



Sound insulation test report: Miller Goodall Manchester Site

Testing carried out by Apex Acoustics Ltd: UKAS-accredited laboratory no. 4051

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Report No. and version	13400-APEX-XX-ZZ-T-AC-1901 P01	
Date	13th March 2026	
Address of property	Coverdale Cres, Ardwick, Manchester M12 4EL	
Type of property	Purpose built dwelling-houses and flats	
Client	Miller Goodall Ground Floor, Ashworth House, Deakins Business Park, Blackburn Road, Bolton, Lancashire, BL7 9RP	
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Constructionline
Gold Member



Table 1: Summary of wall airborne sound insulation test results

Test No.	Source Room	Receiving Room	D _{nT,w} + C _{tr} /dB		Date	Status
			Measured	Required		
W-01	Unit 13 Living Room	Unit 12 Living Room	52	≥ 45	11/03/26	Pass
W-02	Unit 13 Bedroom	Unit 14 Bedroom	59	≥ 45	11/03/26	Pass
W-03	Unit 20 Living Room	Unit 19 Living Room	53	≥ 45	11/03/26	Pass
W-04	Reception	Unit 01 Living Room	61	≥ 45	11/03/26	Pass
W-05	Unit 04 Living Room	Unit 05 Living Room	55	≥ 45	11/03/26	Pass
W-06	Unit 06 Living Room	Unit 07 Living Room	55	≥ 45	11/03/26	Pass

Table 2: Summary of floor airborne sound insulation test results

Test No.	Source Room	Receiving Room	D _{nT,w} + C _{tr} /dB		Date	Status
			Measured	Required		
F-01	Unit 13 Living Room	Unit 01 Living Room	51	≥ 45	11/03/26	Pass
F-02	Unit 13 Bedroom	Unit 01 Bedroom	53	≥ 45	11/03/26	Pass
F-03	Unit 17 Living Room	Unit 05 Living Room	53	≥ 45	11/03/26	Pass
F-04	Unit 17 Bedroom	Unit 05 Bedroom	51	≥ 45	11/03/26	Pass
F-05	Unit 20 Living Room	Unit 07 Living Room	53	≥ 45	11/03/26	Pass
F-06	Unit 20 Bedroom	Unit 07 Bedroom	51	≥ 45	11/03/26	Pass

Table 3: Summary of floor impact sound insulation test results

Test No.	Source Room	Receiving Room	L' _{nT,w} /dB		Date	Status
			Measured	Required		
I-01	Unit 13 Living Room	Unit 01 Living Room	58	≤ 62	11/03/26	Pass
I-02	Unit 13 Bedroom	Unit 01 Bedroom	59	≤ 62	11/03/26	Pass
I-03	Unit 17 Living Room	Unit 05 Living Room	58	≤ 62	11/03/26	Pass
I-04	Unit 17 Bedroom	Unit 05 Bedroom	60	≤ 62	11/03/26	Pass
I-05	Unit 20 Living Room	Unit 07 Living Room	59	≤ 62	11/03/26	Pass
I-06	Unit 20 Bedroom	Unit 07 Bedroom	60	≤ 62	11/03/26	Pass

1 Revision register

Version	Changes from previous version and reason for revision	Issued by	Date
A	Original		

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3 Introduction

These tests have been commissioned for pre-completion testing as described in section 1 of Approved Document E of the Building Regulations (AD-E), Reference 1. Section 0 of AD-E describes the performance requirements to be achieved as follows:

Table 0.1a: Dwelling-houses and flats - performance standards for separating walls, separating floors, and stairs that have a separating function.

	Airborne sound insulation $D_{nT,w} + C_{tr}$ dB (Minimum values)	Impact sound insulation $L'_{nT,w}$ dB (Maximum values)
Purpose built dwelling-houses and flats		
Walls	45	-
Floors and stairs	45	62
Dwelling-houses and flats formed by material change of use		
Walls	43	-
Floors and stairs	43	64

Acoustic performance standards of Table 0.1a, from Section 0 of Approved Document E

4 Details of tests

4.1 Airborne sound insulation tests

The airborne tests were carried out in accordance with ISO 140-4, Reference 2, as described in Annex B of Approved Document E, using multiple sound sources operating simultaneously. All measurements were made using a moving microphone.

Some of the rooms tested were less than 25 m³; the sizes are indicated on the test certificates. Some of the results were at the limit of measurements, as the background levels were less than 6 dB below the received levels. Where this is the case the symbol '1' is shown on the test certificate adjacent to the relevant third octave bands indicating that the background noise level is too high.

The results of these tests were analysed in accordance with ISO 717 - 1, Reference 3, with arithmetic averaging as described in AD-E.

4.2 Impact sound insulation tests

The impact tests were carried out in accordance with ISO 140-7, Reference 4, as described in AD-E. All measurements were made using a moving microphone.

Some of the rooms tested were less than 25 m³; the sizes are indicated on the test certificates.

The results of these tests were analysed in accordance with ISO 717 - 2, Reference 5.

4.3 Equipment

The equipment used in the test included:

Item of equipment	Laboratory identity No.	Serial no
Sound level meter, NTi XL3	42	A3A-01140-F0
Calibrator, Larson Davis CAL 200	43	21846
Powered Speaker, Electro-Voice Everse 8	60	405566553900240501
Powered Speaker, Electro-Voice Everse 8	61	405566553900240502
Tapping machine B&K 3207	34	2386526

5 Identification of rooms tested

An extract of the Ground and 1st floor plan is shown in Figure 1. The rooms tested are indicated on these figures with the descriptions used in the summary tables. The floor plans used are taken from the architects' drawings, Reference 6.

6 Sampling

Sample elements were selected by the client.

7 Information provided by the client

Where information provided by the client may have an impact on the tests carried out or results reported, this is recorded in this section:

Selection of rooms to test was provided by the client.

8 Decision rules

Where a pass or fail decision is required, this is based upon 'simple acceptance', whereby the result is compared directly to the defined specification limit. The expanded measurement uncertainty ($U_{k=2}$, for approximately 95% confidence) is declared to be less than ± 2 dB.

In all cases, the uncertainty of the test equipment used is assessed to ensure capability to achieve the accuracy required in the applicable specification.



9 Conclusion

The measurements were successfully conducted in the manner required by the Building Regulations, and the results have been presented in the appropriate format. All results indicate that the measured performance achieves that required by the Building Regulations.

10 References

1. Approved Document E, Resistance to the Passage of Sound, The Building Regulations 2010, 2003 Edition, incorporating 2004, 2010, 2013 and 2015 amendments for use in England.
2. BS EN ISO 140-4, 1998: Acoustics – Measurement of sound insulation of buildings and of building elements. Part 4 – Field measurements of airborne sound insulation between rooms.
3. BS EN ISO 717-1, 1997; Acoustics – Rating of sound insulation in buildings and of building elements. Part 1 – Airborne sound insulation.
4. BS EN ISO 140-7: 1998; Acoustics – Measurement of sound insulation of buildings and of building elements. Part 7 - Field measurements of impact sound insulation of floors.
5. BS EN ISO 717-2, 1997; Acoustics – Rating of sound insulation in buildings and of building elements. Part 2 – Impact sound insulation.
6. Proposed GF – FF Plans, DK Architects drawings, 1326, 1326-1101, Rev L.

11 Figures

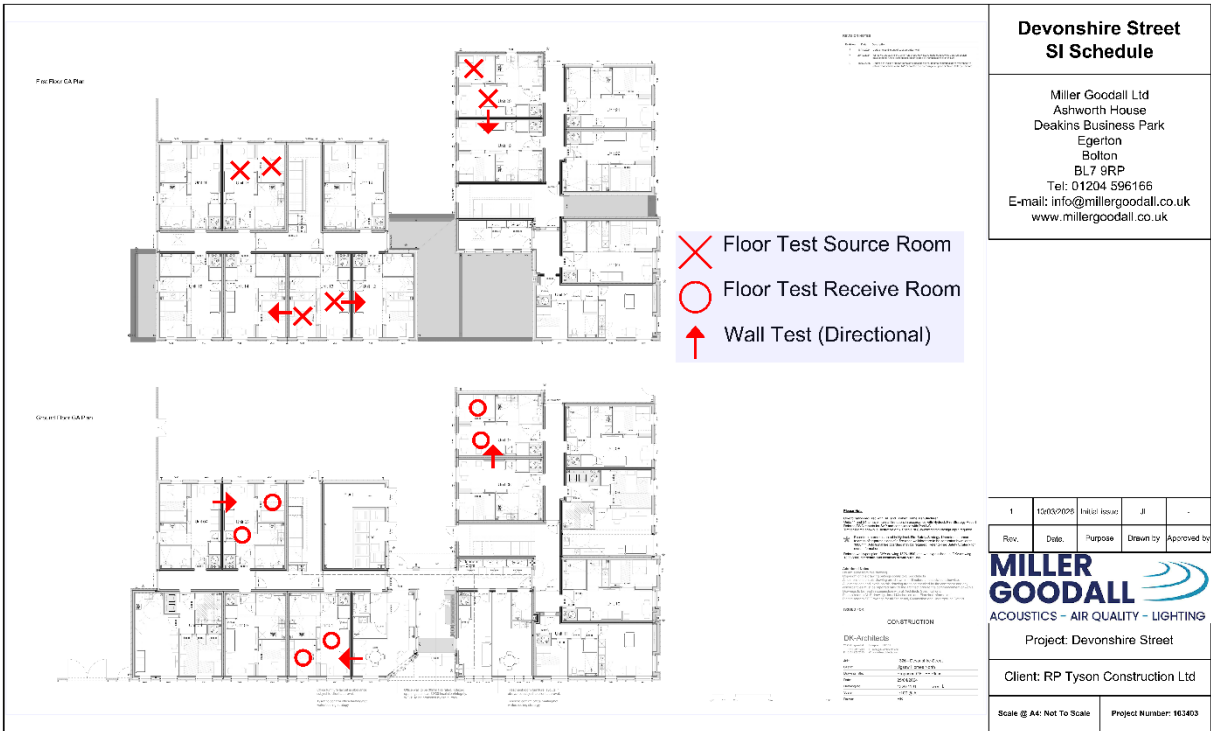


Figure 1: Ground & 1st floor plan from the architects' drawings

12 Test data

The following pages contain the test data for each test



Standardized level difference according to BS EN ISO 140-4

Field measurements of airborne sound insulation between rooms

Client: Miller Goodall
Site Address: Coverdale Cres, Ardwick, Manchester M12 4EL

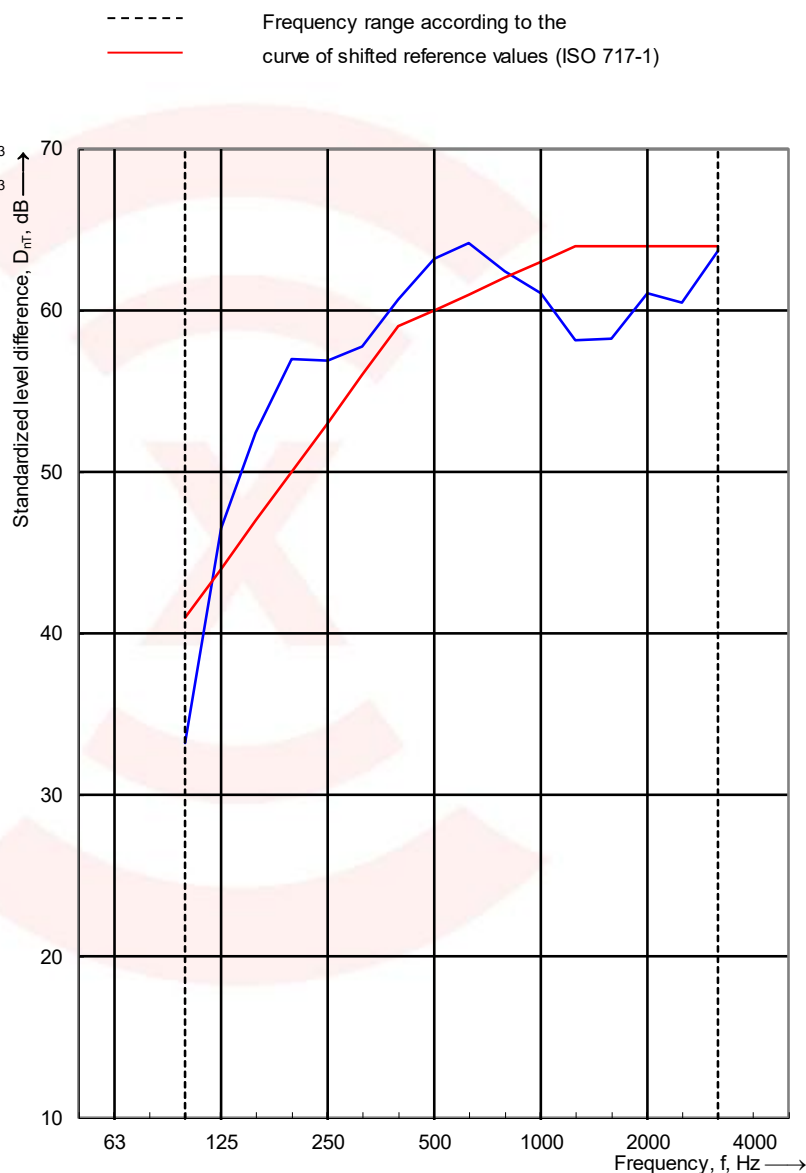
Date of test: 11/03/2026

Source Room: Unit 13 Living Room
Receiver Room: Unit 12 Living Room

Source room volume:
Receiving room volume:

45.085 m³
45 m³

Frequency f [Hz]	D _{nT} 1/3 octave [dB]
50	
63	
80	
100	33.2
125	46.5
160	52.4
200	57.0
250	56.9
315	57.8
400	60.7
500	63.2
630	64.2
800	62.4
1000	61.1
1250	58.2
1600	58.3
2000	61.1
2500	60.5
3150	63.7
4000	
5000	



Rating according to ISO 717-1

D_{nT,w}(C;C_{tr}) = 60 (-2 ; -8) dB

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

Standardized level difference according to BS EN ISO 140-4

Field measurements of airborne sound insulation between rooms

Client: Miller Goodall
Site Address: Coverdale Cres, Ardwick, Manchester M12 4EL

Date of test: 11/03/2026

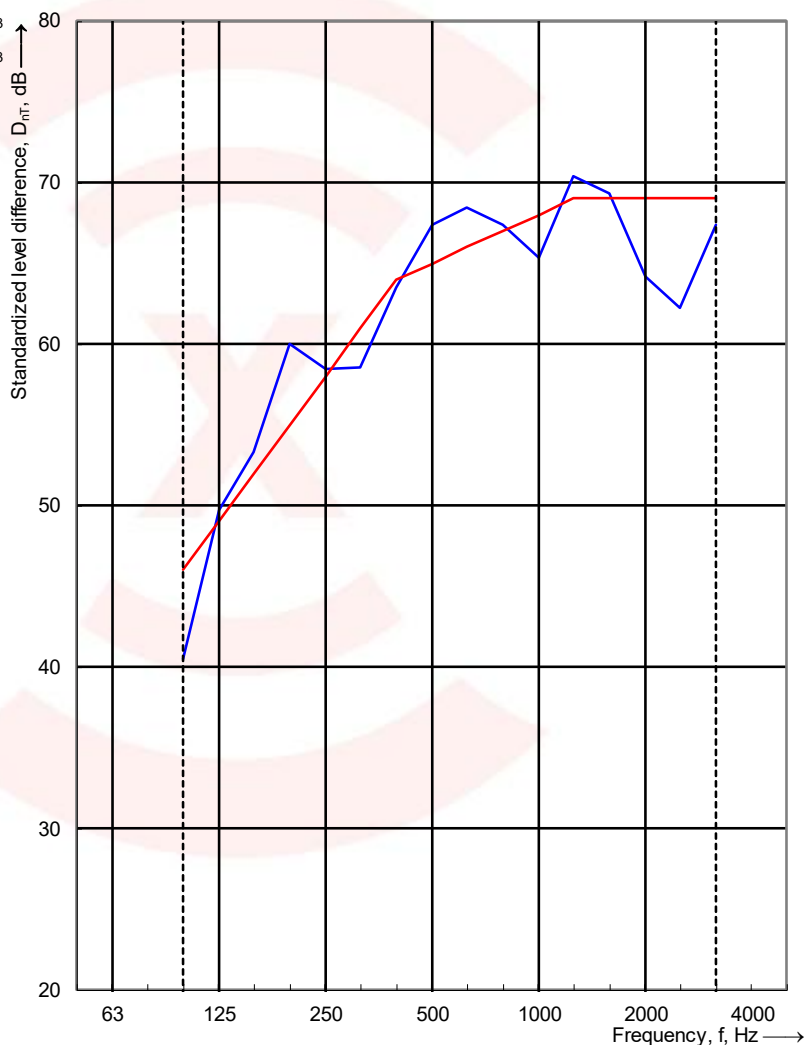
Source Room: Unit 13 Bedroom
Receiver Room: Unit 14 Bedroom

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

Source room volume:
Receiving room volume:

18.1686 m³
18 m³

Frequency f [Hz]	D _{nT} 1/3 octave [dB]
50	
63	
80	
100	40.5
125	49.7
160	53.3
200	60.0
250	58.5
315	58.6
400	63.5
500	67.4
630	68.5
800	67.4
1000	65.3
1250	70.4
1600	69.3
2000	64.2
2500	62.2
3150	67.4
4000	
5000	



Rating according to ISO 717-1

D_{nT,w}(C;C_{tr}) = 65 (-2 ; -6) dB

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

Standardized level difference according to BS EN ISO 140-4

Field measurements of airborne sound insulation between rooms

Client: Miller Goodall
Site Address: Coverdale Cres, Ardwick, Manchester M12 4EL

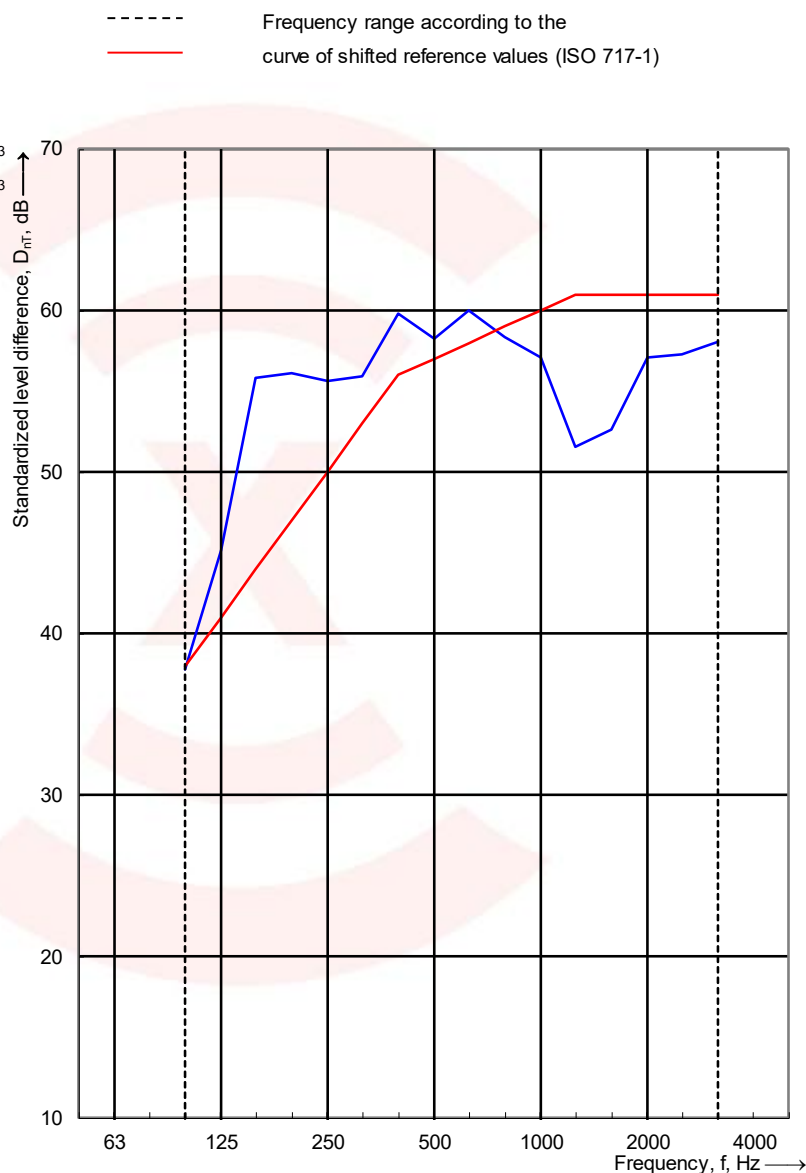
Date of test: 11/03/2026

Source Room: Unit 20 Living Room
Receiver Room: Unit 19 Living Room

Source room volume:
Receiving room volume:

45.085 m³
45 m³

Frequency f [Hz]	D _{nT} 1/3 octave [dB]
50	
63	
80	
100	37.8
125	45.2
160	55.8
200	56.1
250	55.6
315	55.9
400	59.8
500	58.3
630	60.0
800	58.4
1000	57.1
1250	51.6
1600	52.6
2000	57.1
2500	57.3
3150	58.1
4000	
5000	



Rating according to ISO 717-1

D_{nT,w}(C;C_{tr}) = 57 (-2 ; -4) dB

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

Standardized level difference according to BS EN ISO 140-4

Field measurements of airborne sound insulation between rooms

Client: Miller Goodall
Site Address: Coverdale Cres, Ardwick, Manchester M12 4EL

Date of test: 11/03/2026

Source Room: Reception
Receiver Room: Unit 01 Living Room

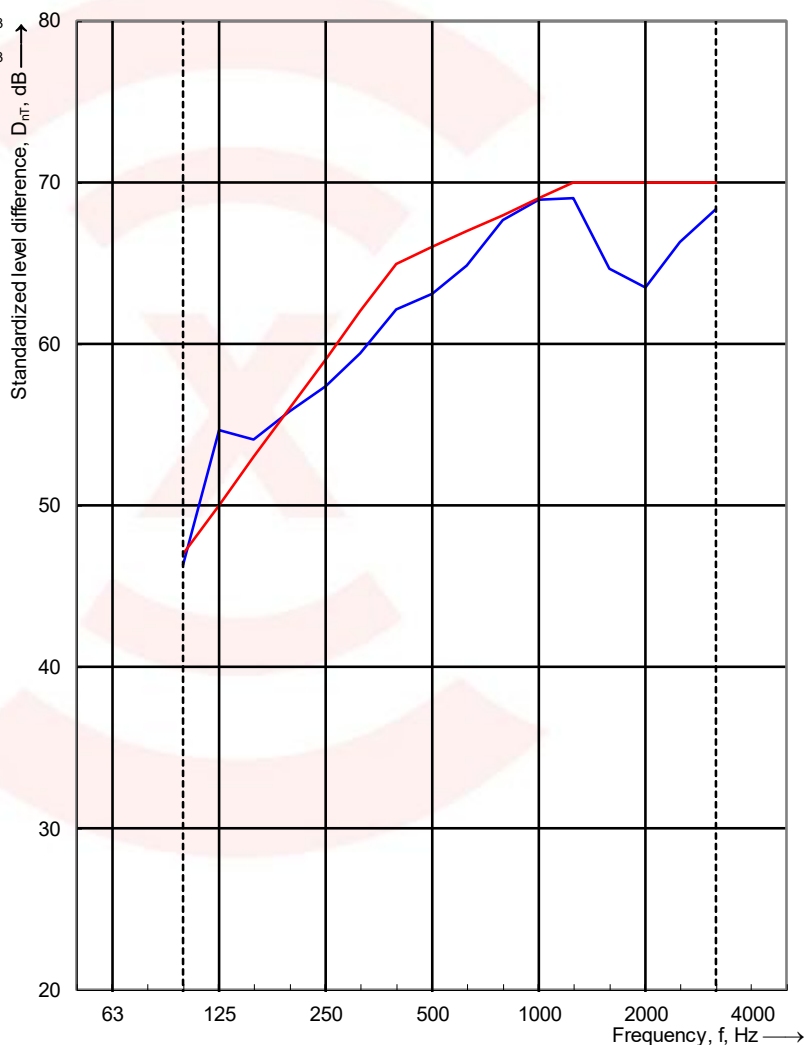
----- Frequency range according to the
— curve of shifted reference values (ISO 717-1)

Source room volume:
Receiving room volume:

85.3304 m³
45 m³

Frequency f [Hz]	D _{nT} 1/3 octave [dB]
50	
63	
80	
100	46.3
125	54.7
160	54.1
200	55.8
250	57.4
315	59.4
400	62.1
500	63.1
630	64.9
800	67.7
1000	≥ 68.9 ¹
1250	≥ 69.0 ¹
1600	≥ 64.7 ¹
2000	63.5
2500	≥ 66.3 ¹
3150	≥ 68.4 ¹
4000	
5000	

¹ Background too high



Rating according to ISO 717-1

D_{nT,w}(C;C_{tr}) = 66 (-2 ; -5) dB

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

Standardized level difference according to BS EN ISO 140-4

Field measurements of airborne sound insulation between rooms

Client: Miller Goodall
Site Address: Coverdale Cres, Ardwick, Manchester M12 4EL

Date of test: 11/03/2026

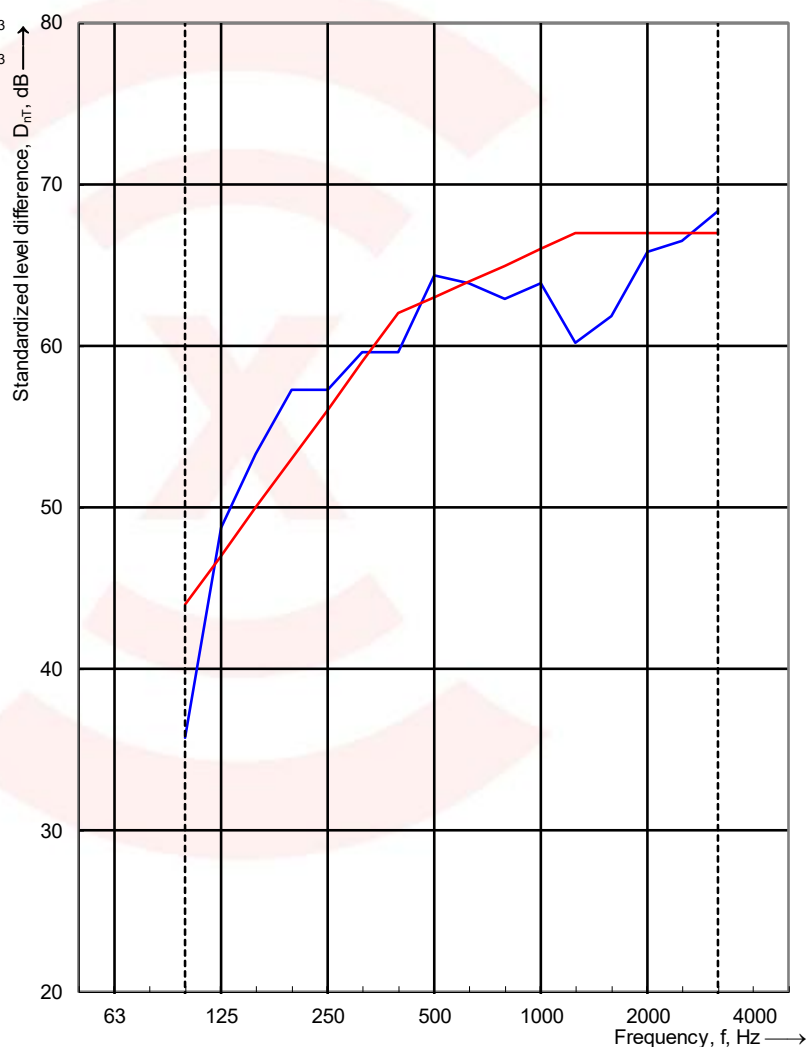
Source Room: Unit 04 Living Room
Receiver Room: Unit 05 Living Room

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

Source room volume:
Receiving room volume:

45.085 m³
45 m³

Frequency f [Hz]	D _{nT} 1/3 octave [dB]
50	
63	
80	
100	35.7
125	48.8
160	53.3
200	57.3
250	57.3
315	59.6
400	59.6
500	64.4
630	63.9
800	62.9
1000	63.9
1250	60.2
1600	61.9
2000	65.8
2500	66.5
3150	68.4
4000	
5000	



Rating according to ISO 717-1

D_{nT,w}(C;C_{tr}) = 63 (-3 ; -8) dB

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

Standardized level difference according to BS EN ISO 140-4

Field measurements of airborne sound insulation between rooms

Client: Miller Goodall
Site Address: Coverdale Cres, Ardwick, Manchester M12 4EL

Date of test: 11/03/2026

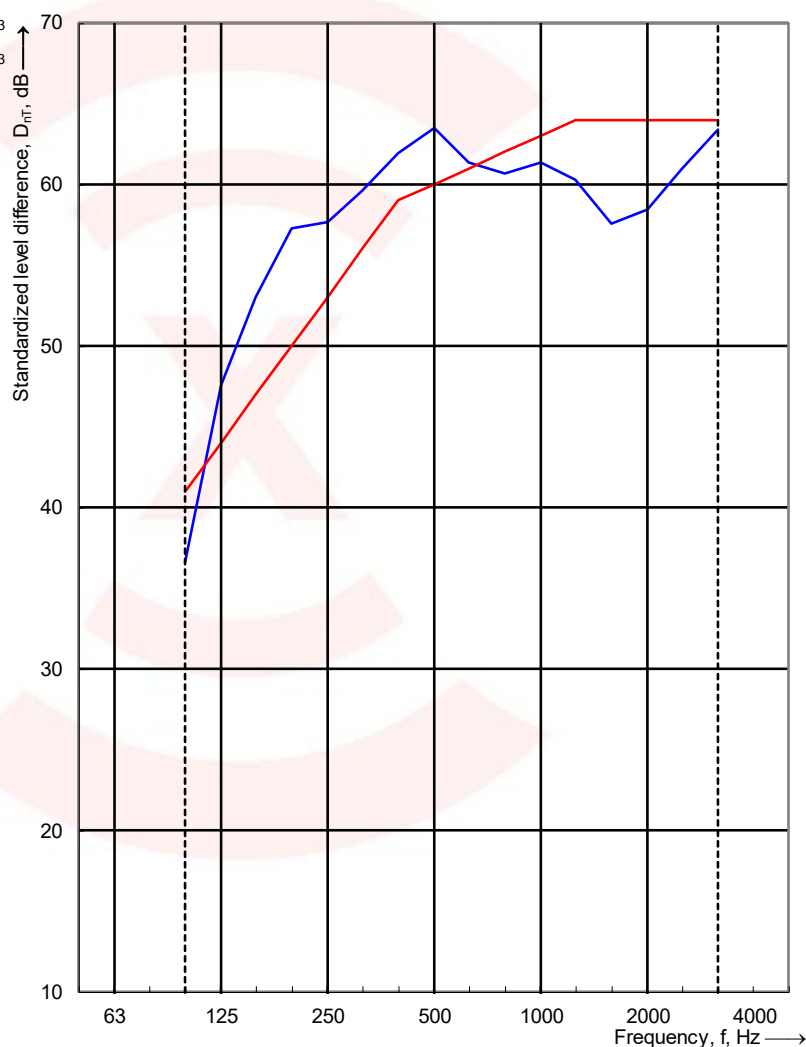
Source Room: Unit 06 Living Room
Receiver Room: Unit 07 Living Room

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

Source room volume:
Receiving room volume:

45.085 m³
45 m³

Frequency f [Hz]	D _{nT} 1/3 octave [dB]
50	
63	
80	
100	36.6
125	47.6
160	53.0
200	57.3
250	57.7
315	59.6
400	61.9
500	63.5
630	61.4
800	60.7
1000	61.4
1250	60.3
1600	57.6
2000	58.5
2500	61.0
3150	63.4
4000	
5000	



Rating according to ISO 717-1

D_{nT,w}(C;C_{tr}) = 60 (-1 ; -5) dB

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

Standardized level difference according to BS EN ISO 140-4

Field measurements of airborne sound insulation between rooms

Client: Miller Goodall
Site Address: Coverdale Cres, Ardwick, Manchester M12 4EL

Date of test: 11/03/2026

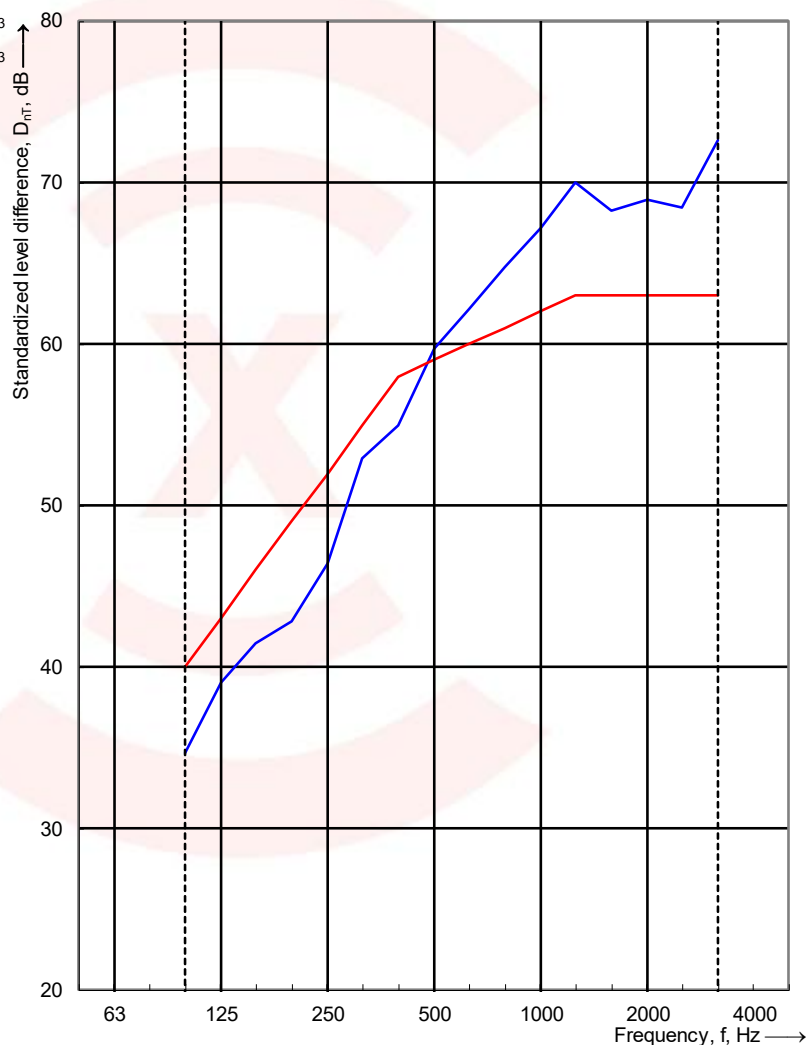
Source Room: Unit 13 Living Room
Receiver Room: Unit 01 Living Room

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

Source room volume:
Receiving room volume:

45.085 m³
45 m³

Frequency f [Hz]	D _{nT} 1/3 octave [dB]
50	
63	
80	
100	34.7
125	39.0
160	41.5
200	42.8
250	46.4
315	52.9
400	55.0
500	59.7
630	62.1
800	64.8
1000	67.2
1250	70.0
1600	68.3
2000	68.9
2500	68.5
3150	72.6
4000	
5000	



Rating according to ISO 717-1

$D_{nT,w}(C;C_{tr}) = 59 \text{ (} -2 \text{ ; } -8 \text{) dB}$

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

Standardized level difference according to BS EN ISO 140-4

Field measurements of airborne sound insulation between rooms

Client: Miller Goodall
Site Address: Coverdale Cres, Ardwick, Manchester M12 4EL

Date of test: 11/03/2026

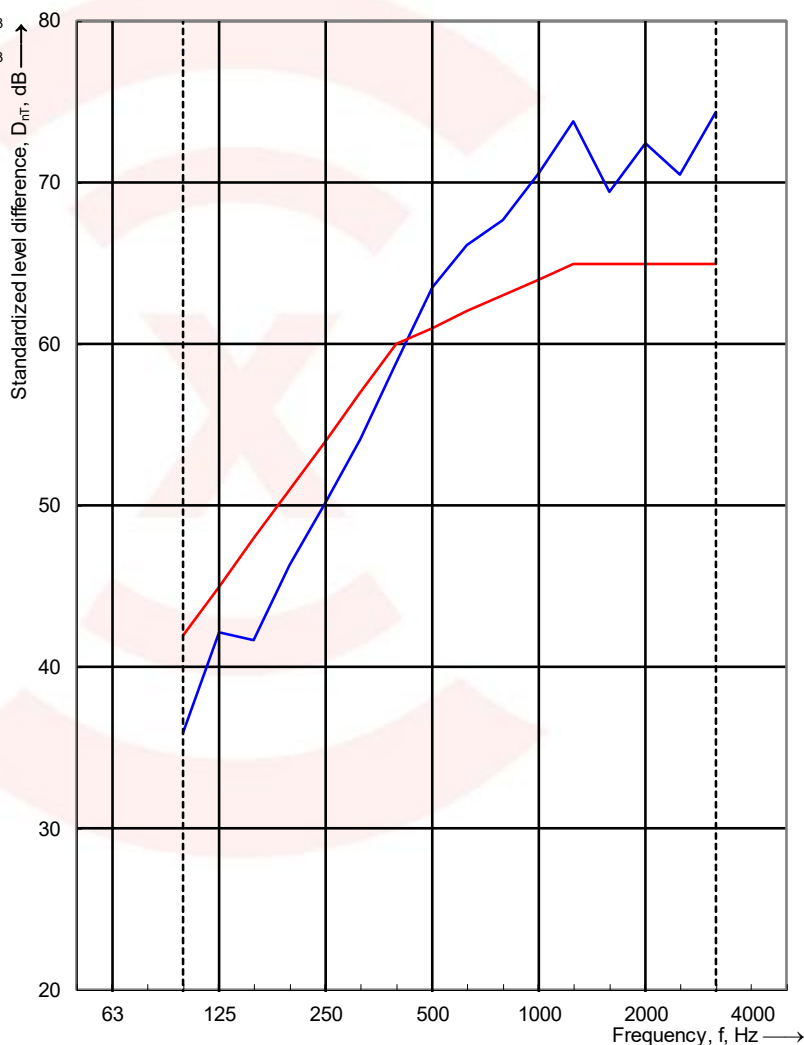
Source Room: Unit 13 Bedroom
Receiver Room: Unit 01 Bedroom

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

Source room volume:
Receiving room volume:

18.1686 m³
18 m³

Frequency f [Hz]	D _{nT} 1/3 octave [dB]
50	
63	
80	
100	35.9
125	42.2
160	41.7
200	46.3
250	50.2
315	54.1
400	58.8
500	63.5
630	66.1
800	67.7
1000	70.6
1250	73.8
1600	69.4
2000	72.4
2500	70.5
3150	74.4
4000	
5000	



Rating according to ISO 717-1

$D_{nT,w}(C;C_{tr}) = 61 \text{ (} -2 \text{ ; } -8 \text{) dB}$

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

Standardized level difference according to BS EN ISO 140-4

Field measurements of airborne sound insulation between rooms

Client: Miller Goodall
Site Address: Coverdale Cres, Ardwick, Manchester M12 4EL

Date of test: 11/03/2026

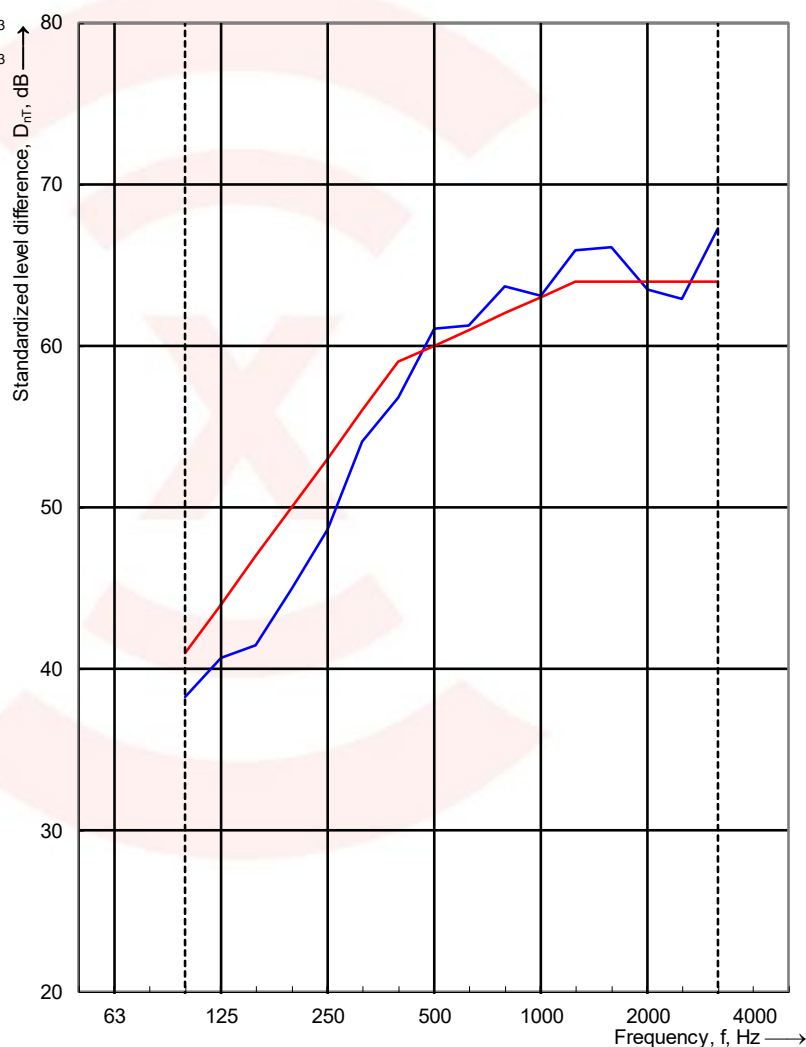
Source Room: Unit 17 Living Room
Receiver Room: Unit 05 Living Room

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

Source room volume:
Receiving room volume:

45.085 m³
45 m³

Frequency f [Hz]	D _{nT} 1/3 octave [dB]
50	
63	
80	
100	38.3
125	40.7
160	41.5
200	45.0
250	48.7
315	54.1
400	56.8
500	61.1
630	61.3
800	63.7
1000	63.1
1250	65.9
1600	66.1
2000	63.5
2500	62.9
3150	67.3
4000	
5000	



Rating according to ISO 717-1

D_{nT,w}(C;C_{tr}) = 60 (-2 ; -7) dB

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

Standardized level difference according to BS EN ISO 140-4

Field measurements of airborne sound insulation between rooms

Client: Miller Goodall
Site Address: Coverdale Cres, Ardwick, Manchester M12 4EL

Date of test: 11/03/2026

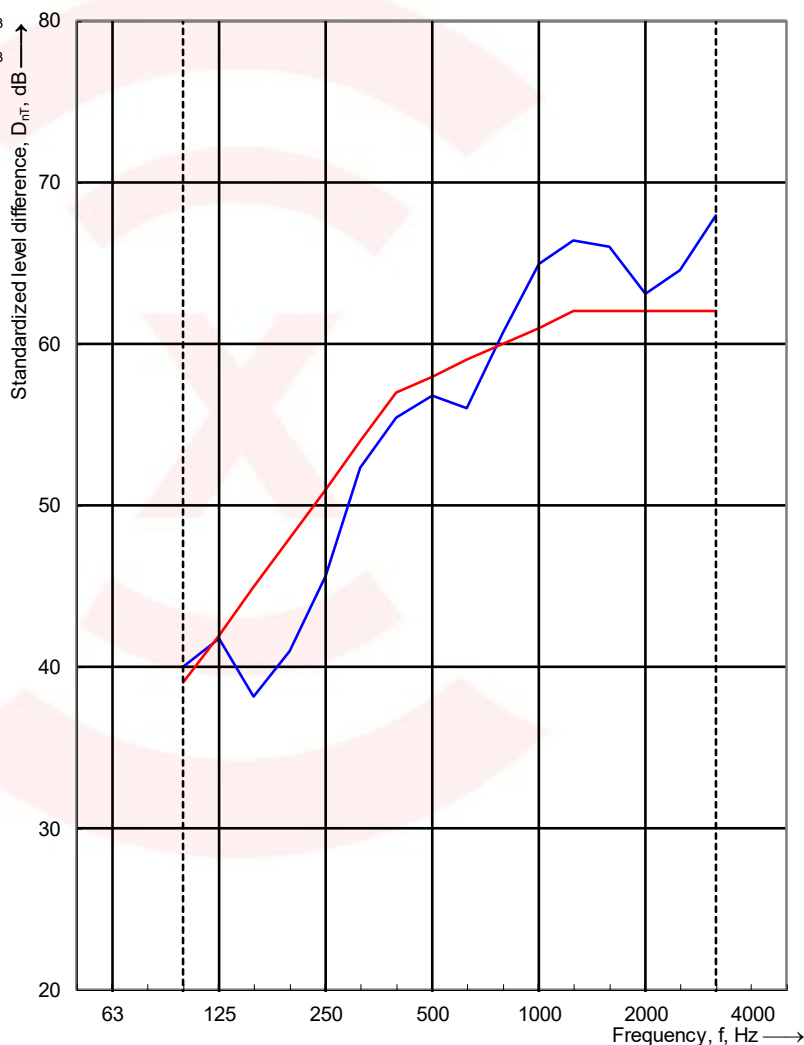
Source Room: Unit 17 Bedroom
Receiver Room: Unit 05 Bedroom

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

Source room volume:
Receiving room volume:

18.1686 m³
18 m³

Frequency f [Hz]	D _{nT} 1/3 octave [dB]
50	
63	
80	
100	40.0
125	41.8
160	38.2
200	41.0
250	45.6
315	52.3
400	55.4
500	56.8
630	56.0
800	60.7
1000	65.0
1250	66.4
1600	66.0
2000	63.1
2500	64.6
3150	68.0
4000	
5000	



Rating according to ISO 717-1

D_{nT,w}(C;C_{tr}) = 58 (-2 ; -7) dB

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

Standardized level difference according to BS EN ISO 140-4

Field measurements of airborne sound insulation between rooms

Client: Miller Goodall
Site Address: Coverdale Cres, Ardwick, Manchester M12 4EL

Date of test: 11/03/2026

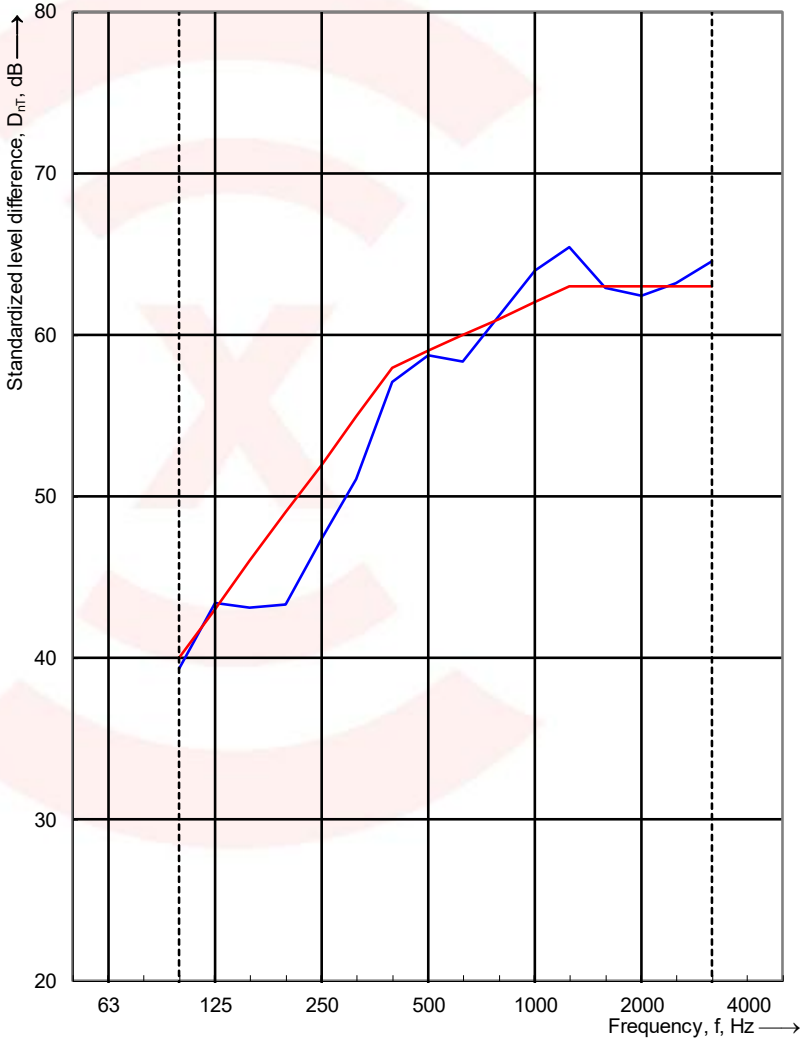
Source Room: Unit 20 Living Room
Receiver Room: Unit 07 Living Room

