BRITISH STANDARD

BS 8000-8:1994

Workmanship on building sites —

Part 8: Code of practice for plasterboard partitions and dry linings

CAWS K10

UDC [69.002.72 + 692.253:691.311 + 692.54:691.311]:658.562.3

Committees responsible for this British Standard

The preparation of this British Standard was entrusted by Technical Committee B/544, Plastering, rendering, dry lining, screeds and in-situ flooring, to Subcommittee B/544/3, Dry lining, upon which the following bodies were represented:

Association of Building Component Manufacturers
Building Employers' Confederation
Department of the Environment (Building Research Establishment)
Federation of Plastering and Drywall Contractors
Gypsum Products Development Association
Local Authority Organizations
National Council of Building Material Producers

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Contents

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 edition introduces technical changes but it does not reflect a full review or revision of the standard, which will be undertaken in due course.

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 (CAWS K10) 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.

BS 8000 comprises 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).*

This Part of BS 8000 is based on and consistent with BS 8212 and BS 5234-1. However, BS 8212 and BS 5234-1 cover the subject matter more comprehensively and include design, materials and other related aspects in addition to workmanship on site.

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.

As a code of practice, this British Standard takes the form of guidance and recommendations. It should not be quoted as if it were a specification and particular care should be taken to ensure that claims of compliance are not misleading.

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 20, 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.

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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 plasterboard partitions and dry linings.

For design aspects of plasterboard partitions and dry linings reference should be made to BS 5234-1.

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 standard incorporates, by dated or undated reference, provisions from other publications. These normative references are made at the appropriate places in the text and the cited publications are listed on the inside back cover. For dated references, only the edition cited applies; any subsequent amendments to or revisions of the cited publication apply to this Part of BS 8000 only when incorporated in the reference by amendment or revision. For undated references, the latest edition of the cited publication applies, together with any amendments.

1.2.2 Informative references

This standard 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 6100-1.0, BS 6100-1.3.1, BS 6100-6.1 and BS 6100-6.6.2 apply.

Section 2. Materials handling and preparation

2.1 Checking, handling and site storage of materials and components

2.1.1 Checking

Check delivery tickets and certificates against the specification. Examine marks and labels and the condition of materials and components. If necessary refer to the supplier immediately.

In particular check that:

a) materials and components are clean, undamaged and dry;

b) gypsum plasterboard sheets are the correct type and have the required dimensions and edge profiles.

2.1.2 Handling and site storage

2.1.2.1 *Handling gypsum plasterboard and partition units*

Handle gypsum plasterboard and partition units carefully. In particular observe the following.

a) Do not let gypsum plasterboard get wet. If practicable, keep it in the wrappings in which it was delivered.

b) Carry boards on edge; pick them up and place them down on edge to avoid breakage when laying flat.

c) Do not drag boards or units over each other.

d) If boards are bound in pairs to protect their surfaces, do not separate them until necessary.

e) If slings are used for lifting, stack boards and panels on a clean, dry platform so that they do not overhang; keep slings away from the board edges by using spreaders to avoid damage to the edge.

f) If transporting boards or units by dumper, crane or forklift truck, use a supporting platform.

2.1.2.2 *Storage*

Store materials and components in clean, dry conditions as follows.

a) Store boards and partition units off the ground and horizontally on a level base consisting of a timber platform or bearers at least 100 mm wide laid across the width of the boards or units at centres not exceeding 400 mm (see Figure 1). If they are not stored in a weatherproof building, completely cover the stack with a weatherproof sheet secured all round. Protect from damp rising from below the stack. Unless special provisions are made, do not stack boards to a height more than 1 m. Do not stack partition units more than 36 units high, nor to a height of more than 1.2 m if they are to be handled manually.

b) Store metal, gypsum plaster cove and polyvinyl chloride (PVC) sections flat and supported along their length to prevent distortion and breakage. Take care not to damage galvanized coatings.

c) Store bags and containers of jointing and adhesive so they can be used in date rotation. Do not open them until required and use them within the stated shelf life. Protect them from extremes of temperature. Follow any storage instructions given by the manufacturer.

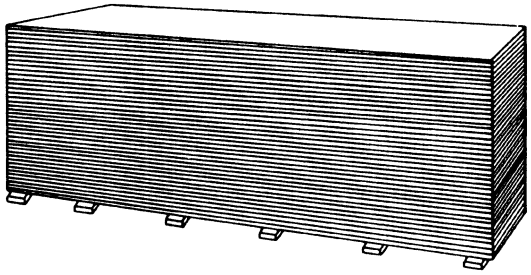


Figure 1 — Plasterboard stacked on bearers

2.2 Preparation of work, materials and components

2.2.1 General

2.2.1.1 *Liaison*

Liaise with site management and determine:

a) trade sequences to provide continuity of work;

b) the requirements and responsibilities for setting out;

c) satisfactory provisions for the storage of materials;

d) satisfactory provision for the utility services required for the erection;

e) requirements for the clearing of rubbish and the protection of work.

2.2.1.2 *Working conditions*

a) Check that working areas are weatherproof.

b) Ensure that window flames, including glazing or temporary protection to openings, and other joinery first-fix items are in position and relevant first-fixings of other trades are complete.

c) Check that working areas are clean, dry and free from obstruction.

d) Check that the level of lighting is adequate; ensure the provision of artificial lighting if considered necessary.

COMMENTARY. *Because the direction of artificial lighting may affect the extent to which inaccuracies may be noticed in the final inspection of the finished job, any artificial lighting ought to simulate the final lighting scheme as closely as possible.*

2.2.1.3 ***Distributed components and materials***

When the materials and components are distributed to the work position ensure that the structure is not overloaded; obtain advice about any restrictions.

2.2.1.4 ***Cleanliness and protection***

a) Keep all plant and tools in a clean and serviceable condition.

b) Protect all existing finished work and approaches with boards and dust sheets as appropriate. Clean any plaster droppings immediately from finished surfaces.

c) Maintain the protection of materials and components at the work position to prevent their deterioration before use.

2.2.2 Suitability of backgrounds

Before applying any linings check that backgrounds are suitable.

a) Check that backgrounds are constructed to a sufficient standard of line and plumb, so that any specified limits of accuracy for fixings and of surfaces are achievable (see **3.1.1.1**).

b) Check that backgrounds are complete, that apertures and services are incorporated and that noggings are fixed in the required positions. Check that timber backgrounds already fixed are of adequate size and strength to secure fixing for linings as follows:

1) *timber battens to solid backgrounds:* not less than 44 mm wide and 38 mm thick, preservative treated where necessary;

2) *timber framing for walls and partitions:* bearing surface of timbers to receive abutting edges of boards not less than 38 mm wide;

3) *timber framing for ceilings:* bearing surface of timbers to receive abutting ends or cut edges of boards not less than 41 mm; noggings to receive paper bound edges of not less than 38 mm basic thickness; perimeter framing to receive one edge or cut end not less than 25 mm basic thickness.

Check that timber backgrounds are at the required centres and are aligned and plumbed as for a) (see also **3.1.1.3**).

c) Check that the surface of the background is sound, free from dust and sufficiently dry so as not to impair a good bond or fixing.

If the backgrounds appear to be unsuitable, seek instruction.

