

AIRBORNE SOUND INSULATION TESTS

THIS REPORT AND ASSOCIATED ATTACHED FIGURES MAY NOT BE REPRODUCED
OTHER THAN IN FULL AND WITH PRIOR WRITTEN APPROVAL OF THE ISSUING LABORATORY

Client (instruction from)

Graham Lipscombe
60 Hamilton Road
Salisbury
Wiltshire
SP1 3TQ



4035

Site Address

12 Derby Road
Eastleigh
Hampshire
SO50 5LY

Development Status

The site is a development of Purpose built dwelling-houses and flats table 0.1a of Building Regulations Approved Document E 2003 'Resistance to the Passage of Sound'.

Introduction

Sound Advice Acoustics Ltd has been instructed to assess the sound insulation values between the properties within this recently completed site. The development's sound insulation tests are to be carried out and rated in accordance with following British Standards:-

- ✓ BS EN ISO 140-4:1998 – 'Acoustics – Measurement of Sound Insulation in Buildings and of Building Elements. Part 4 'Field Measurement of Airborne Sound Insulation Between Rooms'
- ✓ BS EN ISO 717-1:1997 – 'Acoustics - 'Rating of Sound Insulation in Buildings and of Building Elements: Part 1. Airborne Sound Insulation'

These results are then assessed generally in accordance with the Building Regulations Approved Document E 2003 'Resistance to the Passage of Sound' in order to indicate compliance. The attached data sheets (figures 1 – 3 inclusive) give details as to the individual performance of each of the elements tested between the properties and should be read in conjunction with this report. Opinions and interpretations contained in this report are clearly marked (by the use blue italic text) and are outside the scope of the organisation's scope of accreditation. Corrections to a report are highlighted in Red.

Criteria

For purpose built dwellings or dwellings formed by material change of use, the Building Regulations Approved Document E 2003 'Resistance to the Passage of Sound' requires separating structures to adhere to the following requirements as detailed in table 1a of the below document.

Table 0.1a:	Dwelling-houses and flats – performance standards for separating walls, separating floors, and stairs that have a separating function	
	Airborne Sound insulation $D_{nT,w} + C_{tr}$ dB (Minimum values)	Impact Sound Insulation $L'_{nT,w}$ dB (Maximum values)
Purpose built dwelling-houses and flats		
Walls	45	-
Floors and Stairs	45	62
Dwelling-houses and flats Formed by material change of use		
Walls	43	-
Floors and Stairs	43	64

Authentication Signature

REPORT COMPILED BY

Mr I Matthews
Sound Technician



Executive Summary

The following tables illustrate the summary of the achieved results carried out by Ian Matthews:

AIRBORNE TEST - WALL / FLOOR			REQUIRED MIN $D_{nT,w} + C_{tr}$ dB	ACHIEVED $D_{nT,w} + C_{tr}$ dB	RESULT
TEST NO.	FROM	TO			
9659 / 1	Flat 1 – Bedroom	Flat 2 – Bedroom	45	57	PASS
9659 / 2	Flat 1 – Living	Flat 2 – Living	45	50	PASS
9659 / 3	Commercial Unit	Flat 1 – Bedroom	45	47	PASS

Construction Types

FLOOR - Chipboard / joists / 100mm insulation / resilient bar /
2 x plasterboard

WALL - Plaster / 9 inch block / plaster

These construction details have been supplied by the client and therefore
Sound Advice Acoustics Ltd accepts no responsibility for their accuracy.

Sound Insulation Test Procedure

Sound insulation tests carried out at the above site were conducted in accordance with Sound Advice Acoustics Ltd technical test procedure SA.SI.803. A full copy of this document is available upon request. The procedures stated in Annex B of Building Regulations Approved Document E 2003 'Resistance to the Passage of Sound' have been followed.

