

Soundproofing Walls

Brick / Block Walls or Stud Walls

Installation Instructions

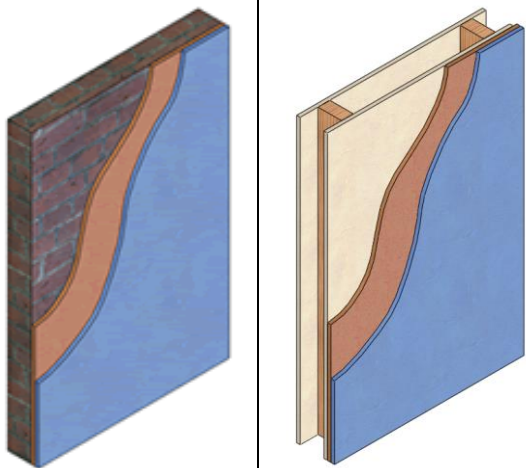


Acoustic Insulation

There are three options to achieve noise reduction through walls using PhoneStar sound insulation. Wall soundproofing results improve, as these high performance slimline solutions increase in thickness, yet the cost hardly alters due to the use of commodity building products. Select the best wall solution to suit your needs from these options. If you are attaching PhoneStar to the floors or ceilings also, then they should be upgraded first.

		<p>Option 1: Direct to Wall Solution 27.5 - 30mm Thickness</p> <p>Application: Good slimline performance, with absolute minimal loss of living space, <u>for new or existing, masonry or stud partition walls</u>, where the following wider options are not possible. It is mainly used as a remedial solution to meet Building Regulations for Sound, but if at all possible please use Options 2 or 3 for superior results.</p> <p>Construction: New or Existing Brick / Block or Stud Partition</p> <ul style="list-style-type: none"> - Wall with or without existing plaster / plasterboard - 15mm PhoneStar Acoustic Insulation - 12.5mm or 15mm acoustic (blue) plasterboard - (Optional second layer of plasterboard for fire insulation purposes) <p>See Page 2 for the Materials List & Installation Instructions</p>
		<p>Option 2: Decoupled Wall Solution 43.5 - 46mm Thickness</p> <p>Application: Higher performance, with minimal loss of living space <u>for new or existing, masonry or stud partition walls</u>. If the walls are uneven, batten them first, as per Option 3. This is a popular choice for upgrading walls.</p> <p>Construction: New or Existing Flat Brick / Block or Stud Partition</p> <ul style="list-style-type: none"> - Wall with or without existing plaster / plasterboard - 16mm Resilient Bars - 15mm PhoneStar Acoustic Insulation - 12.5mm or 15mm acoustic (blue) plasterboard - (Optional second layer of plasterboard for fire insulation purposes) <p>See Page 3 for the Materials List & Installation Instructions</p>
		<p>Option 3: Decoupled Battened Wall Solution 67.5 - 94mm Thickness</p> <p>Application: Ultimate performance, whilst maintaining minimal loss of living space <u>for new or existing, masonry or stud partition walls</u>. Best solution for sound reduction on both even and uneven walls.</p> <p>Construction: New or Existing Brick / Block or Stud Partition</p> <ul style="list-style-type: none"> - Wall with or without existing plaster / plasterboard - 48mm x 24mm stud (WxD) or 48mm x 48mm stud. For stud partitions use existing studs. - Optional: 25mm or 50mm x 45kg/m³ mineral wool or Pavaflex to suit stud - 16mm Resilient Bars - 15mm PhoneStar Acoustic Insulation - 12.5mm or 15mm acoustic (blue) plasterboard - (Optional second layer of plasterboard for fire insulation purposes) <p>See Page 4 for the Materials List & Installation Instructions</p>

Option 1: Direct to Wall Solution 27.5 - 30mm Thickness



Application: Good slimline performance, with absolute minimal loss of living space, for new or existing, masonry or stud partition walls where the following wider options are not possible. It is mainly used as a remedial solution to meet Building Regulations for Sound where only a small improvement is required, but if at all possible please use Options 2 or 3 for superior results.

Materials List:

- PhoneStar Acoustic Insulation (1200 x 800 x 15mm WxHxD)
- PhoneStar Eco-tape (50M x 50mm)
- Acoustic (blue) plasterboard (2400mm x 1200mm x 12.5/15mm HxWxD)
- Adhesive foam and foam gun (approx. coverage per can is 15m²)
or a permanently flexible adhesive
- Secondary 6mm diameter hammer fixings for masonry walls
or drywall screws for stud walls
- Flexible Mastic or Acoustic / Intumescent Sealant

Installation Instructions - (Read all steps before fitting)

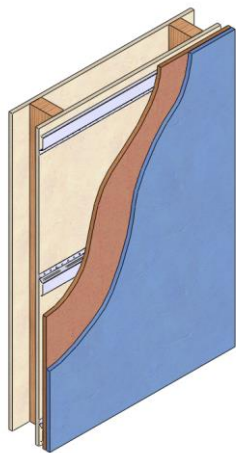
1. Remove the skirting boards, architraves and coving, if in position. It is strongly recommended to remove any existing plasterboard because sound often reverberates behind it on masonry walls due to dot and dab. There can also be electric wires or water pipes behind plasterboard, so safety is key. However leave actual plaster in place. Examine the wall thoroughly and if there are any holes or gaps, fill them with flexible sealant or mortar. Establish where the studs are located and their spacing, if it is a timber or steel stud wall, and mark their position on the floor/ceiling for reference. If it is a bare solid wall remove any loose material using a wire brush. A bare concrete wall may have to be primed first as it will probably be very porous.
2. On a masonry wall or a plasterboarded stud wall begin at the bottom corner of the wall and bond PhoneStar (with the label side facing you) in a landscape formation to existing wall with a quick setting adhesive foam, ensuring that **boards are butted closely together, leaving no gaps at perimeter or between boards. Remember, sound will pass through any gaps.** If there are any little gaps fill them with flexible acoustic sealant. Fit the boards in a brick-bond formation.
3. On an exposed stud wall, 45kg/m³ dense mineral wool or 50kg/m³ Pavaflex flexible wood fibre should preferably be placed in the cavity. Screw PhoneStar (with the label side facing you) in a landscape formation to the studs using drylining screws beginning at the bottom corner of the wall. Ensure that **boards are butted closely together, leaving no gaps at perimeter or between boards. Remember, sound will pass through any gaps.** If there are any little gaps fill them with flexible acoustic sealant. Fit the boards in a brick-bond formation.
4. Where PhoneStar must be cut, it is important to cut with the board laid horizontally across 2 tables or work benches to minimise sand spillage, then turn the board upright to seal the cut edges with the supplied PhoneStar Eco-tape. If too much sand filler is lost the final performance may be compromised. It is best to cut PhoneStar with a fine tooth handsaw, jigsaw or a Stanley knife. See Page 5 for more details on cutting and taping the PhoneStar boards. Where it is impractical to obtain a good fit at corners, scribe and cut as close as possible, then caulk any remaining gaps with flexible acoustic sealant.
5. Continue along wall until you have completed it. If there are any little gaps fill them with flexible acoustic sealant.
6. Bond plasterboard to PhoneStar with a quick setting adhesive foam, being careful to stagger joints so that plasterboard joints do not align with PhoneStar joints, as this may create an airpath. **It is very important to leave a 5mm perimeter gap around the plasterboard where it meets the floor, side walls and ceiling, to stop vibrations with the surrounding structures.** In addition a second layer of plasterboard can be used for fire insulation purposes, especially if the existing plasterboard was removed - again leaving a 5mm perimeter gap at the floor, walls and ceiling edges.
7. Secure plasterboard to the wall using a few secondary 6mm (diameter) hammer fixings on masonry walls, or drywall screws for stud partition, but do not over-tighten. It is the fitter's responsibility to ensure that all materials are safely and securely held.
8. Finish plasterboard ensuring all screw heads and joints are adequately sealed.
9. Seal 5mm perimeter gaps with flexible acoustic / intumescent sealant or caulking.
10. Fit skirting boards to wall ensuring no contact with the floor - leave about a 2mm gap - to reduce risk of vibration. This small space can be filled with flexible acoustic sealant or caulking if desired.

Option 2: Decoupled Wall Solution 43.5 - 46mm Thickness

Application: Higher performance, with minimal loss of living space for new or existing masonry or stud partition walls. If the walls are uneven, batten them first, as per Option 3. This is a very popular choice for achieving excellent sound insulation through walls.

Materials List:

- Resilient bars Ref: RB1 (3M x 75mm x 16mm LxHxD)
 - 6mm (diameter) hammer fixings to secure resilient bars into masonry **or** drywall screws if it is a stud wall
 - PhoneStar Acoustic Insulation (1200 x 800 x 15mm WxHxD)
 - PhoneStar Eco-tape (50M x 50mm)
 - Drywall screws (25mm length)
 - Acoustic (blue) plasterboard (2400mm x 1200mm x 12.5/15mm HxWxD)
 - Drywall screws (38 - 42mm length)
 - Flexible mastic or Acoustic / Intumescent Sealant
- **Optional** - if bonding plasterboard to PhoneStar use Adhesive Foam and Foam Gun (approx. coverage per can is 15m²) **or** a Permanently Flexible Adhesive
- Secondary drywall screws (38 - 42mm length)



Installation Instructions - (Read all steps before fitting)

1. Remove the skirting boards, architraves and coving, if in position. It is strongly recommended to remove any existing plasterboard because sound often reverberates behind it on masonry walls due to dot and dab. There can also be electric wires or water pipes behind plasterboard, so safety is key. However leave actual plaster in place. Examine the wall thoroughly and if there are any holes or gaps, fill them with flexible sealant. Establish where the studs are located and their spacing, if it is a timber or steel stud wall, and mark their position on the floor/ceiling for reference. If it is a bare masonry wall remove any loose material using a wire brush.
2. Fix the Resilient Bars horizontally so that the pre-drilled screw holes are at the bottom of the bar and screw through these holes using drywall screws if it is a stud wall, **or** using 6mm hammer fixings if it is a masonry wall. The fixings should be embedded into the wall by at least 40mm excluding any existing plasterboard and any void behind it. It is the fitter's responsibility to ensure that all materials are safely and securely held, as they will be supporting your new soundproofed wall. Begin at the bottom and place the first resilient bar near the floor, but **NOT** touching it. Continue on at 400mm centres but it is recommended to centre the 3rd bar at 800mm up from the floor. Then the PhoneStar boards will meet at a resilient bar as they are 800mm high. You will need a bar at the top of the wall close to the ceiling but **NOT** touching it (regardless of the distance between the top 2 resilient bars). Also do **NOT** allow the resilient bars to touch the adjoining walls - leave a 5mm gap. Cut the resilient bars with a tinsnips or hacksaw if necessary. If resilient bars need to be joined up, overlap 2 bars by 50mm max and screw through this overlap into a stud or the masonry wall. Mark the position of the ridged part of the bars on the surrounding walls as a reference point. This process decouples the new soundproofed wall from the original wall which reduces vibration, so enhances results significantly.
3. Begin at the bottom corner of the wall, and holding PhoneStar (with the label side facing you) in a landscape position, screw through it into the ridged part of the Resilient Bars, using 25mm long drywall screws at 150mm centres. Be careful to leave screw head just below the board surface. It is very important **NOT** to let screws go through into the wall, as this will cause sound bridges.
4. Continue across the wall in brick-bond formation ensuring that **boards are butted closely together, leaving no gaps at perimeter or between boards**. Remember, sound will pass through any gaps. If there are any little gaps fill them with flexible acoustic sealant.
5. Where PhoneStar must be cut, it is important to cut with the board laid horizontally across 2 tables or trellises to minimise sand spillage, then turn the cut board upright to seal the cut edges with PhoneStar Eco-tape. If too much sand filler is lost the final performance may be compromised. It is best to cut PhoneStar with a fine tooth handsaw, jigsaw or Stanley knife. See Page 5 for more details on cutting and taping the PhoneStar boards. Where it is impractical to obtain a good fit at corners, scribe and cut as close as possible, then caulk any remaining gaps with flexible acoustic sealant.
6. Attach the acoustic plasterboard by screwing 38 - 42mm drywall screws through the plasterboard, PhoneStar and in through the ridged part of the resilient bars, again at 150mm centres. Where practically possible make sure plasterboard joints do not align with joints on the previous board, as this may create an airpath. **It is very important to leave a 5mm perimeter gap around the plasterboard at the wall edges, to stop vibrations with the surrounding walls, floor and ceiling.** In addition a second layer of plasterboard can be used for fire insulation purposes, especially if the existing plasterboard was removed - again leaving a 5mm perimeter gap around the edges. **Optional:** Bond plasterboard to PhoneStar using quick setting adhesive foam **or** a flexible grab adhesive. If plasterboard has been bonded secure it in place with a few drywall screws, through the plasterboard, PhoneStar and resilient bars only.
7. Finish plasterboard ensuring all screw heads and joints are adequately sealed. Seal 5mm perimeter gaps with flexible sealant.
8. Fit skirting boards to wall ensuring no contact with the floor - leave about a 2mm gap - to reduce risk of vibration. This small space can be filled with flexible acoustic sealant or caulking if desired.

Option 3: Decoupled Battened Wall Solution 67.5 - 94mm Thickness

Application: Ultimate performance, whilst maintaining minimal loss of living space for new or existing masonry or stud partition walls. Best solution for noise reduction on both even and uneven walls.

Materials List:

- 48mm x 24mm or 48mm x 48mm (WxD) timber studs
- 6mm diameter Hammer Fixings to secure studs to masonry wall or Drywall screws to secure studs to timber / metal stud wall
- **Optional** - 25mm or 50mm thick x 600mm W dense mineral wool (45kg/m³) or Pavaflex flexible wood fibre (50kg/m³) to suit stud
- Resilient bars Ref: RB1 (3M x 75mm x 16mm LxHxD)
- PhoneStar Acoustic Insulation (1200 x 800 x 15mm WxHxD)
- PhoneStar Eco-tape (50M x 50mm)
- Drywall screws (25mm length)
- Acoustic (blue) plasterboard (2400mm x 1200mm x 12.5 or 15mm HxWxD)
- Drywall screws (38 - 42mm length)
- Flexible Mastic or Acoustic / Intumescent Sealant

- **Optional** - if bonding plasterboard to PhoneStar use Adhesive Foam and Foam Gun (approx coverage per can is 15m²) or a Permanently Flexible Adhesive
- Secondary drywall screws (38 - 42mm length)

Installation Instructions - (Read all steps before fitting)

1. Remove the skirting boards, architraves and coving, if in position. It is strongly recommended to remove any existing plasterboard because sound often reverberates behind it on masonry walls due to dot and dab. There can also be electric wires or water pipes behind plasterboard, so safety is key. However leave actual plaster in place. Examine the wall thoroughly and if there are any holes or gaps, fill them with flexible sealant. Establish where the studs are located and their spacing, if it is a timber or steel stud wall, and mark their position on the floor/ceiling for reference. If it is a bare masonry wall remove any loose material using a wire brush.
2. Secure stud battens to a masonry wall with 6mm diameter hammer fixings so that they are embedded 40mm min into the actual masonry (excluding any existing battens, plasterboard or void). Space the battens at suitable centres so that the recommended mineral wool or Pavaflex will be a push fit. If it is a timber / metal stud wall with plasterboard in place, use drywall screws through the new timber stud, plasterboard and into the original stud. If it is an exposed timber / metal stud wall, use the existing studs. It is recommended to insert dense mineral wool or Pavaflex between these exposed stud battens to absorb reverberations. **Alternatively** a 50mm timber or metal stud frame can be installed totally independently from the existing wall (min 10mm gap) for the best possible as vibrations will be totally reduced.
3. Fix the Resilient Bars horizontally so that the pre-drilled screw holes are at the bottom of the bar and screw drywall screws through these holes into the stud battens only. It is the fitter's responsibility to ensure that all materials are safely and securely held, as they will be supporting your new soundproofed wall. Begin at the bottom and place the first resilient bar near the floor, but **NOT** touching it. Continue on at 400mm centres but it is recommended to centre the 3rd bar at 800mm up from the floor. Then the PhoneStar boards will meet at a resilient bar as they are 800mm high. You will need a bar at the top of the wall close to the ceiling but **NOT** touching it (regardless of the distance between the top 2 resilient bars). Also do **NOT** allow the resilient bars to touch the adjoining walls - leave a 5mm gap. Cut the resilient bars with a tinsnips or hacksaw if necessary. If resilient bars need to be joined up, overlap 2 bars by 50mm max and screw through this overlap into a stud. Mark the position of the ridged part of the bars on the surrounding walls as a reference point. This process decouples the new soundproofed wall from the original wall which reduces vibration, so enhances results significantly.
4. Begin at the bottom corner of the wall, and holding PhoneStar (with the label side facing you) in a landscape position, screw into the ridged part of the Resilient Bars, using 25mm long drywall screws at 150mm centres, being careful to leave screw head just below the board surface. It is very important **NOT** to let screws go through into the studs, as this will cause sound bridges.
5. Continue across the wall in a brick-bond formation ensuring that **boards are butted closely together, leaving no gaps at perimeter or between boards**. Remember, sound will pass through any gaps. If there are any little gaps fill them with acoustic sealant.
6. Where PhoneStar must be cut, it is important to cut with the board laid horizontally across 2 tables or work benches to minimise sand spillage, then turn the board upright to seal the cut edges with PhoneStar Eco-tape. If too much sand filler is lost the final performance may be compromised. It is best to cut PhoneStar with a fine tooth handsaw, jigsaw or Stanley knife. See Page 5 for more details on cutting and taping the PhoneStar boards. Where it is impractical to obtain a good fit at corners, scribe and cut as close as possible then caulk any remaining gaps with flexible acoustic sealant.
7. Attach the acoustic plasterboard by screwing 38 - 42mm drywall screws through the plasterboard, PhoneStar and in through the ridged part of the resilient bars, again at 150mm centres. Where practically possible make sure plasterboard joints do not align with joints on the previous board, as this may create an airpath. **It is very important to leave a 5mm perimeter gap around the edges, to stop vibrations with the surrounding walls, floor and ceiling**. In addition a second layer of plasterboard can be used for fire insulation purposes especially if the original plasterboard was removed, again leaving a 5mm perimeter gap around the walls.
Optional: Bond plasterboard to PhoneStar using quick setting adhesive foam or a permanently flexible adhesive. If plasterboard has been bonded secure it in place with a few drywall screws, through the plasterboard, PhoneStar and resilient bars only.
8. Finish plasterboard ensuring all screw heads and joints are adequately sealed. Seal 5mm perimeter gaps with flexible acoustic sealant. Fit skirting boards to wall ensuring no contact with the floor - leave about a 2mm gap - to reduce risk of vibration. This small space can be filled with flexible acoustic sealant or caulking if desired.

Cutting and Taping Guide



Acoustic Insulation

Site Conditions:

- PhoneStar must be stored in a dry location
- PhoneStar must be stored flat
- The building structure should be watertight (unless offsite instructions are adhered to)
- Acclimatise PhoneStar in the fitting location
- Read all instructions carefully prior to fitting
- If in doubt, please call the PhoneStar support team on UK: +44 (0)20 7998 1690 or Ireland: +353 (0)1 8409 286

Cutting PhoneStar:

- Ensure careful handling to minimise filler spillage – otherwise the final performance may be compromised
- Only cut the PhoneStar board while it is laid flat
- Use a straight edge for guidance
- Cut with a jigsaw, hand saw, Stanley knife or circular saw (ceramic tile tungsten carbide grit jigsaw blade, or general purpose tungsten carbide fine tooth circular saw blade - for longevity)
- Immediately seal all cut edges with PhoneStar Eco-Tape while holding the board upright - see below

Taping the Cut Edges of PhoneStar with PhoneStar Eco-Tape

PhoneStar cut edges must be immediately taped after each single cut, in order to seal the sand filler. Otherwise the final performance of the PhoneStar sound insulation system may be compromised.



1. Hold the cut edge upwards. Roll out the tape with a 3 to 5cm overhang at each side.



2. Press and smooth the tape down onto the cut edge.



3. Tear the tape to length.



4. Press and smooth the tape down both edges.



5. Press and smooth the tape down both front and back faces.



6. Fold in the remaining wings onto both front and back faces.

A professionally cut and taped PhoneStar board, which is simple to do.

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