

INSUL Sound Insulation Prediction (v9.0.19)

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Authorised INSUL user: Roldan

Notes:

- Key No.

Job Name:

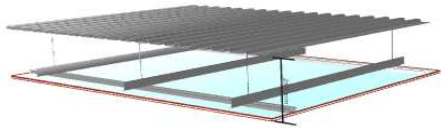
Job No.:

Date: 2/3/2020

File Name:

Acoustic prediction

STC 39



System description (from top to bottom of graphic)

Panel 1 : 1 x 0,6 mm Roof Cladding Dimondclad Rib 20

Frame Suspendes métalliques (2,5E2 mm x 45 mm)

Stud spacing 600 mm

Cavity Width 250 mm

Infill

Panel 2 : 1 x 8 mm Lexan (Polycarbonate)

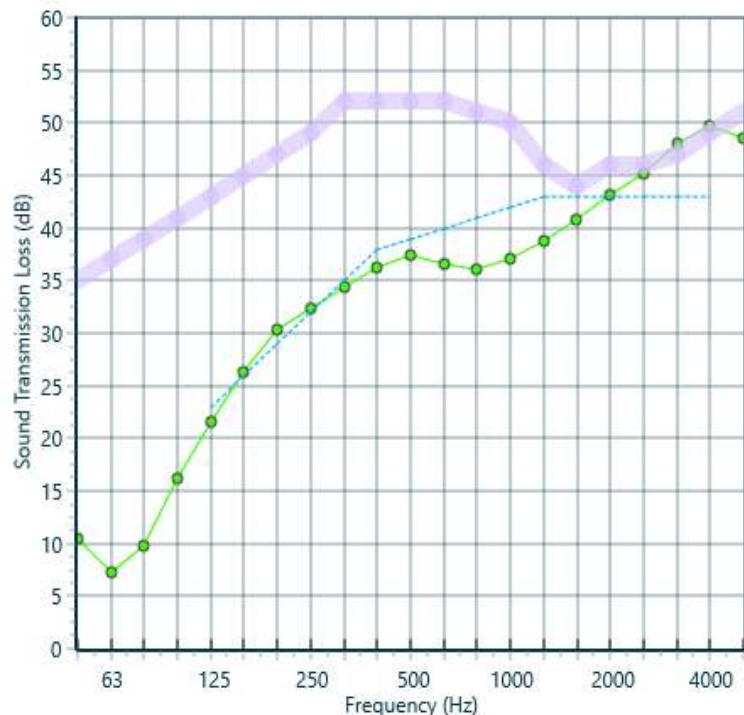
Partition surface mass = 15,8 kg/m²

Partition width = 259 mm

freq.(Hz)	TL(dB)	Deviations
50	10	
63	7	
80	10	
100	16	
125	22	-1
160	26	0
200	30	0
250	32	0
315	34	-1
400	36	-2
500	37	-2
630	37	-3
800	36	-5
1000	37	-5
1250	39	-4
1600	41	-2
2000	43	0
2500	45	0
3150	48	0
4000	50	0
5000	49	
Sum		-25

Panel Size : 2,7 m x 4,0 m

Mass-air-mass resonant frequency = : 62 Hz



● Transmission Loss (dB) --- STC 39 ■ Flanking Limit

Disclaimer: This is an acoustic prediction and not a laboratory test result. Comparisons with test data show that INSUL predictions are generally within +/- 3 dB for simple constructions, however can be as high as +/- 5 dB for hybrid systems or triple panel constructions. Like any prediction tool, INSUL should not be regarded as a substitute for test data or an acoustic estimate from a suitably qualified Acoustic Engineer who may have a contrary opinion to the prediction shown. For this reason, the prediction stated in this letter should be used as a guide only and not form part of a Project specification or used for certification purposes.

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Glossary

dB	Decibel. The unit of sound level.
Frequency	The number of pressure fluctuation cycles per second of a sound wave. Measured in units of Hertz (Hz).
Octave band	Sound, which can occur over a range of frequencies, may be divided into octave bands for analysis. The audible frequency range is generally divided into 7 octave bands. The octave band frequencies are 63Hz, 125Hz, 250Hz, 500Hz, 1kHz, 2kHz and 4kHz.
Transmission loss (TL)	The attenuation of sound pressure brought about by a building construction. Transmission loss is specified at each octave or one third octave frequency band.
STC	<p>Sound Transmission Class</p> <p>A single number system for quantifying the transmission loss through a building element. STC is based upon typical speech and domestic noises, and thus is most applicable to these areas. STC of a building element is measured in approved testing laboratories under ideal conditions.</p> <p>(refer to ASTM E413 Classification for Rating Sound Insulation)</p>