

BS 8000-6:2023



BSI Standards Publication

Workmanship on construction sites

Part 6: Slating and tiling of roofs and walls — Code of practice

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Summary of pages

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Foreword

Publishing information

This part of [BS 8000](#) is published by BSI Standards Limited, under licence from The British Standards Institution, and came into effect on 30 April 2023. It was prepared by Subcommittee B/542/1, *Slating and tiling*, under the authority of Technical Committee B/542, *Roofing and cladding products for discontinuous laying*. A list of organizations represented on these committees can be obtained on request to the committee manager.

Supersession

This part of [BS 8000](#) supersedes [BS 8000-6:2013](#), which is withdrawn.

Relationship with other publications

[BS 8000](#) is a series of standards describing the execution of works for a range of construction activities. They are issued to fill a gap in the authoritative information that is available to those specifying, supervising and instructing in connection with those activities and to assist in describing processes to deliver a better and common understanding of them and so improve construction quality.

The various parts of [BS 8000](#) draw content from, and relate to, other relevant British Standards and codes. This part of [BS 8000](#) makes recommendations and gives guidance on workmanship on construction sites – slating and tiling of roofs and walls. It is intended to be read in conjunction with [BS 8000-0](#), which encourages liaison between and awareness of adjoining/dependent trades and processes in the construction sequence (whether or not they are subject to one of the specialist titles in the series).

[BS 8000](#) is published in the following parts:

- *Part 0: Introduction and general principles;*
- *Part 2.1: Code of practice for concrete work – Mixing and transporting concrete;*
- *Part 2.2: Code of practice for concrete work – Sitework with in situ and precast concrete;*
- *Part 3: Masonry – Code of practice;*
- *Part 4: Code of practice for waterproofing;*
- *Part 5: Code of practice for carpentry, joinery and general fixing;*
- *Part 6: Slating and tiling of roofs and walls – Code of practice;*
- *Part 7: Code of practice for glazing;*
- *Part 8: Design and installation of dry lining systems – Code of practice;*
- *Part 9: Cementitious levelling screeds and wearing screeds – Code of practice;*
- *Part 11: Internal and external wall and floor tiling – Ceramic and agglomerated stone tiles, natural stone and terrazzo tiles and slabs, and mosaics – Code of practice;*
- *Part 12: Code of practice for decorative wallcoverings and painting;*
- *Part 13: Code of practice for above ground drainage and sanitary appliances;*
- *Part 14: Code of practice for below ground drainage;*

- *Part 15: Code of practice for hot and cold water services (domestic scale); and*
- *Part 16: Code of practice for sealing joints in buildings using sealants.*

This part of [BS 8000](#) is intended to be used in conjunction with BS 5534:2014+A2 and manufacturers' recommendations. Where contract specifications deviate from this part of [BS 8000](#), it is advisable that clarification is obtained prior to commencing work as to which takes priority.

Information about this document

This is a full revision of the standard, and introduces the following principal changes:

- revised clauses to take into account the latest revisions to BS 5534:2014+A2;
- updated clauses to reflect changes in the Building Regulations ([1] to [5]);
- updated guidance to reflect changes to the BS 8000 series of standards for workmanship on construction sites and updated references to other standards and publications; and
- the addition of guidance on the installation of lightning conductors.

The purpose of this part of [BS 8000](#) is to encourage good workmanship by providing:

- a) the most frequently required recommendations on workmanship for building work in a readily available and convenient form to those working on site;
- b) recommendations on how designers' requirements for workmanship can be satisfactorily realized;
- c) guidance on good practice for supervision and for training purposes;
NOTE This guidance is not intended to supplant the normal training in craft skills.
- d) a reference for quality of workmanship; and
- e) recognition that design, procurement and project information are likely to be conducive to good workmanship.

This part of [BS 8000](#) has generally been arranged in accordance with the *Common arrangement of work sections (CAWS) for building works* [6] so that it can be used easily with project specifications and bills of quantities using CAWS.

Where reference is made to proprietary products and to manufacturers' recommendations, the user is advised to obtain evidence that these products and recommendations have been proven by relevant experience or relevant test method data, based on the conditions and methods of use in the UK climate, to be suitable for the intended use.

This publication can be withdrawn, revised, partially superseded or superseded. Information regarding the status of this publication can be found in the Standards Catalogue on the BSI website at bsigroup.com/standards, or by contacting the Customer Services team.

Where websites and webpages have been cited, they are provided for ease of reference and are correct at the time of publication. The location of a webpage or website, or its contents, cannot be guaranteed.

Use of this document

As a code of practice, this part of [BS 8000](#) takes the form of recommendations and guidance. It is not to be quoted as if it were a specification. Users are expected to ensure that claims of compliance are not misleading.

Users may substitute any of the recommendations in this part of [BS 8000](#) with practices of equivalent or better outcome. Any user claiming compliance with this part of [BS 8000](#) is expected to be able to justify any course of action that deviates from its recommendations.

Presentational conventions

The provisions of this standard are presented in roman (i.e. upright) type. Its recommendations are expressed in sentences in which the principal auxiliary verb is “should”.

Commentary, explanation and general informative material is presented in smaller italic type, and does not constitute a normative element.

Where words have alternative spellings, the preferred spelling of the Shorter Oxford English Dictionary is used (e.g. “organization” rather than “organisation”).

Contractual and legal considerations

This publication has been prepared in good faith, however no representation, warranty, assurance or undertaking (express or implied) is or will be made, and no responsibility or liability is or will be accepted by BSI in relation to the adequacy, accuracy, completeness or reasonableness of this publication. All and any such responsibility and liability is expressly disclaimed to the full extent permitted by the law.

This publication is provided as is, and is to be used at the recipient’s own risk.

The recipient is advised to consider seeking professional guidance with respect to its use of this publication.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Compliance with a British Standard cannot confer immunity from legal obligations.

1 Scope

This part of [BS 8000](#) gives recommendations on basic workmanship on construction sites, both commercial and domestic, and covers those tasks which are frequently carried out in relation to the slating and tiling of roofs and walls of newly constructed buildings or buildings being refurbished and re-roofed. It makes recommendations and gives guidance on basic workmanship for conventional types of building work.

The recommendations given are not necessarily comprehensive; particular project documents, e.g. project specifications, might be needed to cover recommendations not dealt with by this part of [BS 8000](#).

The recommendations contained in this part of [BS 8000](#) might not be appropriate for the re-slating or re-tiling of some old roofs, particularly where traditional and/or reclaimed materials are used. Users intending to adopt any of the recommendations for old roofs, and especially for historically or architecturally important buildings, are advised to consult with the local planning authority or an appropriate conservation organization to check their suitability.

The recommendations given in this part of [BS 8000](#) apply to the laying and fixing of clay and concrete tiles, natural slates and fibre cement slates and their associated fittings and accessories.

NOTE 1 The product specifications of concrete roofing tiles and fittings, fibre cement slates, clay roofing tiles and fittings and natural slates for use in the UK are covered in BS EN 490, BS EN 492, BS EN 1304 and BS EN 12326-1, respectively.

NOTE 2 Design aspects of slating and tiling are covered in BS 5534:2014+A2.

NOTE 3 The installation of timber shingles and shakes are described in NFRC Technical Bulletin 34 [7].

Manufacturers' recommendations apply to the installation of asphalt shingles and sheet metal or proprietary discontinuously laid roofing products.

NOTE 4 The specification for dry-fixed ridge, hip and verge systems for slating and tiling is covered in [BS 8612](#).

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes provisions, or limits the application, of this document.¹⁾ For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

Standards publications

[BS 5250](#), *Management of moisture in buildings – Code of practice*

BS 5534:2014+A2:2018, *Slating and tiling for pitched roofs and vertical cladding – Code of practice*

[BS 6100-6](#), *Building and civil engineering – Vocabulary – Part 6: Construction parts*

[BS 8000-3](#), *Workmanship on construction sites – Part 3: Masonry – Code of practice*

[BS 8612](#), *Dry fixed ridge, hip, and verge systems for slating and tiling – Specification*

Other publications

[N1] NATIONAL FEDERATION OF ROOFING CONTRACTORS. *Standard roofing mortar*. Technical Bulletin 27. London: NFRC, 2019.

