

## Sound Insulation Test Report

Measurements to British Standard BS EN ISO 140-4 & 7 (1998) and BS EN ISO 717-1 & 2 (1997), following the test procedures in Annex B of Approved Document E of The Building Regulations at:

110 Park Road

London

NW4 3PB

Tom Greatorex

Approved Test Technician - Peak Acoustics Ltd

Notes:

- The rooms referenced in this report were tested in the condition presented by the client and the results relate only to the items tested.
- This report should not be reproduced except in full, without written approval of the laboratory.
- Text highlighted in blue lettering is information supplied by the client

Ref: 2511211ST



Property Type: Change of use - Flats

Test	Source Room	Receiving Room	Measured $D_{nT,W}$ + $C_{tr}$ (dB)	Required Level $D_{nT,W}$ + $C_{tr}$ (dB)	Measured $L'_{nT,W}$ (dB)	Required Level $L'_{nT,W}$ (dB)	Pass/Fail	Improvement on Building Regulations (dB)	Test Type
1	Flat 3 - Living/Kitchen	Flat 2 - Living/Kitchen	47	43			Pass	4	ABF
2	Flat 3 - Living/Kitchen	Flat 2 - Living/Kitchen			49	64	Pass	15	IMP
3	Flat 2 - Bedroom	Flat 1 - Bedroom	48	43			Pass	5	ABF
4	Flat 2 - Bedroom	Flat 1 - Bedroom			52	64	Pass	12	IMP

ABW - Airborne Wall

ABF - Airborne Floor

IMP - Impact

2511211ST





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Testing commissioned by:

Charly Mays  
110 Park Road  
London  
NW4 3PB

Test Date:

24/11/2023

Equipment: Kit 2

Svantek 977 Class 1 SLM Serial No. 45494

Aco Pacific type 7052E microphone Serial No. 72673

Svantek SV 33 Acoustic Calibrator Serial No. 58014

Qsources Qam Amplifier - SN 3138

Qsources Qohm Dodec Source - 8120D

Lookline EM50 Tapping Machine Serial No. TM.14035

Ref: 2511211ST



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

Client: Charly Mays  
 Certificate: Airborne 1

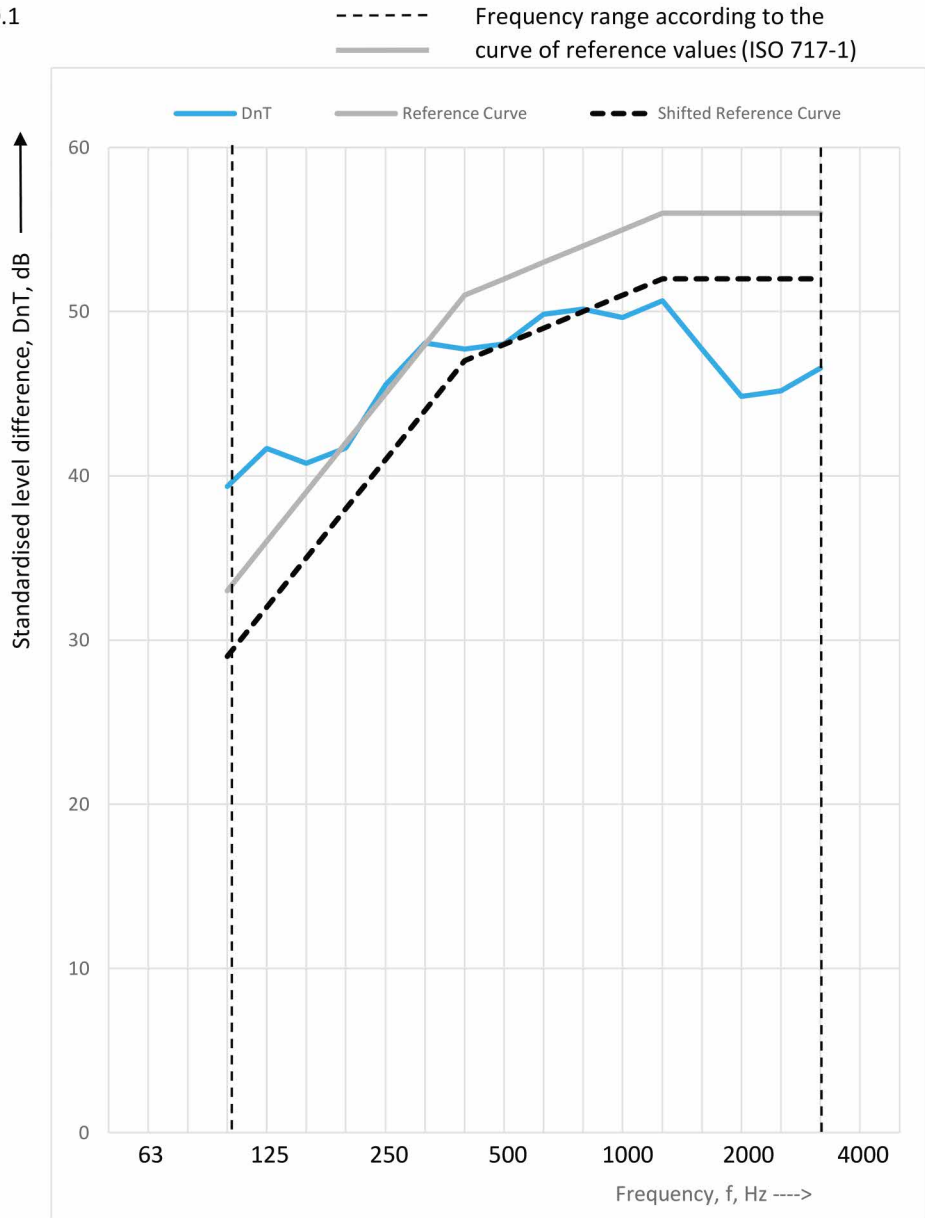
Date of test: 24/11/2023

Project: 2511211ST

Source: Flat 3 - Living/Kitchen  
 Receiver: Flat 2 - Living/Kitchen

Source room volume (m<sup>3</sup>): 68.6  
 Receiver room volume (m<sup>3</sup>): 50.1

Frequency (Hz)	DnT 1/3 octave (dB)
50	
63	
80	
100	39.4
125	41.7
160	40.8
200	41.7
250	45.5
315	48.1
400	47.7
500	48.0
630	49.8
800	50.1
1000	49.6
1250	50.7
1600	47.7
2000	44.8
2500	45.2
3150	46.6
4000	
5000	



Rating according to ISO 717-1  <p align="center"><b>DnT,w (C; Ctr) = 48 (-1; -1) dB</b></p> Evaluation based on field measurement results obtained by an engineering method	Signed: Tom Greatorex <div style="text-align: center; margin: 5px 0;"> </div> b: background corrected, B: maximum correction No background noise influence on measured result
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Certificate Ref: 2511211ST - 1	Test Institute: Peak Acoustics Ltd
Date: 24/11/2023	

