Impact Insulation Class (IIC)

Impact noises come from a person walking or running, an object falling on the floor or moving furniture.

Sound vibrations are transmitted through the building structure, joists and walls, creating discomfort and noise pollution.

Impact sound is measured in terms of impact sound insulation index (IIC).

The Impact Sound Insulation Index (IIC) is an index that measures the reduction of impact sound through a floor or ceiling. The higher the index, the better the sound insulation and soundproofing.

Why use SONOPAN X

- Absorb both impact and airborn noise in the floor systems;
- Stable physical dimensions;
- Lightweight;
- Easy to cut and install;
- Maintains a continious sound barrier;
- Manufactured with 100% recycled wood;
- Non-toxic / zero off gassing;
- Less expensive while maintaining superior soundproofing;

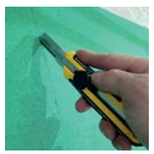
SONOPAN X®

Noise STOP Technology

Properties	Standard Limits	Nominal Value
Transverse load at rupture	ASTM C-209	≥ 3.57 kg ≥ 7.87 lb
Tensile strength perpendicular to surface	ASTM C-209	≥ 0.24 kg / cm^2 ≥ 3.41 lb / in^2
Water absorption	ASTM C-209	5 %
Linear expansion	ASTM C-209	0.13%
Compressive strength (10% deformation)	ASTM C-165	3.38 kg / cm^2 48.07 lb / in^2
"R" factor / inch (1")	ASTM C-518	R = 1.5 RSI = 0.26

Physical Properties	Metric	Imperial
Density	256 kg / m^3	16 lbs / ft^3
Dimensions	1.22 m x 1.22 m	48 inch x 48 inch
Covering per sheet	1.49 m^2	16 ft^2
Thickness	11 mm	7/16 inch
Weight per panel	6.63 kg	8 lbs
Sheets per skid	110 sheets	

Ecological Properties
0 % - VOC (g / l.) - Volatile organic compounds
100% recycled and recyclable wood fiber



Ideal for soundproofing floors:
● Condos ● Multi-housing ● Townhouses ● Rental units

For any inquiries related to the installation or application of **SONOPAN X**. Please email us at info@sonopan.com or call 1-800-561-4279

SONOPAN X®

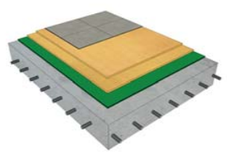
Noise STOP Technology

FOR A SUPERIOR SOUNDPROOFING TO IMPACT NOISES

MSL MSLfibre.com MSL SONOPAN.COM

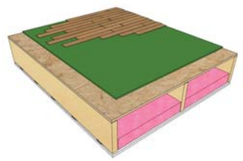
Floor Assemblies

Concrete slab construction — FIIC 56



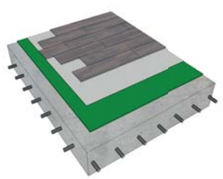
Ceramic tile
12.7 mm (1/2") Plywood
12.7 mm (1/2') Plywood
Acrylic-based floor glue
11 mm (7/16") **SONOPAN X®**
Acrylic-based floor glue
205 mm (8") Concrete slab

Wood joist construction — ITS 53 IIC 51



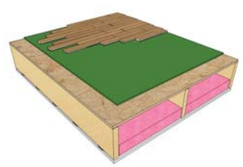
5.5 mm (13/64") SPC vinyl plank
11 mm (7/16") **SONOPAN X®**
51 mm x 254 mm (2"x10") Joist
88.9 mm (3.5") Insulation wool
12.7 mm (1/2") Resilient bar
15.9 mm (5/8") GypsumType X

Concrete slab construction — FIIC 59



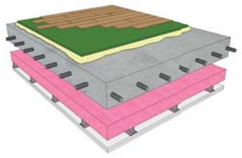
12 mm (1/2") Laminate flooring
Underlay membrane
11 mm (7/16") **SONOPAN X®**
205 mm (8") Concrete slab

Wood joist construction — ITS 53 IIC 51



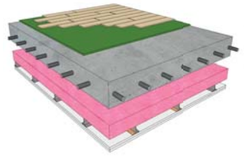
8.4 mm (21/64") Engineered floor
11 mm (7/16") **SONOPAN X®**
51 mm x 254 mm (2"x10") Joist
88.9 mm (3.5") Insulation wool
12.7 mm (1/2") Resilient bar
15.9 mm (5/8") Gypsum Type X

Concrete slab construction — ITS 62 IIC 66



5.5 mm (13/64") SPC vinyl plank
11 mm (7/16") **SONOPAN X®**
Acrylic based floor glue
152 mm (6") Concrete slab
305 mm (12") Drywall hanger system
88.9 mm (3.5") Insulating wool
5.9 mm (5/8") Gypsum Type X

Concrete slab construction — ITS 62 IIC 65



8.4 mm (21/64") Engineered floor
11 mm (7/16") **SONOPAN X®**
152 mm (6") Concrete slab
305 mm (12") Drywall hanger system
88.9 mm (3.5") Insulating wool
5.9 mm (5/8") GypsumType X

***Adding a **SONOPAN®** panel to the ceiling will help to increase the level of soundproofing in STC and IIC by a few additional points.

