

Pre-Completion Testing Report

Measurements to BS EN ISO 140-4 & 7 and BS ISO 717-1 & 2, following the test procedures in Annex B of Approved Document E to The Building Regulations at :-

122 Drummond Street, London NW1 2HN

demonstrate compliance is achieved when compared to Section 0 of Approved Document E (2003).

Pass



Jose Simo
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Site Sound Ltd. Head Office "The Old Stabling". 55 Bradbourne Road. Sevenoaks. Kent TN13 3PZ. Registered (England) 6732448



Property Type: Dwelling-houses and flats formed by material change of use

Description of locations tested:

Test	Measurement Locations		Measured DnTw + Ctr	Required Level DnTw + Ctr	Measured L'nT,w	Required Level L'nT,w	Pass/Fail	Improvement on Building Regulations
	Source Room	Receive Room						
1 ABF	Basement Flat Studio	Ground Floor Shop	47 dB	≥ 43 dB			Pass	4 dB
2 ABF	Ground Floor Shop	First Floor Flat Studio	48 dB	≥ 43 dB			Pass	5 dB
3 IMP	Ground Floor Shop	Basement Flat Studio			54 dB	≤ 64 dB	Pass	10 dB

ABW – Airborne Wall
ABF – Airborne Floor
IMP – Impact



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Annex B of Approved Document E

The tests specified below did not conform to Annex B of Approved Document E for the following reasons:-

➤ None

Report Notes:

➤ None

Construction Detail:

➤ Floors – Type 3



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Testing carried out on behalf of:

**Wicks Builders,
122 Drummond Street,
London,
NW1 2HN**

Test Date: 21/11/2012

Equipment:

Kit 1

Rion NA-28 Class 1 Sound Analyzer Serial No 01170652
Rion UC-59 Microphone Serial No. 00749
Norsonics Nor250 Serial No. 31474

Rion NH-23 Preamplifier Serial No. 70670
Norsonics Nor 277 Tapping Machine Serial no. 2775544
Rion NC74 Serial No. 35173592