Standardised impact sound pressure levels according to ISO 140-7

Field measurements of impact sound insulation of floors

Client: Charly Mays  
 Certificate: Impact 2

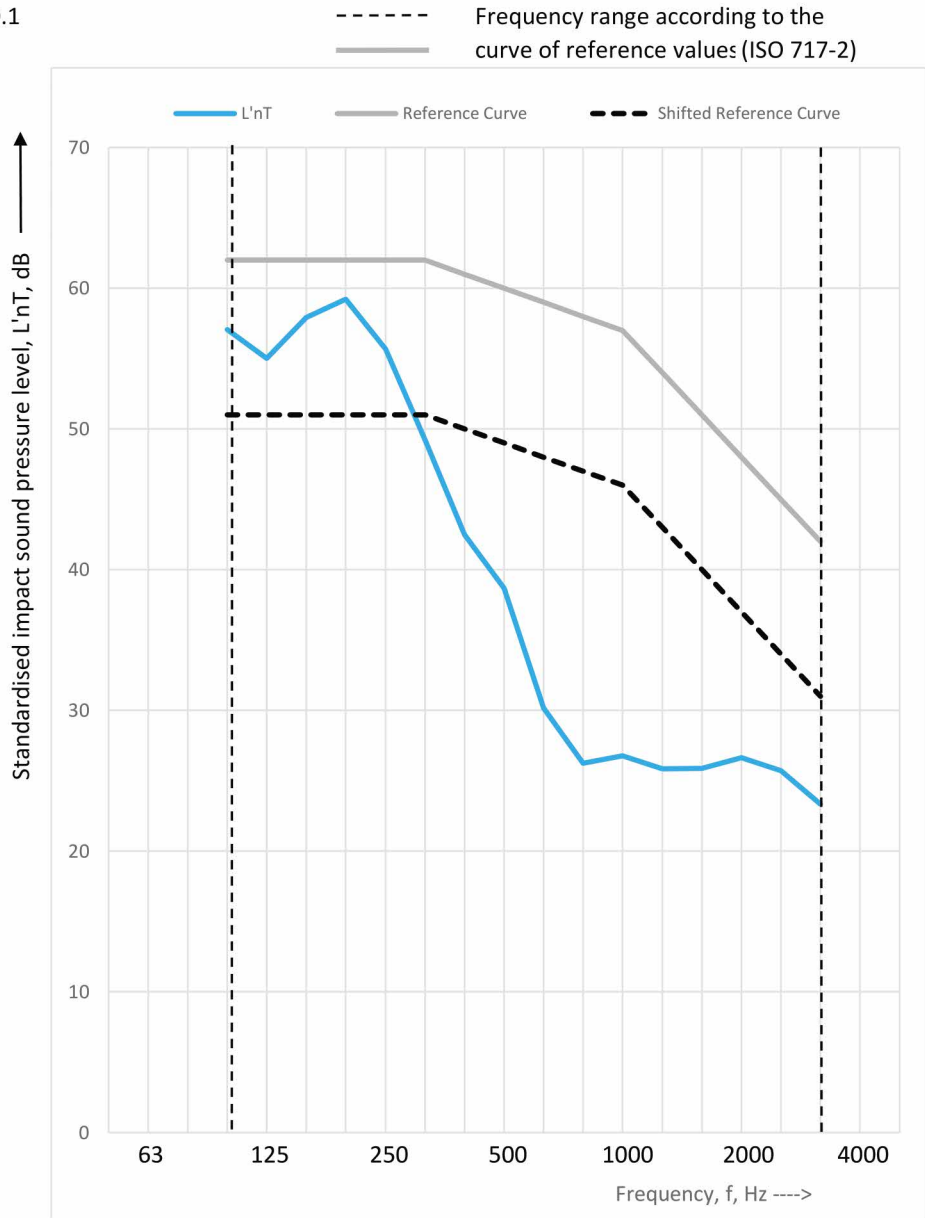
Date of test: 24/11/2023

Project: 2511211ST

Source: Flat 3 - Living/Kitchen  
 Receiver: Flat 2 - Living/Kitchen

Source room volume (m<sup>3</sup>): 68.6  
 Receiver room volume (m<sup>3</sup>): 50.1

Frequency (Hz)	L'nT 1/3 octave (dB)
50	
63	
80	
100	57.0
125	55.0
160	57.9
200	59.2
250	55.7
315	49.2
400	42.5
500	38.7
630	30.2
800	26.3
1000	26.8
1250	25.8
1600	25.9
2000	26.7
2500	25.7
3150	23.3
4000	
5000	



Rating according to ISO 717-2  <p style="text-align: center; font-size: 1.2em;"><b>L'nT,w = 49 dB</b></p> Evaluation based on field measurement results obtained by an engineering method	Signed: Tom Greatorex <div style="border: 1px solid black; width: 100px; height: 40px; margin: 5px auto; background-color: black;"></div> b: background corrected, B: maximum correction Result corrected for background noise
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Certificate Ref: 2511211ST - 2	Test Institute: Peak Acoustics Ltd
Date: 24/11/2023	

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

Client: Charly Mays  
 Certificate: Airborne 3

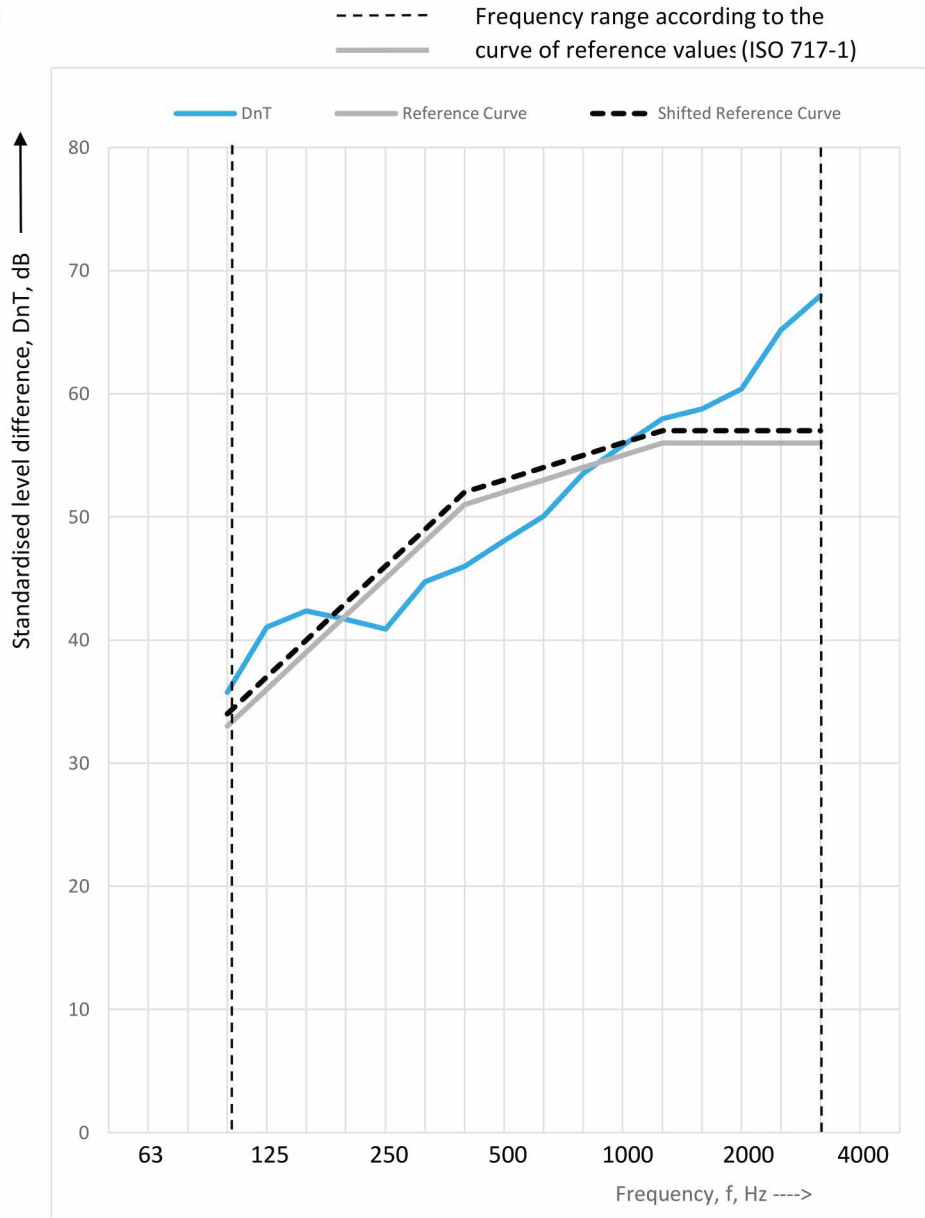
Date of test: 24/11/2023

Project: 2511211ST

Source: Flat 2 - Bedroom  
 Receiver: Flat 1 - Bedroom

Source room volume (m<sup>3</sup>): 32  
 Receiver room volume (m<sup>3</sup>): 32

