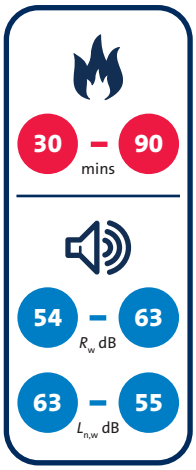
GypFloor SILENT

Sound insulating floor system

GypFloor SILENT

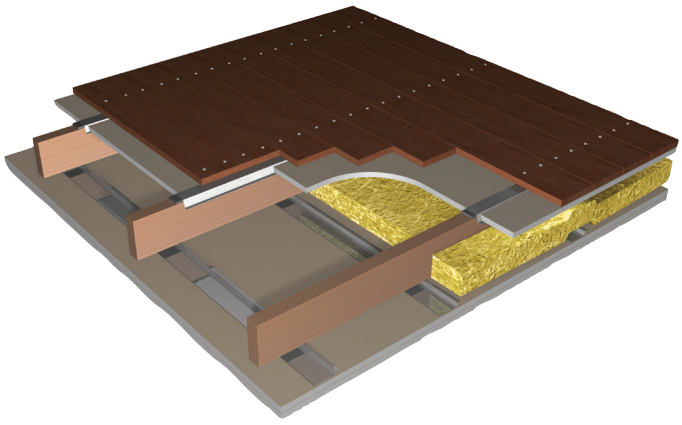


GypFloor SILENT is an acoustic floor system, specified in residential conversion or improvement work. It upgrades existing timber joist floors to meet the requirements of Building Regulations for separating floors between rooms created by a change of use or conversion.

GypFloor SILENT can also be used in new-build homes for enhanced sound insulation performance of internal floors.

Key benefits

- Provides a significant uplift in acoustic performance making it an ideal upgrade for transforming a non-performing floor to one that is Building Regulations compliant
- Adds only 7mm to the existing floor height, minimising the impact on existing fixtures and fittings compared to alternative solutions, such as floating floor systems
- The transfer of impact noise through floor structure to the room below, for example impact noise from footfall or furniture movement, is reduced due to the integral neoprene strip located within Gypframe SIF Floor Channels
- Acoustic performance of the floor is further enhanced by installing Gypframe RB1 Resilient Bar to isolate the ceiling lining from the joists
- An existing structure can be improved, in terms of both fire and acoustic performance, without requiring extensive alteration, even where access is available from above only



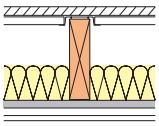
GypFloor SILENT performance

Ceiling installed to existing solid timber joists

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

Table 1a – Solutions to satisfy requirements of *BS EN 1365-2: 2000*

1



GypFloor SILENT comprising Gyproc Plank on Gypframe SIF Floor Channel located over timber joists (minimum 195mm deep at 450mm / 600mm centres). Walking surface of chipboard or softwood t&g flooring (21mm minimum). 100mm Isover Spacesaver Ready-Cut in the cavity. Gypframe RB1 Resilient Bars fixed at maximum 450mm centres. Ceiling linings as in table.

Detail	Ceiling lining	Ceiling depth mm	Board type	Lining thickness mm	Sound insulation		System reference
					Airborne $R_w (R_w + C_{tr})$ dB	Impact $L_{n,w}$ dB	
60 minutes fire resistance EN							
1	Gypframe RB1 Resilient Bar	46	Gyproc SoundBloc	2 x 15	61 (48)	56	C204006
1	Gypframe RB1 Resilient Bar	47.5	Gyproc Plank + Gyproc FireLine	1 x 19 + 1 x 12.5	63 (51)[1]	55	C204003

▶ 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] This Gyproc Approved System is designed to achieve minimum $D_{nTw} + C_{tr}$ 43dB and $L'_{nT,w}$ 64dB subject to Pre-Completion Testing.

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.

NB The maximum substantiated span on the above solid timber joist systems is 4000mm. For any spans greater than this please contact our Technical Department.