[N2] NATIONAL FEDERATION OF ROOFING CONTRACTORS. *Mortar mixes for roofwork*. Technical Statement 02. London: NFRC, 2020.

¹⁾ Documents that are referred to solely in an informative manner are listed in the Bibliography.

[N3] NATIONAL FEDERATION OF ROOFING CONTRACTORS. *Pitched roof underlay*. Technical Bulletin 06. London: NFRC, 2019.

[N4] NATIONAL FEDERATION OF ROOFING CONTRACTORS. *Lightning protection for tiled and slated roofs*. Guidance Note 37. London: NFRC, May 2021.

3 Terms and definitions

For the purposes of this part of [BS 8000](#), the terms and definitions given in [BS 6100-6](#) and the following apply.

3.1 tally slate

single size slates sold by count

[SOURCE: *A glossary of slate and stone roofing* [8]]

4 Handling and preparation of materials

4.1 Checking, handling and site storage of materials

4.1.1 Checking

Materials and products should be checked to verify they are of acceptable quality, undamaged and conform to the project specification.

Battens, roofing underlays, clay and concrete roof tiles, natural and fibre cement slates and fittings should be checked to identify them, either by their third-party certification mark or other certification of conformity, or by the manufacturer's labelling.

NOTE Attention is drawn to the Construction Products (Amendment etc) (EU Exit) Regulations 2020 (Regulation 305/2011) [9], which require all construction products manufactured to a designated standard for use in England, Scotland and Wales to be UKCA marked and supported by a Declaration of Performance made available by the manufacturer. In Northern Ireland, products manufactured to a designated standard for use in that country are required to be both UKNI and CE marked and supported by a Declaration of Performance made available by the manufacturer.

4.1.2 Handling

Tiles, slates and fittings should be unloaded and handled with care to avoid damage, soiling from ground conditions or mortar preparation, breakage in stacking or damage from passing traffic. Manual handling should be avoided where possible or kept to a minimum to reduce risk of injury.

NOTE For further information and guidance, see HSG 33 [10].

4.1.3 Storage (on ground)

Concrete tiles, clay tiles, fibre cement slates, natural slates and fittings with wrappings and banding should be stored on a firm, even base free from soiling.

When fibre cement slates are stored outside, the sides of the plastic wrappings should be split open to allow free air movement between the slate stacks. The slates should then be covered with a tarpaulin or similar cover.

Concrete, clay, natural slate, fibre cement slates and fittings should be stored as close as possible to the roof to avoid excessive handling, and in compact, stable stacks. Loose product should not be stacked flat.

Roofing underlays should be stored on end on a firm, clean base protected from direct sunlight.

Battens and counterbattens should be stored on bearers sufficient to prevent sagging or twisting. They should be protected from water saturation when stored in bales or bundles horizontally.

Accessories should be stored in a safe, weatherproof store.

Provision should be made for the storage and protection of all materials on site. If a hard standing area is not available, a firm flat area should be selected, which is clear of rubbish and vegetation and free from soiling and risk of damage from access traffic.

4.1.4 Storage (on roof)

Clay, concrete, natural and fibre cement slates should be stacked out on the roof in accordance with manufacturers' recommendations, avoid risk of slippage and be distributed to prevent unbalancing or overloading of the roof structure.

4.2 Preparation for work

4.2.1 General

Manufacturers' recommendations and sitework instructions should be in accordance with BS 5534:2014+A2 but where these deviate, the designer or specifier should seek assurances at the preparation stage of the project that such instructions and recommendations are appropriate.

NOTE 1 Recommendations for mechanical fixing in this part of BS 8000 generally refer to nailing and/or clipping but might also refer to screws or proprietary products.

The responsibility for carrying out sheet metal work should be decided prior to the start of work.

NOTE 2 The detailing for flashings included in this part of BS 8000 is designated sheet metal work.

NOTE 3 This part of BS 8000 has been written on the basis that its use will be supported by documentation on the fixings for roofing underlays, battens, slates and tiles and other materials for the works of a generic nature. It also makes reference to appropriate manufacturers' recommendations.

4.2.2 Working instructions

The building designer responsible for the specifications should verify that British Standards or Designated Standards are followed where required by the building contract; in the case of this standard, BS 5534:2014+A2.

The specifications should be translated into "working instructions" which those assembling the roof covering should follow in carrying out the work.

NOTE 1 These working instructions may be in the form of written instructions, method statements, manufacturers' recommendations or specific detail from the designer and technician.

The working instructions should be passed to the installer by the person responsible for carrying out the roofing part of the main contract.

NOTE 2 Working instructions might be supplied by the designer.

4.2.3 Liaison

Other contractors should be consulted and agreement should be reached on the timing and sequence of work with other trades, e.g. sheet metal workers for flashings.

Agreement should be reached on the requirements for and provision of sufficient working space at both ground and roof level.

NOTE 1 For example, for sorting and grading natural slates; mixing tiles to avoid colour variation; plant hoisting facilities; mortaring materials; mechanical cutting; access; safety; services and security.

Necessary work by other contractors should be sufficiently complete so as not to delay the continuity of work or leave uncompleted work vulnerable to damage by inclement weather.

NOTE 2 It is good practice to treat lead work, where the rainwater discharges onto slates or tiles, with a patination oil to avoid staining (see Rolled lead sheet – The complete manual [11] for guidance).

4.2.4 Acceptability of the roof structure

Before commencing work, the following should be checked:

- a) roof trusses and rafters are structurally sound and to a true line and adequately secured and braced as specified;
- b) timber noggings and lay boards are installed where required at hips, valleys and other details to support the ends of tiling battens;
- c) the roof structure is to the specified pitch, including the minimum pitch of sprockets, and to an acceptable squareness tolerance, and, if the roof is curved, without abrupt curve changes;
- d) the level of stepped cavity trays and flashings at abutments suit the line of the roof covering, and that flashings and secret gutters, which are to be covered by the slating or tiling, are positioned and secured to specification;
- e) fascia boards and gutters are positioned and secured to specification;
- f) gable masonry has been finished to be below the rafter or truss level;
- g) fascia boards or tilting fillets are positioned to provide a base datum for setting out the correct tilt (taking into account any over fascia accessory), and also allow the eaves course of tiles or slates to be in the same plane as the main roof, i.e. not drooped or elevated unless sprocketed eaves have been specified; and
- h) pitches of roof slopes are suitable for the specified head and side laps to enable suitability of specification and detailing of the slates and tiles and coordinating fittings.

4.2.5 Fire-breaks

COMMENTARY ON 4.2.5

Fire-breaks or fire-stops are intended to seal any gaps or junctions between the walls and the roof or wall covering, including any pipes or penetrations, so as to maintain the integrity of the construction and prevent the external spread of fire and smoke, and are a requirement of the Building Regulations 2010 [1], Building (Amendment) (Wales) Regulations 2018 [2], Building (Scotland) Regulations 2004 [3], Building Regulations (Northern Ireland) 2012 [4] and Building Regulations (Isle of Man) Order 2003 [5].

4.2.5.1 Roofs

The space between the top of the wall and the slates or tiles should be completely filled with mortar or suitable non-combustible packing or proprietary fire-stopping material above and below the underlay to fill all gaps. Packing should be compressed by the slates or tiles.

There should be no path for smoke or flame to penetrate from one side of the wall to the other.

NOTE 1 If ventilation is to be installed, roof vents with fire-stopping or intumescent barriers might be needed.

The battens should be encapsulated tightly with a non-combustible packing or proprietary fire-stopping material where they are carried over the party wall. In all cases, the lifting of the tiles or slates at the party wall should be avoided. All proprietary fire-stopping materials should be installed in accordance with manufacturers' recommendations.

Fire protection should extend into any void, such as boxed eaves.

NOTE 2 The protection can be in the form of a wire reinforced mineral wool blanket (minimum 50 mm thick) or fire-resistant board cut to fully seal the boxing.

The blanket or board should be fixed to the rafter and should not rely on the soffit board for support.

4.2.5.2 Walls

All gaps between the tiles or slates, battens and counterbattens should be sealed tightly using a suitable compressible and non-combustible fire-stopping material where they adjoin or abut any openings in the wall, such as doors and windows and where the frame is not substantial to meet the required fire protection. Tiles or slates should not be lifted by the fire-stopping material which affects their weathertightness.

