9 BAPTIST MILLS COURT

SOUND INSULATION TEST REPORT

19/06/2025

Revision	Description	Issued by	Checked By	Issue date
-	Sound Insulation Test Report	Sujitesh	Ze Nunes	19/06/2025

Signed:  Signed: 

Client Name	BPM Contracting Services
Full Client Address	BPM Contracting Services Ltd, 12 Stable Yard, Windsor Bridge Road, Bath, BA2 3AY
Full Site Address	9, Baptist Mills Court, Bristol, Bristol, BS5 0FJ
Test Date	06/06/2025

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1.0 INTRODUCTION

MACH Group was engaged to carry out sound insulation tests on a residential development at 9 Baptist Mills Court. This is not an ANC compliant report and cannot be used to achieve buildings regulations.

2.0 PERFORMANCE REQUIREMENTS

This testing was undertaken to gain an understanding of the current performance of the party floor between adjacent flats prior to works, therefore there are no specific requirements for the floor construction.

3.0 TEST PROCEDURE

The sound insulation testing was carried out in full accordance with the procedure described in BS EN 140 'Acoustics – Measurement of Sound Insulation in Buildings and of Building Elements'.

3.1 Site Test Procedure

Acoustic testing was undertaken to understand the sound insulation performance of the existing party floor between Flats 9 and 19 Baptist Mills Court. This included sound insulation testing on vinyl floors between the living room and bedroom areas.

4.0 MEASUREMENT EQUIPMENT

The following equipment was used to carry out the sound insulation testing;

Name	Serial Number	Certificate Number	Last Calibration
NTI Precision Sound Analyser XL2 TA	A2A-08695-E0	197909	24/08/2023
NTI Pre-amplifier MA220	7182	197909	24/08/2023
Cirrus Microphone Capsule MK:224	217326D	197909	24/08/2023
Svantek Acoustic Calibrator SV33A	64138	U47924	29/05/2025
01dB & Sound Solutions Products Limited TM01 Tapping Machine	TP02335	U44512	15/06/2025
QTX Speakers x 2	178-843	-	-

Table 4.1 – Test equipment used on site.

4.1 Calibration

The SLM was calibrated on site, at the start and end of the measurement sequence, to a level of 114.0 dB at 1000Hz. No drift was noted. The operation of the Tapping Machine was also inspected, with no deviations from acceptable function.

5.0 RESULTS

The results for the sound insulation tests carried out are presented below.

5.1 Airborne Floor Tests

Test	Source Room	Approx. Volume (m^3)	Receiver Room	Approx. Volume (m^3)	Measured SI Level $D_{nT,w}(+C_{tr})$	Pass / Fail
ABF 1	Flat 19 Living	60	Flat 9 Living	60	54	Pass
ABF 2	Flat 19 Bedroom	50	Flat 9 Bedroom	50	54	Pass

Table 5.1 - Results of airborne floors sound insulation testing

5.2 Impact Tests

Test	Source Room	Approx. Volume (m^3)	Receiver Room	Approx. Volume (m^3)	Measured SI Level $L'_{nT,w}$	Pass / Fail
IP 1	Flat 19 Living	60	Flat 9 Living	60	50	Pass
IP 2	Flat 19 Bedroom	50	Flat 9 Bedroom	50	51	Pass

Table 5.2 - Results of impact sound insulation testing

Standard graphical results are presented in Appendix A.

5.3 Description of Constructions Tested

Party floors have been identified as PE - 3.1A - Timber frame base with independent ceiling with absorbing material.

5.4 Background Noise

Where receiver room measurements are between 6 and 10 dB above measured background noise levels, a correction has been applied as outlined in ISO 140-4. Where 1/3 octave results are seen to be at the limit of measurement, a correction has also been applied in line with ISO 140-4. All 1/3 octave results at the limit of measurement have been indicated within the test certificates presented in Appendix C. Procedure for correction is outlined in Appendix B.

6.0 CONCLUSION

The sound insulation testing followed the procedure described in BS EN 140-4 and BS EN 140-7 'Acoustics – Measurement of Sound Insulation in Buildings and of Building Elements'. The results are presented in Section 5.0 above, with standard graphical results presented in Appendix A.

7.0 REFERENCES

BS EN ISO 140-4:1998 – Acoustics – Measurement of sound insulation in buildings and of building elements – Part 4: Field measurements of airborne sound insulation between rooms.

BS EN ISO 140-7:1998 – Acoustics – Measurement of sound insulation in buildings and of building elements – Part 4: Field measurements of impact sound insulation between rooms.

