3 DRY LINING (WALLBOARD)

3.1 GENERAL

3.1.1 Scope

1 This Part specifies the requirements for use of dry wallboard or plaster board.

2 Related Parts and Sections are as follows:

This Section

Part 1..... General
Part 2..... Lath and Plaster

Section 1 General

3.1.2 References

1 The following standards are adopted or referred to in this Part:

ASTM C318/C318M ..Standard Specification for Gypsum Formboard

ASTM C587.....Standard Specification for Gypsum Veneer Plaster

ASTM C840.....Standard Specification for Application and Finishing of Gypsum Board

ASTM C842.....Standard Specification for Application of Interior Gypsum Plaster

ASTM C843.....Standard Specification for Application of Gypsum Veneer Plaster

ASTM C919.....Standard Practice for Use of Sealants in Acoustical Applications

ASTM C956.....Standard Specification for Installation of Cast-In-Place Reinforced Gypsum Concrete

ASTM C1177/C1177M Standard Specification for Glass Mat Gypsum Substrate for Use as Sheathing

ASTM C1178/C1178M Standard Specification for Coated Glass Mat Water-Resistant Gypsum Backing Panel

ASTM C1264.....Standard Specification for Sampling, Inspection, Rejection, Certification, Packaging, Marking, Shipping, Handling, and Storage of Gypsum Panel Products

ASTM C1278/C1278M Standard Specification for Fiber-Reinforced Gypsum Panel

ASTM C1280 .....Standard Specification for Application of Exterior Gypsum Panel Products for Use as Sheathing

ASTM C1381/C1381M Standard Specification for Molded Glass Fiber Reinforced Gypsum Parts

ASTM C1396/C1396M Standard Specification for Gypsum Board

ASTM C1467/C1467M Standard Specification for the Installation of Molded Glass Fiber Reinforced Gypsum Parts

ASTM C1546.....Standard Guide for Installation of Gypsum Products in Concealed Radiant Ceiling Heating Systems

ASTM C1658/C1658M Standard Specification for Glass Mat Gypsum Panels

ASTM C1766.....Standard Specification for Factory-Laminated Gypsum Panel Products

ASTM C1795.....Standard Test Methods for High-Temperature Characterization of Gypsum Boards and Panels

BS 1230.....Specification for gypsum plasterboard; (BS 1230-1 Gypsum plasterboard - Specification for plasterboard excluding materials submitted to secondary operations; EN 520 Gypsum plasterboards - Definitions, requirements and test methods)

BS 8000.....Workmanship on construction sites

BS 8212.....Code of practice for dry lining and partitioning using gypsum plasterboard; (BS 8000-8 Workmanship on construction sites - Design and installation of dry lining systems. Code of practice).

EN 520 .....Gypsum plasterboards - Definitions, requirements and test methods

EN 13163 .....Thermal insulation products for buildings. Factory made expanded polystyrene (EPS) products. Specification.

EN 13164 .....Thermal insulation products for buildings. Factory made extruded polystyrene foam (XPS) products. Specification.

EN 13915 ..... Prefabricated gypsum plasterboard panels with a cellular paperboard core. Definitions, requirements and test methods.

EN 13950 .....Gypsum board thermal/acoustic insulation composite panels. Definitions, requirements and test methods.

EN 14190 .....Gypsum board products from reprocessing. Definitions, requirements and test methods.

EN 14496 .....Gypsum based adhesives for thermal/acoustic insulation composite panels and gypsum boards - Definitions, requirements and test methods.

EN 15283-1 .....Gypsum boards with fibrous reinforcement - Definitions, requirements and test methods - Part 1: Gypsum boards with mat reinforcement

EN 15283-2 .....Gypsum boards with fibrous reinforcement - Definitions, requirements and test methods - Part 2: Gypsum fibre boards

3.2 DRY LININGS

3.2.1 Materials

1 Gypsum wallboard is to consist of either 9.5 or 12.7 mm thick gypsum plasterboard complying with adopted standard, having one face finished for direct decoration.

2 Thermal wallboard is to comply with Table 3.1 and consist of an insulation core having a thermal conductivity of not less than 0.037 W/mºC bonded on one side to the gypsum wallboard and on the reverse side with a water-vapour resistant membrane.

Table 3.1
Thermal Wallboard

Nominal Overall Thickness (mm)	Wallboard Thickness (mm)	Insulation Thickness (mm)	Minimum Thermal Resistance (W/m ºC)
22	9.5	12.7	0.40
25	12.7	12.7	0.42
28	9.5	19.0	0.57
32	12.7	19.0	0.59

3 The edge profiles of wallboard to be:

(a) tapered - for smooth seamless jointing

(b) bevelled - for V-jointing

(c) square - for stippled textured coatings, corner strip jointing or plaster.

4 Accessories for installing wallboard are to be approved proprietary materials recommended by the manufacturer of the board and are to comply with the requirements of BS 8000, Part 8.

3.2.2 Storage of Materials

1 Wallboards are to be stored flat in dry conditions and should always be carried on edge.

2 Rolls of sheet materials are to be stored standing on end.

3.3 FIXING OF WALLBOARD

3.3.1 Fixing Wallboard to Framed Backgrounds

1 The background is to provide supports at the maximum centres shown in Table 3.2. Additional framing members are to be provided as necessary to ensure that all board edges are supported.

Table 3.2
Maximum Support Centres for Gypsum Wallboard
and Thermal Wallboard on Framed Background

Type Of Board	Thickness (mm)	Width (mm)	Maximum Centres (mm)	(mm)
Wallboard	9.5	900	450	450
	9.5	1200	400	400
	12.7	600	600	450
	12.7	900	450	450
	12.7	1200	600	600
Thermal Wallboard	22	1200	400	400
	25	1200	600	600
	28	1200	400	400
	32	1200	600	600

2 The boards are to be fixed to backgrounds with the paper covered edges vertical and to ceilings with the paper covered edges at right angles to the main supporting members/joists.

3 The boards are to be fixed to the backgrounds not nearer than 15 mm from the edges using 40 x 2 mm galvanized clout nails for wallboard and 60 x 2.5 mm galvanized clout nails for thermal wallboard.

4 The nails should be driven home straight and firmly so that the heads are slightly below the surface of the board. Care shall taken not to fracture the board. Care shall also be taken to ensure hat the insulation is not compressed unduly.

5 Boards to receive direct decoration are to be fixed so that:

(a) Paper covered edges are lightly butted together

(b) Cut edges occur at internal angles

(c) Cut edges occurring at external angles are masked by paper covered edges

(d) Cut edges meeting in the same plane have a 3 mm gap between them.

6 The insulation to thermal wallboard is to be rebated at external angles to give a continuous plasterboard face.

3.3.2 Fixing Wallboard to Solid Background

1 The walls are to be thoroughly brushed down with a hard broom to remove dust, crystallised efflorescent salts and loose mortar.

2 Bitumen impregnated fibreboard levelling pads size approximately 75 x 50 mm are to be bedded into minimum 3 mm thick plaster dabs set plumb by use of a straightedge and builder's level at not more than 1 metre centres vertically and to bridge each board joint plus one intermediate row horizontally.

3 When the pads have set an adhesive recommended by the manufacturer of the boards should be applied to the wall in dabs to stand proud of the pads. Unless recommended otherwise the dabs shall be 50 to 75 mm wide by the length of the trowel with 50 to 75 mm gaps, in lines:

(a) Set in 25 mm around the perimeter of each board.

(b) On the line of the intermediate fixing pads.

4 The boards shall then to be pressed back firmly to the line of the pads and temporarily fixed with double headed nails until the adhesive has set. A true and flat surface should be achieved.

5 Boards to receive direct decoration are to be fixed so that:

(a) paper covered edges are lightly butted together.

(b) Cut edges occur at internal angles.

(c) Cut edges occurring at external angles are masked by paper covered edges.

(d) Cut edges meeting in the same plane have a 3 mm gap between.

6 The insulation to thermal wallboard is to be rebated at external angles to give a continuous plasterboard face.

3.3.3 Jointing of Dry Lining for Direct Decoration

1 The joints of square edge boards which are to receive a stippled textured coating are to be finished with a paper faced cotton joint tape fixed with a suitable adhesive.

2 The joints of bevelled edge boards are to have the "V" joint completely filled with joint filler and the surplus removed.

3 The joints of tapered edge boards should either be finished by the manual methods described in the following paragraphs, or except for joints at external angles, by approved mechanical methods recommended by the manufacturer of the board.

4 Before jointing commences the boards are to be checked to ensure that all are securely fixed and protruding screws or nails are driven home. Cut edges are to be lightly sanded to remove burrs and treated with a brush coat of PVC sealer.

5 Joints in straight runs of tapered edge boards are to be finished as follows:

(a) A continuous, thin band of joint filler is to be applied to the trough of the tapered edge joints using an applicator and making sure areas are not left uncovered. A 45 mm wide joint tape is to then be pressed into the band of filler using a taping knife. The tape is to be firmly bedded and free from air bubbles, with sufficient filler under the tape to ensure good adhesion

(b) Immediately after the tape has been fixed a new layer of filler is to be applied over it. This should be brought flush with the surface of the board. Before the filler begins to stiffen, a jointing sponge should be moistened and surplus material wiped from the edges of the joint, taking care not to disturb the main joint filling

(c) Once the filler has set, any slight depressions in the surface are to be filled with another coat of the filler an any projections cut back with the taping knife.

(d) When the filler has set a thick layer of joint finish is to be applied to a broad band 200 to 250 mm wide over the joint using the applicator. The edges of this band shall be immediately feathered out with a slightly damp jointing sponge. When this band of jointing finish has dried, another application is to be made and feathered out as before. The first coat of finish must dry before the final finish coat is applied.

6 Joints at internal angles of tapered edge boards are to be finished as follows:

(a) The jointing tape is to be folded and pressed firmly into the angle using a brush or applicator to make sure any air bubbles are removed and the tape is firmly bedded. A thin layer of joint finish 150 mm wide centred on the joint is to be applied immediately and the edges feathered out with the jointing sponge.

(b) surplus material is to be removed from the extreme edges as described in sub-paragraph 5(b) above.

(c) when this coat has dried, another coat of joint finish 200-250 mm wide is to be applied and the edges feathered out with the jointing sponge.

7 Joints at external angles of tapered edge boards are to be finished as follows:

(a) the edges of the board to be treated as recommended by the dry lining manufacturer with the insulation cut back and using a bound and tapered edge so as to mask the cut edge of the dry lining.

(b) the angles should be reinforced with a 54 mm wide corner tape consisting of strong paper tape with bonded parallel steel reinforcement strips. The tape is to be cut to the required length and creased firmly at the angles to allow the steel strips to lie close to the board surfaces. A 50 mm wide band of joint filler is to be applied to each side of the angle and the tape be pressed firmly into the corner with a taping knife, making sure that the arris of the folded tape is straight.

(c) immediately after bedding the tape, a 125 mm band of joint filler shall be applied to both sides of the angle with an applicator and the edges feathered out with the jointing sponge.

(d) after the filler coat has set, a thin layer of joint finish is to be applied and the edges again feathered out with the jointing sponge.

(e) when the first filler coat is dry, the process is to be repeated with a further application of joint finish.

8 Nail and screw indentations are to be filled with joint filler and finished flush. When the filler has set a thin layer of joint finish is to be applied and the edges feathered out with the jointing sponge.

9 When all jointing and filling has been completed and the last application of joint finish has dried, a slurry coat of joint finish shall be applied over the entire surface of the boards to give an even sponged texture.

END OF PART