

NeighbourZone™ Noise Reduction Solutions



System NZ3 Plasterboard Wall Upgrade Rw=55dB

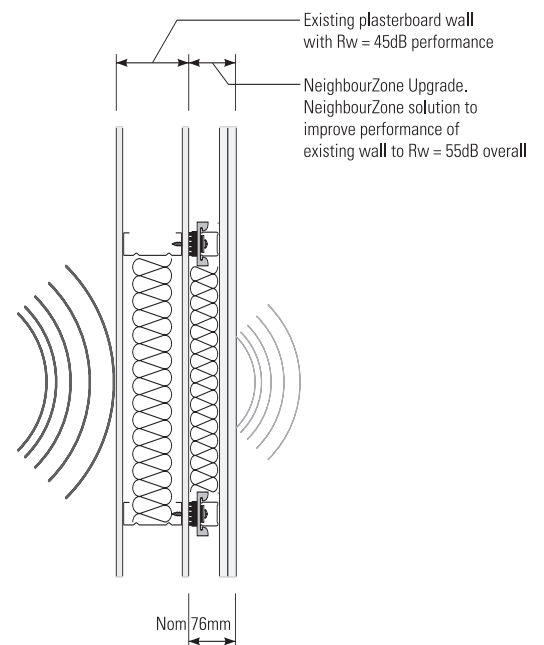
NeighbourZone™ is a suite of plasterboard systems specifically developed to reduce neighbour noise that can be heard through existing dividing walls between dwellings.

All NeighbourZone™ systems are applied to one side of the wall and designed to reduce the level of noise in critical frequencies by approx 10dB, effectively halving the level of neighbour noise.

Application

Substrate: System NZ3 is suitable only for upgrading of existing plasterboard walls

Neighbour noise problem: Voices
TV
Phone ringing / answering machine
Plumbing



System Description

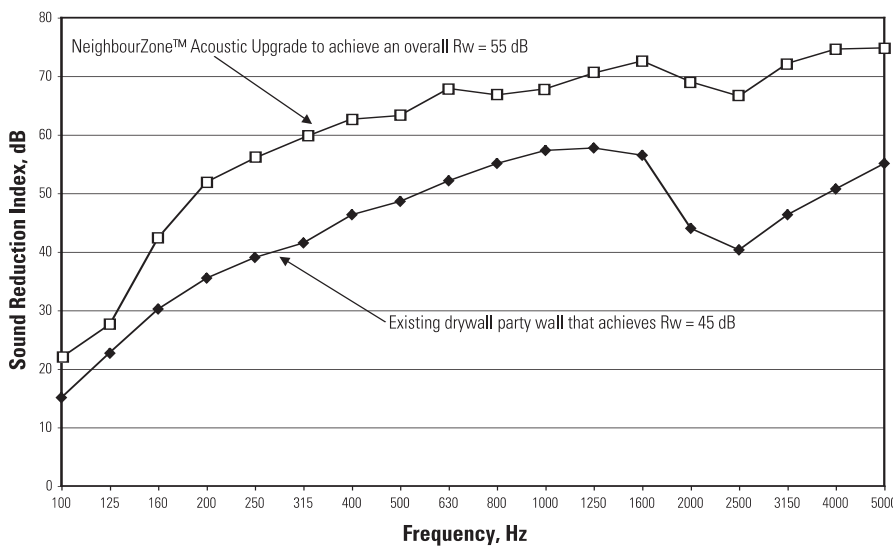
Upgrade of existing plasterboard wall consisting of:

- 2 layers of 13mm Boral SoundStop® Plasterboard
- 28mm Rondo furring channels
- Rondo STWC sound isolation mounts
- 50mm Sonobatt Type 1 glasswool insulation

Upgrade width: 76mm nom.

Acoustic Performance

Target Acoustic Rating: Rw=55dB¹



The graph on the left shows the improvement that will be achieved over various frequency bands². The noise problems identified typically occur between the 250 Hz and 1000 Hz frequency bands. NeighbourZone™ system NZ3 clearly meets the target 10 dB improvement in these frequencies (or subjectively halving the noise).

