

General fixing guidelines

For the Edilians range of clay roof tiles



Roofing

Cladding

Sustainable



EDILIANS



These guidelines are the minimum requirements for installing Edilians roof tiles and fittings

Installing Edilians roof tiles

The architect/designer and roofing contractor should ensure that the tiles are fixed in accordance with the current British Standard Code of practice for slating and tiling: BS 5534..

All work should comply with BS 8000-6: Code of Practice for Workmanship on Building Sites. In addition appropriate reference should be made to the Building Regulations.

If in doubt seek advice from Edilians. Full NBS specifications and fixing requirements can be provided on request.

Note: Should any of the recommendations in this document conflict with BS 5534 or BS 8000-6 then the British Standard should take precedence.

Storage

Edilians roof tiles should be stored on clean, firm level ground. Tiles are supplied shrink wrapped on wooden pallets. Pallets should not be stacked on site more than 2 pallets high.

Safety

Safe working on site is paramount. Reference should be made to the Work at Heights Regulations 2005 (as amended). Information on safe working at heights can be obtained at <http://www.hse.gov.uk/falls/index.htm>.

Roof structure - New Build

The design of the roof must comply with all the relevant statutory requirements. The roof should be designed to support applied loads and self weight without undue movement.

Roof structure - Reroofing

If in doubt consult the BRE Digest 351 - Recovering Roofs. The roof should be inspected to ensure the structure is sound. On inspection it may be found that the roof structure will need strengthening to carry the applied loads and self weight of the new roof covering.

Roof pitch and rafter length

Minimum roof pitches are recommended for all Edilians roof tiles and reference should be made to each product brochure for guidance. Roof slopes over 6m length can suffer from rainwater flooding of tile side interlocks - roof pitches may therefore have to be adjusted accordingly. Using Edilians products outside the recommendations is not advised. Guidance can be obtained from the Edilians Technical Department.

Substrate

It is important to check and if necessary seek confirmation from the site management team that the groundwork, be it timber or metal decking, is complete and is completely ready to receive the roof covering. It is important that setting out and ventilation requirements are coordinated between different trades.

Ensure that all the rafters or trusses are aligned and correctly fixed.

Underlays

The withdrawn BS 747 specification for underlays has been replaced by BS EN 13707. BS 8747 gives guidance on the selection and use of reinforced bitumen membranes (RBMs) covered in BS EN 13707, along with types 1F and 5U which were included in BS 747 but not in BS EN 13707. Underlays for tile roofing are also covered in BS EN 13859-1.

Consult manufacturer's recommendations for all bituminous, impermeable, vapour permeable and air permeable underlays with regards to installation and ventilation requirements.



Vapour permeable underlays.

Vapour permeable membranes are increasingly used in roof construction. It is advisable to specify membranes by name as performance properties vary considerably with type. If vapour permeable membranes are incorporated in a warm roof construction (insulation over the rafter) 38mm x 38mm counter battens are required to provide ventilation above the membrane.

The choice of underlay will depend on the type of tiling substrate.

Ventilation may not be required where a condensation risk analysis is carried out, a vapour permeable underlay is used and an airtight vapour control and/ or insulation layer at ceiling level can be maintained for the life of the roof.

Some manufacturers of higher specification vapour permeable underlays, because they have third party approval, state that their product can be installed without ventilation.

When relying on the vapour permeable underlay for the dissipation of moisture, it is essential that underlay manufacturers recommendations and any Agrément certificate conditions are met.

Horizontal laps on underlay should be as follows:

15° to 34°	150mm
>35°	100mm

Control of condensation

If water vapour is allowed to progress unchecked through the ceiling and condenses within the roof void, serious damage to the roof structure, insulation and ceiling is likely to result. Dampness from the weather, interstitial condensation, surface condensation and moisture in wet constructions must be able to dissipate from the building.

Requirements and provisions to prevent condensation are given in BS 5250 and Building Regulations:

- E&W Approved Documents C and F.
- IRL Technical Guidance Document F2.
- NI Technical Booklet C.
- Scot Technical Handbook 3, Domestic or Non-domestic.

