

Sound Insulation Test Report
Produced in accordance with
Approved Document E 2003
incorporating 2004, 2010, 2013 & 2015
amendments.

Project Address:
510 Huddersfield Road
Dewsbury
West Yorkshire
WF13 3ET



Client Details:
Asaar Mohammed

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1.0 SUMMARY

BREW Compliance Ltd have been appointed by Asaar Mohammed to provide sound insulation tests for the development at 510 Huddersfield Road, Dewsbury, West Yorkshire, WF13 3ET.

The tests were conducted in accordance with the latest version of Building Regulations Approved Document E (ADE) 2003 edition incorporating 2004, 2010, 2013 & 2015 amendments.

The results of the sound insulation tests have demonstrated that the airborne sound insulation of the tested separating walls and floor, complied with the performance requirements, contained within ADE and the Local Authority Framework Document, and so the tested elements may be regarded as having 'passed' the test.

Report prepared and authorised by:

A handwritten signature in black ink, appearing to read 'K. Abadie', with a large, stylized loop at the end.

Kieran Abadie

2.0 INTRODUCTION

BREW Compliance Ltd were appointed by Asaar Mohammed to conduct sound insulation tests in accordance with the requirements of the Local Authority Framework Document LP24 & LP25 to 510 Huddersfield Road, Dewsbury, West Yorkshire, WF13 3ET.

Tests were conducted between the hours 10:30am-12:30pm on Thursday 23rd May 2024.

This report first summarises the various standards for internal sound transfer, followed by the test details. The results are presented in Section 5.0.

3.0 ASSESSMENT STANDARDS

3.1 Approved Document E

The new version of Building Regulations Approved Document E: 2003 came into force in July 2003, with the latest amendment being 2015. Among the aspects covered are a range of performance criteria required for Building Regulations approval. A brief summary of the performance criteria is shown below.

Type of Accommodation	Nature of Building Work	Transmission Paths	Type of Party Element	Performance Criterion (dB)
Dwellings	Purpose Built	Airborne	Wall	45 DnT,w+Ctr
			Floor	45 DnT,w+Ctr
			Stairs	45 DnT,w+Ctr
		Impact	Floor	62 L'nTw
Dwellings	Formed by Material Change of Use	Airborne	Wall	43 DnT,w+Ctr
			Floor	43 DnT,w+Ctr
			Stairs	43 DnT,w+Ctr
		Impact	Floor	64 L'nTw
Rooms for Residential Purposes	Purpose Built	Airborne	Wall	43 DnT,w+Ctr
			Floor	45 DnT,w+Ctr
			Stairs	45 DnT,w+Ctr
		Impact	Floor	62 L'nTw
Rooms for Residential Purposes	Formed by Material Change of Use	Airborne	Wall	43 DnT,w+Ctr
			Floor	43 DnT,w+Ctr
			Stairs	43 DnT,w+Ctr
		Impact	Floor	64 L'nTw

Note that, for airborne sound insulation, the larger value means better performance, so the values in the above table are minimum performance standards. For impact

sound level, however, a lower value means better performance, so the values in the above table are maximum levels.

3.2 Requirements for this Development (Special Requirement Set by Council)

This development is being controlled by the Local planning Authority and therefore needs to comply with the requirements highlighted below as set out in Local Authority Framework Document LP24 & LP25:

Type of Accommodation	Nature of Building Work	Transmission Paths	Type of Party Element	Performance Criterion (dB)
Dwellings	Formed by Material Change of Use	Airborne	Wall	55 DnT,w+Ctr
			Floor	55 DnT,w+Ctr
			Stairs	N/A

4.0 SOUND TEST DETAILS

4.1 Dates and Personnel

The sound insulation tests were conducted by Kieran Abadie of BREW Compliance Ltd between the hours 10:30am-12:30pm on Thursday 23rd May 2024.

Tests were carried out for completion stage sound insulation testing, to demonstrate compliance with the requirements of Approved Document E (2003 edition incorporating the 2004, 2010, 2013 and 2015 amendments).

