OCTAVE ACOUSTICS

Prance Timber Flooring
5 April 2024

Caviar PR25 Timber Flooring Adhesive

Sound Insulation Test Summary

www.octaveacoustics.com.au

Octave Acoustics
ABN 60 615 372 873
Ph +61 3 9492 5990
40 / 131 Hyde Street, Footscray
Melbourne, Vic 3011

Project	Caviar PR25 Timber Flooring Adhesive
Client	Prance Timber Flooring
Document Number	AC445MB-01E07 Sound Insulation Testing Summary (r0)

Revision	Date	Comment	Author	Reviewer
0	5.04.2024	Issued to Client	HG	AL

Disclaimer

Contents

1. Summary of Sound Insulation Testing

Octave Acoustics was engaged by Woodcut to carry out impact sound insulation testing on two flooring samples bonded with Caviar PR25 Timber Flooring Adhesive.

Octave Acoustics conducted two impact sound insulation tests (one on a timber floor sample and one on a vinyl floor sample) on Thursday the 30th of November 2023. Testing was conducted at a multi-residential building that was under construction at 334 City Road, Southbank.

Floor impact sound insulation testing was conducted in general accordance with AS/ISO 140-7 measurement procedures and results assessed and presented in accordance with AS/ISO 717-2 calculation procedures.

All floor impact test results satisfy the applicable NCC/BCA requirement of $L'_{nTw} \leq 62$.

Detailed results of each sound insulation test are located in the following appendices:

- Appendix A contains the impact sound insulation test report for a vinyl sample bonded with 'Caviar PR25 Timber Flooring Adhesive' with a 6mm V Notch.
- Appendix B contains the impact sound insulation test report for an engineered timber sample bonded with 'Caviar PR25 Timber Flooring Adhesive' with a 6mm V Notch.
- Appendix C contains the impact sound insulation test report for the 220mm thick bare concrete slab with suspended ceiling.
- Appendix D contains the impact sound insulation test methodology.

1.1. Impact Sound Insulation Results

The results of the impact sound insulation testing are summarised in Table 1 below.

Table 1 - Floor Impact Sound Insulation Field Test Summary

Bonding Material	Sample Material	V Notch Depth	Field Test Result L'_{nTw}	NCC/BCA Requirement L'_{nTw}	Complies with NCC/BCA Requirement
Caviar PR25 Timber Flooring Adhesive	Vinyl	6mm	48	≤ 62	Yes
Caviar PR25 Timber Flooring Adhesive	Engineered Timber	6mm	48	≤ 62	Yes
N/A	Bare Concrete Slab	N/A	61	≤ 62	Yes

Appendix A: Impact Sound Insulation Field Test Report for a Vinyl Sample Bonded With 'Caviar PR25 Timber Flooring Adhesive' with a 6mm V Notch

Impact Sound Insulation Field Test Summary		
Date of test	30th November 2023	
Form of construction	1220mm x 900mm sample patch of 5.5mm vinyl bonded with 'Caviar PR25 Timber Flooring Adhesive' with a 6mm V Notch on top of a 220mm thick concrete slab with a 13mm thick suspended plasterboard ceiling underneath separated by a cavity depth of 80mm.	
Measured Weighted Standardised Impact Sound Pressure Level	L'_{nTw}	48
Minimum requirement of the Building Code of Australia	L'_{nTw}	≤ 62
Complies with NCC/BCA requirement?	Yes	

