APT

AIR PRESSURE TESTING LTD

Head Office: Sayells Farm, [redacted]

4340

Accredited to ISO/IEC 17025:2017

Sound Insulation Test Report

Building Regulations Part E

Pre-completion testing at: Richard Scavetta
The Winchester
206 Archway Road
London
N6 5BA

Report for:	Richard Scavetta [redacted]		
Testing By:	Air Pressure Testing Ltd Sayells Farm, 7 Harlington Road [redacted]		
APT Contract Number:	APT-07409 - 01	**Date:**	18/11/2021
Authorisations & Signatures			
Report Prepared By:	**Janet Kelly**	**OFFICE MANAGER**	[redacted]
Report Approved By:	**Malcolm Fish**	**TECHNICAL MANAGER**	

1. INTRODUCTION

This report records the results of pre-completion sound insulation testing undertaken under the provisions of Approved Document E to the Building Regulations 2010.

Date of testing: 18/11/2021

An explanation of the acoustic terminology used in this report and the relevant provisions of the Building Regulations are given in Appendix A.

1.1. The Development

Name and address of Client: [redacted]

Address of properties tested: Richard Scavetta
The Winchester
206 Archway Road
London
N6 5BA

Approved Document classification:

- Approved Document E of the Building Regulations – For New Dwellings.

Features of the development:

The development consists of a building containing a Public House with Function Room and residential accommodation. The Public House is located on the Ground & Lower Ground Floors of the building. Flats 1 & 2 are on the Lower Ground Floor and share a party wall with the Lower Ground Floor of the Public House. Flat 1 is also directly below the Ground Floor Function Room. Flat 3 is on the Ground floor and shares a party wall with the Ground Floor of the Public House. Flats 4 - 7 are on the First Floor directly above the Public House.

1.2. The Test Organisation

Name of test organisation: Air Pressure Testing Ltd

Personnel undertaking test: Lukasz Lipka & Jason Ellwood

2. METHODOLOGY

2.1. Test Standards

The tests detailed in this report were undertaken in accordance with BS EN ISO 140-4:1998 "Field measurements of airborne sound insulation between rooms" and BS EN ISO 140-7:1998 "Field measurements of impact sound insulation of floors."

There was a significant amount of background noise, from the ongoing site works observed during the tests. The background noise levels in the receiving rooms were measured during the tests and the receiving room levels corrected in accordance with the standard.

The results of the tests were rated in accordance with BS EN ISO 717-1: 1997 *"Rating of sound insulation in buildings and of building elements. Part 1 Airborne sound insulation".*

The Test Procedures detailed in Annex B of Approved Document E of the Building Regulations were followed in the tests.

2.2. Instrumentation

Item	**Serial No**	Date of last calibration	Calibration Certificate No	Expiry date
Norsonic 140 Investigator, modular precision sound analyser, loaded with Building Acoustics Module	1403184	09 April 2021	U37604	30 APRIL 2023
Norsonic Type 1225 Microphone	168290	09 April 2021	U37603	30 APRIL 2023
Nor 270 Dodecahedron Loudspeaker – 200W, 120dB	31812	N/A	N/A	N/A
Nor 280 Power Amplifier with noise generator	2803769	N/A	N/A	N/A
Norsonic type 1251 calibrator	31970	09 April 2021	U37602	30 APRIL 2022
Norsonic 277 Tapping Machine	2775967	07 April 2021	U37575	30 APRIL 2023

2.3. Testing Procedure

See Appendix B.

3. RESULTS

3.1. Detailed Results

The results, including data and graphs are recorded in detail on data sheets in Appendix C.

3.2. Summary – Airborne Tests for Dividing Walls

	Source Room		Receiving Room		$D_{nT,w}+C_{tr}$ dB			
Partition	**Details**	**Vol (m3)**	**Details**	**Vol (m3)**	**Result**	**Required (Min)**	**Pass / Fail**	**ISO 140 Diagram**
A	Public House Area	665	Ground Floor Flat 3 Living Room	95	**66**	43	**PASS**	**N/A**
B	Public House Area	665	Ground Floor Flat 3 Bathroom	12	**56**	43	**PASS**	**N/A**
C	Public House Basement Area	372	Lower Ground Floor Flat 2 Bathroom	7	**52**	43	**PASS**	**N/A**
D	Public House Basement Area	372	Lower Ground Floor Flat 1 Bathroom	10	**73**	43	**PASS**	**N/A**

3.3. Summary – Airborne Tests for Dividing Floors

	Source Room		Receiving Room		$D_{nT,w}+C_{tr}$ dB			
Partition	**Details**	**Vol (m3)**	**Details**	**Vol (m3)**	**Result**	**Required (Min)**	**Pass / Fail**	**ISO 140 Diagram**
E	Public House Function Room	150	Lower Ground Floor Flat 1 Bedroom	31	**27**	43	**FAIL**	N/A
F	Public House Area	665	First Floor Flat 4 Living Room	129	**60**	43	**PASS**	N/A
G	Public House Function Area	150	First Floor Flat 7 Living Room	77	**58**	43	**PASS**	N/A
H	Public House Area	665	First Floor Flat 5 Living Room	94	**58**	43	**PASS**	N/A
I	Public House Area	665	First Floor Flat 6 Living Room	55	**55**	43	**PASS**	N/A

3.4. Summary – Impact Tests for Separating Floors

	Source Room		Receiving Room		$L'_{nT,w}$ dB			
Partition	**Details**	**Vol (m3)**	**Details**	**Vol (m3)**	**Result**	**Required (Min)**	**Pass / Fail**	**ISO 140 Diagram**
J	Public House Function Room	150	Lower Ground Floor Flat 1 Bedroom	31	**65**	64	**FAIL**	N/A

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APPENDIX A: ACOUSTICAL TERMINOLOGY & NUMERICAL PERFORMANCE STANDARDS

The Decibel, dB

The unit used to describe the magnitude of sound is the decibel (dB) and the quantity measured is the sound pressure level. The decibel scale is logarithmic and it ascribes equal values to proportional changes in sound pressure, which is a characteristic of the ear. Use of a logarithmic scale has the added advantage that it compresses the very wide range of sound pressures to which the ear may typically be exposed to a more manageable range of numbers. The threshold of hearing occurs at approximately 0 dB (which corresponds to a reference sound pressure of 2 x 10^{-5} Pascal's) and the threshold of pain is around 120 dB.

