



# SONOPAN

The Acoustical Panel Above All!

A composite image for an advertisement. The top half shows a light-colored wood-grain background with the SONOPAN logo and tagline. The bottom half features a stack of three green, perforated acoustic panels. To the left of the panels is a close-up of a black speaker. The background is divided into four colored quadrants: dark green (top-left), blue (top-right), orange (bottom-left), and white (bottom-right).

**Noise  
is no longer a problem**

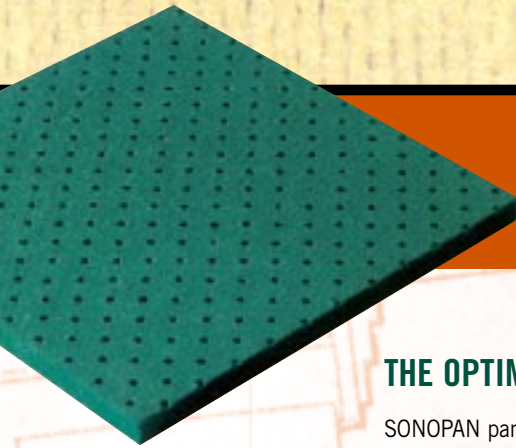


**LOUISEVILLE**  
*Speciality Products*

# Louiseville Speciality Products

**OUR REPUTATION IS BUILT ON YOUR SATISFACTION**

Louiseville Speciality Products produces fiberboard panels for the construction industry.



## SONOPAN panels

### THE OPTIMUM SOUND BARRIER

SONOPAN panels are an efficient acoustical insulation offering a soundproofing board that is adaptable to all types of construction. In the reduction of airborne noise, SONOPAN panels offer unsurpassed performance at a reasonable price.

Made up essentially of post-industrial wood shavings and wax, the Louiseville Speciality Products panels respond to the specific needs of new constructions or renovations in the residential, commercial, institutional or industrial markets. SONOPAN is a natural product: gloves, or other protective clothing are not necessary for installation since it does not contain any toxic agents.

Louiseville Speciality Products strictly controls each step of production process, thereby ensuring the consistent quality of its products. SONOPAN is no exception! The manufacturing process and product are patented both in Canada and the United States.

### SUMMARY OF THE ADVANTAGES OF SONOPAN PANELS

- Low cost;
- Consistent dimensions;
- Lightweight, easy to cut and install;
- Offers a continuous acoustic sound barrier;
- Manufactured with natural post industrial content;
- Non-toxic;
- Available at most building materials retailers;
- Fire retardant version available - SONOSECUR\*.

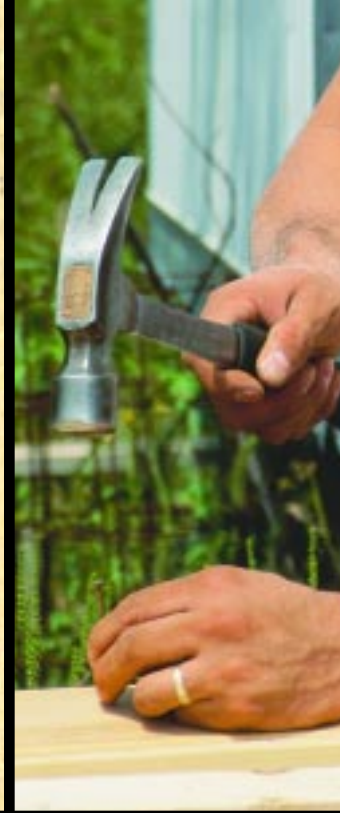
\* Louiseville Speciality Products has perfected a fire-retardant version: SONOSECUR panels have the same acoustical properties and is recommended for commercial applications.



All our products are:

- Manufactured with natural contents, non-toxic
- Stable, lightweight and easy to install

Registered under the International Standards ISO 9001-2000, Louiseville Speciality Products has built its reputation on the quality of its products, the respect, customer service and by continuously exceeding the highest standards in the construction industry.



## Sound Transmission Class (STC)

The decibels (dB) is a measure of sound intensity; that is, the magnitude of the fluctuations in air pressure caused by sound waves. The decibel scale is logarithmic, not arithmetic.

