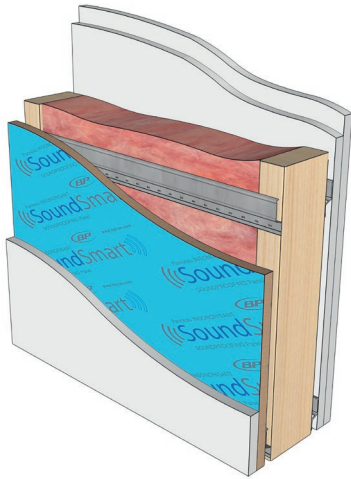




BUILDING PRODUCTS OF CANADA CORP.

FOR OVER 100 YEARS



(((SoundSmart)))

## STC 57 INTERIOR WALL ASSEMBLY

# APPLICATION INSTRUCTIONS

### FIELD STORAGE AND HANDLING

**SoundSmart** panels should be stored inside, laid flat and under conditions appropriate to their use. Cover and protect well when stored outside at min 100 mm (4 in) off the ground. Never leave fiberboard panels outside unprotected.

Panels with broken edges or punctures should not be installed. Use them in areas where they can be cut clean for further usage.

### FASTENING

Use screws to fasten **SoundSmart** panels. Nails and staples are not recommended for this wall assembly.

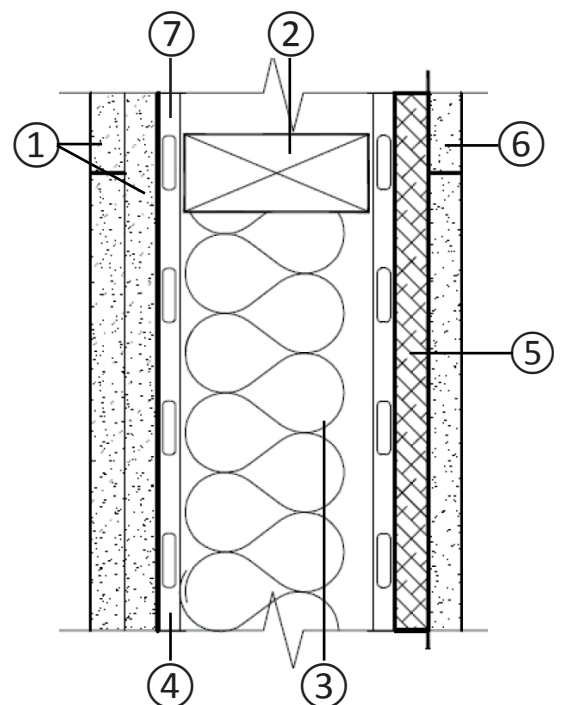
- Install **SoundSmart** panels vertically starting at a corner or at the end of a wall band, with aluminum membrane facing the source of noise.
- Fasten sheathing to framing members starting from the center of the sheet toward edges, then around window and door openings.
- Set screws at precisely 9.5 mm (3/8") from edges for all panel joints and at 19 mm (3/4") for all other edges and perimeters to firmly anchor the screw into the framing member.
- Drive screw head flush with surface, do not countersink.
- In order to benefit from the decoupling effect of a resilient metal channel, make sure that the screws used to fasten the panel to the resilient channel will not penetrate nor contact the studs.

## INSTALLATION

The following installation instructions provides an STC rating of 57, as validated by the National Research Council of Canada (NRC - CNRC).

1. Build a 38x89 mm (2 x 4) wood framing partition with members spaced 610 mm (24 in) on-center.
2. Starting from the side of the partition where the noise originates, attach 25 ga. lightweight resilient channels horizontally onto the wood frame, with fixation holes downward and large flange up, using 32 mm (1-1/4") Type-W or Type-S screws. Set channels 610 mm (24 in) apart starting 460 mm (18 in) from the bottom of the partition up to no more than 150 mm (6 in) from the top of the partition.
3. To reduce sound flanking to minimum, apply a 75 mm (3 in) wide fibreboard strip at the bottom and top of the partition. Apply a bead line of acoustic sealant to the front and back of the strip for it adheres to both the bottom plate and the SoundSmart panels.
4. Apply one layer of SoundSmart panels, with aluminum foil facing away from channels, using 32 mm (1-1/4") type S Bugle head screws to fasten SoundSmart panels to the resilient channels every 610 mm (24") o.c. Make sure that the screws do not contact the studs. Seal all gaps at joints and perimeter using an acoustical sealant and cover with an adhesive aluminum foil tape.
5. Cover SoundSmart panels with one layer of 15.9 mm (5/8 in) Type X gypsum boards. Offset gypsum boards and SoundSmart panels by at least one stud spacing. Use 32 mm (1-1/4") Type-S drywall screws.
6. Fill wall cavity with 89 mm (3-1/2") thick sound attenuation batts or regular R12 fiber glass batts.
7. Close the partition with two layers of 15.9 mm (5/8") Type X gypsum boards mounted on resilient channels. Offset the base layer of gypsum boards by at least one stud spacing from SoundSmart panels located on the other side of the cavity and repeat with the top layer of gypsum boards. Use 32 mm (1-1/4") Type-S drywall screws to fasten the base layer to the channels and 41 mm (1-5/8") type-S drywall screws for the top layer at 305 mm (12 in) o.c. along edges and 610 mm (24 in) o.c. in the field. Make sure that the screws do not contact the studs.
8. Finish all joints and gaps with a fiberglass mesh tape and joint compound, according to manufacturer's instructions.

- ① Type X gypsum board (15.9-mm thick)
- ② Wood studs spaced at 610 mm o.c. (38-mm x 89-mm)
- ③ Glass fiber insulation batts (89-mm thick)
- ④ Resilient metal channels spaced at 610 mm o.c.
- ⑤ SoundSmart panel (15.9-mm thick)
- ⑥ Type X gypsum board (15.9-mm thick)
- ⑦ Fiberboard strip (not shown)



## Code compliance

The National Building Code (NBC 2015, Div. B, Sentence 9.11.1.1) requires that separating assemblies between dwellings provide a sound transmission class (STC) rating of not less than 50. Flanking or indirect sound traveling through small openings and junctions between walls and floors is a determining factor in the overall acoustic performance of an acoustic assembly. Consult a professional acoustic specialist should to optimize the acoustic performance of your wall or floor assembly and ensure the compliance to all standards mandated by national and local building codes.