GypWall STAGGERED

Staggered stud acoustic partition system

SpecSure®
GYPROC SYSTEMS GUARANTEE

GypWall STAGGERED

GypWall STAGGERED is a non-loadbearing stud partition incorporating a single framework with staggered studs. This provides very high levels of sound insulation with minimal footprint. It is suitable for a wide range of applications, including student accommodation, hotels and offices, where the optimal balance of acoustic performance and partition width are required.

30 – 90 mins

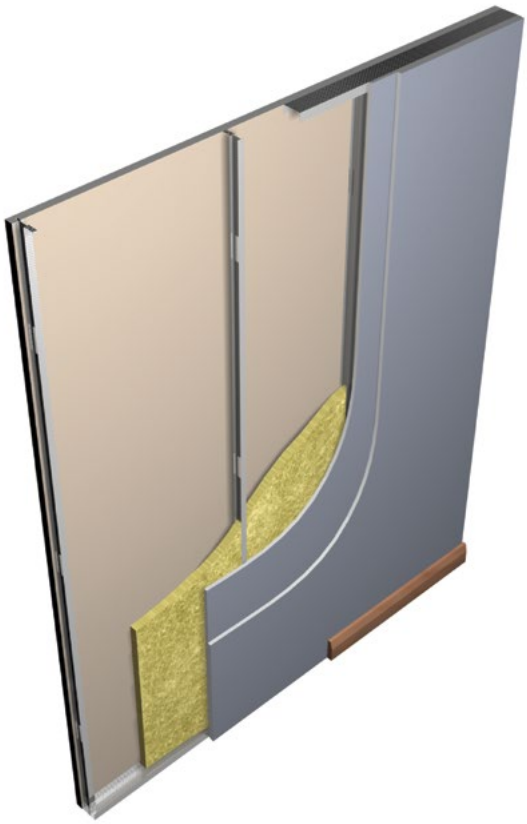
49 – 63 R_w dB

SpecSure®

Refer to C01. S01. P08

Key benefits

- Reduced sound transmission is achieved by staggering alternate studs within a single framework, which partially decouples the plasterboard linings on each side of the partition
- Acoustic performance, comparable to a twin frame partition system, is achievable when using the 92 / 148 combination, with the footprint of a single frame solution
- Capable of meeting regulatory acoustic requirements for separating walls in residential conversion projects where space is at a premium
- Allows the inclusion of pattresses to each side of the system without compromising acoustic performance when using 92 / 148 combination



You may also be interested in...

Looking for an increase in acoustic performance? **GypWall QUIET** and **GypWall QUIET IWL** provide greater levels of acoustic insulation through the use of twin stud frameworks. They can also be used to accommodate structural steel columns.

▶ Refer to C04. S07. P219 – **GypWall QUIET** and C04. S08. P231 – **GypWall QUIET IWL**

GypWall STAGGERED performance

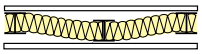
60 / 72 and 92 / 148 combinations

For details of when to specify fire resistance using EN
▶ Refer to **C02. S01. P18**

EN

Table 1a — Solutions to satisfy the requirements of *BS EN 1364-1: 1999*

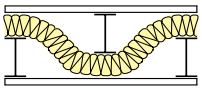
1



60 / 72 combination

Two rows of Gypframe 60 I 70 'I' Studs in Gypframe 72 FEC 50 Folded Edge Standard Floor & Ceiling Channel. Gypframe SC1 Spacer Clips and alternate studs staggered in the channel at 300mm centres. Linings and insulation as in table.

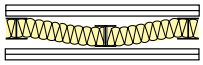
2



92 / 148 combination

Two rows of Gypframe 92 I 90 'I' Studs in Gypframe 148 DC 60 Deep Flange Floor & Ceiling Channel. Gypframe SC2 Spacer Clips and alternate studs staggered in the channel at 300mm centres. Linings and insulation as in table.

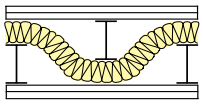
3



60 / 72 combination

Two rows of Gypframe 60 I 70 'I' Studs in Gypframe 72 FEC 50 Folded Edge Standard Floor & Ceiling Channel. Gypframe SC1 Spacer Clips and alternate studs staggered in the channel at 300mm centres. Linings and insulation as in table.