Installation

Site conditions and SONOPAN X® conditioning

SONOPAN X® acoustic panels are manufactured from natural recycled wood fibres. Wood is a living material. **SONOPAN X®** conditioning that all other wooden floors coverings.

This information is available on **SONOPAN X®**'s page at: www.sonopan.com and www.mslfibre.com

Before installing **SONOPAN X®** and finished flooring, all openings should be installed and closed: doors, windows, garage doors, etc. The **SONOPAN X®** acoustic panels should be stored on job site (always inside and laid flat) for approximately 48 hours in order to reach the recommended ambient conditions. (Relative humidity degree should be within 25% and 55%.)

Preparation (concrete and wooden subfloor)

The underlayment for **SONOPAN X®** should be thoroughly cleaned, free from any loose debris, perfectly flat and level. The unevenness degree accepted is 5mm (3/16") on 3m (10') length. Uneven spots should be either grinded down or filled with appropriate levelling compound. When installing **SONOPAN X®** on concrete subfloor, ensure that the concrete is perfectly dried.

When installing **SONOPAN X®** on a wooden subfloor, this subfloor should be a minimum thickness of 5/8" (16mm) with tongue and groove side edges type. Ensure the wooden subfloor (plywood or other wood panel) is firmly fixed to the floor structure to avoid panel's movement and creaking.

SONOPAN X® panels should be staggered 24 inches (610 mm) from each other to prevent end-joint alignment effect. Ensure that joints between **SONOPAN X®** acoustic panels are as tight as possible. Leave a free open space of 3/8" (10mm) to 5/8" (16mm) around the floor surface and around any opening made in **SONOPAN X®** acoustic panels. Insert a ½" (13 mm) or 5/8" (16 mm) neoprene or backer rod closer in all perimeter cavities and any obstacles and fill the cavity with **SONOPAN X®** acoustic caulking (or equivalent) up to the finished floor's level.

Adhesives

When installing **SONOPAN X®** panels to the subfloor, a urethanebased adhesive should be used. Adhere SONOpanX® substrate using MSL S-63 free-solvant adhesive. A 3/16" (5mm) V-Notch trowel should be used (as per drawing). When applying adhesive, hold trowel at a 45-degree angle minimum to maximize spreading. Adhesive should not be applied if room temperature is below 70°F (20°C). Let dry for at least 24 hours before installing the floor covering.

WARNING: adhesives containing solvents are not compatible with **SONOPAN X®** acoustic panels.

Floating floors soundproofing

SONOPAN X® panels can be installed without adhesive. The underlayment surface must be perfectly flat and level and all periphery edges sealed.

Laminated (engineered) wood floors soundproofing

When installing laminated flooring, the underlayment surface should be perfectly flat, levelled, and dried. The **SONOPAN X®** membrane should be glued directly to the concrete or wooden subfloor. Adhesives and preparation should be as described in previous sections. Then the laminated flooring should be glued to the **SONOPAN X®** acoustic panels. Always proceed in accordance with the flooring and adhesive manufacturer's recommendations.

Hardwood floors soundproofing

When installing a conventional hardwood flooring (mechanically fastened), the underlayment surface should be perfectly flat, levelled, and dried. The **SONOPAN X®** acoustic panels should be glued to the concrete or wooden subfloor using adhesives as outlined above. An additional subfloor glued to **SONOPAN X®** is required underneath the hardwood floor to anchor the hardwood. The wooden subfloor should be tongue and groove type and should be in accordance with the flooring and adhesive manufacturer's recommendations.

Ceramic tiles floors soundproofing

When installing ceramic tiles flooring, on concrete or wooden subfloor, the underlayment surface should be perfectly flat, levelled, and dried. Uneven spots should be either grinded down or filled with appropriate levelling compound. The floor on which ceramic tiles are to be installed must not have a deflection exceeding 1/360 of the span.

When installing **SONOPAN X®** acoustic panels on concrete surface, concrete must be completely dry. The **SONOPAN X®** acoustic panels should be glued to the concrete or wooden subfloor using adhesives as outlined above. The supporting wooden subfloor under the ceramic tiles floor should be tongue and groove type with a thickness of 5/8" (16mm) minimum. This supporting subfloor should be glued over the **SONOPAN X®** acoustic panels and the ceramic tiles should be glued to this supporting subfloor, in accordance with the manufacturer's recommendations and Construction Code Requirements.

Note

These instructions correspond to residential and "light" commercial applications. For larger surfaces or any other applications, we recommend the use of two layers of plywood. These plywood panels should be glued and have the joints staggered. For any other details, communicate with the manufacturer's representative.

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