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

Source room volume:
Receiving room volume:

45.085 m³
45 m³

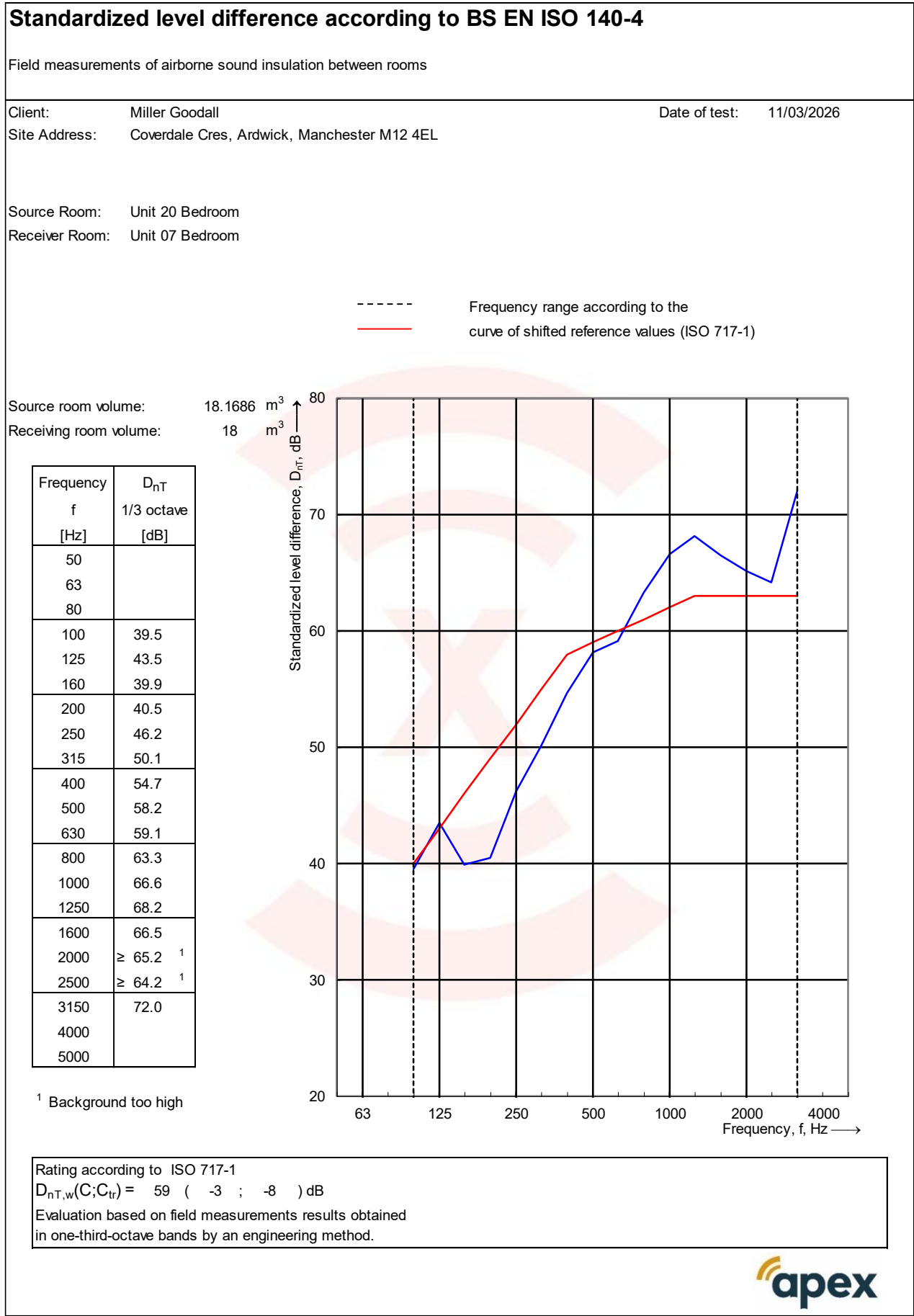
Frequency f [Hz]	D _{nT} 1/3 octave [dB]
50	
63	
80	
100	39.3
125	43.4
160	43.1
200	43.3
250	47.4
315	51.1
400	57.1
500	58.7
630	58.4
800	61.2
1000	64.0
1250	65.4
1600	62.9
2000	62.4
2500	63.2
3150	64.6
4000	
5000	



Rating according to ISO 717-1

D_{nT,w}(C;C_{tr}) = 59 (-2 ; -6) dB

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



Standardized impact sound pressure levels according to BS EN ISO140-7

Field measurement of impact sound insulation of floors

Client: Miller Goodall
Site Address: Coverdale Cres, Ardwick, Manchester M12 4EL

Date of test: 11/03/2026

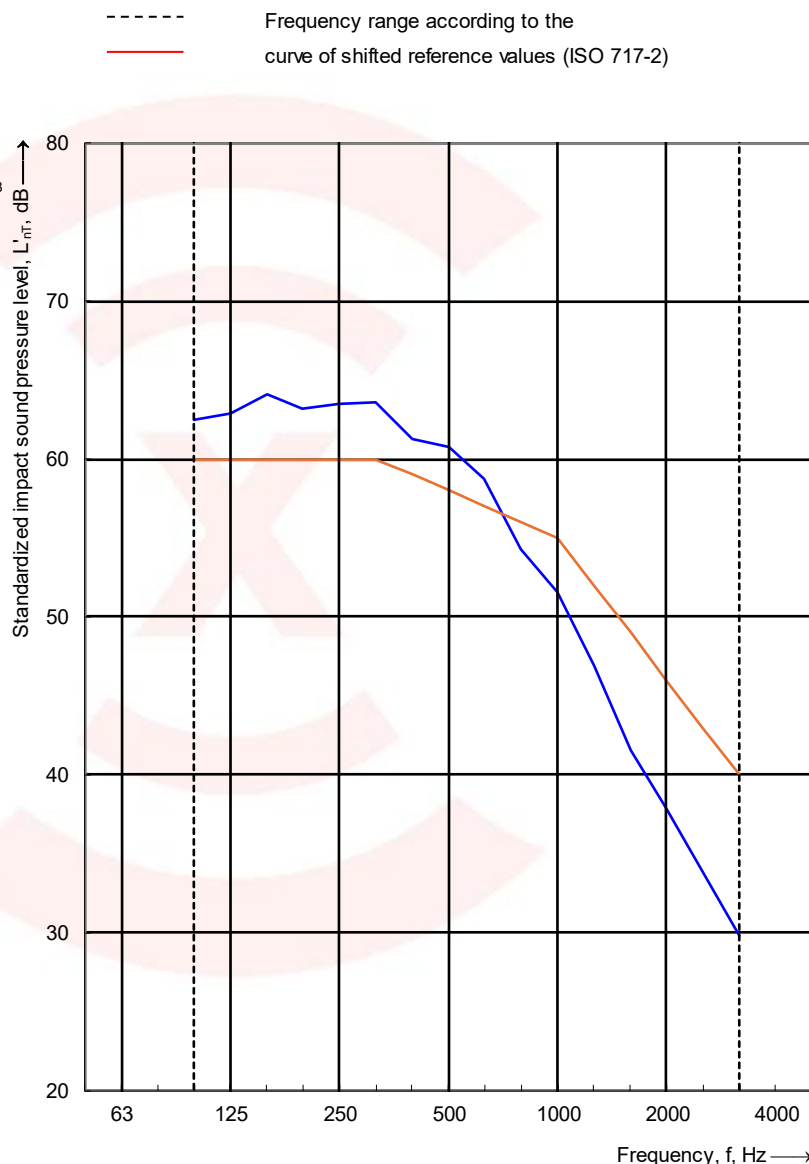
Source Room: Unit 13 Living Room

Receiver Room: Unit 01 Living Room

Receiving room volume:

45 m³

Frequency f [Hz]	L' _{nT} 1/3 octave [dB]
50	
63	
80	
100	62.5
125	62.9
160	64.1
200	63.2
250	63.5
315	63.6
400	61.3
500	60.8
630	58.7
800	54.3
1000	51.6
1250	46.9
1600	41.5
2000	37.9
2500	33.9
3150	29.8
4000	
5000	



Rating according to ISO 717-2

$$L'_{nT,w}(C_1) = 58 \text{ (-1) dB}$$

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

Standardized impact sound pressure levels according to BS EN ISO140-7

Field measurement of impact sound insulation of floors

Client: Miller Goodall
Site Address: Coverdale Cres, Ardwick, Manchester M12 4EL

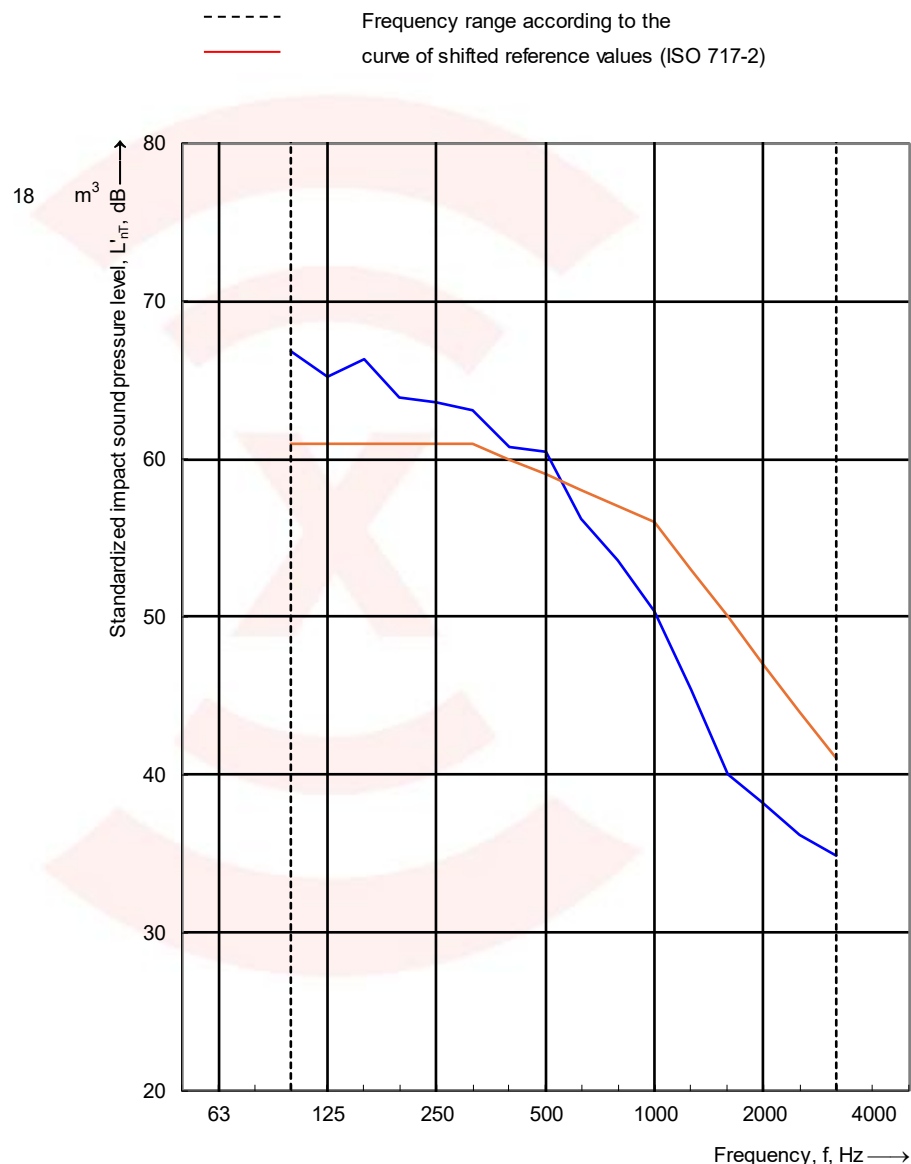
Date of test: 11/03/2026

Source Room: Unit 13 Bedroom

Receiver Room: Unit 01 Bedroom

Receiving room volume:

Frequency f [Hz]	L'_{nT} 1/3 octave [dB]
50	
63	
80	
100	66.8
125	65.2
160	66.3
200	63.9
250	63.6
315	63.1
400	60.8
500	60.5
630	56.2
800	53.6
1000	50.3
1250	45.4
1600	40.0
2000	38.2
2500	36.2
3150	34.9
4000	
5000	



Rating according to ISO 717-2

$$L'_{nT,w}(C_i) = 59 \text{ (-1) dB}$$

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

Standardized impact sound pressure levels according to BS EN ISO140-7

Field measurement of impact sound insulation of floors

Client: Miller Goodall
Site Address: Coverdale Cres, Ardwick, Manchester M12 4EL

Date of test: 11/03/2026

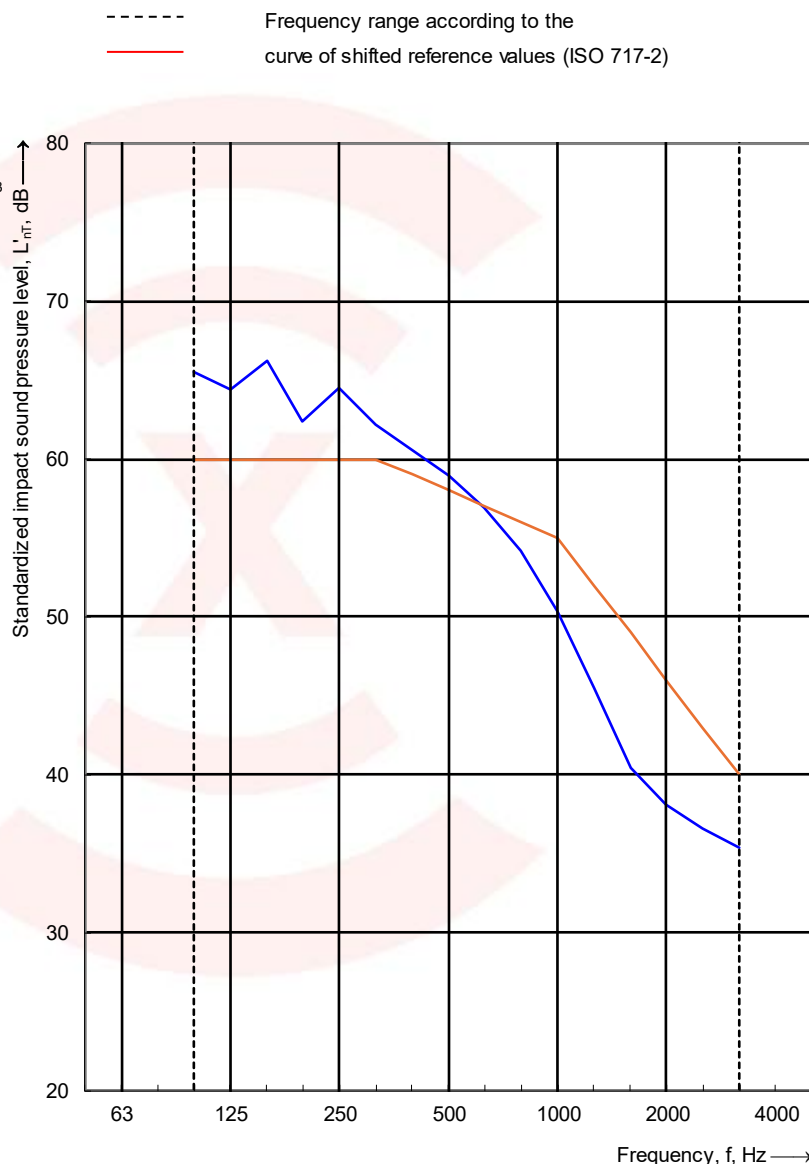
Source Room: Unit 17 Living Room

Receiver Room: Unit 05 Living Room

Receiving room volume:

45 m³

Frequency f [Hz]	L' _{nT} 1/3 octave [dB]
50	
63	
80	
100	65.5
125	64.4
160	66.2
200	62.4
250	64.5
315	62.2
400	60.6
500	58.9
630	56.9
800	54.2
1000	50.3
1250	45.5
1600	40.4
2000	38.1
2500	36.6
3150	35.4
4000	
5000	



Rating according to ISO 717-2

$$L'_{nT,w}(C_i) = 58 (0) \text{ dB}$$

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

Standardized impact sound pressure levels according to BS EN ISO140-7

Field measurement of impact sound insulation of floors

Client: Miller Goodall
Site Address: Coverdale Cres, Ardwick, Manchester M12 4EL

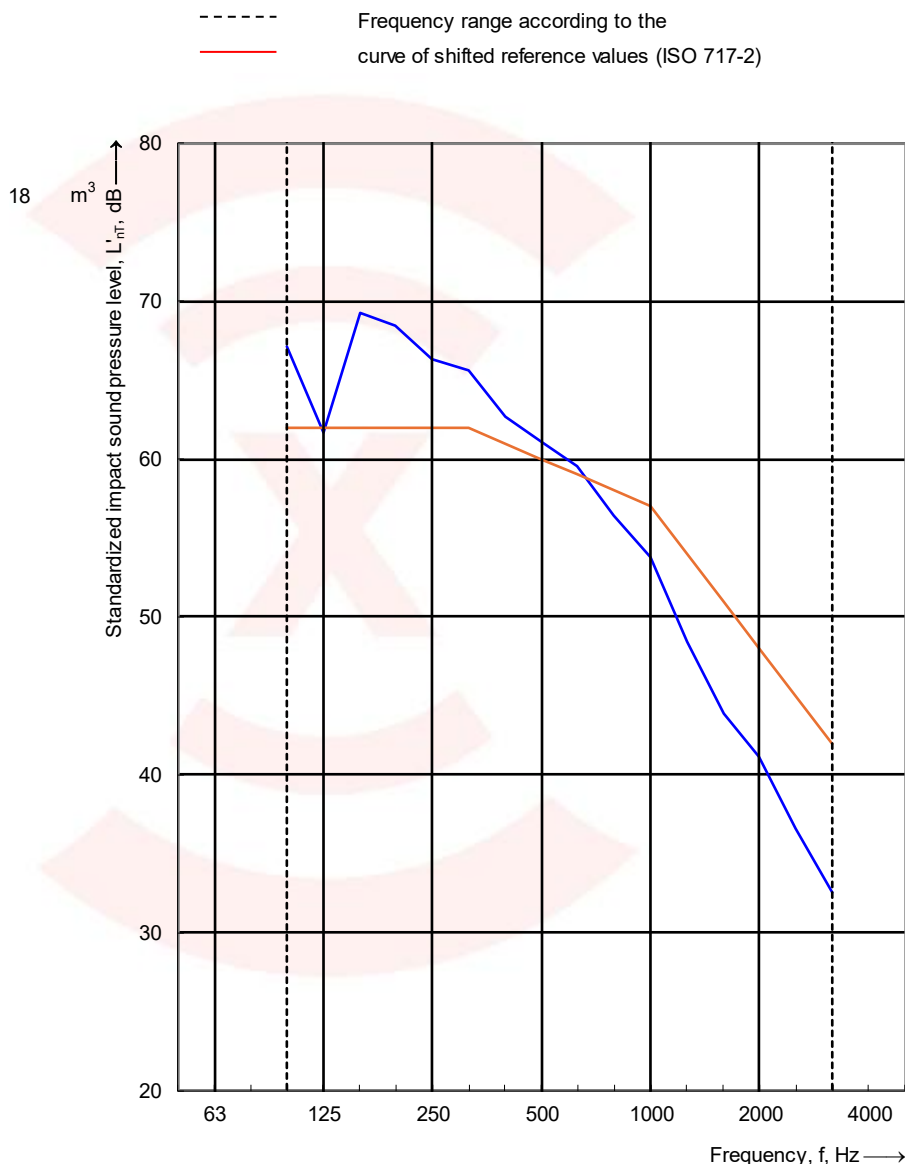
Date of test: 11/03/2026

Source Room: Unit 17 Bedroom

Receiver Room: Unit 05 Bedroom

Receiving room volume:

Frequency f [Hz]	L'_{nT} 1/3 octave [dB]
50	
63	
80	
100	67.1
125	61.7
160	69.3
200	68.5
250	66.3
315	65.6
400	62.7
500	61.1
630	59.6
800	56.4
1000	53.8
1250	48.4
1600	43.9
2000	41.1
2500	36.6
3150	32.5
4000	
5000	



Rating according to ISO 717-2

$$L'_{nT,w}(C_i) = 60 (0) \text{ dB}$$

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

Standardized impact sound pressure levels according to BS EN ISO140-7

Field measurement of impact sound insulation of floors

Client: Miller Goodall
Site Address: Coverdale Cres, Ardwick, Manchester M12 4EL

Date of test: 11/03/2026

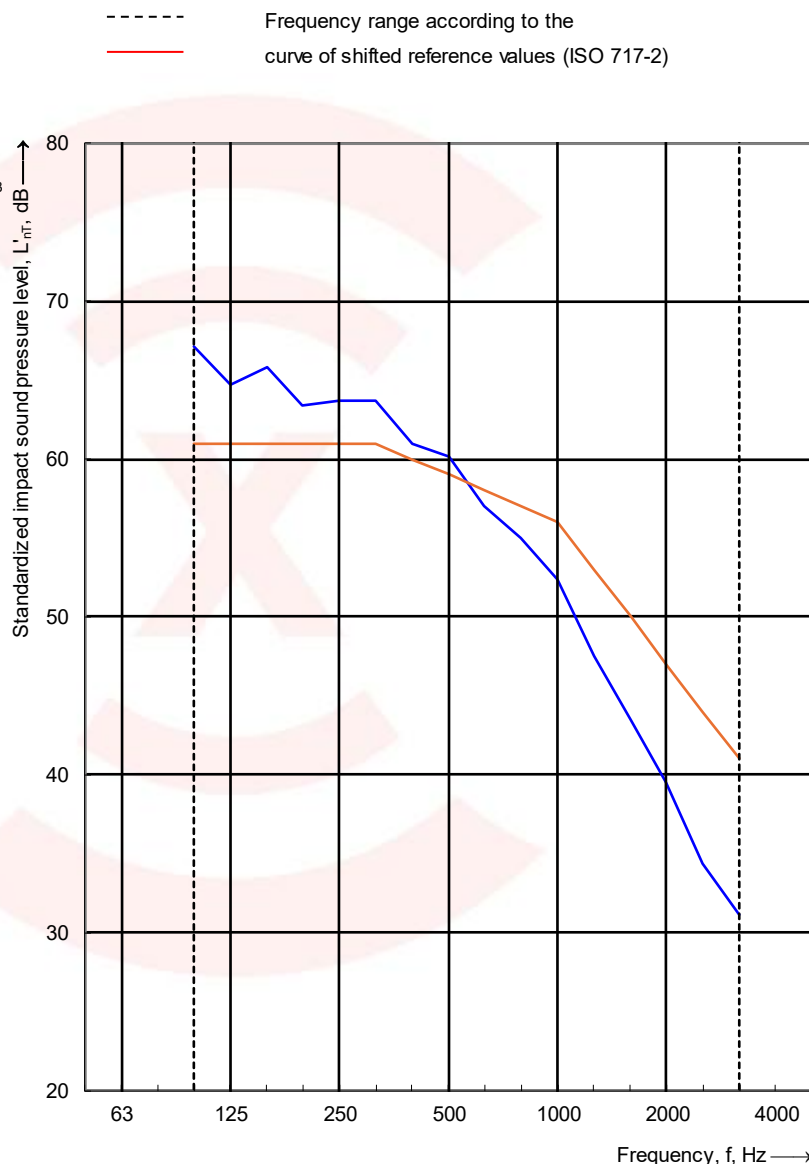
Source Room: Unit 20 Living Room

Receiver Room: Unit 07 Living Room

Receiving room volume:

45 m³

Frequency f [Hz]	L' _{nT} 1/3 octave [dB]
50	
63	
80	
100	67.1
125	64.7
160	65.8
200	63.4
250	63.7
315	63.7
400	61.0
500	60.2
630	57.0
800	55.0
1000	52.4
1250	47.5
1600	43.5
2000	39.5
2500	34.4
3150	31.1
4000	
5000	



Rating according to ISO 717-2

$$L'_{nT,w}(C_1) = 59 \text{ (-1) dB}$$

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

Standardized impact sound pressure levels according to BS EN ISO140-7

Field measurement of impact sound insulation of floors

Client: Miller Goodall
Site Address: Coverdale Cres, Ardwick, Manchester M12 4EL

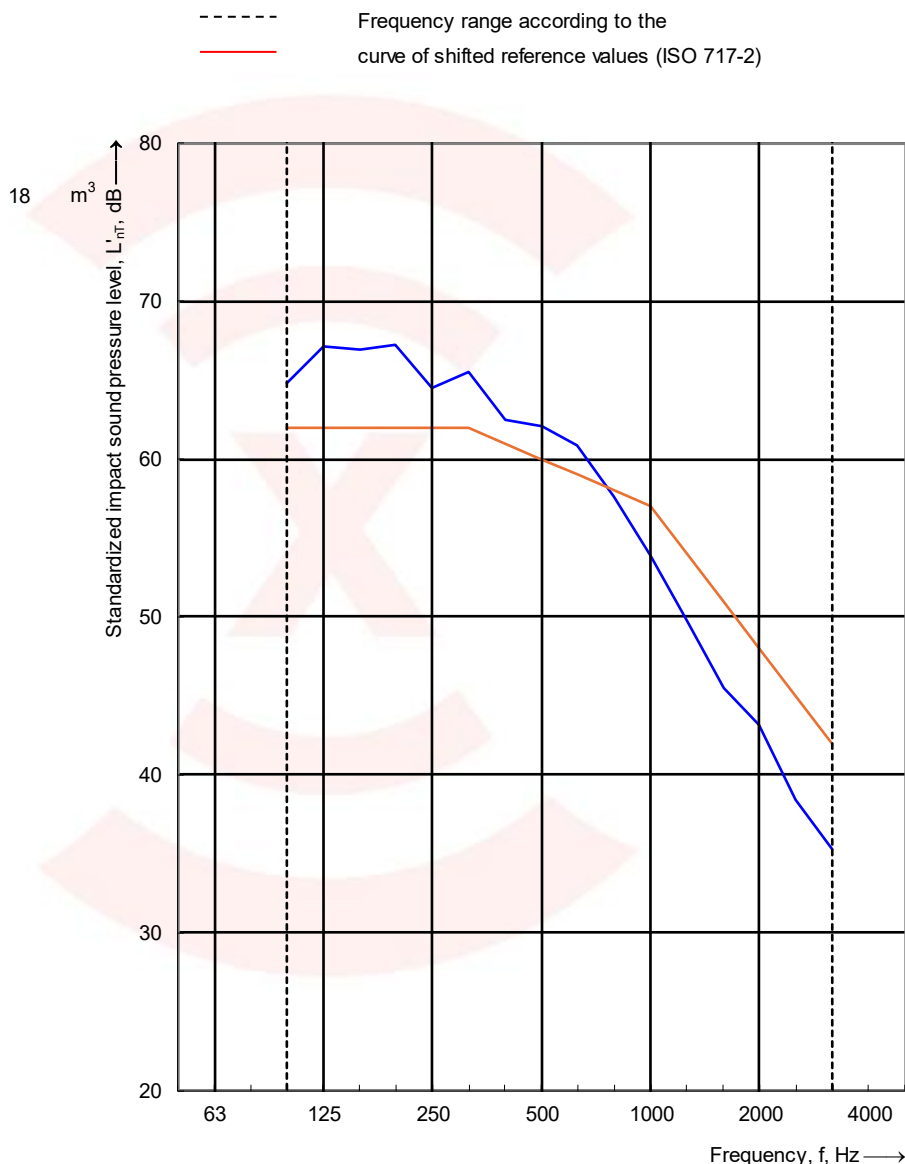
Date of test: 11/03/2026

Source Room: Unit 20 Bedroom

Receiver Room: Unit 07 Bedroom

Receiving room volume:

Frequency f [Hz]	L'_{nT} 1/3 octave [dB]
50	
63	
80	
100	64.8
125	67.1
160	66.9
200	67.2
250	64.5
315	65.5
400	62.5
500	62.1
630	60.9
800	57.6
1000	53.9
1250	49.7
1600	45.5
2000	43.2
2500	38.4
3150	35.3
4000	
5000	



Rating according to ISO 717-2

$$L'_{nT,w}(C_i) = 60 (0) \text{ dB}$$

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