Case Study showing PhoneStar Soundproofing Board being Installed on Existing Walls in a Refurbishment Situation

These walls have been stripped back to the bare bricks. Although this is not necessary it allows the installer to seal any gaps in the mortar or around electric wiring as well as all the perimeter edges. In addition it saves living space.

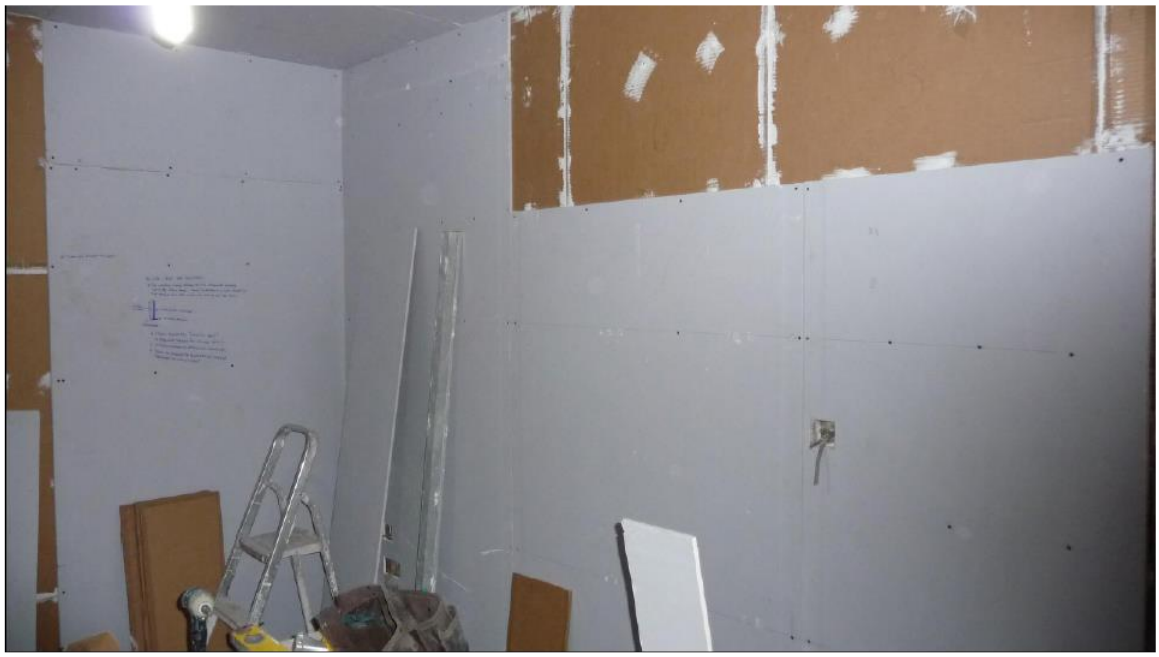
In this situation the installer has opted to use dot and dab to attach the British Gypsum Gypframe C Studs vertically onto the wall. This reduces the risk of sound bridges being created as there are no mechanical fixings going through into the wall. The PhoneStar system will now be almost completely decoupled from the original wall. Another alternative is to screw timber studs on to the wall. Flexible thermal insulation can optionally be put between the studs. In this case the installer has also treated the ceiling with the PhoneStar system. This should be done first so that the PhoneStar boards completely cover the ceiling. Then the PhoneStar on the walls butt up to these ceiling boards to create an acoustic seal. Plasterboard is fitted to the ceiling and walls at the very end of the project.

Resilient Bars are then installed horizontally on to the C studs at 400mm centres. The bottom bar should be positioned close to the floor and the top bar should be close to the ceiling but they must NOT touch the floor, the ceiling or the surrounding walls as this will cause noise to transfer into these structures.

The PhoneStar boards are screwed to the Resilient Bars only using 25mm drywall screws. These screws must NOT penetrate into the wall or C Studs. NB: The PhoneStar boards should now be installed in a landscape formation rather than a portrait formation as shown here. If possible, fix the boards in a brickwork formation. Butt the boards tightly up to each other and to the perimeter walls, floor and ceiling. Ensure the PhoneStar board edges are sealed with PhoneStar Eco-Tape after cutting to minimise sand spillage.

The PhoneStar boards can optionally be sealed with flexible sealant at the joints and perimeter, to ensure there are no gaps to allow sound to escape through. The screw heads are also sealed in this case.

This wall has been completely covered in PhoneStar boards so that they are tightly butted up to the PhoneStar boards on the ceiling.



Acoustic plasterboard is then secured by screwing into the resilient bars only, using 38-42mm drywall screws. If possible use a brickwork pattern. If you are only treating the walls and not the ceiling then leave a 5mm gap all around the perimeter edges and seal this gap with permanently flexible acoustic sealant. In this case the ceilings and walls have both been upgraded to create an acoustic seal, so the plasterboard can go into the corners.

This shows the finished walls and ceiling, apart from around the window. Please note the gap at the very bottom of the plasterboard at floor level. This should be sealed with permanently flexible acoustic sealant. The plasterboard joints and screw heads are then sealed as normal. The skirting board should have a very small gap between it and the floor to reduce the risk of flanking sound.

This system should substantially reduce both airborne and structural noise coming through the walls so that unwanted noise will no longer be a problem.