Chartered Building Consultancy

APPROVED DOCUMENT E 2003
ANC
REGISTERED PRE-COMPLETION TEST BODY

Acoustic South East

84 South Street, Lancing

Sound Insulation Test Report

Constructionline Part of Capita plc

CQMS Safety Scheme

ANC THE ASSOCIATION OF NOISE CONSULTANTS

ATTMA

Acoustic South East is a Trading Name of Acoustic Associates Sussex Ltd, Company Registration No: 5646519

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SOUND INSULATION TEST REPORT

Address of building tested	84 South Street, Lancing, BN15 8AJ
Property type(s)	Houses/Flats
Date(s) of testing	10 Jan 2025
ANC Registered Testers	Simon Barrett
Report prepared for	Gardner & Scardifield 2-16 Penhill Road, BN15 8HJ
Report created at	10/01/2025 14:33:18
Report number	J3972
Registered ANC test organisation	Acoustic Associates Sussex Ltd t/a Acoustic South East, 8 Highdown House, Shoreham-by-Sea, BN43 5PB
ANC organisation number	117
Report prepared by	Simon Barrett BSc(Hons) MSc MIOA
Checked by	Scott Castle BSc(Hons) CEnvH MCIEH MIOA

NOTICE TO BUILDING CONTROL OFFICER

Certification of Test Results

ANC operates an online, secure, paperless certification system for sound insulation tests.

The online verification (certification) system means that Building Control Bodies will need to follow the steps below to verify the results quoted in the relevant test report:

1. Go to the ANC secure server at www.anc-advance.co.uk

2. Enter the following in the spaces provided:

   Task Number: **119282**
   Task Password: **PZA8JH**

3. Select role "Building Control Officer" and press "Login"

4. You will then see a summary list of results of all the Tests undertaken to date for this project as held on the secure primary server and you can print this table for your records.

EXECUTIVE SUMMARY

The results show that the room pairs tested satisfy the requirements of Approved Document E (ADE).

They also comply fully with the requirement of the Local Authority (relating to Planning Application AWDM/1381/24) by achieving a result of $D_{nT,w} + C_{tr}$ = 50dB each.

It should ne noted that this result is 7dB better than the minimum requirement of ADE for material change of use properties and 5dB better than the minimum requirement of ADE for newbuild properties.

RESULTS SUMMARY

TABLE 1: Airborne Tests

Test No.	Source room	Vol m^3	Receiver room	Vol m^3	Project type	Construction type	$D_{nT,w} + C_{tr}$, dB		Pass / fail †
							Result	Target	
1	Ground Floor Commercial	70	First Floor Lounge	42	HFCON	Floor (F1)	50	≥ 43	✓
2	Ground Floor Commercial	70	First Floor Bedroom 1	32	HFCON	Floor (F1)	50	≥ 43	✓

KEY:

*All tests appended with a **letter** are retests (ordered alphabetically)*

Project types:

HFNB	Purpose built houses and flats
RRNB	Purpose-built rooms for residential purposes
HFCON	Houses or flats formed by material change of use
RRCON	Rooms for residential purposes formed by material change of use.

Pass / fail:

† Responsibility for deciding on compliance with Building Regulations lies with the Building Control body.

✓	Performance at or better than the performance standard cited in Building Regulations Approved Document E
✓[c]	The highlighted test represents a deviation from ADE B2.13 and B2.14 meaning that the reported test result will not represent the true impact performance of the floor without the soft covering. This should be brought to the attention of the client and the Building Control Officer.
×	Performance is worse than the performance standard cited in Building Regulations Approved Document E
H	Historic building - Result should be displayed in a conspicuous place inside the building in accordance with Regulation 1 or 20(1) and (5) - ADE ref section 0.7

CONSTRUCTION TYPES

Reference	Wall / floor	Description
F1	Floor	Existing Floorboards, Existing 8" Joists, Existing Plasterboard Ceiling (details unknown), Existing Lay-In-Grid tiled ceiling, new 5"x2" independent ceiling joists incorporating 100mm Mineral Fibre, 1x 12.5mm Fireline

APPLICABLE TEST CODES / STANDARDS

Tests have been taken in full accordance with the following test codes and standards. Any deviations are recorded in the individual test reports.

