GypWall QUIET IWL

Independent twin frame high performance acoustic separating wall system

SpecSure®
GYPROC SYSTEMS GUARANTEE

GypWall QUIET IWL

GypWall QUIET IWL is a lightweight, non-loadbearing high performance wall. The use of an unbraced twin-frame ensures optimal acoustic isolation, providing an enhanced specification for buildings that are targeting higher standards of health and well-being, for example those designed to BREEAM frameworks or premium developments.

60 – 120 mins

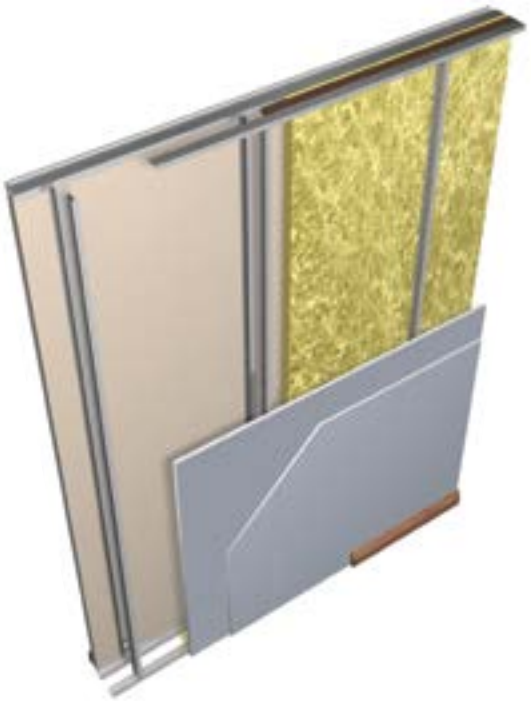
66 – 70 R_w dB

SpecSure®

Refer to C01. S01. P08

Key benefits

- GypWall QUIET IWL is an approved Robust Detail specification E-WS-2 (England & Wales)
- Structural columns can be accommodated within the partition due to the twin-frame design
- GypWall QUIET IWL can provide up to an estimated 120 minutes fire protection to structural steel enclosed within its cavity
- Optimal resistance to impact noise transference between adjacent spaces is achieved as a result of the system's unbraced construction



You may also be interested in...

GypWall AUDIO
If you are looking for solutions with an even higher acoustic performance.

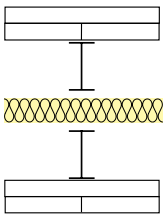
▶ Refer to C04. S09. P245 – **GypWall AUDIO.**

GypWall QUIET IWL performance

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

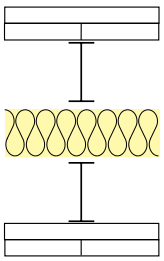
Table 1a — Solutions to satisfy requirements of *BS EN 1364-1: 1999*

1



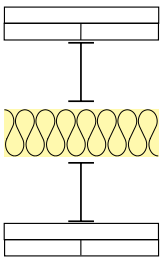
Two layers of board fixed to the outside faces of two Gypframe 48 I 50 'I' Stud frameworks with studs at 600mm centres. 50mm Isover Acoustic Roll in the cavity (cavity width 140mm). Linings as in table.

2



Two layers of board fixed to the outside faces of two Gypframe 60 I 70 'I' Stud frameworks with studs at 600mm centres. 100mm Isover Acoustic Roll in the cavity (cavity width 190mm). Linings as in table.

3



Two layers of board fixed to the outside faces of two Gypframe 60 I 50 'I' Stud frameworks with studs at 600mm centres. 100mm Isover Acoustic Roll in the cavity (cavity width 190mm). Linings as in table.

Detail	Partition thickness mm	Board type	Lining thickness mm	Max. partition height[1] mm	Sound insulation $R_w (R_w + C_{tr})^2$ dB	Duty rating	Approx. weight kg/m²	System reference
90 minutes fire resistance EN								
1	200	Gyproc SoundBloc	2 x 15	2800	66 (58)	Severe	55	A216014
2	250	Gyproc SoundBloc	2 x 15	3900	RD[4]	Severe	55	A216007
3	250	Gyproc SoundBloc	2 x 15	3300	70 (62) / RD[4]	Severe	55	A216013
120 minutes fire resistance EN								
1	200	Gyproc DuraLine	2 x 15	2800	67 (58)	Severe	60	X216011

▶ 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 more onerous.
[2] 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)
[3] RD = Robust Detail E-WS-2 (England and Wales) - approved Robust Detail solution designed to achieve minimum $D_{nT,w} + C_{tr}$ 45dB. Minimum 60mm Gypframe 'I' Studs required.

