

LK/J005248/8131/01

29 October 2024

ACOUSTIC
CONSULTANTS

**528 - 532 HYDE RD, GORTON, MANCHESTER
M18 7AA**

SOUND INSULATION TESTS REPORT

architectural

environmental

occupational

industrial

noise control at source

project management

planning

legal services

expert witness

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Association of Noise Consultants Registration Number: 105
Test Report Number: 105/118993

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Notice to Building Control Officer

Certification of Test Results

ANC operates an online, secure, paperless certification system for sound insulation tests.

The online verification (certification) system means that Building Control Bodies will need to follow the steps below to verify the results quoted in the relevant test report:

1. Go to the ANC secure server at www.theanc.co.uk
2. Navigate to the [ADvANCE](#) page which links to the ANC site available for use by BCOs.
3. Enter the following in the spaces provided:

Task Number: **118993**

Task Password: **R2F72L**

4. Select role "Building Control Officer" and press "Login"
5. You will then see a summary list of results of all the Tests undertaken to date for this project (Task) as held on the secure primary server and you can print this table for your records.

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1.0 SUMMARY

PDA Ltd was commissioned to carry out sound insulation tests at the conversion development at 528 - 532 Hyde Rd, Gorton, M18 7AA. This report is an ANC Registered Report with the unique registration number 105/118993.

Analysis of the test data has shown that the airborne sound insulation of the separating walls and floors tested has met the performance standards given in the Building Regulations Approved Document E 2003 edition, and can be described as having 'passed'.

Report Prepared By:



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Liam Kavaney
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Acoustic Consultant

Report Approved By:



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Director

2.0 TEST DETAILS

2.1 Site Description

The tests were conducted at 528 - 532 Hyde Rd, Gorton, M18 7AA.

It is understood the conversion development comprises of 5 no. apartment style dwellings over 1st and 2nd floor levels and retaining the retail units at ground level.

Sound insulation testing was requested to be undertaken for the separating floor between the apartment at 532 Hyde Road to the ground floor retail space, as well as the separating walls to the adjacent property, at 530 Hyde Rd.

2.2 Test Details

The tests were conducted on the 25th October 2024. All measurements were made by Liam Kavaney of PDA Ltd, 3 Bridgewater Court, Barsbank Lane, Lymm, Cheshire, WA13 0ER.

PDA Ltd is accredited by the Association of Noise Consultants (ANC), accreditation number 105, to undertake sound insulation testing to demonstrate compliance with the Building Regulations, Approved Document E (2003 edition).

The equipment used during the tests is as listed in Table 4 at the end of this report. The sound level meter was calibrated before and after the tests as appropriate, during which time no significant calibration deviation was observed. The sound level meter, acoustic calibrator and microphone are all covered by current calibration certificates.

The testing methods for airborne and sound insulation were in full accordance with: the suggested methods presented in BS EN ISO 140-parts 4: 1998 "Field Measurements of Airborne Sound Insulation Between Rooms". The results of the tests were analysed in accordance with BS EN ISO 717-parts 1: 1997, amended 2006.

In addition, all the procedures in Annex B of Approved Document E, guidance to the Building Regulations, have been followed except the following:

- Annex B indicates that test rooms should have a volume of at least 25m³. The Living / Kitchen of Apartment 2 (532) was only 19m³ and is reported here as per Annex B requirements.
- Annex B indicates that tests should be conducted in completed but unfurnished rooms. It should be noted that the ground floor shop was in use and therefore the space had a considerable amount of different items throughout such as shop counters, stock shelving etc... In addition some of the dwelling rooms had site materials scattered across the floor space.

2.3 Basic Procedures

Airborne Sound Insulation

The field testing of structures for airborne sound insulation involves generating a controlled level of noise in one room (the source room) and measuring the resulting noise in the other room (the receiving room), separated from the source room by the element under test. The method follows test procedure 4 (airborne) as given within the ANC Practice Guidance version 1.1. Two sound sources are used and operated in separate positions simultaneously. Spatial and temporal averaging of the noise level in both rooms is carried out by manually sweeping the microphone through a predetermined circular path of travel in a plane not within 10° of any room surface

plane. The sweeps are completed over a minimum 30-second period, with one separate measurement cycle being completed in both the source and receiving rooms.

A minimum 30-second manual sweeping of the microphone through a predetermined circular path of travel in a plane not within 10° of any room surface plane was taken in the receiver room for a background noise measurement when the loudspeaker in the source room was turned off.

Corrections are applied to the measured levels for the effects of background noise and acoustic absorption, the latter being characterised by reverberation time measurements. Background noise is measured in the receiving room using the sweep method over a minimum 30-second period. The corrected, measured source room and receiving room levels are used to derive the Standardised Level Difference and the data, in third octave bands, are compared with reference values using defined matching criteria to determine the single figure Weighted Standardised Level Difference. From this data a Spectrum Adaptation term is calculated which gives an indication of the performance of the element when exposed to particular types of noise. This term is additive to the Weighted Standardised Level Difference and is quoted when referring to the element's sound insulation performance.

Reverberation Time Measurement

The reverberation time measurements were conducted in accordance with the engineering method as presented within ISO3382-2:2008. The reverberation time measurements were conducted within the receiving rooms for each test by recording the decay from a continuous wide band pink noise generator. The equipment was set to measure T₂₀ reverberation decay. Measurements were taken with one loudspeaker location and three randomly selected microphone locations. Measurements were repeated twice at each microphone location.

The source and receiving rooms were as detailed in the results summary in Tables 2 & 3 at the end of this report.

2.4 Wall and Floor Constructions

It is understood that the wall construction between the dwellings was as follows;

- *Existing 225mm solid masonry wall finished either side 1 no. layer of 12.5mm Soundbloc plasterboard mounted on dabs with skim finish.*

We have been informed that the floor construction between the ground floor shop and first floor was as follows;

- *Carpet / Laminate floor finish on existing timber floorboards on existing timber joists with mineral wool insulation between the existing joists. Below is a ceiling consisting of 1 no. layer of 15mm Soundbloc plasterboard and 1 no. layer of 12.5mm Fireline plasterboard hung on resilient bars to the underside of the joists.*

3.0 TERMS OF REFERENCE

3.1 Building Regulations 2010 Approved Document E (2003) – Resistance to the Passage of Sound

The development can be classed as a conversion project and as such the requirements of the Building Regulations ADE are as follows:

Table 1 – Building Regulations ADE sound insulation requirements

Dwelling Houses and Flats formed by a Material Change of Use	Airborne Sound Insulation $D_{nT,w} + C_{tr}$ dB (minimum values)	Impact Sound Insulation $L'_{nT,w}$ dB (maximum values)
Walls	≥ 43	N/A
Floors	≥ 43	≤ 64

4.0 RESULTS

4.1 Background Noise Levels

A measurement of typical noise levels was made within the receiver rooms during the tests. The background noise levels were between 27 and 42 dB $L_{Aeq,T}$ and comprised of traffic noise on Hyde Road. It should be noted that where low background noise levels exist, these are not taken into account by Approved Document E. Consequently, even if a wall or floor is performing satisfactorily it may still be the case that sound can be heard passing between the adjacent spaces, this being a result of a lack of masking provided by the background noise. Please see Section 2.3 for a brief description of the test procedure for background noise measurements.

The test certificates indicate whether the measurements were limited due to background noise. The implications of any limitations are that the sound insulation performance of the separating element would either be equal to or greater than the level calculated and reported here.

4.2 Airborne Sound Insulation – Separating Walls and Floors

The airborne noise measurements obtained on site have been processed to produce the standardised level difference (D_{nT}) between the rooms. The D_{nT} is detailed with the weighted standardised level difference $D_{nT,w}$ and the C_{tr} values in the test certificate at the rear of this report. The $D_{nT,w} + C_{tr}$ allows the sound insulation performance of the elements tested to be compared with the ADE requirements detailed in Section 3 above. The obtained $D_{nT,w} + C_{tr}$ for the separating walls and floors are presented in summary Tables 2 and 3 at the end of this report.

5.0 DISCUSSION OF RESULTS

5.1 Airborne Sound Insulation – Separating Walls and Floors

The obtained results from the sound insulation tests show that the minimum sound insulation values as stated in ADE 2003 have been met for all separating walls and floors. As such these elements may be regarded as having 'passed' the tests.

Results Summary Tables

Table 2 – Airborne Wall Sound Insulation Test Results:

ANC Test Reference	Source Room		Receiver Room		Measured $D_{nT,w} + C_{tr}$ dB	Building Regulations ADE Required Sound Insulation Performance, $D_{nT,w} + C_{tr}$ dB	'Pass' or 'Fail'
	Description	Volume, m^3	Description	Volume, m^3			
10511899301	Apartment 3 (530) Living Room	50	Apartment 2 (532) Bedroom	43	45	≥43	Pass
10511899302	Apartment 3 (530) Bedroom	32	Apartment 2 (532) Living / Kitchen	19	43	≥43	Pass

Table 3 – Airborne Floor Sound Insulation Test Results:

ANC Test Reference	Source Room		Receiver Room		Measured $D_{nT,w} + C_{tr}$ dB	Building Regulations ADE Required Sound Insulation Performance, $D_{nT,w} + C_{tr}$ dB	'Pass' or 'Fail'
	Description	Volume, m^3	Description	Volume, m^3			
10511899303	532 Retail Shop 1	94	Apartment 3 (530) Living Room	50	43	≥43	Pass
10511899304	532 Retail Shop 1	94	Apartment 3 (530) Bedroom	32	43	≥43	Pass

Equipment List

Table 4 – Equipment

Manufacturer	Type	Model	Serial Number	Calibration Date	Calibration Certificate Number	Date of Expiration of Calibration
NTi	Pink Noise Generator	Minirator MR2	G2L-YWCZZ-F2	-	-	-
Nokia	Pink Noise Generator	6303e	587577	-	-	-
Mackie	Sound Source	SRM350	JG0252	-	-	-
Mackie	Sound Source	SRM350	JW0027	-	-	-
Rion	Sound Level Meter	NA-28	30431896	03/10/2023	06454/2	03/10/2025
Rion	Pre-Amplifier	NH-23	21959	03/10/2023	06454/2	03/10/2025
Rion	Half-inch Microphone	UC-59	04959	03/10/2023	06454/2	03/10/2025
Rion	Calibrator	NC-74	34536106	11/10/2024	06923/1	11/10/2025

APPENDIX

PDA LTD. TEST CERTIFICATES

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

Client: Braiden Acoustics Limited
Address: 528 - 532 Hyde Rd, Gorton, M18 7AA

Date of Test: 25 October 2024



Description of tested construction, test arrangement and direction of measurement :

Source Room: Apartment 3 (530) Living Room

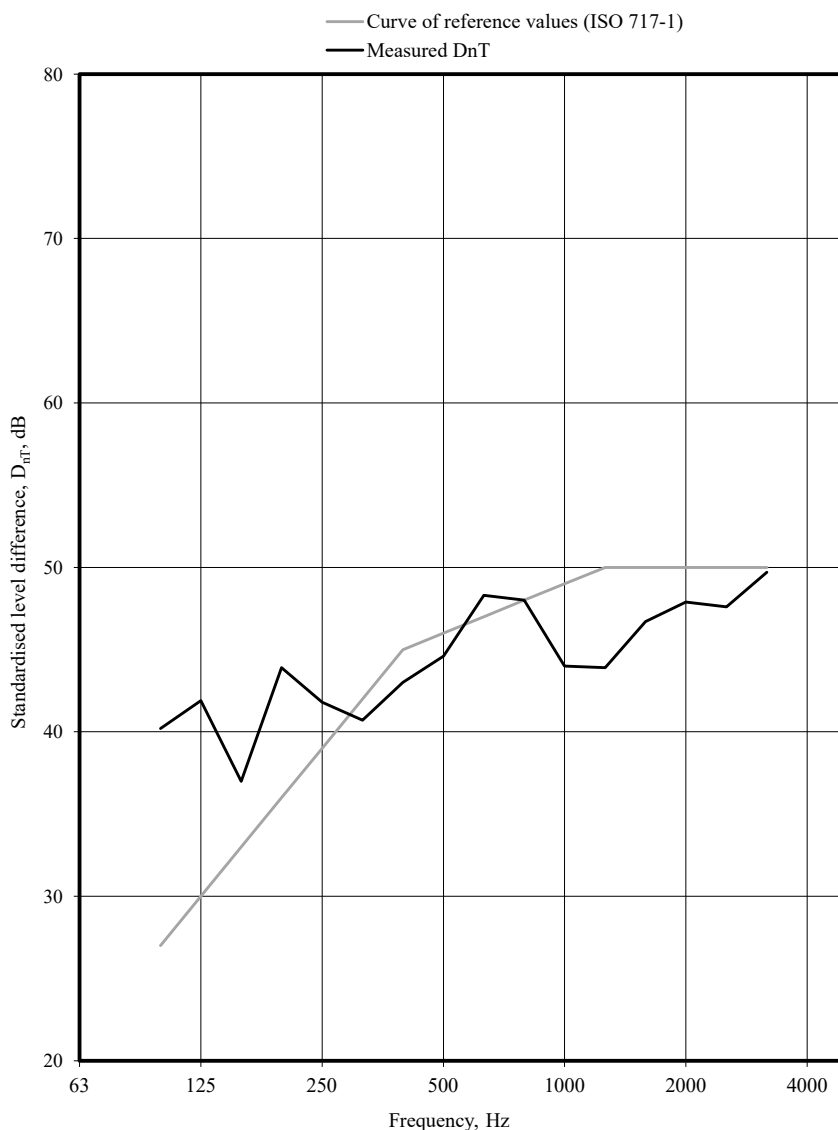
Receiver Room: Apartment 2 (532) Bedroom

Wall Construction (Notional)

Existing 225mm solid masonry wall finished either side 1 no. layer of 12.5mm Soundbloc plasterboard mounted on dabs with skim finish

Source Room Volume : 50 m³
Receiver Room Volume : 43 m³

Frequency Hz	D _{nT} (one-third octave) dB
50	
63	
80	
100	40.2
125	41.9
160	37.0
200	43.9
250	41.8
315	40.7
400	43.0
500	44.6
630	48.3
800	48.0
1000	44.0
1250	43.9
1600	46.7
2000	47.9
2500	47.6
3150	49.7
4000	
5000	



Rating According to ISO 717-1

D_{nT,w} (C; C_{tr}) = **46** 0 -1 dB

Evaluation based on field measurement results obtained by an engineering method

No. of Test Report: 10511899301

Name of Test Institute : PDA Ltd, 3 Bridgewater Court
Barsbank Lane, Lymm
Cheshire, WA13 0ER

Date: 29 October 2024

Notes:

≥ - measurement limited due to background

Signature :

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

Client: Braiden Acoustics Limited
Address: 528 - 532 Hyde Rd, Gorton, M18 7AA

Date of Test: 25 October 2024



Description of tested construction, test arrangement and direction of measurement :

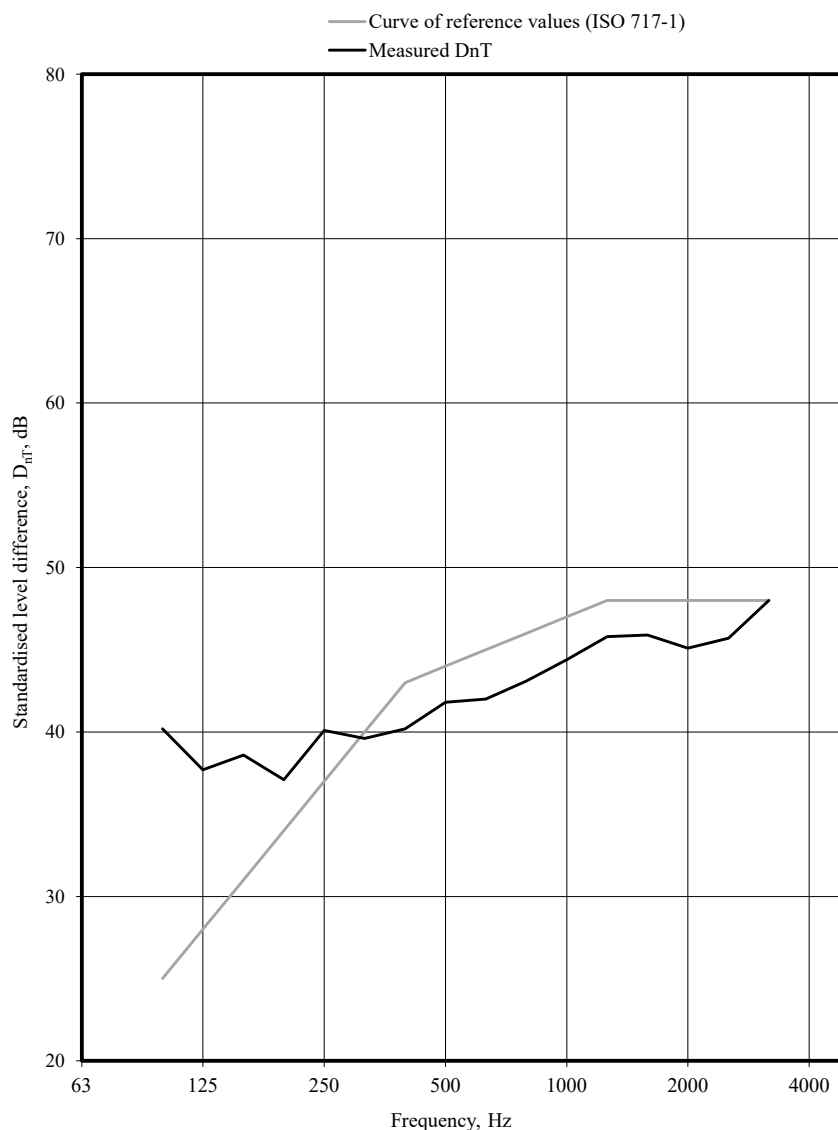
Source Room: Apartment 3 (530) Bedroom
Receiver Room: Apartment 2 (532) Living / Kitchen

Wall Construction (Notional)

Existing 225mm solid masonry wall finished either side 1 no. layer of 12.5mm Soundbloc plasterboard mounted on dabs with skim finish

Source Room Volume : 32 m³
Receiver Room Volume : 19 m³

Frequency Hz	D _{nT} (one-third octave) dB
50	
63	
80	
100	40.2
125	37.7
160	38.6
200	37.1
250	40.1
315	39.6
400	40.2
500	41.8
630	42.0
800	43.1
1000	44.4
1250	45.8
1600	45.9
2000	45.1
2500	45.7
3150	48.0
4000	
5000	



Rating According to ISO 717-1

D_{nT,w} (C; Ctr) = **44** 0 -1 dB

Evaluation based on field measurement results obtained by an engineering method

No. of Test Report: 10511899302 **Name of Test Institute :** PDA Ltd, 3 Bridgewater Court
Barsbank Lane, Lymm
Cheshire, WA13 0ER

Date: 29 October 2024

Notes:

≥ - measurement limited due to background

Signature :

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

Client: Braiden Acoustics Limited
Address: 528 - 532 Hyde Rd, Gorton, M18 7AA

Date of Test: 25 October 2024



Description of tested construction, test arrangement and direction of measurement :

Source Room: 532 Retail Shop 1

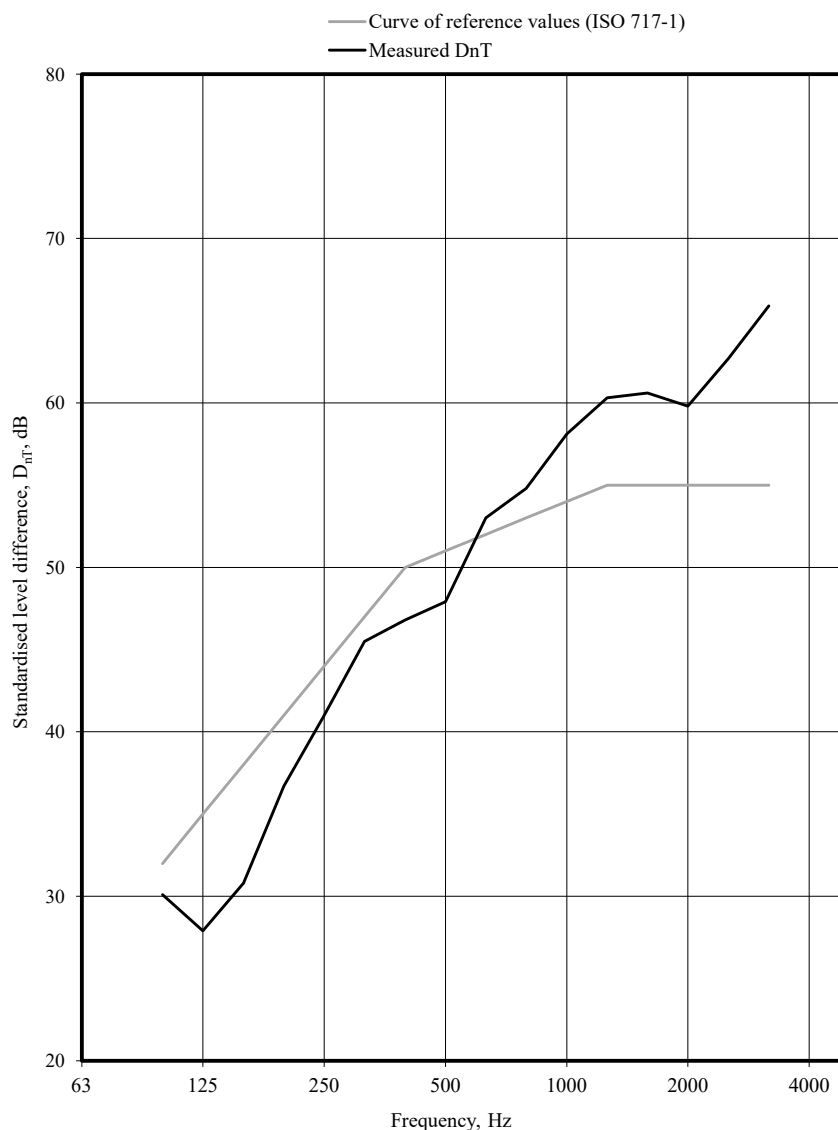
Receiver Room: Apartment 3 (530) Living Room

Floor Construction (Notional)

Carpet / Laminate floor finish on existing timber floorboards on existing timber joists with mineral wool insulation between the existing joists. Below is a ceiling consisting of 1 no. layer of 15mm Soundbloc plasterboard and 1 no. layer of 12.5mm Fireline plasterboard hung on resilient bars to the underside of the joists

Source Room Volume : 94 m³
Receiver Room Volume : 50 m³

Frequency Hz	D _{nT} (one-third octave) dB
50	
63	
80	
100	30.1
125	27.9
160	30.8
200	36.7
250	41.0
315	45.5
400	46.8
500	47.9
630	53.0
800	≥ 54.8
1000	≥ 58.1
1250	≥ 60.3
1600	≥ 60.6
2000	≥ 59.8
2500	≥ 62.7
3150	65.9
4000	
5000	



Rating According to ISO 717-1

D_{nT,w} (C; Ctr) = **51** -3 -8 dB

Evaluation based on field measurement results obtained by an engineering method

No. of Test Report: 10511899303

Name of Test Institute : PDA Ltd, 3 Bridgewater Court
Barsbank Lane, Lymm
Cheshire, WA13 0ER

Date: 29 October 2024

Notes:

≥ - measurement limited due to background

Signature :

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

Client: Braiden Acoustics Limited
Address: 528 - 532 Hyde Rd, Gorton, M18 7AA

Date of Test: 25 October 2024



Description of tested construction, test arrangement and direction of measurement :

