SOUND SOLUTIONS FOR YOUR HOME
Controlling the volume of everyday living
How to solve a problem you have with noise
How to reduce unwanted noise within your home

Improve your home’s sound insulation for everyday living

When upgrading your home or planning an extension you have the perfect opportunity to reduce any noise issue within your home.

These can be caused by one or more of the following factors

- You have a low tolerance to noise coming from an adjacent room
- Noise levels in the adjacent room are excessive and are causing nuisance
- The standard of construction is poor and hence the level of sound insulation is not adequate

Improving the building fabric can work but you should also consider your other options

- If you have recently moved into a newly built property and you suspect the construction is under-performing, you can have the property tested and potentially take legal action against the developer to improve the situation.
- If you are being disturbed by noisy neighbours your local council’s environmental health department will be able to provide advice and assistance.

British Gypsum can conduct testing for you through its UKAS accredited test house if required.

Diagnosis of Noise Problems

For sound breaking through into a room from an adjacent space, you should undertake a listening exercise to see how the noise is being transmitted. The best way of doing this is to play continuous loud music in one room and then listen in the next room.

Alternatively, you can download pink noise from internet. Place your ear directly onto the wall and ceiling surfaces to establish which element has the most sound energy within it.

It is important to listen to all surfaces in order to establish if noise is being transmitted indirectly (flanking) into your room. Once you have established the surfaces that are transmitting the most sound, you can then plan out your acoustic upgrade.

It’s possible that the noise is coming through both the floor and walls and multiple treatments may be needed.
Noise coming through floors?
Here’s three solutions to the problem

If sound is coming through the floor/ceiling then your choices in terms of upgrade will be driven by your ability to access the floor to conduct building work and also related to the source of noise that is disturbing you.

If you are being disturbed by people walking around upstairs then the easiest solution is to treat the walking surface and this could be as simple as laying down a carpet on a high quality underlay. If the upper room has hard wood flooring then always give this a try before conducting disruptive building work.

If you are being disturbed by noises such as TV, music and conversation then a carpet will not solve your problem and you should consider one of the treatments outlined in this section.

The floor can be treated from above or below depending on your access possibilities and how much disruption you are happy with.

The solutions presented are for common timber joist floors. If your construction is not of this type contact us directly for further guidance.

Floor Treatment Selector

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Carpet is recommended in all situations where there is impact noise disturbance from the room above and when the floor currently has no carpet on the walking surface.

Components needed for Silent – Walking Surface

- **Gypsum plasterboard**: Laid between joists onto the flanges of Gypframe floor channels.
- **19mm Gyproc Plank**: Placed between the joists and laid onto the flanges of the floor channels.
- **100mm Isover acoustic insulation**: Placed between the joists.
- **Gypframe SIF1 Floor Channel**: Located over the joists.
- **Gypframe SIF2 Floor Channel**: with integral acoustic isolator, used around the floor perimeter.
- **Gypaur SIF5 Floor Screws**: For fixing floorboards through Gyproc Plank into the Gypframe floor channel flange.
- **Isover Spacesaver Ready-Cut**: For improved acoustic performance

**Installation**

The existing walking surface is lifted and skirting boards removed. 100mm Isover acoustic insulation placed between the joists. Gypframe SIF1 Channels located over the joists and 19mm Gyproc Plank cut to fit between the joists and laid onto the flanges of the floor channels. The walking surface is re-laid with all fixings into the flange of the floor channel avoiding any fixing entering the floor joist.

View our ‘How to’ video at british-gypsum.com/how-to-videos

If sound is coming through the floor/ceiling then your choices in terms of upgrade will be driven by your ability to access the floor to conduct building work and also related to the source of noise that is disturbing you.

1. **Silent – Walking Surface**
   - Building a GypFloor SILENT walking surface
   - For situations where you have access from above. A low profile 7mm floating floor system is ideal in retrofit situations where you cannot afford to lose height from your rooms. This system requires that you lift the walking surface and install the floor components over the joists and then re-lay a new walking surface. The system works by isolating the walking surface from the floor structure and by adding mass to the walking surface.
   - **Installation**
     - The existing walking surface is lifted and skirting boards removed. 100mm Isover acoustic insulation placed between the joists. Gypframe SIF1 Channels located over the joists and 19mm Gyproc Plank cut to fit between the joists and laid onto the flanges of the floor channels. The walking surface is re-laid with all fixings into the flange of the floor channel avoiding any fixing entering the floor joist.
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2. **Silent – Additional Ceiling**
3. **Silent Floor – Retrofit**

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Silent Floor – Retrofit

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2 SILENT - ADDITIONAL CEILING
Building a GypLyner UNIVERSAL ceiling lining

Where there is access from below but you do not want to remove the ceiling. A metal frame is installed below the existing ceiling. The depth of the lining can be adjusted to suit but should be a minimum of 25mm. Any additional depth that can be accommodated beyond 25mm will be advantageous to the acoustic performance. The metal frame should be lined with a double layer of 15mm Gyproc SoundBloc and 25mm Isover APR utilised in the ceiling cavity.

**Installation**
Gypframe GL2 Brackets installed into the floor joists through the existing ceiling boards at 600mm centres along the line of the Gypframe GL1 Channels which should be set 600mm centres. The brackets adjusted to the ceiling depth required and Gypframe Channels fixed to the brackets with wafer head screws. 25mm Isover APR acoustic insulation positioned above the Gypframe channels. Two staggered layers of 15mm Gyproc SoundBloc fixed to the Gypframe Channels.

View our ‘How to’ video at british-gypsum.com/how-to-videos

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3 SILENT FLOOR – RETROFIT
Building a Gypframe Resilient Bar ceiling

If you are able to remove the existing ceiling you can limit the amount of floor to ceiling height lost by using this system. The first step is to remove the existing ceiling. The ceiling structure can then be refitted and decoupled from the floor joists using Resilient Bars. Silent Floor – retrofit comprises two layers of 15mm Gyproc SoundBloc, 100mm acoustic insulation and Gypframe RB1 Resilient Bars.

**Installation**
The ceiling to be treated should have electrical points isolated and removed from the ceiling. Next, remove the existing plasterboard from the ceiling to expose the floor joists. Gypframe RB1 Resilient Bars can then be fixed to the underside of the joist at 450mm centres, 100mm Isover acoustic insulation placed between the joists and then two staggered layers of 15mm Gyproc SoundBloc fixed to the resilient bars.

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Components needed for Silent – Additional Ceiling

- Gypframe GL8 Track
  Ceiling track for retaining Gypframe GL1 Lining Channel at wall abutments
- Gypframe GL1 Lining Channel
  Main support channel to receive fixing of board
- Gypframe GL2 Bracket
  For connecting the Gypframe GL1 Lining Channel to the existing ceiling (maximum 75mm stand-off)
- British Gypsum Wafer Head Drywall Screws
  For fixing metal to metal framing less than 0.8mm thick
- 15mm Gyproc SoundBloc
  Gypsum plasterboard with a high density core for enhanced acoustic performance
- British Gypsum Drywall Screws
  For fixing board to metal framing less than 0.8mm thick
- 25mm Isover APR 1200
  For improved acoustic performance
- Gyproc Sealant
  Used to seal air paths for optimum sound insulation

Components needed for Silent Floor – Retrofit

- 100m Isover Spacesaver Ready-Cut
  For improved acoustic performance
- Gypframe RB1 Resilient Bar
  Acoustic engineered channel
- 15mm Gyproc SoundBloc
  Gypsum plasterboard with a high density core for enhanced acoustic performance
- British Gypsum Drywall Screws
  For fixing board to metal framing less than 0.8mm thick
- Gyproc Sealant
  Used to seal air paths for optimum sound insulation
Noise coming through walls?

Here’s three solutions to the problem

The first step is to select the most appropriate lining to add to your wall, this will depend on how much space you are willing to lose from your room – there is a performance trade-off between space and acoustic performance gain.

Good performance can be achieved for normal sound insulation problems by adding a 50mm lining, but if you have a low frequency bass noise problem you should be using an acoustic lining with at least a 75mm cavity. For the ultimate performance gain you should select a high performance lining system and maximise the cavity depth.

• **Low Space Liner** – when the space you have available in the room is limited cavity depth can be as little as 25mm

• **High Performance Liner** – when you want to maximise the improvement and floor space is not an issue – the larger your cavity depth the more performance you achieve minimum cavity depth with this system 50mm

The High Performance Liner system offers the highest level of performance and the larger the cavity the higher the acoustic performance particularly with low frequency noise.

### Components needed for Low Space Liner

- **Gypsum GL8 Track**
  - Floor/ceiling track for retaining Gypsum GL1 Lining Channel at floor, ceiling, wall, abutments and around openings.

- **Gypsum GL1 Lining Channel**
  - Main support channel to receive fixing of board

- **Gypsum Sealant**
  - Used to seal air paths for optimum sound insulation

- **Gypsum Plasterboard**
  - 15mm Gypsum SoundBloc
  - Gypsum plasterboard with a high density core for enhanced acoustic performance.

- **British Gypsum Wafer Head Drywall Screws**
  - For fixing metal to metal framing less than 0.8mm thick

- **British Gypsum Drywall Screws**
  - For fixing board to metal framing less than 0.8mm thick

- **25mm ISOVER APR 1200**
  - For improved acoustic performance

### Installation

The wall to be treated should have skirting board removed and any electrical sockets should be isolated and removed from the wall. Gypsum GL2 Brackets are fixed to the existing wall at 800mm centres to support Gypsum GL1 Channels at 500mm centres. The brackets need to be adjusted to form the cavity depth required and also to ensure the channels are plumb. 25mm ISOVER APR located behind the Gypsum GL1 Channels. The Gypsum Channels lined with two layers of 15mm Gypsum SoundBloc.

View our ‘How to’ video at british-gypsum.com/how-to-videos
HIGH PERFORMANCE LINER
Building a GypLyner IWL wall lining

If space allows then this is the most effective lining mechanism is to utilise a lining system which is totally independent from the existing wall. Wall systems can be tailored to suit individual requirements and very high levels of soundproofing can be achieved with this system approach.

The frame should be lined with two layers of 15mm Gyproc SoundBloc and 50mm Isover APR should be used in the stud cavity.

Installation
The wall to be treated should have skirting boards removed and any electrical sockets should be isolated and removed from the wall. Gypframe 50FEC50 Floor and Ceiling Channels should be fixed to the floor and ceiling. Gypframe 48 I 50 metal studs should be located between the head and base channels at 600mm centres. 50mm Isover APR located between the metal studs. The metal frame should then be lined with two layers of 15mm Gyproc SoundBloc.

View our ‘How to’ video at british-gypsum.com/how-to-videos

Components needed for High Performance Liner

- **Gypsum 48 I 50 ‘I’ Stud**
  Vertical stud designed to receive fixing of board

- **Gypframe Folded Edge Standard Floor & Ceiling Channels**
  For retaining Gypframe studs at floor and ceiling junctions

- **British Gypsum Wafer Head Drywall Screws**
  For fixing metal to metal framing less than 0.8mm thick

- **50mm Isover APR 1200**
  For improved acoustic performance

- **Gyproc Sealant**
  Used to seal air paths for optimum sound insulation

- **15mm Gyproc SoundBloc**
  Gypsum plasterboard with a high density core for enhanced acoustic performance

WE CAN HELP

If you would like any help with diagnosis of noise problems or have trouble sourcing the products, please contact us on 0115 784 2354
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