4



92 / 148 combination

Two rows of Gypframe 92 I 90 'I' Studs in Gypframe 148 DC 60 Deep Flange Floor & Ceiling Channel. Gypframe SC2 Spacer Clips and alternate studs staggered in the channel at 300mm centres. Linings and insulation as in table.

Detail	Partition thickness mm	Board type mm	Lining thickness mm	Max. partition height[1] mm	Sound insulation R_w (R_w + C_{tr}) dB			Duty rating	Approx. weight kg/m²	System reference	
					25mm[2] any finish[3]	50mm[2] any finish[3]	25mm[2] skim only[4]			Any finish[3]	Skim only[4]
30 minutes fire resistance EN											
1	102	Gyproc SoundBloc	1 x 15	3300	49	52	-	Heavy	28	A233001/021	-
2	178	Gyproc SoundBloc	1 x 15	5400	53	54	54	Heavy	28	A233006/026	A233006S
60 minutes fire resistance EN											
3	122	Gyproc SoundBloc	2 x 12.5	3600	57	59 (48)	-	Severe	44	A233002/022	-
4	198	Gyproc SoundBloc	2 x 12.5	5700	61 (51)	62 (53)[5]	-	Severe	44	A233007/027	-
90 minutes fire resistance EN											
3	132	Gyproc SoundBloc	2 x 15	3900	59 (49)	61 (53)[5]	-	Severe	53	A233003/023	-
4	208	Gyproc SoundBloc	2 x 15	5000	62 (54)[5]	63 (55)[5]	63 (54)[5]	Severe	53	A233008/028	A233008S

▶ For further assistance in choosing the right solution for your project, try our System Selector; an online tool that enables quick and easy filtering by performance criteria. It provides system specific information downloads including BIM (Revit) objects. Go to gyproc.ie

[1] The maximum heights quoted are limited by the fire state field of application or by limiting deflection of L/240 at 200 Pa, whichever is the more onerous.
[2] Isover Acoustic Roll insulation.
[3] Sound insulation performance for partitions finished using jointing or plaster skim.
[4] Sound insulation performance for partitions finished with a 2mm skim finish of Gyproc Finish Plasters.
[5] These Gyproc Approved Systems are designed to achieve minimum $D_{nT,w}$ + C_{tr} 45dB, subject to Pre-Completion Testing (Refer to Partitions introduction C04. S01. P109 – table 1)

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

NB For heights between 4200mm and 8000mm, Gypframe Deep Flange Floor & Ceiling Channel should be used at base and at head (subject to deflection criteria).

GypWall STAGGERED performance (continued)

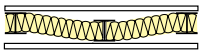
60 / 72 and 92 / 148 combinations

For details of when to specify fire resistance using BS
▶ Refer to **C02. S01. P18**

BS

Table 1b — Solutions to satisfy requirements of *BS 476: Part 22: 1987*

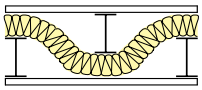
1



60 / 72 combination

Two rows of Gypframe 60 I 70 'I' Studs in Gypframe 72 FEC 50 Folded Edge Standard Floor & Ceiling Channel. Gypframe SC1 Spacer Clips and alternate studs staggered in the channel at 300mm centres. Linings and insulation as in table.

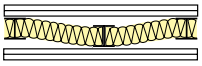
2



92 / 148 combination

Two rows of Gypframe 92 I 90 'I' Studs in Gypframe 148 DC 60 Deep Flange Floor & Ceiling Channel. Gypframe SC2 Spacer Clips and alternate studs staggered in the channel at 300mm centres. Linings and insulation as in table.

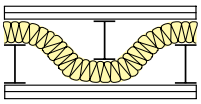
3



60 / 72 combination

Two rows of Gypframe 60 I 70 'I' Studs in Gypframe 72 FEC 50 Folded Edge Standard Floor & Ceiling Channel. Gypframe SC1 Spacer Clips and alternate studs staggered in the channel at 300mm centres. Linings and insulation as in table.

4



92 / 148 combination

Two rows of Gypframe 92 I 90 'I' Studs in Gypframe 148 DC 60 Deep Flange Floor & Ceiling Channel. Gypframe SC2 Spacer Clips and alternate studs staggered in the channel at 300mm centres. Linings and insulation as in table.

