

GypWall CURVE

Curved wall lining system

! This section includes updated information, added since it was first published in July 2009. Please see the WHITE BOOK update document for details.
Last updated 01/12/2009



GypWall CURVE

GypWall CURVE is a highly cost-effective system specially designed to provide curved walls and linings. This system can be installed in all types of buildings to deliver design flexibility and aesthetic impact.



Gypframe 'C' Stud



Gypframe 72 EDCL 80 CurveLyner Channel

Key facts

- Minimum radii 600mm
- Uniquely designed channel can be quickly and easily shaped to radius
- No need for curved timber templates
- Choice of linings to suit performance requirements and to maintain continuity
- Boards can be jointed or skimmed in the normal way

Applications

A wide range of applications, for example receptions, communal areas and atria.

Sector





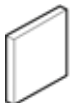
- ✓ Office / commercial
- ✓ Education
- ✓ Auditoria
- ✓ Retail
- ✓ Healthcare
- ✓ Sport and leisure
- ✓ High-rise multi-occupancy

System components

Gypframe metal products


	70 S 50 'C' Stud	Length 2400, 2700, 3000mm 3600, 4200mm
	70 S 60 'C' Stud	Length 3600, 4200mm
	70 I 50 'T' Stud	Length 3600, 4200mm
	70 I 70 'T' Stud	Length 3600, 4200mm
	70 AS 50 AcouStud	Length 2400, 2700, 3000mm 3600, 4200mm
	72 EDCL 80 Curvellyner Channel	Length 2000mm
	GFS1 Fixing Strap	Length 2400mm


Board products


	Gyproc WallBoard¹ Thickness Width	9.5, 12.5, 15mm 1200mm
	Gyproc SoundBloc¹ Thickness Width	12.5, 15mm 1200mm
	Gyproc FireLine¹ Thickness Width	12.5, 15mm 1200mm
	Gyproc DuraLine¹ Thickness Width	15mm 1200mm
	Glasroc F MULTIBOARD Thickness Width	6, 10, 12.5mm 1200mm


¹ Moisture resistant boards are specified in intermittent wet use areas, e.g. shower cubicles.


Fixing and finishing products


 **Gyproc Wafer Head Jack-Point Screws**
For Gypframe metal-to-metal fixing 0.8mm thick or greater ('T' studs 0.6mm thick and greater).

 **Gyproc Drywall Screws**
For fixing boards to Gypframe metal framing less than 0.8mm thick ('T' studs less than 0.6mm thick).


or
 **Gyproc Jack-Point Screws**
For fixing boards to Gypframe metal framing 0.8mm thick or greater ('T' studs 0.6mm thick and greater).

 **Gyproc Sealant**
Sealing air paths for optimum sound insulation.


 **Gyproc jointing materials**
For seamless jointing.

 **Gyproc edge and angle beads**
Protecting and enhancing board edges and corners.


 **Gyproc FireStrip**
For fire-stopping deflection heads.

 **Thistle Board Finish or Thistle Multi-Finish**
To provide a plaster skim finish.

or

 **Thistle Durafinish**
To provide improved resistance to accidental damage.

Insulation products

 **Isover APR 1200**
25mm, for improved acoustic performance.

Installation overview



Gypframe 72 EDCL 80 Curvelyner Channel is bent to the floor and ceiling lines and fixed through to the floor and soffit in two lines at 300mm centres in each line. 70mm Gypframe Studs are fitted vertically within channel sections, and to abutments, to form the framework. Studs are fixed into the channel at both head and base and must all face the same way. If a deflection head is required, the studs should not be fixed into the head channel and alternative temporary support may be required to stabilise the stud at the head whilst boarding proceeds. Additional framing is installed as required to support heavy fixtures.

For single layer board linings, fix boards horizontally. Stagger board joints and avoid vertical joints occurring on the apex of the curve.

For double layer board linings, inner boards are fixed horizontally to all supports. Face layer boards are fixed horizontally with joints staggered in relation to the first layer. Vertical joints occurring on the apex of the curve in the face layer should be avoided. Additional studs may be required where multiple layers are specified to account for the difference that arises between inner and outer radii.

Services

Electrical and other services are normally installed after one side is boarded.

For full installation details, refer to the British Gypsum **SITE BOOK**, available to download from www.british-gypsum.com

Performance

Fire resistance

There is no specific standard against which to test curved walls and linings, but ad hoc testing has been carried out which confirms that a similar performance can be achieved to that claimed for the straight partition.

Impact resistance

Glasroc F MULTIBOARD offers a high degree of impact resistance. It also has excellent mechanical properties, is not brittle and therefore is not prone to cracking or shattering when handled.

Degree of curvature

In common with other sheet materials, board-ends have a tendency to remain straight. The minimum radius, therefore, will be influenced by the board characteristics, the length of curve, the support centres, and the occurrence of board joints.

Sound insulation

Reducing the centres of the metal studs within GypWall CURVE can have a detrimental effect on sound insulation. Include 25mm Isover APR 1200 in the cavity for improved acoustic performance.

► Refer to section 3.4.2 – Principles of robust design.

Table 1 – Minimum bending radii and stud centres

Board type	Thickness mm	Minimum radius ¹ mm	Stud centres mm ²
Glasroc F MULTIBOARD	6	600	300
	10	2500	300
	12 (2 x 6)	600	300
	12.5	2700	300
Gyproc WallBoard	9.5	1800	300
	12.5	3600	300
	15	4800	300
Gyproc FireLine	12.5	4800	300
	15	5700	400
Gyproc SoundBloc	12.5	2900	300
	15	3600	300
Gyproc DuraLine	15	5700	400

¹ Concave or convex.

² For any radius 7000mm or more, studs can be installed at 600mm centres irrespective of board type with the exception of 6mm Glasroc F MULTIBOARD.

NB Double layer specifications can be used if required to meet specific performance criteria.

Design

Planning

The positioning of vertical board joints on exposed board layers at the apex of the curve should be avoided. The positioning of all studs, therefore, needs to be determined at the design stage. Where straight runs occur within curved partitions or linings, stud centres can be increased as determined by the specification.

Fixing floor and ceiling channels

Gypframe 72 EDCL 80 CurveLyner must be securely fixed in two lines at 300mm centres in each line. If the floor is uneven, a 38mm thick timber sole plate equal to the width of the channel should be used.

If the concrete or screeded floor is new, consideration should be given to the installation of a damp-proof membrane between the floor surface and the channel or sole plate.

Cavity fire barriers

Minimum 12.5mm Gyproc plasterboard can be used to form a cavity closure within the partition to prevent the spread of fire or smoke.

► Refer to section 10 – Cavity fire barriers.

Electrical

The installation of electrical services should be carried out in accordance with BS 7671. The cut-outs in the studs can be used for routing electrical and other small services (see GypWall CLASSIC Construction details – 1). Switch boxes and socket outlets can be supported from Gypframe 99 FC 50 or 150 FC 90 Fixing Channels fixed horizontally between studs, or a high performance socket box detail where higher acoustic performance is required.

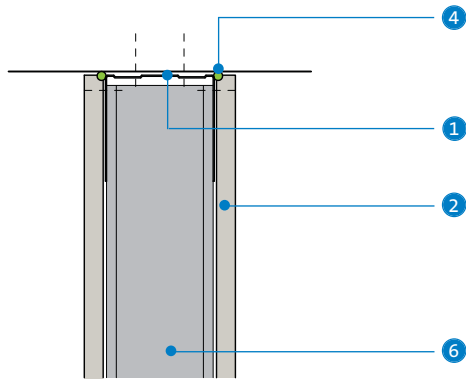
Where Gypframe AcouStuds are used, services are routed through 50mm x 28mm 'H' shaped push-outs, at the same centres as shown in GypWall CLASSIC Construction details – 1a for conventional cut-outs. Cables should be protected by conduit, or other suitable precautions taken to prevent abrasion when they pass through the metal frame.

Board finishing

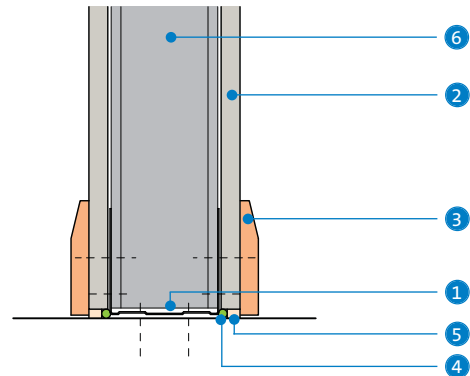
► Refer to section 13 – Finishing systems and decorative effects.

Construction details

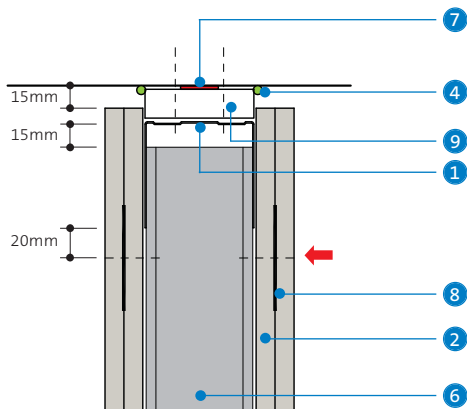
1 Head



2 Base



3 Deflection head for 15mm downward movement and 60 minutes fire resistance



- 1 Gypframe 72 EDCL 80 CurveLyner Channel
- 2 Gyproc plasterboard or Glasroc F MULTIBOARD
- 3 Skirting
- 4 Gyproc Sealant
- 5 Bulk fill with Gyproc jointing materials (where gap exceeds 5mm)

- 6 Gypframe 'C' Stud
- 7 Gyproc FireStrip
- 8 Gypframe GFS1 Fixing Strap
- 9 20mm Glasroc F FIRECASE cut to required curve

NB No board fixings should be made into the head channel. The arrow (→) denotes the uppermost board fixing, which should be made into Gypframe GFS1 Fixing Strap. Continuous Gyproc FireStrip must be installed as shown to maintain fire performance.