

Workmanship on building sites —

Part 5: Code of practice for carpentry, joinery and general fixings

**CAWS G20, H21, K11,
K20, L10, L20, L30**

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- 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
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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 designers' 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 Employer's 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 roof, slate, tile covering and cladding;*
- *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).*

Technical Committees CSB/32, Structural use of timber, and TIB/22, Quality in joinery, have also participated in the preparation of this Part of BS 8000 and the content is based on and consistent with that of BS 1186 and BS 5268. However, BS 5268 covers the subject matter more comprehensively and includes design, materials and other related aspects in addition to workmanship on site.

BS 1186-2 gives the requirements for the fit of parts in various details of joinery.

The text of this Part of BS 8000 includes commentaries and figures. 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.

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 26, 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 site workmanship and covers those tasks which are frequently carried out in relation to carpentry, joinery and general fixings.

NOTE 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 6100-4.4:1985 apply.

Section 2. Materials handling and preparation

2.1 Checking, handling and site storage of materials and components

2.1.1 General

Keep the site clean and tidy in order that the checking, handling and storage of materials and components can be carried out speedily and effectively.

2.1.2 Checking

2.1.2.1 Carry out detailed checks on delivery in accordance with the criteria set out in Table 1 to Table 4. In particular:

- a) check quantities during unloading;
- b) check for damage to manufactured components during unloading;
- c) carry out moisture measurement on all manufactured joinery components delivered “in the white” as soon as possible after delivery, checking against the values set out in Table 10;
- d) assess moisture content during unloading, on all components other than manufactured joinery components delivered “in the white”.

COMMENTARY. The most convenient way to measure moisture content on site is by means of an electrical resistance moisture meter used in accordance with the manufacturer’s directions. The person using the meter should be experienced in its use as inaccurate results can be obtained in some circumstances by an inexperienced operator.

Some preservatives tend to distort the reading and make the moisture content appear higher than it is. If this is suspected advice should be sought from the preservative manufacturer. Plywood also tends to give falsely high readings.

2.1.2.2 Reject items which fail on any aspect of condition or specification.

COMMENTARY. The species and grades of timber should be shown on the delivery note, as should preservative treatment. Any identification marks on stress graded timber should be checked against the specification.

Surface moisture on carpentry components such as roof trusses may not be critical at the time of delivery when the components can continue to “breathe” even after completion of the building and are in any case likely to be exposed to the weather during construction.

2.1.3 Handling and site storage

2.1.3.1 General

- a) Programme deliveries in accordance with the contract programme, to reduce site storage to a minimum.
- b) Prepare storage arrangements for each item in advance of delivery.
- c) Unload straight into the designated storage space.

2.1.3.2 Handling. When handling ensure that items are not subject to stresses greater than those that they will sustain once installed. In particular:

- a) support flat, planar items at all corners;
- b) support linear items adequately along their length to avoid undue “bow”.

Table 1 — Checking loose carpentry

Characteristic to be checked	How to check	Criterion
Quantity	Check against delivery note	In accordance with order
Species and grade		In accordance with specification
Preservative treatment where called for	Check against delivery note and confirm by inspection	
Size	Check random samples against order	In accordance with order
Moisture condition	Visual/tactile check	Whether or not there is opportunity to adjust to specified value before building-in. Ability to “breathe” after building-in

Table 2 — Checking fabricated carpentry components

Characteristic to be checked	How to check	Criterion
Quantity	Check against delivery note	In accordance with order
Preservative treatment where called for	Check against delivery note and confirm by inspection	In accordance with specification
Squareness and flatness	Take spot dimensions	No distortion outside the limits set in Table 22
Overall size	Take spot dimensions	No deviation from specified dimensions to exceed the limits set in Table 22
Local damage	Visual inspection	No splits in timber: damaged or missing connectors
Moisture condition	Visual/tactile check	Whether or not there is opportunity to adjust to specified value before building-in. Ability to “breathe” after building-in

Table 3 — Checking loose joinery

Characteristic to be checked	How to check	Criterion
Quantity	Check against delivery note	In accordance with order
Timber specification	Check against delivery note	In accordance with contract specification
Specified finish	Visual inspection	In accordance with contract specification
Size	Check random samples against order	In accordance with order
Moisture condition	Carry out moisture measurement on all lengths delivered “in the white” and on joinery intended for internal use	Value not to exceed those set out in Table 10

Table 4 — Checking manufactured joinery components

Characteristic to be checked	How to check	Criterion
Quantity	Check against delivery note	In accordance with order
Timber specification	Check against delivery note	In accordance with contract specification
Specified finish	Visual inspection	In accordance with contract specification
Damage in transit	Visual inspection	No measureable damage to structure or finish
Moisture condition	Carry out moisture measurement on all lengths delivered “in the white”	Values not to exceed those set out in Table 10

2.1.3.3 Storage. Provide storage in accordance with Table 5 to Table 8 to ensure that materials and components are maintained free from damage and are in conditions suitable for their specified moisture contents.

