

7.4 PENETRATIONS IN NOISE CONTROL WALLS

Any penetrations in Noise Control systems, like door openings, recessed light fittings to the walls or ceilings, power outlets, pipes, or any HVAC [heating, ventilating, and air conditioning] systems, could possibly degrade the airborne or impact sound acoustic performance of the Noise Control systems. For more information and installation details refer to GIB® Noise Control System.

NOTE: Where a Fire Resistance Rating is required, refer to relevant details in this document, Gib® Fire Rated Systems October 2012 and Penetrations in GIB® Fire Rated Systems.

It is to be remembered that the acoustic data referenced in this document were obtained in a controlled environment during laboratory testing. Even with the greatest attention to detail during installation, it should be noted that the laboratory values could be degraded by various on-site conditions such as number and type of penetrations, as described earlier.

Some possible causes of STC rating degradation could be:

- » Minute air gaps, leaks between the wall and the penetrating items, such as power outlets, light switches, recessed light fitting in the walls, door jambs, penetrating pipes etc. Minute air gaps for leaking sound are similar to cracks in a water tank.
- » Replacing part of the higher acoustic properties Noise Control system, with a lower acoustic properties item, e.g. doors, openings, power outlets, light switches, lights etc.
- » Using rigid structural connections between parts of the system, e.g. penetrating pipe fastened to both sides of the wall.

- » Introducing a sound or vibration source within the Noise Control system, like water pipes in the wall cavity etc. For example pipes not fastened correctly could cause the pipes to hammer in the wall.

The key to maximise acoustic performance is thorough and accurate implementation of all details with the use of high quality materials as specified.

Maximising Acoustic Performance could be achieved by:

- » Sealing all minute air gaps around penetrations, the perimeter of the wall and ceiling with GIB® Soundseal acoustic sealant.
- » Install insulation to fill the wall cavity, as and where specified.
- » Avoid back to back penetrations in the wall, stagger them instead whenever possible.
- » Offset flush boxes in neighbouring SRP™ Stud bays. Use GIB® Soundseal acoustic sealant around the perimeter of the box, and ensure insulation is uninterrupted behind the box [see FIGURE 33]. If this is not possible, use the option of a surface mounted box.
- » Install as high STC rating doors as possible if available, as the noise control rating of the entire wall is usually heavily degraded by the STC rating of the door.

FIGURE 33 Penetration in Noise Control Walls