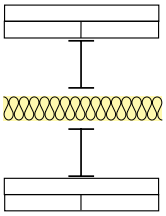
NB The fire resistance and sound insulation performances are for imperforate partitions, walls and ceilings incorporating boards with all joints taped and filled, or skimmed according to Gyproc's recommendations. The quoted performances are achieved only if Gyproc and Isover components are used throughout,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

GypWall QUIET IWL performance (continued)

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

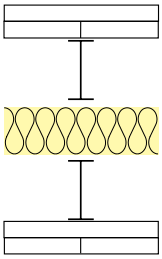
Table 1b — Solutions to satisfy requirements of *BS 476: Part 22: 1987*

1



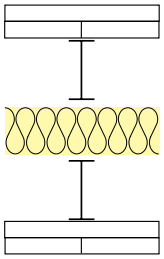
Two layers of board fixed to the outside faces of two Gypframe 48 I 50 'I' Stud frameworks with studs at 600mm centres. 50mm Isover Acoustic Roll in the cavity (cavity width 140mm). Linings as in table.

2



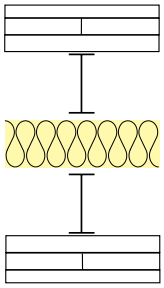
Two layers of board fixed to the outside faces of two Gypframe 60 I 70 'I' Stud frameworks with studs at 600mm centres. 100mm Isover Acoustic Roll in the cavity (cavity width 190mm). Linings as in table.

3



Two layers of board fixed to the outside faces of two Gypframe 60 I 50 'I' Stud frameworks with studs at 600mm centres. 100mm Isover Acoustic Roll in the cavity (cavity width 190mm). Linings as in table.

4



Three layers of board fixed to the outside faces of two Gypframe 60 I 70 'I' Stud frameworks with studs at 600mm centres. 100mm Isover Acoustic Roll in the cavity (cavity width 190mm). Linings as in table.

Detail	Partition thickness mm	Board type	Lining thickness mm	Max. partition height[1] mm	Sound insulation $R_w (R_w + C_{tr})^2$ dB	Duty rating	Approx. weight kg/m²	System reference
90 minutes fire resistance BS								
1	200	Gyproc SoundBloc	2 x 15	2800	66 (58)	Severe	55	A216014
2	250	Gyproc SoundBloc	2 x 15	3900	RD[3]	Severe	55	A216007
3	250	Gyproc SoundBloc	2 x 15	3300	70 (62) / RD[3]	Severe	55	A216013
120 minutes fire resistance BS								
1	200	Gyproc DuraLine	2 x 15	2800	67 (58)	Severe	60	X216011
4	275	Gyproc SoundBloc + Gyproc FireLine	2 x 15 1 x 12.5	3900	RD[3]	Severe	75	A216005

▶ 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] Based on limiting deflection of L/240 at 200 Pa.
[2] 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)
[3] RD = Robust Detail E-WS-2 (England and Wales) - approved Robust Detail solution designed to achieve minimum $D_{nT,w} + C_{tr}$ 45dB. Minimum 60mm Gypframe 'I' Studs required.

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 specification should be checked with Gyproc.

GypWall QUIET IWL performance (continued)

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

Table 2 – Solutions to satisfy requirements of *ENV 13381-2: 2002 and BS 476: Part 21: 1987*[1]

Board type[2]	Lining thickness mm	Fire resistance min	Section factor[3] A/V (Hp/A) m^{-1}
Gyproc SoundBloc	2 x 12.5	30	Up to 300
Gyproc SoundBloc	2 x 15	60	Up to 300
Gyproc SoundBloc	3 x 15	120	Up to 300

[1] Estimated fire protection to structural steelwork within the partition cavity.
[2] For improved and durability impact resistance, the outer layer of Gyproc FireLine or Gyproc SoundBloc can be replaced with a layer of 15mm Gyproc DuraLine.
[3] Based on four-sided exposure, with no vertical joints aligning with the column, and boards not fixed to the column to maintain air space (10mm for *BS* or 50mm for *EN*).