BS EN ISO 717-1: 1997: Acoustics - Rating of sound insulation in buildings and of building elements – Airborne sound insulation.

BS EN ISO 717-2: 1997: Acoustics - Rating of sound insulation in buildings and of building elements – Impact sound insulation.

APPENDIX A – TEST CERTIFICATES

Test certificates for all tests conducted are provided below.

Standardised level difference according to ISO 140-4. Field measurements of airborne sound insulation between rooms

Site: 9 Baptist Mills Court Test date: 2025-06-06 Test No: 179 : ABF1

Client: BPM Contracting Services

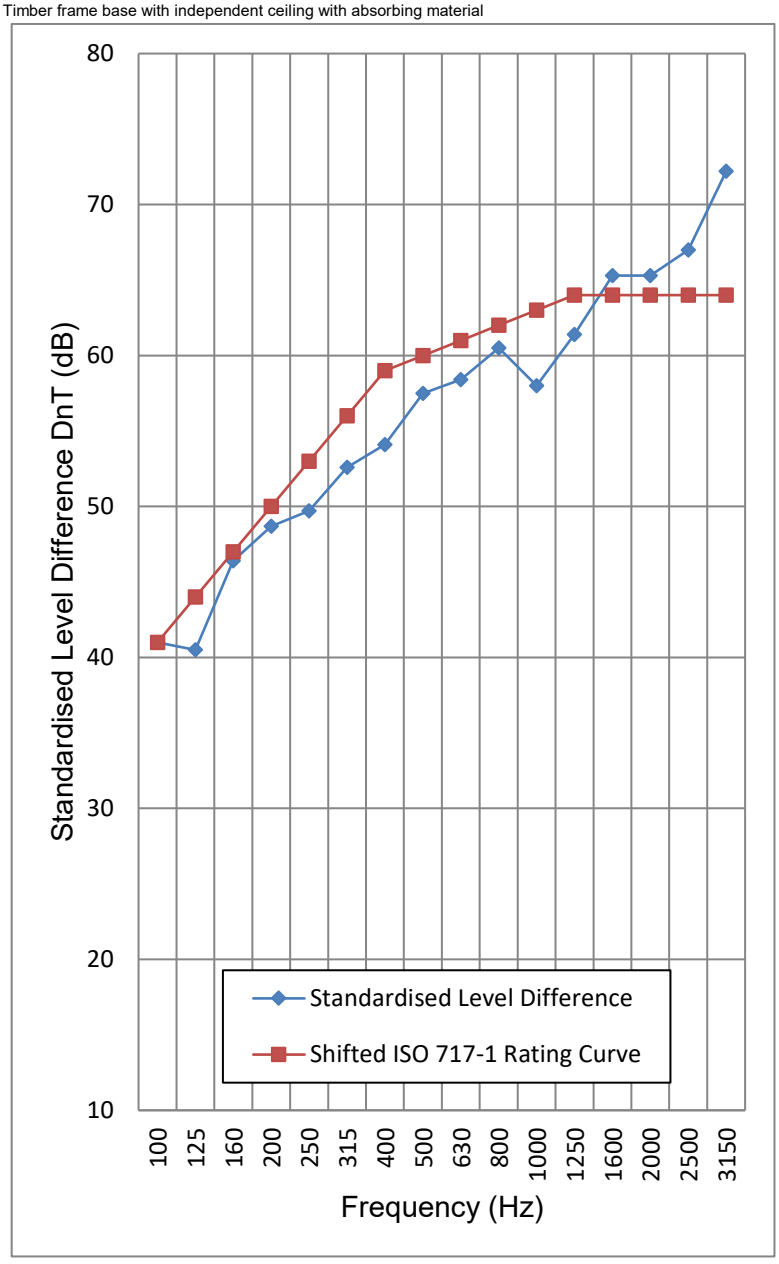
Source Room: Flat 19 Living Receiver Room: Flat 9 Living

Volume (m3): 60 Volume (m3): 60

Construction: PE - 3.1A - Timber frame base with independent ceiling with absorbing material

Frequency f (Hz)	DnT (1/3 Octave) dB	
50	34.2	
63	38.3	
80	36.3	
100	41	
125	40.5	
160	46.4	
200	48.7	
250	49.7	
315	52.6	
400	54.1	
500	57.5	
630	58.4	
800	60.5	
1000	58	
1250	61.4	
1600	65.3	
2000	65.3	
2500	67	
3150	72.2	
4000	77.6	>=
5000	79.8	>=