Equipment

All the following equipment was calibrated by a UKAS accredited laboratory in accordance with the laboratory accreditation requirements of the United Kingdom Accreditation Service (UKAS) on the following dates. Calibration schedules are implemented within Sound Advice Acoustics Ltd in accordance with UKAS directive LAB 23.

Description	Make	Type	Serial No.	Calibration Intervals	Last Calibrated	Next Due Calibration
Sound Level Meter	Norsonic	140	1403122	2 YEARS	16.07.2020	16.07.2022
12.5mm Microphone	Norsonic	1225	91865	2 YEARS	16.07.2020	16.07.2022
Microphone Pre – Amplifier	Norsonic	1209	12486	2 YEARS	16.07.2020	16.07.2022
Calibrator	Norsonic	1251	31310	1 YEAR	19.08.2021	19.08.2022
The above equipment was calibrated using a sound pressure level of 114.0 dB at an octave band centre frequency of 1000Hz with reference to $2 \times 10^{-5} \text{ Nm}^{-2}$ before and after the tests and the equipment set to have no inaccuracy greater than 0.5 dB.						

Full UKAS calibration data sheets and certificates are available upon request.

Customer Feedback

Sound Advice Acoustics Ltd welcomes any feedback from our clients. Please email info@soundadviceacoustics.co.uk with any comments.

Please note this data sheet is to be read in conjunction with report SA.SI.106. 9659