The sound energy radiated by a source can also be expressed in decibels. The sound power is a measure of the total sound energy radiated by a source per second, in watts. The sound power level, L_w is expressed in decibels, referenced to 10^{-12} watts.

Frequency, Hz

Frequency is analogous to musical pitch. It depends upon the rate of vibration of the air molecules which transmit the sound and is measure as the number of cycles per second or
Hertz (Hz). The human ear is sensitive to sound in the range 20 Hz to 20,000 Hz (20 kHz).
For acoustic engineering purposes, the frequency range is normally divided up into discrete bands. The most commonly used bands are octave bands, in which the upper limiting frequency for any band is twice the lower limiting frequency, and one-third octave bands, in which each octave band is divided into three. The bands are described by their centre frequency value and the ranges which are typically used for building acoustics purposes are 63 Hz to 4 kHz (octave bands) and 100 Hz to 3150 Hz (one-third octave bands).

White Noise and Pink Noise

Noise sources, which provide a continuous spectrum over a wide frequency range, are normally used for test purposes. White noise contains constant energy per unit of frequency.
Pink noise contains constant energy per octave or one-third octave band.

Reverberation Time

Sound wave fronts are repeatedly reflected from room surfaces and, as a result of absorption, gradually grow weaker and weaker. The reverberation time (RT) of a space is a measure of the rate at which the sound dies away. It is defined as the time taken for the reverberant sound energy to decay to one millionth of its original intensity (corresponding to a 60 dB reduction).
The reverberation time is proportional to the volume of the room and inversely proportional to the quantity of absorption present.

Airborne Sound Insulation

Voices, hi-fi systems, television and radio sound and musical instruments are all sources of airborne sound. They excite the air around them and the vibration in the air is transmitted to surrounding surfaces, such as walls, ceilings and floors. This sets these constructions into vibration and this vibration is radiated in neighbouring rooms as sound. Energy is lost in the transmission path and this is referred to as transmission loss or, more generally, sound insulation. The most simple measure of sound insulation is the sound level difference, D, which is the arithmetic

difference between the sound level, in dB, in the source room and the sound level in the receiving room.
Other measures of sound insulation include the sound reduction index, R, which is a measure of the acoustical performance of a partition, obtained in a laboratory, and the standardised level difference, D_{nT}, which is used mainly in the sound insulation of domestic separating walls and separating floors. The relevant test procedures are laid down in BS EN ISO 140-4. A single figure "weighted" result can be obtained from one-third octave band test results by using a curve-fitting procedure laid down in BS EN ISO 717. The subscript "w" is added to the relevant descriptor (e.g. $D_{nT,w}$).

The standardised sound level difference, D_{nT} (dB), was obtained in each one third octave band, according to the following formula:

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$$D_{nT} = L_1 - L2 + 10 \log_{10} \left({}^{T}/_{0.5} \right)$$

Where L_1 is the average level in the source room
L_2 is the average level in the receiving room
T is the reverberation time in the receiving room (in seconds)
0.5 is the reference reverberation time (in seconds)

The weighted standardised sound level difference, $D_{nT,w}$ was obtained using the curve-fitting procedure given in BS EN ISO 717-1. The standardised level difference values are plotted on a graph and compared with a reference curve. The reference curve is moved up and/or down until the sum of the unfavourable deviations is as large as possible, without exceeding 32.0 dB. The standard reference curve is shown on the graphs in Appendix C.

Impact Sound Insulation
In the case of impact sound, the building construction is caused to vibrate as a result of a physical impact. Footsteps on floors are the most obvious example. The vibration is radiated as sound in neighbouring rooms. Impact insulation is measured using a standard tapping machine, which drops weights cyclically onto a floor. The sound pressure level is measured in the receiving room below and the result is known as the impact level, L_i for laboratory tests and L'I for field tests. The test procedures are set out in BS EN ISI 140-7 and the single figure weighting is described BS EN ISO 717-2.

The standardised impact level, L'_{nT} (dB), was obtained in each one third octave band, according to the following formula:

$$L'_{nT} = L - 10 \log_{10} \left({}^{T}/_{0.5} \right)$$

Where Li is the average impact sound pressure level
T is the reverberation time in the receiving room (in seconds)
0.5 is the reference reverberation time (in seconds)

The weighted standardised impact sound pressure level, $L'_{nT,w}$ was obtained using the curve fitting procedure given in BS EN ISO 717-2. The standardised level difference values are plotted on a graph and compared with a reference curve. The reference curve is moved up and/or down until the sum of the unfavourable deviations is as large as possible, without exceeding 32.0 dB. The standard reference curve is shown on the graphs in Appendix C.

The Building Regulations
The Building Regulations of 1965 were the first to cover the sound insulation of separating walls and floors. They required the provision of "adequate sound insulation" in new dwellings and offered

several deemed-to-satisfy constructions. In 1972, the Regulations were revised and, in addition to deemed-to-satisfy constructions, they introduced deemed-to-satisfy numerical performance requirements for airborne and impact sound. Minor revisions were made in the 1976 Regulations.

In 1985 a major revision was made to the Regulations. Approved Document E gave more detailed constructional specifications for separating walls and separating floors and new numerical performance standards were given, though the requirements were commensurate with the former deemed-to-satisfy provisions. These Regulations were the first to govern building in Inner London. Prior to this the London Building Act of 1939 was in force, but, as this did not include provisions for sound insulation, reference was usually made to the Building Regulations.

In 1991 the Building Regulations were further revised to include constructional provisions and numerical performance standards for conversion properties. Some of the new-build constructional provisions were altered at this time.

In 2003 further amendments were made to Part E. This includes the introduction of new requirements for the sound insulation of partitions within dwellings, for the control of reverberation in the common parts of residential buildings and for the control of acoustic conditions in schools. The requirements for separating walls and separating floors are proposed to apply to both dwellings and rooms for residential purposes, which include hotels, hostels, care homes and student accommodation.

For domestic separating walls, separating floors and stairs, the normal way of satisfying the requirement is to meet given numerical standards, which are to be demonstrated by pre-completion testing.

Numerical Performance Standards

The current (2003) Approved Document numerical performance standards are tabulated below. Note that the better the airborne sound insulation, the higher the value, conversely the better the impact sound insulation, the lower the value.

DWELLING HOUSES AND FLATS		**Airborne standard $D_{nT,w}$+C_{tr} dB**	**Impact Standard $L'_{nT,w}$ dB**
Purpose built dwellings	Walls	at least 45	N/A
	Floors and Stairs	at least 45	up to 62
Dwelling formed by material change of use	Walls	at least 43	N/A
	Floors and Stairs	at least 43	up to 64

ROOMS FOR RESIDENTAIL PURPOSES		**Airborne standard $D_{nT,w}$ +C_{tr} dB**	**Airborne standard $L'_{nT,w}$ dB**
Purpose-built rooms	Walls	at least 43	N/A
	Floors and Stairs	at least 45	up to 62
Rooms formed by material change of use	Walls	at least 43	N/A
	Floor and Stairs	at least 43	up to 64

APPENDIX B: TESTING PROCEDURES

Airborne sound insulation

The loudspeaker was placed in the source room in a position to generate an even distribution of sound throughout the room. The sound analyser was used to generate a steady random noise signal (pink noise) which was reproduced via the loudspeaker source. The sound pressure level was measured in the source room and receiving room over the one-third octave band frequency range 100 Hz to 3150 Hz. Measurements were made at five positions in each room using a measurement period of ten seconds at each position. After the first measurement in the source room the source spectrum was reviewed and the output from the analyser modified if required to eliminate differences of more than 6 dB between adjacent third-octave bands. If a modification was required a repeat measurement(s) were made and possibly further modification(s) until a suitable spectrum was obtained. The full set of measurements was then undertaken.

The source was then moved to a new position in the source room and the foregoing tests were repeated. Again after the first measurement in the source room the source spectrum was reviewed and the output from the analyser modified if required as discussed above. The source and receiving room levels were obtained by logarithmically averaging the five values for each source position obtained in each room and then arithmetically averaging the mean values for the source positions.

The source was moved to the receiving room and the sound analyser used to measure the reverberation time in each of the one-third octave bands between 100 Hz and 3150 Hz. The internal programme of the meter was used to generate and cut off the random noise signal, which was reproduced in the room by the active loudspeaker source, and to measure the decay rate of the sound in the room.

The background noise level was measured in the receiving room. Measurements were made at two positions using a measurement period of ten seconds.

Impact sound insulation

The tapping machine was placed on the floor in the source room and the drop distance of the hammers was checked and adjusted, as necessary, using the spacer provided. The machine was set into operation to generate cyclic impacts on top of the floor. The sound pressure level was measured in the receiving room over the one-third octave band frequency range 100 Hz to 3150 Hz by averaging over two measurement positions for each of four tapping machine locations, to give a total of eight measurements, with each measurement period being ten seconds.

The loudspeaker and the sound analyser were used to measure the reverberation time in each of the one-third octave bands between 100 Hz and 3150 Hz. The internal programme of the meter was used to generate and cut off the random noise signal, which was reproduced in the room by the loudspeaker, and to measure the decay rate of the sound in the room.

The background noise level was measured in the receiving room. Measurements were made at two positions using a measurement period of ten seconds.

APPENDIX C

TEST RESULTS SHEETS

Standardized level difference according to BS EN ISO 140-4

Field measurements of airborne sound insulation between rooms

Client: Richard Scavetta

Date of test: 18 November 2021

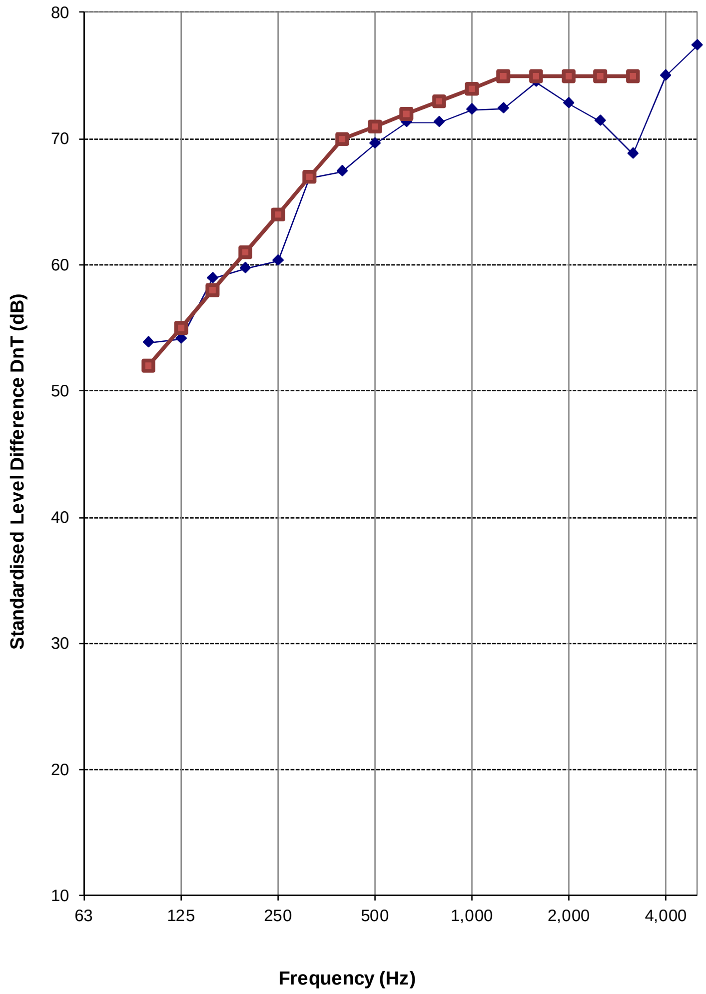
Description: The Winchester, 206 Archway Road, London, N6 5BA

Object: Source Room = Public House Area - Receiving Room = Ground Floor Flat 3 Living Room

Source Room Vol: 665 m^3

Receiving Room Vol: 95 m^3

Frequency f (Hz)	D_nT 1/3 Octave (dB)
100	53.8
125	54.1
160	58.9
200	59.7
250	60.3
315	66.9
400	67.4
500	69.6
630	71.3
800	71.3
1,000	72.3
1,250	72.4
1,600	74.5
2,000	72.8
2,500	71.4
3,150	68.8
4,000	75.0
5,000	77.3



Rating according to ISO 717-1

$D_{nT,w}(C;C_{tr})$ = 71 (-2;-5) dB

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

$C_{50\text{-}3150}$ = dB $C_{50\text{-}5000}$ = dB $C_{100\text{-}5000}$ = -2dB

$C_{tr,50\text{-}3150}$ = dB $C_{tr,50\text{-}5000}$ = dB $C_{tr,100\text{-}5000}$ = -5dB

Company: Air Pressure Testing Ltd.

