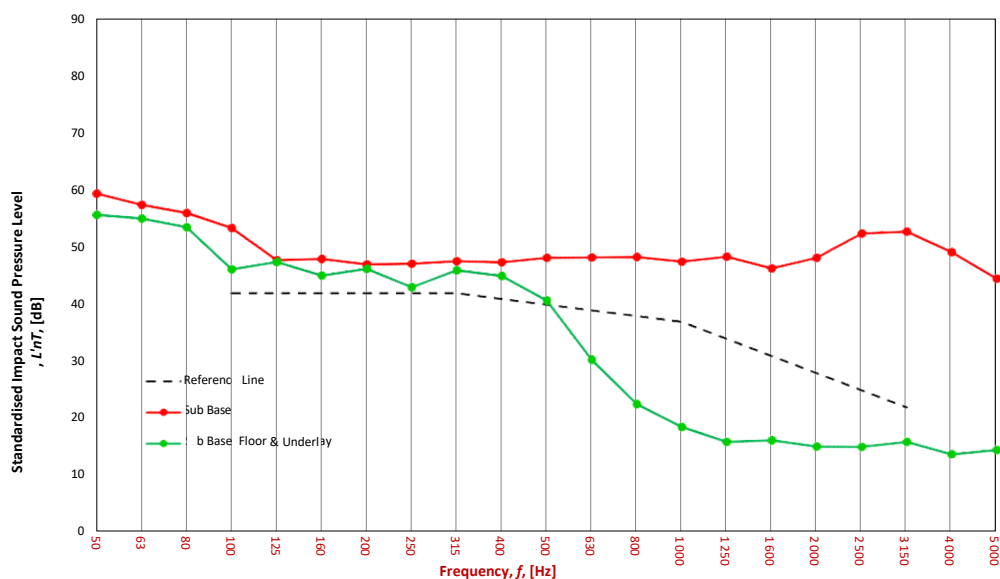


## FIELD MEASUREMENTS OF IMPACT SOUND INSULATION OF FLOORS

<b>Date of Test :</b>	Tuesday, 22 September 2020		
<b>Project No. :</b>	4225		
<b>Testing Company :</b>	Koikas Acoustics		
<b>Checked by :</b>	Nick Koikas		
<b>Place of Test:</b>	Residential building in Macquarie Park		
<b>Client</b>	Paxwood Pty Ltd (Clever Choice Design Floors)		
<b>Client Address</b>	-		
	Name	Thickness (mm)	Density (S)
<b>Description of Floor System</b>	Engineered Timber 14mm	14	--
	Clever Acoustic 5mm underlay	5	--
	Concrete	200	--
<b>Room</b>	<b>Width :</b>	3.6	m
<b>Floor</b>	<b>Length :</b>	3.6	m
<b>Dimensions</b>	<b>Area :</b>	13	m <sup>2</sup>
<b>Sample</b>	<b>Width :</b>	1	m
<b>Dimensions</b>	<b>Length :</b>	1	m
	<b>Area :</b>	1	m <sup>2</sup>

[illegible]

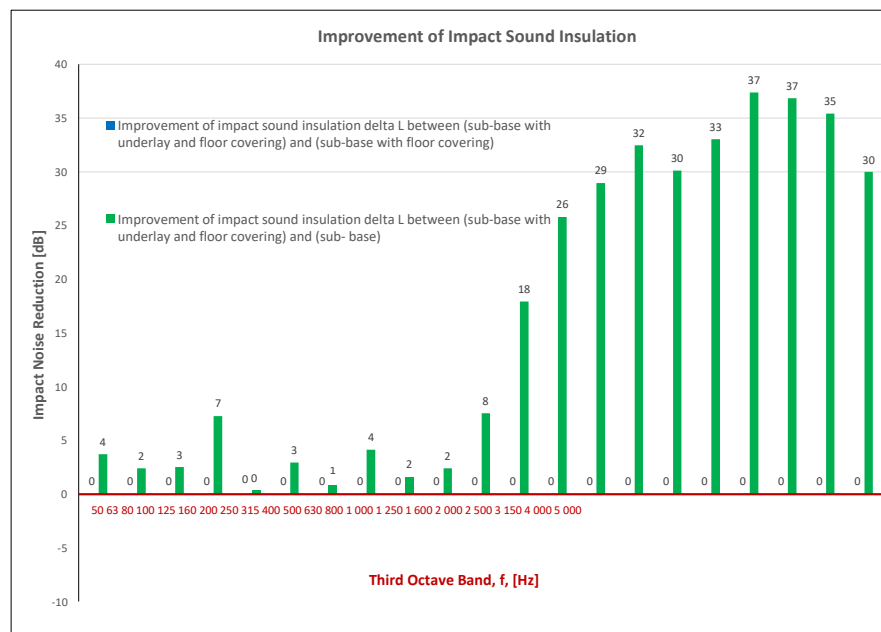
Frequency f Hz	L'nT (one-third octave) dB		
	Sub Base	Sub Base Floor	Sub Base Floor Underlay
50	59.4	N/A	55.7
63	57.5	N/A	55.0
80	56.0	N/A	53.5
100	53.4	N/A	46.2
125	47.8	N/A	47.5
160	48.0	N/A	45.1
200	47.0	N/A	46.2
250	47.1	N/A	43.0
315	47.6	N/A	46.0
400	47.4	N/A	45.0
500	48.2	N/A	40.7
630	48.3	N/A	30.3
800	48.3	N/A	22.6
1 000	47.5	N/A	18.6
1 250	48.4	N/A	15.9
1 600	46.3	N/A	16.2
2 000	48.2	N/A	15.2
2 500	52.5	N/A	15.1
3 150	52.8	N/A	15.9
4 000	49.2	N/A	13.8
5 000	44.5	N/A	14.6



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	40	AS ISO 717.2 - 2004
Ci	-1	AS ISO 717.2 - 2004
Ci(50-2500)	6	AS ISO 717.2 - 2004
Ci(63-2000)	4	AS ISO 717.2 - 2004
AAAC	6 Star	AAAC GuideLine
FIIC	70	ASTM E1007-14



### Definitions of Noise Metrics

**FIIIC:**

**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 m: 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.

## Cj:

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.

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