

INSUL Sound Insulation Prediction (v9.0.19)

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Authorised INSUL user: Roldan

Notes:

- Key No.

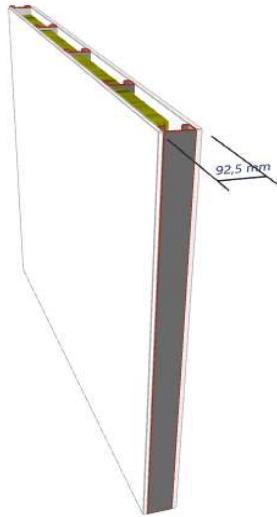
Job Name:

Job No.:

Date: 28/2/2020

File Name: est-140.ixl

Acoustic prediction **STC 43**



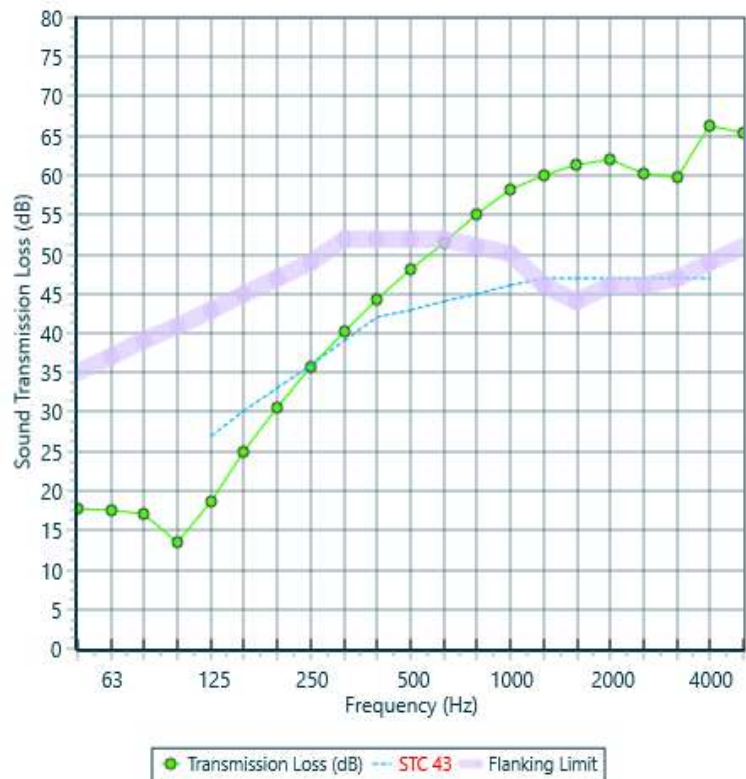
System description (from left to right side of graphic)

Panel 1 : 1 x 8 mm USG Durock Next Gen
+ 1 x 3 mm Concrete
Frame : Steel Stud (25g) (69 mm x 38 mm)
Stud spacing : 400 mm
Cavity Width : 69 mm
Infill : 1 x Fibreglass (10kg/m³) Thickness : 50 mm
Panel 2 : 1 x 12,5 mm Knauf Wallboard 12.5mm
Partition surface mass = 23,2 kg/m²
Partition width = 92,5 mm

freq.(Hz)	TL(dB)	Deviations
50	18	
63	18	
80	17	
100	14	
125	19	-8
160	25	-5
200	31	-2
250	36	0
315	40	0
400	44	0
500	48	0
630	51	0
800	55	0
1000	58	0
1250	60	0
1600	61	0
2000	62	0
2500	60	0
3150	60	0
4000	66	0
5000	65	0
Sum		-15

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

Mass-air-mass resonant frequency = : 89 Hz



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>