A complete silence corresponds to a 0 dB level of sound, a normal business office, 60 dB, a moving car, 80 dB and a plane at takeoff, approximately 100 dB. The level of sound between the transmitter and the receiver should decrease with distance and obstacles. Therefore, a wall or ceiling between two apartments can reduce the sound transmission.

The acoustical requirements defined by the National Building Code of Canada 1995 (modified), state in paragraph 9.11.2.1.1 that "each housing unit must be separated from every other part of the building where noise can occur, by a construction having a sound class of at least 50." Article 9.11.2.1.2 states, that "the construction separating a housing unit from an elevator shaft or a garbage chute must have a sound transmission class of at least 55." The indicators are measured according to sub-section 9.11.1 or are indicated in note A-9.10.3.1. Divisions having an STC inferior to 50 can be built between rooms in the same housing unit.

Suppose you are in a room next to one where two people are having a conversation. According to the construction of the wall and its acoustic performance, the STC illustrates what you can hear...

**STC 35:**

A discussion in a normal voice is audible and clear.

**STC 40:**

A loud voice is audible, but unclear.

**STC 45:**

A loud discussion is barely audible.

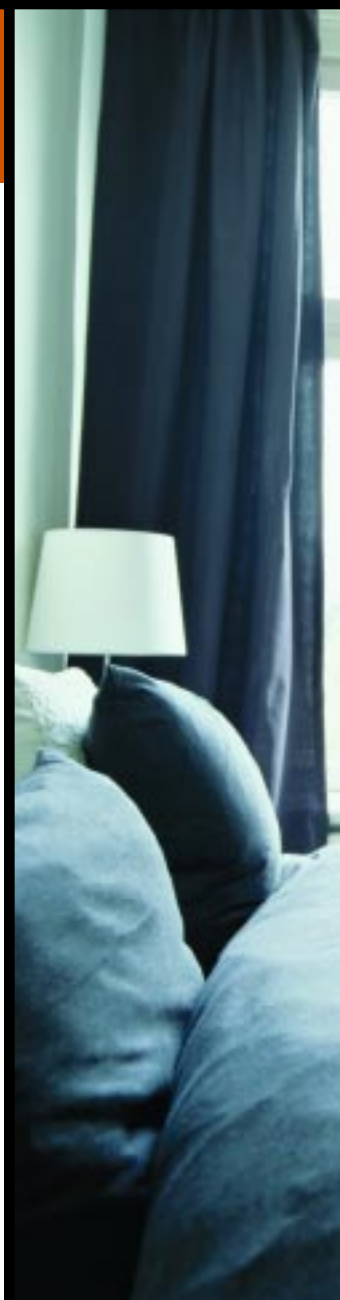
**STC 50:**

A loud discussion can almost not be heard.