Detail	Partition thickness mm	Board type mm	Lining thickness mm	Max. partition height[1] mm	Sound insulation R_w (R_w + C_{tr}) dB			Duty rating	Approx. weight kg/m²	System reference	
					25mm[2] any finish[3]	50mm[2] any finish[3]	25mm[2] skim only[4]			Any finish[3]	Skim only[4]
30 minutes fire resistance BS											
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60 minutes fire resistance BS											
3	122	Gyproc SoundBloc	2 x 12.5	3600	57	59 (48)	-	Severe	44	A233002/022	-
4	198	Gyproc SoundBloc	2 x 12.5	5700	61 (51)	62 (53)[5]	-	Severe	44	A233007/027	-
90 minutes fire resistance BS											
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4	208	Gyproc SoundBloc	2 x 15	5800	62 (54)[5]	63 (55)[5]	63 (54)[5]	Severe	53	A233008/028	A233008S

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[1] Based on a limiting deflection of L/240 at 200 Pa.
[2] Isover Acoustic Roll insulation.
[3] Sound insulation performance for partitions finished using jointing or plaster skim.
[4] Sound insulation performance for partitions finished with a 2mm skim finish of Gyproc Finish Plasters.
[5] These Gyproc Approved Systems are designed to achieve minimum $D_{nT,w}$ + C_{tr} 45dB, subject to Pre-Completion Testing
(Refer to Partitions introduction C04. S01. P109 – table 1)

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

NB For heights between 4200mm and 8000mm, Gypframe Deep Flange Floor & Ceiling Channel should be used at base and at head (subject to deflection criteria).

GypWall STAGGERED design

Building design

GypWall STAGGERED comprises two rows of Gypframe 'I' Studs at 600mm centres (offset 300mm) installed within Gypframe Floor & Ceiling Channels and held in position with Gypframe SC1 or Gypframe SC2 Spacer Clips. Gypframe SC1 Spacer Clips are used in conjunction with 60 / 72 combination, whereas Gypframe SC2 Spacer Clips are used conjunction with 92 / 148 combination.

Planning – key factors

The position of services and heavy fixtures should be pre-determined and their installation planned into the frame erection stage.

Fixing floor and ceiling channels

Gypframe Floor & Ceiling Channels must be securely fixed with a row of fixings at 600mm maximum centres. For 148mm channels, two rows of staggered fixings are required, each row at 600mm centres and each fixing 25mm in from the flange. 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.

Splicing

To extend studs, overlap by 600mm (minimum). Fix together using Gyproc Wafer Head Jack-Point Screws or steel pop rivets (two to each flange).

▶ Refer to Partitions introduction C04. S01. P110 – construction detail 1.

Partition to structural steelwork junctions

When designing the layout of rooms requiring separation by sound insulating walls abutting structural steelwork, consideration should be given to the potential loss of sound insulation performance through the steelwork.

▶ Refer to C02. S01. P21 – Building acoustics.

Door openings

Any openings will require careful detailing if the acoustic performance of the partition is to be maintained. Specialist heavy acoustic doorsets may require additional support.

The designer should consider thickness tolerances of the partition types in relation to the proposed door frame detail. Standard door frame detailing to satisfy *BS 5234* requirements for Heavy and Severe Duty Ratings is shown in Partitions introduction C04. S01. P119 – construction detail 26. Additional provision is required to support heavy doorsets. The door manufacturer should also be consulted in relation to door details.

Important information

For partition heights above 4200mm, Gypframe Deep Flange Floor & Ceiling Channels should be used.

Framing surround for openings

Where services such as horizontal ducts, fire dampers and access panels are required to penetrate the wall, their position should be pre-determined in order that a framed opening can be provided. The openings should be constructed using established metal stud procedures.

▶ Refer to Partitions introduction C04. S01. P121 - construction details 28-31.

Cavity fire barriers

Where required to maintain fire performance, suitable fire stopping (by others) should be installed full filled within the partition cavity to form a suitable closure.

Acoustic performance

The partition achieves high levels of sound insulation by virtue of the separation between the two rows of studs. It is important that this isolation is maintained, and that services, fixtures, etc, do not form a bridge between the two linings.

▶ Refer to C02. S01. P21 – Building acoustics.