Limit of Measurement >=



Rating according to ISO 717-1

DnT,w = 60 dB **DnT,w + Ctr = 54 dB** **Dw = 60 dB**

Ctr = -6 dB

DnT,w + Ctr 50-3150 = 51 dB

DnT,w + C = 58 dB DnT,w + Ctr 50-5k = 51 dB DnT,w + C 50 - 5k = 59 dB

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

No. of Test Report: 1555 Name of Test Institute: MACH

Date: 2025-06-06 Signature:

Standardised level difference according to ISO 140-4. Field measurements of airborne sound insulation between rooms

Site: 9 Baptist Mills Court Test date: 2025-06-06 Test No: 179 : ABF2

Client: BPM Contracting Services

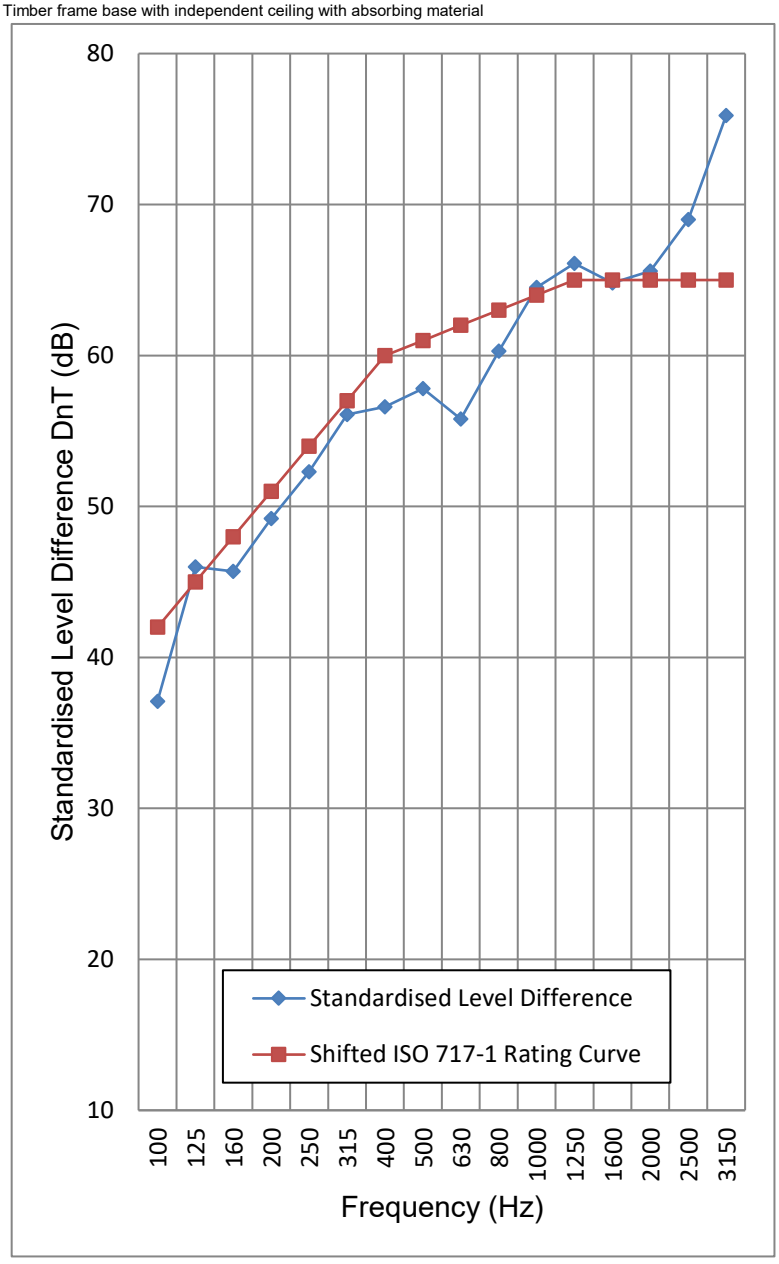
Source Room: Flat 19 Bedroom Receiver Room: Flat 9 Bedroom

Volume (m3): 50 Volume (m3): 50

Construction: PE - 3.1A - Timber frame base with independent ceiling with absorbing material

Frequency f (Hz)	DnT (1/3 Octave) dB	
50	32.3	
63	33.3	
80	36.1	
100	37.1	
125	46	
160	45.7	
200	49.2	
250	52.3	
315	56.1	
400	56.6	
500	57.8	
630	55.8	
800	60.3	
1000	64.5	
1250	66.1	
1600	64.8	
2000	65.6	
2500	69	
3150	75.9	>=
4000	79.6	>=
5000	80.9	>=

