

Workmanship on building sites —

Part 6: Code of practice for slating and tiling of roofs and claddings

CAWS H60, H61, H62

UDC 69.002.72:691.214.2:[692.232.4.42:691.32]:691.54:614.8:[006.76 (083.75)]

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The preparation of this British Standard was entrusted by the Council for Building and Civil Engineering (B/-) to Technical Committee B/146, upon which the following bodies were represented:

- Building Employers' Confederation
- Chartered Institute of Building
- Consumer Policy Committee of BSI
- Department of the Environment (Building Research Establishment)
- Department of the Environment (Property Services Agency)
- Federation of Associations of Specialists and Sub-Contractors
- Institute of Clerks of Works of Great Britain Inc
- Institution of Civil Engineers
- Institution of Structural Engineers
- National Building Specification Ltd.
- National Council of Building Materials Producers
- National House Building Council
- Royal Institute of British Architects
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- Society of Chief Architects of Local Authorities

This British Standard, having been prepared under the direction of the Council for Building and Civil Engineering, was published under the authority of the Board of BSI and comes into effect on 30 April 1990

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The following BSI references relate to the work on this standard:
Committee reference B/146
Draft for comment 85/10617 DC,

ISBN 0 580 18289 4

Amendments issued since publication

Amd. No.	Date	Comments

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Foreword

This Part of BS 8000 has been prepared under the direction of the Council for Building and Civil Engineering. 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, may need to cover particular recommendations not dealt with by this code of practice.

This code of practice is unique in that unlike other British Standards, it draws together recommendations given in other codes of practice.

The purpose of this code of practice is to encourage good workmanship by providing the following:

- a) the most frequently required recommendations on workmanship for building work in a readily available and convenient form to those working on site;
- b) assistance in the efficient preparation and administration of contracts;
- c) recommendations on how designer's requirements for workmanship may be satisfactorily realized;
- d) definitions of good practice on building sites for supervision and for training purposes; this guidance is not intended to supplant the normal training in craft skills;
- e) a reference for quality of workmanship on building sites.

It is recognized that design, procurement and project information should be conducive to good workmanship on site.

During the preparation of this code of practice the Building Industry's Co-ordinating Committee for Project Information (CCPI), produced a Common Arrangement of Work Sections (CAWS) for building work. This code of practice has generally been arranged in accordance with the Common Arrangement so that it can be used easily with project specifications and bills of quantities using this arrangement. Other major documents are being restructured in accordance with the Common Arrangement.

NOTE The CCPI was sponsored by the Association of Consulting Engineers, the Building Employers' Confederation, the Royal Institution of Chartered Surveyors and the Royal Institute of British Architects.

When complete BS 8000 will comprise the following Parts.

- *Part 1: Code of practice for excavation and filling;*
- *Part 2: Code of practice for concrete work;*
- *Part 3: Code of practice for masonry;*
- *Part 4: Code of practice for waterproofing;*
- *Part 5: Code of practice for carpentry, joinery and general fixings;*
- *Part 6: Code of practice for slating and tiling of roofs and claddings;*
- *Part 7: Code of practice for glazing;*
- *Part 8: Code of practice for plasterboard partitions and dry linings;*
- *Part 9: Code of practice for cement/sand floor screeds and concrete floor toppings;*
- *Part 10: Code of practice for plastering and rendering;*
- *Part 11: Code of practice for wall and floor tiling;*
- *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).*

The text of this Part of BS 8000 includes commentaries. These commentaries are separately identified and are intended to be for guidance only and do not form part of the recommendations. They refer, unless otherwise stated, to the clause which immediately precedes each commentary.

The detailing for flashings is included and is designated sheet metal work. The responsibility for carrying out this sheet metal work should be decided prior to the start of work.

Reference to manufacturer's sitework instructions in this Part of BS 8000 infers that these recommendations are in accordance with BS 5534-1 and BS 5534-2. If the sitework instructions do not comply with these, it is advisable that the designer or specifier of the covering seeks assurances at the preparation stage of the project that such recommendations are appropriate.

Recommendations for mechanical fixing in this Part of BS 8000 generally refer to nailing and/or clipping.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

Summary of pages

This document comprises a front cover, an inside front cover, pages i to iv, pages 1 to 22, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

Section 1. General

1.1 Scope

This Part of BS 8000 gives recommendations on basic workmanship and covers those tasks which are frequently carried out in relation to slating and tiling of roofs and claddings of buildings.

The recommendations apply to the laying and fixing of clay and concrete tiles; natural and fibre reinforced cement slates and their associated fittings and accessories.

For design aspects of slating and tiling reference should be made to BS 5534-1 and BS 5534-2.

NOTE 1 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, edges, slates and tiles.

NOTE 2 This code of practice includes supplementary elements in the form of commentaries to assist in its use and understanding. Compliance with the commentaries is not necessary in order to be able to claim conformity with the standard.

1.2 References

1.2.1 Normative references

This Part of BS 8000 incorporates, by reference, provisions from specific editions of other publications.

These normative references are cited at the appropriate points in the text and the publications are listed on the inside back cover. Subsequent amendments to, or revisions of, any of these publications apply to this Part of BS 8000 only when incorporated in it by amendment or revision.

1.2.2 Informative references

This Part of BS 8000 refers to other publications that provide information or guidance. Editions of these publications current at the time of issue of this standard are listed on the inside back cover, but reference should be made to the latest editions.