Client Details:	Graham Lipscombe
Site Address:	12 Derby Road, Eastleigh

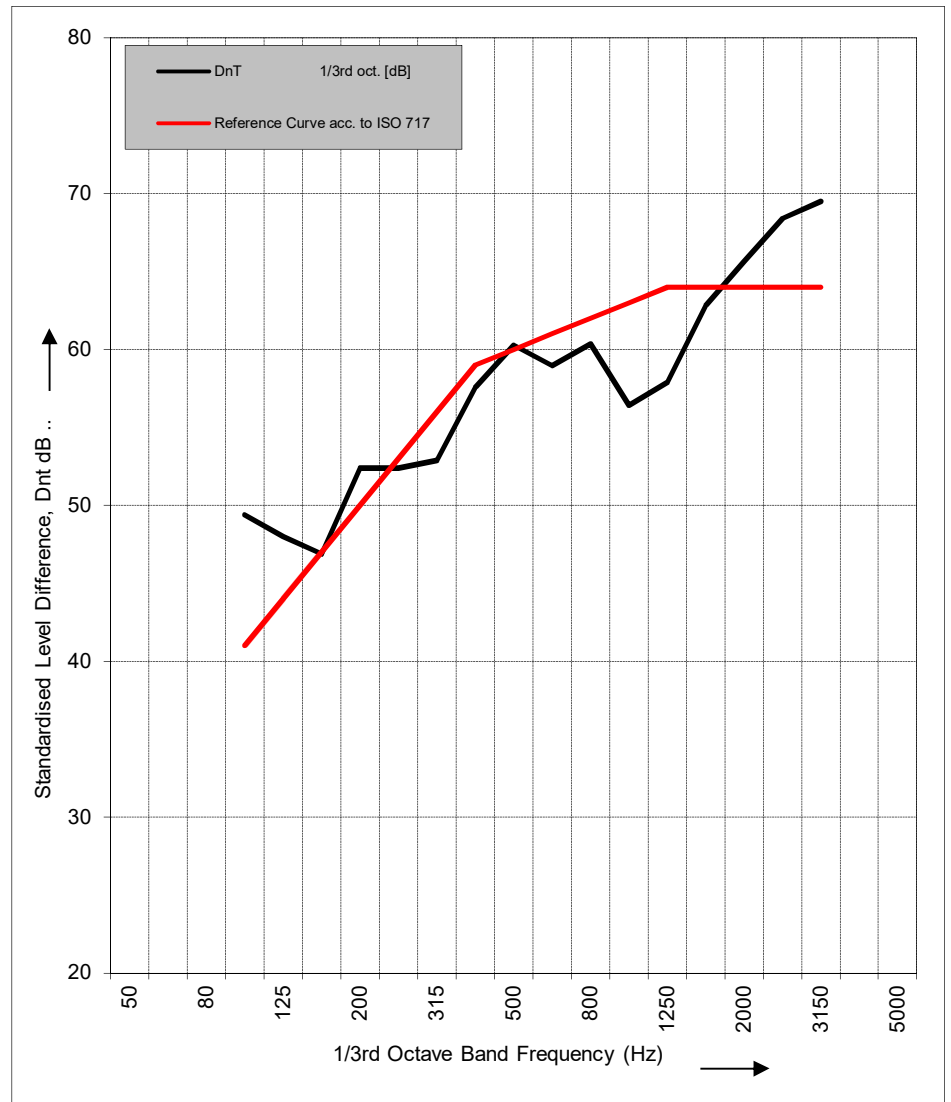
Figure:	1
Test No.:	9659 / 1

Test Location:	From: Flat 1 - Bedroom
	To: Flat 2 - Bedroom

Test Dated	18.05.2022
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Source Room Volume (Approx) 19 m³
Receiver Room Volume (Approx) 19 m³

Frequency [Hz]	D _{nT} 1/3rd oct. [dB] B <6
50	
63	
80	
100	49.4 B
125	48.0 B
160	46.9 B
200	52.4 B
250	52.4 B
315	52.9 B
400	57.6 B <6
500	60.3 B <6
630	59.0 B
800	60.3 B <6
1000	56.4 B <6
1250	57.9 B <6
1600	62.8 B <6
2000	65.7 B <6
2500	68.4 B <6
3150	69.5 B <6
4000	
5000	



Rating According to ISO 717 1997 Part 1. Airborne Sound Insulation

D_{nT,w} (C,Ctr) 60 (-1 ; -3) dB

B = Background Corrected Sample Level
<6 = Limit Of Measurement

D_{nT,w} + C_{tr} 57 dB

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

Authentication Signature

Mr B Scrivener MIOA Deputy Quality / Technical Manager
Mr. D Stephens Deputy Technical Manager
Mr. M Grist Sound Technician
Mr I Matthews Sound Technician
Mrs S Grist Quality Manager



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Please note this data sheet is to be read in conjunction with report SA.SI.106. 9659