Table 3 — Maximum heights for Gypframe 'I' Studs at 600mm centres[1]

Stud type[1]	2 x 12.5mm boards maximum heights	2 x 15mm boards maximum heights
48 I 50	2700	2800
60 I 50	3000	3300
60 I 70	3600	3900
70 I 70	4200[2]	4300[2]
92 I 90	5700[2]	5800[2]
146 I 80	7200[2]	7500[2]

[1] Based on a limiting deflection of L/240 at 200 Pa. Greater heights can be achieved by reducing stud centres for *BS 476: Part 22: 1987*. Contact the Gyproc Technical Department for further advice.
[2] For heights between 4200mm and 8000mm, Gypframe Deep Flange Floor & Ceiling Channel should be used at base and at head (subject to deflection criteria).

You may also be interested in...

GypWall AUDIO
If you require a solution that allows greater maximum heights.

▶ Refer to C04. S09. P245 – **GypWall AUDIO.**

GypWall QUIET IWL design

Building design

GypWall QUIET IWL comprises a twin frame of Gypframe 'I' Studs at 600mm centres within a twin row of Gypframe Floor & Ceiling Channels.

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.

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.

Fixing floor and ceiling channels

Gypframe Floor & Ceiling Channels must be securely fixed with a row of fixings at 600mm maximum centres. For 94mm channels and above, 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

Where the wall heights exceeds the available length of the Gypframe 'I' Stud, sections of stud can be spliced together to the required length using 600mm lengths of the appropriate floor and ceiling channel, fixed with four Gyproc Wafer Head Drywall Screws in each flange to each side.

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

Partition to suspended ceiling junction

Where a GypWall metal stud partition is fixed to the framework of a CasoLine MF ceiling, in accordance with Gyproc's installation instructions, its permissible maximum height is equal to that of where it is fixed direct to a structural soffit of the same height.

In situations where a GypWall metal stud partition passes through a CasoLine MF ceiling, which is to both sides of the partition and appropriately fixed to both this partition and perimeter partitions / walls, consideration can be given to the lateral restraint provided by the ceiling when developing the partition specification.

The relevant maximum height is the greater of the floor to CasoLine MF ceiling or ceiling to structural soffit height. Care should be taken during installation of tall partitions so as to not adversely affect their performance.

Door openings

The designer should consider the thickness tolerances of the partition types in relation to the proposed door frame detail. To satisfy *BS 5234: Part 2* requirements for Heavy and Severe Duty Rating partitions, door framing should be specified. The door manufacturer should also be consulted in relation to the door detail.

▶ Refer to Partitions introduction C04. S01. P119 – construction detail 26

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 detail 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.

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. 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.

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.

GypWall QUIET IWL design (continued)

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.

For special detailing that minimises the loss of acoustic performance:

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

For deflection head design:

▶ Refer to construction detail 7 within this section.

Fixtures

Lightweight fixtures can be made directly to the partition linings. 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 by Gypframe Service Support Plates.

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

Board finishing

▶ Refer to C08. S01. P509 – Finishes.

Tiling

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

▶ Refer to C08. S04. P523 – Tiling

Robust detail E-WS-2

If using **GypWall QUIET IWL** as a Robust Detail compliant solution, refer to the Gyproc Technical Department.

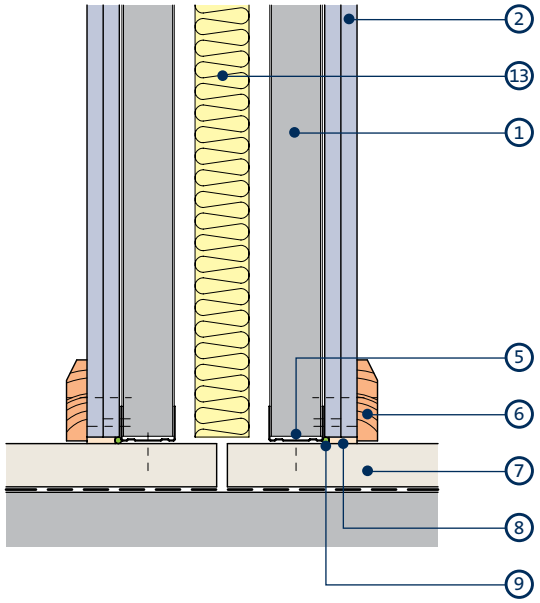
Important information

If using **GypWall QUIET IWL** as Robust Details specification E-WS-2 (England and Wales), note the additional good practice installation guidance provided:

- Keep wall linings at least 190mm apart
- Ensure that the quilt covers the whole wall area without gaps
- Make sure the quilt is compressed by twin frames
- Make sure there is no connection between the two leaves
- Stagger joints in wall linings to avoid air paths
- Seal all joints in outer layer with tape or caulk with sealant
- Follow the manufacturer's instructions

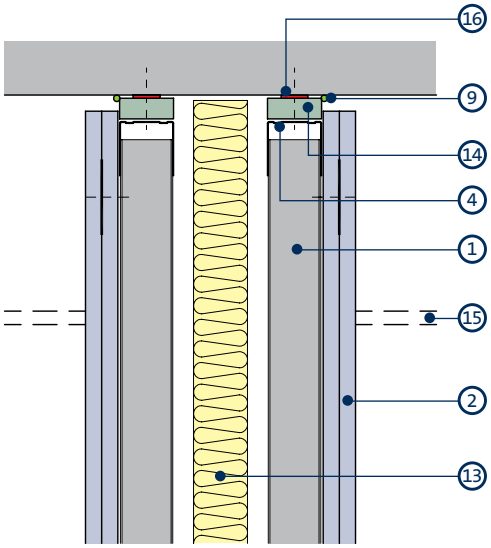
GypWall QUIET IWL construction details

1



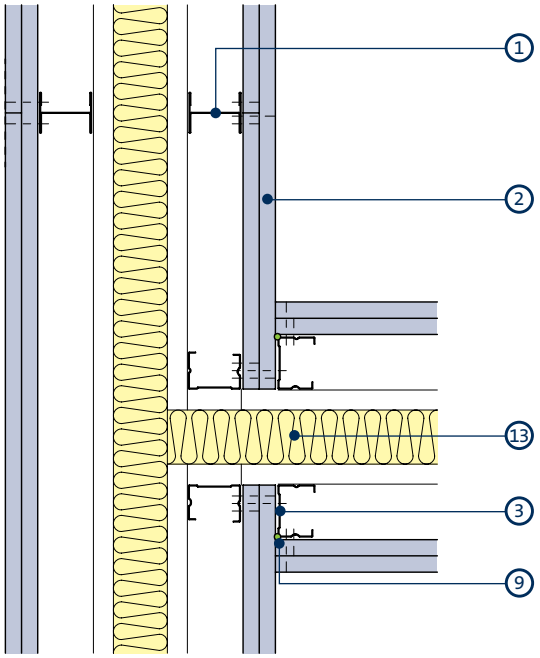
Base on concrete floor with screed

2



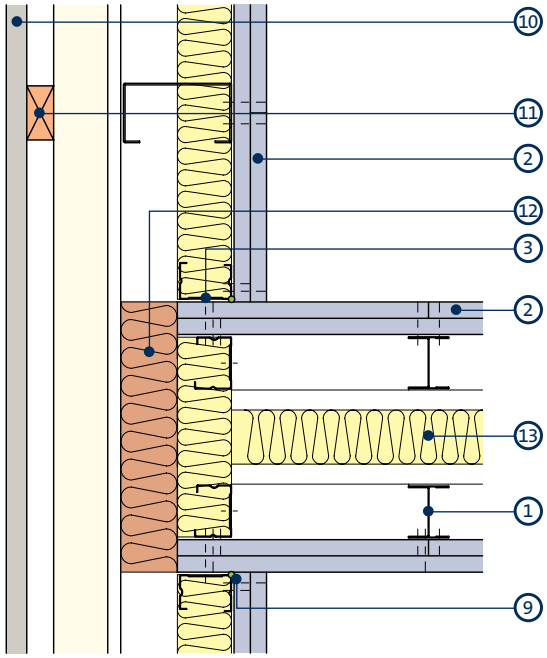
25mm deflection head - up to 60 minutes fire resistance

3



'T' junction

4

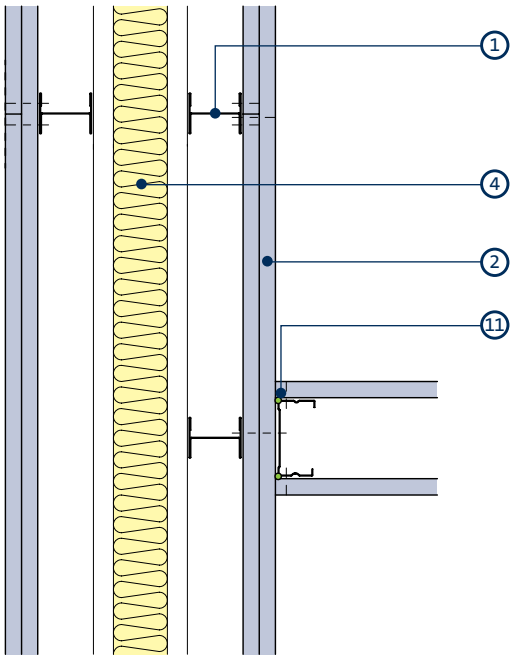


Junction with external wall when acoustic performance is a key consideration - Helps reduce flanking transmission

1 Gypframe 'I' Stud
2 Gyproc SoundBloc
3 Gypframe 'C' Stud
4 Gypframe Deep Flange Floor & Ceiling Channel
5 Gypframe Folded Edge Standard Floor & Ceiling Channel
6 Skirting
7 Screed on DPC
8 Bulk and fill with Gyproc jointing materials
9 Gyproc Sealant
10 External Cladding
11 External wall stud framework
12 Cavity barrier (subject to regulatory requirements)
13 Isover Acoustic Roll
14 Gyproc CoreBoard or Glasroc F FIRECASE
15 Imperforate ceiling
16 Gyproc FireStrip

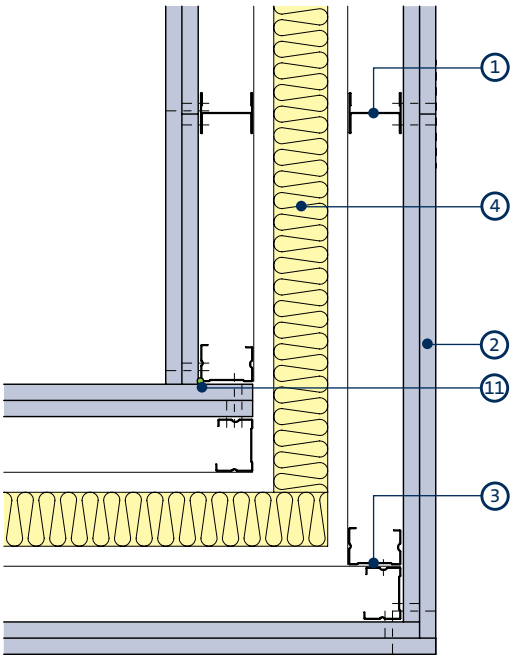
GypWall QUIET IWL construction details (continued)

5



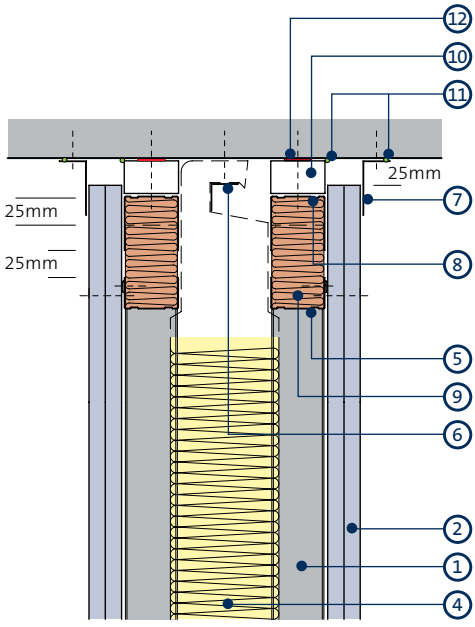
'T' junction with **GypWall** partition

6



Corner

7

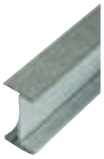


25mm deflection head - 90 or 120 minute fire resistance

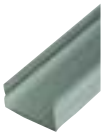
1 Gypframe 'I' Stud
2 Gyproc SoundBloc
3 Gypframe 'C' Stud
4 Isover Acoustic Roll
5 Gypframe Folded Edge Standard Floor & Ceiling Channel
6 Gypframe Steel Angle or timber batten
7 Gypframe GA4 Steel Angle
8 Gypframe Deep Flange Floor & Ceiling Channel
9 Stone mineral wool (by others)
10 Glasroc F FIRECASE
11 Gyproc Sealant
12 Gyproc FireStrip

