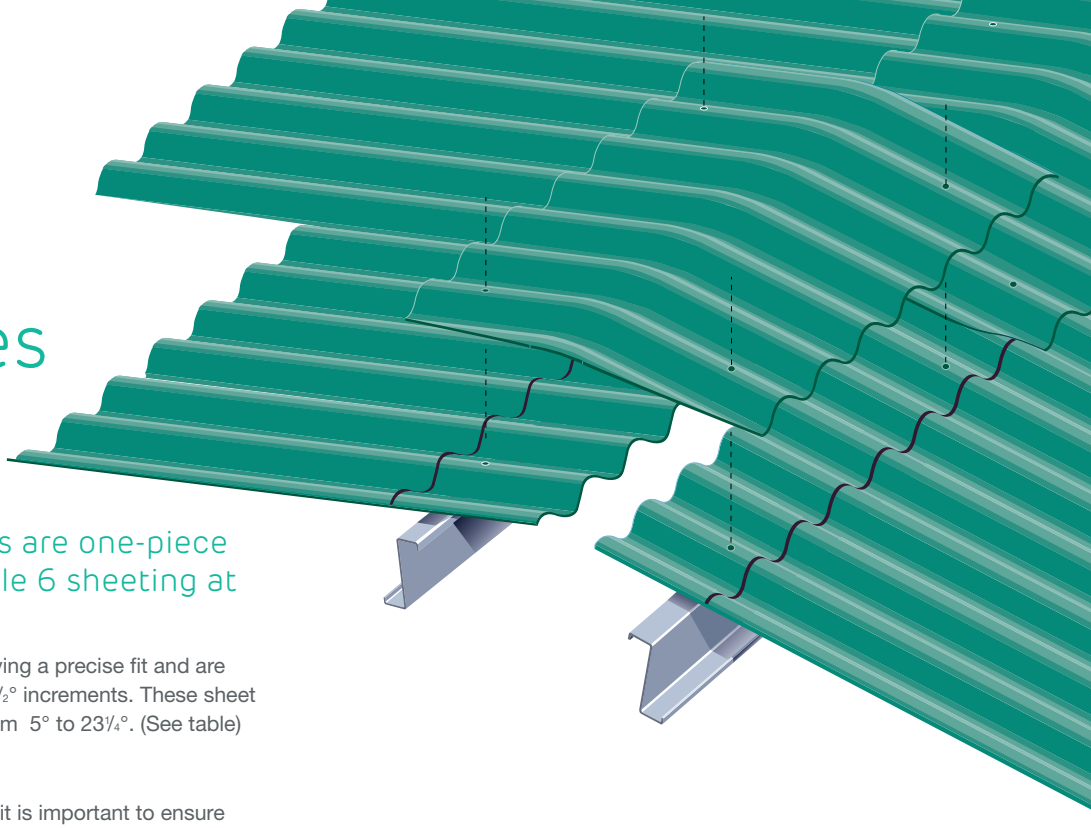

3

Profile 6 detailing

Profile 6 cranked crown ridges



Cranked crown ridge pieces are one-piece fittings for closing off Profile 6 sheeting at the crown of a roof.

They are made with an accurate profile, giving a precise fit and are manufactured in pitches of 5° to 22½° in 2½° increments. These sheet pitches can be used with any roof pitch from 5° to 23¼°. (See table)

Available girths are 750 and 900mm.

Before laying cranked crown ridge pieces, it is important to ensure that the sheets on both roof slopes are aligned correctly.

The ridge purlins should be positioned so that the fixings are located not less than 100mm from the ends of the cranked crown ridge pieces (see Figs.1 and 2).

To form a non-fragile ridge detail, the cranked crown should be lapped by 300mm onto the sheeting on each side of the ridge.

Where cranked crown ridge pieces overlap, both the cranked crowns and the lower sheets are to be mitred on each roof slope.

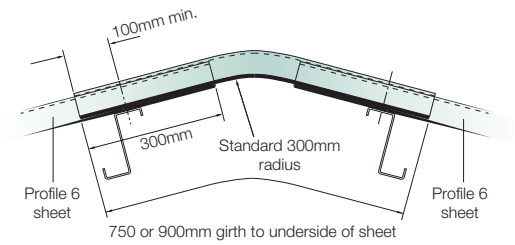


Fig.1 – Cranked crown fixings

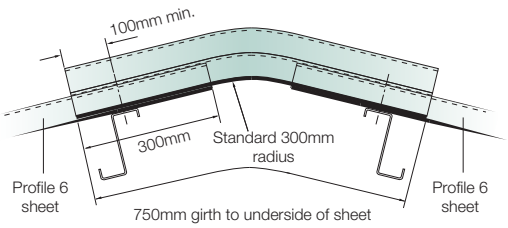


Fig.2 – Ventilating cranked crown fixings

Cranked crown sheet pitch	Roof pitches from	Roof pitches to
5°	5°	5 ¾°
7 ½°	6°	8 ¼°
10°	8 ½°	10 ¾°
12 ½°	11°	13 ¼°
15°	13 ½°	15 ¾°
17 ½°	16°	18 ¼°
20°	18 ½°	20 ¾°
22 ½°	21°	23 ¼°

Note: The cranked crown ridge pieces, if fixed in the position shown in Figs.1 and 2, will meet the non-fragility requirements of HSG 33.

When 750mm girth cranked crown and cranked vents (Fig.2) are used on roof pitches of 15° to 22½°, the 300mm overlap encroaches onto the curved part of the cranked crown ridge. In order to avoid damage, an 8mm butyl strip should be used as a spacer between the top of the sheet and the underside of the cranked crown unit.

General methods of application

Figs 1 and 2 are typical details which, using the same principles, can be applied to situations other than those illustrated.

Ventilating cranked crown ridge pieces

These match in with cranked crown ridge pieces and give ventilation whilst providing reasonable weatherproofing.

They may be used in continuous runs, or intermittently with plain cranked crown ridge pieces. If used in continuous runs, provide one standard cranked crown ridge piece at each end of the building.

Ventilation area of the cranked vent is 68350mm² per ridge

Purlin position

Note that the purlins can be positioned up slope from the position shown in Figs. 1 and 2.

Profile 6 two piece ridges

The following ridges will accommodate a range of roof pitches because of their adjustable two piece construction.

Each ridge gives a net covering width of 1016mm, to match the Profile 6 sheeting.

All ridges should be fixed directly to the purlins, through the crowns of the corrugations of the roof sheeting.

Single skin roofs

Two piece close fitting ridge (Fig.1)

It is essential that the two sides of the roof sheeting be aligned correctly before fixing of the close fitting ridge is attempted. (For details of laps of ridge pieces, see the positioning drawings opposite.) For dimensions see Notes below.

Two piece plain wing ridge (Fig.2)

This ridge gives a neat finish to a roof apex. Easily fixed, it provides adequate weather protection, but does not close off the corrugations of the roof sheeting, thus allowing a measure of ventilation.

Two piece ventilating ridge (Fig.3)

This matches in with the close fitting ridge, but gives ventilation whilst providing reasonable weatherproofing. Positioning and fixing are as for the close fitting ridge.

When used in continuous runs, one pair of close fitting ridges should be laid at each end of the run to provide a neat finish at each verge.

Northlight ridge

This has one large roll close fitting ridge and one small roll plain wing ridge.

Notes: For Figs.1-4, the gap between the sheets at the apex should not be greater than 150mm.

When fitted as shown above, the three ridge types will meet the non-fragile requirements of HSG 33.

When fitted in accordance with Marley Eternit recommendations, the free air area provided by these units are as follows.

- Two piece ventilating ridge: 33,670mm² per pair
- Two piece plain wing ridge: 46,470mm² per pair

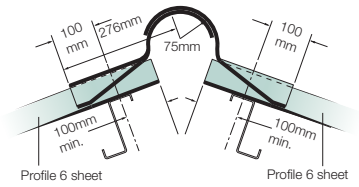


Fig.1 – Two piece close fitting ridge

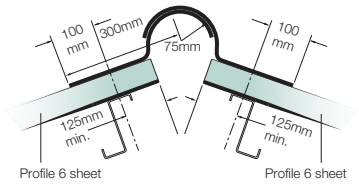


Fig.2 – Two piece plain wing ridge

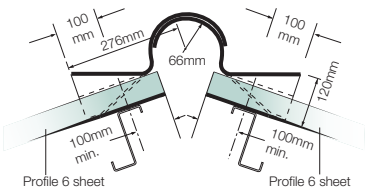
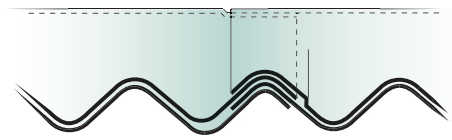