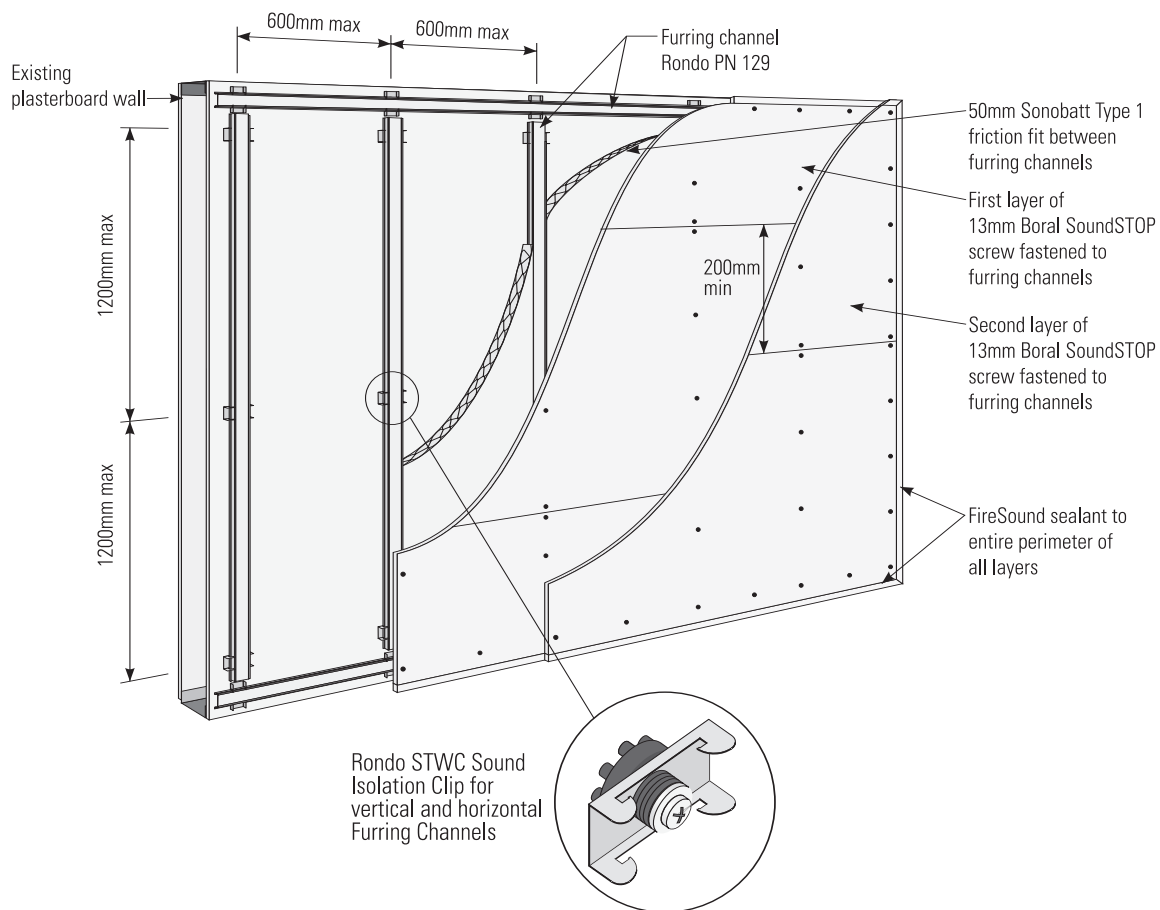
¹ The Rw, or weighted Sound Reduction Index, is a single-number rating used to compare the sound insulation properties of walls, floors, ceilings, windows or doors. The higher the Rw rating - the better the sound isolation provided. Target acoustic rating applies to dividing walls with Rw=45dB – the minimum requirement of the Australian Building Code for walls that separate sole-occupancy units, apartments and townhouses.

² The improvements shown are indicative only. Actual improvements achieved will be dependent on specific site conditions.

Construction Checklist

- Remove existing cornice and skirting
- Cut back any carpet sufficient to allow base of plasterboard in NeighbourZone™ system to be sealed against concrete slab or timber floor.
- Cut-back nominally 300mm of ceiling if NeighbourZone™ system is required to extend through to underside of floor/roof above³. (Note: do not cut-back if ceiling is fire rated.)
- If required, extend electric wiring from existing GPO's so that fire-rating of existing wall is not downgraded.
- Fix Boral Acoustic Impact Clips @ max. 1200mm. vertical cts. and 600mm horizontal cts.
- Install furring channels vertically at max. 600mm centres, and horizontally at top and bottom of wall.
- Install Insulation Solutions 50mm thick Sonobatt Type 1 glasswool batts (32 kg/m³ density) tight between furring channels.
- Fasten each layer of Boral SoundStop® plasterboard to furring channels with screws at 400mm max. centres in the field of the board and at 300mm max. centres on sheet edges. Leave a nom. 6mm gap around perimeter and fill with FireSound sealant (the first layer of SoundStop® plasterboard can sit on a nom. 6mm closed cell acoustic foam in lieu of sealant).
- If GPO's are required, box in or use proprietary acoustically rated GPO such as HPM acoustic/fire box.

Installation Details



³ This is required where a significant flanking path occurs via the party wall above the ceiling line and through the adjacent ceiling. Typically, this will be where the bare masonry wall extending above the ceiling line is causing sound leakage due to penetrations, cracks in mortar joints, or unsealed joints, and where the adjacent ceiling has a number of penetrations including down lights and a/c or heater vents. Treating only up to the ceiling line in this case will yield an unsatisfactory result.