Source Room: 532 Retail Shop 1

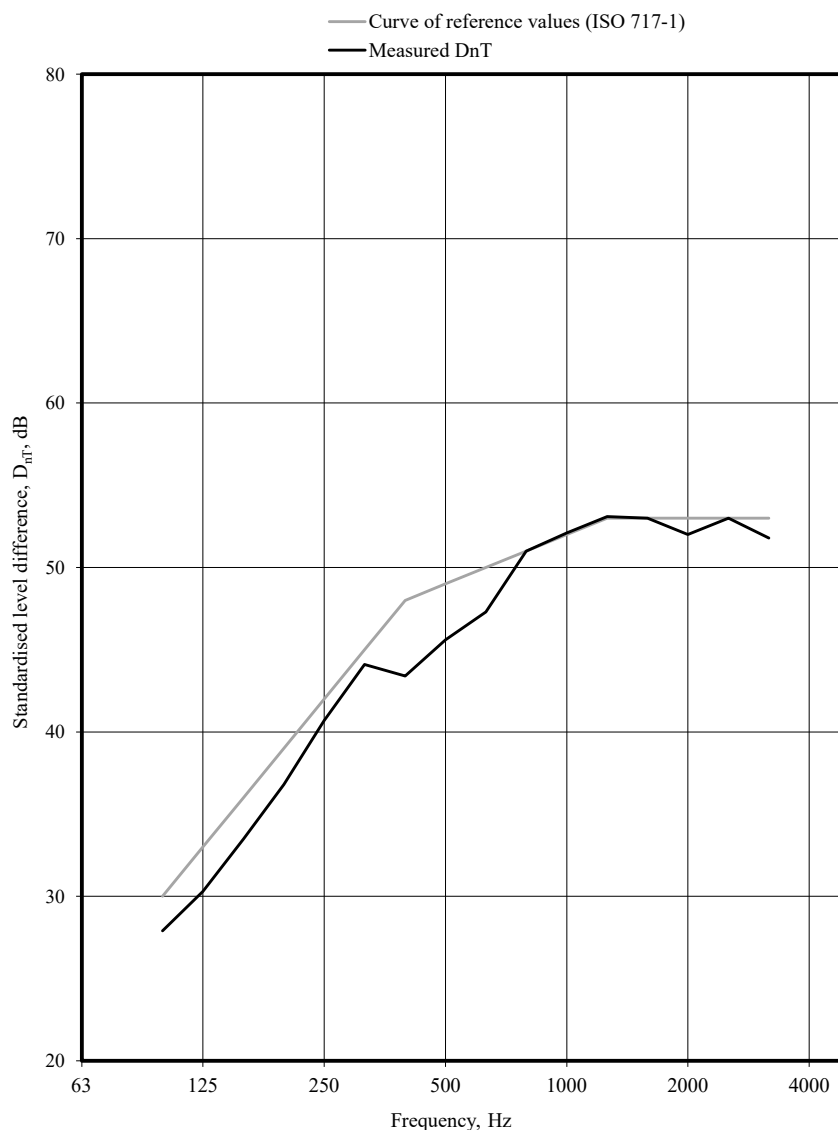
Receiver Room: Apartment 3 (530) Bedroom

Floor Construction (Notional)

Carpet / Laminate floor finish on existing timber floorboards on existing timber joists with mineral wool insulation between the existing joists. Below is a ceiling consisting of 1 no. layer of 15mm Soundbloc plasterboard and 1 no. layer of 12.5mm Fireline plasterboard hung on resilient bars to the underside of the joists

Source Room Volume : 94 m³
Receiver Room Volume : 32 m³

Frequency Hz	D _{nT} (one-third octave) dB
50	
63	
80	
100	27.9
125	30.3
160	33.5
200	36.8
250	40.7
315	44.1
400	43.4
500	45.6
630	47.3
800	51.0
1000	52.1
1250	53.1
1600	53.0
2000	52.0
2500	53.0
3150	51.8
4000	
5000	



Rating According to ISO 717-1

D_{nT,w} (C; C_{tr}) = **49** -2 -6 dB

Evaluation based on field measurement results obtained by an engineering method

No. of Test Report: 10511899304

Name of Test Institute : PDA Ltd, 3 Bridgewater Court
Barsbank Lane, Lymm
Cheshire, WA13 0ER

Date: 29 October 2024

Notes:

≥ - measurement limited due to background

Signature :