4.2 Equipment

The following equipment was used:

Equipment Description	Manufacturer	Type Number	Serial Number
Sound Level Meter	NTi Audio	XL2-TA	A2A-18213-E0
Acoustic Calibrator	Brüel & Kjær	4231	3016820
Microphone	NTi Audio	MA220	09563
Power Amplifier	Norsonic	280	2804828
Tapping Machine	Norsonic	277	2776497
Dodecahedron Speaker	Norsonic	276	2766465

4.3 Test Method

The testing methods for airborne and impact sound insulation were in full accordance with the methods presented in BS EN ISO 140 Part 4:1998 'Field Measurements of Airborne Sound Insulation Between Rooms'.

The calculation of single number values was also in full accordance with ISO 717:1 and ISO 717:2. For airborne tests, two individual speaker positions were used for each source room, with a total of twelve individual one third octave measurements of ten seconds each, recorded for both the source and receiver rooms.

Twelve measurements were made of the reverberation time of the receiving room of each test. A steady noise level is generated via the B&K 2250 Sound Analyser, and then interrupted: From this, the reverberation time is calculated in accordance with ISO 3382:1997.

The sound level meter was calibrated at the beginning and end of the tests with no significant deviation observed.

In addition, all the procedures in Annex B of the Approved Document E, guidance to the Building Regulations, have been followed.

4.4 Background Noise

Background noise on site comprised heavily of local road traffic noise close to the premises.

Measurements were made to monitor the background noise levels in the receiving rooms and situations where the level of background noise has influenced the measurement are highlighted on the test certificates.

4.5 Construction of Tested Element

The following information was provided by the client:

No information provided by client.

ADE Wall Type 1

ADE Floor Type 3

4.6 Deviations

The following deviations to the test procedure were noted:

No deviations to the standard test procedure were noted.

5.0 RESULTS

The results of the sound insulation tests are reproduced in the tables below, graphical presentation of the results may be found within Appendices 1 & 2.

Airborne sound insulation test results - Walls

Test Number	Source Room	Receiver Room	Source Room Volume (m ³)	Receiver Room Volume (m ³)	Performance (DnTw + Ctr)	Minimum Criterion (DnTw + Ctr)	Test Result
1	Kitchen/Living (2 Green Pond St)	Retail Prep Area (510)	52.67	25.21	62	55	Passed
3	Retail Main Area (510)	Retail Shop (508)	37.69	61.68	63	55	Passed

Airborne sound insulation test results - Floors

Test Number	Source Room	Receiver Room	Source Room Volume (m ³)	Receiver Room Volume (m ³)	Performance (DnTw + Ctr)	Minimum Criterion (DnTw + Ctr)	Test Result
2	Retail Main Area (510)	Living Room (504)	37.69	34.7	57	55	Passed

6.0 CONCLUSION

The tests for this project were conducted between the separating walls and floor to comply against Part E building Regs including the extension requirements of the aims and objectives set out in Local Authority Framework LP24 & LP25. All airborne tests have passed the required criteria and can be considered to comply with the requirements of Building Regulations ADE & the guidelines set out in the Local Authority Framework Document.

Appendix 1: Airborne Sound Insulation Results Certificates – Wall/s

Appendix 2: Airborne Sound Insulation Results Certificates – Floor/s



Appendix 1

Standardized level difference in accordance with ISO 16283-1
Field measurements of airborne sound insulation between rooms