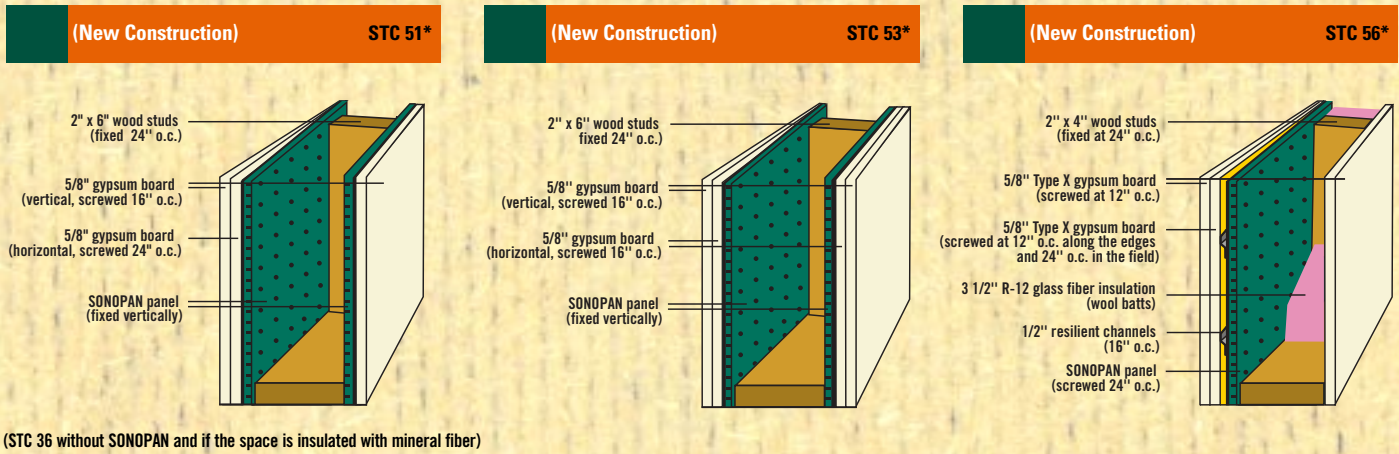
**STC 55:**

A loud discussion is inaudible.

A sound transmission class (STC) is calculated in decibels. Higher the rating is, more noise level is subsided.



# Walls Assemblies

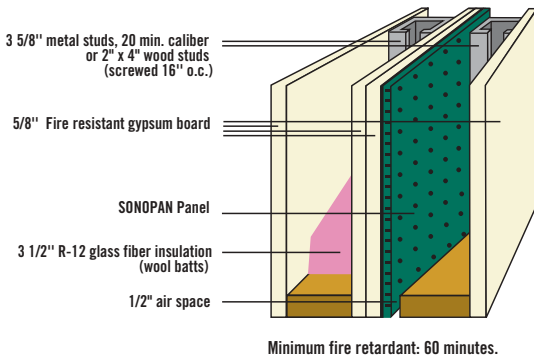


## Housing Unit Wall Type (New Construction) FSTC 56

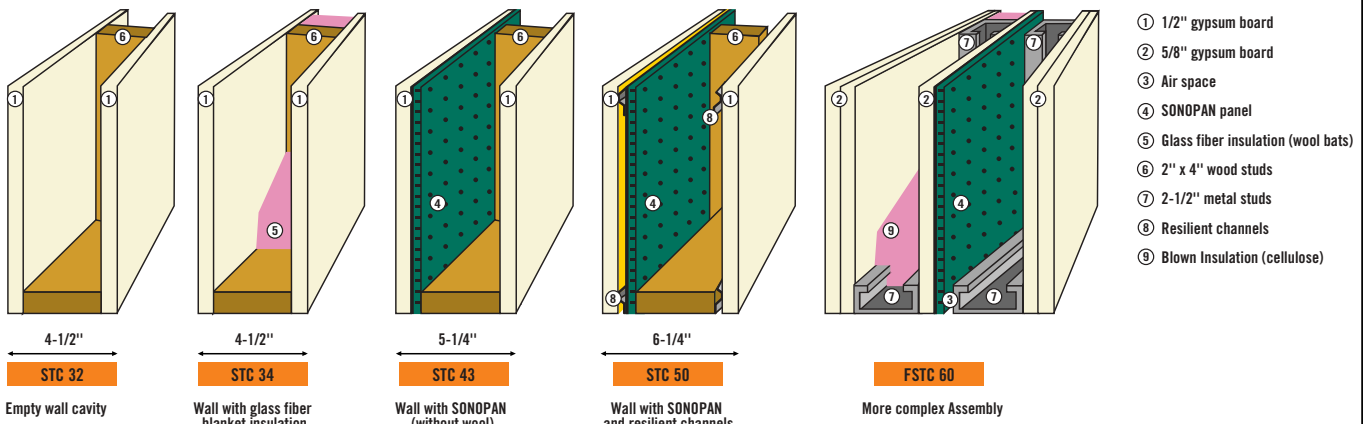
This assembly can be used for load-bearing walls, in accordance with the National Building Code of Canada 1995 (modified) for this type of construction.

This assembly is conformant to CAN/ULC-S101 standards.

Evaluation completed in 1992, confirmed that this type of assembly meets the requirements of the National Building Code of Canada (NBC) and can therefore be used in fireproof type buildings, in commercial applications.