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

Client: Wicks Builders **Date of test:** 21/11/2012

Source: Basement Flat Studio

Receive: Ground Floor Shop

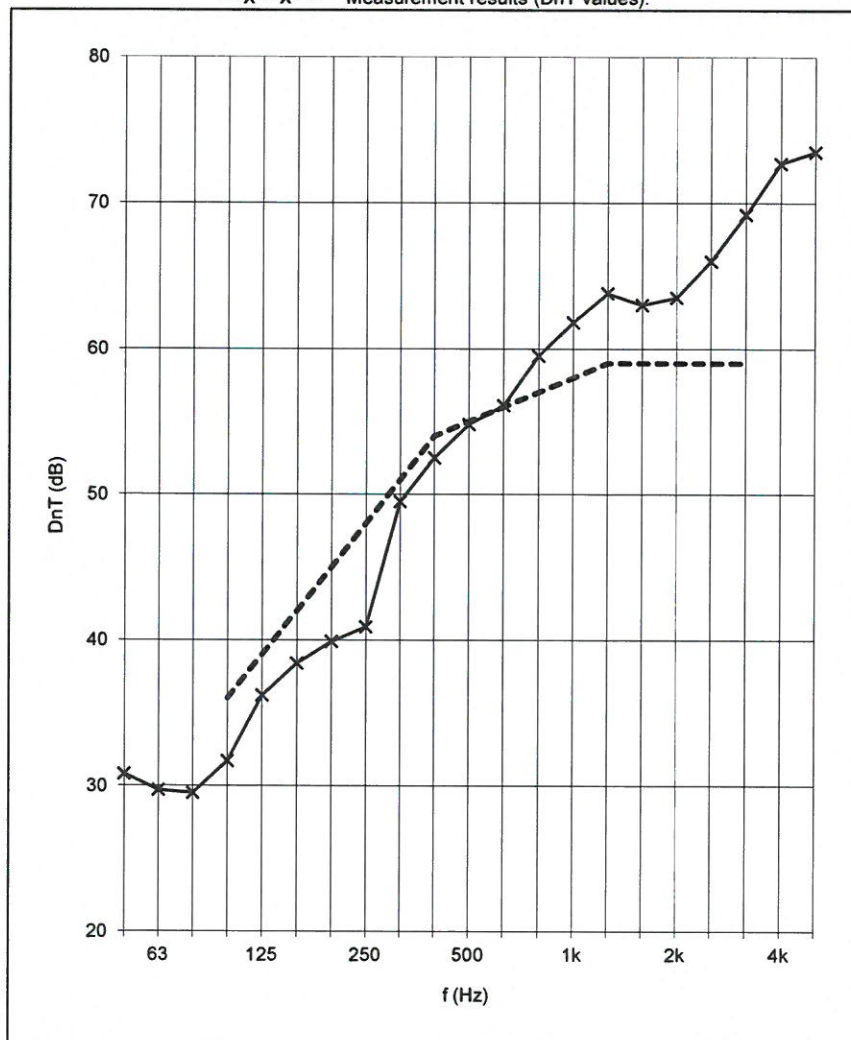
Source room volume (m³): 41

Receiving room volume (m³): 41

----- Shifted reference curve.

---X---X--- Measurement results (DnT values).

Frequency f Hz	DnT (1/3 octave) dB
50	>= 30.8
63	29.7
80	29.5
100	31.7
125	36.2
160	38.4
200	39.9
250	40.9
315	49.5
400	>= 52.5
500	>= 54.8
630	56.1
800	>= 59.5
1000	>= 61.8
1250	63.8
1600	63.0
2000	>= 63.5
2500	>= 66
3150	>= 69.2
4000	>= 72.7
5000	>= 73.5



Rating according to ISO 717-1

DnT,w (C; Ctr) = 55 (-2; -8) dB

Background noise influence on DnT,w

Background noise influence on C and Ctr

Evaluation based on field measurement
 results obtained by an engineering method

No. of test report: E1039

Test 1

Name of test institute: Site Sound Ltd

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

Client: Wicks Builders

Date of test: 21/11/2012

Source: Ground Floor Shop

Receive: First Floor Flat Studio

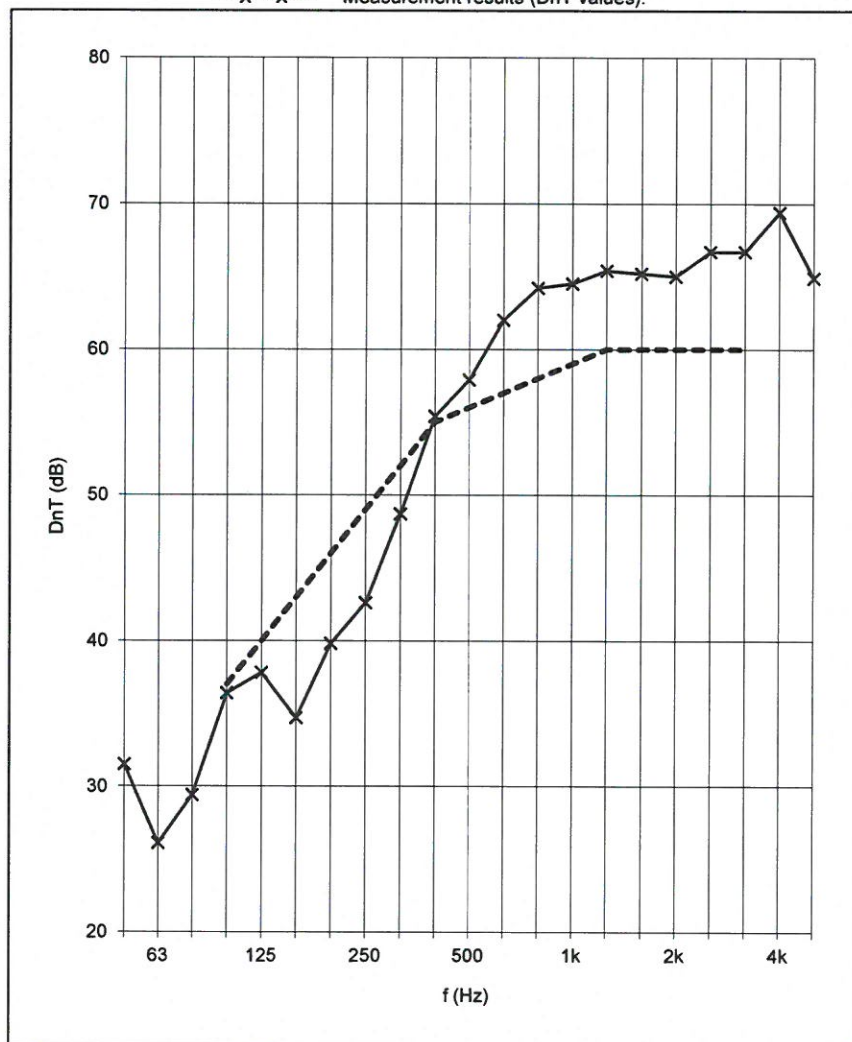
Source room volume (m³): 41

Receiving room volume (m³): 41

----- Shifted reference curve.

---X---X--- Measurement results (DnT values).

Frequency f Hz	DnT (1/3 octave) dB
50	>= 31.5
63	>= 26.1
80	>= 29.4
100	>= 36.4
125	>= 37.8
160	>= 34.7
200	>= 39.8
250	>= 42.6
315	>= 48.7
400	>= 55.4
500	>= 57.9
630	>= 62
800	>= 64.2
1000	>= 64.5
1250	>= 65.4
1600	>= 65.2
2000	>= 65
2500	>= 66.7
3150	>= 66.7
4000	>= 69.4
5000	>= 64.9



Rating according to ISO 717-1

DnT,w (C; Ctr) = 56 (-3; -8) dB

Background noise influence on DnT,w

Background noise influence on C and Ctr

Evaluation based on field measurement
 results obtained by an engineering method

No. of test report: E1039

Test 2

Name of test institute: Site Sound Ltd

Standardized impact sound pressure levels according to ISO 140-7

Field measurements of impact sound insulation of floors

Client: Wicks Builders

Date of test: 21/11/2012

Source: Ground Floor Shop

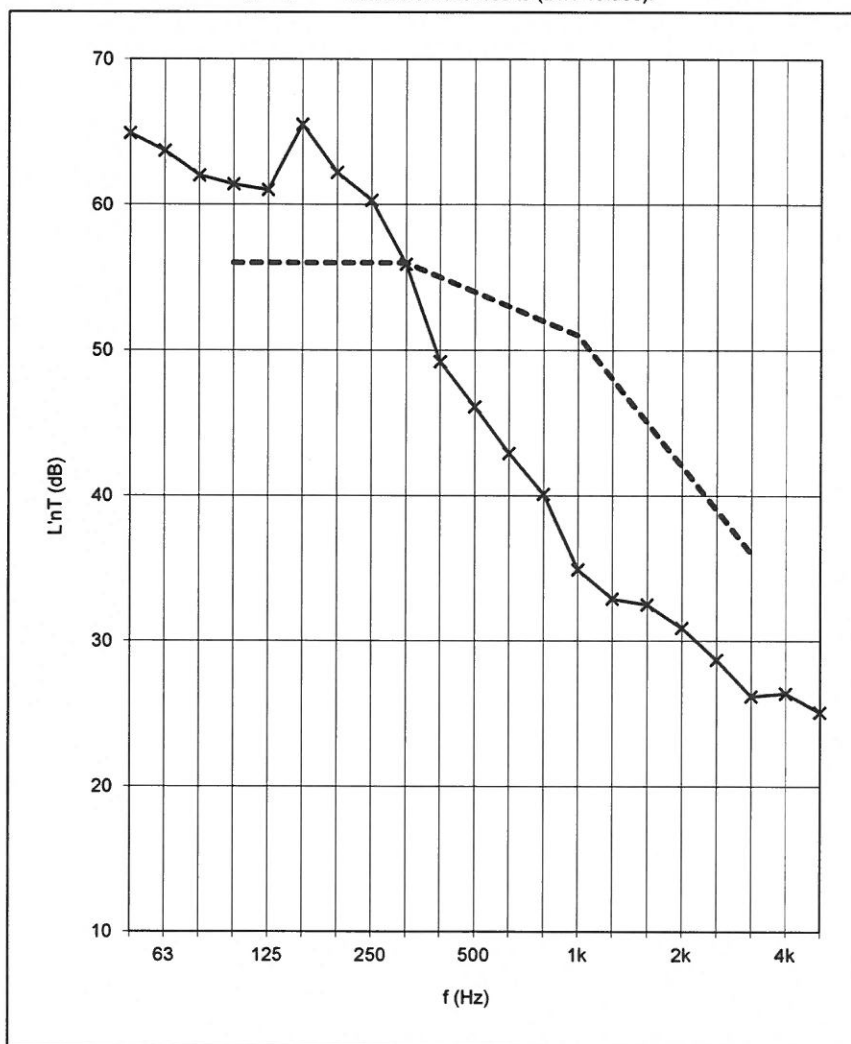
Receive: Basement Flat Studio

Receiving room volume (m³): 41

----- Shifted reference curve.

---X---X--- Measurement results (L'nT values).

Frequency f Hz	L'nT (1/3 octave) dB
50	64.9
63	63.7
80	62.0
100	61.4
125	61.0
160	65.5
200	62.2
250	60.3
315	55.9
400	49.2
500	46.1
630	42.9
800	40.1
1000	34.9
1250	32.9
1600	32.5
2000	30.9
2500	28.7
3150	>= 26.2
4000	>= 26.4
5000	>= 25.1



Rating according to ISO 717-2

L'nT,w (CI) = 54 (1) dB

No background noise influence on L'nT,w

No background noise influence on CI

Evaluation based on field measurement
results obtained by an engineering method

No. of test report: E1039

Test 3

Name of test institute: Site Sound Ltd

References

Test Procedure - Airborne Sound Insulation

Airborne sound insulation measurements are taken to a recommended procedure summarised below:-

- A pink noise source generates a steady and continuous spectrum across the required frequency bands.
- Measurements, following the International Standard ², of the sound levels are taken at one-third octave intervals from 100 Hz to 3150Hz, in the source and receive room using fixed microphone positions.
- An average sound pressure level, representative of the space in the each room is established.
- Reverberation time measurements are made in the receive room ³.
- The Standardized Level Difference (D_{nT}) in decibels (dB) is calculated in each frequency band using the equation: $D_{nT} = L_1 - L_2 + 10 \lg T/T_0$

D_{nT} is the Standardized Level Difference (dB)

- L_1 is the average sound pressure level in the source room (dB)
- L_2 is the average sound pressure level in the receive room (dB)
- T is the average reverberation time of the receive room (seconds)
- T_0 is the reference reverberation time of 0.5 seconds

- The Weighted Standardized Level Difference ($D_{nT,w}$) in decibels and the Spectrum Adaptation Terms (C and C_{tr}), are calculated in accordance with BS EN ISO 717-1:1997 ⁴.

Test Procedure - Impact Sound Transmission

Impact sound insulation measurements are taken to a recommended procedure summarised below:-

- An industry standard *tapping machine* is used as the impact noise source.
- Measurements, following the International Standard ⁵, of the sound level are taken at the one-third octave intervals from 100 Hz to 3150 Hz in the receive room using fixed microphone positions.
- An average sound pressure level representative of the space in the each room are established.
- Reverberation time measurements are made in the receive room ³.
- The Standardized Impact Sound Pressure Level (L'_{nT}) in decibels (dB) is calculated in each frequency band using the equation: $L'_{nT} = L_1 - 10 \lg T/T_0$

where L'_{nT} is the Standardized Level Difference (dB)

- L_1 is the average sound pressure level in the source room (dB)
- L_2 is the average sound pressure level in the receive room (dB)
- T is the average reverberation time of the receive room (seconds)
- T_0 is the reference reverberation time of 0.5 seconds

- The Weighted Standardized Impact Sound Pressure Level ($L'_{nT,w}$) in decibels (dB) and the Spectrum Adaptation Term (C_I), also in decibels, are calculated in accordance with BS EN ISO 717-2:1997 ⁶.

Reference Documents

- 1 The Building Regulations 2000
Approved Document E: Resistance to the passage of sound (2003 Edition)
- 2 BS EN ISO 140-4:1998
Acoustics - Measurements of sound insulation in buildings and of building elements
- 3 BS EN ISO 3382-2: 2008
Acoustics - Measurement of room acoustic parameters. Reverberation time in ordinary rooms
- 4 BS EN ISO 717-1:1997 (Incorporating Amendment 1)
Acoustics. Rating of sound insulation in buildings and of building elements. Airborne sound insulation
- 5 BS EN ISO 140-7:1998
Field measurements of impact sound insulation of floors
- 6 BS EN ISO 717-2:1997 (Incorporating Amendment 1)
Acoustics. Rating of sound insulation in buildings and of building elements. Impact sound insulation

