

Issue date: 21st August 2006

Key changes since original publication (July 2005):

21 August 2006 Whole section – Isowool branding changed to Isover.
Pages 126 & 127 – New SoundBloc spec 2 and descriptive text inserted into tables.

Gyproc, Thistle, Gypframe, Glasroc and Arteco are all registered trade names of BPB United Kingdom Limited. Isover is a registered trade name of Saint-Gobain.

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For a comprehensive and up to date library of information visit our website at: www.british-gypsum.com

Technical enquiries

British Gypsum Limited, Drywall Academy Advice Centre, East Leake, Loughborough, Leicestershire LE12 6JT

Telephone: 08705 456123 #1 (Literature), #2 (Specifiers), #3 (Merchants), #4 (Contractors)

For quality and security reasons, calls may be recorded.

Fax: 08705 456356 E-mail: bgtechnical.enquiries@bpb.com

Training enquiries: 08702 406040

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THE WHITE BOOK 2005

GypWall™ QUIET

Acoustic separating wall system



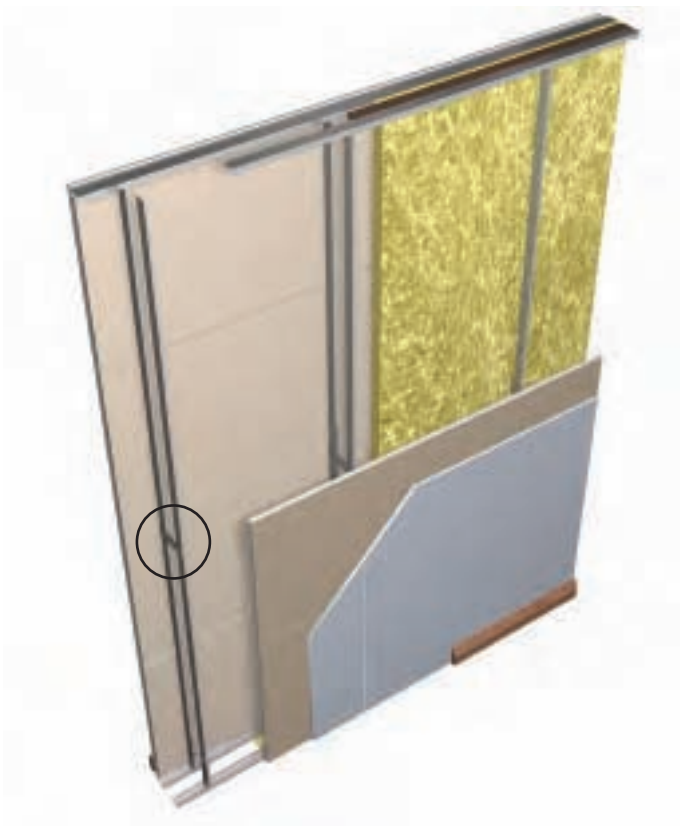
Putney Wharf, South London

GypWall™ QUIET

Acoustic separating wall system

61 – 62 dB 60 – 90 mins

GypWall™ QUIET is a lightweight, non-loadbearing, twin-framed acoustic separating wall. Primarily used as sound resisting walls in residential units such as flats and apartments, to meet the requirements of national Building Regulations. The system can also be specified in commercial and industrial buildings to meet a specific standard of sound performance.



Sector

- ✓ Office / commercial
- ✓ Educational
- ✓ Residential
- ✓ Healthcare
- ✓ Leisure
- Industrial



Gypframe
'C' Stud

+



Gypframe
Fixing Channel
cross brace

+



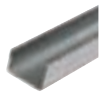
Gypframe
'C' Stud

Key facts

- Provides sound insulation which comfortably meets national Building Regulations Part E for sound insulation between residential dwellings
- Satisfies excess storey height requirements
- Accommodates services between the twin-stud frameworks
- Satisfies BS 5234 strength and robustness requirements up to Severe Duty

System components

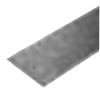
Gypframe metal products



48 S 50 'C' Stud **Length**
2400, 2700, 3000,
3300, 3600mm



**Standard Floor & Ceiling Channel
50 C 50**
**Deep Flange Floor & Ceiling Channel
50 DC 60**
**Extra Deep Flange Floor & Ceiling Channel
50 EDC 70**
All channels are available in 3600mm only.

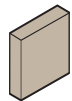


GFS1 Fixing Strap

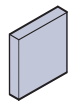


**99 FC 50
Fixing Channel** **Length**
(for cross braces) 2400mm

Gyproc board products



Gyproc Plank
Thickness 19mm
Width 600mm



Gyproc SoundBloc¹
Thickness 12.5mm
Width 1200mm

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

Fixing and finishing products



Gyproc Wafer Head Drywall Screws
For metal-to-metal fixing up to 0.79mm thick.