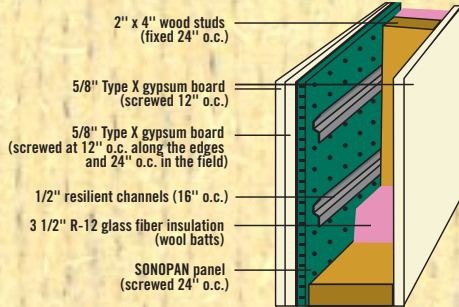


## Comparison Table, Interior Walls, Wood or Metal Studs (New Construction)



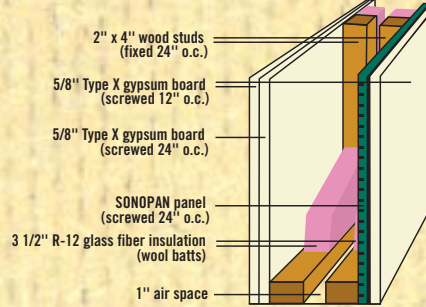
(New Construction)

STC 58\*



(New Construction)

STC 68\*

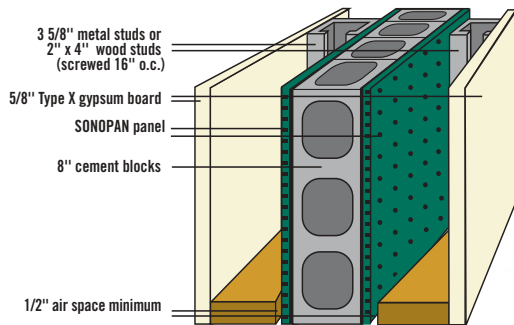


Assemblies conformant to the requirements of Article 9.11.2.1 of the National Building Code of Canada 1995. For use between housing units: STC over 50.

\*Acoustical performance evaluated by the National Research Council of Canada (NRC)

Wall Partition  
(New Construction)

FSTC 57 estimated  
(without insulation)



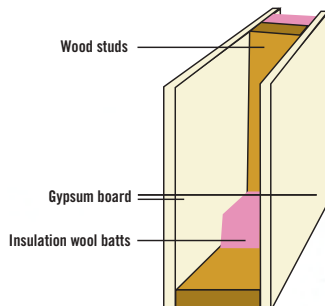
The sound transmission class (STC) had been established in accordance with ASTM<sup>1</sup> 413-87 (1994), based on testing in accordance with ASTM<sup>2</sup> E 90-97. The impact insulation class (IIC) had been established in accordance with ASTM<sup>3</sup> E 989, based on testing in accordance with ASTM<sup>4</sup> E 492-90.

The suggested assemblies in this document with sound transmission class (FSTC) and impact insulation class (FIIC), "F" refers to "Field" for measures taken on a site.

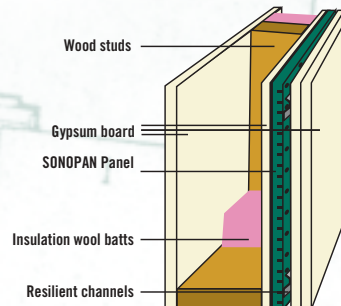
## RENOVATION - SUGGESTED ASSEMBLY

Existing wall

STC 32



Wall Enhanced with SONOPAN Panels



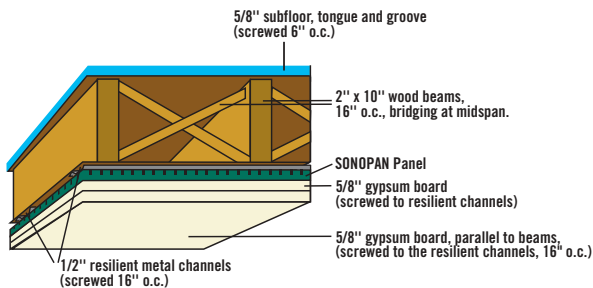
<sup>1</sup> "Classification for Rating Sound Insulation", <sup>2</sup> "Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements", <sup>3</sup> "Standard Classification for Determination of Impact Insulation Class", <sup>4</sup> "Standard Method of Laboratory Measurement of Impact Sound Transmission Through Floor-Ceiling Assemblies Using the Tapping Machine"



# Floor/Ceiling Assemblies

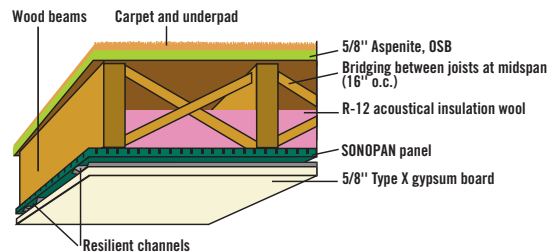
## Floors without covering (New Construction)

STC 47\*



## Floors with Carpeting (New Construction)

FSTC 53 FIC 61



\* Acoustic performances evaluated by the National Research Council of Canada (NRC)

# Installation Specification

- 1 SONOPAN panels should be kept in a dry storage area either flat or on their side to protect them until their installations.
- 2 Ensure air tightness of doors and windows, as well as of their frames, they will be your weakest link.
- 3 Verify homogeneity of walls or ceilings, since the weakest area will become the determining factor in the acoustic level of the room.
- 4 Install SONOPAN panels on wall side of the most probable source of noise. (ex.: home theatre interior walls).
- 5 The use of the SONOPAN panel in a load-bearing wall is subject to approval by a structural engineer.
- 6 For renovation jobs, strip the wall to the studs (remove gypsum board, plaster, etc.), strip ceilings to the beams (remove gypsum board, plaster, etc.), and expose floor beams.

## INSULATION

- 7 The empty space between studs should be filled to significantly reduce any "resonance" effect within the wall cavity. High density cellulose insulation, mineral or fiberglass insulation between studs, joists or beams should be used to attenuate the airborne sounds or impact noises.

## RESILIENT CHANNELS

- 8 Ensure that steel gauge of resilient channels is strong enough to support loads. Resilient channels must be spaced as follows:

For walls: screwed first resilient channels bar at 2" horizontally from floor and after every 16" o.c., on open side towards top, and stop at 6" from ceiling.



For ceilings: resilient channels should be installed perpendicular to joists at 6" from walls corners and screwed at 12" o.c. for two panels of 5/8" gypsum board and at 16" o.c. for only one panel of gypsum board. It is essential that screws penetrate at least 3/4" in the framework in a manner that ensures it is solid enough to support the load of assembly.

## ELECTRICAL EQUIPMENT

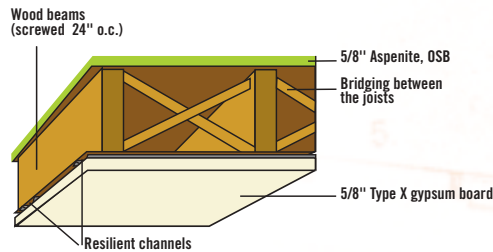
- 9 Never install electrical sockets back to back, minimum apart distance should be 30".

To ensure the continuity of the sound barrier, make small boxes with pieces of SONOPAN around electrical outlets. Same precaution must be taken with ceilings with embedded lighting, verify if it should be recovered with a heat protector approved by manufacturer to protect SONOPAN.

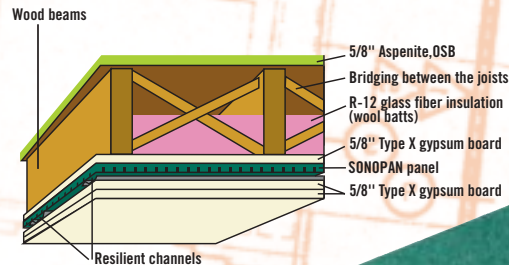
## RENOVATIONS - SUGGESTED ASSEMBLIES

### Existing Ceiling

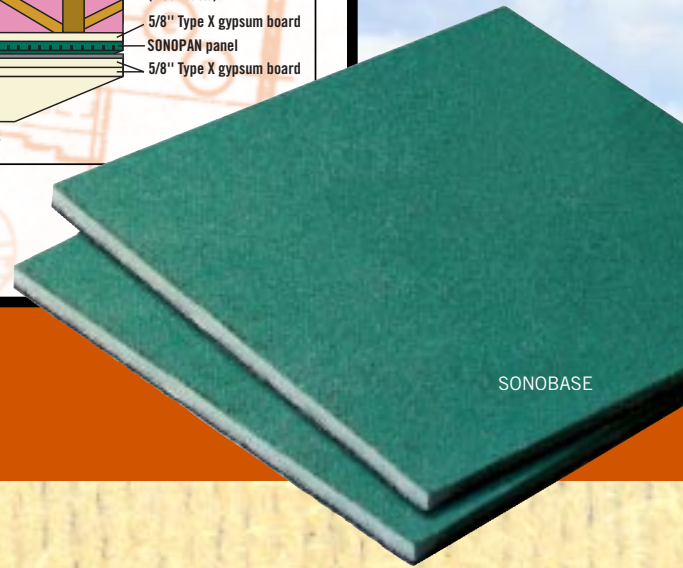
STC 38



### Ceiling Enhanced with SONOPAN Panels



SONOBASE panels are adapted to reduce impact noises from upper level floors: for more information, contact our Customer Service Department at 1-800-561-4279.



## INSTALLATION OF SONOPAN PANELS

- 10 Avoid all unnecessary cutting in SONOPAN panels.
- 11 Dimpled face (side with small perforations) should always be facing the wood or metal structure (wall cavity). Insulation wool bats, fiberglass or cellulose can rest on dimpled face without diminishing in important way efficiency of dimpled face.
- 12 Install the SONOPAN panels in the conventional manner as you would install drywall (according to the instructions described in the assembly directions), with drywall screws or asphalt paper nails at 16" at perimeter and at 6" to 8" at the center of panels. For a sturdier installation, add a washer to each screw so that the surface of the panels better grip the structure. SONOPAN panels can also be glued to the wall directly on the gypsum board or to masonry wall with an adhesive.



- 13 Cover the SONOPAN panels with gypsum board panels. Do not use SONOPAN panels as an exposed panel.
- 14 Offset the joints between the SONOPAN panels with heights of more than 8'.

- 15 Caulk the perimeter with an acoustical sealant between two adjacent panels thereby creating a continuous sound barrier on the entire surface.



- 16 Install SONOPAN panels according manufactures's instructions. A representative of Louiseville Speciality Products Inc should preauthorize all other uses of this product.

## GYPSUM BOARDS INSTALLATION

- 17 Offset or stagger the joints between the gypsum boards panels if overlapping is necessary. Also fill all cracks or openings with an acoustic sealant before applying joint compound, joint tape and the finishing.

## IMPORTANT PRINCIPLES TO REMEMBER

Never install resilient channels between two gypsum panels. This would cause a reverberation effect, thus diminishing the assembly's acoustic effectiveness.

Use only metal resilient channels: never use wood furring as a substitute.

Install temporary fire guard when soldering pipes.

Install all of the correlated accessories such as gypsum board, wool, studs, sealers, structural or other elements, according to manufacturer's recommendations and standards.

# SONOPAN

## PHYSICAL PROPERTIES AND PERFORMANCE REQUIREMENTS

Approbation CCMC # 12419-R  
Product manufactured according to CAN/ULC-S706 standards.

Properties	Requirements	Results
Density (mass volume)	ASTM D-1037	15 lbs/ft <sup>3</sup>
Transverse load at rupture	ASTM C-209	8.0 lbs
Tensile strength parallel to surface	ASTM C-209	60.7 lb/in <sup>2</sup>
Water absorption	ASTM C-209	4% P/V max.
Linear expansion	ASTM C-209	0.13%
Compressive strength (10% deformation)	ASTM C-165	20 lbs/in <sup>2</sup>
"R" Factor (3/4 in)	ASTM C-518	2.1
Dimensions	4' X 8' and 4' X 9'	
Thickness	3/4" (19 mm)	
Sheets per lift	65 ( 4' X 8' and 4' X 9')	
Average weight per sheet	4' X 8' 26.5 lbs 4' X 9' 30.94 lbs	
Post-industrial content	80%	
<b>Properties applicable solely to SONOSECUR fireproof panels</b>		
Flame spread index	CAN/ULC-S-102	20
Smoke development	CAN/ULC-S-102	15



For all complementary information, contact our Customer Service Department at:  
**1 800 561- 4279** or visit our web site at [www.materiauxspecl.com](http://www.materiauxspecl.com)



**LOUISEVILLE**  
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