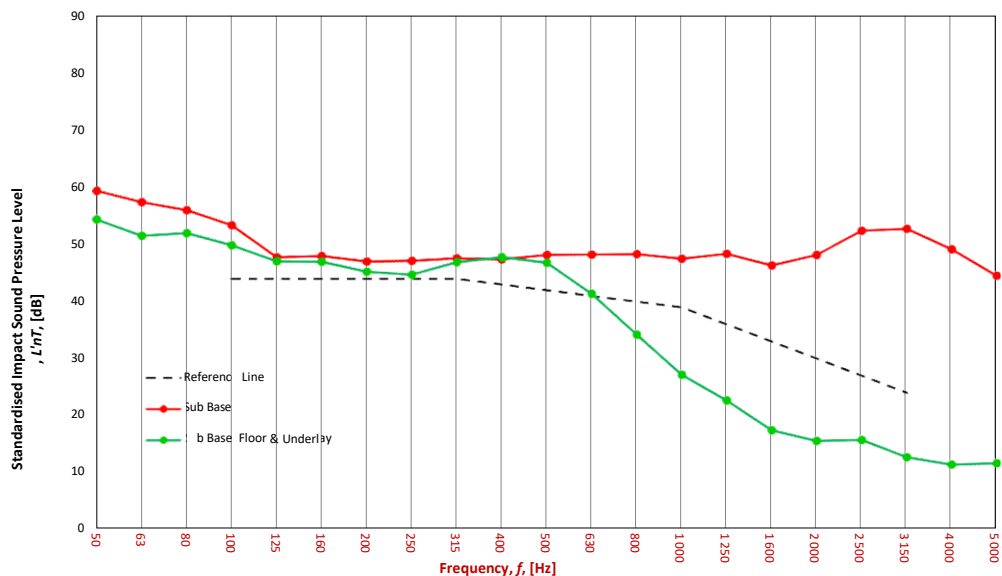


FIELD MEASUREMENTS OF IMPACT SOUND INSULATION OF FLOORS

Date of Test :	Tuesday, 22 September 2020		
Project No. :	4225		
Testing Company :	Koikas Acoustics		
Checked by :	Nick Koikas		
Place of Test:	Residential building in Macquarie Park		
Client	Paxwood Pty Ltd (Clever Choice Design Floors)		
Client Address	-		
	Name	Thickness (mm)	Density (S)
Description of	Engineered Timber 20mm	20	--
	Clever Comfort 2mm underlay	2	--
Floor System	Concrete	200	--
Room	Width :	3.6	m
Floor	Length :	3.6	m
Dimensions	Area :	13	m ²
Sample	Width :	1	m
Dimensions	Length :	1	m
	Area :	1	m ²

	Location	Width	Length	Area	Height	Volume		Room Surfaces		
								Walls	Floor	Ceiling
Receiver Rm	Unit directly below - living area	3.6	3.6	13	2.7	35		Plasterboard	Carpet	Plasterboard