BS 5250 recommends the following ventilation requirements in roof construction.

Cold pitched roofs

For underlays with high water vapour resistance, such as reinforced bitumen underlay, ventilation should be at low level on opposite sides of the roof as follows:

- Roofs with rooms in the roof with partially or completely sloping ceilings, the equivalent of a 25mm air gap at eave plus a continuous 50mm air gap above the insulation.
- Roofs above 15° pitch without sloping ceilings, the equivalent of a 10 mm air gap at eave.
- High-level ventilation of 5 mm is recommended for sloping ceilings pitches over 35°, spans longer than 10m, or lean-to and mono pitch roofs.

For vapour permeable underlays that are located under the counterbatten space, ventilation requirements are:

- Ventilation the equivalent of a 25mm air gap at eave.
- Ventilation 5 mm continuous opening at high level (this is best provided with dry fix ridge ventilation system).
- A minimum 25mm air gap is to be maintained within the counterbatten space.

Hybrid pitched roofs

Where the high vapour resistant underlay is located on top of the counterbattens, ventilation requirements are:

- A minimum 25mm air gap x longest horizontal dimension of roof.
- An air gap equivalent to 5mm continuous opening at high level.
- A minimum 50mm air gap is to be maintained between the underlay and insulation to allow for ventilation.

Bs5534: 2014+A2: 2018 requires that breather membranes meet strict criteria regarding wind uplift resistance and we therefore advise that specifiers check with the membrane manufacturers to ensure that their products



Battens roof

Battens and counter battens should comply with 5534: 4.11.1 - permissible characteristics and defects. They should not exceed limits in BS 5534 annex C. They should be fully factory pre-graded and the moisture content at time of fixing and covering (maximum): 22%. They should be preservative treated with Microemulsion.

Minimum batten sizes

	Rafters	
	<i>Up to 450mm centres</i>	<i>Up to 600mm centres</i>
Double lap plain tiles	25mm x 38mm	25mm x 38mm
Single lap interlocking tile	25mm x 38mm	25mm x 50mm

Counter battens should be sufficient to provide a ventilation gap as recommended in BS5250 and/or to provide a drainage path beneath the battens.

The manufacturers of the insulation and membrane should also be consulted.

Installation

- Battens should be at least 1.2m long. They should be supported by at least three rafters, only butt jointed on a rafter, and nailed to every rafter.
- Batten ends should be cut square and nails skew driven on each side of the joint. Where battens are spaced at more than 200mm, not more than one batten in any group of four should be joined over any one truss or rafter. Not more than three joints should be made together in twelve consecutive battens when the gauge is 200mm or less.
- Battens on rigid sarking boards should be supported on counter battens to allow free drainage of any water that may reach the underlay.
- Counter battens should be fixed through to the rafters and not to the sarking boards alone. Battens should be fixed with wire nails. The nail shank can be smooth but in certain wind loading conditions, annular ringed or helically threaded nails will be necessary, for guidance reference should be made to BS5534.
- Nail counter battens vertically up the roof slope where boarding is used to coincide with the line of the rafters. If a warm roof (insulation over the rafters) is designed, specialist fixings will be required to secure the counter battens through the insulation and into the rafter beneath. Nails should penetrate a minimum of 40mm into the rafter and be not less than 3.35mm in diameter. In coastal areas should be hot dip galvanized or sheridised.



Tiling the Roof

Plain tiles – Phalempin, St Foy Plain Tiles and 20 x 30 Tiles

Setting out – up the rafter

- Determine the batten gauge prior to fixing.
- Fix the eaves course batten and the first tile batten to ensure the eaves tiles and first tiles overhang the fascia into the centre of the gutter.
- Fix the top course batten so that the ridge tile provides a minimum 75mm cover to the top course tile.
- Divide the distance between the top of the first tile batten and the top of the top course batten by 100mm. Round the figure up to give the number of courses up the slope as a whole number. Divide the measured distance by the number of courses to give the batten gauge. Any adjustment must only be made to decrease the gauge, not increase it.
- All sides of the roof should be loaded out evenly and one side should not be loaded before the other as this would put undue stress on the trussed rafters. The tiling in most cases will commence from the right hand verge and work towards the left hand verge.
- To overcome any minor shade variation inherent in the firing of the natural clay tiles we recommend that the tiles are mixed on site by selecting tiles from a minimum of three pallets.

Setting out - along the eaves

- Eaves can be sprocketed gradually over several courses. However, it must be noted that the sprocketed courses, being at a lower pitch to the main roof, have a greater risk of rain penetration since it needs to discharge the accumulated rainfall from the main roof. It is still necessary for the lower roof pitch to be above 30° and ideally 35°. Where possible sprockets should be avoided.
- Having set out and nailed all the battens the setting out of tiles on each batten needs to be considered. Each Phalempin tile is 170mm wide and there should be a gap of up to a maximum of 3mm to allow some flexibility in setting out to minimise cutting.
- Measure the eave length and the corresponding length of the roof at the ridge. If the roof is out of square adjustments must be made to make the tiling square thus ensuring the tiles lay correctly. Establish an overhang over the brickwork or bargeboard of not less than 38mm and not greater than 50mm. Lay the first course of tiles along the eave set to the nominal tile cover width. Where appropriate and if possible, line up the tiles with the sides of window openings.
- The eave batten should be marked every third or fifth tile. Near the last full tile course, the process should be repeated and plumb lines dropped to check that the tile joints are perpendicular, and the battens marked.
- The eaves course of tiles are laid broken bond to the first full course of tiles so may need an eaves tile and half; these can be made by cutting a full tile-and-a half down to the same length as the eaves tile. The same may apply at the top tile course and is more critical since it is more visible.

Tile fixing

It is strongly advised that a full site specific NBS fixing specification is obtained from Edilians. To obtain a full fixing specification contact Edilians. Full working drawings together with full information on the substrate and the specific site location and OS coordinates will be necessary.

In any case a minimum of every 5th course of Phalempin tiles must be nailed twice and all local area tiles nailed twice. Nails for Phalempin tiles should be not less than 2.65 mm diameter and of lengths that provide not less than 15 mm penetration into battens. For pitches over 60° each tile must be nailed twice.

Verges

- Nail all tiles twice at the verge.
- Continue underlay across wall cavity and below undercloak.
- Provide an outward tilt for fibre-cement undercloak, fitted below tiling battens, to bed verge tiles.
- Ensure all verge overhangs are equal (38-50mm).
- Cut back tiling battens to ensure they are not bedded in the mortar.
- Bedding and pointing should be carried out as one operation.
- Use tile and half tiles in alternate courses to break the bond.



Ridges

- Overlap ridge underlay by a minimum 150mm.
- Nail all top course tiles on either side of the ridge.
- Ensure 75mm cover is provided by ridge tile over top course tiles.

Mechanically fix all ridge tiles with Imerys Dry Vent Ridge System [Mechanical fixing of ridges is now a requirement of the NHBC¹]. If a bedded ridge option is desired then the ridge tiles must still be mechanically fixed.

Hips

Lay courses of underlay over hip with overlaps of not less than 150mm. Bed bonnet hip tiles in mortar, bonding in the courses with general tiling. Fix the bonnet hip to timber with 75mm nails ensuring a minimum 25mm penetration. If necessary a hip batten should be used.

Bonnet Hips

- Bonnet hips should be nailed with 75 x 2.65mm aluminium nails to a hip batten.
- Strike mortar back to leave a neat finish. Fill end of first hip tile with mortar and tile slips finished flush.
- Introduce tile and half as necessary to maintain bond.
- If the adjacent roof slopes are at differing pitches the gauge on the shallow slope should be correct and the courses on the steeper pitch closed up to accommodate the difference. However, if the difference is greater than 5° then hip ridge tiles must be used.