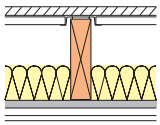
GypFloor SILENT performance (continued)

Ceiling installed to existing solid timber joists

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 21: 1987*

1



GypFloor SILENT comprising Gyproc Plank on Gypframe SIF Floor Channel located over timber joists (minimum 195mm x 45mm joists at 450mm centres). Walking surface of chipboard or softwood square edged flooring (21mm minimum). 100mm Isover Spacesaver Ready-Cut in the cavity. Gyproc ceiling installed to the underside of joists with bars / channels spaced at maximum 450mm centres. Ceiling linings as in table.

Detail	Ceiling lining	Ceiling depth mm	Board type	Lining thickness mm	Sound insulation		System reference
					Airborne R_w (R_w + C_{tr}) dB	Impact $L_{n,w}$ dB	
60 minutes fire resistance BS							
1	Gypframe RB1 Resilient Bar	46	Gyproc SoundBloc	2 x 15	61 (48)	56	C204006
1	Gypframe RB1 Resilient Bar[2]	47.5	Gyproc Plank + Gyproc SoundBloc	1 x 19 + 1 x 12.5	63 (51)[1]	55	C204001
1	**GypLyner**	91.5	Gyproc Plank + Gyproc SoundBloc	1 x 19 + 1 x 12.5	63 (50)	55	C154008
90 minutes fire resistance BS							
1	Gypframe RB1 Resilient Bar	46	Gyproc FireLine	2 x 15	60 (47)	57	C204002

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[1] This Gyproc Approved System is designed to achieve minimum D_{nTw} + C_{tr} 43dB and $L'_{nT,w}$ 64dB subject to Pre-Completion Testing.
[2] The performance was achieved with t&g flooring. For non t&g floors, overlay with 6mm plywood and ensure all joints are staggered.

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.

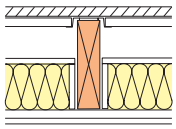
GypFloor SILENT performance (continued)

Installed to existing solid timber joists (ceiling retained)

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

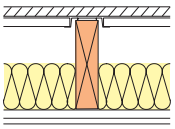
Table 2 — Solutions to satisfy requirements of *BS 476: Part 21: 1987*

1



GypFloor SILENT comprising Gyproc Plank on Gypframe SIF Floor Channel located over timber joists. Walking surface of chipboard or softwood flooring (21mm minimum t&g). Cavity bridged between joists (minimum joist width 50mm) by 12.5mm Glasroc F MULTIBOARD resting on 100mm x 12.5mm Glasroc F MULTIBOARD strips (screw-fixed to joists flush with bottom edge, at 300mm centres). 100mm Isover Spacesaver Ready-Cut in the cavity. Existing ceiling linings as in table.

2



GypFloor SILENT comprising Gyproc Plank on Gypframe SIF Floor Channel located over timber joists. Walking surface of chipboard or softwood flooring (21mm minimum square edge). 100mm Isover Spacesaver Ready-Cut in the cavity. Ceiling linings as in table.

Detail	Ceiling lining	Ceiling depth mm	Lining thickness mm	Sound insulation		System reference
				Airborne R_w dB	Impact $L_{n,w}$ dB	
30 minutes fire resistance BS						
2	Gyproc Plank + Gyproc WallBoard	31.5	1 x 19 + 1 x 12.5	54	63	C204004
2	Existing plasterboard + Gyproc SoundBloc overboarding	25	1 x 12.5 + 1 x 12.5	54	63	C204005
60 minutes fire resistance BS						
1	Gyproc Plank + Gyproc WallBoard[1 2]	31.5	1 x 19 + 1 x 12.5	54	63	G104032
2	Existing plasterboard + Gyproc FireLine overboarding	27.5	1 x 12.5 + 1 x 15	54	63	C204007

▶ 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] Linings used in acoustic tests to simulate a lath and plaster ceiling in good condition.
[2] The performance was achieved with t&g flooring. For non t&g floors, overlay with 6mm plywood and ensure all joints are staggered.

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.

NB For non t&g floors, overlay with 6mm plywood and ensure all joints are staggered.

GypFloor SILENT design

Building design

GypFloor SILENT comprises Gypframe SIF Floor Channels positioned on the upper surface of the timber joists and Gypframe RB1 Resilient Bars fixed to the under side of the timber joists.