COMMENTARY. *There are two cases where experience has shown that the above recommendations for the sizes of timber backgrounds can be modified.*

a) *In the case of trussed rafters designed and manufactured in accordance with BS 5268-3, having a span of not more than* 11 m *and being fixed in a building in which the plasterboard ceiling of (maximum thickness* 12.5 mm) *will not be affected by regular foot traffic from above, the face width of the timber should be not less than* 35 mm *as measured in accordance with BS 4471. No negative tolerance is permissible on the 35 mm dimension.*

b) *In the case of a domestic floor joist supporting a plasterboard ceiling, the face width of sawn or processed timber should be not less than* 38 mm *as measured in accordance with BS 4471.*

Section 3. Installation of plasterboard partitions and dry linings

3.1 Fixings

3.1.1 Accuracy

3.1.1.1 *General*

Within practical limits according to the method of lining, correct the general inaccuracies in backgrounds to achieve the specified finished surface accuracy. If it is impractical to achieve this, obtain instructions.

Limits of surface accuracy, if not given in the project specification, should be as given in **3.1.1.2** to **3.1.1.7**.

3.1.1.2 *Setting out of partitions and independent linings*

Where the framework of a partition or a lining is independent of the structure, the deviation from the setting out positions is to be within:

a) the offset on plan from an agreed line or position, measured at the setting out level (ceiling or floor), ± 3 mm;

b) the offset from vertical, measured above or below the setting out position (ceiling or floor), ± 5 mm.

3.1.1.3 *Finished surfaces of partitions and independent linings*

The deviations in the position of a finished surface of a partition or lining from the straight line connecting the end points of the partition is to be within a band of 10 mm as shown in Figure 2.

Take the measurements at approximately 600 mm above the finished floor level accompanied by measurements of the partitions or linings vertically at the measuring points.

COMMENTARY. *The method of measurement should be by laser or optical instruments. In small buildings, e.g. housing, a simplified method of measurement may be used on partition or lining runs up to* 5 m *(see* Figure 3*).*

3.1.1.4 *Finished surfaces of linings to solid backgrounds*

Provided the inaccuracies in the solid background are such that they can be accommodated within the thickness of the particular adhesive used, deviations in the position of the finished surface are to be as given in **3.1.1.3**.

3.1.1.5 *Localized build-up of the surface*

a) *Crown of joint.* The maximum increase is not to exceed 3 mm when measured using a 450 mm straightedge. Take measurements with the ends supported on board to board surfaces [see Figure 4 a)].

b) *External angles.* The maximum increase is not to exceed 4 mm projection from either face when measured as shown in Figure 4 b) using the external angle reference edge shown in Figure 5.

c) *Internal angles.* The maximum increase is not to exceed 5 mm projection from either face when measured as shown in Figure 4 c) using the internal angle reference edge shown in Figure 5.

d) *Boxed studs.* The increased thickness of the partition is not to exceed 4 mm.

e) *Around openings (door heads, access panels and backing plates).* The maximum increase to allow the partition or linings to be as given in **3.1.1.3**.

3.1.1.6 *Thickness of partitions*

The thickness of a partition in its finished state is to be within a tolerance of ± 5 mm.

3.1.1.7 *Prepared openings in partitions*

Doors, access panels or other openings in partitions are to be within the following tolerances:

a) width: $^{+10}_{0}$

b) height: $^{+5}_{0}$

NOTE These tolerances do not include residual deflections resulting from, for example, heavy fittings.

3.1.2 Cutting boards and units

Cut boards and partition units with a fine tooth saw or cut boards by scoring the surface on one face with a sharp knife, snapping the board over a straightedge and cutting through the paper liner on the other face.

3.1.3 Fixings to metal and timber

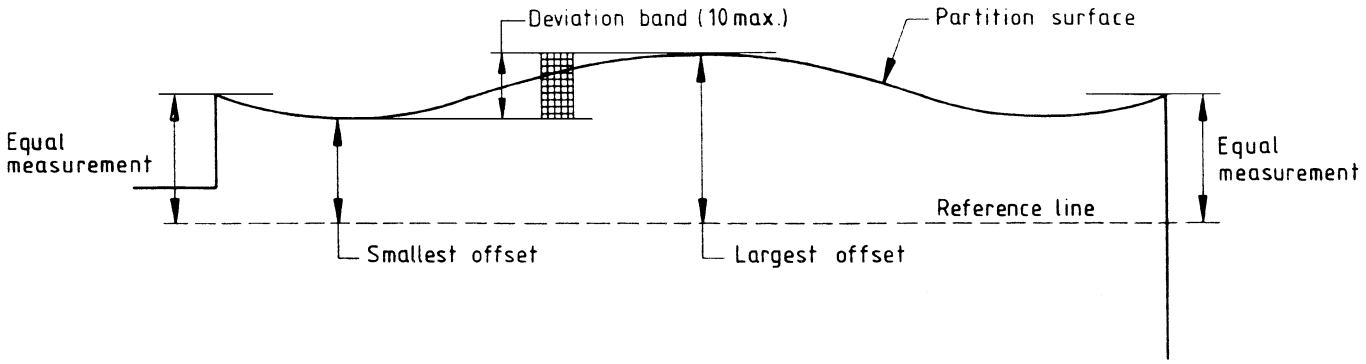
Fix, with screws or nails as required, using minimum lengths according to Table 1.

Drive nails or screws fully home but do not fracture the paper surface of the boards. If damage occurs make a second fixing approximately 60 mm from the damage.

Fix at not less than 10 mm from paper bound edges and 13 mm from cut edges and ends (see Figure 6).

Ensure that the fixings are firm within the supporting members.

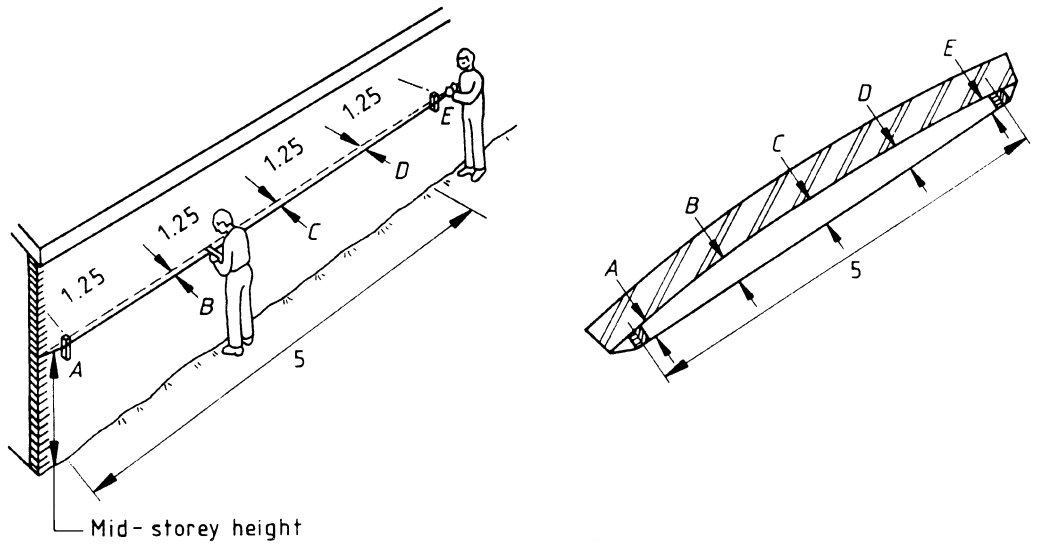
COMMENTARY. *Nails or screws need to be no nearer than* 6 mm *from the edge of the timber to obtain a good hold. In ceilings where the primary timber components such as joists or trussed rafters do not provide adequate support for the board fixing, counter battening should be considered.*



Dimension is in millimetres.

NOTE. The deviation band is the zone between two parallel lines within which all the points of the surface under consideration lie.
Where setting out positions/setting out lines are not available, the horizontal deviation band for a partition/lining surface should be taken to be that deviation band parallel to a line joining the two extreme points of the surface.
In the vertical direction the deviation band is always vertical rather than parallel to the line joining the top and bottom of the surface.

Figure 2 — Deviation band for finished surface of a partition or lining

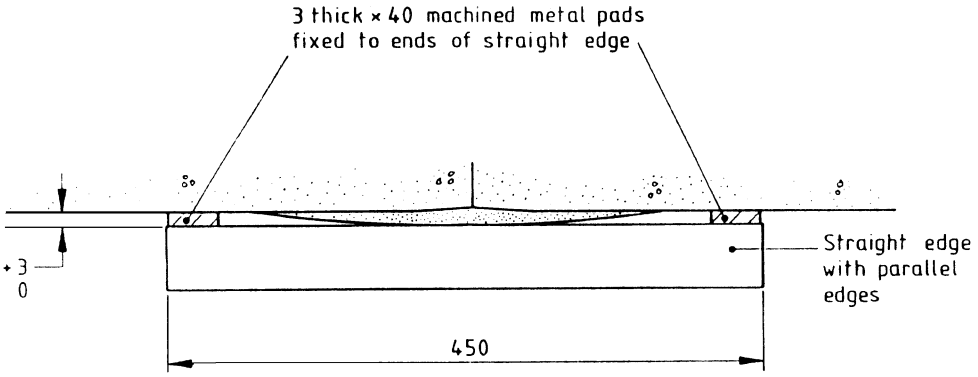


All dimensions are in metres.

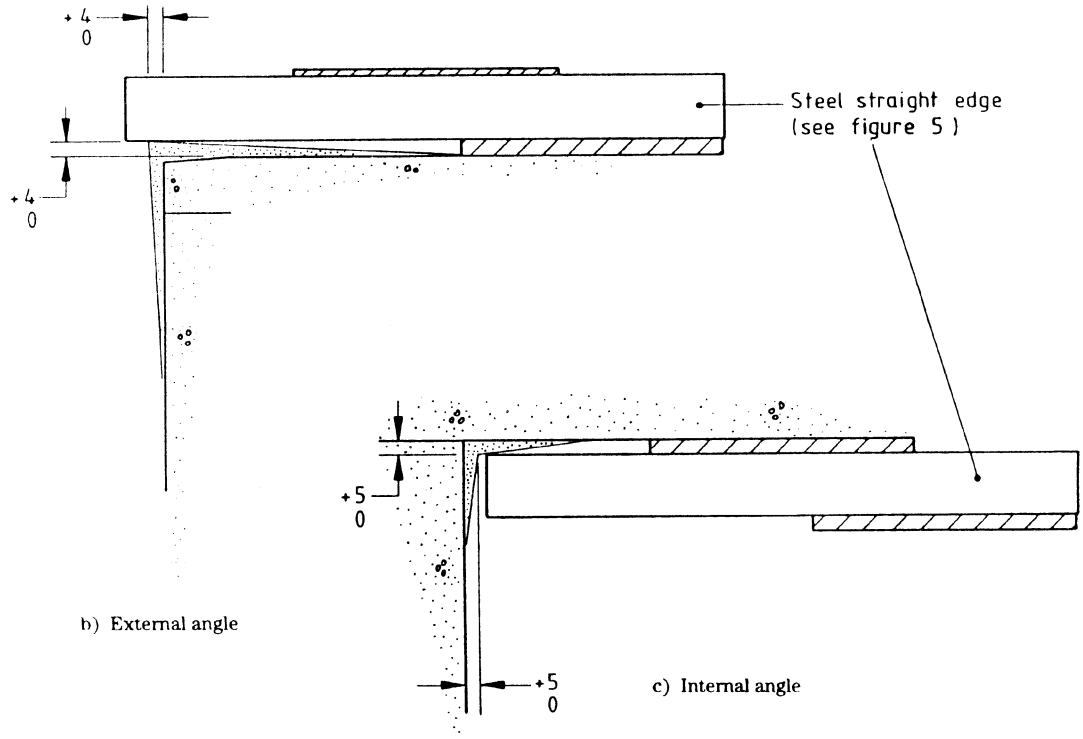
NOTE. To measure the straightness of a wall, stretch and fix a nylon line tightly over two timber pieces of equal size (approximately 25 mm square and 150 mm long) placed at the ends. The tension holds the blocks in position. Measure the distance between the line and the wall face, to the nearest millimetre, at the five quarter points. Avoid small surface irregularities and in brick and block walls measure to a brick or block face, not to a joint.

Tools required
Fine nylon line or similar, breaking strain about 10 kg, available from fishing tackle shops.
Rule graduated in millimetres, from builder's or tool merchants.
Timber pieces 25 mm × 25 mm × 150 mm.
Steel tape with metric graduations; either a pocket tape or a normal steel tape may be used.