Client: Asaar Mohammed

Date of test: 23/05/2024

Location: 510 Huddersfield Road, Dewsbury, West Yorkshire, WF13 3ET

2 Green Pond St Kitchen/Living into GF Retail Space Prep Area – Airbourne Party Wall

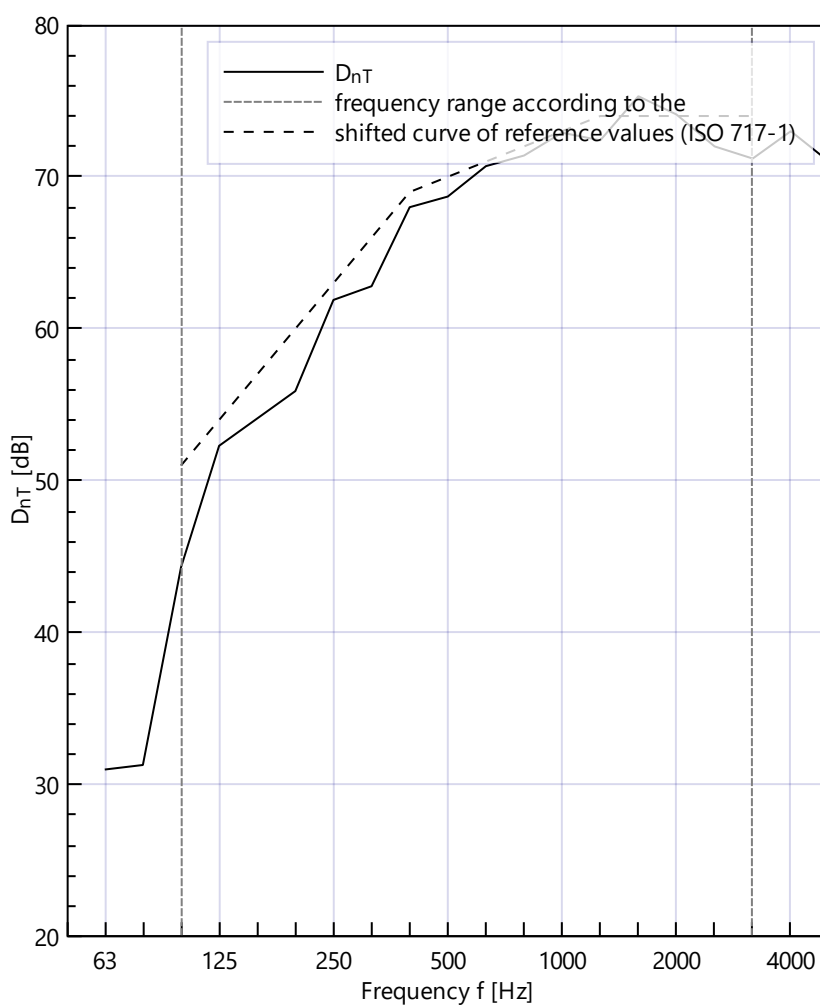
Sound Level Meter: A2A-18213-E0 (M2230: 9563)

Area of common partition: 14.02 m²

Source room volume: 52.67 m³

Receiving room volume: 25.21 m³

Frequency f Hz	D _{nT} 1/3 octave dB
50	---
63	31.0
80	31.3
100	44.3
125	52.3
160	54.1
200	55.9
250	61.9
315	62.8
400	68.0
500	68.7
630	70.7
800	71.4
1000	72.9
1250	72.4
1600	75.3
2000	74.1
2500	72.0
3150	71.2
4000	73.0
5000	71.0



Rating in accordance with ISO 717-1:

D_{nT,w}(C;C_{tr}) = 70 (-3; -8) dB

C₅₀₋₃₁₅₀ = --- dB;

C₅₀₋₅₀₀₀ = --- dB;

C₁₀₀₋₅₀₀₀ = -2 dB

C_{tr,50-3150} = --- dB;

C_{tr,50-5000} = --- dB;

C_{tr,100-5000} = -8 dB

Evaluation based on field measurement using results obtained by an engineering method.

Report No.: 0704-1

Name: K.Abadie

Date:

Signature:

K.Abadie

Standardized level difference in accordance with ISO 16283-1
Field measurements of airborne sound insulation between rooms



Client: Asaar Mohammed

Date of test: 23/05/2024

Location: 510 Huddersfield Road, Dewsbury, West Yorkshire, WF13 3ET

GF Retail Space Main into 508 Huddersfield Rd Retail Space – Airbourne Party Wall