Frequency (Hz)	DnT 1/3 octave (dB)
50	
63	
80	
100	35.7
125	41.1
160	42.3
200	41.7
250	40.9
315	44.7
400	46.0
500	48.0
630	50.0
800	53.5
1000	55.8
1250	58.0
1600	58.8
2000	60.4
2500	65.2
3150	68.0
4000	
5000	



Rating according to ISO 717-1  <p align="center"><b>DnT,w (C; Ctr) = 53 (-1; -5) dB</b></p> Evaluation based on field measurement results obtained by an engineering method	Signed: Tom Greatorrex  b: background noise correction No background noise influence on measured result
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Certificate Ref: 2511211ST - 3	Test Institute: Peak Acoustics Ltd	
Date: 24/11/2023		

Standardised impact sound pressure levels according to ISO 140-7

Field measurements of impact sound insulation of floors

Client: Charly Mays  
 Certificate: Impact 4

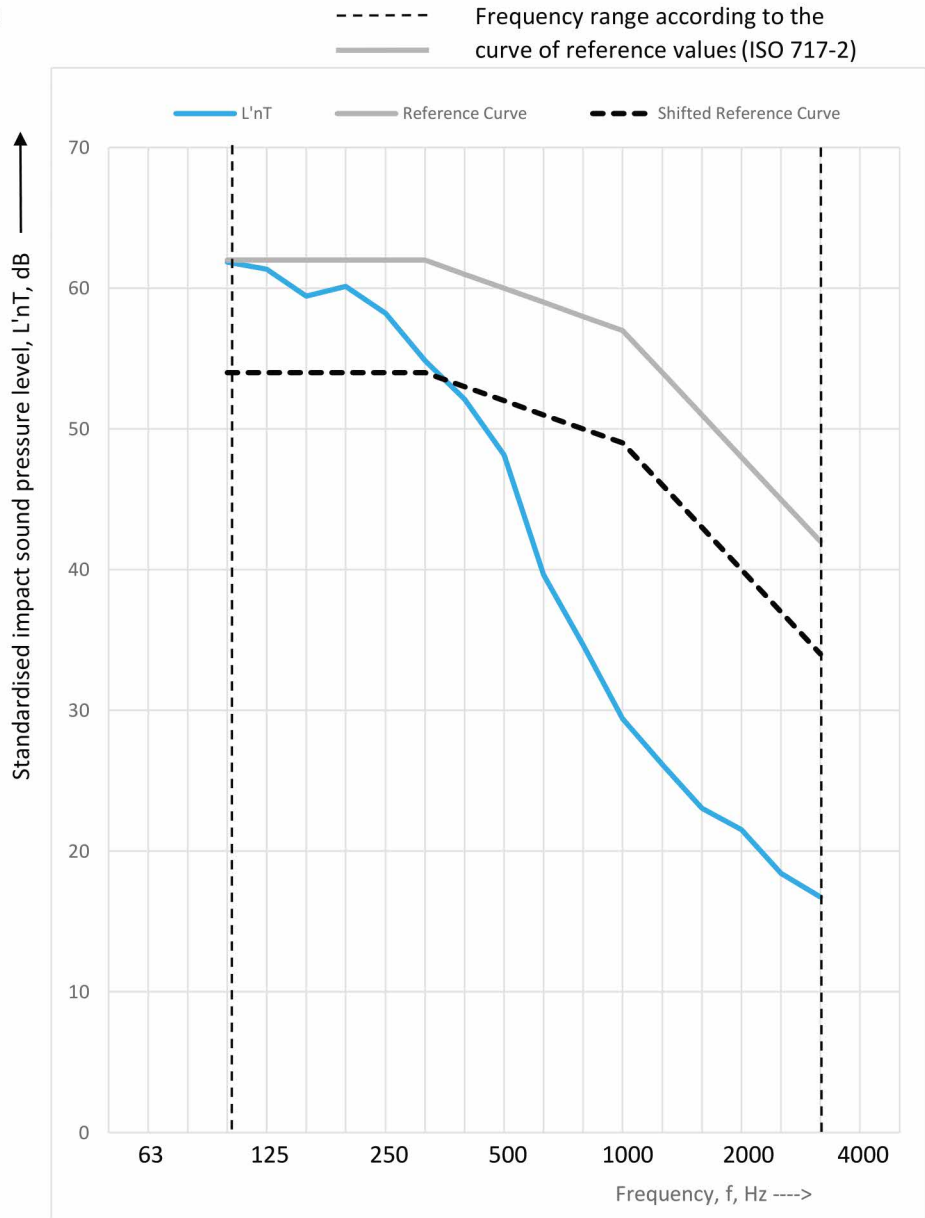
Date of test: 24/11/2023

Project: 2511211ST

Source: Flat 2 - Bedroom  
 Receiver: Flat 1 - Bedroom

Source room volume (m<sup>3</sup>): 32  
 Receiver room volume (m<sup>3</sup>): 32

Frequency (Hz)	L'nT 1/3 octave (dB)
50	
63	
80	
100	61.9
125	61.3
160	59.5
200	60.1
250	58.2
315	54.9
400	52.1
500	48.2
630	39.7
800	34.7
1000	29.4
1250	26.1
1600	23.0
2000	21.5
2500	18.4
3150	16.7
4000	
5000	



Rating according to ISO 717-2  <p style="text-align: center; font-size: 1.2em;"><b>L'nT,w = 52 dB</b></p> Evaluation based on field measurement results obtained by an engineering method	Signed:  b: background corrected, B: maximum correction Result corrected for background noise
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Certificate Ref: 2511211ST - 4	Test Institute: Peak Acoustics Ltd
Date: 24/11/2023	

## References

Peak Acoustics were unable to determine the construction materials used in forming the sampled partitions referenced in this report and no information was available from the client in this regard immediately prior to testing commencing.

### 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 100Hz to 3150Hz, in the source and receiver room using fixed microphone positions.
- An average sound pressure level, representative of the space in each room is established.
