

### COMPLIANCE TESTING

All measurements were carried out in accordance with the guidelines and procedures outlined in AS/NZS ISO 140.7:2006.  
 "Field measurements of impact sound insulation of floors" with the rating determined in accordance with AS ISO 717.2-2004.  
 "Rating of sound insulation in buildings and of building elements".

### MEASURED RESULTS AND CONCLUSIONS

The results of the impact noise tests for 12mm Engineered Oak flooring are summarized in the table below. The calculated acoustic rating of LnT,w for the sample has been referenced to the acoustic criterion of NCC / BCA and AAAC<sup>5</sup> star rating. The standard product was installed on a 200-220 mm concrete slab, approximately 100–120 mm deep suspended ceiling cavity and 13 mm plasterboard ceiling.

The result confirms compliance NCC/BCA use Multi-residential requirements.

Product Sample	BCA Criterion	Test Result L'nT,w	AAAC <sup>5</sup> Star Rating	FIC <sup>415</sup>	Compliance with NCC/BCA
12mm Oak & 2 mm Green U/Lay	L'nT,w ≤ 62	43	5	62	Yes
12mm Oak & 5mm Regupol 5512 U/Lay	L'nT,w ≤ 62	41	5	65	Yes

Note; National Construction Code / Building Code of Australia (NCC/BCA).  
 Field Impact Insulation Class (FICC), higher the number the better its impact insulation performance. Minimum rate is 50.

Koikas Acoustics Pty Ltd has undertaken noise impact tests on 18 December 2019 at multi-residential units located at Crows Nest Sydney. The results reveal that all the testing samples are compliant with the updated NCC/BCA 2016 impact noise insulation criterion with ceiling / floor systems.  
 A detailed test report is available on request.

The field test acoustic ratings provided in this report are indicative and for comparative purposes only. Acoustic ratings will vary depending on testing environment/conditions including, materials/structures of existing ceiling/floor system, room volume, internal layout and workmanship. Acoustic ratings can and will vary from building to building and room to room. Please consult with an appropriate building professional or acoustic engineer to confirm if the product selected meets the building and or body corporate acoustic impact sound isolation guidelines.

*Disclaimer: Homemirus Pty Ltd trading as Preference Floors has used its reasonable endeavors to ensure the accuracy and reliability of the information contained herein and, to the extent permitted by law, will not be liable for any inaccuracies, omissions or errors in this information nor for any actions taken in reliance on this information. Products must be installed in accordance with relevant installation recommendations and industry best practices.*

## INFORMATION DATA SHEET: Acoustic Test results summary.

Date: December 2019

12mm Eng. Oak installed with 2mm Ultra Green acoustic underlay. Result: LnT,w 43, AAAC 5 Star

### FIELD MEASUREMENTS OF IMPACT SOUND INSULATION OF FLOORS (TEST 03)



**Date of Test :** Wednesday, 18 December 2019  
**Project No. :** 3369  
**Testing Company :** Koikas Acoustics  
**Checked by :** Michael Fan Chiang  
**Place of Test:** Residential units in Crows Nest NSW  
**Client** Preference Floors  
**Client Address** -

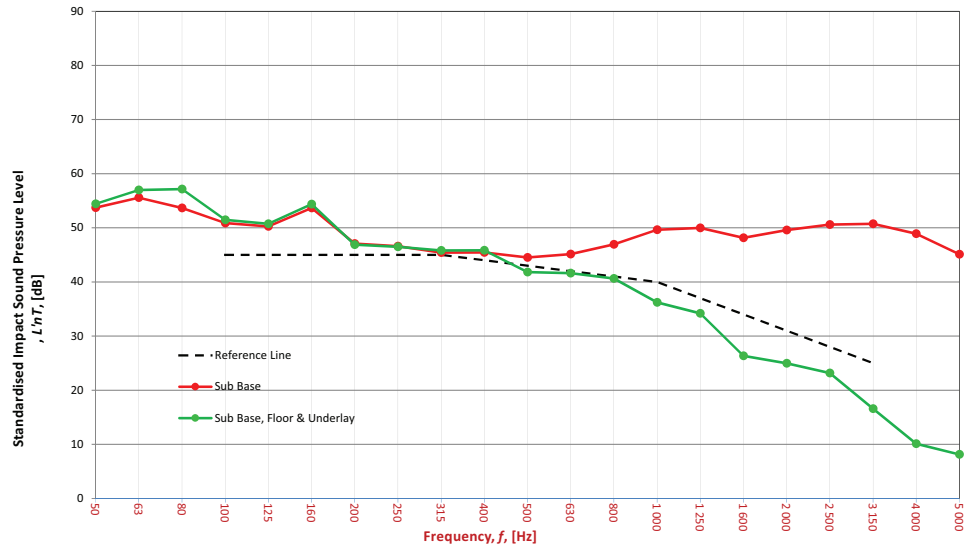
Description of Floor System	Name	Thickness (mm)	Density (SI)
Preference Floors 12 mm Engineered Oak		12	--
Preference 2 mm IXPE Green Underlay		2	--
200-220 mm reinforced concrete slab		200-220	2540
100-120 mm ceiling cavity + 13 mm plasterboard ceiling		100-120 +13	--