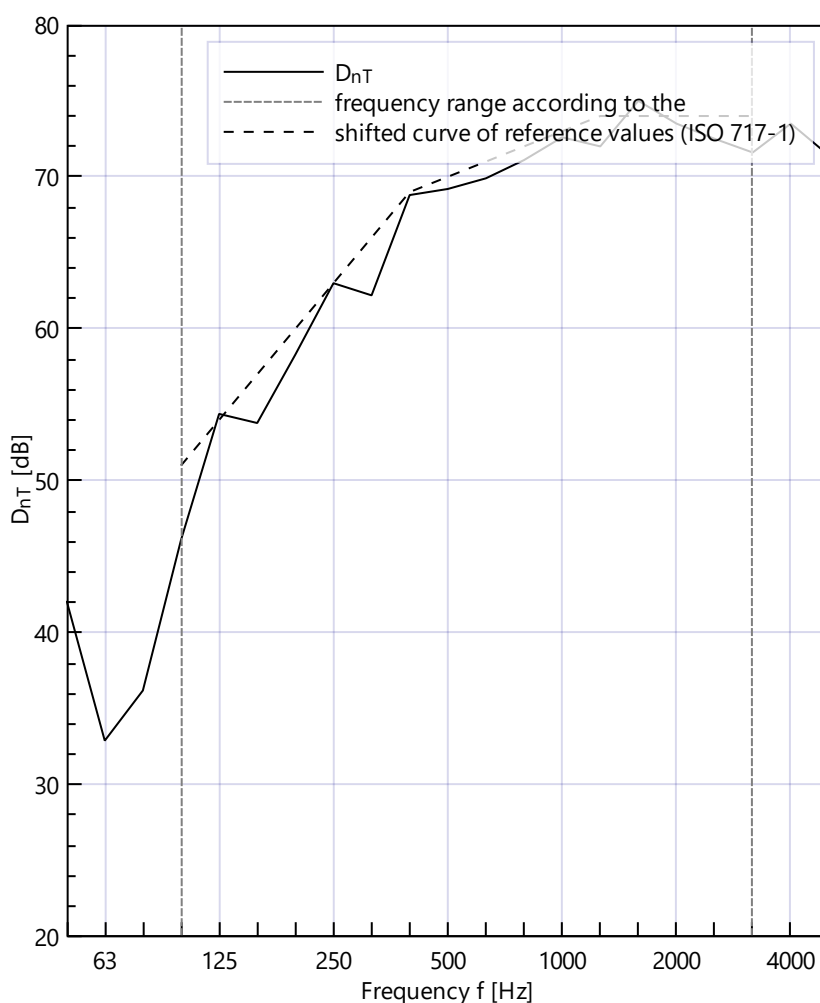
Sound Level Meter: A2A-18213-E0 (M2230: 9563)

Area of common partition: 14.56 m²

Source room volume: 37.69 m³

Receiving room volume: 61.68 m³

Frequency f Hz	D _{nT} 1/3 octave dB
50	≥ 42.1
63	≥ 32.9
80	≥ 36.2
100	≥ 46.1
125	≥ 54.4
160	53.8
200	≥ 58.3
250	≥ 63.0
315	≥ 62.2
400	≥ 68.8
500	≥ 69.2
630	≥ 69.9
800	≥ 71.1
1000	≥ 72.6
1250	≥ 72.0
1600	≥ 75.0
2000	≥ 73.5
2500	≥ 72.5
3150	≥ 71.6
4000	≥ 73.5
5000	≥ 71.4



≥: 1.3 dB correction applied,
value at the limit of measurement

Rating in accordance with ISO 717-1:

D_{nT,w}(C;C_{tr}) = 70 (-2; -7) dB

C₅₀₋₃₁₅₀ = -6 dB;

C₅₀₋₅₀₀₀ = -5 dB;

C₁₀₀₋₅₀₀₀ = -1 dB

C_{tr,50-3150} = -17 dB;

C_{tr,50-5000} = -17 dB;

C_{tr,100-5000} = -7 dB

Evaluation based on field measurement using results obtained by an engineering method.