Planning – key factors

The GypFloor SILENT system adds 7mm to the level of the top of the joists. The finished surface of the applied ceiling linings will be 16mm plus the thickness of the lining boards from the underside of the joists when Gypframe RB1 Resilient Bar is used. Ceiling linings should be fixed prior to any installation of drylining or plastering on walls. If this is not possible, ceiling linings should neatly abut the wall.

In refurbishment work the level of existing joists should be checked. Their upper surfaces should be reasonably level and straight for the flooring application. If there is misalignment of their lower surfaces, consideration should be given to using a GypLyner or CasoLine MF suspended ceiling to support the ceiling boards.

Structural

The system is primarily intended for timber floors with an intensity of distributed load of up to 5.0kN/m², and a point load of 4.5kN. An increase in the mass of the floor will result from upgrading. The load capacity of the supporting floor joists should therefore be checked, with due consideration to the effects of lateral buckling and the need for intermediate restraints. This may be particularly important where the system is to be used in conjunction with engineered timber 'I' joists.

Flanking transmission

Care should be taken to ensure that the associated structure is suitable to achieve the level of sound insulation required. Particular reference to Building Regulations (See section C02. S01. P21) should be made as regards the use of this floor type and the requirements of the surrounding structure. Where the walls supporting the floor weigh less than 365kg/m² the use of an acoustic shield lining to the walls should be considered.

Existing plaster and lath ceilings

In order to ensure the required fire resistance of a floor is achieved, it is recommended to under-draw the lath and plaster with chicken wire (fixed in accordance with manufacturer recommendations). A cavity should then be formed with minimum 38 x 38mm timber battens or GypLyner.

Services

The installation of services within the floor zone should be carried out to allow easy access from above and should, where possible, follow the line of the floor joists.

Board finish

▶ Refer to C08. S01. P483 – Finishes.

Handy hint

Gypframe SIF Floor Channels can accommodate a wide range of joist widths:

- Gypframe SIF1 Floor Channel for joists ≤63mm
- Gypframe SIF4 Floor Channel for joists 64 - 75mm
- Gypframe SIF2 Floor Channel for joists ≥75mm

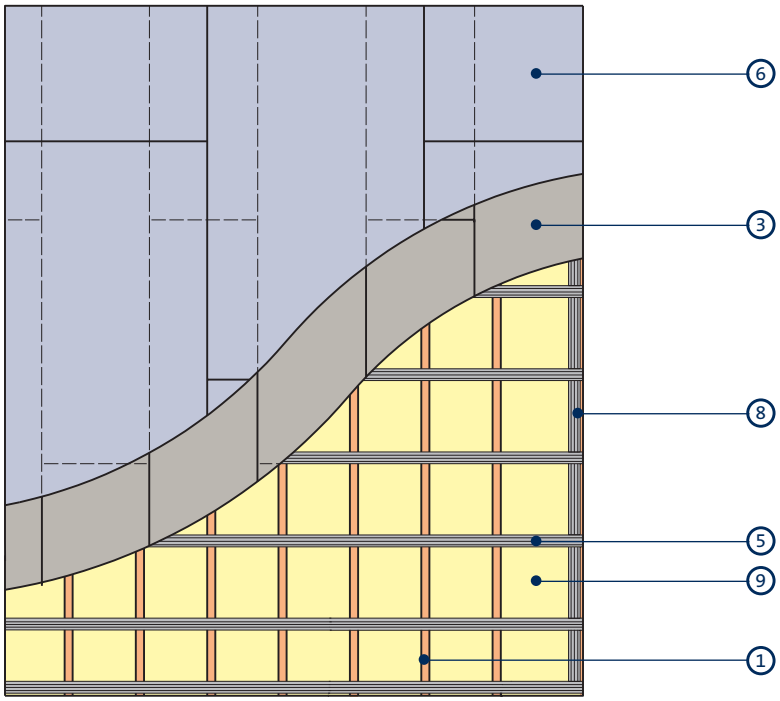
NB Ensure that channels are never fixed to the joist.