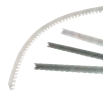
Gyproc Drywall Screws
For fixing boards to stud framing up to 0.79mm thick.



Gyproc Sealant
Sealing airpaths for optimum sound insulation.



Gyproc jointing materials
For seamless jointing.



Gyproc edge and angle beads
Protecting and enhancing board edges.



Gyproc Control Joint
To accommodate structural movement.



Gyproc FireStrip
For fire-stopping deflection heads.



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



Isover APR 1200
25mm, to achieve acoustic performance.

Installation overview



Gypframe Floor & Ceiling Channel is fixed to the floor and soffit. Gypframe 'C' Studs are fitted vertically to a friction-fit within the channel sections, and to abutments, to form the first framework. At heights over 4000mm, vertical studs will need to be locked into the floor and ceiling channels using a Gyproc Crimping Tool. Gypframe 'C' Studs are fitted so as to all face the same way. The second framework is installed as the first, with stud frameworks spaced to achieve the specified wall thickness. Opposing Gypframe 'C' Studs are braced by fixing a short length of Gypframe 99 FC 50 Fixing Channel. Braces are installed at mid-height for walls up to 2400mm, or at 1200mm maximum centres where this height is exceeded. Additional framing is installed as required to support heavy fixtures. Boards are

screw-fixed to all framing members to form the lining. Gyproc Plank is fixed horizontally to framing members and end joints are half-staggered in alternate courses. Face lining boards are fixed vertically, joints staggered with Gyproc Plank. Horizontal board-end joints should be backed with Gypframe GFS1 Fixing Strap.

Services

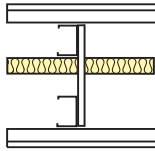
Electrical and other services are normally installed after one side is boarded. Horizontal runs are routed through cut-outs in the studs. Gypframe 99 FC 50 Fixing Channel is installed between studs to support recessed switch boxes / socket outlets, or a high performance socket box detail used where higher acoustic performance is required.

Performance (▶ Refer to 2 - Basic principles of system design)

EN

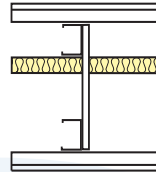
Table 1a – GypWall QUIET - 48mm Gyframe 'C' Studs with cross braces

1



Inner layer of Gyproc Plank fixed horizontally, and outer layer of 12.5mm Gyproc SoundBloc fixed vertically to the outside faces of two Gyframe 'C' Stud frameworks which are braced at max. 1200mm centres. Studs at 600mm centres. 25mm Isover APR 1200 in the cavity. (cavity width 137mm)

2



Inner layer of Gyproc Plank fixed horizontally, and outer layer of 12.5mm Gyproc SoundBloc fixed vertically (or double layer of 15mm Gyproc SoundBloc fixed vertically) to the outside faces of two Gyframe 'C' Stud frameworks which are braced at max. 1200mm centres. Studs at 600mm centres. 25mm Isover APR 1200 in the cavity. (cavity width 237mm²)

Detail	Board type	Lining thickness mm	Partition thickness mm	Approx. weight kg/m ²	Maximum partition height ¹ mm	Sound insulation R _w (R _w + C _{tr}) ³ dB	Partition duty	System reference
60 minutes fire resistance EN								
1	Plank + SoundBloc	19 + 12.5	200	55	6200	61 (47)	Severe	A216001
2	Plank + SoundBloc	19 + 12.5	300	55	6200	62 (52)	Severe	A216002
2	SoundBloc	2 x 15	300	55	7500	63 (57)	Severe	A216008
90 minutes fire resistance EN								
1	Plank + SoundBloc	19 + 12.5	200	55	5000	61 (47)	Severe	A216001
2	Plank + SoundBloc	19 + 12.5	300	55	5000	62 (52)	Severe	A216002

¹ The maximum heights quoted are limited by the fire state field of application or by limiting deflection of L/240 at 200Pa, whichever is the more onerous.

² Increasing cavity width significantly improves acoustic performance, especially at low frequencies (R_w + C_{tr}).

³ Sound insulation performance explanation for residential specification shown below:

	Part E requirement D _{nTW} + C _{tr} dB	Minimum solution ⁴ (R _w + C _{tr}) dB	Recommended solution ⁴ (R _w + C _{tr}) dB
Conversions	43	(47)	(52)
New-build	45	(49)	(54)

⁴ Minimum solutions provide little or no margin of safety to allow for reductions in performance due to flanking transmissions. Recommended solutions have greater potential to satisfy the requirements of national Building Regulations Part E.

NB Alternative board combinations can be used. Contact the British Gypsum Drywall Academy Advice Centre for guidance.

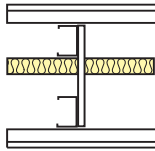
NB For heights above 4200mm Gyframe Deep Flange Floor & Ceiling Channel (DC) should be used at head and base.

NB The fire resistance and sound insulation performances are for imperforate partitions, walls and ceilings incorporating boards with joints taped and filled, or skimmed according to British Gypsum's recommendations. The quoted performances are achieved only if British Gypsum components are used throughout, and the Company's fixing recommendations are strictly observed. Any variation in the specifications should be checked with British Gypsum.

BS

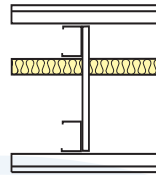
Table 1b – GypWall QUIET - 48mm Gypframe 'C' Studs with cross braces

1



Inner layer of Gyproc Plank fixed horizontally, and outer layer of 12.5mm Gyproc SoundBloc fixed vertically to the outside faces of two Gypframe 'C' Stud frameworks which are braced at max. 1200mm centres. Studs at 600mm centres. 25mm Isover APR 1200 in the cavity. (cavity width 137mm)

2



Inner layer of Gyproc Plank fixed horizontally, and outer layer of 12.5mm Gyproc SoundBloc fixed vertically (or double layer of 15mm Gyproc SoundBloc fixed vertically) to the outside faces of two Gypframe 'C' Stud frameworks which are braced at max. 1200mm centres. Studs at 600mm centres. 25mm Isover APR 1200 in the cavity. (cavity width 237mm²)

Detail	Board type	Lining thickness mm	Partition thickness mm	Approx. weight kg/m ²	Maximum partition height ¹ mm	Sound insulation R _w (R _w + Ctr) ³ dB	Partition duty	System reference
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90 minutes fire resistance BS

1	Plank + SoundBloc	19 + 12.5	200	55	6200	61 (47)	Severe	A216001
2	Plank + SoundBloc	19 + 12.5	300	55	6200	62 (52)	Severe	A216002
2	SoundBloc	2 x 15	300	55	7500	63 (57)	Severe	A216008

¹ The maximum heights quoted are based on a limiting deflection of L/240 at 200Pa.

² Increasing cavity width significantly improves acoustic performance, especially at low frequencies (R_w + Ctr).

³ Sound insulation performance explanation for residential specification shown below:

	Part E requirement D _{nTw} + Ctr dB	Minimum solution ⁴ (R _w + Ctr) dB	Recommended solution ⁴ (R _w + Ctr) dB
Conversions	43	(47)	(52)
New-build	45	(49)	(54)

⁴ Minimum solutions provide little or no margin of safety to allow for reductions in performance due to flanking transmissions. Recommended solutions have greater potential to satisfy the requirements of national Building Regulations Part E.

NB Alternative board combinations can be used. Contact the British Gypsum Drywall Academy Advice Centre for guidance.

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Design

Planning - key factors

The position of services and heavy fixtures should be pre-determined and their installation planned into the frame erection stage. All penetrations will need to be adequately stopped for fire and acoustics.

Cross-bracing

The Gypframe 'C' Stud frameworks must be braced using short lengths of Gypframe 99 FC 50 Fixing Channel. Braces should be installed at mid-height for walls up to 2400mm, or at 1200mm maximum centres where this height is exceeded. Braces must be fixed twice (i.e. two fixings) into each Gypframe 'C' Stud.

Cavity fire barriers

Stone mineral wool cut neatly to fit across the cavity forms a suitable closure.

Services

Penetrations

Penetrations of fire-resistant constructions for services need careful consideration to ensure that the integrity of the element is not impaired, and also that the services themselves do not act as the mechanism of fire spread.

Electrical

The installation of electrical services should be carried out in accordance with the recommendations of the Institute of Electrical Engineers. Cables should be protected by conduit, or other suitable precautions taken, to prevent abrasion when they pass through the metal frame.

▶ Refer to 2 – Basic principles of system design.

Fixing floor and ceiling channels

Head and floor channels must be securely fixed with a row of fixings at 600mm maximum centres. 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.

Deflection heads

Performance details apply to fixed head constructions. If deflection is required to be accommodated,

▶ Refer to 2 – Basic principles of system design.

Fixtures

Lightweight fixtures can be made directly to the partitions. Medium weight fixtures can be made to Gypframe 99 FC 50 Fixing Channel. Heavy fixtures should be made to independent framing installed before boarding.

▶ Refer to 2.4.3 – Robustness, Fixings into drywall systems.

Board finishing

▶ Refer to 10 – Finishing systems and decorative effects.