Limit of Measurement >=



Rating according to ISO 717-1

DnT,w = 61 dB **DnT,w + Ctr =** **54 dB** **Dw = 62 dB**

Ctr = -7 dB

DnT,w + Ctr 50-3150 = 50 dB

DnT,w + C = 59 dB DnT,w + Ctr 50-5k = 50 dB DnT,w + C 50 - 5k = 59 dB

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

No. of Test Report: 1555 Name of Test Institute: MACH

Date: 2025-06-06 Signature:

Standardised impact sound pressure levels according to ISO 140-4. Field measurements of impact sound insulation of floors

Site: 9 Baptist Mills Court Test date: 2025-06-06 Test No: 179 : IP1

Client: BPM Contracting Services

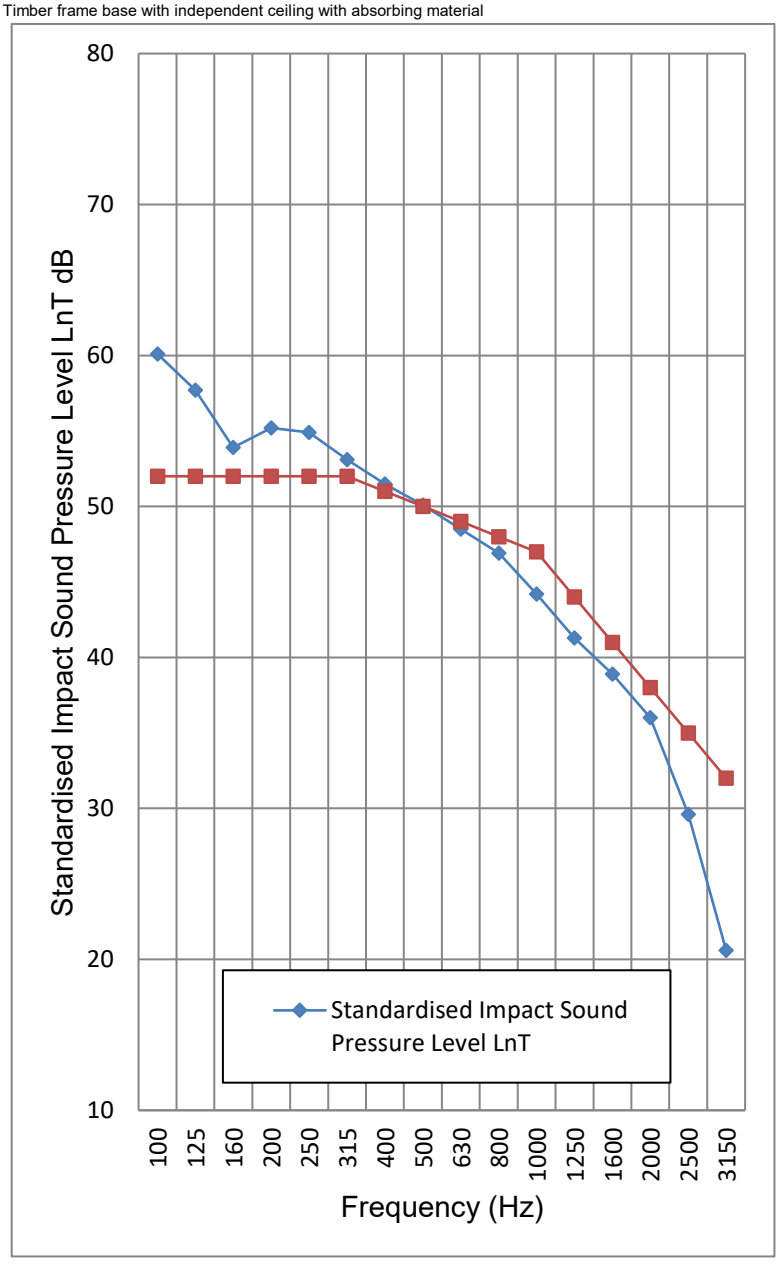
Source Room: Flat 19 Living Receiver Room: Flat 9 Living

Volume (m3): 60 Volume (m3): 60

Construction: PE - 3.1A - Timber frame base with independent ceiling with absorbing material

Frequency f (Hz)	LnT (1/3 Octave) dB	
50	59.4	
63	59	
80	59.7	
100	60.1	
125	57.7	
160	53.9	
200	55.2	
250	54.9	
315	53.1	
400	51.5	
500	50.1	
630	48.5	
800	46.9	
1000	44.2	
1250	41.3	
1600	38.9	
2000	36	
2500	29.6	
3150	20.6	
4000	12.5	<=
5000	9.5	<=

Limit of Measurement <=



Rating according to ISO 717-2

LnT,w = 50 dB LnT,w + C150-2500 53 dB

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

No. of Test Report: 1555 Name of Test Institute: MACH

Date: 2025-06-06 Signature:

Standardised impact sound pressure levels according to ISO 140-4. Field measurements of impact sound insulation of floors

Site: 9 Baptist Mills Court Test date: 2025-06-06 Test No: 179 : IP2

Client: BPM Contracting Services

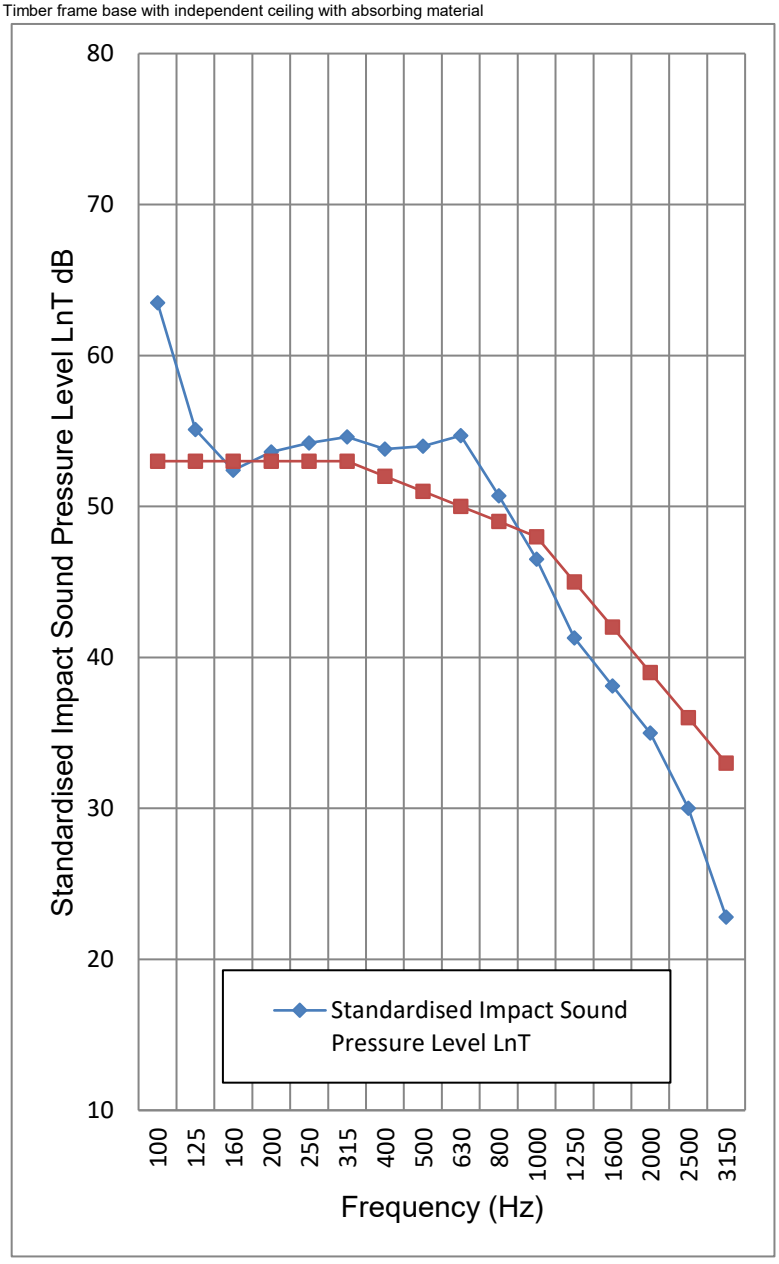
Source Room: Flat 19 Bedroom Receiver Room: Flat 9 Bedroom

Volume (m3): 50 Volume (m3): 50

Construction: PE - 3.1A - Timber frame base with independent ceiling with absorbing material

Frequency f (Hz)	LnT (1/3 Octave) dB	
50	58.2	
63	63.2	
80	59.9	
100	63.5	
125	55.1	
160	52.4	
200	53.6	
250	54.2	
315	54.6	
400	53.8	
500	54	
630	54.7	
800	50.7	
1000	46.5	
1250	41.3	
1600	38.1	
2000	35	
2500	30	
3150	22.8	
4000	18.3	
5000	14.9	<=

Limit of Measurement <=



Rating according to ISO 717-2

LnT,w = 51 dB LnT,w + C150-2500 54 dB

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

No. of Test Report: 1555 Name of Test Institute: MACH

Date: 2025-06-06 Signature: