

# INSUL Sound Insulation Prediction (v9.0.19)

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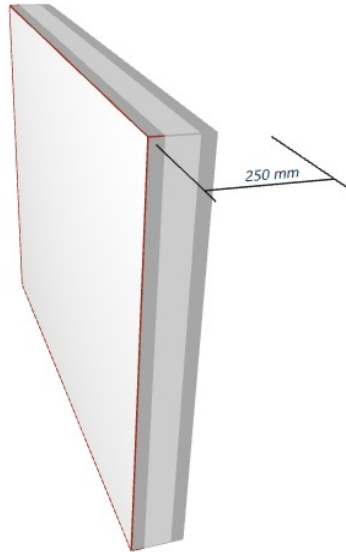
- Key No.  
Job Name:  
Job No.:  
Date:16/12/2019  
File Name:

Authorised INSUL user:Roldan

Notes:



Acoustic prediction STC 47

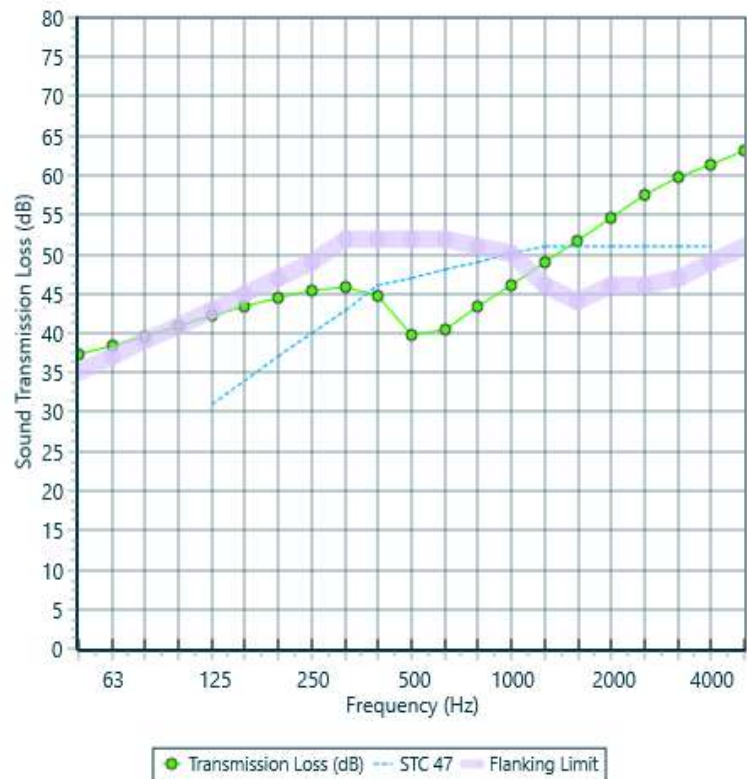


## System description (from left to right side of graphic)

**Panel 1** : 1 x 35 mm Concrete  
+ 1 x 80 mm Styrocon  
+ 1 x 35 mm Concrete  
Frame zweischalig massiv (90 mm x 45 mm )  
Stud spacing 400 mm  
Partition surface mass = 220 kg/m<sup>2</sup>  
Partition width = 150 mm

freq.(Hz)	TL(dB)	Deviations
50	37	
63	38	
80	40	
100	41	
125	42	0
160	43	0
200	45	0
250	45	0
315	46	0
400	45	-1
500	40	-7
630	40	-8
800	43	-6
1000	46	-4
1250	49	-2
1600	52	0
2000	55	0
2500	57	0
3150	60	0
4000	61	0
5000	63	0
Sum		-28

Panel Size : 2.7 m x 4.0 m



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>