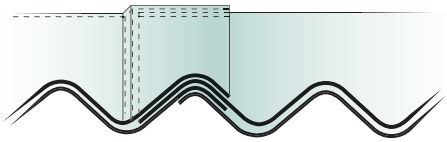
Fig.3 – Two piece ventilating ridge

Fig.4 – Position of two piece ridges

Example 1

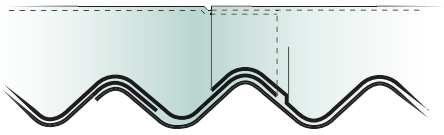


Sheeting left to right, small roll of ridge

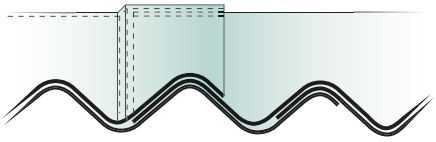


Sheeting right to left, large roll of ridge

Example 2

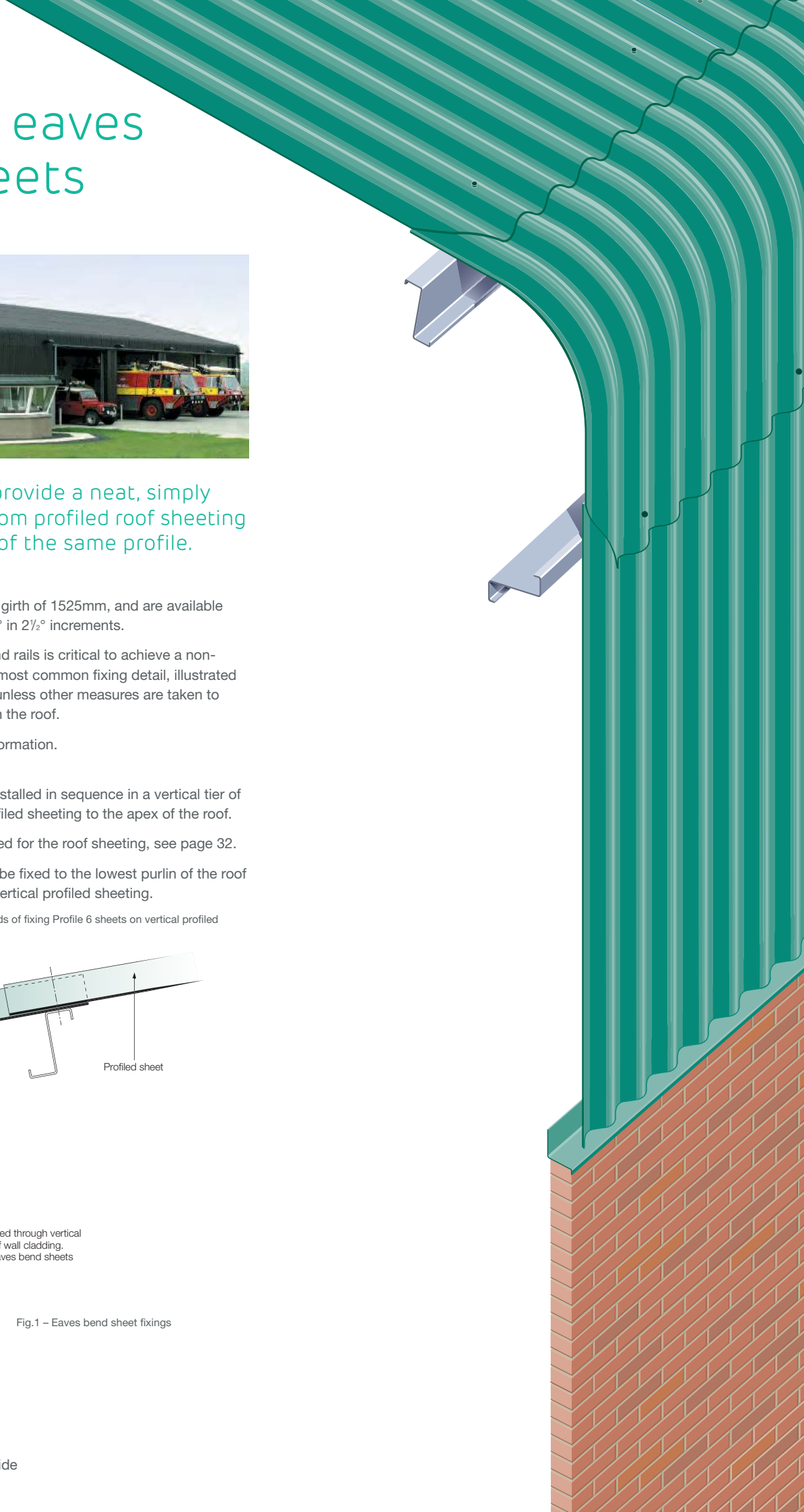


Sheeting right to left, small roll of ridge



Sheeting left to right, large roll of ridge

Profile 6 eaves bend sheets



Eaves bend sheets provide a neat, simply detailed transition from profiled roof sheeting to vertical cladding of the same profile.

For single skin roofs

They are supplied in a standard girth of 1525mm, and are available to suit roof pitches of 5° to 22½° in 2½° increments.

The positioning of the purlins and rails is critical to achieve a non-fragile eaves construction. The most common fixing detail, illustrated below, is a fragile construction unless other measures are taken to prevent someone falling through the roof.

Please contact us for further information.

Fixing eaves bend sheets

Eaves bend sheets should be installed in sequence in a vertical tier of sheets from the base of the profiled sheeting to the apex of the roof.

They should be mitred as detailed for the roof sheeting, see page 32.

Eaves bend sheets should only be fixed to the lowest purlin of the roof slope and to the top rail of the vertical profiled sheeting.

Note: For advice on recommended methods of fixing Profile 6 sheets on vertical profiled sheeting, refer to pages 60-62.

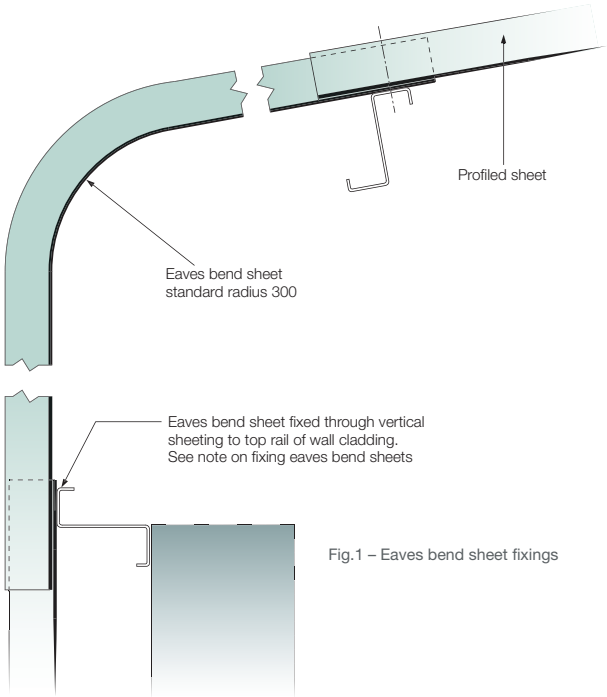
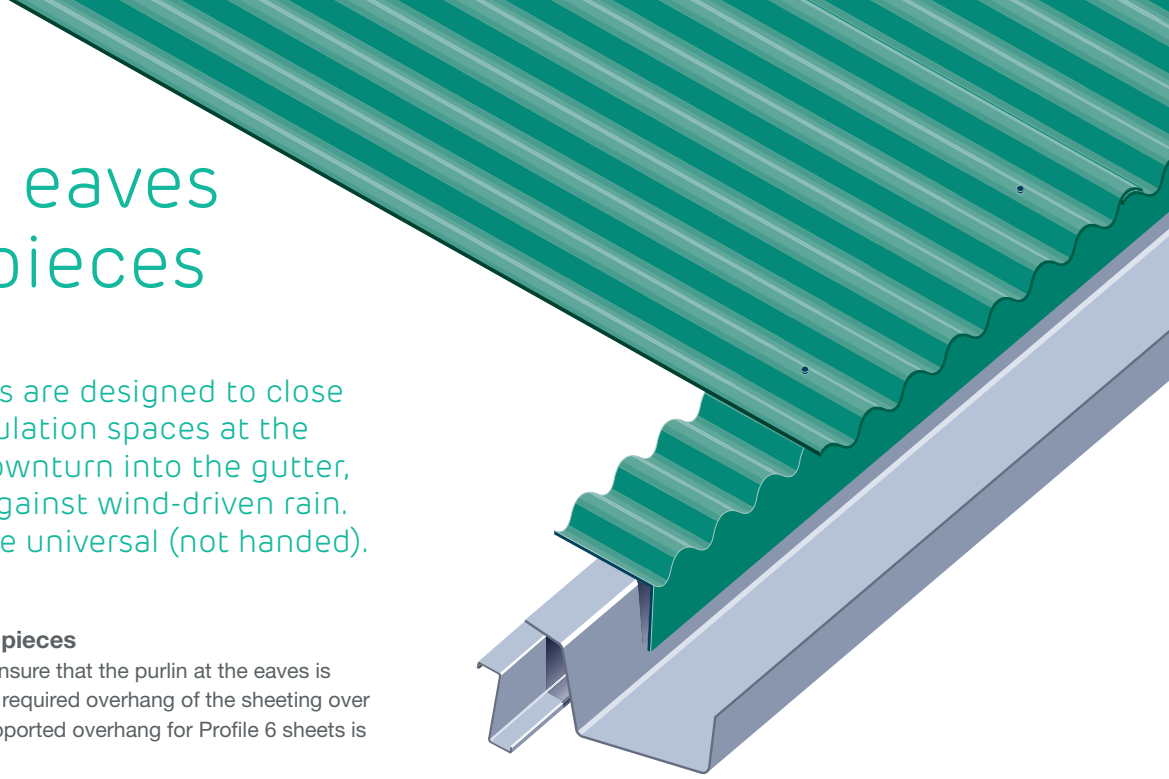


Fig.1 – Eaves bend sheet fixings

Profile 6 eaves closure pieces



Eaves closure pieces are designed to close the corrugation/insulation spaces at the eaves and form a downturn into the gutter, ensuring a barrier against wind-driven rain. Profile 6 closures are universal (not handed).

Single skin roofs

Positioning eaves closure pieces

Before sheeting commences, ensure that the purlin at the eaves is correctly positioned to give the required overhang of the sheeting over the gutter. The maximum unsupported overhang for Profile 6 sheets is 350mm.

Each eaves closure piece is fixed at two points, either with the main roof fixings directly to the lowest purlin, or with secondary fasteners to the roof sheets.

When fixing eaves closure pieces, consideration must be given to the position of the back (see Fig.3) in relation to the gutter. Position the back as tightly as possible against the gutter or vertical profiled sheeting to reduce draughts and restrict driving rain, sleet or snow from penetrating the interior of the roof.

When ventilation into the roof void is required, a slight gap can be allowed between the back of the closer and the vertical profiled sheeting.

For single skin applications, closers with 65mm or 100mm back are typically used.

Closers with 150mm and 250mm back are also available for insulated constructions.

Valley gutter detail with eaves closure pieces (Fig. 1)

Eaves closure pieces can be used at a valley gutter. Ideally, they should be fixed with the main sheet fixings, but they can also be stitched to the sheets with secondary fasteners.

Eaves filler pieces (Fig. 2)

These units close the corrugations of the roof sheeting at the eaves and provide a continuous flat soffit to the underside of the roof sheeting for close sealing to the top of a wall or the edge of a gutter. Profile 6 eaves filler pieces are Universal, and should either be screwed directly to the purlins or the wall plates along with the roof sheeting, or stitched to the roof sheets with the appropriate fixings.