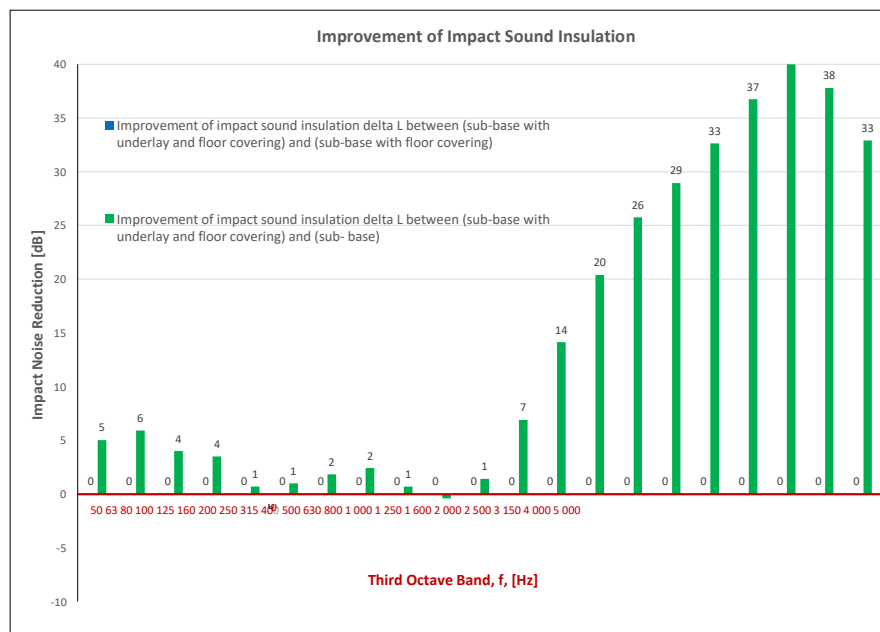
Frequency f Hz	L'nT (one-third octave) dB		
	Sub Base	Sub Base Floor	Sub Base Floor Underlay
50	59.4	N/A	54.4
63	57.5	N/A	51.5
80	56.0	N/A	52.0
100	53.4	N/A	49.9
125	47.8	N/A	47.1
160	48.0	N/A	47.0
200	47.0	N/A	45.2
250	47.1	N/A	44.7
315	47.6	N/A	46.9
400	47.4	N/A	47.8
500	48.2	N/A	46.8
630	48.3	N/A	41.3
800	48.3	N/A	34.2
1 000	47.5	N/A	27.1
1 250	48.4	N/A	22.6
1 600	46.3	N/A	17.4
2 000	48.2	N/A	15.5
2 500	52.5	N/A	15.7
3 150	52.8	N/A	12.7
4 000	49.2	N/A	11.4
5 000	44.5	N/A	11.6



Sub Base		
L'nT,w	56	AS ISO 717.2 - 2004
Ci	-10	AS ISO 717.2 - 2004
Ci(50-2500)	-6	AS ISO 717.2 - 2004
Ci(63-2000)	-8	AS ISO 717.2 - 2004
AAAC	2 Star	AAAC Guideline
FIIC	46	ASTM E1007-14

Sub Base & Floor		
L'nT,w	N/A	AS ISO 717.2 - 2004
Ci	N/A	AS ISO 717.2 - 2004
Ci(50-2500)	N/A	AS ISO 717.2 - 2004
Ci(63-2000)	N/A	AS ISO 717.2 - 2004
AAAC	N/A	AAAC Guideline
FIC	N/A	ASTM E1007-14

Sub Base, Floor & Underlay		
L'nT,w	42	AS ISO 717.2 - 2004
Ci	-1	AS ISO 717.2 - 2004
Ci(50-2500)	3	AS ISO 717.2 - 2004
Ci(63-2000)	2	AS ISO 717.2 - 2004
AAAC	5 Star	AAAC Guideline
FIIC	68	ASTM E1007-14



Definitions of Noise Metrics

FIIC:

Field Impact Insulation Class is a single-number rating of how well a floor system attenuates impact type sounds, such as footsteps. Calculated from third-octave band normalised impact sound pressure level data and referenced to 10 m² as described in ASTM E989. The higher the single-number rating, the better its impact insulation performance.

L'nT,w:

The Weighted Standardised Impact Sound Pressure Level when measured in situ referenced to a reverberation time (RT60) of 0.5 seconds. Used by the AAC to determine their respective Star Rating.

Ci:

Spectrum adaption term is a low frequency correction factor. Typically for massive floors such as concrete, the values are about zero while for timber joist floors C_i is positive because of the low resonant frequencies. Considers frequency range between 100 -and 2500 Hz.

Cj(50-2500):

Same as above, but for the frequency range 50 -2500 Hz.

Ci(125-2000):

Same as above, but for the frequency range 125 -2000 Hz.

AAAC Star R.	2	3	4	5	6
L'nT,w	65	55	50	45	40
FIIC	45	55	60	65	70
Comments	Below BCA 62	Clearly Audible	Audible	Barely Inaudible	Normally Inaudible