Figure 3 — Straightness of walls in any 5 m length



a) 300 wide straight joint

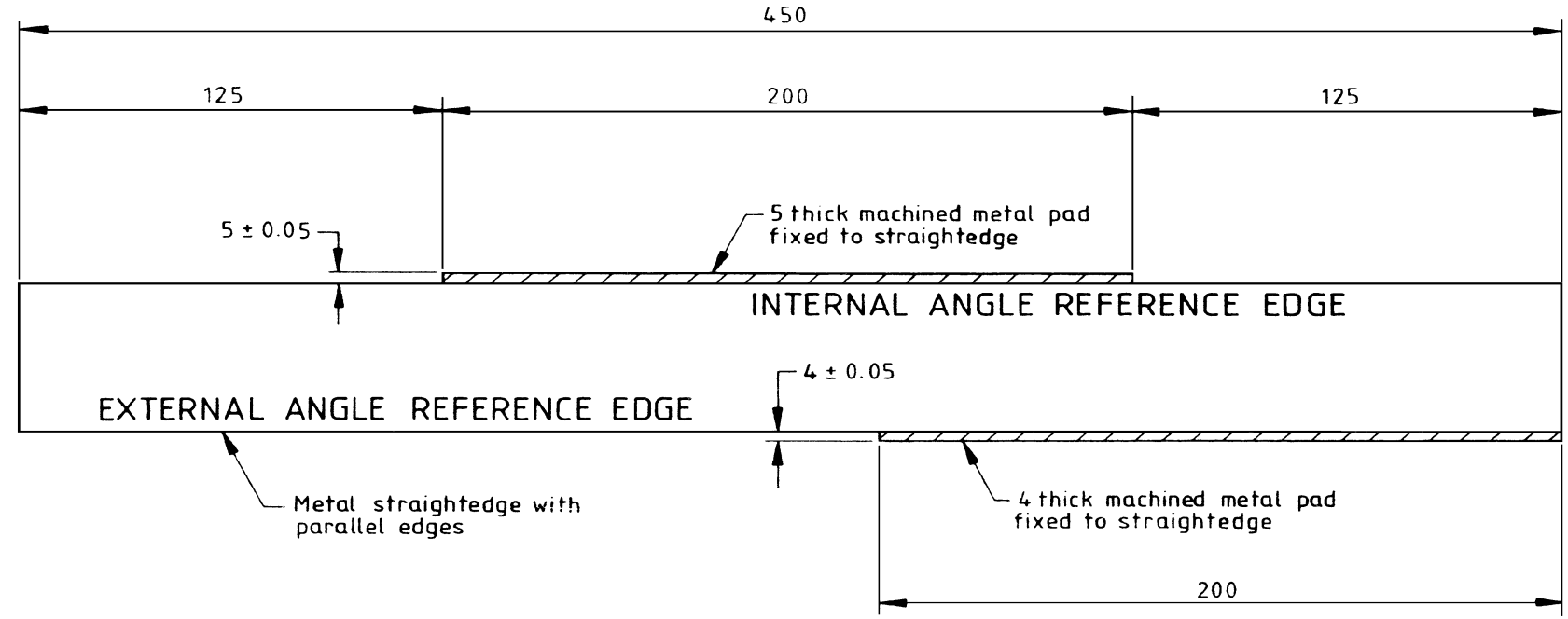


b) External angle

c) Internal angle

All dimensions are in millimetres.
NOTE. For illustration purposes jointing material thickness shown is exaggerated.

Figure 4 — Permissible deviations on jointing



All dimensions are in millimetres.

Figure 5 — Straightedge for measuring deviation at external and internal angles

Table 1 — Length of fixings for plasterboards

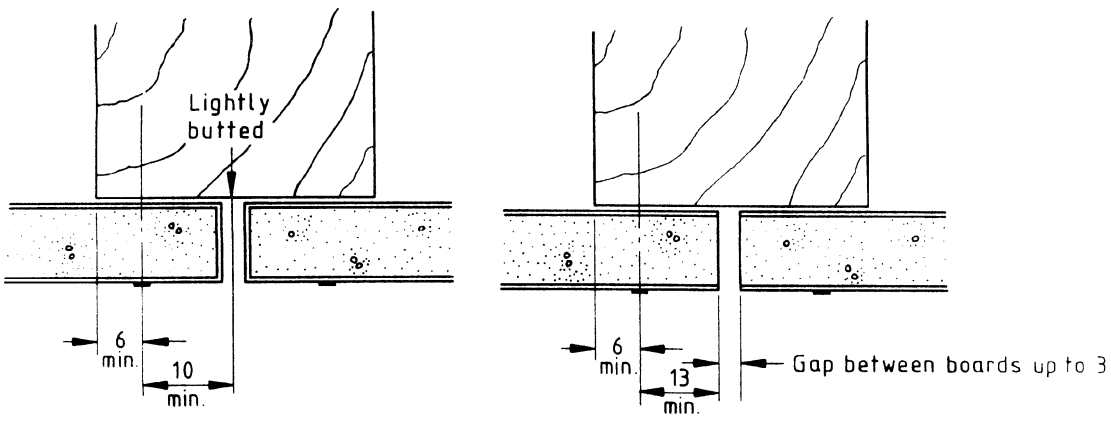
Dimensions in millimetres

Board thickness	Minimum length of fixing		
	To timber		To metal
	Nails[a]	Screws[b]	Screws[c]
Plasterboard (single layer)			
9.5	30	32	22
12.5	40	36	22
15	40	36	25
19	50	42	32
Plasterboard (double layer)			
9.5 on 9.5	50	42	32
12.5 on 12.5	50	50	36
15 on 15	65	60	42
12.5 on 19	65	60	42
Thermal laminate			
25	50	50	36
32	65	60	42
40	65	60	50
50	75	75	60

[a] Nails should be steel, hot dipped galvanized, electroplated or sheradized with minimum 2.5 mm shank and minimum 7 mm diameter head.

[b] Drywall screws to timber should be zinc electroplated or black phosphate oiled steel with a suitable thread and point; thread diameter nominally 3.5 mm to 5 mm.

[c] Drywall screws to metal should be zinc electroplated or black phosphate oiled steel, self-drilling and tapping with countersunk and cross cut heads.



a) Section plan for paper bound board edges

b) Section plan for cut board edges and ends

All dimensions are in millimetres.

Figure 6 — Plasterboard fixing positions

3.1.4 Joints between board facings to units

Where cut edges and ends adjoin on plane surfaces and exposed corners, leave a gap of not more than 3 mm between the boards for jointing and lightly sandpaper the cut edges to remove paper burrs when preparing for finishing (see **3.2**).

Lightly butt paper bound board edges together.

3.1.5 Facing

Fix boards with the printed surface or secondary surfacing against the supports, exposing the surface intended for direct decoration.

3.1.6 Sequence

Fix ceiling linings first, then partitions, followed by wall linings.

3.1.7 Dry linings: ceilings

3.1.7.1 *Supports for plasterboards*

Provide or ensure the provision of supports for plasterboards and planks as given in Table 2 and also for the perimeter of the ceiling.

COMMENTARY. *It may also be accessary to provide support to all four sides to meet special performance requirements, e.g. in fire or vapour control.*

3.1.7.2 *Lining with a single layer of boards* (see Figure 7)

a) Position the boards with their long axes at right angles to the supports, with their ends centred over the supports, and with end joints staggered. Where noggings are used, centre the board edges on the noggings.

b) Lightly butt paper bound joints together; leave gaps of not more than 3 mm at the joints of cut edges and ends (see **3.1.4**).

c) Fix the boards in accordance with **3.1.1** to **3.1.6**. Fix from the centre of the board working outwards as follows:

1) to timber, use eight nails per linear metre at approximately 150 mm centres;

2) to timber or metal use five screws per linear metre at approximately 230 mm centres.

Table 2 — Spacing of supports in ceilings

Dimensions in millimetres

Thickness of gypsum wallboard	Maximum centres	
	Supported edges	Unsupported edges
9.5	450	400
12.5 and 15	600	450
19	800	600