Date: 18 November 2021 Prepared by: Lukasz Lipka

Standardized level difference according to BS EN ISO 140-4

Field measurements of airborne sound insulation between rooms

Client: Richard Scavetta

Date of test: 18 November 2021

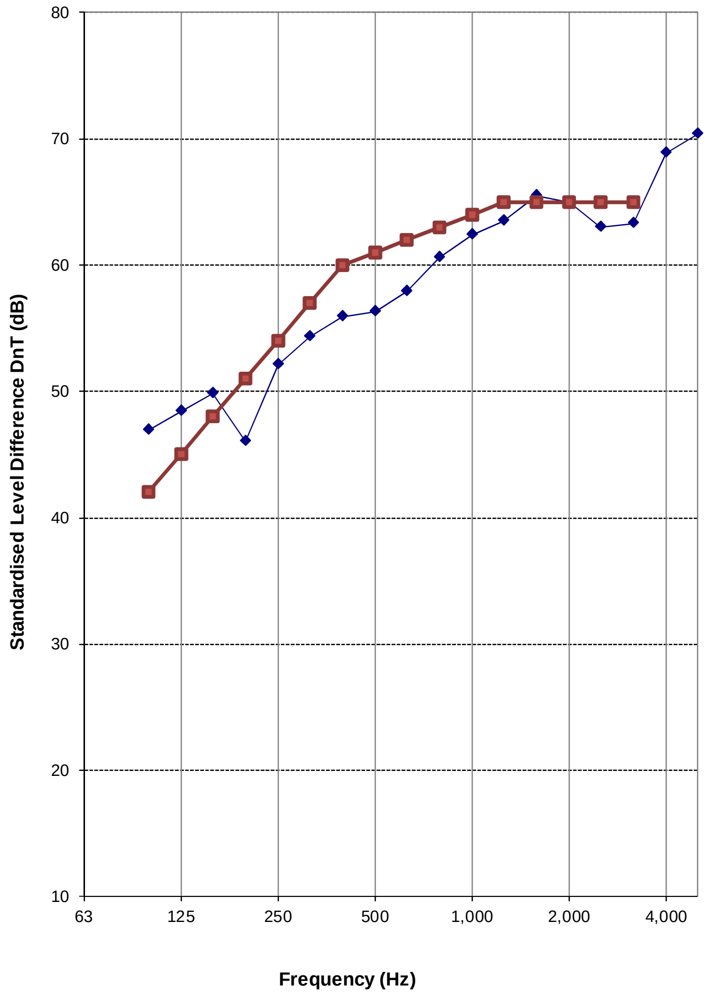
Description: The Winchester, 206 Archway Road, London, N6 5BA

Object: Source Room = Public House Area - Receiving Room = Ground Floor Flat 3 Bathroom

Source Room Vol: 665 m^3

Receiving Room Vol: 12 m^3

Frequency f (Hz)	D_nT 1/3 Octave (dB)
100	46.9
125	48.4
160	49.8
200	46.0
250	52.1
315	54.3
400	55.9
500	56.3
630	57.9
800	60.6
1,000	62.4
1,250	63.5
1,600	65.5
2,000	65.0
2,500	63.0
3,150	63.3
4,000	68.9
5,000	70.4



Rating according to ISO 717-1

$D_{nT,w}(C;C_{tr})$ = 61 (-2;-5) dB

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

$C_{50-3150}$ = dB $C_{50-5000}$ = dB $C_{100-5000}$ = -2dB

$C_{tr,50-3150}$ = dB $C_{tr,50-5000}$ = dB $C_{tr,100-5000}$ = -5dB

Company: Air Pressure Testing Ltd.

Date: 18 November 2021 Prepared by: Lukasz Lipka

Standardized level difference according to BS EN ISO 140-4

Field measurements of airborne sound insulation between rooms

Client: Richard Scavetta

Date of test: 18 November 2021

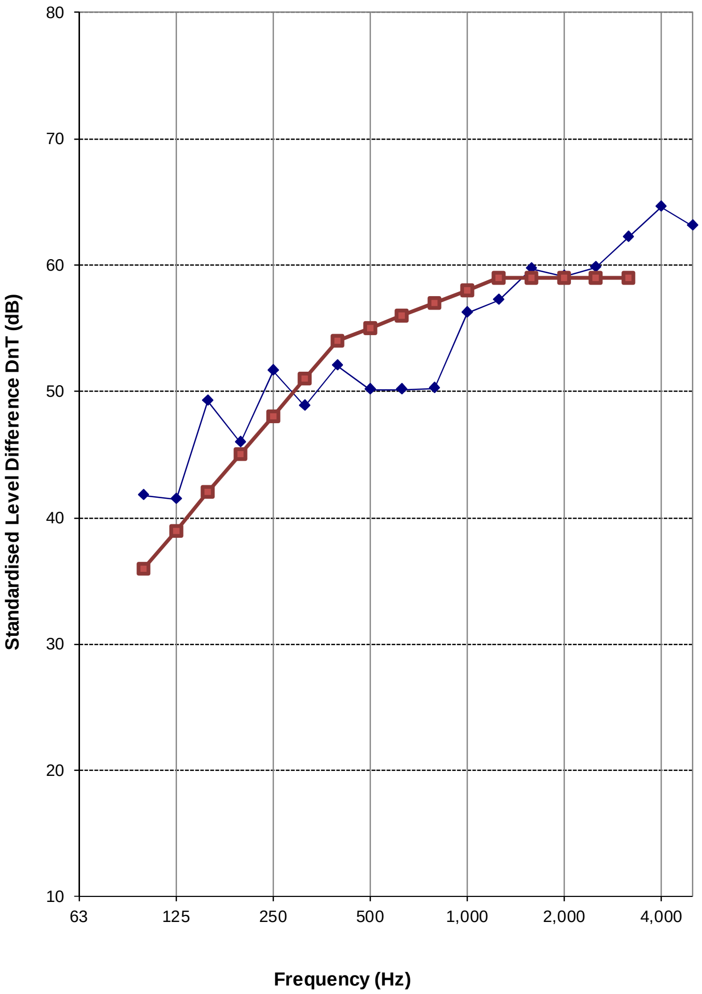
Description: The Winchester, 206 Archway Road, London, N6 5BA

Object: Source Room = Public House Basement Area - Receiving Room = Lower Ground Floor Flat 2 Bathroom

Source Room Vol: 372 m^3

Receiving Room Vol: 7 m^3

Frequency f (Hz)	D_nT 1/3 Octave (dB)
100	41.7
125	41.4
160	49.2
200	45.9
250	51.6
315	48.8
400	52.0
500	50.1
630	50.1
800	50.2
1,000	56.2
1,250	57.2
1,600	59.7
2,000	59.1
2,500	59.8
3,150	62.2
4,000	64.6
5,000	63.1



Rating according to ISO 717-1

$D_{nT,w}(C;C_{tr})$ = 55 (-1;-3) dB

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

$C_{50-3150}$ = dB	$C_{50-5000}$ = dB	$C_{100-5000}$ = -1dB
$C_{tr,50-3150}$ = dB	$C_{tr,50-5000}$ = dB	$C_{tr,100-5000}$ = -3dB

Company: Air Pressure Testing Ltd.