Deflection heads

Performance details apply to fixed head constructions. Partition head deflection designs may be necessary to accommodate deflections in the supporting floor. Deflection heads may also be required to the underside of roof structures subjected to positive and negative pressures.

The partitions can incorporate head deflection designs to optimise sound insulation performance.

▶ Refer to construction details 2 and 3.

Services

Penetrations

Penetrations of fire-resistant or sound-insulating constructions for services need careful consideration to ensure that the performance of the element is not downgraded. Consideration also needs to be given to the services themselves so they do not act as the mechanism of fire spread or sound transmission.

▶ Refer to C02. S01. P41 – Service installations.

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.

▶ Refer to Partitions introduction C04. S01. P110 – construction detail 2.

GypWall STAGGERED design (continued)

Switch boxes and socket outlets can be supported from Gypframe 99 FC 50 Fixing Channel fixed horizontally between studs, or a high performance socket box detail used where higher acoustic performance is required.

Cables should be protected by conduit, or other suitable precautions taken to prevent abrasion when they pass through the metal frame. Service cut-outs should be aligned to allow easy installation of service. If studs require cutting, cut from the same end of each stud to ensure cut-out alignment.

▶ Refer to C02. S01. P41 – Service installations.

Independent support

When designing for the installation of services such as fire dampers and associated ductwork through a GypWall partition, consideration should be given to the size and weight of the damper - this will determine whether it can be supported directly from the partition or needs to be independently supported from the structure.

▶ Refer to Partitions introduction C04. S01. P122 – construction details 29-31.

Fixtures

Lightweight fixtures can be made directly to the partitions. Medium weight fixtures can be made to Gypframe 99 FC 50 Fixing Channel. Heavyweight fixtures (to *BS 5234*), such as wash basins and wall cupboards, can be fixed using plywood secured with Gypframe Service Support Plates (suitable for 92/148 framing combination only).

▶ Refer to C02. S01. P41 – Service installations

Board finishing

▶ Refer to C08. S01. P483 – Finishes.

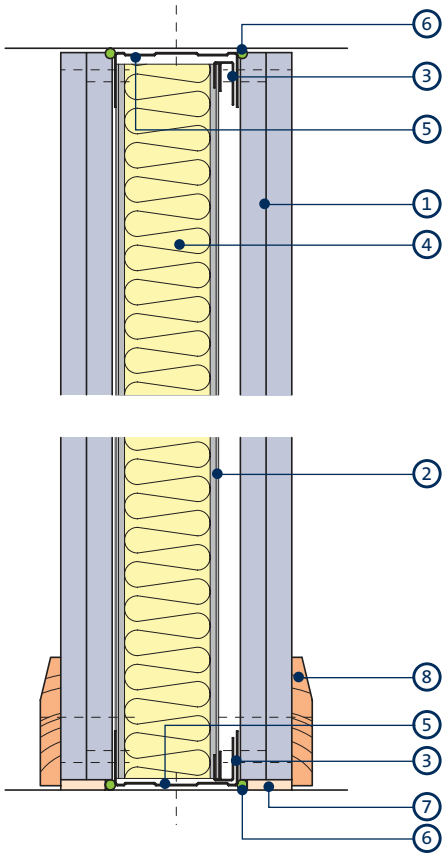
Tiling

Tiles can be applied to the surface of lightweight partition systems.

▶ Refer to C08. S04. P498 – Tiling

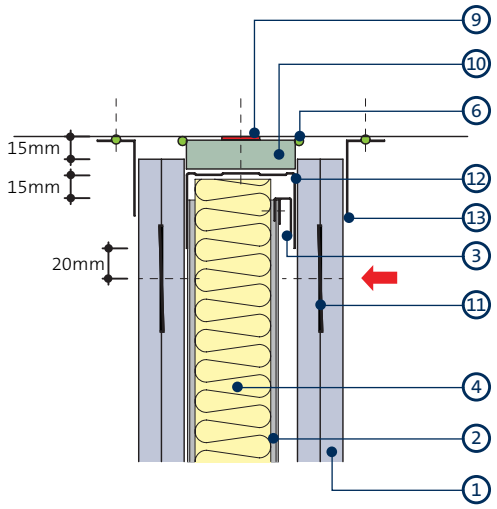
GypWall STAGGERED construction details

1



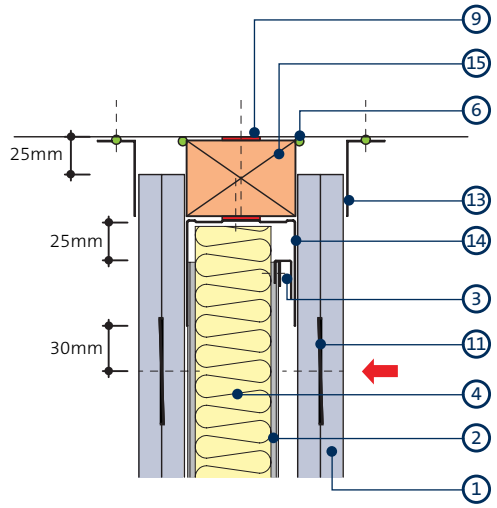
Head and base

2



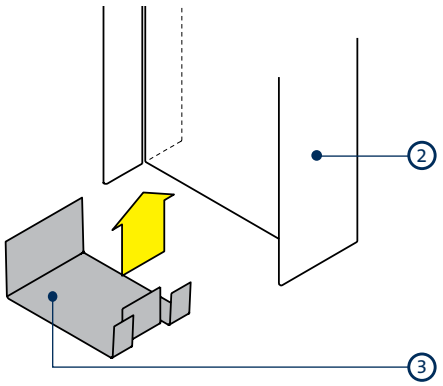
Deflection head for 15mm downward movement and 60 minutes fire resistance - BS 476 Part 22: 1987

3



Deflection head for ± 25mm movement and 60 minutes fire resistance - BS 476 Part 22: 1987

4



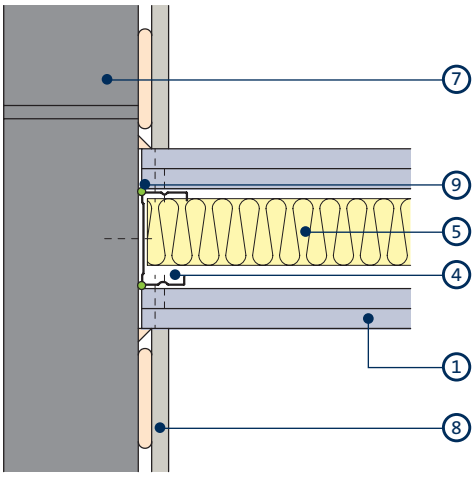
Clip attachment

1 Gyproc SoundBloc
2 Gypframe 'I' Stud
3 Gypframe Spacer Clip
4 Isover Acoustic Roll
5 Gypframe Floor & Ceiling Channel
6 Gyproc Sealant
7 Bulk fill with Gyproc jointing materials (where gap exceeds 5mm)
8 Skirting
9 Gyproc FireStrip
10 Gyproc CoreBoard or Glasroc F FIRECASE
11 Gypframe GFS1 Fixing Strap
12 Gypframe Deep Flange Floor & Ceiling Channel suitably fixed through fire-stop to structure
13 Gypframe Steel Angle
14 Gypframe Extra Deep Flange Floor & Ceiling Channel fixed to timber head plate
15 Timber head plate suitably fixed to structure

NB No fixings should be made through the boards into the flanges of 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 in order to maintain fire performance. Gypframe Steel Angle or approved decorative trim (by others) should be fixed to the soffit either side of the partition as shown to maintain the acoustic performance. Where ± deflection is a requirement, Gypframe SC1 or SC2 Spacer Clips must be pre-fixed to the 'I' studs to avoid the risk of disengagement once deflection is taken up.

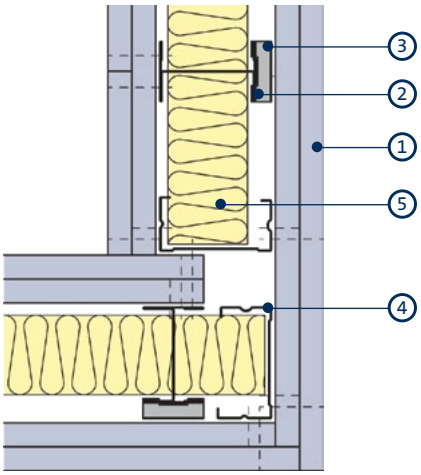
GypWall STAGGERED construction details (continued)

5



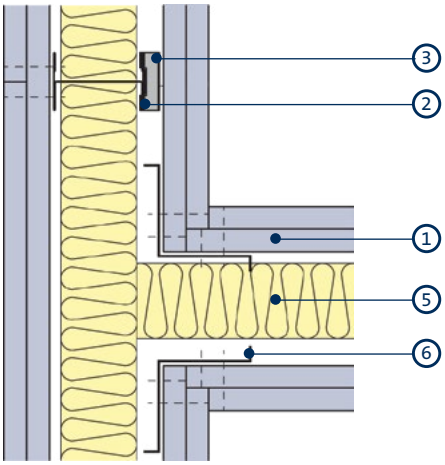
Junction with masonry

6



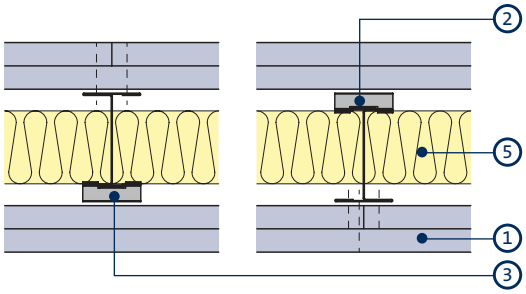
Corner

7



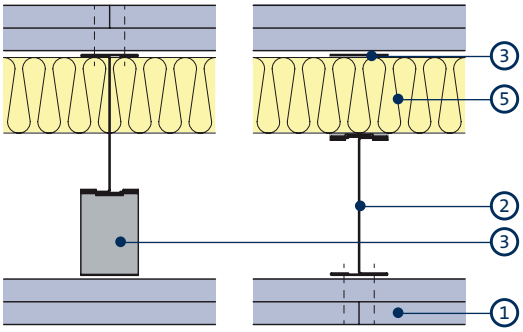
'T' junction

8



Intermediate studs (60 / 72 combination)

9

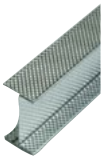


Intermediate studs (92 / 148 combination)

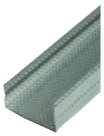
1 Gyproc SoundBloc
2 Gypframe 'I' Stud
3 Gypframe Spacer Clip
4 Gypframe 'C' Stud
5 Isover Acoustic Roll
6 Gypframe GA5 Internal Fixing Angle
7 Blockwork
8 **DriLyner** wall lining system
9 Gyproc Sealant

GypWall STAGGERED system components

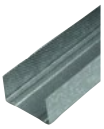
Gypframe metal components



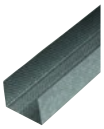
Gypframe 'I' Studs (60 I 70, 92 I 90)
Enhanced strength stud that allows for partition height, without increasing partition width designed to receive fixing of board to one side only.



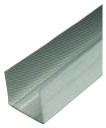
Gypframe 'C' Studs (70 S 50, 146 S 50)
Vertical stud providing acoustic and structural performances designed to receive fixing of board. Used at abutments and openings.



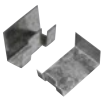
Gypframe Folded Edge Standard Floor & Ceiling Channels (72 FEC 50, 148 FEC 50)
Standard floor and ceiling channels for retaining the Gypframe studs at floor and ceiling junctions and around openings to heights not exceeding 4200mm, whilst also containing Gypframe Spacer Clips.



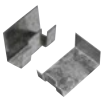
Gypframe Deep Flange Floor & Ceiling Channels (72 DC 60, 148 DC 60)
Floor and ceiling channels with deep flanges for retaining the Gypframe studs at floor and ceiling junctions for partitions 4200mm to 8000mm high. Also used around openings and in deflection heads (maximum 30mm deflection), whilst also containing Gypframe Spacer Clips.



Gypframe Extra Deep Flange Floor & Ceiling Channels (72 EDC 80, 148 EDC 80)
Floor and ceiling channels with extra deep flanges for retaining the Gypframe studs at floor and ceiling junctions for partitions over 8000mm high. Also used around openings and in deflection heads (maximum 50mm deflection), whilst also containing Gypframe Spacer Clips.



Gypframe SC1 Spacer Clip
Clip to aid positioning and securing of Gypframe 60 I 70 'I' Studs.



Gypframe SC2 Spacer Clip
Clip to aid positioning and securing of Gypframe 92 I 90 'I' Studs.

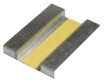
Gypframe 99 FC 50 Fixing Channel
A versatile metal fixing channel used to support medium weight fixtures on walls.

Gypframe GFS1 Fixing Strap
Used to support horizontal board joints, and within deflection heads.

Gypframe GFT1 Fixing T
Used to support horizontal board joints.

Gypframe GA5 Internal Fixing Angle
Steel angle providing framing stability and board support.

Gypframe GA6 Splayed Angle
Steel angle providing framing stability and board support.



Gypframe Service Support Plate
For installation of 18mm plywood within a partition cavity to support medium to heavyweight fixtures with 92 / 148 combination.

GypWall STAGGERED system components (continued)

Board products

Gyproc SoundBloc[1]
Gypsum plasterboard with a high density core for enhanced sound insulation performance.

Glasroc F FIRECASE
Non-combustible glass-reinforced gypsum board. Used to form deflection head.

Gyproc DuraLine[1]
Gypsum plasterboard with fire resistant additives and a high density core for enhanced sound insulation and impact resistance performance.

Gyproc CoreBoard
Gypsum plasterboard with fire and moisture resistant additives. Used to form deflection head.

[1] Also available in a Moisture Resistant (MR) version. MR boards are specified in intermittent wet use areas.

Fixing products

Gyproc Jack-Point Screws
Corrosion resistant self-tapping steel screws for fixing board to metal framing 0.8mm thick and greater ('I' studs 0.6mm thick and greater).

Gyproc Wafer Head Jack-Point Screws
Corrosion resistant self-tapping steel screws for fixing metal to metal framing 0.8mm thick and greater ('I' studs 0.6mm thick and greater).

Plasterboard accessories

Gyproc Jointing Material
Jointing compounds, ready mixes and adhesives for reinforcement and finishing of board joints.

Gyproc Sealant
Used to seal air paths for optimum sound insulation.

Gyproc Paper Joint Tape
A paper tape designed for reinforcement of flat joints or internal angles.

Gyproc FireStrip
A soft extruded linear intumescent gap sealer to maintain fire resistance located directly to the underside of the soffit when forming a deflection head.

Gyproc Drywall Primer
Used to prepare for painting.
Tub contents 10 litre

GypWall STAGGERED system components (continued)

Finishing products

Gyproc Skimcoat
To provide a plaster skim finish on most common backgrounds including undercoat plasters and plasterboard. Can provide enhanced acoustic performance.

Gyproc Carlite Finish
To provide a plaster skim finish on most common backgrounds including undercoat plasters and plasterboard. Can provide enhanced acoustic performance.

Gyproc Carlite Ultra Finish
Offers all the benefits of Gyproc Skimcoat and Gyproc Carlite Finish with a reduced set time of 90-120mins, making it ideal for smaller jobs.

Gyproc Magnetic Plaster
To provide a plaster skim finish that provides an attraction to magnets used to finish a wide range of backgrounds, including undercoat plasters and plasterboard.

Plaster accessories
Designed for the reinforcement and finishing of board joints before plaster skimming.

Insulation products

Isover Acoustic Roll
Glass mineral wool for enhanced acoustic and thermal performance.

GypWall STAGGERED installation overview

This is intended to be a basic description of how the system is built.

Gypframe Floor & Ceiling channels are suitably fixed to the floor and soffit.

Gypframe 'C' Studs are suitably fixed at abutments and door openings.

The perimeter of the partition is then sealed on both sides with Gyproc Sealant.

Gypframe SC1 or SC2 Spacer Clips are inserted to the top and bottom of the Gypframe 60 I 70 or 92 I 90 'I' Studs respectively.

The studs are then friction fitted into the Gypframe Channels, alternating the direction of the clip to create a staggered stud framework.

Door openings are constructed to the Heavy and Severe Duty rating door detail.

M&E services can be located within the partition cavity. Care should be taken to prevent bridging, for example socket boxes making contact with the opposing studs.

Isover Acoustic Roll is added to the partition cavity.

Gyproc SoundBloc plasterboards are then screw fixed to alternate Gypframe 'I' Studs and other framing members with Gyproc Jack-Point Screws.

Additional information

For full installation details, refer to the **Gyproc Installation Guide**, available to download from gyproc.ie