1.3 Definitions

For the purposes of this Part of BS 8000, the definitions given in BS 6100-1.3.1:1987, and BS 6100-1.3.2:1985 apply.

Section 2. Materials handling and preparation

2.1 Checking, handling and site storage of products, fittings and accessories

2.1.1 Checking

Check delivery tickets and certificates of quality and origin, along with product identification marks and labels against the specification.

Check the quantities and condition of all products, fittings and accessories and if not satisfied refer to supplier immediately and do not use until the position is clarified.

Check in particular that:

- a) timber battens and counterbattens are to the specified size and condition and the preservative treatment if specified is of the correct type;
- b) roofing underlay is of the specified type;
- c) roof tiles or slates are of the specified profile, texture and colour;
- d) roof tile and slate fittings are of the specified profile, texture and colour;
- e) mechanical fixing clips and/or nails are of the specified material and size;
- f) accessories such as dry roofing systems, eaves filler and ventilation products are of the specified profile, colour and type.

COMMENTARY. *Battens can be preservative treated with either water based copper/chromium/arsenic, e.g. CCA, (green stain) or solvent based (clear stain) materials. Roofing underlays and roof tiles, slates and fittings can be identified by their third party certification mark. All other proprietary materials should be checked to identify them by manufacturer's labelling on the products delivered.*

2.1.2 Handling and site storage

2.1.2.1 Handling. Unload and handle tiles, slates and fittings with care to avoid damage, soiling or breakage.

2.1.2.2 Storage (on ground)

- a) Store concrete, clay tiles, natural slates and fittings with wrappings and banding in place on a firm, even base free from soiling.
- b) Store fibre cement slates and fittings on a firm, even base free from soiling.

COMMENTARY. *When fibre cement slates are stored outside it is advised that 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 to prevent stack collapses and damage. Loose product should not be stacked flat.*

c) Store roofing underlays on end on a firm, clean base protected from direct sunlight.

d) Store battens and counterbattens on sufficient bearers to prevent sagging or twisting. Protect from water saturation when stored in bales or bundles horizontally.

e) Store accessories in a safe weatherproof store.

COMMENTARY. *Adequate provision should be made for storage on site. If a concrete or hard standing area is not available, ensure that a firm flat area is selected, cleared of rubbish and vegetation and free from soiling and access traffic. The value of many roof accessories may suggest they should be stored in a locked safe store.*

2.1.2.3 Storage (on roof). Load out clay, concrete, natural and fibre cement slates on the roof safely to avoid slippage and evenly distribute to prevent overloading of the roof structure.

2.2 Preparation of work

2.2.1 Liaisons and structural acceptability

2.2.1.1 General. Obtain assurances that the following provisions have been satisfactorily provided for, prior to the commencement of the roof covering work.

2.2.1.2 Liaison

- a) Liaise with other contractors and agree timing and sequence of work with other trades, e.g. sheet metal workers for flashings.
- b) Agree requirements for and provision of sufficient working space, e.g. sorting and grading natural slates; plant hoisting facilities; mortaring materials; access; safety; services and security.
- c) Ensure that necessary work by other contractors is or will be sufficiently complete and not delay the continuity of work or leave uncompleted work vulnerable to damage by inclement weather.

COMMENTARY. *It is good practice to treat lead work, where the rainwater discharges on to slates or tiles, with a patination oil to avoid staining (sheet metal work).*

2.2.1.3 Acceptability of the roof structure. Before commencing work check that:

- a) roof trusses are to a true line and adequately braced as specified;
- b) roof structure is to an acceptable squareness tolerance and to specified pitch;
- c) flashings and secret gutters which will be covered by the slating or tiling are positioned and secured to specification (sheet metal work);
- d) fascia boards and gutters are positioned and secured to specification;
- e) gable brick work has been parged to be below the rafter truss level;
- f) fascia boards or tilting fillets are positioned to 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 a sprocketed eaves has been specified.

2.2.2 Mortar preparation

Prepare generally as recommended in BS 8000-3:1989.

- a) Mix mortar by machine to obtain a uniform consistency and colour.
 - b) Clean mixer at least daily and when a colour change is made.
 - c) Use mortar within 2 h of mixing and protect it from adverse weather. Discard unused mortar.
 - d) Avoid pointing with a separate mix of mortar to that used for the bedding. Where this is not possible apply the bedding making allowance for a substantial insertion of mortar for finishing and pointing to avoid cracking and separation.
- Dampen the mortar bed prior to pointing.

COMMENTARY. It is seldom possible to match the tile or slate colour with a pigmented mortar. It is often preferable to use an uncoloured or contrasting coloured mortar. Care should be taken to avoid unsightly staining due to rainwater run off from fresh mortar.

2.2.3 Fire-break walls

2.2.3.1 Where mortar is specified:

- a) completely fill the space between the top of the party wall and slates or tiles when bedded;
- b) cut back all combustible materials neatly to each side of the party wall.

2.2.3.2 Where non-combustible packing is specified:

- a) completely fill the space between the top of the party wall and the slates or tiles and allow the non-combustible material to be compressed;
- b) cut back all combustible materials neatly to each side of the party wall.

COMMENTARY. It is essential to ensure that there is no path whereby smoke or flame can penetrate from one side of the wall to the other. In some specifications it is required to encapsulate the battens, which are carried over the party wall tightly in the non-combustible material. In all cases it is necessary to avoid lifting of the tiles or slates at the party wall.