Date: 18 November 2021

Prepared by: Lukasz Lipka

Standardized level difference according to BS EN ISO 140-4

Field measurements of airborne sound insulation between rooms

Client: Richard Scavetta

Date of test: 18 November 2021

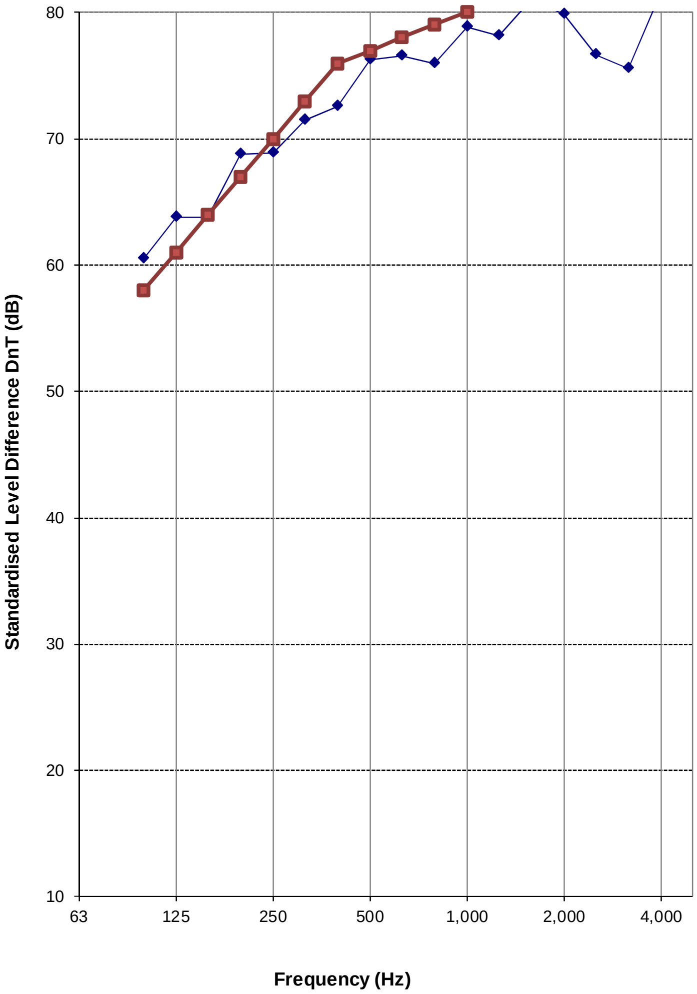
Description: The Winchester, 206 Archway Road, London, N6 5BA

Object: Source Room = Public House Basement Area - Receiving Room = Lower Ground Floor Flat 1 Bathroom

Source Room Vol: 372 m^3

Receiving Room Vol: 10 m^3

Frequency f (Hz)	D_nT 1/3 Octave (dB)
100	60.5
125	63.8
160	63.8
200	68.8
250	68.9
315	71.5
400	72.6
500	76.3
630	76.6
800	76.0
1,000	78.8
1,250	78.1
1,600	81.0
2,000	79.8
2,500	76.7
3,150	75.6
4,000	81.6
5,000	84.9



Rating according to ISO 717-1

$D_{nT,w}(C;C_{tr})$ = 77 (-1;-4) dB

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

$C_{50-3150}$ = dB $C_{50-5000}$ = dB $C_{100-5000}$ = -1dB

$C_{tr,50-3150}$ = dB $C_{tr,50-5000}$ = dB $C_{tr,100-5000}$ = -4dB

Company: Air Pressure Testing Ltd.

Date: 18 November 2021   Prepared by: Lukasz Lipka

Standardized level difference according to BS EN ISO 140-4

Field measurements of airborne sound insulation between rooms

Client: Richard Scavetta

Date of test: 18 November 2021

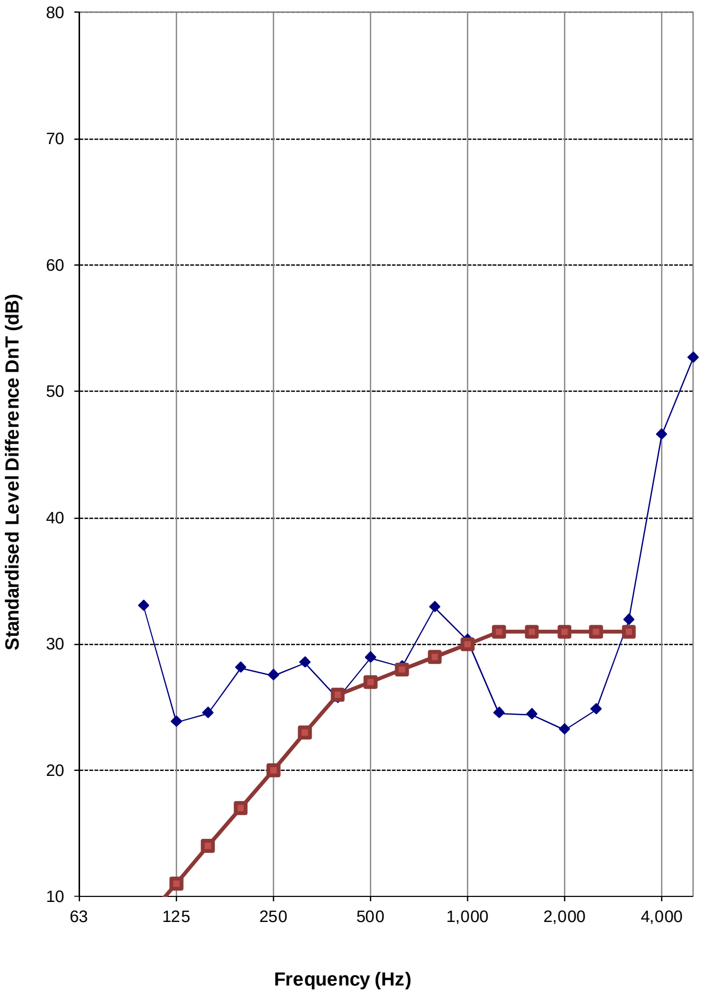
Description: The Winchester, 206 Archway Road, London, N6 5BA