Building Regulations:

Approved Document E of The Building Regulations*: Resistance to the passage of sound* sets out the following requirements:

Houses and flats:

Airborne Sound Insulation:

The insulation values for airborne insulation for converted floors shall not be less than $D_{nT,w} + C_{tr}$ = 43 dB.

Enhanced Requirements:

The Local Authority's requirement for planning application AWDM/1381/24 is that the airborne sound insulation should achieve a minimum of $D_{nT,w} + C_{tr}$ = 50dB between the ground floor commercial space and the residential dwelling above.

Standards:

- Results of the measurements, in terms of single-figure ratings for airborne sound insulation are provided as Weighted Standardised Level Differences $D_{nT,w} + C_{tr}$ as required by BS EN ISO 140-4 Acoustics - Measurement of sound insulation in buildings and of building elements - Part 4: Field measurements of airborne sound insulation between rooms 1998.

  They are also defined in ISO 717-1 Acoustics - Rating of sound insulation in buildings and of building elements - Part 1: Airborne sound insulation 1997.

- Reverberation Time measurements are specifically defined in BS EN ISO 3382 Measurement of Room Acoustic Parameters - Part 2: Reverberation Time in Ordinary Rooms 2008

- Test Methods and Procedures are also detailed within the ANC Practice Guidance for sound insulation testing in dwellings v1.1 2018

- All results criteria are set out in Approved Document E 2003 (as amended 2015) of The Building Regulations 2010*: Resistance to the passage of sound*

TEST PROCEDURES

Airborne sound insulation

Two loudspeakers were placed facing into the corners, separated from each other, at different heights in the source room and angled across the room to create a diffuse sound field. An amplifier was used to broadcast pink noise through the loudspeakers using two individual noise generators. The spectrum shape of the reverberant noise was checked to ensure that each 1/3 octave band was within 6 dB of its neighbouring bands. The spectrum shape was adjusted, if necessary, to comply with this criterion (Firstly loudspeaker position/s are adjusted until the criterion is achieved. If this fails the spectrum shape is adjusted using a graphic equaliser).

Measurements were taken in the source room at each 1/3 octave band centre frequency between 100 Hz and 3.15 kHz using the “sweep” technique as described in ISO140 (at least 30 secs.). Further measurements were then taken in the same way in the receiving room on the other side of the test element. The reverberation time was also obtained using the interrupt stationery method (using pink noise as the source) for each relevant 1/3 octave centre frequency in the receiving room. This was spatially averaged over 6 positions in the room using 1 source position.

Ambient sound pressure levels (without the source operating) were also taken at each frequency in the receiving rooms using the “sweep” technique as described in ISO140 (at least 30 secs). These too were spatially-averaged. Dominant sources of background noise were as follows: Road Traffic

TEST CONDITIONS

The test was conducted between ground floor commercial space into a pre-existing residential dwelling on the first floor, thus already decorated and inhabited. The change of use was to the ground floor commercial space only.

EQUIPMENT USED

Description	Serial number	Manufacturer	Model number	Calibration certificate number	Calibration expires
RCF Art 3	VBCF01258	RCF	Art 310A MK4	N/A	N/A
Pink Noise 3	PinkNoise3	NTi	Minirator MR1	N/A	N/A
Pink Noise 4	PinkNoise4	NTi	Minirator MR1	N/A	N/A
RCF Art 4	VBCF01264	RCF	Art 310A MK4	N/A	N/A
Nor A Calibrator	30974	Norsonic	1251	TCRT23/1372	15/05/2025
Norsonic A	31460	Norsonic	Nor118	TCRT23/1388	18/05/2025
Norsonic A-Preamplifier	30779	Norsonic	1206	TCRT23/1388	19/05/2025
Norsonic A - Microphone	91973	Norsonic	1225	TCRT23/1388	15/05/2025

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

Site Name: 84 South Street, Lancing **Date of test:** 10/01/2025

Source room: Ground Floor Commercial **Receiving room:** First Floor Lounge **Partition type:** Floor

Construction type and description:

F1 Existing Floorboards, Existing 8" Joists, Existing Plasterboard Ceiling (details unknown), Existing Lay-In-Grid tiled ceiling, new 5"x2" independent ceiling joists incorporating 100mm Mineral Fibre, 1x 12.5mm Fireline

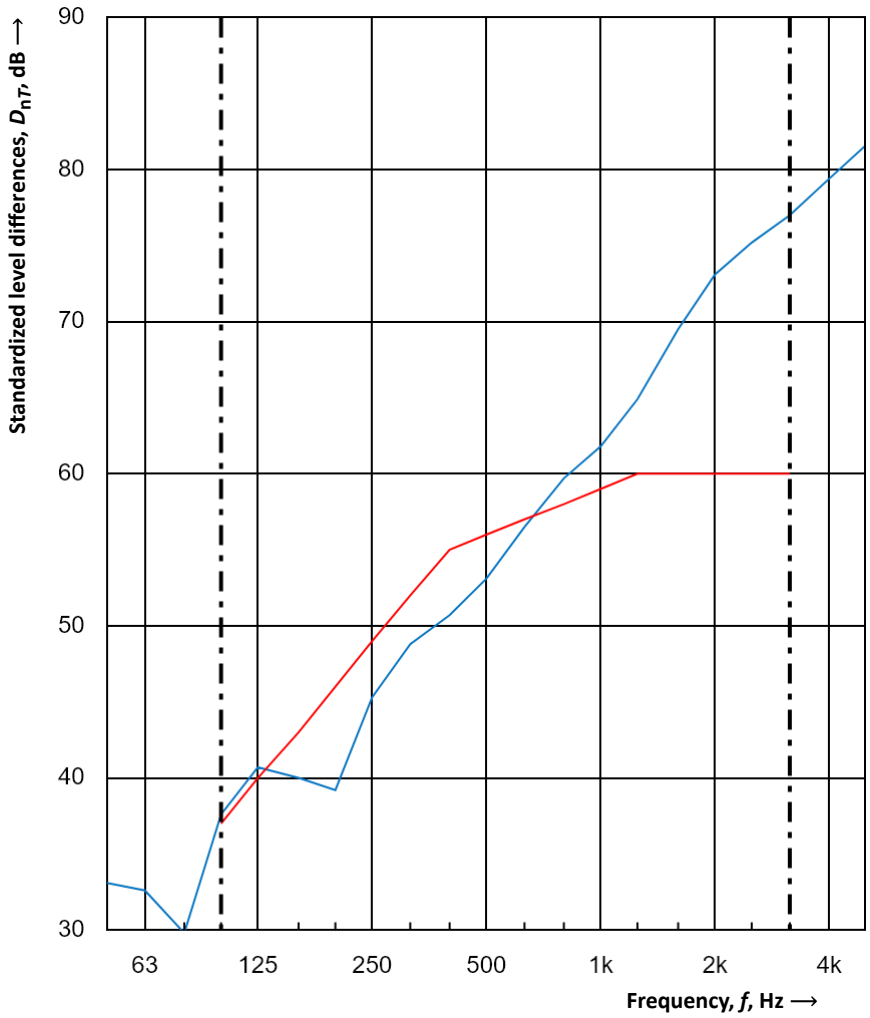
Deviations from test procedures and other relevant observations (if any):
None

Source room volume: 70 m^3
Receiving room volume: 42 m^3

Frequency range according to the shifted curve of reference values (ISO 717-1)

Frequency f Hz	D_{nT} (one-third octave) dB
50	33.1
63	32.6
80	29.8
100	37.6
125	40.7
160	40.0
200	39.2
250	45.3
315	48.8
400	50.7
500	53.1
630	56.5
800	59.7
1000	61.8
1250	64.9
1600	69.5
2000	73.1
2500	75.2
3150	≥ 77.0 *
4000	≥ 79.4 *
5000	≥ 81.6 *

* Result should be taken as limit of measurement due to low SNR in receiver room (≤6 dB)



Rating according to ISO 717-1
$D_{nT,w}(C_{tr})$ = 56 (-6) dB $D_{nT,w}+C_{tr}$ = 50 dB Target: ≥ 43 dB **PASS**
Evaluation based on field measurement results obtained by an engineering method

ANC Task / Test No.: 119282/1 Name of test institute: Acoustic Associates Sussex Ltd t/a Acoustic South East
Person in charge of test: Simon Barrett

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

Site Name: 84 South Street, Lancing **Date of test:** 10/01/2025

Source room: Ground Floor Commercial **Receiving room:** First Floor Bedroom 1 **Partition type:** Floor

Construction type and description:

F1 Existing Floorboards, Existing 8" Joists, Existing Plasterboard Ceiling (details unknown), Existing Lay-In-Grid tiled ceiling, new 5"x2" independent ceiling joists incorporating 100mm Mineral Fibre, 1x 12.5mm Fireline

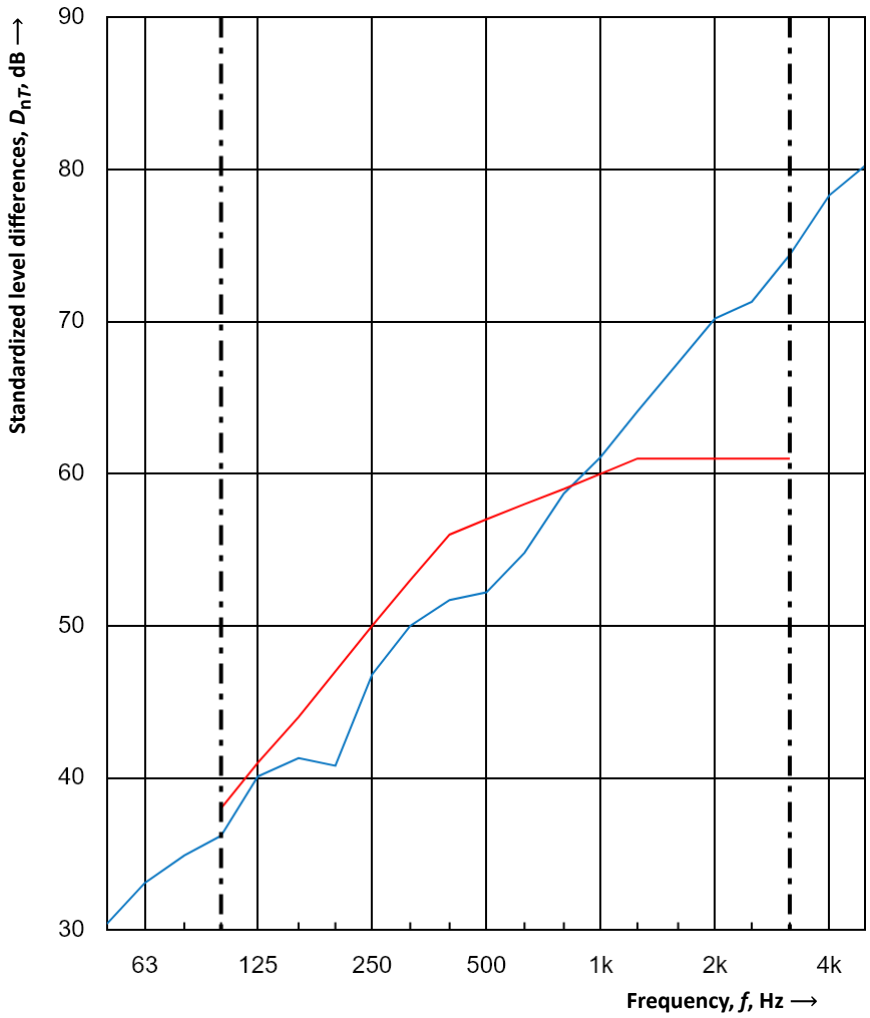
Deviations from test procedures and other relevant observations (if any):
None

Source room volume: 70 m^3
Receiving room volume: 32 m^3

Frequency range according to the shifted curve of reference values (ISO 717-1)

Frequency f Hz	D_{nT} (one-third octave) dB
50	30.4
63	33.1
80	34.9
100	36.2
125	40.1
160	41.3
200	40.8
250	46.8
315	50.0
400	51.7
500	52.2
630	54.8
800	58.7
1000	61.1
1250	64.1
1600	67.3
2000	70.2
2500	71.3
3150	74.4
4000	≥ 78.3 *
5000	≥ 80.3 *

* Result should be taken as limit of measurement due to low SNR in receiver room (≤6 dB)



Rating according to ISO 717-1
$D_{nT,w}(C_{tr})$ = 57 (-7) dB $D_{nT,w}+C_{tr}$ = 50 dB Target: ≥ 43 dB **PASS**
Evaluation based on field measurement results obtained by an engineering method

ANC Task / Test No.: 119282/2 Name of test institute: Acoustic Associates Sussex Ltd t/a Acoustic South East
Person in charge of test: Simon Barrett