Mitred Hips

- Interleave mitred tiles with metal soakers, extending a minimum 100mm to each side of hip. Fix soakers by turning down over the heads of mitred tiles.²

Note: Accurate cuts and extreme care is needed to achieve a neat finish at the hip.

Hip ridge tiles

- Mechanically fix all hip ridge tiles with approved dry ridge system [mechanical fixing of ridges is now a requirement of the NHBC]. If a bedded hip option is desired then the hip tiles must still be mechanically fixed.
- Shape first hip tile neatly to align with corner of eaves and fill end with mortar and slips of tile.

Valleys

The most effective and aesthetically pleasing detail is to use purpose made valley tiles. Valley tiles can be used up to and including 45° pitch.

Note:- Valley tiles should not be used with 20 x 30 tiles.

Other methods are also acceptable:

Open lead valley

The construction of open lead valleys and their width can vary according to roof pitch, they should be formed using one of the following methods: -

- Form the valley with Code 4 or 5 Lead Sheet. Keep an open channel between cut edges of roof tiles.³
- Do not lay underlay directly beneath a lead valley. Do not lay underlay directly beneath a lead valley.
- Ensure that an undercloak is used to apply mortar over lead.
- Mechanically fix all tiles twice either side of the valley.
- Use tile and half to ensure a good fixing and to minimize the use of small pieces of tile.

Note: Accurate cuts and extreme care is needed to achieve a neat watertight finish when adopting open lead valleys.

¹NHBC Design Standards Chapter 7.2 Pitched Roofs: Jan 2016.

²See Lead Sheet Association detail for more information.

³See Lead Sheet Association details for appropriate width of channel



Mitred valleys

- Use tile and half and tiles to cut to the valley.
- Interleave soakers under each tile course.
- Soakers for mitred valleys should extend to a minimum of 150 mm each side of the valley line and be mechanically fixed to battens or boarding away from the centre of the valley.
- The length of the soaker should be not less than the sum of the extended gauge at the valley, plus the head-lap, plus 25mm.

Note: Mitred valleys are not recommended where:

- *The roof pitch intersects at less than 90° on plan*
- *The roof pitch is below 50°*
- *The valley length is greater than 6m.*

All tiles adjacent to the valley must be nailed twice.

GRP Valleys

- Lay GRP valleys in accordance with the manufacturer's instructions in a similar way to open metal valleys but bed the mortar onto the sanded strip that is incorporated.

All tiles adjacent to the valley must be nailed twice.

GRP Dry Valleys

- Lay GRP valleys in accordance with the manufacturer's instructions. Close cut the tiles to the central GRP upstand.

Provide support for all valley materials in the form of plywood layboards fitted between and finished level with the top of rafters.

All tiles adjacent to the valley must be nailed twice.

Abutments

- At top edges, the top course batten should be set to allow the apron flashings to overlap the top course of tiles by the overlap necessary for the main tiles.
- The top batten should be set to allow the apron flashings to overlap the penultimate course by the necessary head-lap in accordance with LSA recommendations.
- For side abutments, battens should be located between 10 mm and 25 mm from the face of the abutment and should be suitably supported. Soakers and skeleton flashings should be used in accordance with LSA recommendations.

All tiles adjacent to the abutment must be nailed twice.



Tiling the Roof

Single lap Interlocking tiles

All sides of the roof should be loaded out evenly and one side should not be loaded before the other, as this would put undue stress on the rafters. The tiling in most cases will commence from the right hand verge and work towards the left hand verge.

Tiles may be either fixed lap or variable lap.

