Sitesound
Air Tightness Testing
Sound Insulation Testing

Passed, job done

T: 01732 461 082
E: info@site-sound.co.uk
W: www.site-sound.co.uk

Sound Insulation Test Report

Measurements to British Standard BS EN ISO 140-4 and/or BS EN ISO 140-7 and calculations to BS ISO 717-1 and/or BS ISO 717-2, as appropriate, following the test procedures in Annex B of Approved Document E to The Building Regulations at :-

163 Fordwych Road
London
NW2 3NG

[redacted]

Manuel Montero
Approved Test Engineer – Site Sound Ltd.

UKAS TESTING 4380

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Property type: Dwelling – houses and flats formed by material change of use

Test	Source Room	Receive Room	Measured $D_{nT,w} + C_{tr}$	Required Level $D_{nT,w} + C_{tr}$	Measured $L'_{nT,w}$	Required Level $L'_{nT,w}$	Pass/Fail	Improvement on Building Regulations (dB)
1 ABW Retest	Flat 1 Kitchen/Living	Flat 2 Kitchen/Living	53	43			Pass	10

ABW – Airborne Wall
ABF – Airborne Floor
IMP – Impact

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Test Conditions Compared with Annex B Approved Document E:

- **None**

Report Notes:

-
- **Test 1: remedial works and re-tests have been undertaken in accordance with Section 1.33 of Approved Document E**

Construction Detail:

- **Wall type: Type 1 - Solid Masonry**
- **Floor type: N/A**

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Testing carried out on behalf of:

Astar Renovations,
18 Ripley Gardens
London
SW14 8HF

Test Date: 24/08/2017

Equipment: Kit 3

Rion NC74 Serial No. 34336011
Rion NH-23 Preamplifier Serial No. 11896
Rion UC-59 Microphone Serial No. 04140
Rion NA-28 Class 1 Sound Analyzer Serial No. 30921841
Norsonics Nor 275 Serial No. 2755190
Norsonics Nor 277 Tapping Machine Serial No. 2775773
Norsonics Nor 280 Amp Serial No. 2804109

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

Client: Astar Renovations Date of test: 24/08/2017

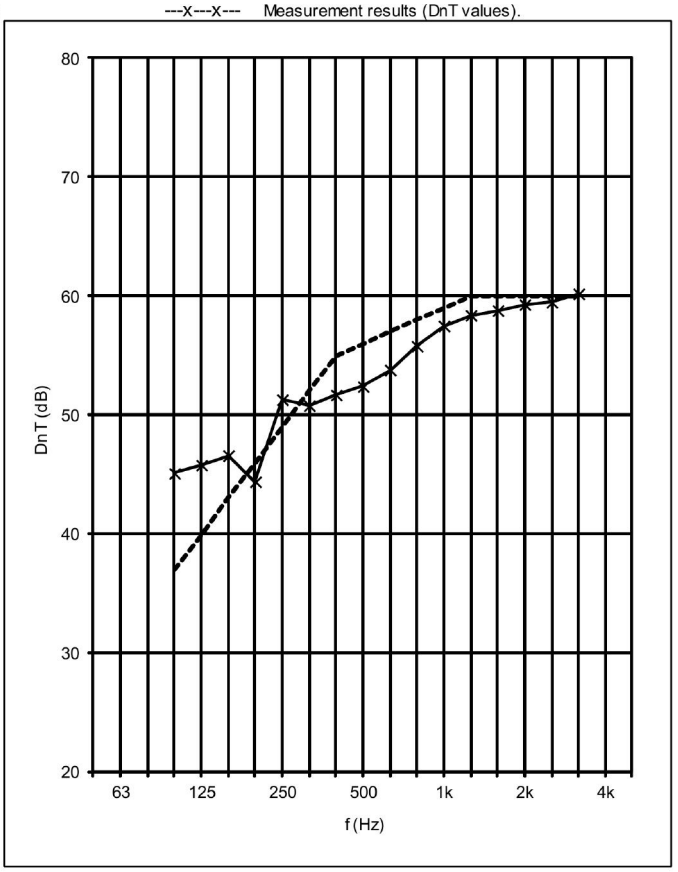
Project: 163 Fordwych Road

Source: Flat 1 Kitchen/Living
Receive: Flat 2 Kitchen/Living

Source room volume (m^3): 100.0
Receiving room volume (m^3): 67.0

- - - - - - - Shifted reference curve.
---x---x--- Measurement results (DnT values).

Frequency f Hz	DnT (1/3 octave) dB
50	
63	
80	
100	45.1
125	45.8
160	46.6
200	44.4
250	51.3
315	50.8
400	51.7
500	52.4
630	53.8
800	55.8
1000	57.5
1250	58.4
1600	58.8
2000	59.3
2500	59.5
3150	60.2
4000	
5000	



Rating according to ISO 717-1

DnT,w (C; Ctr) = 56 (0; -3) dB

No background noise influence on DnT,w
No background noise influence on C and Ctr

Evaluation based on field measurement
results obtained by an engineering method

No. of test report: JN-13074 Test 1 Name of test institute: Site Sound Ltd

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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: Dnt = L1 – L2 + 10 lg T/T

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: Lnt = L1 – 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 (CI), also in decibels, are calculated in accordance with BS EN ISO 717-2:1997 [6].

Reference Documents

1 The Building Regulations 2010
Approved Document E: Resistance to the passage of sound (2003 Edition, incorporating 2004, 2010, 2013 and 2015 amendments)
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.