COMMENTARY. When providing covered storage other than in an existing building, it is important to ensure that there is cross-ventilation over the top of the items stored. Alternative ways of achieving this are shown in Figure 1 and Figure 2.

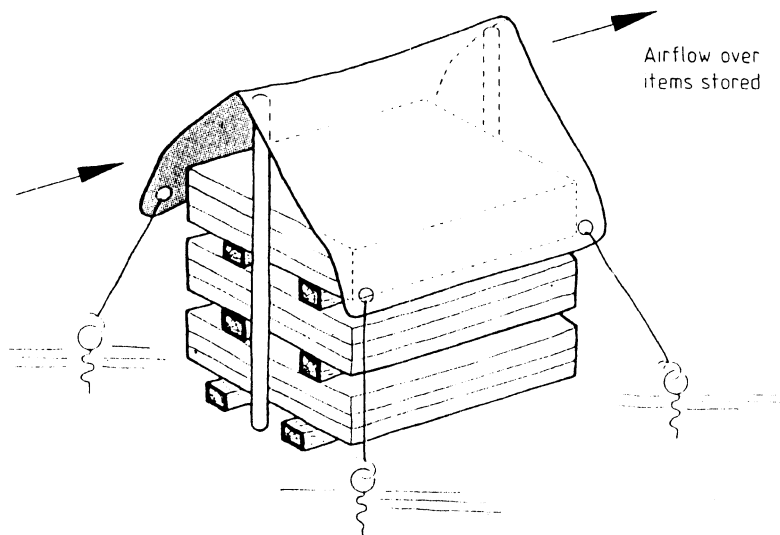


Figure 1 — Covering items with flexible sheet

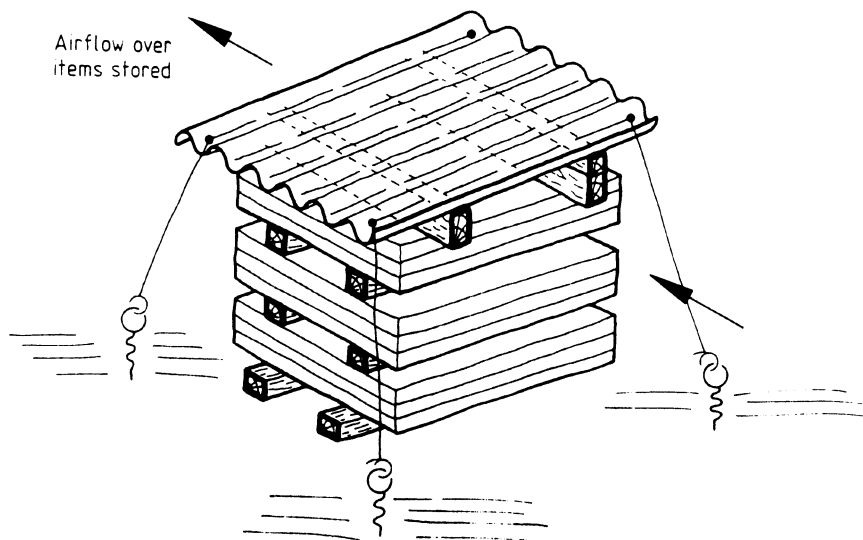


Figure 2 — Covering items with rigid sheet

Table 5 — Storing loose carpentry items

Method	When method is appropriate
Stack horizontally	Generally, to provide adequate support along length to prevent sag
Stack vertically	When space precludes horizontal storage. Ensure that adequate support is provided
Isolation between items	For different grades of timber and for preservative treated timber
On battens clear of the ground	Always
Intermediate spacers	Generally, to ensure ventilation
Under cover	For floor joints and other carcassing timber which will be unable to “breathe” after building-in
Controlled temperature/humidity	If specifically required

Table 6 — Storing fabricated carpentry components

Method	When method is appropriate
Stack horizontally	Generally
Stack vertically	Roof trusses: provide temporary stays to keep them vertical
On battens clear of the ground	Always
Intermediate spacers	If connectors or other ancillary fitments project beyond the face of the timber
Under cover	For components which will be unable to “breathe” after building-in
Controlled temperature/humidity	If specifically required

Table 7 — Storing loose joinery

Method	When method is appropriate
Stack horizontally	Generally, to provide adequate support along length to prevent sag
Stack vertically	When space precludes horizontal storage. Ensure that adequate support is provided
On battens clear of the ground	Always
Intermediate spacers	Generally, to ensure ventilation
Under cover	For any loose joinery which is being stored “in the white” and for all loose joinery intended for internal use
Controlled temperature/humidity	If specifically required

Table 8 — Storing manufactured joinery items

Method	When method is appropriate
Stack horizontally	Generally
Stack vertically	For windows: place spacer between each item to ensure that projecting items of hardware do not damage adjacent items
On battens clear of the ground	Always
Under cover	For any items delivered “in the white”, pending priming, and for all items intended for internal use
Controlled temperature/humidity	If specifically required