Standardized Impact Sound Pressure Level according to ISO 140-7

Field measurements of impact sound insulation of floors

Client: Prance Timber Flooring

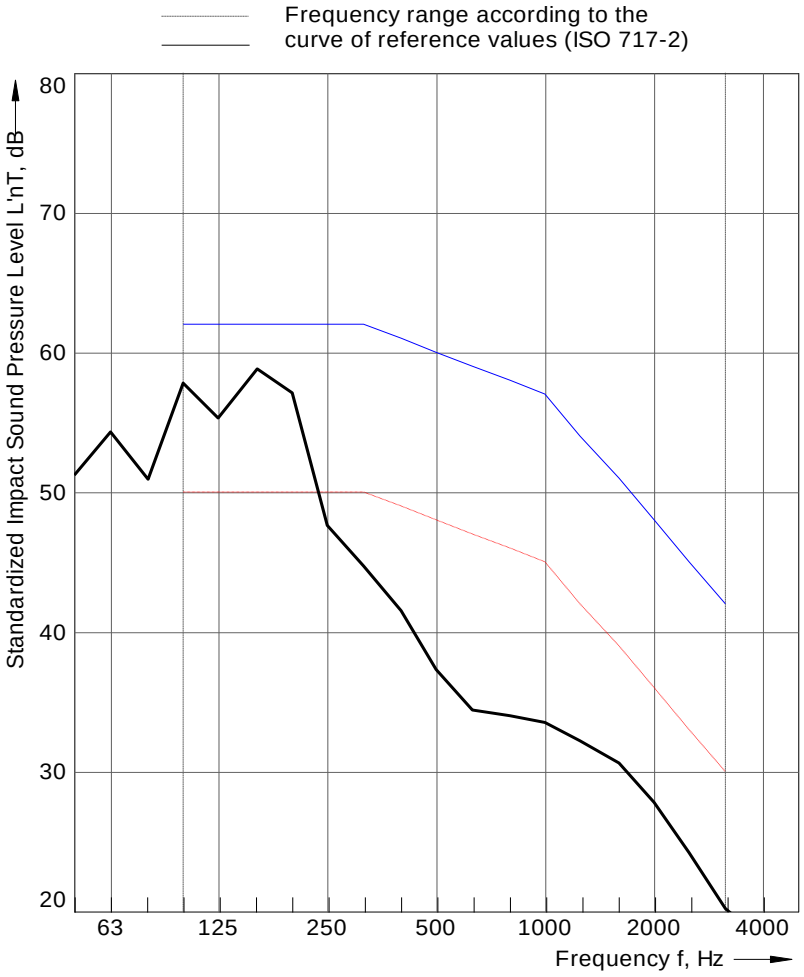
Date of test: 30/11/2023

Description and identification of the building construction and test arrangement:

1220mm x 900mm x 5.5mm Vinyl bonded with 'Caviar PR25 Timber Flooring Adhesive' with a 6mm V Notch on top of a 220mm thick concrete slab with a 13mm thick suspended plaster ceiling underneath separated by a cavity depth of 80mm.

Frequency f Hz	L'nT 1/3 Octave dB
50	51.2 B
63	54.3
80	50.9
100	57.8
125	55.3
160	58.8
200	57.1
250	47.6
315	44.7
400	41.5
500	37.3 B
630	34.4 B
800	34.0 B
1000	33.5 B
1250	32.2 B
1600	30.6 B
2000	27.8 B
2500	24.2 B
3150	20.2 B
4000	17.9 B
5000	15.3 B

B: L'nT =< value shown



Rating according to ISO 717-2

$L'_{nT,w}(C_i)$ = 48 (1) dB $C_{i,50\text{-}2500}$ = 2 dB

Evaluation based on field measurement results obtained in one-third-octave bands by an engineering method

No. of test report: AC455MB-01E07

Name of test institute: Octave Acoustics

Date: 05/04/2024

Signature: Harrison Green

Appendix B: Impact Sound Insulation Field Test Report for an Engineered Timber Sample Bonded With 'Caviar PR25 Timber Flooring Adhesive' with a 6mm V Notch

Impact Sound Insulation Field Test Summary		
Date of test	30th November 2023	
Form of construction	950mm x 770mm sample patch of 14mm engineered timber bonded with 'Caviar PR25 Timber Flooring Adhesive' with a 6mm V Notch on top of a 220mm thick concrete slab with a 13mm thick suspended plasterboard ceiling underneath separated by a cavity of 80mm.	
Measured Weighted Standardised Impact Sound Pressure Level	L'_{nTw}	48
Minimum requirement of the Building Code of Australia	L'_{nTw}	≤ 62
Complies with NCC/BCA requirement?	Yes	