Object: Source Room = Public House Function Room - Receiving Room = Lower Ground Floor Flat 1 Bedroom

Source Room Vol: 150 m^3

Receiving Room Vol: 31 m^3

Frequency f (Hz)	D_nT 1/3 Octave (dB)
100	33.0
125	23.8
160	24.5
200	28.1
250	27.5
315	28.5
400	25.7
500	28.9
630	28.2
800	32.9
1,000	30.3
1,250	24.5
1,600	24.4
2,000	23.2
2,500	24.8
3,150	31.9
4,000	46.5
5,000	52.6



Rating according to ISO 717-1

$D_{nT,w}(C;C_{tr})$ = 27 (-1;) dB

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

$C_{50-3150}$ = dB	$C_{50-5000}$ = dB	$C_{100-5000}$ = -1dB
$C_{tr,50-3150}$ = dB	$C_{tr,50-5000}$ = dB	$C_{tr,100-5000}$ = dB

Company: Air Pressure Testing Ltd.

Date: 18 November 2021

Prepared by: Lukasz Lipka

Standardized level difference according to BS EN ISO 140-4

Field measurements of airborne sound insulation between rooms

Client: Richard Scavetta

Date of test: 18 November 2021

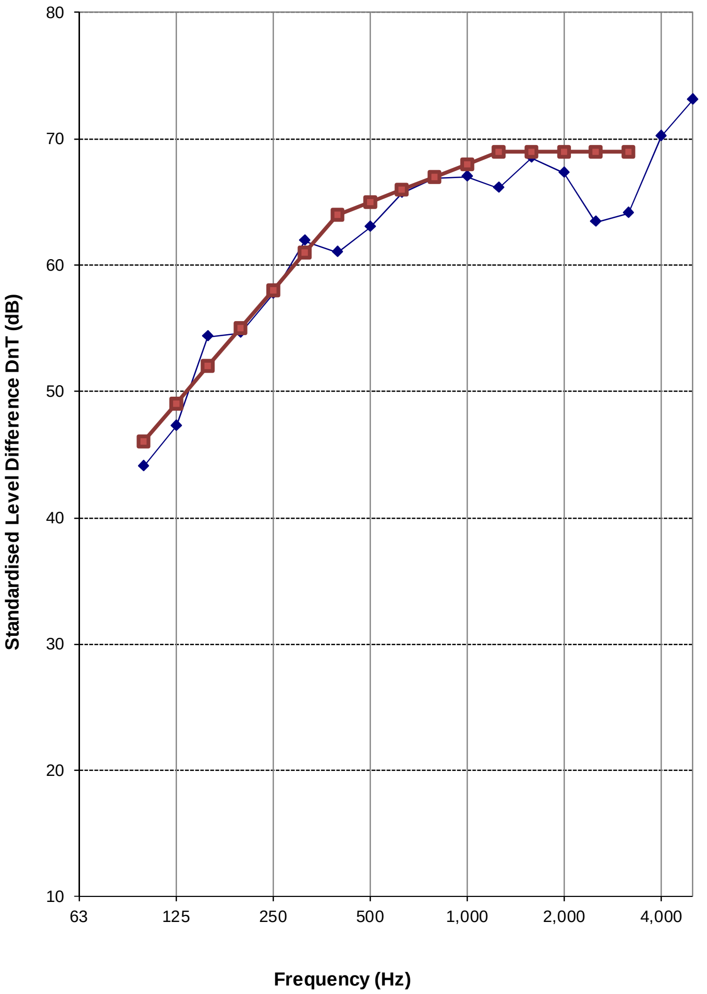
Description: The Winchester, 206 Archway Road, London, N6 5BA

Object: Source Room = Public House Area - Receiving Room = First Floor Flat 4 Living Room

Source Room Vol: 665 m^3

Receiving Room Vol: 129 m^3

Frequency f (Hz)	D_nT 1/3 Octave (dB)
100	44.0
125	47.2
160	54.3
200	54.6
250	57.7
315	61.9
400	61.0
500	63.0
630	65.7
800	66.9
1,000	67.0
1,250	66.1
1,600	68.5
2,000	67.3
2,500	63.4
3,150	64.1
4,000	70.2
5,000	73.1



Rating according to ISO 717-1

$D_{nT,w}(C;C_{tr})$ = 65 (-2;-5) dB

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

$C_{50\text{-}3150}$ = dB

$C_{50\text{-}5000}$ = dB

$C_{100\text{-}5000}$ = -2dB

$C_{tr,50\text{-}3150}$ = dB

$C_{tr,50\text{-}5000}$ = dB

$C_{tr,100\text{-}5000}$ = -5dB

Company: Air Pressure Testing Ltd.