- The eave batten should be fixed first to allow the correct 50mm overhang into the gutter.
- The top batten should then be fixed in a position to ensure a minimum 75mm lap under the ridge.
- The distance between the top of the eave batten and the top of the top batten should then be measured. This distance should be divided by the average tile batten gauge. The result should be rounded to the nearest whole number.
- Divide the resulting gauge measurement by this whole number to calculate the tile batten gauge.
- For fixed lap tiles if the gauge falls outside the mean recommended measurement then the battening should be fixed at the recommended gauge, introducing a short cut top course. This top course must be adequately fixed. This will entail redrilling the top tile and nailing and clipping it to provide a correct mechanical fixing.
- If the tile is variable lap, E.G. HP10 or HP17, then the gauge can as necessary be adjusted by reducing the gauge as necessary, to a minimum of 310mm.

Note: The above applies only to a roof pitch with no features such as dormers, chimneys etc. Batten gauges between all such fixed points should be calculated individually.

Setting out along the eave

- It is imperative that the tiles of the first course will lay in the same plane as the tiles of subsequent courses otherwise the roof will leak at this point. Therefore it is important to first ensure that the fascia is neither too high nor too low.
- Measure the eave length and the corresponding length of the roof at the top. If the roof is out of square adjustments must be made to make the tiling square thus ensuring the tiles will lay correctly. Establish an overhang over the brickwork or bargeboard of not less than 38mm and not greater than 50mm. Lay the first course of tiles along the eave set to the nominal tile cover width. Adjustments can be made with side shunt including adjustments to the overhang within the above parameters this will normally allow full tiles to be fixed but in some occasions with very narrow roofs, tiles at the verge may have to be cut.
- Once the side cover is considered to be satisfactory make a chalk mark every third course along the eave and the top and 'ping' a chalk line at each of these positions to ensure that the courses up the roof are kept straight.
- On short eaves, tiles may require cutting. Cut tiles at the verge should be at least half the width of a full tile.

Tile fixing

- All tiles must be fixed to resist wind uplift. Depending on the specific product, the frequency and type of fixing will vary.
- For roofs over 45° the minimum requirement is for all tiles to be nailed. For roofs over 55° the minimum requirement is for all tiles to be nailed and clipped.

It is strongly advised that a full site specific NBS fixing specification is obtained from Edilians. To obtain a full fixing specification contact Edilians. Full working drawings together with full information on the substrate and the specific site post code and/or OS coordinates will be required.

Roof details eave

- Check that the fascia is the correct height to ensure the tiles lay at the same pitch as the main tiling.
- Consider eaves ventilation. Ventilation is required with bitumen underlays, check with breather membrane manufacturer for this type of underlay.
- Nail or clip the first course of tiles. All tiles at the eave must be fixed twice.
- If the tile is profiled fit an eave comb to prevent bird ingress.



Verges

- Nail and/or clip all verge tiles. All verge tiles must be fixed twice (BS5534+A2: 2018)
- Continue underlay across wall cavity and below undercloak.
- Provide an outward tilt for fibre-cement undercloak, fitted below tiling battens, to bed verge tiles.
- Ensure all verge overhangs are equal (38-50mm).
- Cut back tiling battens to ensure they are not bedded in the mortar.
- Bedding and pointing should be carried out as one operation.
- Edilians Dry Verge and Cloak Verge Systems provide a more secure detail and are maintenance-free and easy to install – see individual brochures for more details.
- Use special quarter tiles, half tiles or tile and half tiles in alternate courses to break bond for Edilians flat interlocking tiles such as HP10, HP17, HP20, Alpha 10, Beauvoise and Jacob 20 tiles.

Ridges

- Overlap ridge underlay by a minimum 150mm.
- Nail and/or clip all top course tiles on either side of the ridge. Use of nails or clips depends on location.
- Ensure 75mm cover is provided by ridge tile over top course tiles.
- Mechanically fix all ridge tiles with Edilians Dry Vent Ridge System [Mechanical fixing of ridges is now a requirement of the NHBC]. If a bedded ridge option is desired then the ridge tiles must still be mechanically fixed.

Hips

- Close cut roof tiles where they meet the hip and ensure each tile is nailed or clipped twice (BS5534+A2 :2018).
- Purpose made hip clips are available to mechanically fix cut tiles where the nib has been removed.
- Mitre hip tiles at ridge junction and ensure end tile does not kick up.
- Cut the bottom hip tile to align with the eaves.
- Mechanically fix all hip ridge tiles with Edilians Dry Vent Ridge System [Mechanical fixing of hip ridges is now a requirement of the NHBC]. If a bedded hip ridge option is desired then the ridge tiles must still be mechanically fixed.
- Shape first hip tile neatly to align with corner of eaves and fill end with mortar and slips of tile.

Valleys

GRP Valleys

- Lay GRP valleys in accordance with the manufacturer's instruction. Provide plywood support for the GRP valley and bed the mortar onto the sanded strip that is incorporated. Cut tiles neatly on the rake with 125mm between the cuts.
- All tiles adjacent to the valley must be fixed twice (BS5534+A2: 2018).

GRP Dry Valleys

- Lay GRP dry valleys in a similar way and in accordance with the manufacturer's instructions. Close cut the tiles to the central GRP upstand.
- All tiles adjacent to the valley must be fixed twice (BS5534+A2: 2018).

Open Metal Valley

- Form with Code 4 or 5 Lead Sheet. Keep an open channel between cut edges of roof tiles.⁴
- Do not introduce underlay directly beneath a lead valley.
- Ensure that an undercloak is used to apply mortar over lead.
- Mechanically fix all tiles either side of the valley. All tiles adjacent to the valley must be fixed twice (BS5534+A2: 2018).
- Provide support for all valley materials in the form of plywood layboards fitted between and finished level with the top of rafters.
- Use tile and half for Beauvoise tiles to ensure a good fixing and to minimize the use of small pieces of tile.
- Keep side interlocks clean of mortar to avoid damming.
- The recommendations of the Lead Sheet Association must be followed when constructing lead valleys.

⁴ See Lead Sheet Association details for appropriate width of channel.



Abutments

- On top edges, the top course batten should be set to allow the apron flashings to overlap the top course of tiles by the overlap necessary for the main tiles. This should be not less than 75 mm.
- For side abutments, battens should be located between 10 mm and 25 mm from the face of the abutment and should be suitably supported.
- With Flat interlocking tiles a secret gutter and cover flashing arrangement should be incorporated in accordance with LSA recommendations.
- For profiled tiles a cover flashing should be used.
- All tiles adjacent to the abutment must be fixed twice (BS5534:2014 +A2: 2018).

Mortar mix

- Where mortar is used it should comprise one part cement and one part sharp sand. Pigments, if used should be used at a ratio no greater than 1:60.
- Admixtures should conform to BS EN94-3 and to the manufacturer's recommendations. Air entrainers containing plasticizers can improve the frost resistance of the mortar and improve workability.
- Mix mortar by machine to ensure uniform constancy and colour.
- Use mortar within 2 hours of mixing and protect it from adverse weather. Discard unused mortar. Only use mortar when the temperature is above 4° and rising.
- Clean mixer at least daily and when a colour change is made.
- Pointing with a separate mix of mortar to that used for bedding is unacceptable. Bedding and pointing should be carried out in one operation. In the case of verges ensure that the ends of the battens are not touching the mortar.

Standard mortar mixes for tiling are as follows:

3:1 with blended sand	Soft sand and sharp sand mix, with the sharp sand making up no less than one third of the sand content, to one part Portland cement and plasticizer.
3:1 with coarse building sand	Some building sands are coarse in nature and have been found to have a size particle distribution in line with a blended mix of fine building sand and sharp sand. Where 70% to 90% of the sand is able to pass through a 0.5mm sieve this may be used as part of a 3:1 sand cement mix with plasticizer.
Proprietary roofing mortar	Proprietary mortars are now more regularly used as they provide a factory graded consistent mix. They must be used in accordance with the manufacturers' instructions.