There should be no path for smoke or flame to enter the batten cavity created by openings in vertically tiled or slated wall facades. All proprietary fire-stopping materials should be installed in accordance with manufacturers' recommendations.

NOTE 1 Where there is a decorative facade of tiles or slates fixed to battens, and counterbattens with underlay, secured to two leaves of masonry or concrete wall, there is already a level of fire resistance for the external wall (from inside to out and outside in). However, as the decorative facade creates another cavity on the outside of the building, the airflow also needs to be restricted within this cavity. The choice of method to use is dependent on the type of building, the building height, occupancy, and the requirements of the local building control body.

Vertically tiled or slated walls have concealed spaces with paths that can allow smoke or flame to enter the batten cavity; these should be sealed using a suitable timber batten with a minimum 38 mm thickness, steel of a minimum 0.5 mm thickness or a manufactured cavity barrier.

Cavity barriers should be positioned to close off penetrations through the wall such as windows, doors and openings, and on the line of any compartment wall or floor.

Both vertical closed state cavity barriers and horizontal open state cavity barriers should be installed to balance the requirement for a ventilated cavity to allow air movement, remove moisture and provide drainage and the requirement to seal the batten cavity preventing the spread of flames, heat and smoke during a fire.

All vertical closed state cavity barriers should be installed prior to the horizontal cavity barriers, and when under compression, the vertical cavity barrier should not lift the tiles or slates. Horizontal cavity barriers should be installed with the intumescent front face on the leading edge.

NOTE 2 Further information is contained in NHBC Technical Guidance Note 6.1/34 [12].

The manufacturer of the cavity barrier should be consulted as to the width of the cavity so that the correct size of cavity barrier is sourced prior to commencing any installation.

4.2.6 Insulation

In warm and cold roof applications, insulation laid at ceiling level should not restrict or obstruct air movement at the eaves where roof space ventilation is achieved using soffit vents or over fascia vents and protector trays.

In warm roof applications where slabs of over-rafter insulation are used, adequate stop-battens should be fixed to the rafters to prevent the roof assembly from sliding.

Fixings securing counterbattens through slab insulation should have adequate withdrawal resistance from the rafters and be used in sufficient quantity to provide security.

For helical headless fixings there should also be adequate withdrawal resistance from the counterbattens.

NOTE 1 For further guidance, see BS 5534:2014+A2, Annex B.

All air passages should be kept clear of debris to avoid impedance of airflow. Support trays at eaves should be fixed to give adequate airflow.

NOTE 2 BS 5534:2014+A2 provides design guidance for the fixing of counterbattens and stop battens where over-rafter insulation slabs are used.

4.3 Mortar preparation

Mortar for use with slating and tiling should be in accordance with BS 5534:2014+A2, NFRC Technical Bulletin 27 [N1] and NFRC Technical Statement 02 [N2].

NOTE Lime mortar mixes suitable for roofing are given in NFRC Technical Bulletin 42 [13].

Mortar should be prepared in accordance with [BS 8000-3](#).

Mortar should be mixed to obtain a uniform consistency and colour.

4.4 Application of mortar

COMMENTARY ON 4.4

This subclause covers the general application of mortar on roofs. More specific information is provided in [Clause 6](#).

Wherever possible, the same mix and colour (where applicable) of mortar should be used for pointing as for the bedding. Separate bedding and pointing should be avoided where possible; however, if this is impractical, pointing should take place as soon as possible so that the bedding and pointing mortar sets as one piece.

NOTE 1 It might be necessary to dampen the mortar bed prior to pointing.

The mortar bed should be of sufficient width and depth to compress when the slate or tile is fixed and firm enough to withstand the vibrations caused by nail fixing tiles or the pressure applied as a result of mechanical fixings (see [6.2.4](#), [6.3.3](#), [7.4](#) and [8.7](#)).

Mortar should be used within two hours of mixing and should be protected from extremes of heat or cold and rain.

Water should not be added to mortar which has become too dry to use. All unused mortar should be discarded.

Staining due to rainwater runoff from fresh mortar should be avoided by covering where necessary.

NOTE 2 It is good practice to wet the underside of all concrete products prior to bedding with mortar and check that all bedding surfaces are clean and free from release agents used in the manufacturing process. Whilst release agents are not used on clay products, the practice of wetting is particularly important when bedding in hot weather to prevent premature drying out of the mortar.

5 Preparation, laying and fixing

5.1 Roofing underlays

5.1.1 General

The documentation for all underlays should be checked to verify that it conforms to the specification and working instructions.

NOTE 1 For further information and guidance, see NFRC Guidance Note 08 [14] and BS 5534:2014+A2.

Manufacturers' recommendations should be followed as directed by the specification.

The roofing underlay should be laid parallel to the eaves or ridge with the horizontal overlaps as specified for the rafter pitch and roof construction in accordance with BS 5534:2014+A2. On tightly curved roofs the underlay should be laid up the slope.

The underlay should be temporarily fixed with clout nails or other fixings as recommended by the manufacturer.

For the final fix, the overlap should be nailed to each rafter or counterbatten 25 mm in from the top edge of the lower sheet and 25 mm from the exposed edge of the upper sheet in accordance with BS 5534:2014+A2, Figure A.3.

NOTE 2 Nailing at the top and bottom edges might not be necessary if the laps are sealed using tapes.

Unless counterbattens are used, underlay laps should be covered by a batten and, where necessary, the lap of the underlay adjusted to coincide with the nearest slating or tiling batten (see 5.2.3). Battens should be over the centreline of the lap (150 mm minimum) with a maximum tolerance of ± 25 mm above or below the centreline in accordance with BS 5534:2014+A2, Figure A.3.

NOTE 3 Laps may also be restrained using proprietary adhesive tape in accordance with manufacturers' recommendations. Alternatively, some underlays have proprietary integral adhesive glue strips which also restrain the laps.

The underlay should be laid and fixed in accordance with BS 5534:2014+A2 and NFRC Technical Bulletin 06 [N3] and, when used unsupported, should be draped over the rafters or supports such that any water deposited on it is directed away from the batten fixing holes and allowed to drain freely into the eaves gutter. The gap at the laps resulting from different tautness between underlay courses should be minimized.

Contact should be avoided between the underlay and the underside of the slates or tiles, both during and after installation, to prevent the wind uplift load being transmitted to the slates or tiles.

The underlay should be handled and fixed such that no tears or punctures occur. Any tears or punctures should be repaired prior to tiling or slating.

The underlay should not be left exposed for any long period of time, and in conditions of heavy rainfall combined with severe freeze/thaw conditions, for more than a few days, prior to the laying of the roof covering. If this is impracticable, temporary protection in the form of a tarpaulin or similar protective sheeting should be used until the roof covering can be installed in accordance with BS 5534:2014+A2 and manufacturers' recommendations.

The underlay should not obstruct the flow of air through ventilators.

NOTE 4 Recommendations for the functional and performance requirements of roof underlays are contained in BS 5534:2014+A2, which also has a test method to establish their suitability for wind uplift resistance, including a product classification system for different geographical wind zones across the UK that determines conditions of application.

NOTE 5 Some underlay types might have specific conditions of use and installers are advised to consult manufacturers' recommendations.

NOTE 6 A maximum drape of approximately 15 mm avoids noise nuisance caused by excessive flapping of the underlay under wind actions, prevents the transfer of wind loads to the roof covering and allows any moisture to drain below the battens.

NOTE 7 The use of counterbattens or the installation of suitable proprietary spacers between the tiling battens and underlay can assist in achieving a consistent and sufficient drainage channel between the underlay and tiling battens. For additional protection of nail holes through the underlay from water ingress, suitable nail sealing tapes/sealants may be used.

5.1.2 Boarding and sarking

The fully supporting boards or sarking should be dry.

NOTE 1 The underlay may be laid and fixed either over or under the counterbattens (depending on the specification).

Where boarding is required for curved roofs, swept valleys or curved dormers, the underlay should be laid onto the rafters under the boarding to eliminate the need for counterbattens and battens, the slates or tiles being fixed direct to the boards.

NOTE 2 In traditional Scottish slating practice, the underlay is laid over the boarding and slates are laid over the underlay and nailed directly into sarking boards.