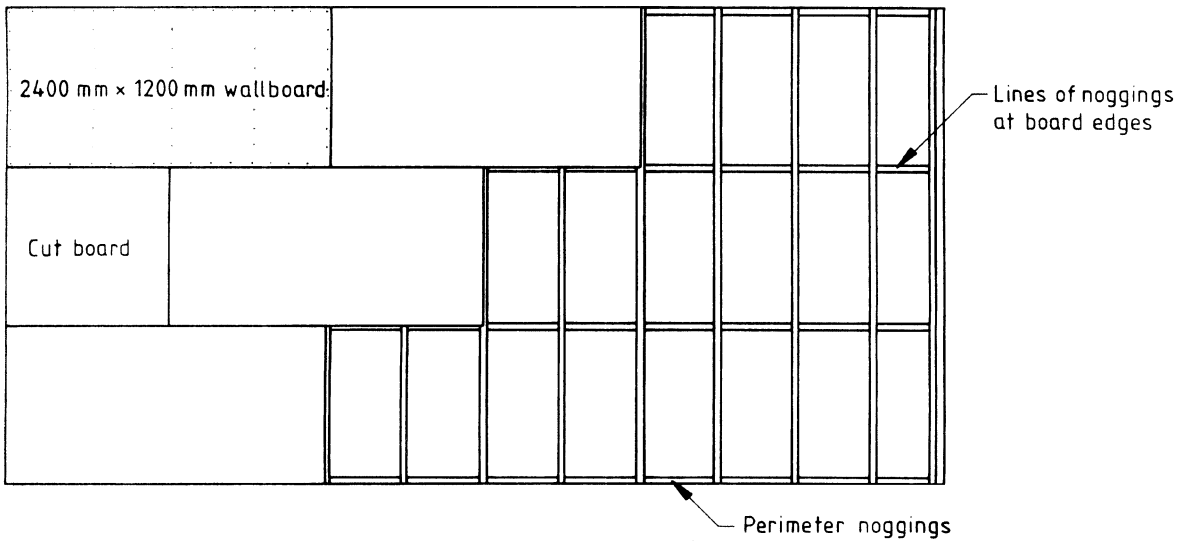


Figure 7 — Ceiling layout with single layer of boards

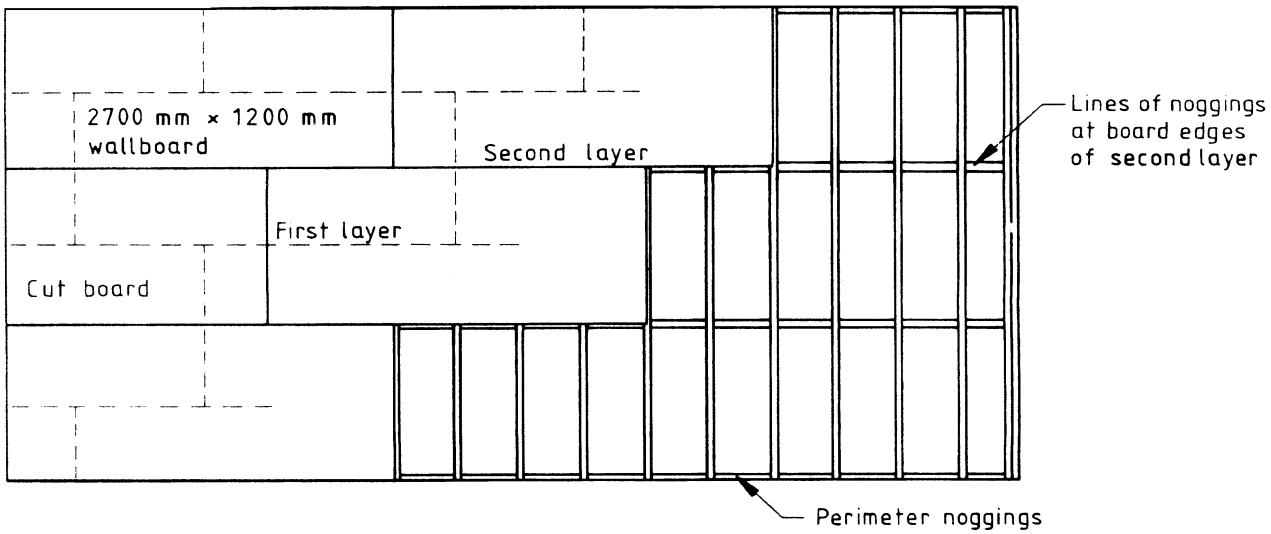


Figure 8 — Ceiling layout with two layers of boards

3.1.7.3 ***Lining with two layers of boards*** (see Figure 8)

a) Position the first layer of the boards with the long axes of the boards offset by one-half a board width from the noggings and at right angles to the supports with ends centred over supports and end joints staggered.

b) Lightly butt paper bound joints together; leave gaps of not more than 3 mm at the joints of cut edges and ends (see **3.1.4**).

c) Fix the boards in accordance with **3.1.1** to **3.1.6**. Fix from the centre of the board working outwards as follows:

1) to timber, use eight nails per linear metre at approximately 150 mm centres;

2) to timber or metal, use five screws per linear metre at approximately 230 mm centres.

d) Carefully mark the positions of supports and noggings with lines on the first layer.

e) Position the second layer of boards with the long axes of the boards at right angles to the supports, with ends centred over supports and end joints staggered. Where noggings are used, centre the board edges on the noggings.

COMMENTARY. *Support at all sides of the second layer of boarding is required. The positions of these supports need to be carefully marked on the first layer so that the fixings of the second layer can be made securely into the supports. A full fixing pattern of the first layer is desirable to hold the board firmly for the fixing of the second layer and also to ensure better stability in case of fire.*

3.1.8 Constructing and erecting plasterboard partitions

3.1.8.1 ***Laminated type*** (see Figure 9)

Construct laminated partitions in accordance with the board manufacturer's sitework instructions and generally as follows.

a) Securely fix timber battens at the partition perimeter at not more than 600 mm centres.

b) On new concrete or new screeds, lay a damp-proof course the full width of the partition.

c) Apply acoustical sealant supplied by the board manufacturer, if required, to both sides of timber fixing battens around the perimeter of the partition to seal air paths.

d) Nail the first layer at centres specified or advised by the board manufacturer to the faces of the timber battens; nail adjoining edges of boards together to prevent their alignment being displaced when the second layer is fixed. Skew nail them together through the face that will be hidden, with three 38 mm panel pins positioned at approximately 200 mm from the top and bottom and one centrally.

e) Cut the boards around the door openings to avoid vertical joints coinciding with door and window jambs.

f) Apply general purpose bonding compound, supplied by the board manufacturer, in stippled bands 60 mm wide and minimum 5 mm thick at maximum 300 mm centres, to the back face of the first layer of board. Cover every vertical joint with a band. Spread only sufficient adhesive at one time to fix one middle layer board.

g) Stagger vertical joints in adjacent layers at least 300 mm.

h) Press the middle layer of 19 mm thick boards into position against the bands of adhesive. Locate service runs in this layer as required.

i) If support of heavy fixtures is required, fix basic 25 mm thick timber battens into openings cut into the middle layer boards. Mark the positions of these battens on the face of the outer board when this is being fixed.

j) On completion of the middle layer of boards fix the final layer in a similar manner to the middle layer, press the surface with a straightedge to align the joints and nail the edges at 300 mm centres to the timber perimeter battens.

k) If the boards are specifically required to comply with fire resistance requirements, skew nail both facing boards to the core at not more than 300 mm centres, 25 mm from the edges and staggered either side of a joint.

COMMENTARY. *Board manufacturers recommend a variety of laminate combinations of* 12.5 mm *wallboard and* 19 mm *plank in three or four layers. Such combinations give a partition thickness of* 50 mm *to* 80 mm *and height of* 2.6 m *and* 3.2 m. 19 mm *thick plank is normal for the core of a three layer laminate with battens of approximately* 25 mm *thickness around the perimeter.*

3.1.8.2 ***Cellular core type*** (see Figure 10 and Figure 11)

Erect prefabricated partitions units in accordance with the manufacturer's sitework instructions and generally as follows.

a) On new concrete or new screeds, lay a damp-proof course the full width of the partition.

b) If required, fix a timber sole plate equal to the partition width. If required, fix with packers to adjust the height for the partition.

c) Fix timber perimeter battening to walls and ceiling at maximum 600 mm centres.

d) Prepare partition unit edges where they are to receive edge battens by clearing the core.

e) Erect partition units commencing from the wall junction; incorporate the following:

1) vertical, full height timber joint battens between units;

2) basic 300 mm long timber plugs at base centrally on joint lines; basic 150 mm long plugs at ends;

3) where required, timber plugs driven into the core for fixings, marking their positions on the face of the partition units for location;

4) service runs through a cleared section of core.