**Room Dimensions**  
 Width : 6 m  
 Length : 4 m  
 Area : 24 m<sup>2</sup>

**Sample Dimensions**  
 Width : 1 m  
 Length : 1 m  
 Area : 1 m<sup>2</sup>

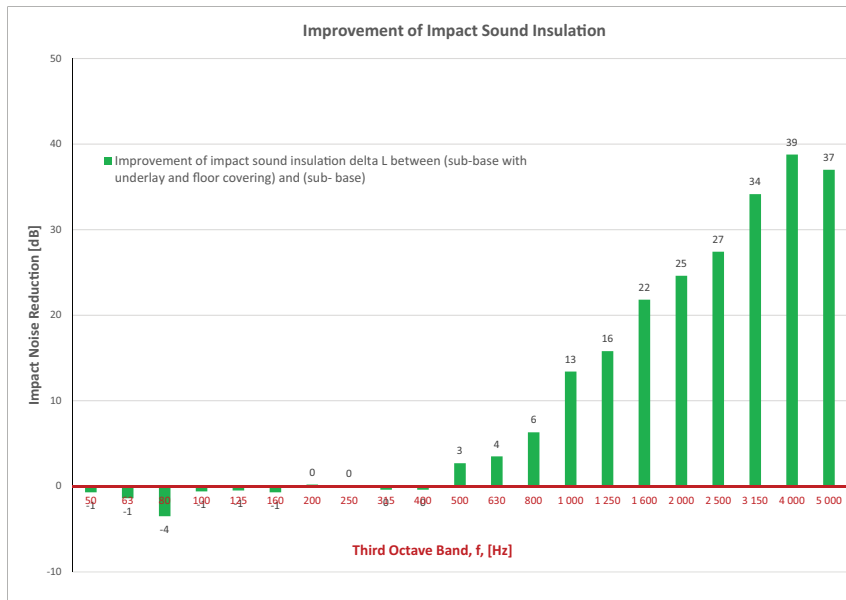
Receiver Rm	Location	Width	Length	Area	Height	Volume	Room Surfaces		
							Walls	Floor	Ceiling
	Living/Dining	6	4	24	2.7	64.8	Plasterboard	concrete	Plasterboard

Frequency f Hz	L'nT (one-third octave) dB	
	Sub Base	Sub Base Floor Underlay
50	53.7	54.4
63	55.6	57.0
80	53.7	57.2
100	50.9	51.5
125	50.2	50.7
160	53.7	54.4
200	47.1	46.9
250	46.6	46.5
315	45.4	45.8
400	45.4	45.8
500	44.5	41.8
630	45.1	41.6
800	46.9	40.6
1 000	49.6	36.2
1 250	50.0	34.2
1 600	48.1	26.3
2 000	49.6	25.0
2 500	50.6	23.2
3 150	50.7	16.6
4 000	48.9	10.1
5 000	45.1	8.1



Sub Base		
L'nT,w	56	AS ISO 717.2 - 2004
Ci	-10	AS ISO 717.2 - 2004
Ci(50-2500)	-8	AS ISO 717.2 - 2004
Ci(63-2000)	-9	AS ISO 717.2 - 2004
AAAC★	2 Star	AAAC Guideline
FIIC	46	ASTM E1007-14

Sub Base, Floor & Underlay		
L'nT,w	43	AS ISO 717.2 - 2004
Ci	1	AS ISO 717.2 - 2004
Ci(50-2500)	5	AS ISO 717.2 - 2004
Ci(63-2000)	4	AS ISO 717.2 - 2004
AAAC★	5 Star	AAAC Guideline
FIIC	62	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 m<sup>2</sup> 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 AAAC 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 Ci is positive because of the low resonant frequencies. Considers frequency range between 100 -and 2500 Hz.