GypFloor SILENT construction details

1

Cut-away floor plan (Chipboard flooring)

2

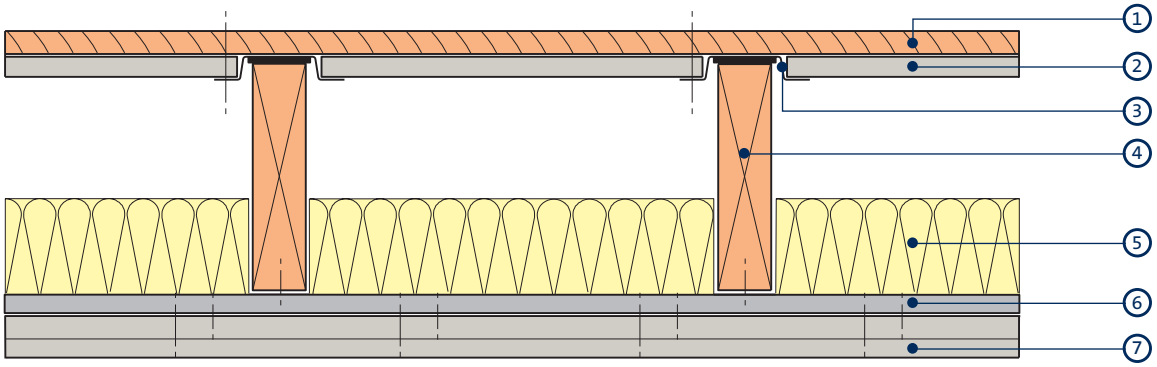


Reflected ceiling plan (12.5mm x 1200mm x 2700mm Gyproc SoundBloc over Gyproc Plank fixed to Gypframe RB1 Resilient Bars)

1 Solid timber joists
2 Gypframe SIF Floor Channels
3 Gyproc Plank
4 Chipboard flooring
5 Gypframe RB1 Resilient Bar
6 Gyproc SoundBloc
7 Gypframe SIF2 Floor Channel
8 Gypframe RB1 Resilient Bar noggings at room perimeter
9 Isover Spacesaver Ready-Cut

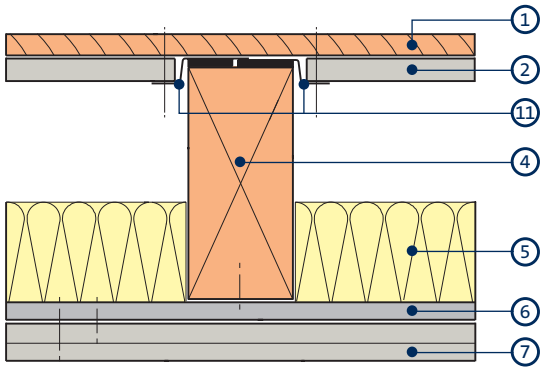
GypFloor SILENT construction details (continued)