Standardized Impact Sound Pressure Level according to ISO 140-7

Field measurements of impact sound insulation of floors

Client: Prance Timber Flooring

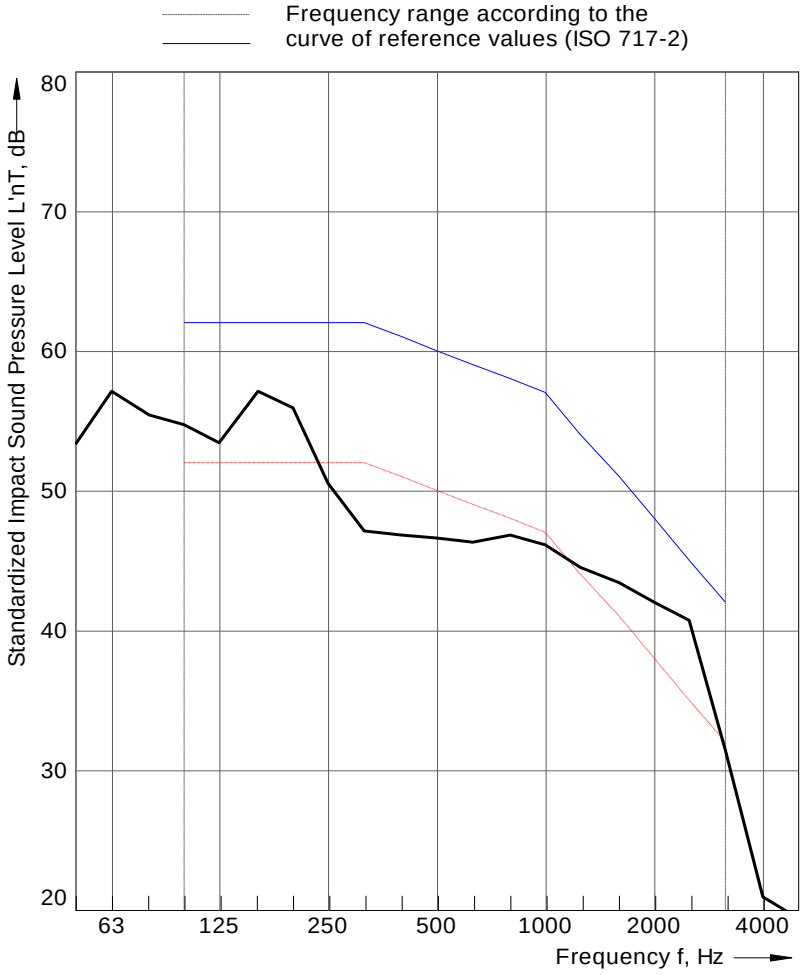
Date of test: 30/11/2023

Description and identification of the building construction and test arrangement:

950mm x 770mm x 14mm Engineered timber bonded with 'Caviar PR25 Timber Flooring Adhesive' with a 6mm V Notch on top of a 220mm thick concrete slab with a 13mm thick suspended plaster ceiling underneath separated by a cavity depth of 80mm.

Frequency f Hz	L'nT 1/3 Octave dB
50	53.3 B
63	57.1
80	55.4
100	54.7
125	53.4
160	57.1
200	55.9
250	48.5
315	47.1
400	46.8
500	46.6
630	46.3
800	46.8
1000	46.1
1250	44.5
1600	43.4
2000	42.0
2500	40.7
3150	31.4
4000	20.9 B
5000	19.4

B: L'nT =< value shown



Rating according to ISO 717-2

$L'_{nT,w}(C_i)$ = 48 (-2) dB $C_{i,50\text{-}2500}$ = 0 dB

Evaluation based on field measurement results obtained in one-third-octave bands by an engineering method

No. of test report: AC455MB-01E07

Name of test institute: Octave Acoustics

Date: 05/04/2024

Signature: Harrison Green

Appendix C: Impact Sound Insulation Field Test Report for 220mm Thick Concrete Slab

Impact Sound Insulation Field Test Summary		
Date of test	30th November 2023	
Form of construction	Bare 220mm thick concrete slab with a 13mm thick suspended plasterboard ceiling underneath separated by a cavity of 80mm.	
Measured Weighted Standardised Impact Sound Pressure Level	L'_{nTw}	61
Minimum requirement of the Building Code of Australia	L'_{nTw}	≤ 62
Complies with NCC/BCA requirement?	Yes	

Standardized Impact Sound Pressure Level according to ISO 140-7

Field measurements of impact sound insulation of floors

Client: Prance Timber Flooring

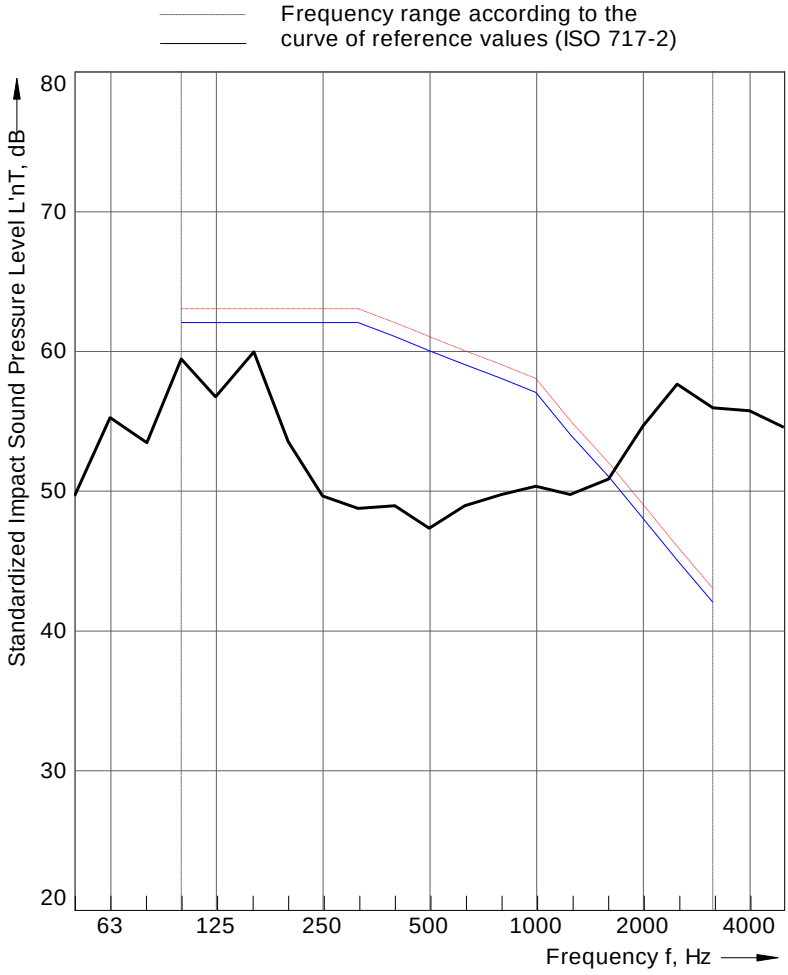
Date of test: 30/11/2023

Description and identification of the building construction and test arrangement:

220mm thick concrete slab with a 13mm thick suspended plaster ceiling underneath separated by a cavity depth of 80mm.

Frequency f Hz	L'nT 1/3 Octave dB
50	49.6 B
63	55.2
80	53.4
100	59.4
125	56.7
160	59.9
200	53.5
250	49.6
315	48.7
400	48.9
500	47.3
630	48.9
800	49.7
1000	50.3
1250	49.7
1600	50.8
2000	54.6
2500	57.6
3150	55.9
4000	55.7
5000	54.5

B: L'nT =< value shown



Rating according to ISO 717-2

$L'_{nT,w}(C_i)$ = 61 (-10) dB $C_{i,50\text{-}2500}$ = -9 dB

Evaluation based on field measurement results obtained in one-third-octave bands by an engineering method

No. of test report: AC455MB-01E07

Name of test institute: Octave Acoustics

Date: 05/04/2024

Signature: Harrison Green

Appendix D: Impact Sound Insulation Test Methodology

Instrumentation

The following instrumentation was utilised for the purposes of conducting the testing:

- Bruel Kjaer 2270 sound level meter
- Norsonic Nor277 tapping machine
- Bruel Kjaer 4231 calibrator

The sound level meter was calibrated before and after all measurements. No drift in calibration was detected. The Bruel Kjaer 2270 sound level meter complies with the requirements of IEC 61672-1.2013 Sound Level Meters and is classified as a Class 1 instrument. The calibrator complies with the requirements of IEC 60942.2004 Sound Calibrators. Both the Bruel Kjaer 2270 and calibrator carry current NATA certification. The Norsonic Nor277 tapping machine conforms with the requirements of ISO140-7 Annex A.

Applicable Standards

Measurements were conducted based on the requirements of:

- AS/ISO 140-7 *Acoustics – Measurement of sound insulation in buildings and of building elements – Part 7: Field measurements of impact sound insulation of floors.*
- AS/ISO 717-2 *Acoustics – Measurement of sound insulation in buildings and of building elements – Part 2: Impact sound insulation.*
- AS/ISO 354 *Acoustics – Measurement of sound absorption in a reverberation room.*

Measurement Procedure

- Two tapping machine locations on timber, vinyl and concrete floor surfaces were selected in general accordance with AS/ISO 140-7.
- With the tapping machine running, the resulting sound pressure level was measured in the receiving room at each of four microphone locations. Each measurement was carried out in one third octave bands with an averaging time of 10 seconds.
- Ambient background noise levels without the tapping machine running were measured in the receiver room immediately before each tapping test.
- The reverberation time within the receiver room was measured in general accordance with AS/ISO 354. This involved measurements in one third octave bands using the integrated impulse response method.