**Ci(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

## INFORMATION DATA SHEET: Acoustic Test results summary. Date: December 2019

12mm Eng. Oak installed with 5mm Regupol 5512. Result: LnT,w 41, AAAC 5 Star

### FIELD MEASUREMENTS OF IMPACT SOUND INSULATION OF FLOORS (TEST 07)



**Date of Test :** Wednesday, 18 December 2019  
**Project No. :** 3369  
**Testing Company :** Koikas Acoustics  
**Checked by :** Michael Fan Chiang  
**Place of Test :** Residential units in Crows Nest NSW  
**Client :** Preference Floors  
**Client Address :** -

Description of Floor System	Name	Thickness (mm)	Density (SI)
Preference Floors 12 mm Engineered Oak of Regupol® 5512	Preference Floors 12 mm Engineered Oak	12	--
	Regupol® 5512	5	--
	200~220 mm reinforced concrete slab	200~220	2540
100~120 mm ceiling cavity + 13 mm plasterboard ceiling		100~120 +13	--

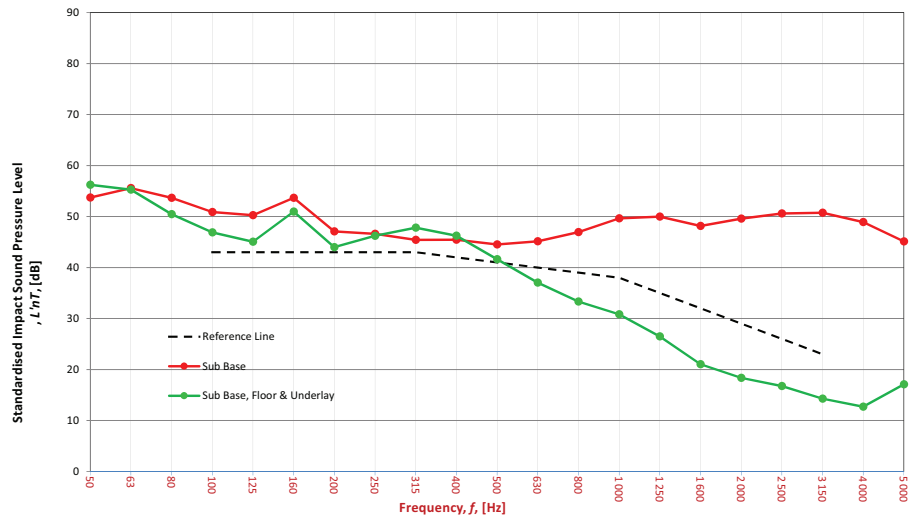
**Room Dimensions**  
 Width : 6 m  
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Receiver Rm	Location	Width	Length	Area	Height	Volume
	Living/Dining	6	4	24	2.7	64.8

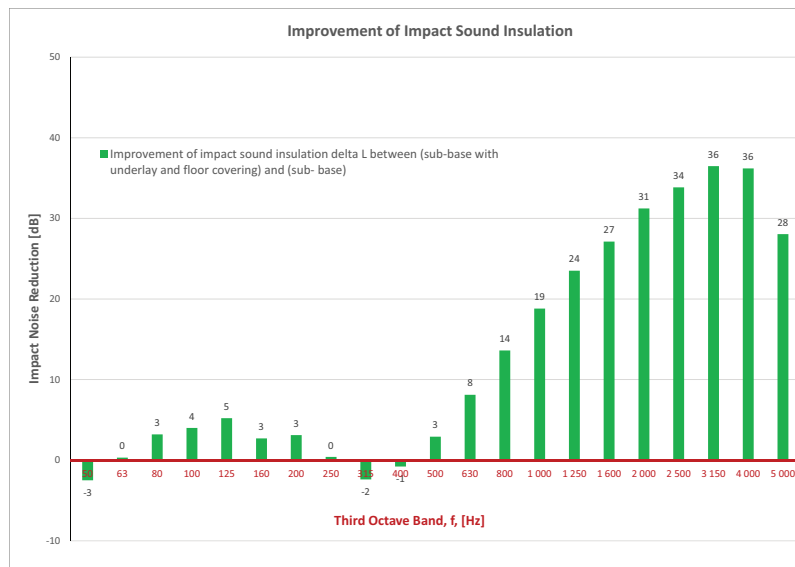
Room Surfaces		
Walls	Floor	Ceiling
Plasterboard	concrete	Plasterboard

Frequency f Hz	L'nT (one-third octave) dB	
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AAAC★	2 Star	AAAC Guideline
FIC	46	ASTM E1007-14

Sub Base, Floor & Underlay		
L'nT,w	41	AS ISO 717.2 - 2004
Ci	0	AS ISO 717.2 - 2004
Ci(50-2500)	5	AS ISO 717.2 - 2004
Ci(63-2000)	3	AS ISO 717.2 - 2004
AAAC★	5 Star	AAAC Guideline
FIC	65	ASTM E1007-14



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