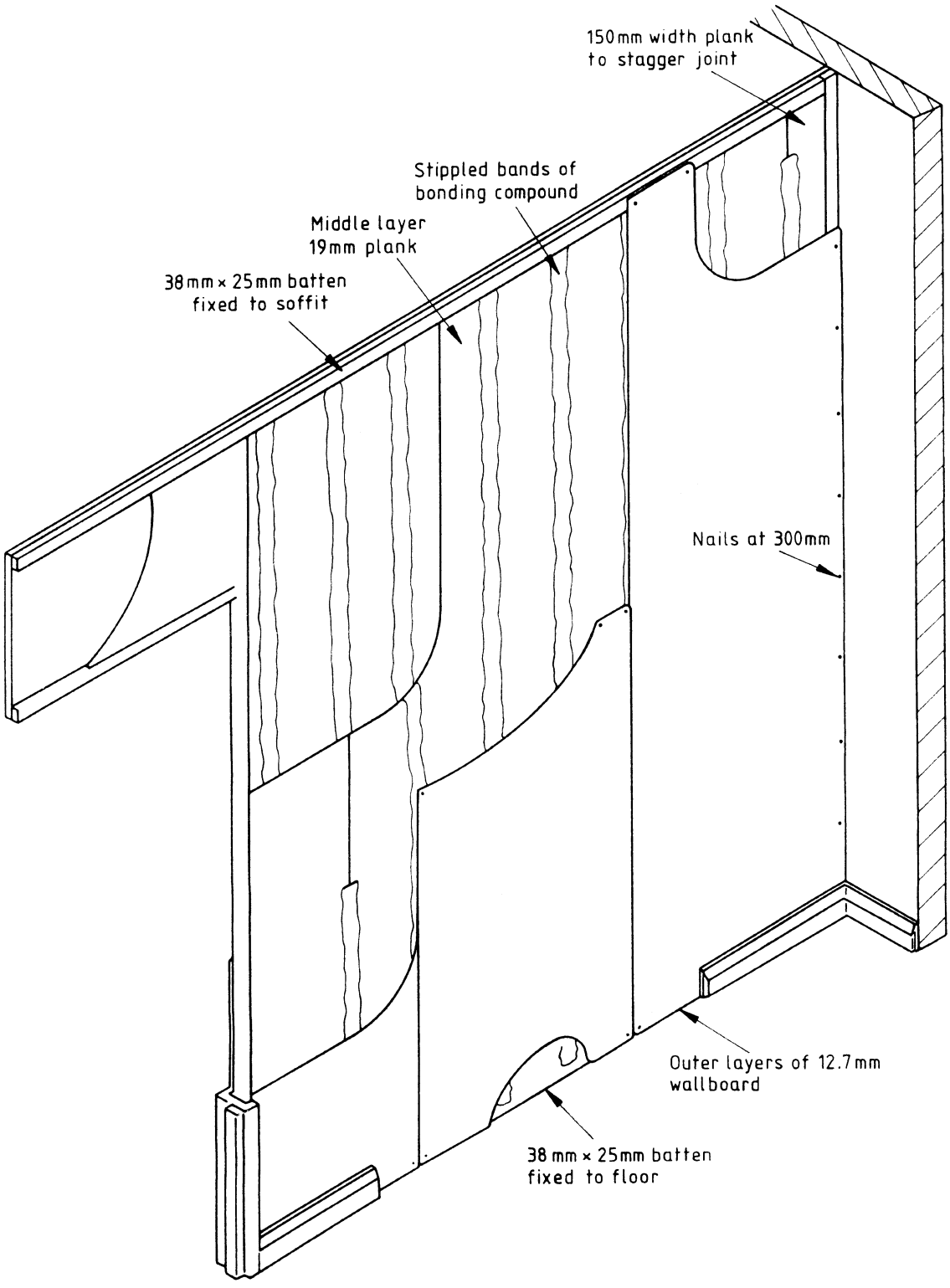
f) In a run between two fixed points, insert the last unit between two fixed units and not at the end of a run.

g) Nail units to battens around their edges at maximum 225 mm centres.

h) Apply acoustic sealant supplied by the board manufacturer to seal in gaps at perimeters only if required. Ensure that all gaps, whatever their size, are sealed.

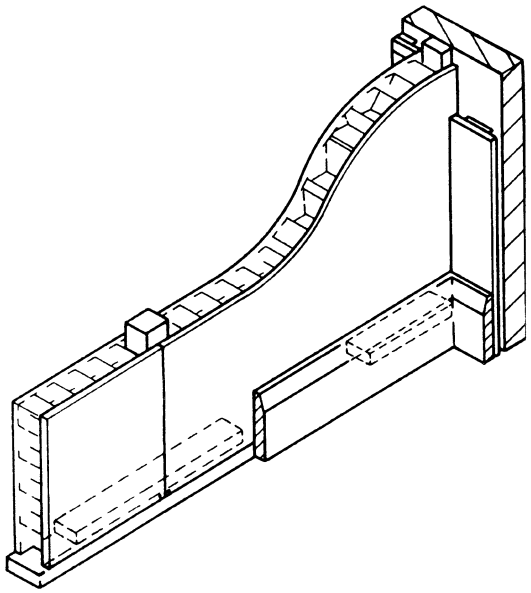
COMMENTARY. *A sole plate may not be necessary where the floor is a timber boarded floor and no height adjustment is needed. The floor itself can serve the purpose of a sole plate.*

All timber battens which fit into the core of the partition should be surfaced on two opposite faces to achieve a good press fit. Recommended sizes are given in Table 3.



NOTE. On new concrete and screeds damp-proof course material is laid to the full width of the partitions.

Figure 9 — Typical construction of 50 mm and 65 mm laminated type partitions



NOTE. On new concrete and screeds damp-proof course material is laid to the full width of the partition.

Figure 10 — Cellular core type partition

Table 3 — Sizes of timber battens to fit into core of partition

Dimensions in millimetres

Panel thickness	Maximum panel height	Joint batten	Ceiling and wall batten
50 (9.5 mm board)	2 400	30 × 37	30 × 19
57 (9.5 mm board)	2 700	37 × 37	37 × 19
63 (12.5 mm board)	3 600	37 × 37	37 × 19

3.1.8.3 *Metal stud type*

Erect metal studding in accordance with the manufacturer's sitework instructions. Fix the plasterboard as for single layer board lining on furrings (see **3.1.9.8**). Stagger vertical joints on opposite sides of the partition.

3.1.8.4 *Timber stud type*

Fix the plasterboard as for lining on timber battens (see **3.1.9.7**). Stagger vertical joints on opposite sides of the partition.

3.1.9 Dry linings: walls

3.1.9.1 *Sequence*

Whenever it is practicable to do so, apply wall linings in sequence working away from doors and windows and towards internal angles. As far as possible, locate paper bound board edges at salient corners.

3.1.9.2 *Horizontal board joints*

Do not incorporate intermediate horizontal joints in the facing layer except where the height of the walls exceeds the length of board available. Ensure that the joints are supported either by noggins or a continuous horizontal support.

3.1.9.3 *Vertical board joints*

Fix a single or top layer of boards with paper bound edges vertical. When fixing to timber battens or metal furrings, centre vertical joints over a support and support horizontal end joints either by noggins or a continuous horizontal support.

3.1.9.4 *Dabs*

Treat the surface of backgrounds which are of high suction with polyvinyl acetate (PVAC) bonding agent before applying dabs of general purpose bonding compound. Alternatively use high suction background adhesive dabs applied directly to the background. Dampen other surfaces if very dry. Use general purpose bonding compound for all medium suction backgrounds.

COMMENTARY. *Dabs may generally be applied without a bonding agent to common clay brickwork, most concrete blocks and calcium silicate brickwork. Smooth dense concrete with limestone, brick or granite aggregate should be treated with bonding agent.*

3.1.9.5 *Lining with gypsum based adhesive dabs*

Fix linings in accordance with the manufacturer's detail recommendations and generally as follows.

a) Apply trowel length dabs approximately 50 mm thick to the background with 50 mm to 75 mm gaps between them. Apply dabs for one board at a time in straight lines along all board edge positions, set in 25 mm from board edges, and on the centreline of the board. When specified, apply a continuous horizontal ribbon of adhesive just above floor level.

b) Press each board firmly into position against the dabs, and tamp the board back with a straightedge to align it with adjoining boards. Butt its vertical edge lightly to the adjoining board and lift the board so that it is tight against the ceiling; wedge it in position temporarily until the dabs have set.

COMMENTARY. *The absence of alignment pads means that there is no positive control for the adjustment of line and plumb of the background. In other respects the fixing techniques are the same as if there were alignment pads. Boards up to* 450 mm *wide do not need alignment pads.*

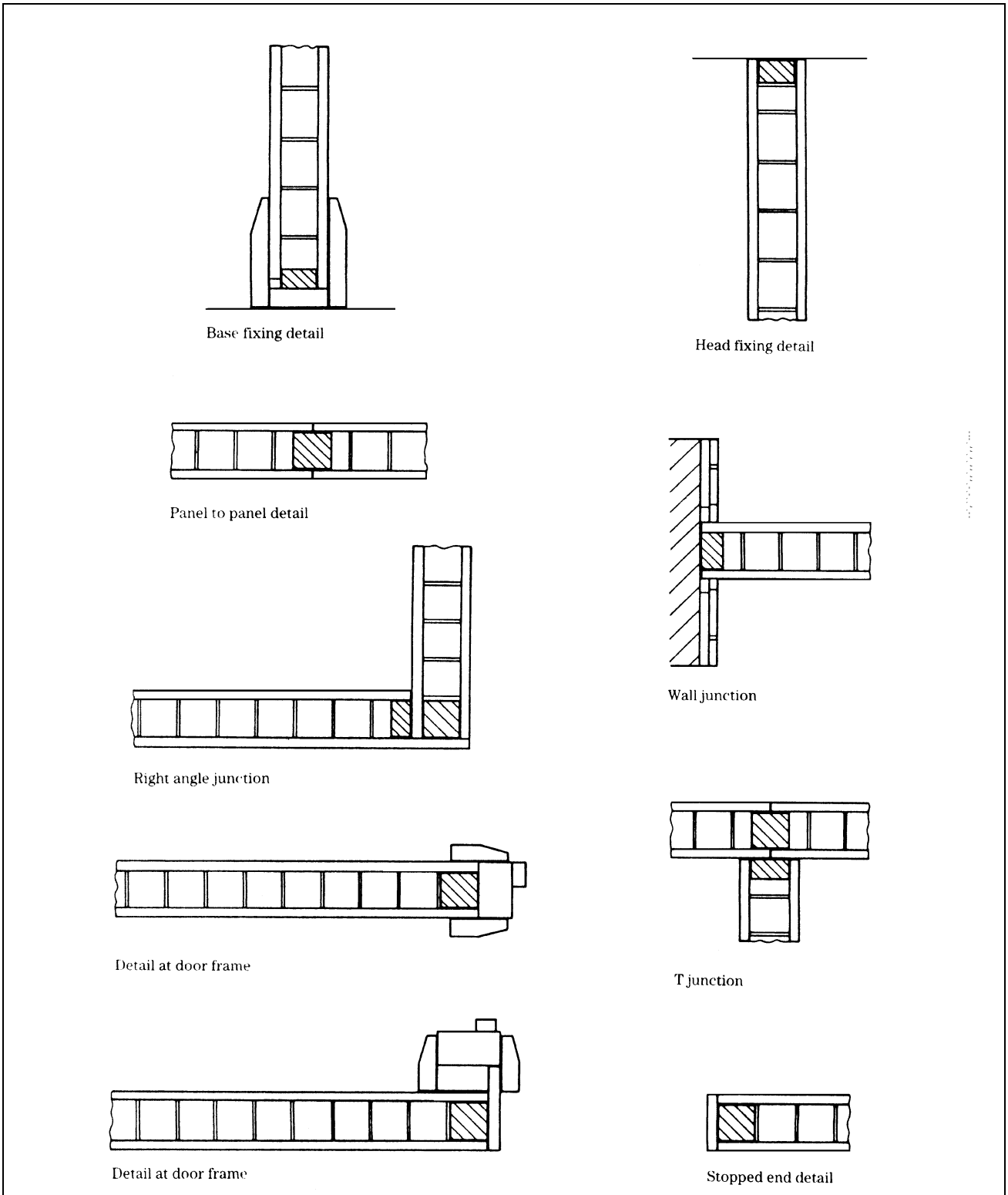


Figure 11 — Cellular core type partition: various typical details

3.1.9.6 *Lining with thermal laminate boards and dabs*

Fix linings in accordance with manufacturers' site work instructions and generally as for plain wallboard. When dabs have set, mechanically fix with nailable plugs in accordance with the board manufacturer's instructions.

3.1.9.7 *Lining on timber battens*

a) Lightly butt paper edges together and lift the board so that it is tight against the ceiling.

b) Fix the board in accordance with **3.1.1.1** to **3.1.1.7**. Fix with eight nails per linear metre at approximately 150 mm centres, or with eight screws per 2 linear metres at approximately 300 mm centres. Fix cut edges to horizontal battens.

c) For two-layer work, fix the first layer either vertically or horizontally and line mark the positions of supports. Fix the second layer vertically as described in a) and b) ensuring that the joints are staggered in relation to those in the first layer.

COMMENTARY. *Support at the sides and ends of the second layer of boarding is required. The positions of these supports need to be carefully marked on the first layer so that the fixings of the second layer can be made securely onto the supports. A full fixing pattern for the first layer is desirable to hold the board firmly for the fixing of the second layer and also to ensure better stability in case of fire.*

3.1.9.8 *Lining on metal furrings*

Fix metal furring channels in accordance with manufacturer's sitework instructions and generally as follows.

a) Set out furrings vertically on lines to correspond with the joints between boards and the centrelines of boards, and adjacent to angles, openings and edges. Place approximately 200 mm long dabs at approximately 450 mm centres and bed furrings on them.

Provide support at the top and bottom of the board with either continuous horizontal furrings or short lengths of furring as noggins.

Align and plumb furrings on the bedding and maintain any required cavity width.

b) Lightly butt the paper bound edges together and lift the board so that it is tight against the ceiling.

c) Fix the boards in accordance with **3.1.1.1** to **3.1.1.7**. Screw the boards to the furrings with eight screws per 2 linear metres at approximately 300 mm centres.

d) For two layer work, fix the first layer either vertically or horizontally as in a) to c) and line mark the positions of supports. Fix the second layer vertically as in a) to c), ensuring that the joints are staggered in relation to those in the first layer.

3.1.9.9 *Lining on timber or metal studs*

Fix as in **3.1.9.7** or **3.1.9.8**.

3.2 Jointing, finishing and repairing

3.2.1 General

3.2.1.1 *Temperature conditions*

Do not joint boards on frozen surfaces and do not joint or expose drying jointing when temperatures are below 2 °C.

3.2.1.2 *Mixing jointing materials*

Mix jointing materials with water and in accordance with the manufacturer's sitework instructions. Do not retemper any water mixed material once it has begun to stiffen and set. Discard any material in this condition.

3.2.1.3 *Nail/screw spotting*

Fill indentations left by a hammer or a screw head with a layer of joint filler struck off level with the face of the board. Allow to dry and finish the surface with joint finish material. If the work is mechanically spotted, follow the manufacturer's sitework instructions for the materials and methods.

3.2.2 Manual jointing

3.2.2.1 *Between tapered edge boards*

(see Figure 12)

a) Fill gaps greater than 3 mm wide fully with gypsum based jointing compound.

b) Apply a continuous thin layer of bedding compound to the trough of the joint, press joint tape firmly into the compound ensuring that no air is trapped. Immediately apply a layer of compound, finish flush with the board surface and allow to set.

c) Cut back any proud areas and fill any depressions with more compound. Allow to set.

d) Apply a thin layer of finishing compound approximately 200 mm wide and feather the edges.

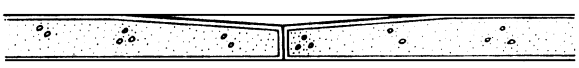


Figure 12 — Joint between tapered edge boards

3.2.2.2 ***Between cut edges and/or ends***

Finish joints between tapered edge and one cut edge and end, or between two cut edges, or between two ends as follows.

a) Remove burrs at cut edge/end with fine sand-paper.

b) Fill the joint fully with gypsum based compound and finish flush with board faces. Allow to set.

c) Apply a thin layer of bedding compound and press joint tape tightly into it ensuring that no air is trapped. Apply a thin layer of the compound approximately 200 mm wide. Feather the edges and allow to dry.

d) Apply a thin layer of finishing compound over the tape in a band approximately 200 mm wide and feather the edges. Allow to dry.

e) Apply a further thin layer of finishing compound at least 250 mm wide and feather the edges.

COMMENTARY. *If there is any slight misalignment of boards visible this may be disguised further by applying a wider band of finishing compound in the last operation.*

3.2.2.3 ***Internal angles using joint tape***

a) Apply a thin layer of bedding compound approximately 50 mm wide on each side of the angle. Fold the joint tape carefully to provide a straight arris and press it firmly into this layer ensuring that no air is trapped.

Immediately apply a thin layer of the compound 125 mm wide on each face and feather the edges. Allow to dry.

b) Apply a thin layer of finishing compound approximately 150 mm wide on each face and feather the edges. Allow to dry.

c) Apply a further thin layer of finishing compound extending 25 mm beyond the edges of the previous layer and feather the edges.

3.2.2.4 ***External angles using angle bead***

a) Where a cut edge has been so fixed that it is exposed, coat it with a polyvinyl acetate (PVAC) sealer to adjust the suction for the bedding compound.

b) Apply a layer of bedding compound approximately 50 mm wide to each side of the angle. Press angle bead firmly into the compound and with outer edges in contact with the plasterboard surface. Remove surplus filler which has been squeezed out. Allow to set.

c) Apply a thin layer of bedding compound approximately 150 mm wide on each face and feather the edges. Allow to set.

d) Apply a thin layer of finishing compound each side of the angle and extending approximately 25 mm beyond the edges of the filler and feather the edges. Allow to dry.

e) Apply a further thin layer of finishing compound extending approximately 25 mm beyond the edges over previous layer and feather the edges.

COMMENTARY. *Do not apply jointing compounds which harden by chemical reaction over compounds which harden only by air drying.*

3.2.3 Mechanical jointing between tapered edge boards

Fill and finish the joints in accordance with the sitework instructions of the manufacturer of the jointing machine.

3.2.4 Repairs to plasterboard

3.2.4.1 ***Superficial damage***

Rub down any roughness of the surface with sandpaper; fill the area and feather out with joint finish in two operations allowing the first to dry completely before applying the second.

3.2.4.2 ***Deep indents***

Provided the plaster core of the board was not shattered under the indent, cut out the loose particles, sandpaper and smooth over the surface. Apply a coat of joint filler. Allow to set then treat as for superficial damage (see **3.2.4.1**).

3.2.4.3 ***Damaged board core and broken edges***

a) Cut out loose material.

b) Undercut through paper liner about 12 mm beyond and around the hole.

c) Apply polyvinyl acetate (PVAC) sealer to the bare plaster and under and over the edge of the paper liner.

d) Fill the hole with a stiff mix of joint filler and smooth over. Allow to set.

e) Apply and feather out the joint finish in two operations allowing the first to dry completely before applying the second.

3.2.4.4 *Extensive damage*

Where damage requires repair by patching in new plasterboard, cut out carefully the whole of the damaged area. Cut out and insert a patch of matching board of the same thickness. Secure this board by an appropriate method as follows and finish the joint as for cut edges of board (see **3.2.2.2**).

a) If the lining is on dabs, back and support with adhesive or plaster dabs.

b) If the lining is on battens or on furrings, either back and support the patch as in a) above or cut back the damaged area to the line of supporting members to enable a patch to be fixed to and be supported by them. Fix noggings where practicable.

c) If the lining is on metal or timber studs or framing as for walls, partitions or ceiling joists, either cut back the damaged area to the supports or cut out the damaged area to a rectangular shape and back this hole with a piece of plasterboard approximately 3 mm narrower and approximately 100 mm longer than the hole. Feed this backing into the hole and bed it in joint filler to adhere firmly to the rear of the lining. Allow this to set. Bed the patch in joint filler.

d) For repairing cellular core partition, insert timber plugs in the core around the hole and fix the patch to them with nails.

COMMENTARY. *If plasterboard laminates are involved this may dictate the choice of repair, e.g. metallized surfaces cannot be bonded by the normal adhesive methods.*

Index

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List of references (see 1.2)

Normative references

BSI publications

BRITISH STANDARDS INSTITUTION, London

BS 6100, *Glossary of building and civil engineering terms.*

BS 6100-1, *General and miscellaneous.*

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Informative references

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BS 4471:1987, *Specification for sizes of sawn and processed softwood.*

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BS 5268, *Structural use of timber.*

BS 5268-3:1985, *Code of practice for trussed rafter roofs.*

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