GypWall QUIET IWL system components

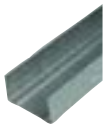
Gypframe metal components



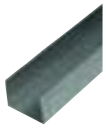
Gypframe 'I' Studs (48 I 50, 60 I 50, 60 I 70, 70 I 50, 70 I 70, 92 I 90, 146 I 80)
Enhanced strength stud that allows for increased partition height, without increasing partition width. Designed to receive fixing of board to one side only.



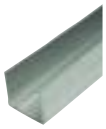
Gypframe 'C' Studs (48 S 50, 60 S 50, 70 S 50, 70 S 60, 92 S 50, 92 S 60, 92 S 10, 146 S 50)
Vertical stud. Used at abutments and openings.



Gypframe Folded Edge Standard Floor & Ceiling Channels (50 FEC 50, 62 FEC 50, 72 FEC 50, 94 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.



Gypframe Deep Flange Floor & Ceiling Channels (50 DC 60, 62 DC 60, 72 DC 60, 94 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).

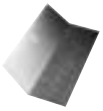


Gypframe Extra Deep Flange Floor & Ceiling Channels (50 EDC 70, 72 EDC 80, 94 EDC 70, 148 EDC 80)
Floor and ceiling channels with extra deep flanges for retaining the Gypframe studs at floor and ceiling junctions for partitions over 8000mm high. Also used around openings and in deflection heads (maximum 50mm deflection).

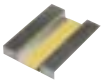
Gypframe 99 FC 50 Fixing Channel
A versatile metal fixing channel used to support medium weight fixtures on walls.

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

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

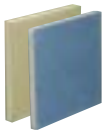


Gypframe GA6 Splayed Angle
Steel angle providing framing stability and board support.



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

Board products continued

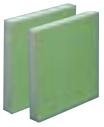


Gyproc SoundBloc[1]
Gypsum plasterboard with a high density core for enhanced sound insulation performance.

Gyproc FireLine[1]
Gypsum plasterboard with fire resistant additives.

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

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



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.

GypWall QUIET IWL system components (continued)

Fixing products

Gyproc Drywall Screws
Corrosion resistant self-tapping steel screws for fixing board-to-timber and board-to-metal framing less than 0.8mm thick. ('I' studs less than 0.6mm thick).

Gyproc Jack-Point Screws
For fixing boards to Gypframe metal framing 0.8mm thick or greater ('I' studs 0.6mm thick and greater).

Gyproc Collated Drywall Screws
Corrosion resistant self-tapping steel screws for fixing board-to-timber and board-to-metal framing less than 0.8mm thick. ('I' studs less than 0.6mm thick).

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).

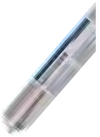
Gyproc Wafer Head Drywall Screws
Corrosion resistant self-tapping steel screws for fixing metal to metal framing 0.8mm thick ('I' studs less than 0.6mm thick).

Plasterboard accessories

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

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

Gyproc Corner Tape
A paper tape bonded to two corrosion resistant steel strips.



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

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.

Gyproc Control Joint
To accommodate structural movement of up to 7mm.

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.

GypWall QUIET IWL system components (continued)

Finishing products continued

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 QUIET IWL installation overview

This is intended to be a basic description of how the system is built.
For detailed installation guidance refer to the **Gyproc Installation Guide.**

Gypframe Floor & Ceiling Channels are suitably fixed to the floor and soffit in two rows.

Gypframe 'C' Studs are suitably fixed to abutments in two rows.

The perimeter of each frame is then sealed with Gyproc Sealant.

Gypframe 'I' Studs are then friction fitted into the Gypframe Channels at the required centres.

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

M&E services can be located within the partition cavity.

Isover Acoustic Roll is added to the partition cavity.

Gyproc plasterboards are then fixed to the Gypframe framework with Gyproc Drywall Screws and Gyproc Jack-Point Screws.

Additional information

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