Date: 18 November 2021

Prepared by: Lukasz Lipka

Standardized level difference according to BS EN ISO 140-4

Field measurements of airborne sound insulation between rooms

Client: Richard Scavetta

Date of test: 18 November 2021

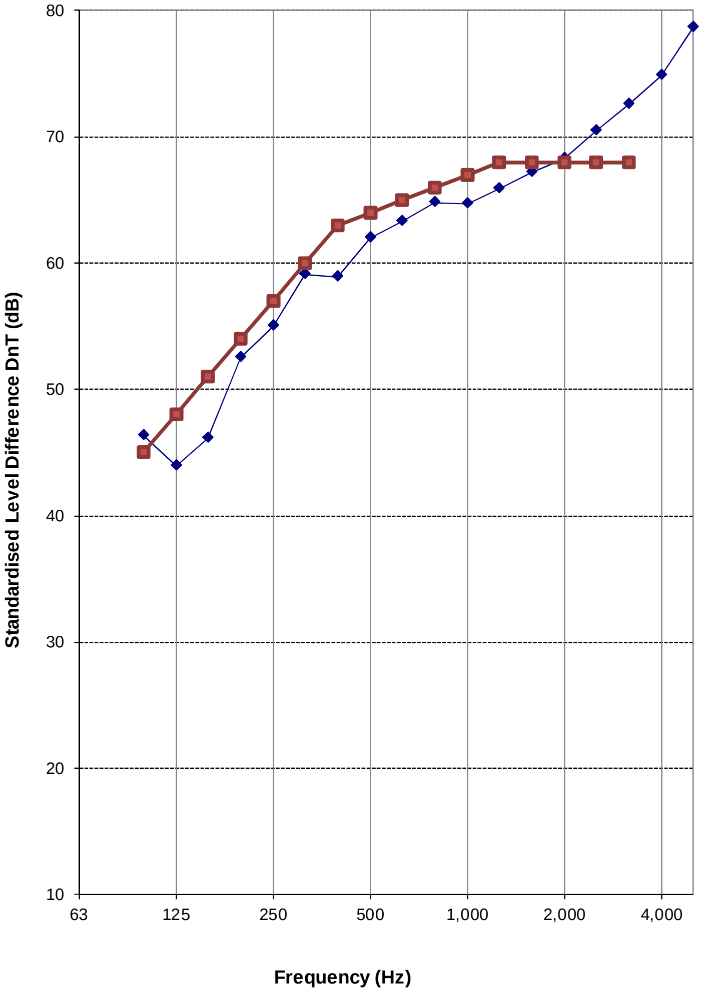
Description: The Winchester, 206 Archway Road, London, N6 5BA

Object: Source Room = Public House Function Area - Receiving Room = First Floor Flat 7 Living Room

Source Room Vol: 150 m^3

Receiving Room Vol: 77 m^3

Frequency f (Hz)	D_nT 1/3 Octave (dB)
100	46.3
125	43.9
160	46.1
200	52.5
250	55.0
315	59.1
400	58.9
500	62.0
630	63.3
800	64.8
1,000	64.7
1,250	65.9
1,600	67.2
2,000	68.3
2,500	70.5
3,150	72.6
4,000	74.9
5,000	78.6



Rating according to ISO 717-1

$D_{nT,w}(C;C_{tr})$ = 64 (-2;-6) dB

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

$C_{50\text{-}3150}$ = dB $C_{50\text{-}5000}$ = dB $C_{100\text{-}5000}$ = -2dB

$C_{tr,50\text{-}3150}$ = dB $C_{tr,50\text{-}5000}$ = dB $C_{tr,100\text{-}5000}$ = -6dB

Company: Air Pressure Testing Ltd.

Date: 18 November 2021   Prepared by: Lukasz Lipka

Standardized level difference according to BS EN ISO 140-4

Field measurements of airborne sound insulation between rooms

Client: Richard Scavetta

Date of test: 18 November 2021

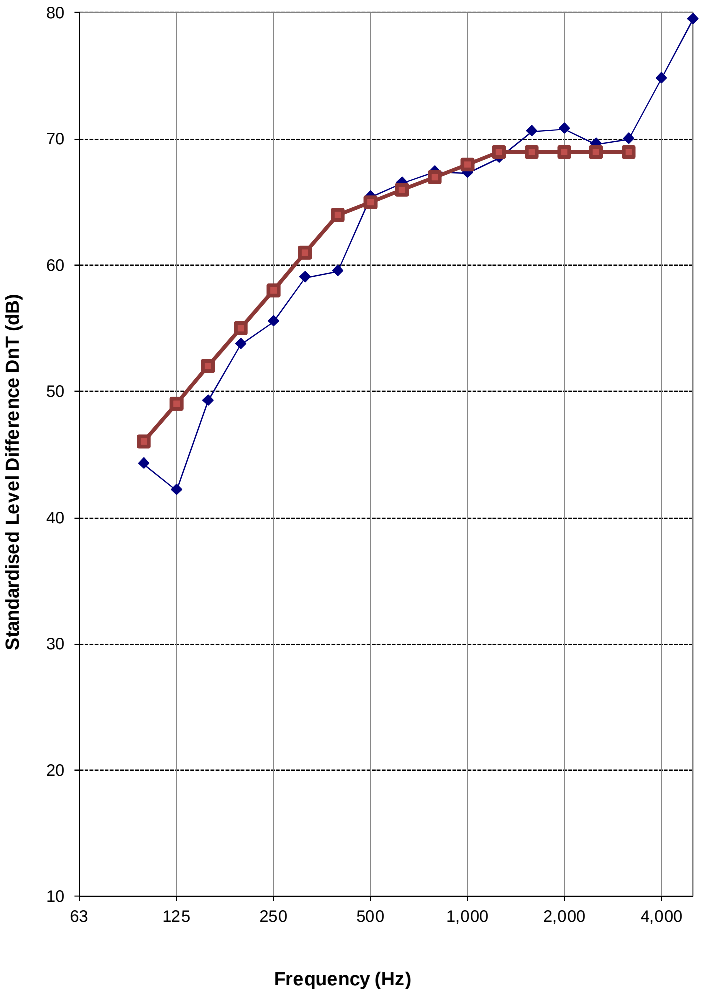
Description: The Winchester, 206 Archway Road, London, N6 5BA

Object: Source Room = Public House Area - Receiving Room = First Floor Flat 5 Living Room

Source Room Vol: 665 m^3

Receiving Room Vol: 94 m^3

Frequency f (Hz)	D_nT 1/3 Octave (dB)
100	44.2
125	42.1
160	49.2
200	53.7
250	55.5
315	59.0
400	59.5
500	65.4
630	66.5
800	67.4
1,000	67.3
1,250	68.5
1,600	70.6
2,000	70.8
2,500	69.6
3,150	70.0
4,000	74.8
5,000	79.4



Rating according to ISO 717-1

$D_{nT,w}(C;C_{tr})$ = 65 (-2;-7) dB

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

$C_{50-3150}$ = dB $C_{50-5000}$ = dB $C_{100-5000}$ = -2dB

$C_{tr,50-3150}$ = dB $C_{tr,50-5000}$ = dB $C_{tr,100-5000}$ = -7dB

Company: Air Pressure Testing Ltd.

Date: 18 November 2021 Prepared by: Lukasz Lipka

Standardized level difference according to BS EN ISO 140-4

Field measurements of airborne sound insulation between rooms

Client: Richard Scavetta | Date of test: 18 November 2021

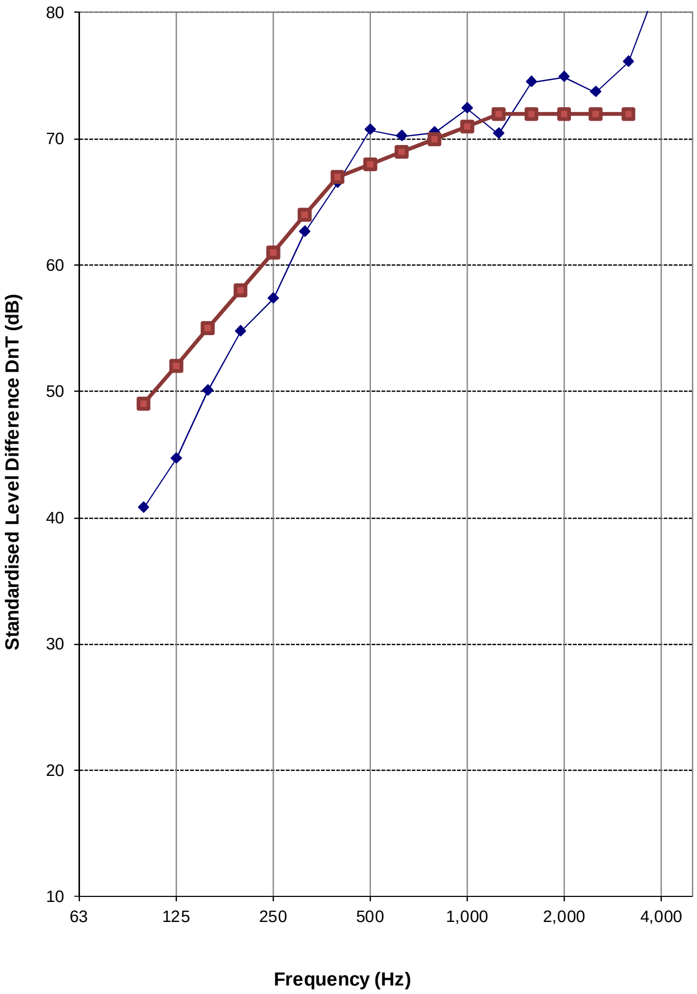
Description: The Winchester, 206 Archway Road, London, N6 5BA

Object: Source Room = Public House Area - Receiving Room = First Floor Flat 6 Living Room

Source Room Vol: 665 m^3

Receiving Room Vol: 55 m^3

Frequency f (Hz)	D_nT 1/3 Octave (dB)
100	40.7
125	44.6
160	50.0
200	54.7
250	57.3
315	62.6
400	66.5
500	70.7
630	70.2
800	70.5
1,000	72.4
1,250	70.4
1,600	74.5
2,000	74.9
2,500	73.7
3,150	76.1
4,000	82.9
5,000	86.1



Rating according to ISO 717-1

$D_{nT,w}(C;C_{tr})$ = 68 (-4;-10) dB

Evaluation based on field measurement results obtained

in one-third-octave bands by an engineering method.

$C_{50-3150}$ = dB $C_{50-5000}$ = dB $C_{100-5000}$ = -4dB

$C_{tr,50-3150}$ = dB $C_{tr,50-5000}$ = dB $C_{tr,100-5000}$ = -10dB

Company: Air Pressure Testing Ltd.

Date: 18 November 2021   Prepared by: Lukasz Lipka

Standardized impact sound pressure levels according to ISO 140-7

Field measurements of impact sound insulation of floors

Client: Richard Scavetta

Date of test: 18 November 2021

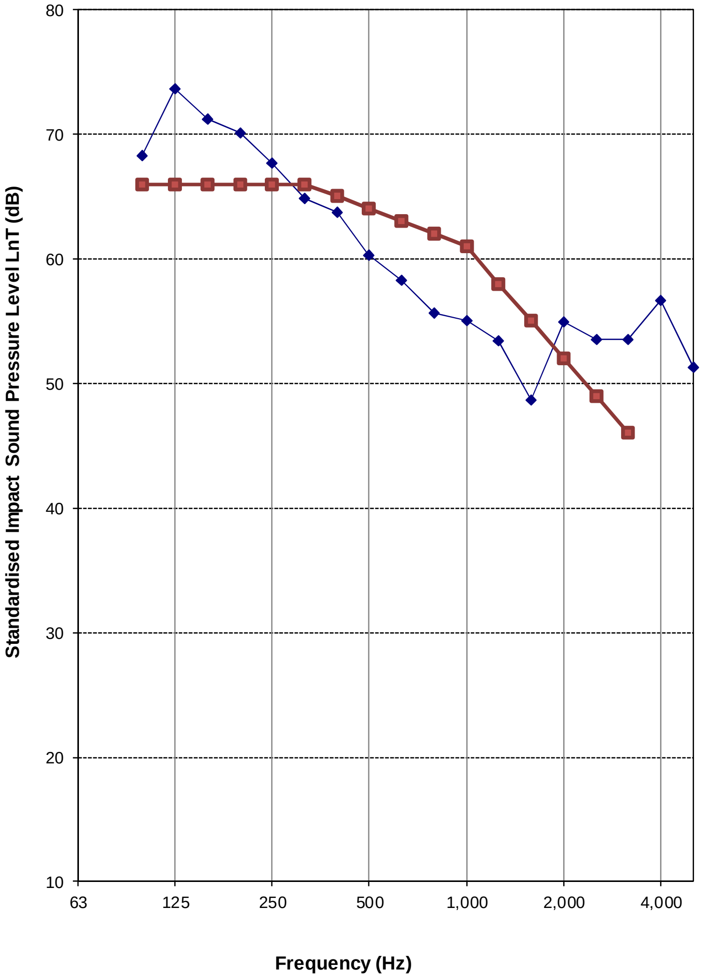
Description: The Winchester, 206 Archway Road, London, N6 5BA

Object: Source Room = Public House Function Room - Receiving Room = Lower Ground Floor Flat 1 Bedroom

Source Room Vol: 150 m^3

Receiving Room Vol: 31 m^3

Frequency f (Hz)	L'_{nT} 1/3 Octave (dB)
100	68.3
125	73.6
160	71.2
200	70.1
250	67.7
315	64.8
400	63.7
500	60.3
630	58.3
800	55.6
1,000	55.0
1,250	53.4
1,600	48.7
2,000	54.9
2,500	53.5
3,150	53.5
4,000	56.7
5,000	51.3



Rating according to ISO 717-2

$L'_{nT,w}$ (C_I) = 65(-2) dB

$C_{I,50-2500}$ = dB

Evaluation based on field measurement results obtained

in one-third-octave bands by an engineering

Company: Air Pressure Testing Ltd.

Date: 18 November 2021

Prepared by: Lukasz Lipka

END OF TEST REPORT