3



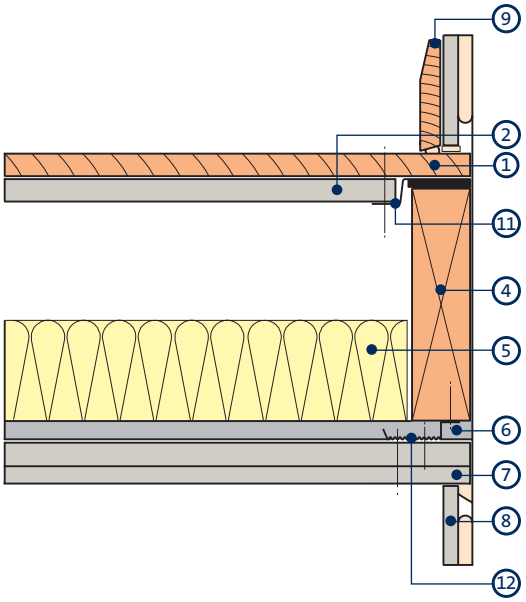
Typical section through floor

4



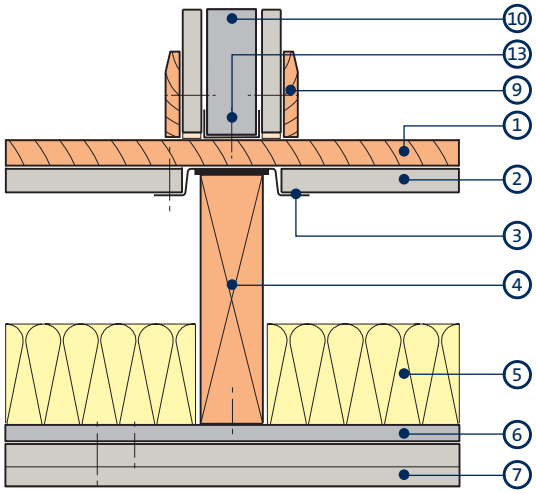
Section through floor - joist width over 75mm

5



Perimeter junction - inner leaf of external wall exceeds mass of 365kg/m²

6



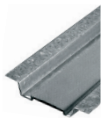
Non-loadbearing partition sited over joists

1 Chipboard / softwood flooring
2 Gyproc Plank
3 Gypframe SIF1 / SIF4 Floor Channel
4 Solid timber joist
5 100mm Isover Spacesaver Ready-Cut
6 Gypframe RB1 Resilent Bars[1]
7 Gyproc plasterboard
8 Wall lining
9 Skirting
10 **GypWall** partition (low acoustic)
11 Gypframe SIF2 Floor Channel
12 Gypframe RB1 Resilient Bar noggings
13 Fixing length selected to avoid reaching the Gypframe SIF1 Floor Channel

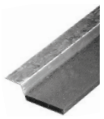
[1] Alternatively, a **GypLyner** ceiling system may be specified.

GypFloor SILENT system components

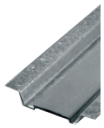
Gypframe metal components



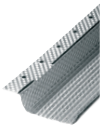
Gypframe SIF1 Floor Channel
Channel, with integral acoustic isolator, laid on top of timber joists less than or equal to 63mm wide to support Gyproc Plank.



Gypframe SIF2 Floor Channel
Channel, with integral acoustic isolator, laid on top of timber joists greater than 75mm wide to support Gyproc Plank. Also used around perimeter.



Gypframe SIF4 Floor Channel
Channel, with integral acoustic isolator, laid on top of timber joists between 64mm and 75mm wide to support Gyproc Plank.



Gypframe RB1 Resilient Bar
Acoustically engineered channel to separate board fixing from the timber joist and to overcome nail popping. Fixed to underside of joists.

Board products

Gyproc WallBoard
Standard gypsum plasterboard.

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

Gyproc Plank
Standard gypsum plasterboard located as an inner layer and / or located within Gypframe floor channels.

Glasroc F MULTIBOARD
Non-combustible glass-reinforced gypsum board.

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

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

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.

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.

GypFloor SIF5 Floor Screws
For fixing floorboards through Gyproc Plank into the Gypframe Floor Channel flange.

GypFloor SILENT system components (continued)

Plasterboard accessories

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

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

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.

Plaster 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.

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

Gyproc Bonding Coat
A lightweight undercoat plaster for use over smooth or medium suction backgrounds. Applied at a depth of 10mm on walls or 8mm on ceilings. Bonding Coat Short Set also available with a reduced set time of 90-120 mins making it ideal for smaller jobs.

Insulation products

Isover Spacesaver Ready-Cut
Glass mineral wool for enhanced acoustic and thermal performance.

GypFloor SILENT 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 SIF Floor Channels are located centrally over the joists. They must not be fixed to the joists.

Gyproc Plank is cut neatly to fit between the channels.

Flooring is laid across the Gypframe SIF Floor Channels and screw-fixed through the Gyproc Plank to the channel flange on one side only, using Gypframe SIF5 Floor Screws. It is important to ensure that no fixings are allowed to connect the Gypframe SIF Floor Channels to the joists.

Gypframe RB1 Resilient Bars are installed to the underside of the joists with Gyproc Drywall Screws.

100mm Isover Spacesaver Ready-Cut is laid between joists to rest on the Gypframe RB1 Resilient Bars. The specified ceiling boards are then screw fixed to the Gypframe RB1 Resilient Bars with the correct length Gyproc Drywall Screws to ensure the screws do not contact the timber joists.

Additional information

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