Client Details:	Graham Lipscombe
Site Address:	12 Derby Road, Eastleigh

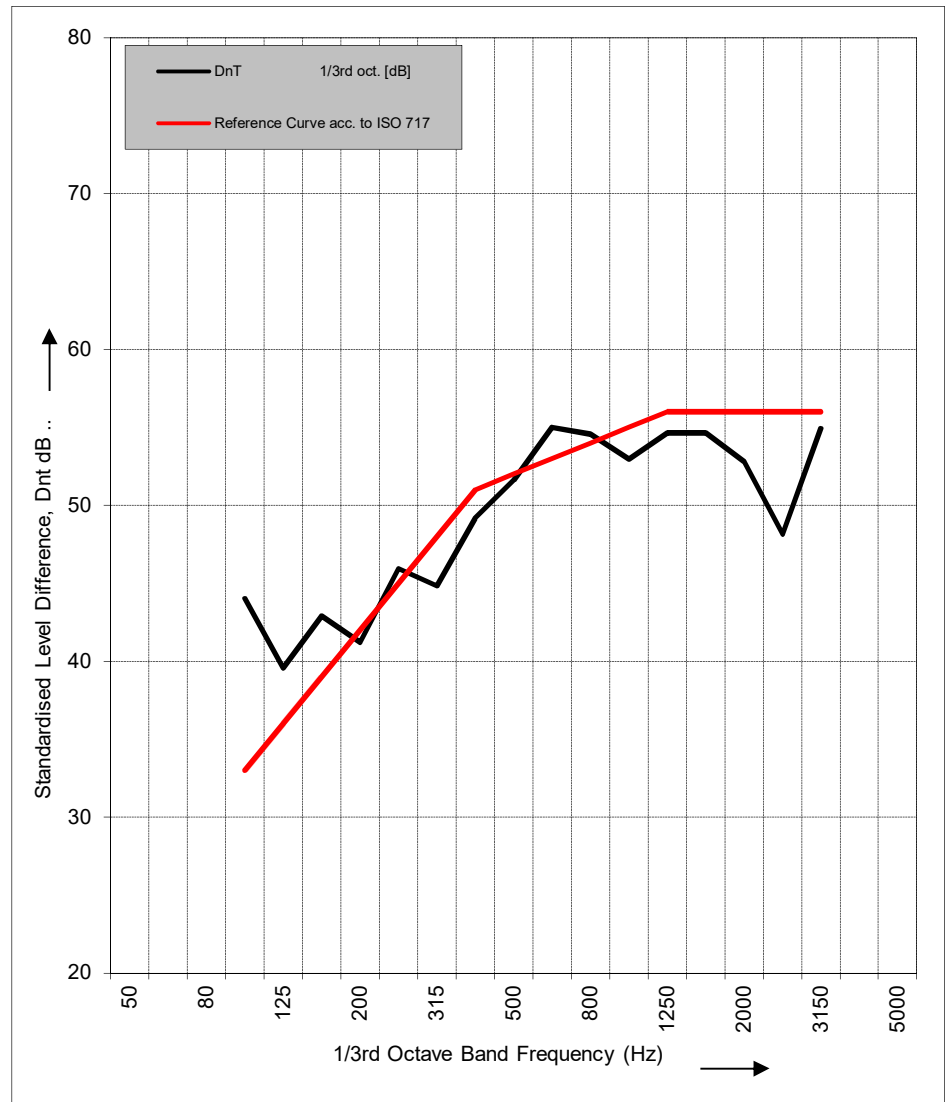
Figure:	2
Test No.:	9659 / 2

Test Location:	From: Flat 1 - Living
	To: Flat 2 - Living

Test Dated	18.05.2022
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Source Room Volume (Approx) 38 m³
Receiver Room Volume (Approx) 38 m³

Frequency [Hz]	D _{nT} 1/3rd oct. [dB] B <6
50	
63	
80	
100	44.0
125	39.6 B
160	42.9 B
200	41.2 B
250	45.9 B
315	44.8 B
400	49.2 B
500	51.6 B <6
630	55.0 B <6
800	54.6 B <6
1000	53.0 B <6
1250	54.6 B <6
1600	54.7 B <6
2000	52.8 B <6
2500	48.1 B
3150	55.0 B
4000	
5000	



Rating According to ISO 717 1997 Part 1. Airborne Sound Insulation

D_{nT,w} (C,Ctr) 52 (-1 ; -2) dB

B = Background Corrected Sample Level
<6 = Limit Of Measurement

D_{nT,w} + C_{tr} 50 dB

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

Authentication Signature

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Mr. D Stephens Deputy Technical Manager
Mr. M Grist Sound Technician
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Mrs S Grist Quality Manager



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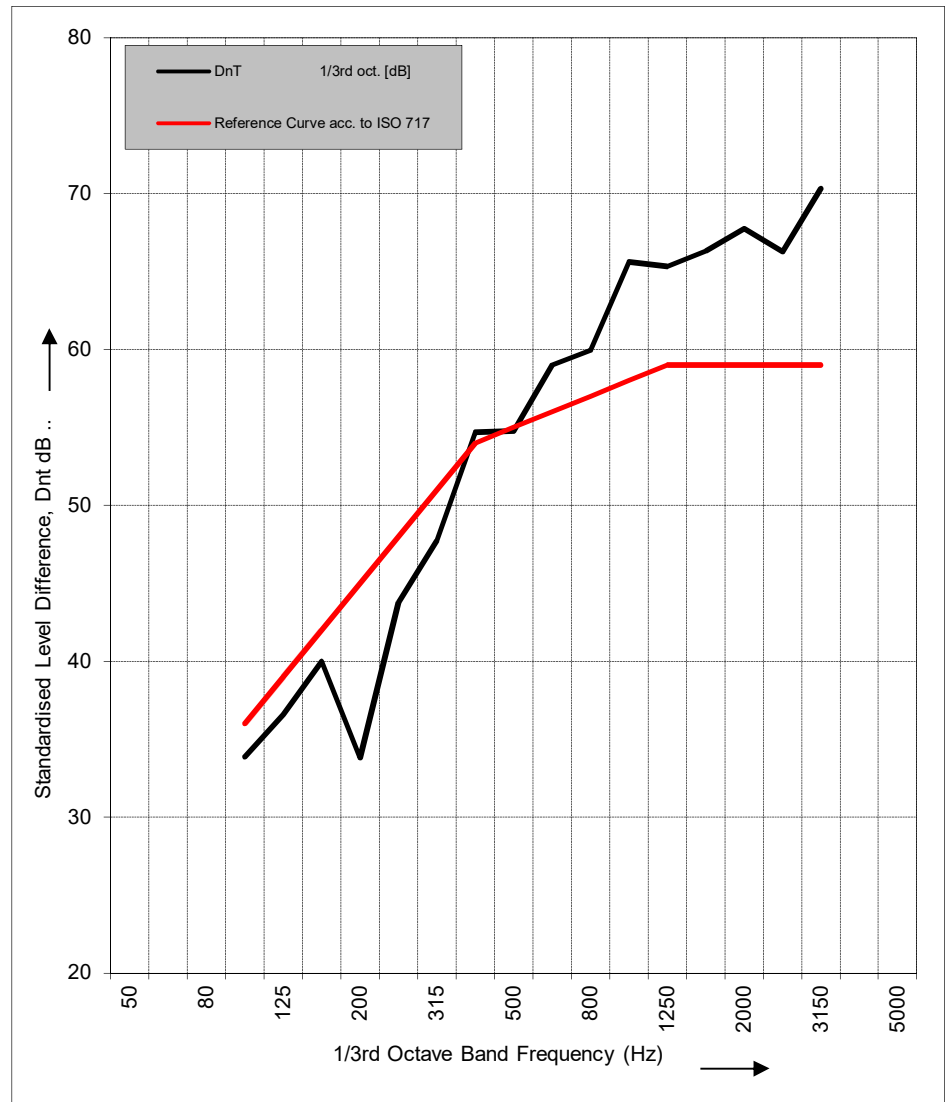
Figure:	3
Test No.:	9659 / 3

Test Location:	From: Commercial Unit
	To: Flat 1 - Bedroom

Test Dated	18.05.2022
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Source Room Volume (Approx) 30 m³
Receiver Room Volume (Approx) 19 m³

Frequency [Hz]	D _{nT} 1/3rd oct. [dB] B <6
50	
63	
80	
100	33.9
125	36.6
160	40.0
200	33.8
250	43.8
315	47.7
400	54.7
500	54.8 B
630	59.0 B
800	60.0 B
1000	65.6 B <6
1250	65.3 B <6
1600	66.3 B <6
2000	67.8 B <6
2500	66.3 B <6
3150	70.3 B <6
4000	
5000	



Rating According to ISO 717 1997 Part 1. Airborne Sound Insulation

D_{nT,w} (C,Ctr) 55 (-3 ; -8) dB

B = Background Corrected Sample Level
<6 = Limit Of Measurement

D_{nT,w} + C_{tr} 47 dB

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

Authentication Signature

Mr B Scrivener MIOA
Deputy Quality /
Technical Manager

Mr. D Stephens
Deputy Technical
Manager

Mr. M Grist
Sound
Technician

Mr I Matthews
Sound Technician

Mrs S Grist
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