- Reverberation time measurements are made in the receiver room (3).
- The standardised level difference (DnT) in decibels (dB) is calculated in each frequency band using the equation:  
 $DnT = L1 - L2 + 10 \lg T/T0$ .

DnT is the Standardised Level Difference (dB)

L1 is the average sound pressure level in the source room (dB)

L2 is the average sound pressure level in the receiver room (dB)

T is the average reverberation time of the receiver room (seconds)

T0 is the reference reverberation time of 0.5 seconds.

- The Weighted Standardised Level Difference (DnT,w) in decibels and Spectrum Adaptation Terms (C and Ctr) , 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 one-third octave bands intervals from 100Hz to 3150Hz in the receiver room using fixed microphone positions.
- An average sound pressure level representative of the space in each room is established.
- Reverberation time measurements are made in the receiver room (3)
- The Standardised Impact Sound Pressure Level (L'nT) in decibels (dB) is calculated in each frequency band using the equation:  $Lnt = L1 - 10 \lg T/T0$

where L'nT is the Standardised Level Difference (dB)

L1 is the average sound pressure level in the source room (dB)

L2 is the average sound pressure level in the receiver room (dB)

T is the average reverberation time of the receiver room (seconds)

T0 is the reference reverberation time of 0.5 seconds.

- The Weighted Standardised Impact Sound Pressure Level (L'nT,w) in decibels (dB) is calculated in accordance with BS EN ISO 717-2:1997 (6).

### Reference Documents

1. The Building Regulations 2015 - Approved Document E: Resistance to the passage of sound.
2. BS EN ISO 140-4:1998 Acoustics - Measurements of sound insulation in buildings and of building elements.
3. BS EN ISO 354:2003 Acoustics - Measurement of sound absorption in a reverberation room.
4. BS EN ISO 717-1:1997 (Incorporating Amendment 1) Rating of sound insulation in buildings and of building elements.
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.