Vertical Tiling Hanging

The following details apply to Plain and Ornamental club tiles:-

- Stud walls: Tile battens should be secured to the timber substrate using similar methods to those described for fixing battens to timber rafters.
- Block Walls: where possible counter batten should be fixed at 400mm centres. The fixing method will depend on the type of blocks. In the case of concrete blocks plugging and screwing may be necessary, with lightweight blocks proprietary fixings must be used to ensure an adequate fixing. Check for full details with the fixing manufacturer.
- If counter battens are used then the position of the windows has to provide sufficient depth to accommodate the thickness of the counter batten in relation to the drip in the cill.
- Tile battens for tile hanging should be fixed at a maximum gauge of 115mm being mindful of fixed points.
- Tiles should be fixed using similar setting out methods to those previously described for roof tiling. All tiles must be nailed twice using 38 or 40mm aluminium or copper nails.
- Start by providing a double course at eaves using eave tiles.
- Use under eave tiles (tops) at all top edges.
- Provide lead flashing under windows to cover top course tiles by a minimum 100mm.
- Tile and half tiles (gables) should be used at all abutments.
- At the junction under raking roof slopes form a “Winchester Cut” using two tile and half tiles cut at an angle. This technique is most suitable for a roof pitch of 45°. Whilst it can be used at lower pitches care will be needed to maintain bond. In some instances a simple raking cut will be appropriate. Alternatively a soldier course or Sussex cut to the tiles to cover the cut can be adopted.
- Sussex cutting - fix an additional batten onto the face of the vertical tiling battens and parallel to the verge to allow fixing of cut tiles and tile and half tiles. Fix the edge tile close to the undercloak/soffit, securing by spot bedding and double nailing into the raking batten.

External angle with angle tiles:-

- A counter batten should be fixed approximately 20mm in front of the end of the batten to prevent the end nail from splitting the tile batten. The cut ends of the tile battens should be alternated to coincide with the short leg of the external angle tile. Handed external angle tiles are laid alternately up an external corner and each external angle tile should be twice nailed.
- Angle tiles must not be cut to make them fit. Internal mitred angle with metal soakers (Edilians does not manufacture Internal Angle tiles).
- A counter batten should be fixed in a similar way to the method described for external angles. A Code 3 lead soaker is required on each course of tiles. The soaker is cut and folded from sheet minimum 200mm wide and 200mm long. The bottom edge of the soaker is flush with the bottom edge of the tile course above and the top is folded over the head of the tile. Use tiles and tile and half tiles cut to a mitre in alternate courses to maintain the bond. Twice nail all tiles.

Leadwork

All lead should comply to BS EN 12588:2006, the thickness for the following applications should not be less than:

- Valleys Code 5 (2.24mm)
- Flashings Code 4 (1.80mm)
- Soakers Code 3 (1.32mm) Soakers may also be made of aluminium.

Untreated lead or aluminium flashings may cause run off and staining of the tiling, a coating of patination oil on the lead surface, pre-coated or painted aluminium should avoid these unsightly stains on a newly completed roof.



References

BS5534:2014+A2: 2018	Code of Practice for Slating and Tiling.
BS 8000-6: 2013*	Code of Practice for Workmanship on Building Sites.
BS EN 12588: 2006	Lead and lead alloys. Rolled lead sheet for building purposes.
BS 5250: 2011	Code of Practice for the control of condensation in buildings.
BS EN 1991-1-4:2005+A1: 2010	Eurocode 1. Actions on structures. General actions. Wind actions
BS EN 1304: 2013	Clay roofing tiles and fittings. Product definitions and specifications
BS EN 13707 :2013	Flexible sheets for waterproofing. Reinforced bitumen sheets for roof waterproofing. Definitions and characteristics
Building Regulations	Approved Document F - Ventilation (2010 edition incorporating 2010 and 2013 amendments)
Lead Sheet Association	http://www.leadsheetassociation.org.uk
NHBC Standards	Chapter 7.2: Pitched roofs (2016)
NBS Recommendations	

* Partially replaced by BS8000-0:2014

Edilians is continually innovating and improving its products and services. Therefore, we reserve the right to change product specifications without notice. Please contact us for the latest information or visit www.edilians.co.uk

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