5.1.3 Eaves

If the underlay types are suitable for external exposure they should be laid directly into the gutter. If they are not suitable for external exposure, then a strip of external grade (UV resistant) underlay or proprietary underlay support trays should be used at the eaves. Where this is the case, the first course of underlay should be laid to maintain the necessary laps and leave the lower edge set back from exposure above the gutter.

No trough should be formed behind the fascia board and a support should be provided for the underlay to prevent any collection of water. The underlay should allow any water reaching it to freely drain into the eaves gutter without inhibiting waterflow.

NOTE Where a proprietary eaves fascia ventilator is specified, special detailing of the underlay might be recommended by the manufacturer.

5.1.4 Verge

The underlay should be laid or cut neatly onto the outer skin of the wall, or onto the flying rafter or bargeboard in the case of an overhanging verge.

NOTE Where proprietary verge tiles or dry verge systems are specified, special detailing of the underlay might be recommended by the manufacturer.

5.1.5 Ridge

5.1.5.1 Duopitch ridge

The top courses of underlay should be overlapped (see also [5.1.5.3](#) for vented ridges).

5.1.5.2 Monopitch ridge

The top course of underlay should be laid or cut and fixed approximately 100 mm over the top of the fascia board (see also [5.1.5.3](#) for vented ridges).

5.1.5.3 Vented ridges

Where specified, the top edge of the underlay should be laid and fixed down from the apex by the required distance.

NOTE Where proprietary ventilating ridge tiles or dry ridge systems are specified, special detailing of the underlay might be recommended by the manufacturer.

5.1.6 Hip

The underlay should be overlapped across the hip by the specified amount. Excessive thickness of underlay at hips should be avoided. Roof structures should include a continuous member at hips to which the underlay can be fixed.

5.1.7 Valley

Lay boards to support valley linings should be fixed between the rafters to finish flush with the tops of rafters or set to finish flush with the top of rigid sarking or counterbattens where present. Lay boards should not interrupt the roof covering alignment.

Other than for sheet metal valleys, a continuous strip of underlay should be laid down the valley and should underlap the general underlay at the sides by no less than 300 mm. In the case of mitred valleys or purpose made plain tile valley tiles, the adjacent underlays should be brought into the centre of the valley to create a double layer.

On continuously supported valley linings, such as lead and other metals and glass-reinforced plastic (GRP), the underlay should be cut to rake and lapped onto the valley lining by no less than 50 mm but not beyond the tilt fillet. For other proprietary valley troughs, they should be installed in accordance with manufacturers' recommendations.

Continuously supported metal valleys, e.g. lead, should not be laid directly on to bituminous underlays, as melting, which results in sticking, might lead to a deterioration of the metal valley lining.

Punctures should be avoided in the valley underlay and any fixings should be no closer than 100 mm from the centre line.

5.1.8 Abutments

5.1.8.1 Side/front abutment

The underlay should be turned up the abutment so that the top edges are covered by the flashings by not less than 50 mm.

5.1.8.2 Back abutment

The underlay should be dressed or cut neatly to provide not less than a 100 mm overhang into the back gutter (see [5.1.3](#) for exposure recommendations).

5.1.8.3 Underlay penetrations

Any penetrations through the underlay should be protected from water ingress, where specified, using tapes or proprietary seals in accordance with manufacturers' recommendations.

Where proprietary ventilation units and similar products are specified, manufacturers' sitework instructions should be followed.

5.2 Battens and counterbattens

5.2.1 General

The battens and counterbattens should conform to BS 5534:2014+A2 and should be of specified size and marked accordingly.

If a preservative treatment is used, it should be checked that it is suitable for the application proposed and carried out in accordance with BS 5534:2014+A2, Annex E.

NOTE Unmarked battens or battens not marked with the full information given above do not conform to BS 5534:2014+A2. They could pose a health and safety risk and might be inadequate for fixing requirements. For additional information, see NFRC Technical Bulletin 33 [15].

5.2.2 Setting out

The roof should be set out using the eaves tilt datum such that minimum cutting of slates and tiles is necessary and the horizontal lines of the courses are regular and true.