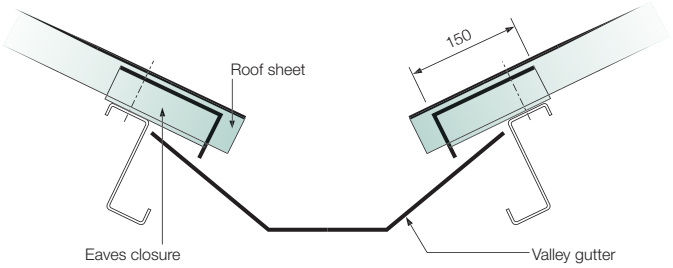


Fig.1 – valley gutter fixings

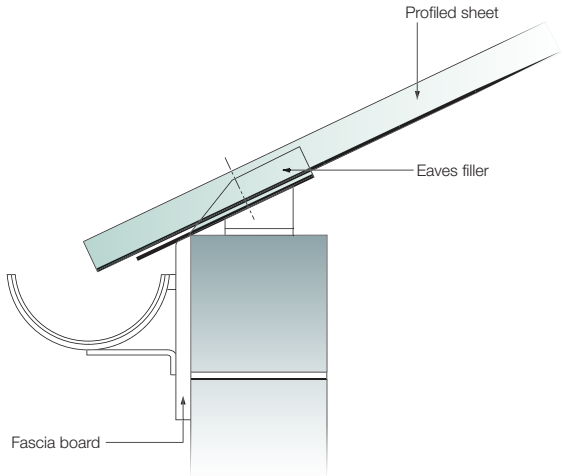


Fig.2 – Eaves filler pieces

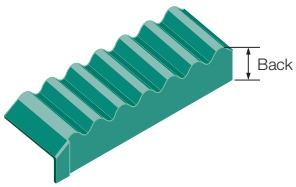


Fig.3 – Eaves closure

Profile 6 bargeboards

The range of profiled sheeting bargeboards provides a choice of weatherproof finishes to the verges of a building. With each bargeboard, one leg extends across the roof sheeting while the other covers the top of the masonry wall or vertical cladding.

Bargeboards are fixed with topfix fasteners to the purlins and also screwed to the wall or vertical cladding.

Eaves bend bargeboards are available to suit eaves bend sheets in 1575mm girth and are available for roof pitches from 5° to 22½° in 2½° increments.

The sheets should project the maximum distance under the bargeboard to provide the optimum weather protection.

Handing of bargeboards

Vergeline bargeboards and any eaves bend bargeboards are handed, as viewed from the gable end. Roll top and plain wing bargeboards are universal, as are all cranked crown bargeboards.

Any reduction in length should be made from the non-socketed end.

Fixing bargeboards

Bargeboards should be positioned so that their lap is directly below the end lap of the sheeting, with the top of the under-lapping bargeboard close to the tail of the sheet in the course above. When the gable is brick or block, position the bargeboard 25mm clear of the face of the wall. Fix both legs of the bargeboard to the roof and the wall at all purlin positions. Intermediate fixings should be introduced as necessary to ensure that the bargeboard fixings are at 750mm maximum centres. (Figs.1-3).

Note: As the verge is the part of the roof that is often the most vulnerable to wind damage, more fastenings are required there to ensure that bargeboards in general and the ends of the bargeboards in particular are always securely fixed.

Built up systems

Please contact Marley Eternit for further details.

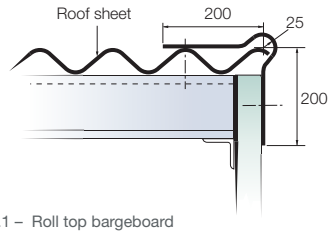


Fig.1 – Roll top bargeboard

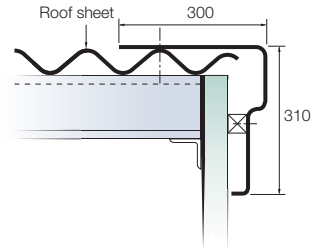


Fig. 2 – Vergeline bargeboard

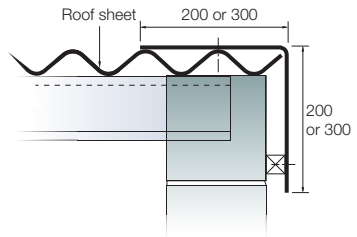
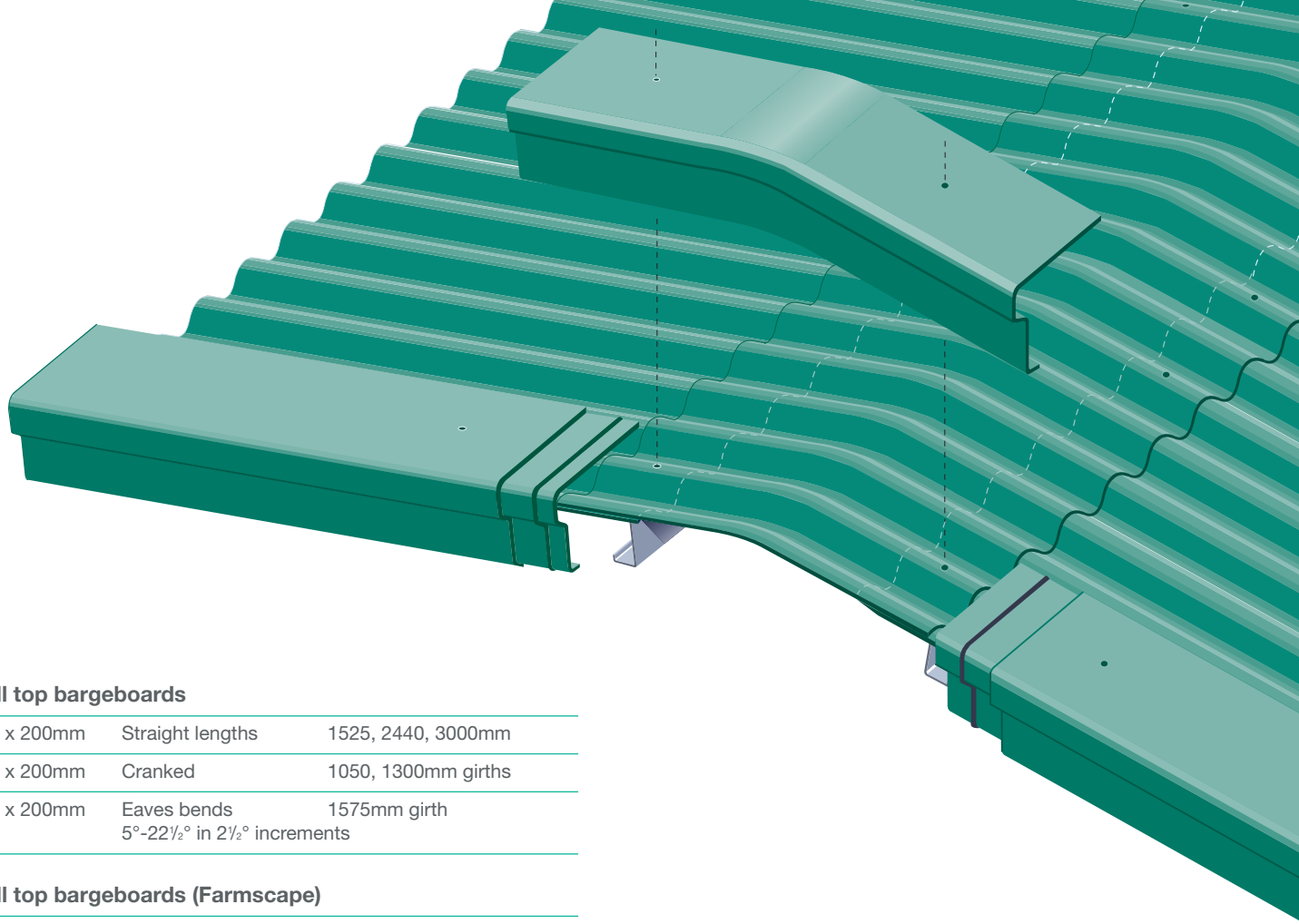


Fig.3 – External plain wing bargeboard



Roll top bargeboards

200 x 200mm	Straight lengths	1525, 2440, 3000mm
200 x 200mm	Cranked	1050, 1300mm girths
200 x 200mm	Eaves bends 5°-22½° in 2½° increments	1575mm girth

Roll top bargeboards (Farmscape)

200 x 200mm	Straight lengths	1525, 2440, 3000mm
200 x 200mm	Cranked 10°, 12½°, 15°, 17½°	1050mm girth

Vergeline bargeboards (handed)

300 x 310mm	Straight lengths	1800, 2400, 3000mm
300 x 310mm	Cranked crowns 5°-22½° in 2½° increments (Farmscape 10°, 12½°, 15°, 17½°)	1300mm girth

Plain wing bargeboards

200 x 200mm	Straight lengths	1800, 2440, 3000mm
300 x 300mm	Straight lengths	1800, 2440, 3000mm
200 x 200mm	Cranked	1300mm
300 x 300mm	Cranked 5°-22½° in 2½° increments	1300mm

Profile 6 translucent sheets

Marley Eternit can supply GRP Translucent sheets that meet the requirements of ACR(M)001:2014, and have a fire rating of SAB Class 3. Other grades of rooflights are available in different materials from rooflight manufacturers.

Translucent sheet rooflights are laid unmitred, and since the problem of compound layers at end lap situations does not occur, adjacent fibre cement sheets are also left unmitred at these junctions.

Marley Eternit single skin rooflights

Material	2.4kg/m^2 GRP
Fire Rating	SAB Class 3
Fragility	Non – fragile Class C to ACR(M)001:2014 when new and fully fixed in accordance with Marley Eternit recommendations
Lengths	1525, 2440, 2900, 3050mm

The translucent sheets should be supported at each purlin position by profiled fillers, fibre cement sheets, or fibre cement closure pieces (Fig.1).

End laps and side laps should be sealed with 10mm diameter extruded mastic sealant.

Self-sealing fasteners with a synthetic rubber shank or seam bolts and washers with wide bearings are recommended at 300 – 400mm centres for side stitching. Self-tapping screws and blind rivets should not be used for stitching side laps.

Translucent sheets should be fixed through every corrugation (not including the side laps) to the purlins (Fig.2). The same fixings are used as for fibre cement sheeting, but the holes for GRP translucent sheets should be 2mm oversize, and for polycarbonate sheets 6mm oversize (for sheet lengths up to 2m, otherwise 9mm oversize).

All recommendations of the specialist translucent sheeting supplier should be carefully observed. The fixing recommendations will vary depending on the type, grade and supplier of the material being used.

It is advisable to use weatherproof caps and washers where possible, that are a distinctly different colour to the fixings for the rest of the roof. Conventionally, poppy red caps are used for rooflights.

Double skin rooflights

Double skin rooflights can be either Factory Assembled Insulating Rooflights (FAIRs), or site-assembled. For full details, consult the manufacturers.

Site-assembled rooflights

Site-assembled rooflights are commonly installed when using a liner sheet and quilt insulation.

In double skin constructions, all four edges of a translucent sheet or area should have rigid foam supports/closures provided at the laps with the fibre cement sheets. Support pieces should also be installed where translucent sheets pass over intermediate purlins.

Laylights

A double skinned flat box, made to the same dimensions as the rigid insulation, can be obtained. The joints between the double skinned box and the insulation board are sealed with foil backed acrylic adhesive tape 50mm wide to create a vapour proof check within the building. Installation of the weathering sheets above this, in effect, creates a triple skin.

Factory Assembled Insulating Rooflights (FAIRs)

FAIRs are delivered to site ready to install. Packing may be needed at intermediate purlins, if the air gap in the FAIR is not as deep as the insulation. Always follow the manufacturer's fixing recommendations.

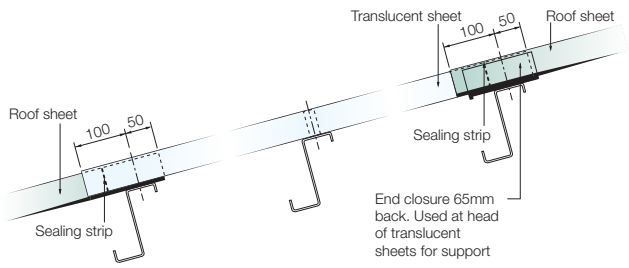


Fig.1 – End lap details for translucent sheet rooflights

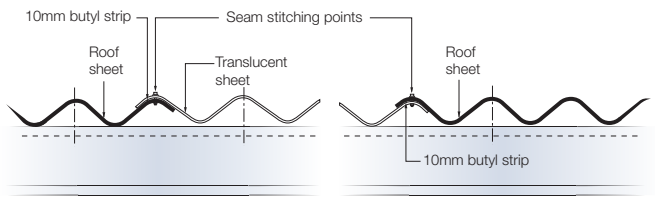


Fig.2 – Side lap detail for translucent sheet rooflights

Profile 6 movement joints

Components

- Straight movement joint pieces (lengths: 1525, 2440, 3000mm)
- Cranked crown movement joint pieces (length: 1300mm)
- Movement joint stop ends
- Movement joint two piece ridge caps (see illustration opposite)

Forming movement joints

Where the movement joint is to be formed, each sheet is cut through the valley at the centre of the sheet, and the resulting pair of half sheets spaced 25 to 30mm apart.

The movement joint should be laid with the top end butting up to the bottom edge of the next sheet upslope allowing a min. 150mm lap.

The movement joint pieces are fixed to the purlins using the same method of fixing as the roof sheets, with one fixing in the centre of the movement joint at each purlin run. This fixing should pass through the gap between the two half sheets and must not be overtightened. (Figs.1 and 2).

Movement joint cranked crown caps

Cranked crown caps are available in a range to suit the standard Profile 6 cranked crown ridge pieces. When laying cranked crown ridge pieces, form a 25 to 30mm movement gap as detailed opposite and cover it with the crown cap, screwing this directly to the ridge purlins. Note that when laying the straight movement joint, the top end should butt up to the overlap of the cranked crown ridge piece. The crown cap, being longer than the crown ridge piece will then correctly overlap the straight movement joint.

Movement joint stop ends

Intended to close the open end of a movement joint, stop ends are made to fit over the sheeting and into a straight movement joint. They should be fixed by bolting to the movement joint.

Movement joint ridge caps

These are used in the same way as movement joint cranked crown caps, but designed to fit two piece close fitting ridges (Fig.3).

Applications

Movement joints are intended for use in long, continuous stretches of roofing or vertical sheeting, to accommodate thermal and other movements. BS 8219 recommends that movement joints be included in stretches of roofing and vertical sheeting on buildings exceeding 45 metres in length.

They should also be designed to coincide with any structural or movement joints provided in the building, in which case, there should always be a movement joint through the complete system.

For buildings in which the temperature or humidity is higher than normal, or which are subjected to sudden changes in temperature, the movement joints may be required at closer centres than indicated. Contact the Marley Eternit Technical Department for further advice.

Movement joints for single and built up roofs

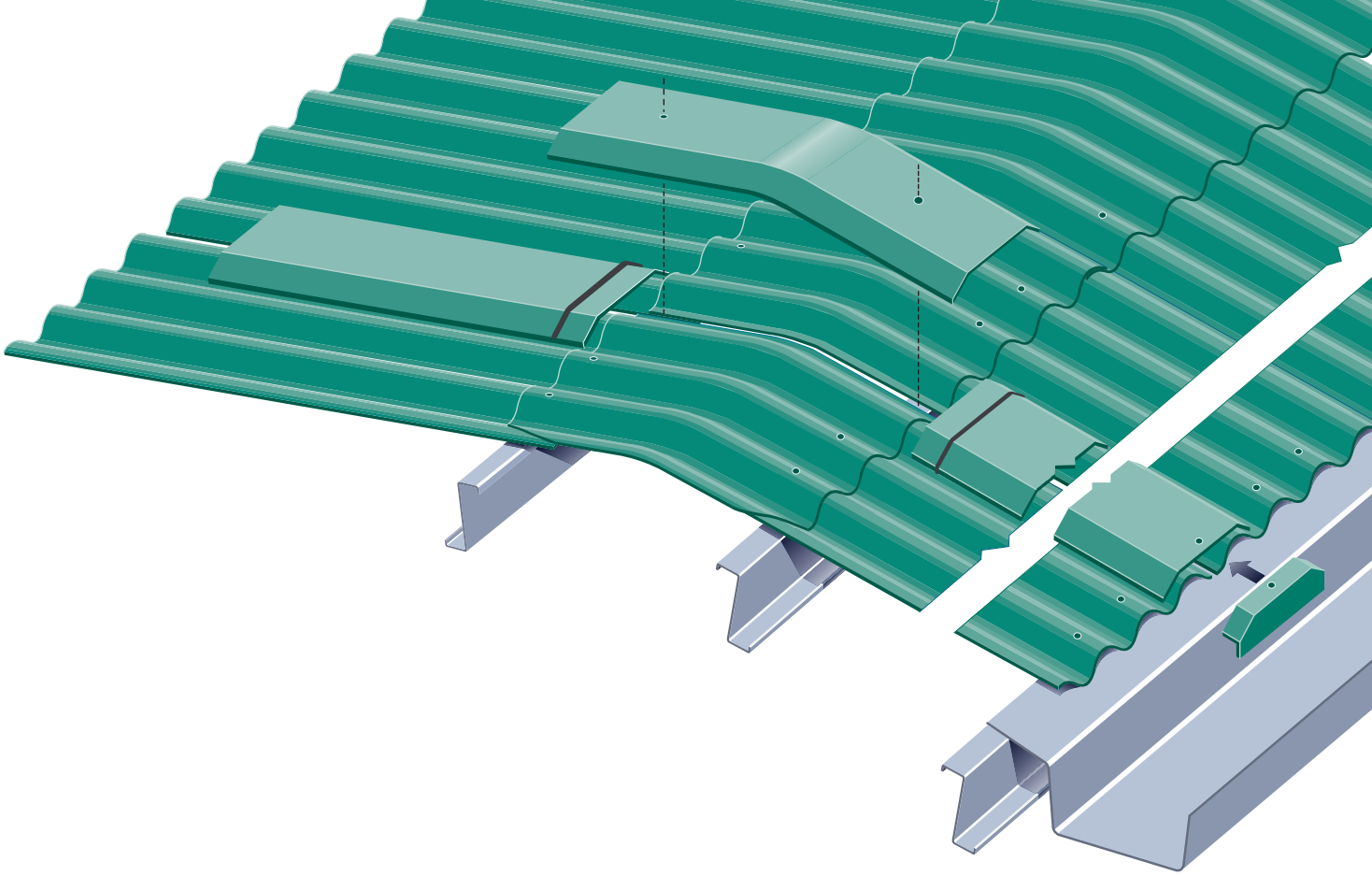
Recommended spacings

Length of building	Number of movement joints
0-45m	0
45-75m	1
75-105m	2

Plus one extra movement joint for every additional 30m.

For built up roofs

The movement joint is generally only required to allow differential movement of the fibre cement sheets, and there is no requirement for a movement joint in the lining panel or insulation system.



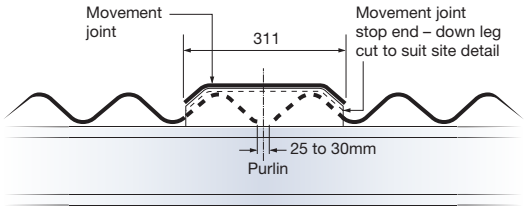


Fig.1 – Movement joint end elevation

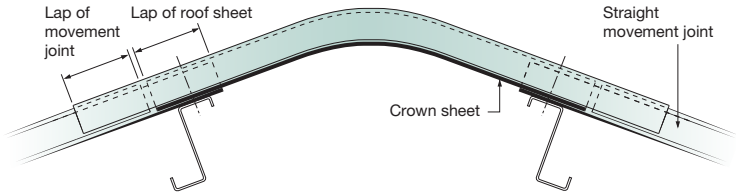


Fig.2 – Movement joint side elevations

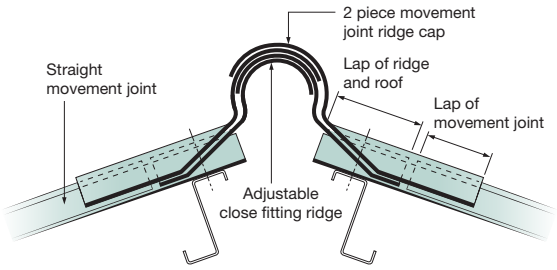


Fig.3 – Movement joint ridge cap

Profile 6 vertical cladding

Profiled sheeting can be used in a wide range of vertical details for agricultural, industrial and residential applications.

Top Fix Systems

When fixing Profile 6 using topfix fasteners on a vertical application, some provision must be made to support the weight of the sheets, otherwise the sheets will sag down from their intended position and both the fasteners and the fibre cement will be overstressed.

The base of each sheet should be supported on two support clips which hook over the sheeting rail. The support clips should be positioned in the valley corrugations adjacent to the fixing position.

Valley fasteners

An alternative solution, which doesn't require the support clips, is to fix the sheets in the valley corrugations. The sheets should be pre-drilled with a 2mm oversize hole. The SFS fasteners suitable for this application are as follows:

- Hot rolled rails: SD12 – T15 – 5.5 x 70 together with BAZ washers
- Cold rolled rails: SD3 – T15 – 5.5 x 60 together with BAZ washers
- Timber rails: TDC – T – T16 – 6.3 x 76 together with BAZ washer (drill a 4mm pilot hole in the timber rail).

The fixing methods described above can be used on single skin applications.

Double skin applications

Please contact the Marley Eternit Technical Department for further details.

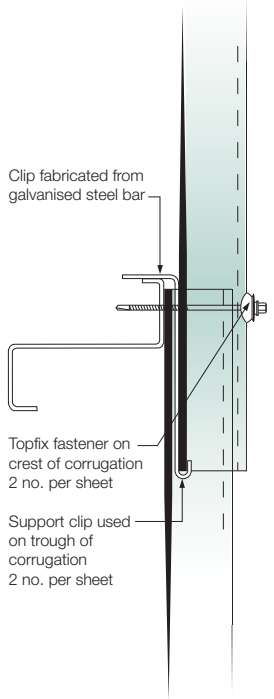
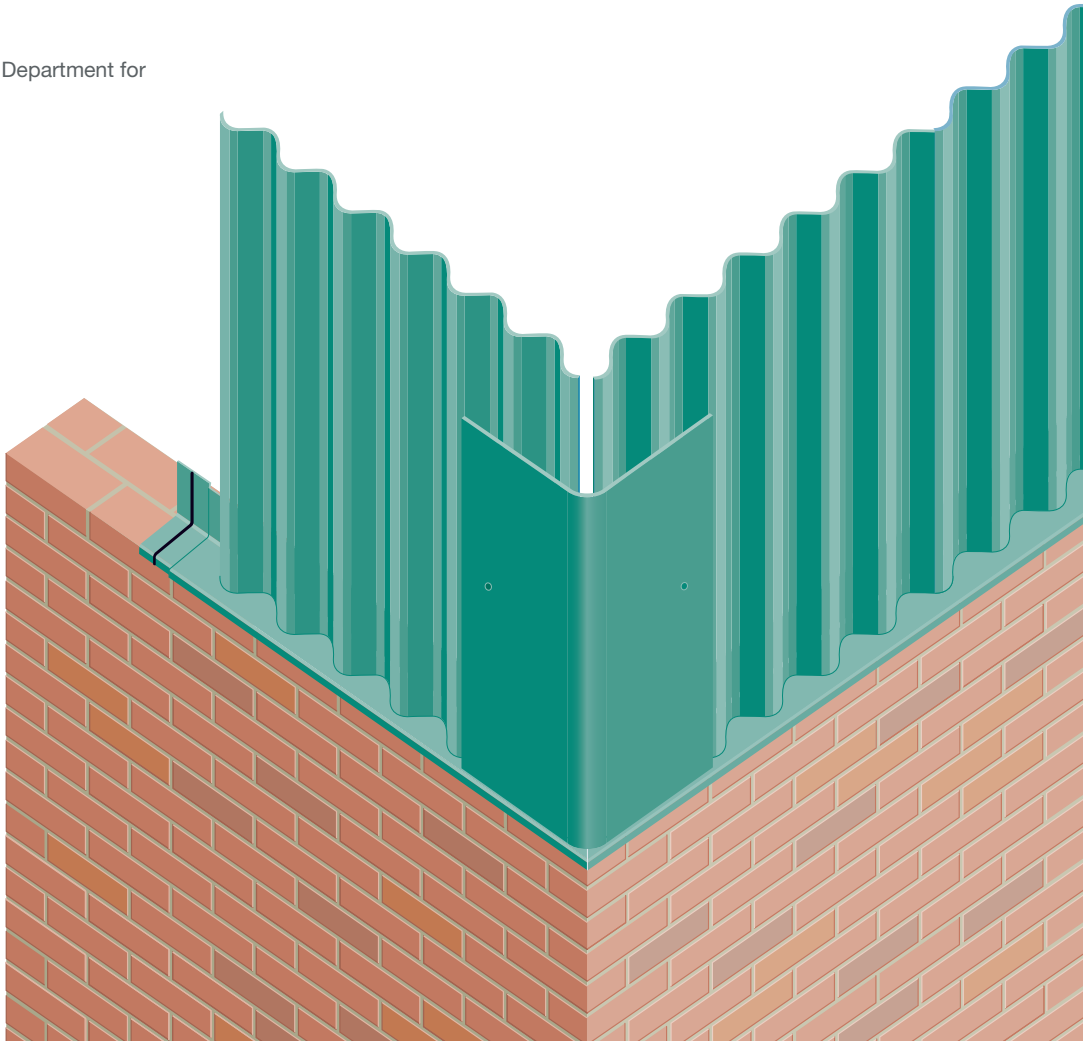


Fig.1 – Single skin vertical profiled sheeting



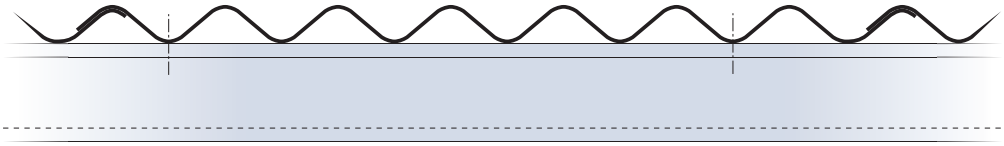


Fig.2 - Valley fixing positions

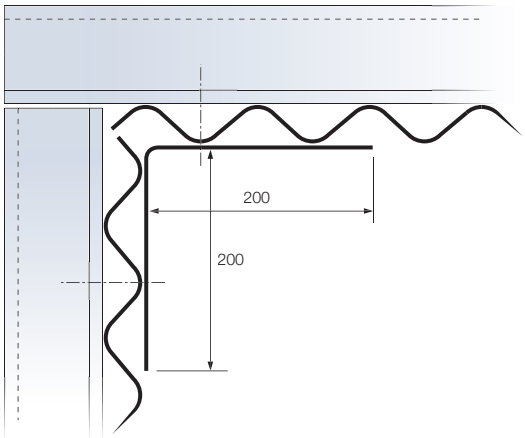


Fig.3 - Internal corner section

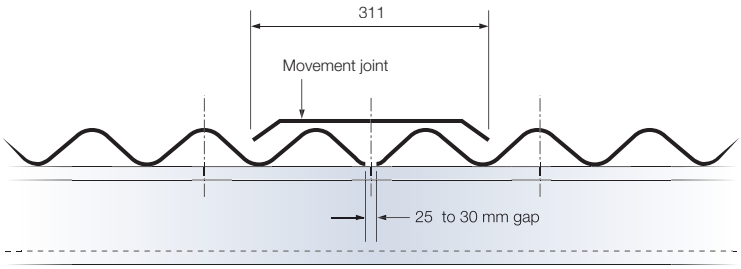


Fig.4 - Vertical movement joint

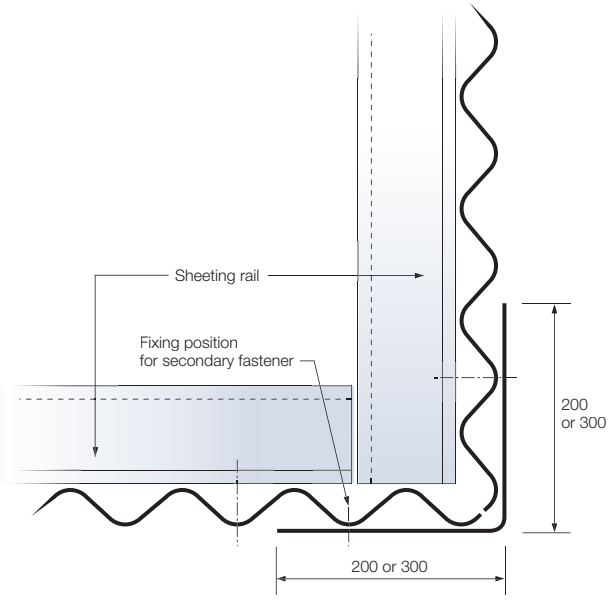


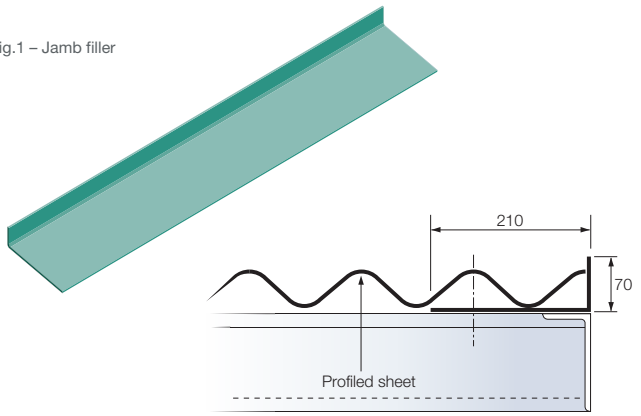
Fig.5 - External corner section

Profile 6 vertical cladding – single skin walls

Jamb fillers

With two flat wings set at right angles, jamb filler pieces give a neat finish to the sides of door and window openings. The broad wing is fitted behind the vertical sheet and the narrow wing then presents a flat surface at the side of the opening. For single skin profiled sheeting, a 70mm nib is provided. Screw directly to steelwork or stitch to corrugated sheeting with seam bolts. (Fig.1)

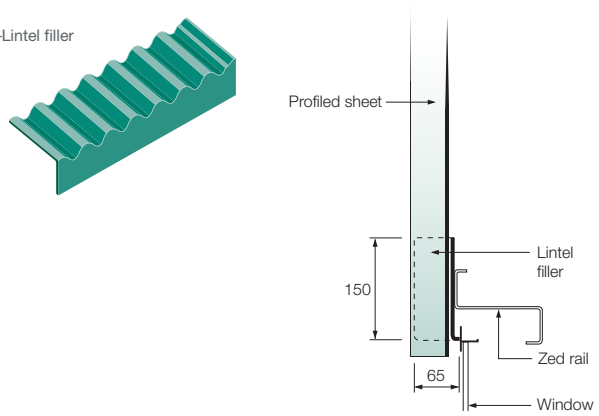
Fig.1 – Jamb filler



Lintel fillers

Lintel filler pieces (eaves closure pieces), close the corrugations of vertical sheeting above door, window or other openings. A choice of backs is available from 65 to 250mm and the fitting is universal. Fix by screwing directly to the structure in conjunction with sheeting or by stitching to the sheeting with seam bolts. Fig. 2 shows a typical single skin detail with a 65mm back.

Fig.2 –Lintel filler

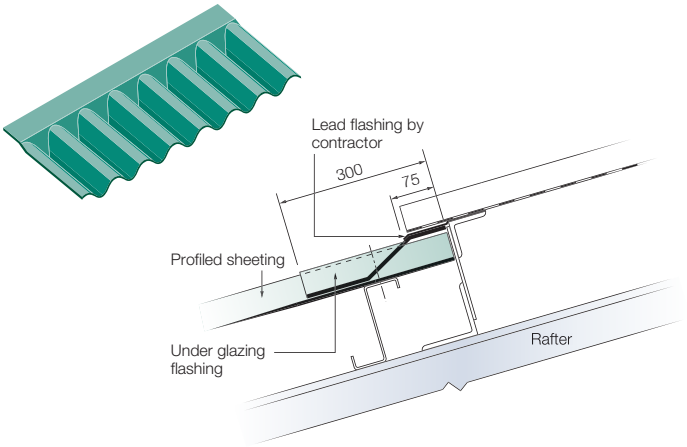


Profile 6 miscellaneous fittings

Under glazing flashing pieces

Fixed on top of roof sheets below a run of glazing, these fittings considerably reduce the amount of metal flashing required by presenting a flat surface to receive the flashing. Under glazing flashings are socket jointed and are fixed on each side of the lap. They can also be used to close off vertical sheeting at eaves or sills. Under glazing flashing pieces are handed. (Fig.3).

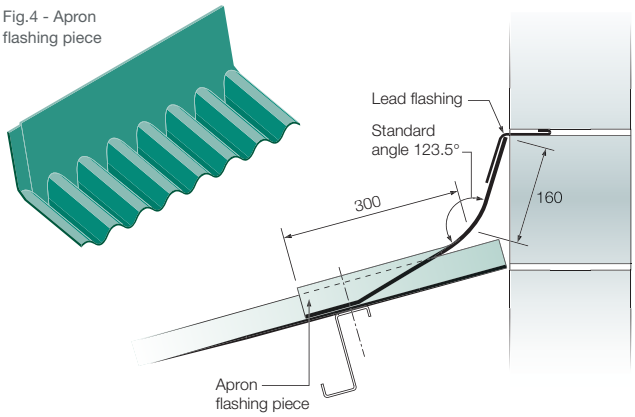
Fig.3 - Under glazing flashing pieces



Apron flashing pieces

Apron flashing pieces consist of a corrugated wing with a flat apron. Typical uses are: flashing between a lean-to roof and vertical abutment; flashing to jack-roof, and flashing under louvre blades. Lap over the top of the roof sheets and fix either side of the lap. Apron flashing pieces are made with a standard left-hand socket and can be used on sheeting laid either left to right or right to left by varying their position relative to the side lap of the sheeting as per the small roll ridge fitting detailed in Example 1 on Page 51.

Fig.4 - Apron flashing piece



Profile 6 roof windows

Roof windows can generally be incorporated into a profile sheeted roof provided they have a flashing kit suitable for the depth of profile. It is, however, important that the positions of the windows are coordinated with each other and with the sheeting layout at an early stage of the design.

It is important that there is a sheet lap immediately below the roof window so the malleable flashing can dress over the course of sheets below, before the sheets to the side of the window are installed. It is preferable, but not essential that there is a sheet lap immediately above the window.

The windows should be positioned to avoid a narrow strip of sheet to the side of the rooflight.

If the water barriers on the flashing kit are not deep enough to provide a weathertight detail, particularly when considering wind driven snow, Marley Eternit may be able to provide some solutions.

Photovoltaics and profile sheeting

There are various types of fixing systems for PV panels, most of which have brackets fixed through the fibre cement sheets to the purlins.

In some cases, this method of fixing can affect the long term performance of the roof covering so a preferred solution is to fix a secondary framework above the roof sheets. A series of stub columns can be fixed on top of the structural frame to support a secondary rafter above the roof surface; the PV framework can then be fixed to this secondary rafter. The holes through the sheeting for the stub columns should be weathered with pipe flashings, possibly in conjunction with a metal apron flashing that extends up to the ridge.

When selecting a fixing method for PV panels, the following points should always be considered:

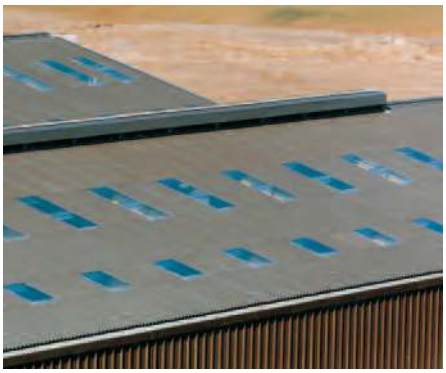
- Fibre cement profiled sheets should always have 2 fasteners per sheet width per purlin, the fixing positions being in the first full corrugation on each side of the side lap. There should be no additional fasteners fixing the sheets to the purlins. The fasteners should be fixed through 2mm oversize holes in the sheet to allow for expansion/contraction and differential movement.
- The roof structure should be designed for the additional loading of the PV system, and also for possible additional snow loadings as the PV panels could increase the build up of snow. It has been shown that there may also be an increase in wind loadings after PV panels have been fitted to a roof.
- The additional loading on top of the profiled sheet will increase the downslope loadings on the fasteners and rotation of the purlins. Can the fasteners withstand this loading? Where Zed purlins are used, is the purlin thickness adequate to prevent the fasteners rotating downslope? Is the purlin restraint system adequate to withstand the additional downslope movement/rotation?
- The installers must work from crawling boards to minimise damage to the sheets and to avoid walking on a fragile roof. As fibre cement embrittles with age, existing roofs will be more vulnerable to damage from foot traffic and when working on the roof.
- There should be no foot traffic directly on the sheet surface when cleaning the PV panels. If access onto the roof surface is required, crawling boards or roof ladders should be used.

When considering installing PV with Marley Eternit Profiled Sheeting, please contact the Technical Department.

Profile 6 ventilation

Good ventilation is a critical factor in the design of a building, whether it be new construction or conversion and whether for an agricultural, commercial, industrial or residential application.

Marley Eternit offer four main types of ventilation systems for agricultural buildings, and three for domestic and commercial applications. These are designed to meet most ventilation requirements.



Profile 6 ventilation: Agricultural systems

* Please note that agricultural ventilation systems are generally used on roof pitches of 15° and above.

System 1: Open ridges

There are two types of open ridge: unprotected and protected. Both provide efficient ventilation whilst simultaneously reducing draughts.

Rain falling into the ridge area will be drained away above the profiled sheeting. It is, however, important to protect the supporting rafters from the elements with a flashing.

Advantages of open ridges

- Provides an efficient outflow of air
- Designed to fit any roof design, but particularly suitable for spaced roofing
- Allows rain to be channelled away over the roof

The critical factor for open ridge ventilation is the air gap marked 'y' on the diagrams below. The clear width of this air gap relates to the number of animals that will be kept inside the building. Marley Eternit recommend that professional advice be sought during construction in order to establish the optimum air space.

To meet the requirements of HSG 33, the gap between the purlins at the apex of the roof should be no more than 300mm. For this reason we show two purlins on each side of the apex. The ventilation gap (y) is therefore limited to 250mm.

Unprotected open ridges (Fig.1)

Ideal for farm buildings with central cleaning passages. Marley Eternit's open ridge fittings are suitable for roofs with pitches from 10° to 22½°.

Protected open ridges (Fig.2)

In this ventilation system, the ridge units should be installed in the same fashion as for unprotected open ridges. Additionally, however, the ridge unit is bridged at 750mm centres by galvanised metal straps manufactured to suit the pitch of the roof. The straps are fixed at an angle of 5° from the horizontal, semi-compressed flat sheeting is then bolted to the straps along the length of the ridge to form a cover.

This cover must be positioned 20mm minimum below the top of the upstands of the ridge units and the total gap between the cover and the open ridge (x) is such that $x = \frac{y}{2}$

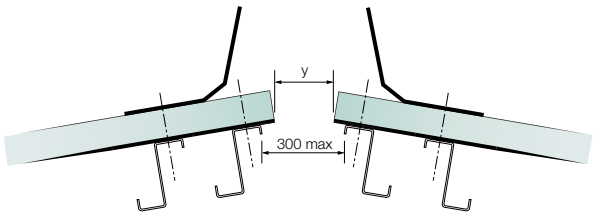
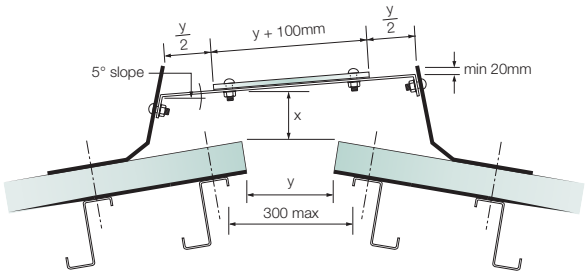


Fig. 1 Unprotected open ridge



System 2: Breathing roofs

The breathing roof is a simple and effective means of achieving natural ventilation in agricultural buildings such as cattle sheds or pig pens by inserting battens between courses of profiled sheeting.

Advantages of breathing roofs

- Reduction of condensation over the whole roof area
- Small ventilation openings minimise weather penetration
- Eliminates mitring

Breathing roofs with battens (Fig.3)

This form of ventilated roof is achieved simply by inserting a preservative treated 50 x 25mm timber batten between the profiled sheets at the horizontal overlap of each course.

When installing a breathing roof or converting an existing roof, purlins should be fixed at 1375mm maximum centres, with one Profile 6 sheet spanning each purlin spacing. Sheet lengths should be calculated to give a minimum end lap of 150mm. In exposed conditions, this should be increased to 300mm to minimise the penetration of driving rain or snow into the building.

Free air area 46,000mm²/m run.

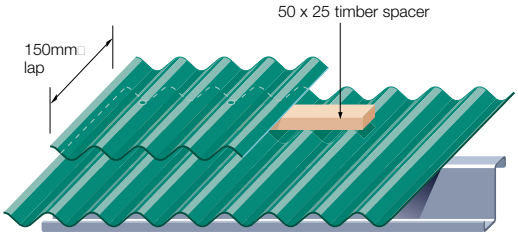


Fig.3 Breathing roofs with battens

System 3: Spaced roofs*

In larger span agricultural buildings and those used for high unit intensive rearing, considerable ventilation is required and can be achieved by the use of spaced roofing.

Advantages of spaced roofs

- Achieve a high degree of ventilation and natural internal light
- Minimises internal condensation levels
- Reduction or elimination of mitring

A spaced roof is best achieved by using Profile 6 roof sheets specially trimmed to a width of 1,000mm.

When these sheets are laid with a gap between each vertical run of sheets it provides the maximum ventilation for a building whilst minimising the potential for weather ingress.

Alternate tiers of sheets should, ideally, be turned around so that they are laid with large rolls adjacent to each other.

Trimmed sheets should be fixed with the fastener passing through the crown of the first corrugation in from the edge of the sheet and with two fixings per sheet per purlin.

The gap 'X' (see Fig. 4) will be determined by the size of the building, the amount of ventilation required and the stock units to be housed. The gap, however, should be between 15 and 25mm, to minimise snow bridging and reduce the risk of rain penetration.

Note: A soaker or DPM should be installed beneath each gap in the roof sheeting to protect the purlins, especially where these are timber.

The benefits of using trimmed sheets in this way is that the sheets can be installed the right way up and have well formed edge 'gutters' to prevent water dripping into the building during periods of heavy rainfall. Side laps are not required in installation and the building will receive natural daylight through the openings created. Should rooflights be required in a spaced roof, please contact the Marley Eternit Technical Department.

* Please note that sheets fixed in this manner will be classed as a fragile roof covering.

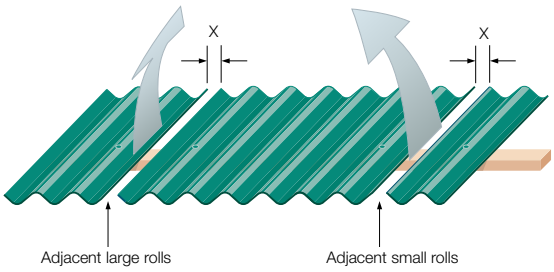


Fig.4 Spread roof

System 4: Ventilating ridge pieces

Marley Eternit offers two types of prefabricated ridge fitting. These are designed to permit the natural ventilation of buildings where rain penetration during extreme conditions is not detrimental. These ventilating ridge pieces are both fully compatible with all other Marley Eternit Profile 6 sheets and accessories.

The two types of ventilating ridge available are:

1 ventilating cranked crown ridge: free air area 68,360mm^2 (Fig.5)

2 two piece ventilating ridge: free air area 33,670mm^2 per pair (Fig.6)

Advantages of ventilating ridges

- Compatible with other Marley Eternit Profile 6 sheeting products
- Ideal for new and refurbishment projects
- Easy to install

Fixing of ventilating ridges

Before laying either type of ventilating ridge, ensure that the sheets on both slopes are aligned correctly to accept the ventilating ridge pieces.

The ridge purlins should be positioned so that the fixings penetrate not less than 100mm from the end of the ridge.

The underlapping corrugations of the ventilating cranked crown ridge pieces should be mitred, as detailed on page 32. However, the two piece ventilating ridge does not require mitring (see details of two piece ridges on page 51.)

When using ventilating ridge units, always use a standard ridge unit at each end of the ridge and at movement joints.

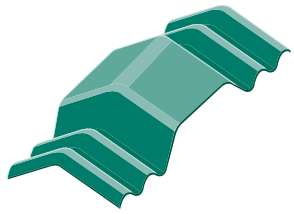


Fig.5 Ventilating cranked crown ridge piece

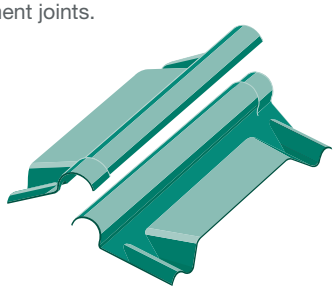
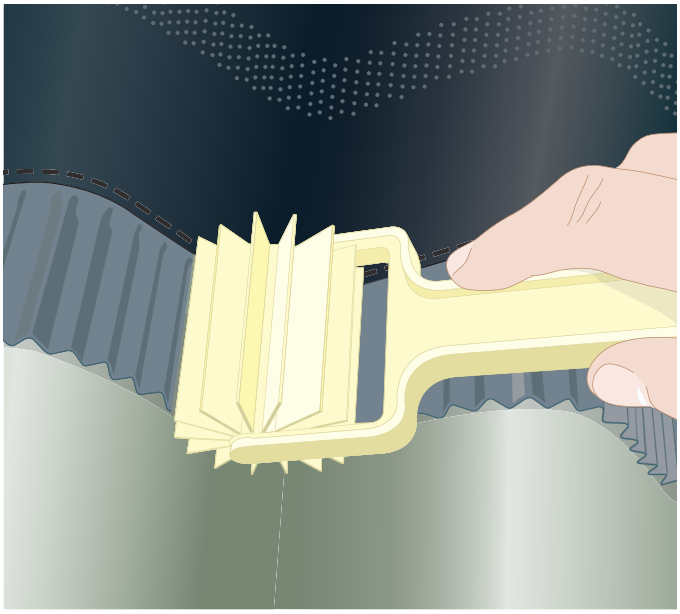
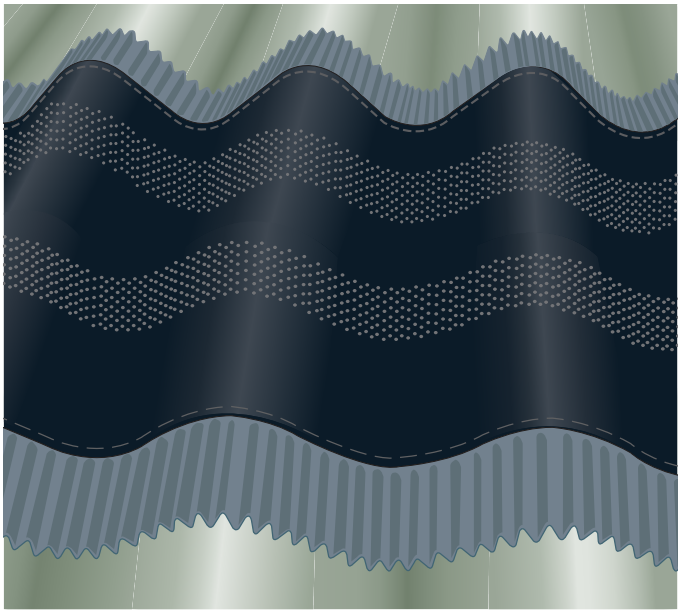


Fig.6 Two piece ventilating ridge piece

Profile 6 ventilation: Domestic systems





System 5: Universal ridge roll

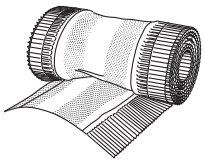
The Universal ridge roll can be used in conjunction with two piece close fitting ridges at the apex of the building and plain wing ridges at the apex or on a hip. It is suitable for roof pitches of 15° and steeper in moderate exposure areas and 20° in severe exposure areas. The ridge roll will not be seen once the ridges have been fitted.

When used with close fitting ridges, the sheets should be laid to allow a clear gap at the apex (between the trough corrugations) of 100-125mm. The ridge roll is dressed into the sheet corrugations and sealed to the fibre cement using the Ridgefast Roll Applicator without compressing the pleated apron of the ridge roll. The close fitting ridges can then be fixed as normal. The pleated apron of the ridge roll creates sufficient ventilation through the end lap between the top sheet and the ridge.

When used with plain wing ridges, a gap of 10-100mm (10-50mm at hips) should be allowed between the fibre cement sheets. The ridge roll should be draped half way into the corrugations and then using finger pressure, sealed to the fibre cement sheet. The plain wing ridge can then be fixed in the normal way.

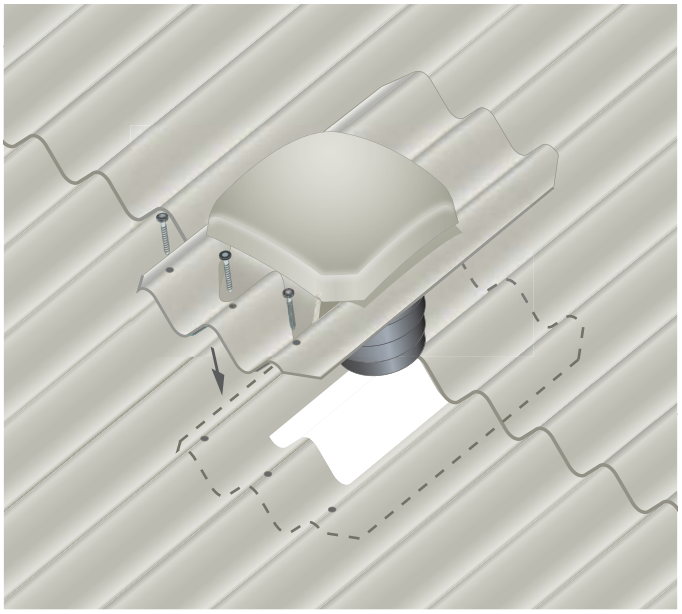
The Ridge Roll is 390mm wide and is supplied in 6m rolls. When using the RidgeFast Roll Applicator, allow 1.25m of Universal Ridge Roll for each linear metre of ridge.

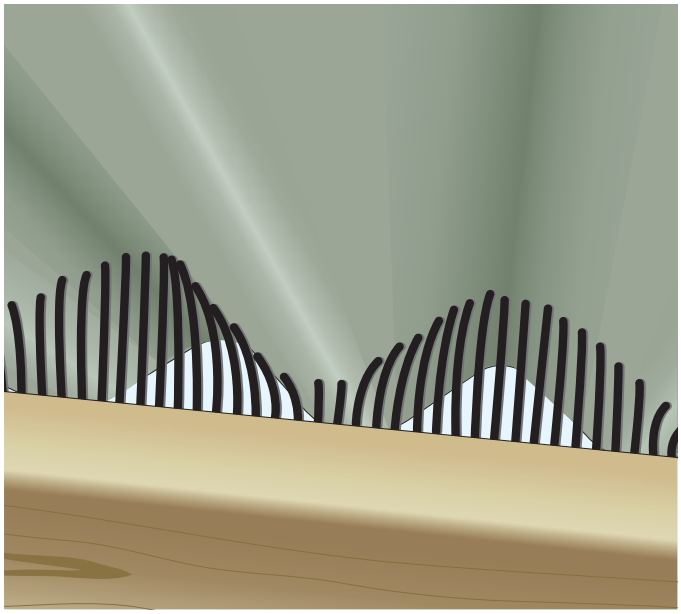
Components



Universal Ridge Roll
6m long x 390mm wide

RidgeFast Roll Applicator
(When using the RidgeFast Roll Applicator allow 1.25m of Universal Ridge Roll for each linear metre of ridge).





System 6: Profile 6 cowl vent

The Profile 6 Cowl Vent provides a ventilation area of 20,000mm² and can be used on roof pitches between 12.5° and 45°. It can be used to ventilate the roof void, or in conjunction with a multi-adaptor to connect to a soil vent pipe or mechanical extractor.

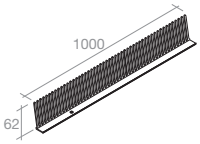
The vent has a built in mesh to keep out insects and driving snow, and the profiled base incorporates a sealing strip to maintain a weathertight roof construction. It is manufactured in High Impact Polystyrene and coloured grey.

It has a 160mm OD connector at the base. A separate multi-adaptor allows connection to 150, 130, 125, 110 and 100mm OD pipes.

The vent should be positioned immediately below a sheet end lap so the corrugated base can extend under the lap of the sheet above, without the need to trim the overlapping sheet. It should also be positioned away from the side laps.

System 7: Eaves comb filler

This component is used at the eaves to prevent the ingress of birds and mice through the sheet corrugations whilst still allowing ventilation. Supplied in 1m strips. Can be used in isolation or in conjunction with other ventilation systems.



Eaves comb filler


Sandal Magna
Community Primary School

Health, safety and sitework

Storage & working

Storage

General

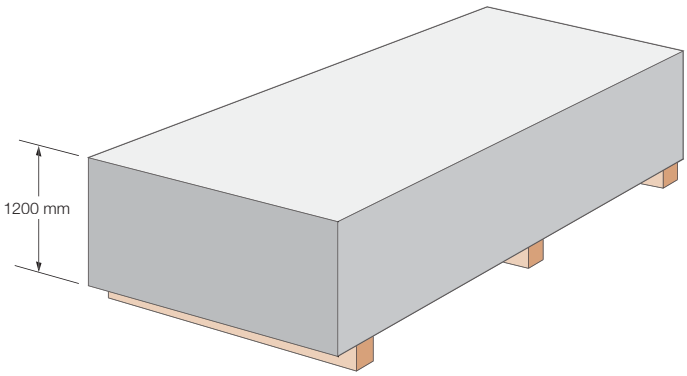
Profiled sheets should be stored as close as practically possible to the area of works, on a firm level base, using the profiled bearers (on which the sheets are delivered) to raise the sheets off the ground. Sheeting stacks should generally not exceed 1200mm high unless a level concrete base is available, in which case the maximum height is 1500mm. A separate stack should be made of each length of sheet; if this is not possible, stack with longest sheets at the bottom and the shortest at the top. It is important when stacking Profile 6 sheets on site that the smaller 'under rolls' are all on the same side of the stack. Sheets should always be stored weather (smooth) side upwards.

Stacks of sheets should not be stored in full sun during the summer months as the differential temperature across the sheets can result in unacceptable stresses in the sheets and can lead to edge cracking.

If sheets are to be retained in the packs for more than 3 months, they should be stored inside a building where they can be protected from extreme variations in temperature and moisture.

Ingress of moisture into packs of profiled sheets may cause efflorescence staining, bowing during installation or permanent distortion.

When handling sheets, lift by the ends only.



Natural Grey sheets

The plastic wrapping should be retained for as long as possible to control the environment around the sheets. Once the pack has been opened, or if the wrapping is damaged and allowing the ingress of water, the sheets should be stored under cover.

Coloured sheets

Coloured sheets should be stored under cover at all times, preferably inside a building, but if this is not available they can be stored under a tarpaulin. The tarpaulin should be spaced off the top and sides of the sheets to allow effective air circulation and avoid condensation.

The plastic wrapping on coloured sheets is only designed to protect the sheets in transit. It should be removed and carefully disposed of as soon as possible.

Working

When cutting fibre cement material the dust generated is classed as a nuisance and non-hazardous (refer to Marley Eternit Health and Safety data sheets).

Preferably sheets should be cut at ground level on suitable rigid supports using hand or powered saws. Powered saws should be of the reciprocating saw type and NOT disc or circular blade devices. Experience has shown that hand or powered saw blades having 3-3.5mm tooth pitch are most suited.

Notes: When roofing buildings where there will be higher than normal temperatures (e.g. buildings housing foundries or kilns), cement based sheets should be stored near a heat source prior to fixing, and be fixed on a dry day. Consideration should be given to providing additional movement joints over areas that are subject to sudden changes in temperature.

Site preparation & safety

Preparation

Prior to sheeting, a responsible person should check that all purlins and rails are connected securely. Measurements should be taken to ensure that the structure and purlins are true and level to receive the sheeting. In particular, a check should be made that the purlins are spaced correctly for the right end lap, and that the eaves purlin provides an overhang into the gutter not exceeding 350mm (Profile 6) and 250mm (Profile 3). When the sheeting layout is being planned, care should be taken to ensure that the verge sheets are cut so that the outside edge coincides with a crown rather than a trough in the corrugations. This enhances the weather protection and can reduce the width of the flashings.

CDM Regulations

Specifiers have an obligation under the Construction (Design and Management) (Amendment) Regulations 2000 to identify and evaluate the health and safety implications of all products and construction methods required by their design.

Installation

The following guidelines should always be observed:

- Do not walk on sheets. Although Profile 6 is designed to be non-fragile when installed, foot traffic on fibre cement sheets will damage and weaken the sheets, reducing the life and impairing the performance of the product. Therefore crawling boards, roof ladders or walkways must be used at all times when access to the roof is required.
- No person should have access to a roof unless under the direct supervision of an experienced roofer who should be sufficiently competent to assess any risks and take the necessary action to reduce such risks.
- Sheets should be installed smooth surface up.
- All fixing holes should be drilled, not punched, and adequate clearance (2mm minimum) provided for the fixing shank
- There should be two fixings per sheet per purlin or fixing rail at the point shown on page 30.
- The dust and swarf generated when working with the sheets require no special handling requirements other than normal good housekeeping to maintain a clean working area.

Safety at Work

Whilst Profile 6 sheets can be considered as non-fragile when first installed, the recommendations of HSG 33 should be observed at all times:

- A safe place of work should be provided. Health and Safety Provisions should comply with current regulations and be suitable for working at height. The use of safety nets as fall arrest equipment should always be considered.
- Working positions, access to the roof and on the roof should be clearly defined and properly supervised.
- Ensure there is proper access to the roof.
- Workmen should not work directly beneath the area being sheeted.
- Provide a scraper at the bottom of all ladders to remove mud from boots.
- Sheeters should wear suitable clothing: wear boots or shoes (not Wellington boots) avoid loose, flapping clothing and trousers with turn-ups.
- Treat as a fragile roof and always use crawling boards, roof ladders or walkways.
- Correct staging should always be laid over the purlins ahead of the sheeting.
- It is possible for one man to handle smaller sheets safely at roof level on a calm day. However, safe handling of profiled sheets on a roof may require two or more men in certain circumstances.
- Two men are always required to lay the eaves course and the sheets above rooflights.
- Always lay the sheets in vertical tiers from the eaves to the ridge in accordance with the approved sequence thus allowing the easier use of crawling boards.
- Materials should not be stacked on the roof nor should workmen use the roof as a working platform during sheeting.
- Always fix sheets fully before moving on.
- Remove all loose material from the roof as the work proceeds and do not leave tools on the roof surface.
- To minimise nuisance dust, cut sheets with a handsaw or slow-speed reciprocating power saw. The use of angle grinders is not recommended.
- Avoid cutting sheets in a confined space unless dust extraction equipment is to be used.
- Take extra care on a roof during windy, wet or frosty weather as well as on painted sheets whose surface will be more slippery than natural grey sheets.
- Avoid deflecting a sheet whilst attempting to force a bearing.
- Do not step on side lap corrugations.
- The transport of heavy loads, e.g. ventilators, over the roof will require special consideration regarding the load bearing capacity of the crawling boards or walkways.
- Where regular access is required to reach roof lights, ventilation and service ducts, properly constructed walkways should be provided.

Always observe the relevant provisions of the Health and Safety at Work Act, and any other safety legislation currently in force.

Services and support

Resources

tools and assets that make design and specification as straightforward as possible

> Fixing instructions

Comprehensive sitework, fixing and installation literature and videos: **marleyeternit.co.uk/resources**

> Literature

All current product and technical literature can be downloaded: **marleyeternit.co.uk/downloads**

> CPDs

A tool to produce instant NBS clauses that meet the recommendations of British Standards and Codes of Practice: **marleyeternit.co.uk/cpd**

> Samples

Samples are available for all of the products featured in this brochure and available to order from: **marleyeternit.co.uk/sample**

> Stockist information

To find details for stockists of Marley Eternit products, visit: **marleyeternit.co.uk/stockists**

> CAD details

Access to over 2,000 CAD drawings: **marleyeternit.co.uk/cad**

Services

Getting our knowledge to you and your project smoothly and efficiently

> Customer services

Marley Eternit is committed to providing outstanding customer care and is staffed by experienced personnel:
Tel 01283 722894 E-mail info@marleyeternit.co.uk

To find your nearest stockist, please visit:
www.marleyeternit.co.uk/resources

> Technical Advisory Service

Specifiers require prompt, knowledgeable and detailed responses to a vast range of enquiries covering everything from the embodied energy of a typical roof tile, to the different ventilation options available.

Our Technical Advisory Service is staffed by a qualified team with specialist knowledge not only of all Marley Eternit products, but also crucially, how those systems integrate with other roofing components and comply with Building Regulations, Health and Safety, environmental and other critical roofing criteria.

Tel 01283 722588 E-mail info@marleyeternit.co.uk
marleyeternit.co.uk

Sustainability and standards

Credits, credentials and clarity of information

> Quality standard

All Marley Eternit's factories in the UK are ISO 9001, 14001 and ISO OHSAS 18001 accredited. They achieve the highest standards in quality, health and safety and the environment.

CE Marking

All of our products covered by an EN Standard carry an appropriate CE Mark. This means that our products meet the required safety standards and have a guaranteed level of quality.

> Embodied carbon

Embodied carbon figures are available at product level for our entire roofing range. This absolute clarity of environmental information allows our customers to make informed choices.

BREEAM and the Code for Sustainable Homes

Credits gained from specifying our A-rated products, combined with additional credits from BES 6001 make our products more beneficial to the specifier.

Call 01283 722588
Email info@marleyeternit.co.uk
Or visit www.marleyeternit.co.uk

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MarleyEternit

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