Report No.: 0704-3

Name: K.Abadie

Date: 23/05/2024

Signature:

Appendix 2

Standardized level difference in accordance with ISO 16283-1
Field measurements of airborne sound insulation between rooms



Client: Asaar Mohammed

Date of test: 23/05/2024

Location: 510 Huddersfield Road, Dewsbury, West Yorkshire, WF13 3ET

GF Retail Space Main into 508 Huddersfield Rd Retail Space – Airbourne Party Wall

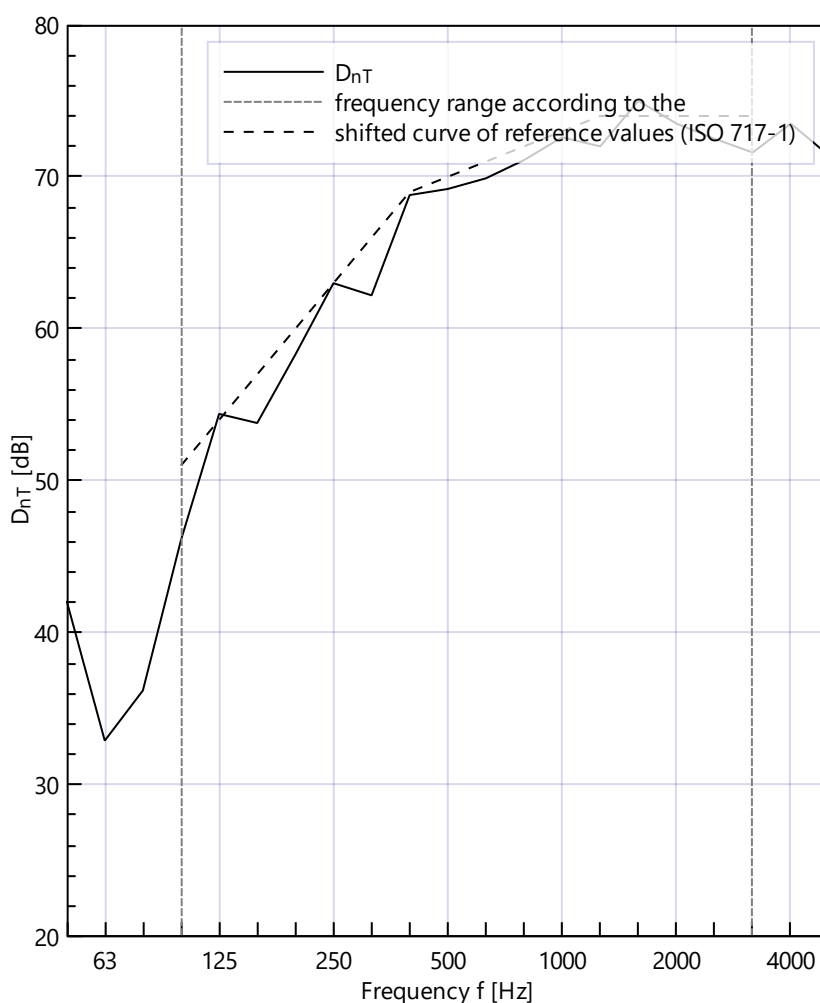
Sound Level Meter: A2A-18213-E0 (M2230: 9563)

Area of common partition: 14.56 m²

Source room volume: 37.69 m³

Receiving room volume: 61.68 m³

Frequency f Hz	D _{nT} 1/3 octave dB
50	≥ 42.1
63	≥ 32.9
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200	≥ 58.3
250	≥ 63.0
315	≥ 62.2
400	≥ 68.8
500	≥ 69.2
630	≥ 69.9
800	≥ 71.1
1000	≥ 72.6
1250	≥ 72.0
1600	≥ 75.0
2000	≥ 73.5
2500	≥ 72.5
3150	≥ 71.6
4000	≥ 73.5
5000	≥ 71.4



≥: 1.3 dB correction applied,
value at the limit of measurement

Rating in accordance with ISO 717-1:

D_{nT,w}(C;C_{tr}) = 70 (-2; -7) dB

C₅₀₋₃₁₅₀ = -6 dB;

C₅₀₋₅₀₀₀ = -5 dB;

C₁₀₀₋₅₀₀₀ = -1 dB

C_{tr,50-3150} = -17 dB;

C_{tr,50-5000} = -17 dB;

C_{tr,100-5000} = -7 dB

Evaluation based on field measurement using results obtained by an engineering method.

Report No.: 0704-3

Name: K.Abadie

Date: 23/05/2024

Signature: