Swan House
Manchester

Sound Insulation Test Report

25173/SIT2

18 April 2024

For:

Ben Ward
RG-Group
4 Abbey Wood Road
Kings Hill
West Malling
Kent
ME19 4AB

Hann Tucker Associates
Consultants in Acoustics Noise & Vibration

Head Office: Duke House, 1-2 Duke Street, Woking, Surrey, GU21 5BA (t) +44 (0) 1483 770 595
Manchester Office: First Floor, 346 Deansgate, Manchester, M3 4LY (t) +44 (0) 161 832 7041
(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

Hann Tucker Associates

UKAS TESTING
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Sound Insulation Test Report
25173/SIT2/SIT2

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This report has been prepared by Hann Tucker Associates Limited (HTA) with all reasonable skill, care and diligence in accordance with generally accepted acoustic consultancy principles and the purposes and terms agreed between HTA and our Client. Any information provided by third parties and referred to herein may not have been checked or verified by HTA unless expressly stated otherwise. This document contains confidential and commercially sensitive information and shall not be disclosed to third parties. Any third party relies upon this document at their own risk.

Sound Insulation Test Report
25173/SIT2/SIT2

Document Control

Rev	Date	Comment	Prepared by	Authorised by
0	18/04/2024	-		
			Will Robertson Assistant Consultant BSc (Hons)	Firas Farhan Associate BSc(Hons), MIOA

1.0 Introduction

Hann Tucker Associates visited Swan House on 09 January 2024, 10 January 2024, 28 March 2024, 29 March 2024, 30 March 2024 to undertake airborne and impact sound insulation tests on selected separating wall and floor constructions between residential dwellings.

The properties under test are new build rooms for residential purpose.

This report presents the results of the tests and compares them with recommended sound insulation standards described in the Building Regulations Approved Document E: 2003 Edition.

2.0 Objectives

To undertake airborne sound insulation tests on separating wall constructions between selected residential apartments at Swan House.

To undertake airborne and impact sound insulation tests on separating floor constructions between selected residential apartments at Swan House.

To compare the results of the tests with recommended sound insulation standards described in the Building Regulations Approved Document E: 2003 Edition.

3.0 Requirements Of Approved Document E

To satisfy Requirement E1 of Approved Document E: 2003 Edition, the following sound insulation values should be achieved:-

Table 1a: Dwellings – 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 dwellings		
Walls	45	-
Floors and stairs	45	62

Therefore the minimum value of weighted standardised level difference ($D_{nT,w}$) plus the spectrum adaptation curve (C_{tr}) as defined in BS EN ISO 717-1: 1997 specified in Approved Document E: 2003 Edition: Sound Insulation Standards for airborne sound tests is equal to or greater than 45dB for purpose built dwellings.

The maximum values of weighted standardised impact sound pressure level ($L'_{nT,w}$) as defined in BS EN ISO 717-2: 1997 specified in Approved Document E: 2003 Edition: Sound Insulation Standards for impact sound tests is equal to or less than 62dB for purpose built dwellings.

4.0 Test Procedure

The testing was carried out by Jake Howarth (Tester No.64), Sandy Wilson (Tester No.66), James Hardacre (Tester No.76), Will Robertson (Tester No.80), and Greg Moore (Tester No.82).

4.1 Equipment

Due to the dates of equipment calibration and duration between site visits, the equipment used for the sound insulation testing is presented in 2No separate tables.

The equipment used during the testing on the 9th and 10th January 2024 is as follows:

Description	Manufacturer	Type	Serial Number	Calibration
Type 1 Precision Sound Level Meter	Brüel and Kjær	2250	2600445	05/12/2022
Type 1 ½" Condenser Microphone	Brüel and Kjær	4189	2603797	05/12/2022
Type 1 Preamp	Brüel and Kjær	ZC0032	28412	05/12/2022
SLM Calibrator	Brüel and Kjær	4231	2115545	28/11/2023
Tapping Machine	Norsonic	277	2775527	01/11/2023
Type 1 Data Logging Sound Level Meter	Bruel & Kjaer	2250	3025254	07/11/2023
Type 1 ½" Condenser Microphone	Bruel & Kjaer	4189	3004879	07/11/2023
Type 1 Preamp	Bruel & Kjaer	ZC0032	28066	07/11/2023
SLM Calibrator	Bruel & Kjaer	4231	2308993	18/07/2023
Noise Source - Custom made, un-ported sealed cabinet type	N/A	N/A	N/A	N/A

The equipment used during the testing between the 28th and 30th March 2024 is as follows:

Description	Manufacturer	Type	Serial Number	Calibration
Type 1 Precision Sound Level Meter	Brüel and Kjær	2250	2600445	09/02/2024
Type 1 ½" Condenser Microphone	Brüel and Kjær	4189	2603797	09/02/2024
Type 1 Preamp	Brüel and Kjær	ZC0032	28412	09/02/2024
SLM Calibrator	Brüel and Kjær	4231	2115545	28/11/2023
Type 1 Data Logging Sound Level Meter	Bruel & Kjaer	2250	3007292	25/01/2024
Type 1 ½" Condenser Microphone	PCB	7052E	106753	25/01/2024
Preamp	Bruel & Kjaer	ZC0032	27782	25/01/2024
SLM Calibrator	Brüel and Kjær	4231	2271905	05/09/2023
Tapping Machine	Norsonic	277	2775527	01/11/2023
Noise Source - Custom made, un-ported sealed cabinet type	N/A	N/A	N/A	N/A

4.2 Airborne Sound Insulation Test Method (Separating Walls and Floors)

Hann Tucker Associates attended site on 09 January 2024, 10 January 2024, 28 March 2024, 29 March 2024, 30 March 2024, to undertake airborne sound insulation tests to selected separating floor and wall constructions. The tests were undertaken in full accordance with Approved Document E: 2003 Edition incorporating 2004 and 2010 amendments and BS EN ISO 140-4:1998 Acoustics – Measurement of airborne sound insulation in buildings and of building elements – Part 4: Field measurement of airborne sound insulation between rooms.

The sound level differences were determined by generating a broad band, random diffuse sound field within the source room. A spatial average of the resulting $^1/_3$ octave band noise levels was obtained within the source room from measurements undertaken over a time period of a least 30 seconds. The measurement procedure was repeated in the receive room. A second speaker position was then selected in the source room and the measurement procedure was repeated.

The receive levels were corrected for background noise where necessary as follows:

Where the measured background noise level in each 1/3rd octave band was more than 6 dB but less than 10dB below the receive level, the following formula was applied:

$$L = 10\log\left(10^{\frac{L_{SB}}{10}} - 10^{\frac{L_B}{10}}\right) \text{ dB}$$

where

L is the adjusted signal level in decibels;

L_{SB} is the level of the signal and background noise levels combined, in decibels;

L_B is the background level in decibels.

Where the measured background noise level was less than 6 dB below the receive level, a correction of 1.3 dB was applied (corresponding to a level difference of 6 dB) and the ≥ symbol was added to the results to show that the reported values are the limit of measurement.

The corrected receive levels are subtracted from the source levels to determine the level differences over the frequency range 100-3150 Hz from each source position. The level differences for each source position are arithmetically averaged at each frequency band to give the level difference, D.

Reverberant decays were then recorded in the receive room to determine the reverberation times over the same frequency range using a broadband noise source. For each receiver room 6No. measurements were made, comprising of 2No. source positions and 3No. microphone positions per source position. The reverberation time, T, used in subsequent calculations is an average of the 2No. source positions.

Having established 1/3 octave band level differences and reverberation times over the frequency range 100-3150 Hz, the Standardised Level Difference, $D_{nT,}$ is calculated for each 1/3 octave band by applying the following formula:

$$D_{nT} = D + 10\log_{10}\left(\frac{T}{T_0}\right)$$

where T_0=0.5 seconds

The 1/3 octave band results are then compared with a standard curve using the method described in BS EN ISO 717-1: 1997 to determine the single figure descriptor of airborne sound insulation, the Weighted Standardised Level Difference, or $D_{nT,w}$.

The $^1/_3$ octave band results are also weighted using spectrum adaptation term No.2, C_{tr}, as detailed in BS EN ISO 717-1: 1997, to allow a more rigorous assessment of sound insulation performance with respect to low frequency noise.

The Weighted Standardised Level Difference and spectrum adaptation term are then added to give $D_{nT,w} + C_{tr}$, allowing comparison with the minimum airborne sound insulation requirements of Approved Document E.

4.3 Impact Sound Insulation Test Method (Separating Floors)

Hann Tucker Associates also undertook impact sound insulation tests on the selected separating floor constructions. The tests were undertaken in full accordance with Approved Document E: 2003 Edition incorporating 2004 and 2010 amendments and BS EN ISO 140-7:1998 Acoustics – Measurement of sound insulation in buildings and of building elements – Part 7: Field measurements of impact sound insulation of floors.

A tapping machine (meeting the requirements of BS EN ISO 140-7:1998, Annex A) was located at four positions in each source room. The machine generated a sound field in the room underneath (receive room) by means of dropping 5, ½kg hammers in sequence onto the floor at 0.1 second intervals.

A spatial average of the resulting $^1/_3$ octave band noise levels was obtained within the receive room from measurements undertaken over a time period of a least 30 seconds for each of the 4 source positions. The 4 No. resulting receive levels were logarithmically averaged at each $^1/_3$ octave frequency band to give the receive level L.

The receive levels were corrected for background noise where necessary as follows:

Where the measured background noise level in each 1/3rd octave band was more than 6 dB but less than 10 dB below the receive level, the following formula was applied:

$$L = 10 \log \left(10^{\frac{L_{SB}}{10}} - 10^{\frac{L_B}{10}} \right) \text{ dB}$$

where

L is the adjusted signal level in decibels;

L_{SB} is the level of the signal and background noise levels combined, in decibels;

L_B is the background level in decibels.

Where the measured background noise level was less than 6 dB below the receive level, a correction of 1.3 dB was applied (corresponding to a level difference of 6 dB) and the ≤ symbol was added to the results to show that the reported values are the limit of measurement.

Reverberant decays were then recorded in the receive room to determine the reverberation times over the same frequency range using a broadband noise source. For each receiver room 6No. measurements were made, comprising of 2No. source positions and 3No. microphone positions per source position. The reverberation time, T, used in subsequent calculations is an average of the 2No. source positions.

Having established the 1/3 octave impact sound pressure levels and reverberation times over the frequency range 100-3150Hz, the standardized Impact Sound Level is calculated for each 1/3 octave by applying the following formula:

$$L'_{nT} = L - 10\log_{10}\left(\frac{T}{T_0}\right)$$

where T_0 = 0.5 seconds

The 1/3 octave band results are then compared with a standard curve using the method described in BS EN ISO 717-2: 1997 to determine the single figure descriptor of impact sound insulation, the Weighted Standardised Impact Sound Pressure Level, or $L'_{nT,w}$.

4.4 Background Noise

The background noise levels were measured in each receive room in order to correct the received noise measurements for the effect of the prevailing noise climate.

The prevailing background noise comprised nearby construction noise and intermittently road traffic noise from the surrounding roads.

4.5 Test Locations

All rooms tested had all doors and windows fitted and closed. The rooms were unfurnished.

The following airborne wall tests were undertaken:

Test	Source Room		Receive Room		Tested Construction Details
	Location	Approximate Volume (m^3)	Location	Approximate Volume (m^3)	
AW1	12-02-B	35	12-03-B	31	2x 15mm GTEC Fire Board 2x Braced C-Studs Min 25mm Mineral Wool Min Cavity 140mm 2x 15mm GTEC Fire Board 2x 15mm GTEC Fire Board 2x Braced C-Studs Min 25mm Mineral Wool Min Cavity 140mm 2x 15mm GTEC Fire Board
AW2	12-02-LKD*	34	12-01-B	25	
AW3	11-04-LKD*	48	11-03-B	25	
AW4	11-05-LKD*	57	11-04-B	33	
AW5	09-04-LKD*	48	09-03-B	24	
AW6	09-03-B	32	09-02-B	32	
AW7	8-05-LKD*	57	8-04-B	25	
AW8	8-06-LKD*	57	8-05-B	30	
AW9	7-04-LKD*	49	7-03-B	26	
AW10	7-05-LKD*	57	7-04-B	25	
AW11	18-02-LKD*	70	18-01-B	35	
AW12	18-02-B	35	18-03-B	31	
AW13	15-06-B	35	15-05-B	35	
AW14	15-06-B	35	15-07-B	35	
AW15	14-06-LKD*	70	14-05-B	35	
AW16	14-06-B	35	14-07-B	35	
AW17	13-02-LKD*	57	13-01-B	30	
AW18	16-04-LKD*	64	16-03-B	26	
AW19	16-05-LKD*	57	16-04-B	25	
AW20	31-04-LKD*	49	31-03-B	26	
AW21	31-05-LKD*	57	31-04-B	25	
AW22	30-06-LKD*	57	30-05-B	30	
AW23	30-06-B	35	30-07-B	35	
AW24	29-02-B	35	29-03-B	31	
AW25	29-02-LKD*	57	29-01-B	30	
AW26	27-08-LKD*	49	27-07-B	26	
AW27	27-01-LKD*	59	27-08-B	28	
AW28	24-01-LKD*	59	24-08-B	28	
AW29	24-02-LKD*	57	24-01-B	30	
AW30	22-06-LKD*	57	22-05-B	30	
AW31	22-05-LKD*	57	22-04-B	25	
AW32	04-06-LKD*	56	04-07-LKD*	54	
AW33	04-13-LKD*	45	04-11-LKD*	45	
AW34**	04-19-LKD*	45	04-13-B	27	
AW35	04-14-LKD*	91	04-15-LKD*	50	
AW36	04-15-B	29	04-16-B	29	

Test	Source Room		Receive Room		Tested Construction Details
	Location	Approximate Volume (m^3)	Location	Approximate Volume (m^3)	
AW37	04-18-B	26	04-17-B	26	2x 15mm GTEC Fire Board 2x Braced C-Studs Min 25mm Mineral Wool Min Cavity 140mm 2x 15mm GTEC Fire Board
AW38	03-13-LKD*	45	03-11-LKD*	45	
AW39	03-09-LKD*	64	03-05-B	26	
AW40	03-05-LKD*	64	03-04-B	26	
AW41	03-10-LKD*	45	03-11-B	26	
AW42	02-09LKD*	64	02-05-B	26	
AW43	02-09-B	28	02-12-B	27	
AW44	02-10-LKD*	56	02-11-B	27	
AW45	02-08-LKD*	53	02-10-B	26	
AW46	01-12-LKD*	76	01-13-LKD*	76	
AW47	01-12-B	28	01-10-B	28	
AW48	01-06-LKD*	70	01-08-B	26	
AW49	17-03-B	35	17-02-B	35	
AW50	17-04-LKD*	49	17-03-B	26	
AW51	06-03-B	35	06-02-B	35	
AW52	06-04-LKD*	49	06-03-B	26	
AW53	05-01-LKD*	59	05-08-B	28	
AW54	05-02-LKD*	57	05-01-B	30	

*There were no cupboards present except where stated above.
**There were no step/staggers in the walls except where indicated above.

The following airborne floor tests were undertaken:

Test	Source Room		Receive Room		Tested Construction Details
	Location	Approximate Volume (m^3)	Location	Approximate Volume (m^3)	
AF1	12-02-B	35	11-02-B	35	Linoleum Finish on 225mm Concrete Slab Plasterboard on MF
AF2	12-02-LKD	34	11-02-LKD	34	
AF3	11-04-LKD	48	10-04-LKD	48	
AF4	11-04-B	33	10-04-B	33	
AF5	09-03-B	26	08-03-B	26	
AF6	09-03-B	32	08-02-B	32	
AF7	8-05-LKD	57	7-05-LKD	57	
AF8	8-05-B	30	7-05-B	30	
AF9	7-04-LKD	49	6-04-LKD	49	

Test	Source Room		Receive Room		Tested Construction Details
	Location	Approximate Volume (m^3)	Location	Approximate Volume (m^3)	
AF10	7-04-B	25	6-04-B	25	Linoleum Finish on 225mm Concrete Slab Plasterboard on MF
AF11	18-02-LKD	70	17-02-LKD	70	
AF12	18-02-B	35	17-02-B	35	
AF13	15-06-LKD	57	14-06-LKD	57	
AF14	15-06-B	35	14-06-B	35	
AF15	14-06-LKD	70	13-06-LKD	70	
AF16	14-06-B	35	13-06-B	35	
AF17	13-01-LKD	59	12-01-LKD	59	
AF18	13-01-B	30	12-01-B	30	
AF19	16-04-LKD	64	15-04-LKD	64	
AF20	16-04-B2	25	15-04-B2	25	
AF21	31-04-LKD	49	30-04-LKD	49	
AF22	31-04-B	25	30-04-B	25	
AF23	30-06-LKD	57	29-06-LKD	57	
AF24	30-06-B	35	29-06-B	35	
AF25	29-02-B	35	28-02-B	35	
AF26	29-02-LKD	57	28-02-LKD	57	
AF27	27-08-LKD	49	26-08-LKD	49	
AF28	27-08-B	28	26-08-B	58	
AF29	24-01-LKD	59	23-01-LKD	59	
AF30	24-01-B	30	23-01-B	30	
AF31	22-05-B	30	21-05-B	30	
AF32	22-05-LKD	57	21-05-LKD	57	
AF33	17-03-LKD	64	16-03-LKD	64	
AF34	04-06-LKD	56	03-06-LKD	56	
AF35	04-06-B	26	03-06-B	26	
AF36	04-13-LKD	45	03-13-LKD	45	
AF37	04-13-B	27	03-13-B	27	
AF38	04-15-B	29	03-15-B	29	
AF39	04-15-LKD	50	03-15-LKD	50	
AF40	04-18-B	26	03-18-B	26	
AF41	04-18-LKD	91	03-18-LKD	91	
AF42	03-13-LKD	45	02-13-LKD	45	
AF43	03-09-LKD	64	02-09-LKD	64	
AF44	03-05-LKD	64	02-05-LKD	64	
AF45	03-10-LKD	45	02-10-LKD	45	

Test	Source Room		Receive Room		Tested Construction Details
	Location	Approximate Volume (m^3)	Location	Approximate Volume (m^3)	
AF46	02-09-LKD	64	01-07-LKD	64	Linoleum Finish on 225mm Concrete Slab Plasterboard on MF
AF47	02-09-B	28	01-07-B	26	
AF48	02-10-LKD	56	01-08-LKD	56	
AF49	02-08-LKD	53	01-06-LKD	52	
AF50	17-03-B	35	16-03-B	35	
AF51	06-03-B	35	05-03-B	35	
AF52	06-03-B2	35	05-03-B2	35	
AF53	05-01-LKD	59	04-01-LKD	59	
AF54	05-01-B	34	04-01-B	34	

*There were no step/staggers on the floors except where indicated above.

The following impact tests were undertaken:

Test	Source Room		Receive Room		Tested Construction Details
	Location	Approximate Volume	Location	Approximate Volume	
IF1	8-05-LKD	57	7-05-LKD	57	Linoleum Finish on 225mm Concrete Slab Plasterboard on MF
IF2	8-05-B	30	7-05-B	30	
IF3	7-04-LKD	49	6-04-LKD	49	
IF4	7-04-B	25	6-04-B	25	
IF5	12-02-LKD	57	11-02-LKD	57	
IF6	12-02-B	35	11-02-B	35	
IF7	11-04-LKD	49	10-04-LKD	49	
IF8	11-04-B	25	10-04-B	25	
IF9	18-02-LKD	57	17-02-LKD	57	
IF10	18-02-B	35	17-02-B	35	
IF11	15-02-LKD	57	14-02-LKD	57	
IF12	15-02-B	35	14-02-B	35	
IF13	14-02-LKD	57	13-02-LKD	57	
IF14	14-02-B	35	13-02-B	35	
IF15	9-03-LKD	64	8-03-LKD	64	
IF16	9-03-B	26	8-03-B	26	
IF17	13-01-LKD	59	12-01-LKD	59	
IF18	13-01-B	30	12-01-B	30	

Test	Source Room		Receive Room		Tested Construction Details
	Location	Approximate Volume	Location	Approximate Volume	
IF19	16-04-LKD	49	15-04-LKD	49	Linoleum Finish on 225mm Concrete Slab Plasterboard on MF
IF20	16-04-B	25	15-04-B	25	
IF21	31-04-LKD	49	30-04-LKD	49	
IF22	31-04-B	25	30-04-LKD	25	
IF23	30-06-LKD	57	29-06-LKD	57	
IF24	30-06-B	35	29-06-B	35	
IF25	29-02-LKD	57	28-02-LKD	57	
IF26	29-02-B	35	28-02-B	35	
IF27	27-08-LKD	49	26-08-LKD	49	
IF28	27-08-B	28	26-08-B	28	
IF29	24-01-LKD	59	23-01-LKD	59	
IF30	24-01-B	34	23-01-B	34	
IF31	22-05-LKD	57	21-05-LKD	57	
IF32	22-05-B	30	21-05-B	30	
IF33	17-03-LKD	64	16-03-LKD	64	
IF34	17-03-B	26	16-03-B	26	
IF35	06-03-LKD	64	05-03-LKD	64	
IF36	06-03-B	31	05-03-B	31	
IF37	05-01-LKD	61	04-01-LKD	61	
IF38	05-01-B	27	04-01-B	27	
IF39	04-06-LKD	56	03-06-LKD	56	
IF40	04-06-B	26	03-06-B	26	
IF41	04-13-LKD	45	03-13-LKD	45	
IF42	04-13-B	27	03-13-B	27	
IF43	03-05-LKD	64	02-05-LKD	64	
IF44	03-05-B	26	02-05-B	26	
IF45	03-11-LKD	45	02-11-LKD	45	
IF46	03-11-B	26	02-11-B	26	
IF47	02-10-LKD	45	01-08-LKD	45	
IF48	02-10-B	26	01-08-B	26	
IF49	02-09-LKD	64	01-07-LKD	64	
IF50	02-09-B	26	01-07-B	26	
IF51	04-15-LKD	50	03-15-LKD	50	
IF52	04-15-B	29	03-15-B	29	
IF53	04-18-LKD	91	03-18-LKD	91	
IF54	04-18-B	26	03-18-B	26	

*There were no step/staggers on the floors except where indicated above.

4.6 Annex B Test Procedures

All the test procedures within Annex B of Approved Document E: 2003 Edition have been followed.

5.0 Results

The results of the tests and analysis are given in the attached Certificates 25173/SIT2/C1 to 25173/SIT2/C162.

The following tables summarise our findings:

Airborne Tests Across Separating Walls	$D_{nT,w} + C_{tr}$ (dB)		Approved Document E Compliance
	Test Result*	Required	
AW1	≥ 48	≥ 45	Pass
AW2	≥ 51	≥ 45	Pass
AW3	≥ 55	≥ 45	Pass
AW4	≥ 49	≥ 45	Pass
AW5	≥ 54	≥ 45	Pass
AW6	≥ 49	≥ 45	Pass
AW7	≥ 52	≥ 45	Pass
AW8	≥ 50	≥ 45	Pass
AW9	56	≥ 45	Pass
AW10	51	≥ 45	Pass
AW11	≥ 48	≥ 45	Pass
AW12	≥ 48	≥ 45	Pass
AW13	≥ 51	≥ 45	Pass
AW14	≥ 48	≥ 45	Pass
AW15	≥ 46	≥ 45	Pass
AW16	≥ 48	≥ 45	Pass
AW17	52	≥ 45	Pass
AW18	≥ 56	≥ 45	Pass
AW19	52	≥ 45	Pass
AW20	≥ 56	≥ 45	Pass
AW21	≥ 46	≥ 45	Pass
AW22	≥ 48	≥ 45	Pass
AW23	≥ 53	≥ 45	Pass
AW24	≥ 52	≥ 45	Pass
AW25	≥ 52	≥ 45	Pass
AW26	≥ 53	≥ 45	Pass

Airborne Tests Across Separating Walls	$D_{nT,w} + C_{tr}$ (dB)		Approved Document E Compliance
	Test Result*	Required	
AW27	≥ 48	≥ 45	Pass
AW28	≥ 53	≥ 45	Pass
AW29	≥ 54	≥ 45	Pass
AW30	≥ 51	≥ 45	Pass
AW31	≥ 52	≥ 45	Pass
AW32	≥ 50	≥ 45	Pass
AW33	≥ 49	≥ 45	Pass
AW34	≥ 56	≥ 45	Pass
AW35	≥ 54	≥ 45	Pass
AW36	≥ 52	≥ 45	Pass
AW37	≥ 55	≥ 45	Pass
AW38	≥ 53	≥ 45	Pass
AW39	≥ 51	≥ 45	Pass
AW40	≥ 52	≥ 45	Pass
AW41	≥ 52	≥ 45	Pass
AW42	≥ 50	≥ 45	Pass
AW43	≥ 53	≥ 45	Pass
AW44	≥ 55	≥ 45	Pass
AW45	≥ 54	≥ 45	Pass
AW46	≥ 56	≥ 45	Pass
AW47	≥ 54	≥ 45	Pass
AW48	≥ 54	≥ 45	Pass
AW49	≥ 52	≥ 45	Pass
AW50	≥ 53	≥ 45	Pass
AW51	≥ 54	≥ 45	Pass
AW52	≥ 53	≥ 45	Pass
AW53	≥ 53	≥ 45	Pass
AW54	≥ 49	≥ 45	Pass

*Tests results including the ≥ symbol are background limited

Airborne Tests Across Separating Floors	$D_{nT,w} + C_{tr}$ (dB)		Approved Document E Compliance
	Test Result*	Required	
AF1	≥ 52	≥ 45	Pass
AF2	≥ 50	≥ 45	Pass
AF3	≥ 62	≥ 45	Pass
AF4	≥ 60	≥ 45	Pass
AF5	≥ 61	≥ 45	Pass
AF6	≥ 62	≥ 45	Pass

Airborne Tests Across Separating Floors	$D_{nT,w} + C_{tr}$ (dB)		Approved Document E Compliance
	Test Result*	Required	
AF7	51	≥ 45	Pass
AF8	≥ 48	≥ 45	Pass
AF9	≥ 58	≥ 45	Pass
AF10	≥ 58	≥ 45	Pass
AF11	≥ 50	≥ 45	Pass
AF12	≥ 53	≥ 45	Pass
AF13	≥ 52	≥ 45	Pass
AF14	≥ 56	≥ 45	Pass
AF15	≥ 48	≥ 45	Pass
AF16	51	≥ 45	Pass
AF17	≥ 61	≥ 45	Pass
AF18	≥ 63	≥ 45	Pass
AF19	52	≥ 45	Pass
AF20	≥ 49	≥ 45	Pass
AF21	≥ 55	≥ 45	Pass
AF22	≥ 52	≥ 45	Pass
AF23	≥ 53	≥ 45	Pass
AF24	≥ 54	≥ 45	Pass
AF25	≥ 62	≥ 45	Pass
AF26	≥ 61	≥ 45	Pass
AF27	≥ 63	≥ 45	Pass
AF28	≥ 58	≥ 45	Pass
AF29	≥ 57	≥ 45	Pass
AF30	≥ 55	≥ 45	Pass
AF31	≥ 51	≥ 45	Pass
AF32	≥ 57	≥ 45	Pass
AF33	≥ 61	≥ 45	Pass
AF34	≥ 52	≥ 45	Pass
AF35	≥ 57	≥ 45	Pass
AF36	≥ 53	≥ 45	Pass
AF37	≥ 53	≥ 45	Pass
AF38	≥ 53	≥ 45	Pass
AF39	≥ 53	≥ 45	Pass
AF40	≥ 54	≥ 45	Pass
AF41	≥ 56	≥ 45	Pass
AF42	≥ 66	≥ 45	Pass
AF43	≥ 63	≥ 45	Pass

Airborne Tests Across Separating Floors	$D_{nT,w} + C_{tr}$ (dB)		Approved Document E Compliance
	Test Result*	Required	
AF44	≥ 53	≥ 45	Pass
AF45	≥ 66	≥ 45	Pass
AF46	≥ 54	≥ 45	Pass
AF47	≥ 53	≥ 45	Pass
AF48	≥ 53	≥ 45	Pass
AF49	≥ 54	≥ 45	Pass
AF50	≥ 60	≥ 45	Pass
AF51	≥ 52	≥ 45	Pass
AF52	≥ 49	≥ 45	Pass
AF53	≥ 58	≥ 45	Pass
AF54	≥ 62	≥ 45	Pass

*Tests results including the ≥ symbol are background limited

Impact Tests Across Separating Floors	$L'_{nT,w}$ (dB)		Approved Document E Compliance
	Test Result*	Required	
IF1	43	≤ 62	Pass
IF2	≤ 40	≤ 62	Pass
IF3	≤ 39	≤ 62	Pass
IF4	≤ 39	≤ 62	Pass
IF5	≤ 48	≤ 62	Pass
IF6	≤ 41	≤ 62	Pass
IF7	≤ 38	≤ 62	Pass
IF8	≤ 40	≤ 62	Pass
IF9	≤ 41	≤ 62	Pass
IF10	≤ 39	≤ 62	Pass
IF11	≤ 41	≤ 62	Pass
IF12	≤ 40	≤ 62	Pass
IF13	≤ 43	≤ 62	Pass
IF14	≤ 37	≤ 62	Pass
IF15	≤ 38	≤ 62	Pass
IF16	≤ 40	≤ 62	Pass
IF17	≤ 39	≤ 62	Pass
IF18	≤ 42	≤ 62	Pass
IF19	≤ 42	≤ 62	Pass
IF20	≤ 39	≤ 62	Pass
IF21	≤ 37	≤ 62	Pass
IF22	≤ 39	≤ 62	Pass
IF23	≤ 27	≤ 62	Pass

Impact Tests Across Separating Floors	$L'_{nT,w}$ (dB)		Approved Document E Compliance
	Test Result*	Required	
IF24	≤ 27	≤ 62	Pass
IF25	≤ 38	≤ 62	Pass
IF26	≤ 37	≤ 62	Pass
IF27	≤ 37	≤ 62	Pass
IF28	≤ 38	≤ 62	Pass
IF29	≤ 37	≤ 62	Pass
IF30	≤ 39	≤ 62	Pass
IF31	≤ 37	≤ 62	Pass
IF32	≤ 40	≤ 62	Pass
IF33	≤ 36	≤ 62	Pass
IF34	≤ 38	≤ 62	Pass
IF35	≤ 35	≤ 62	Pass
IF36	≤ 38	≤ 62	Pass
IF37	≤ 37	≤ 62	Pass
IF38	≤ 38	≤ 62	Pass
IF39	≤ 38	≤ 62	Pass
IF40	≤ 40	≤ 62	Pass
IF41	≤ 38	≤ 62	Pass
IF42	≤ 38	≤ 62	Pass
IF43	≤ 36	≤ 62	Pass
IF44	≤ 37	≤ 62	Pass
IF45	≤ 37	≤ 62	Pass
IF46	≤ 37	≤ 62	Pass
IF47	≤ 35	≤ 62	Pass
IF48	≤ 35	≤ 62	Pass
IF49	≤ 38	≤ 62	Pass
IF50	≤ 36	≤ 62	Pass
IF51	≤ 36	≤ 62	Pass
IF52	≤ 36	≤ 62	Pass
IF53	≤ 37	≤ 62	Pass
IF54	≤ 32	≤ 62	Pass

*Tests results including the ≤ symbol are background limited

6.0 Discussion

6.1 Airborne Tests

With reference to Section 4.0 and Section 5.0 the results for the floors and walls tested are equal to or greater than the minimum value for airborne sound insulation as stated in Approved

Document E: 2003 Edition, and thus should be considered to satisfy the requirements.

6.2 Impact Tests

With reference to Section 4.0 and Section 5.0 the results for the floors tested are equal to or less than the maximum value for impact sound pressure level stated in Approved Document E: 2003 Edition, and thus should be considered to satisfy the requirements.

7.0 Conclusion

Hann Tucker Associates have undertaken airborne and impact sound insulation tests across separating wall and floor constructions between selected residential apartments at Swan House.

The results apply to the sample as provided or presented.

The airborne sound insulation performance ($D_{nT,w}$ + C_{tr}) of the separating wall constructions tested are equal to or greater than the minimum value stated in Approved Document E: 2003 Edition, and thus should be considered to satisfy the requirements.

The airborne sound insulation performance ($D_{nT,w}$ + C_{tr}) of the separating floor constructions tested are equal to or greater than the minimum value stated in Approved Document E: 2003 Edition, and thus should be considered to satisfy the requirements.

The Impact Sound Insulation Performance Level ($L'_{nT,w}$) of the separating floor constructions tested are equal to or less than the maximum value stated in Approved Document E: 2003 Edition, and thus should be considered to satisfy the requirements.

The results relate only to the floors tested. All data contained in this report (plot numbers, drawings etc.) has been provided by the client.

END OF REPORT

Appendix A

(Including 162No. Graphs)

25173/SIT2/C1 to 25173/SIT2/C162

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

Project Details

Development: Swan House, Manchester Client: RG Group Report Ref: 25173/SIT2

UKAS TESTING
4083

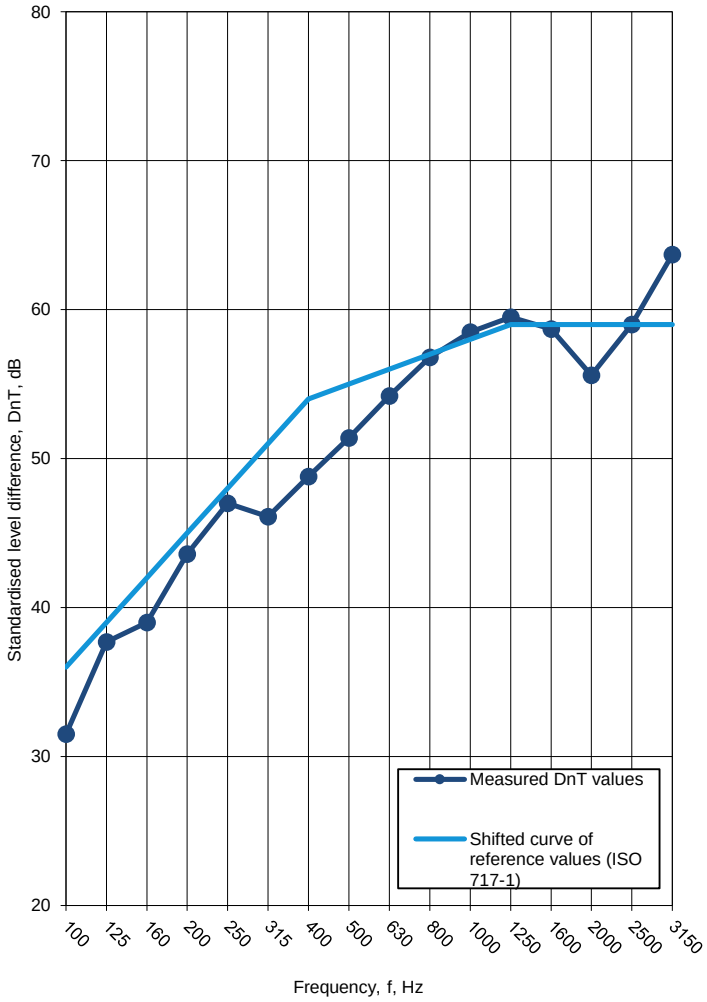
Airborne Wall Sound Insulation Test: AW1

Date of test: 09/01/2024

Source Room: 12-02-B Approximate Source Room Volume: 35m³

Receive Room: 12-03-B Approximate Receive Room Volume: 31m³

Frequency f Hz	DnT dB
100	31.5
125	37.7
160	39.0
200	43.6
250	47.0
315	46.1
400	48.8
500	51.4
630	54.2
800	56.8
1000	58.5
1250	59.5
1600	58.7
2000	55.6
2500	59.0
3150	63.7



Test Result

$D_{nT,w} + C_{tr} = \geq 48$ dB

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 55 (-2 ; -7) dB; $C_{(100\text{-}3150)}$ = -2 dB

$D_{nT,w}$ = ≥ 55 dB $C_{tr\ (100\text{-}3150)}$ -7 dB

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

Certificate Ref: 25173/SIT2/C1

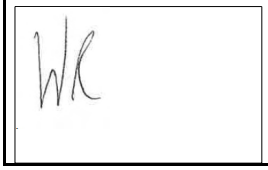
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Will Robertson

Test Engineer No: 80

Test Engineer Signature:



Hann Tucker Associates
Consultants in Acoustics Noise & Vibration
Head Office: Duke House, 1-2 Duke Street, Woking, Surrey GU21 5BA (t) +44 (0) 1483 770 595
Manchester Office: First Floor, 346 Deansgate, Manchester M3 4LY (t) +44 (0) 161 832 7041
(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

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

Project Details

Development: Swan House, Manchester Client: RG Group Report Ref: 25173/SIT2

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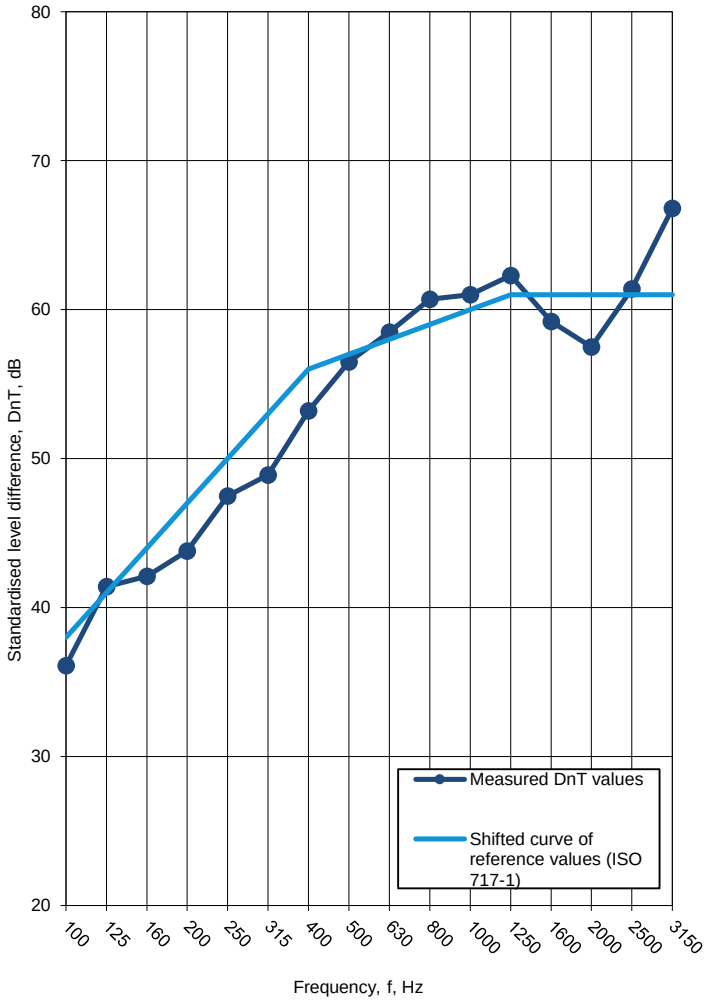
Airborne Wall Sound Insulation Test: AW2

Date of test: 09/01/2024

Source Room: 12-02-LKD Approximate Source Room Volume: 34m³

Receive Room: 12-01-B Approximate Receive Room Volume: 25m³

Frequency f Hz	DnT dB
100	36.1
125	41.4
160	42.1
200	43.8
250	47.5
315	48.9
400	53.2
500	56.5
630	58.5
800	60.7
1000	61.0
1250	≥ 62.3
1600	59.2
2000	57.5
2500	61.4
3150	≥ 66.8



Test Result

$D_{nT,w} + C_{tr} = \geq 51$ dB

≥ Results limited due to high background noise levels

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 57 (-1 ; -6) dB; $C_{(100\text{-}3150)}$ = -1 dB

$D_{nT,w}$ = ≥ 57 dB $C_{tr\ (100\text{-}3150)}$ -6 dB

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

Certificate Ref: 25173/SIT2/C2

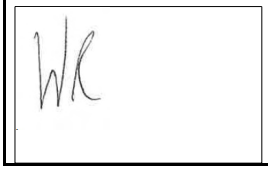
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Will Robertson

Test Engineer No: 80

Test Engineer Signature:



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(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

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

Project Details

Development: Swan House, Manchester Client: RG Group Report Ref: 25173/SIT2

UKAS TESTING
4083

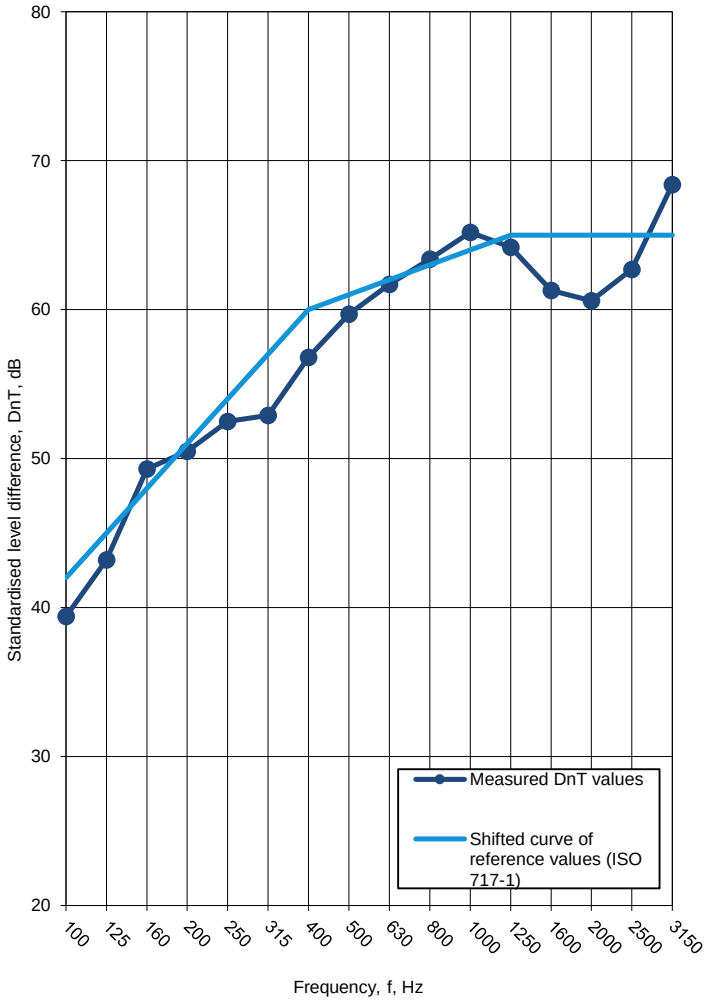
Airborne Wall Sound Insulation Test: AW3

Date of test: 09/01/2024

Source Room: 11-04-LKD Approximate Source Room Volume: 48m³

Receive Room: 11-03-B Approximate Receive Room Volume: 25m³

Frequency f Hz	DnT dB
100	39.4
125	43.2
160	49.3
200	50.5
250	≥ 52.5
315	52.9
400	56.8
500	59.7
630	61.7
800	63.4
1000	65.2
1250	64.2
1600	61.3
2000	60.6
2500	62.7
3150	68.4



Test Result

$D_{nT,w} + C_{tr} = \geq 55$ dB

≥ Results limited due to high background noise levels

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 61 (-2 ; -6) dB; $C_{(100\text{-}3150)}$ = -2 dB

$D_{nT,w}$ = ≥ 61 dB $C_{tr\ (100\text{-}3150)}$ -6 dB

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

Certificate Ref: 25173/SIT2/C3

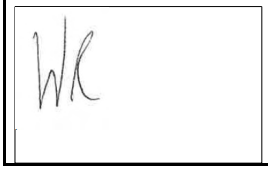
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Will Robertson

Test Engineer No: 80

Test Engineer Signature:



Hann Tucker Associates
Consultants in Acoustics Noise & Vibration
Head Office: Duke House, 1-2 Duke Street, Woking, Surrey GU21 5BA (t) +44 (0) 1483 770 595
Manchester Office: First Floor, 346 Deansgate, Manchester M3 4LY (t) +44 (0) 161 832 7041
(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

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

Project Details

Development: Swan House, Manchester Client: RG Group Report Ref: 25173/SIT2

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4083

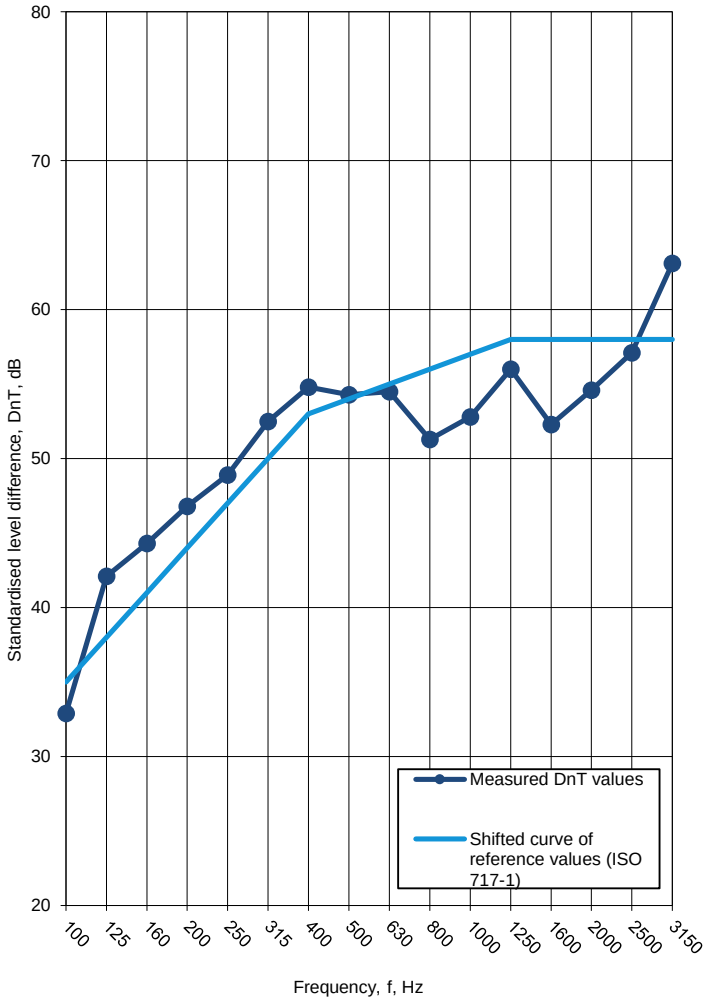
Airborne Wall Sound Insulation Test: AW4

Date of test: 09/01/2024

Source Room: 11-05-LKD Approximate Source Room Volume: 57m³

Receive Room: 11-04-B Approximate Receive Room Volume: 33m³

Frequency f Hz	DnT dB
100	32.9
125	42.1
160	44.3
200	46.8
250	48.9
315	52.5
400	≥ 54.8
500	≥ 54.3
630	≥ 54.5
800	≥ 51.3
1000	≥ 52.8
1250	≥ 56.0
1600	≥ 52.3
2000	≥ 54.6
2500	≥ 57.1
3150	≥ 63.1



Test Result

$D_{nT,w} + C_{tr} = \geq 49$ dB

≥ Results limited due to high background noise levels

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 54 (-1 ; -5) dB; $C_{(100\text{-}3150)}$ = -1 dB

$D_{nT,w}$ = ≥ 54 dB $C_{tr\ (100\text{-}3150)}$ -5 dB

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

Certificate Ref: 25173/SIT2/C4

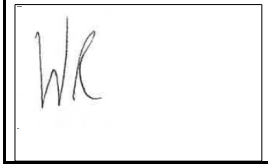
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Will Robertson

Test Engineer No: 80

Test Engineer Signature:



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Manchester Office: First Floor, 346 Deansgate, Manchester M3 4LY (t) +44 (0) 161 832 7041
(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

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

Project Details

Development: Swan House, Manchester Client: RG Group Report Ref: 25173/SIT2

UKAS TESTING
4083

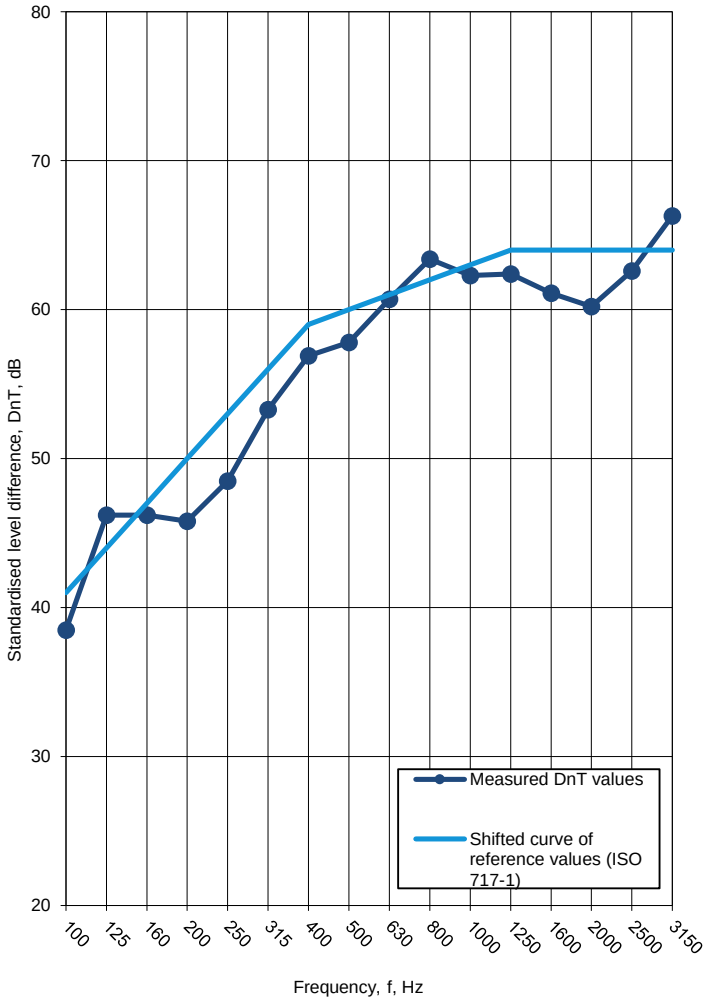
Airborne Wall Sound Insulation Test: AW5

Date of test: 09/01/2024

Source Room: 09-04-LKD Approximate Source Room Volume: 48m³

Receive Room: 09-03-B Approximate Receive Room Volume: 24m³

Frequency f Hz	DnT dB
100	38.5
125	46.2
160	46.2
200	45.8
250	48.5
315	53.3
400	56.9
500	57.8
630	≥ 60.7
800	63.4
1000	≥ 62.3
1250	≥ 62.4
1600	≥ 61.1
2000	≥ 60.2
2500	≥ 62.6
3150	66.3



Test Result

$D_{nT,w} + C_{tr} = \geq 54$ dB

≥ Results limited due to high background noise levels

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 60 (-2 ; -6) dB; $C_{(100\text{-}3150)}$ = -2 dB

$D_{nT,w}$ = ≥ 60 dB $C_{tr\ (100\text{-}3150)}$ -6 dB

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

Certificate Ref: 25173/SIT2/C5

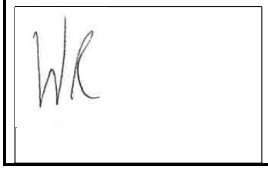
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Will Robertson

Test Engineer No: 80

Test Engineer Signature:



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Consultants in Acoustics Noise & Vibration
Head Office: Duke House, 1-2 Duke Street, Woking, Surrey GU21 5BA (t) +44 (0) 1483 770 595
Manchester Office: First Floor, 346 Deansgate, Manchester M3 4LY (t) +44 (0) 161 832 7041
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Standardised level difference according to ISO 140-4
Field measurements of airborne sound insulation between rooms

Project Details

Development: Swan House, Manchester Client: RG Group Report Ref: 25173/SIT2

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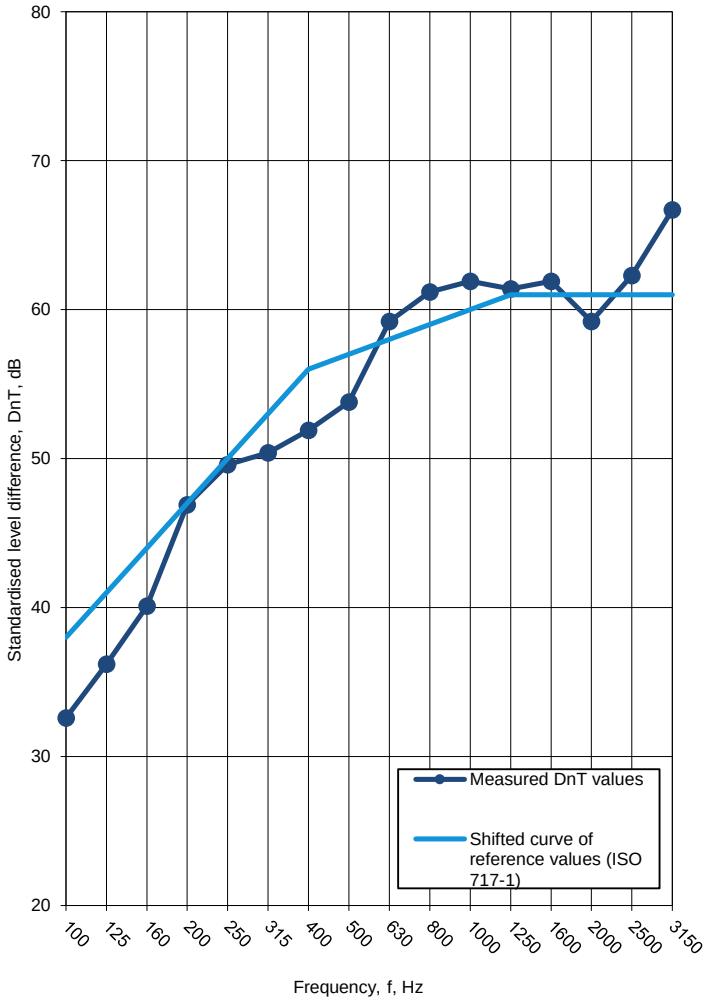
Airborne Wall Sound Insulation Test: AW6

Date of test: 09/01/2024

Source Room: 09-03-B Approximate Source Room Volume: 32m³

Receive Room: 09-02-B Approximate Receive Room Volume: 32m³

Frequency f Hz	DnT dB
100	32.6
125	36.2
160	40.1
200	46.9
250	49.6
315	50.4
400	51.9
500	53.8
630	59.2
800	61.2
1000	61.9
1250	61.4
1600	61.9
2000	59.2
2500	62.3
3150	66.7



Test Result

$D_{nT,w} + C_{tr} = \geq 49$ dB

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 57 (-2 ; -8) dB; $C_{(100\text{-}3150)}$ = -2 dB

$D_{nT,w}$ = ≥ 57 dB $C_{tr\ (100\text{-}3150)}$ -8 dB

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

Certificate Ref: 25173/SIT2/C6

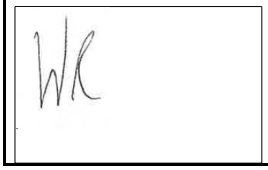
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Will Robertson

Test Engineer No: 80

Test Engineer Signature:



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Consultants in Acoustics Noise & Vibration
Head Office: Duke House, 1-2 Duke Street, Woking, Surrey GU21 5BA (t) +44 (0) 1483 770 595
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Standardised level difference according to ISO 140-4
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UKAS TESTING
4083

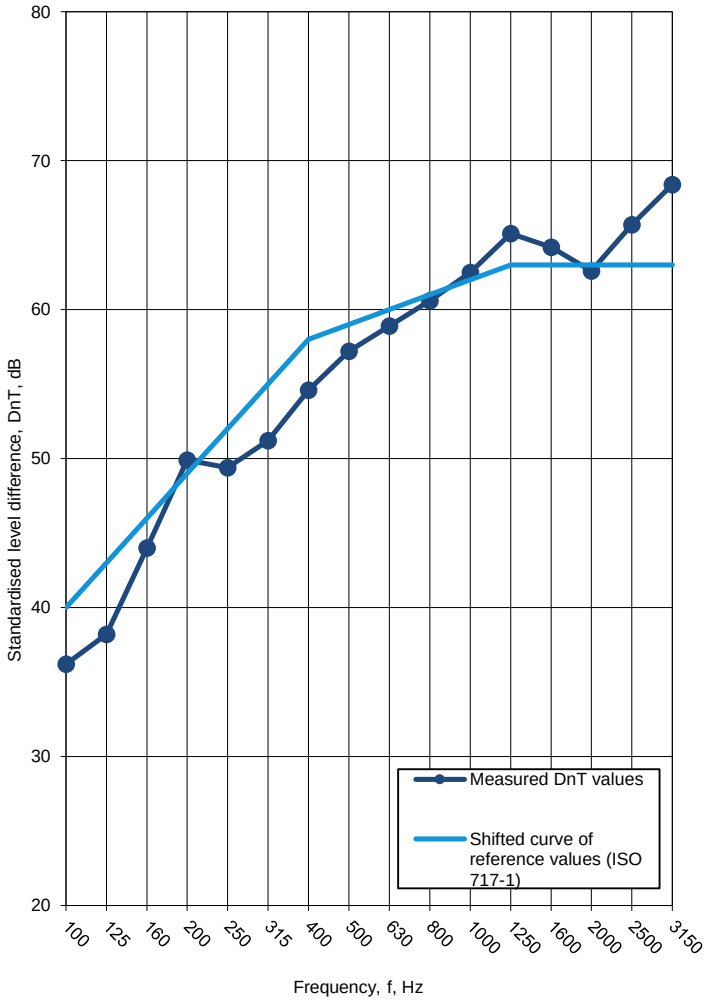
Airborne Wall Sound Insulation Test: AW7

Date of test: 09/01/2024

Source Room: 8-05-LKD Approximate Source Room Volume: 57m³

Receive Room: 8-04-B Approximate Receive Room Volume: 25m³

Frequency f Hz	DnT dB
100	36.2
125	38.2
160	44.0
200	49.9
250	49.4
315	51.2
400	54.6
500	57.2
630	58.9
800	60.6
1000	≥ 62.5
1250	≥ 65.1
1600	≥ 64.2
2000	≥ 62.6
2500	≥ 65.7
3150	≥ 68.4



Test Result

$D_{nT,w} + C_{tr} = \geq 52$ dB

≥ Results limited due to high background noise levels

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 59 (-2 ; -7) dB; $C_{(100\text{-}3150)}$ = -2 dB

$D_{nT,w}$ = ≥ 59 dB $C_{tr\ (100\text{-}3150)}$ -7 dB

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

Certificate Ref: 25173/SIT2/C7

Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Sandy Wilson

Test Engineer No: 66

Test Engineer Signature:

Hann Tucker Associates
Consultants in Acoustics Noise & Vibration
Head Office: Duke House, 1-2 Duke Street, Woking, Surrey GU21 5BA (t) +44 (0) 1483 770 595
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Standardised level difference according to ISO 140-4
Field measurements of airborne sound insulation between rooms

Project Details

Development: Swan House, Manchester Client: RG Group Report Ref: 25173/SIT2

UKAS TESTING
4083

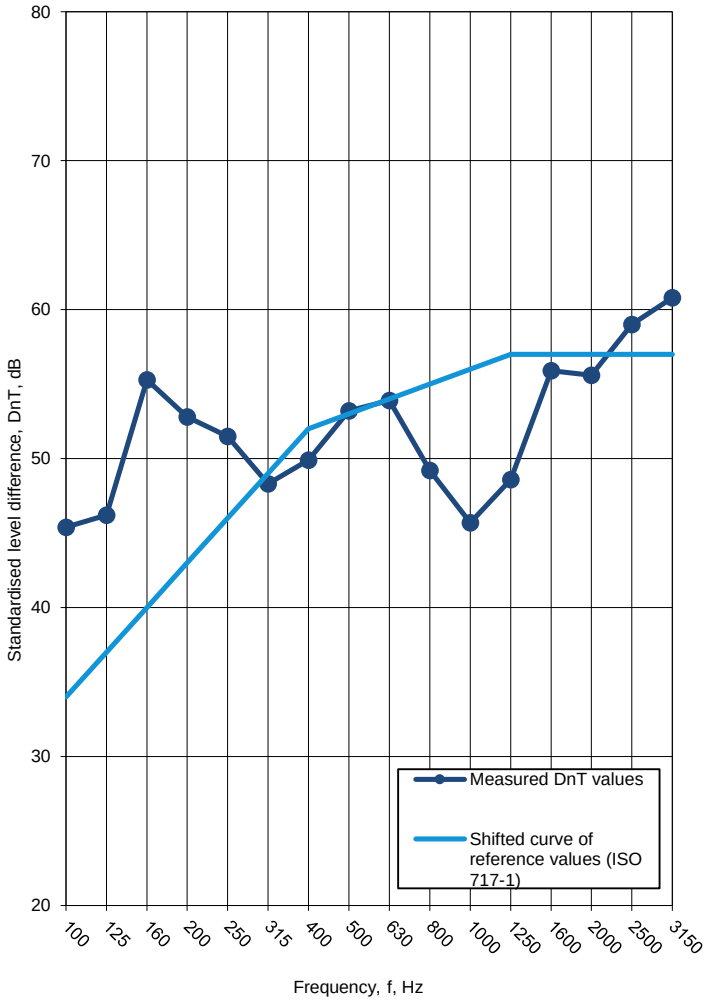
Airborne Wall Sound Insulation Test: AW8

Date of test: 09/01/2024

Source Room: 8-06-LKD Approximate Source Room Volume: 57m³

Receive Room: 8-05-B Approximate Receive Room Volume: 30m³

Frequency f Hz	DnT dB
100	45.4
125	46.2
160	55.3
200	52.8
250	51.5
315	48.3
400	49.9
500	53.2
630	≥ 53.9
800	49.2
1000	45.7
1250	≥ 48.6
1600	≥ 55.9
2000	≥ 55.6
2500	≥ 59.0
3150	≥ 60.8



Test Result

$D_{nT,w} + C_{tr} = \geq 50$ dB

≥ Results limited due to high background noise levels

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 53 (-2 ; -3) dB; $C_{(100\text{-}3150)}$ = -2 dB

$D_{nT,w}$ = ≥ 53 dB $C_{tr\ (100\text{-}3150)}$ -3 dB

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

Certificate Ref: 25173/SIT2/C8

Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Sandy Wilson

Test Engineer No: 66

Test Engineer Signature:

Hann Tucker Associates
Consultants in Acoustics Noise & Vibration
Head Office: Duke House, 1-2 Duke Street, Woking, Surrey GU21 5BA (t) +44 (0) 1483 770 595
Manchester Office: First Floor, 346 Deansgate, Manchester M3 4LY (t) +44 (0) 161 832 7041
(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

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

Project Details

Development: Swan House, Manchester Client: RG Group Report Ref: 25173/SIT2

UKAS TESTING
4083

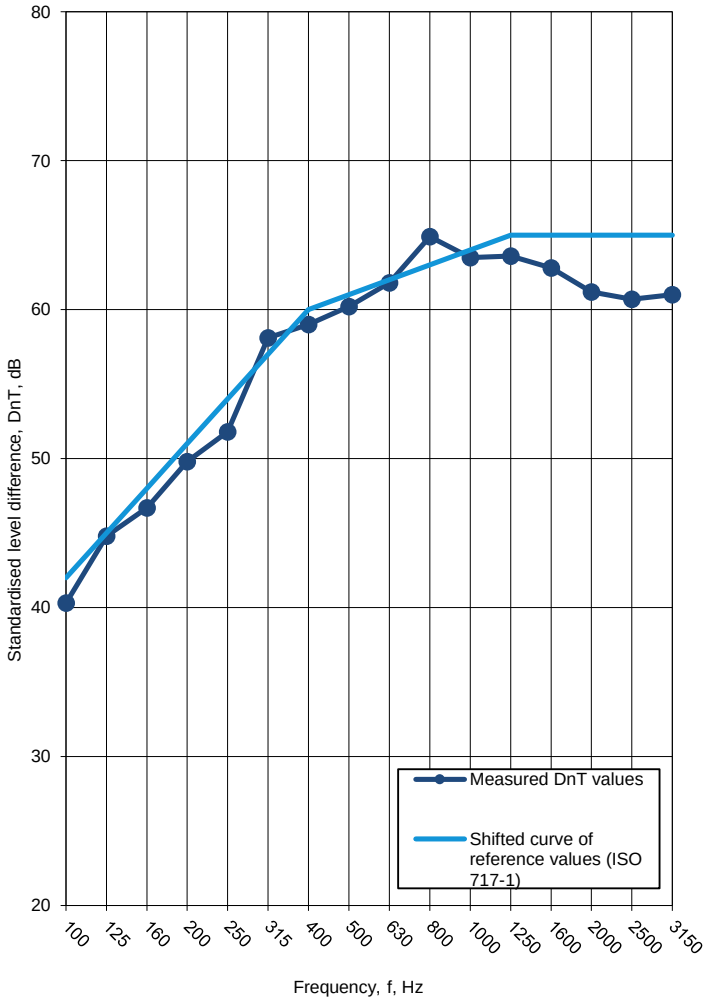
Airborne Wall Sound Insulation Test: AW9

Date of test: 09/01/2024

Source Room: 7-04-LKD Approximate Source Room Volume: 49m³

Receive Room: 7-03-B Approximate Receive Room Volume: 26m³

Frequency f Hz	DnT dB
100	40.3
125	44.8
160	46.7
200	49.8
250	51.8
315	58.1
400	59.0
500	60.2
630	61.8
800	64.9
1000	63.5
1250	63.6
1600	62.8
2000	61.2
2500	60.7
3150	61.0



Test Result

$D_{nT,w} + C_{tr} = 56$ dB

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = 61 (-2 ; -5) dB; $C_{(100\text{-}3150)}$ = -2 dB

$D_{nT,w}$ = 61 dB $C_{tr\ (100\text{-}3150)}$ -5 dB

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

Certificate Ref: 25173/SIT2/C9

Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Sandy Wilson

Test Engineer No: 66

Test Engineer Signature:



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(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

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

Project Details

Development: Swan House, Manchester Client: RG Group Report Ref: 25173/SIT2

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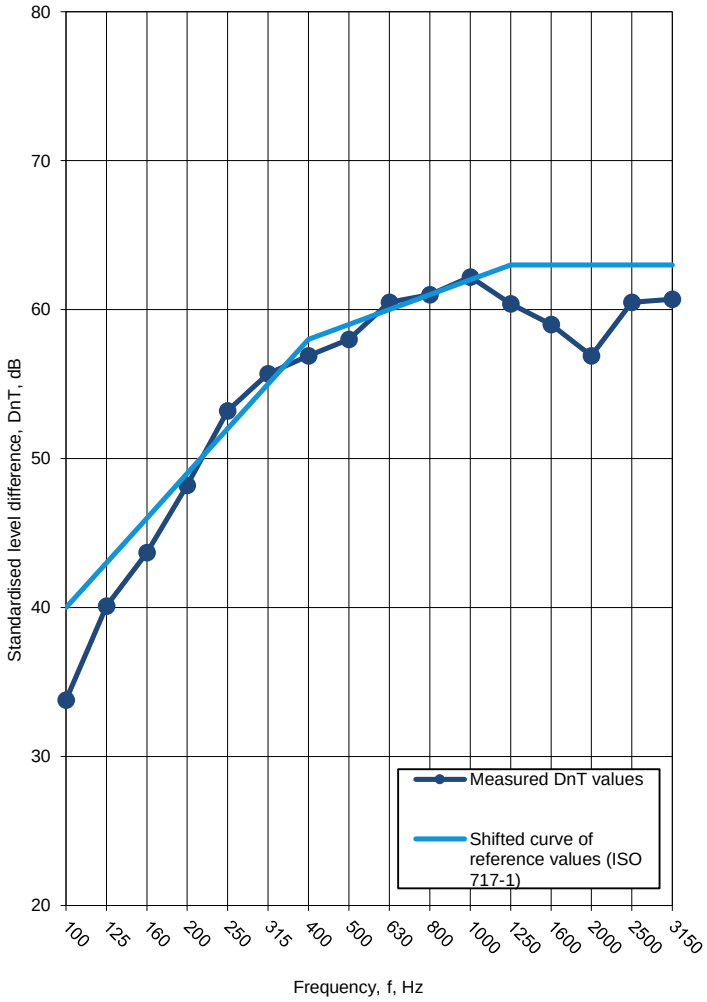
Airborne Wall Sound Insulation Test: AW10

Date of test: 09/01/2024

Source Room: 7-05-LKD Approximate Source Room Volume: 57m³

Receive Room: 7-04-B Approximate Receive Room Volume: 25m³

Frequency f Hz	DnT dB
100	33.8
125	40.1
160	43.7
200	48.2
250	53.2
315	55.7
400	56.9
500	58.0
630	60.5
800	61.0
1000	62.2
1250	60.4
1600	59.0
2000	56.9
2500	60.5
3150	60.7



Test Result

$D_{nT,w} + C_{tr} = 51$ dB

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = 59 (-3 ; -8) dB; $C_{(100-3150)}$ = -3 dB

$D_{nT,w}$ = 59 dB $C_{tr\ (100-3150)}$ -8 dB

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

Certificate Ref: 25173/SIT2/C10

Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Sandy Wilson

Test Engineer No: 66

Test Engineer Signature:

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Consultants in Acoustics Noise & Vibration
Head Office: Duke House, 1-2 Duke Street, Woking, Surrey GU21 5BA (t) +44 (0) 1483 770 595
Manchester Office: First Floor, 346 Deansgate, Manchester M3 4LY (t) +44 (0) 161 832 7041
(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

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

Project Details

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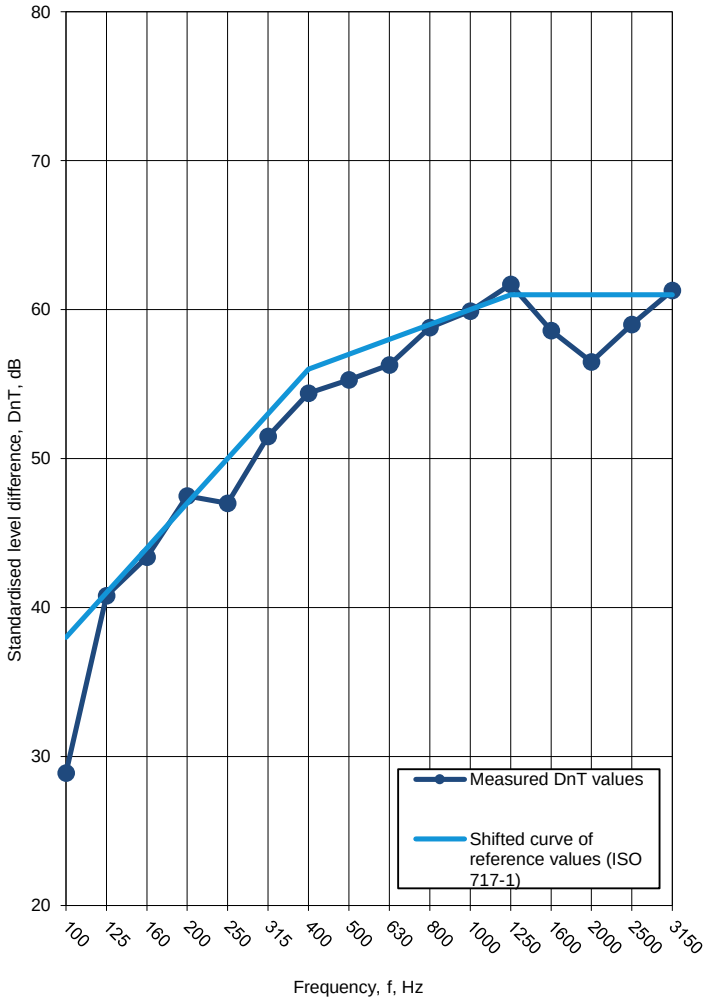
Airborne Wall Sound Insulation Test: AW11

Date of test: 10/01/2024

Source Room: 18-02-LKD Approximate Source Room Volume: 70m³

Receive Room: 18-01-B Approximate Receive Room Volume: 35m³

Frequency f Hz	DnT dB
100	28.9
125	40.8
160	43.4
200	47.5
250	47.0
315	51.5
400	54.4
500	55.3
630	56.3
800	≥ 58.8
1000	≥ 59.9
1250	≥ 61.7
1600	≥ 58.6
2000	≥ 56.5
2500	≥ 59.0
3150	61.3



Test Result

$D_{nT,w} + C_{tr} = \geq 48$ dB

≥ Results limited due to high background noise levels

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 57 (-3 ; -9) dB; $C_{(100\text{-}3150)}$ = -3 dB

$D_{nT,w}$ = ≥ 57 dB $C_{tr\ (100\text{-}3150)}$ -9 dB

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

Certificate Ref: 25173/SIT2/C11

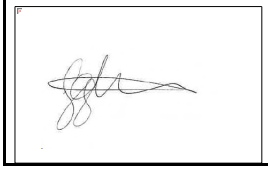
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Greg Moore

Test Engineer No: 82

Test Engineer Signature:



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Consultants in Acoustics Noise & Vibration
Head Office: Duke House, 1-2 Duke Street, Woking, Surrey GU21 5BA (t) +44 (0) 1483 770 595
Manchester Office: First Floor, 346 Deansgate, Manchester M3 4LY (t) +44 (0) 161 832 7041
(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

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

Project Details

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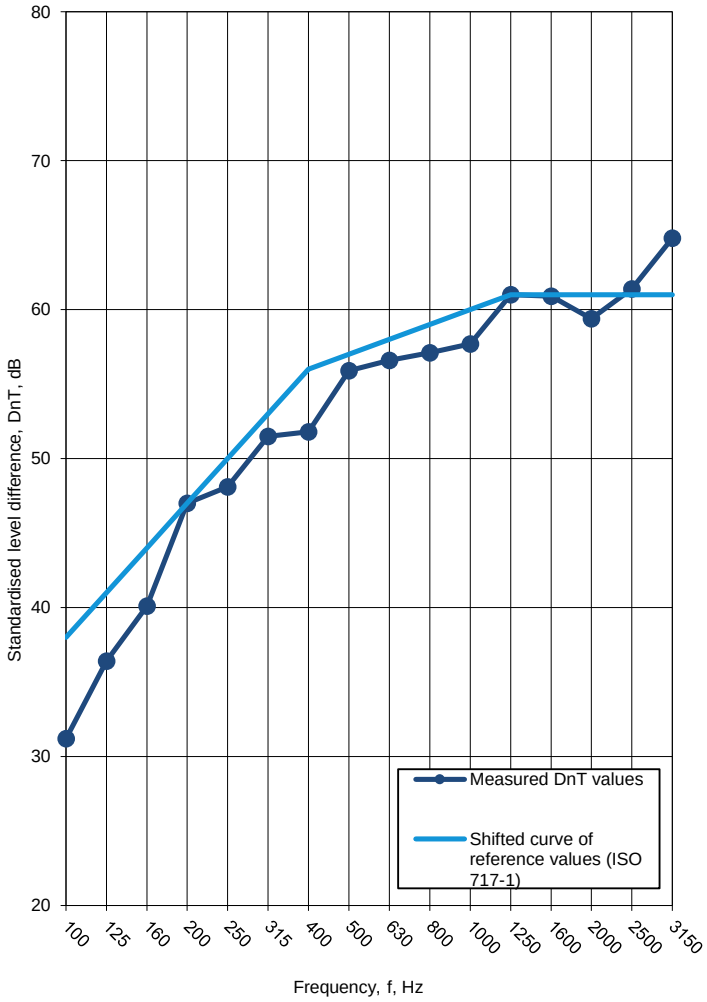
Airborne Wall Sound Insulation Test: AW12

Date of test: 10/01/2024

Source Room: 18-02-B Approximate Source Room Volume: 35m³

Receive Room: 18-03-B Approximate Receive Room Volume: 31m³

Frequency f Hz	DnT dB
100	31.2
125	36.4
160	40.1
200	47.0
250	48.1
315	51.5
400	51.8
500	55.9
630	≥ 56.6
800	≥ 57.1
1000	≥ 57.7
1250	≥ 61.0
1600	≥ 60.9
2000	≥ 59.4
2500	≥ 61.4
3150	≥ 64.8



Test Result

$D_{nT,w} + C_{tr} = \geq 48$ dB

≥ Results limited due to high background noise levels

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 57 (-3 ; -9) dB; $C_{(100\text{-}3150)}$ = -3 dB

$D_{nT,w}$ = ≥ 57 dB $C_{tr\ (100\text{-}3150)}$ -9 dB

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

Certificate Ref: 25173/SIT2/C12

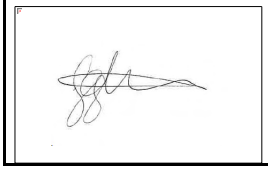
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Greg Moore

Test Engineer No: 82

Test Engineer Signature:



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Consultants in Acoustics Noise & Vibration
Head Office: Duke House, 1-2 Duke Street, Woking, Surrey GU21 5BA (t) +44 (0) 1483 770 595
Manchester Office: First Floor, 346 Deansgate, Manchester M3 4LY (t) +44 (0) 161 832 7041
(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

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

Project Details

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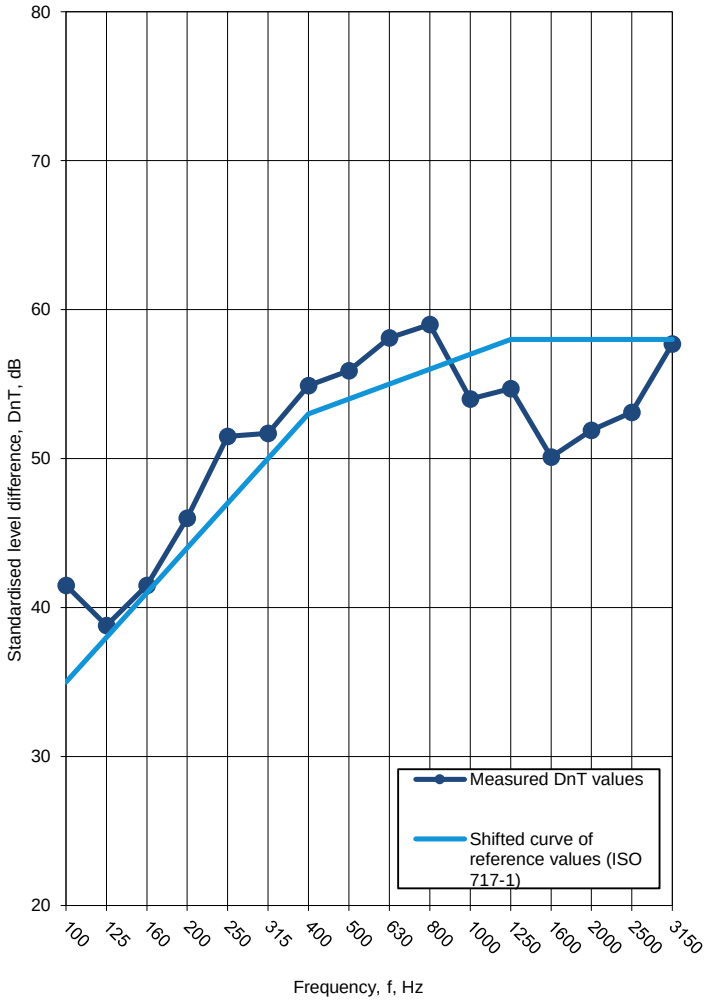
Airborne Wall Sound Insulation Test: AW13

Date of test: 10/01/2024

Source Room: 15-06-B Approximate Source Room Volume: 35m³

Receive Room: 15-05-B Approximate Receive Room Volume: 35m³

Frequency f Hz	DnT dB
100	≥ 41.5
125	38.8
160	41.5
200	46.0
250	51.5
315	51.7
400	54.9
500	55.9
630	58.1
800	59.0
1000	54.0
1250	54.7
1600	50.1
2000	51.9
2500	53.1
3150	≥ 57.7



Test Result

$D_{nT,w} + C_{tr} = \geq 51$ dB

≥ Results limited due to high background noise levels

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 54 (-1 ; -3) dB; $C_{(100\text{-}3150)}$ = -1 dB

$D_{nT,w}$ = ≥ 54 dB $C_{tr\ (100\text{-}3150)}$ -3 dB

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

Certificate Ref: 25173/SIT2/C13

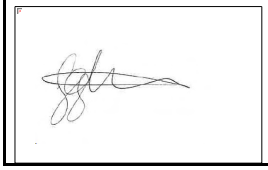
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Greg Moore

Test Engineer No: 82

Test Engineer Signature:



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Head Office: Duke House, 1-2 Duke Street, Woking, Surrey GU21 5BA (t) +44 (0) 1483 770 595
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(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

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

Project Details

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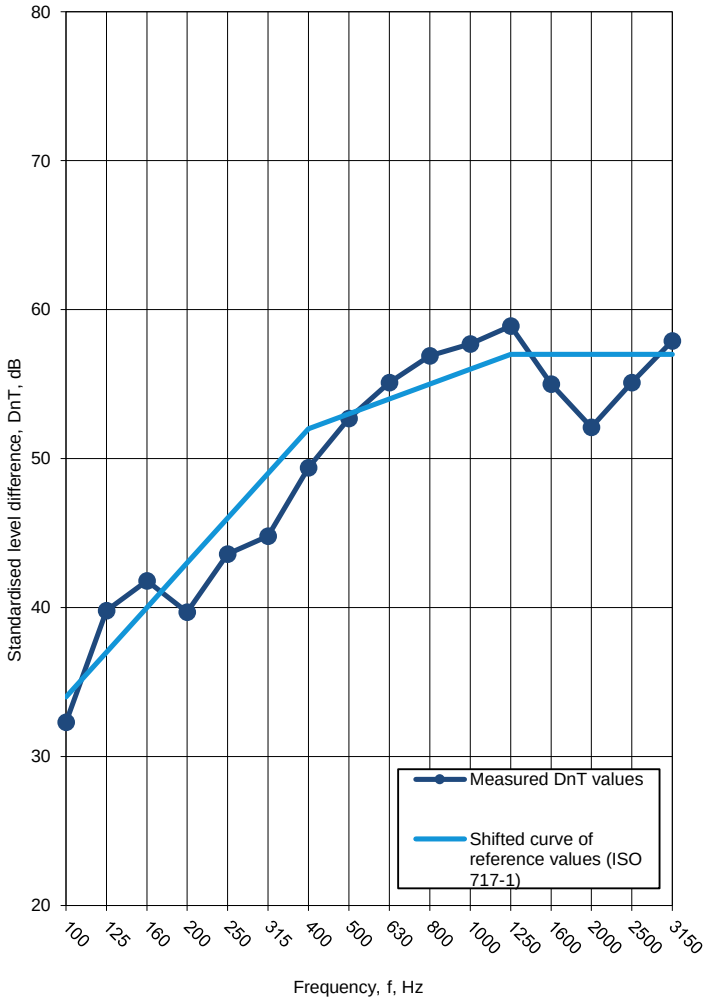
Airborne Wall Sound Insulation Test: AW14

Date of test: 10/01/2024

Source Room: 15-06-B Approximate Source Room Volume: 35m³

Receive Room: 15-07-B Approximate Receive Room Volume: 35m³

Frequency f Hz	DnT dB
100	32.3
125	39.8
160	41.8
200	39.7
250	43.6
315	44.8
400	49.4
500	52.7
630	≥ 55.1
800	≥ 56.9
1000	≥ 57.7
1250	≥ 58.9
1600	≥ 55.0
2000	≥ 52.1
2500	≥ 55.1
3150	≥ 57.9



Test Result

$D_{nT,w} + C_{tr} = \geq 48$ dB

≥ Results limited due to high background noise levels

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 53 (-1 ; -5) dB; $C_{(100\text{-}3150)}$ = -1 dB

$D_{nT,w}$ = ≥ 53 dB $C_{tr\ (100\text{-}3150)}$ -5 dB

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

Certificate Ref: 25173/SIT2/C14

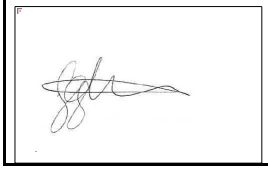
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Greg Moore

Test Engineer No: 82

Test Engineer Signature:



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(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

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

Project Details

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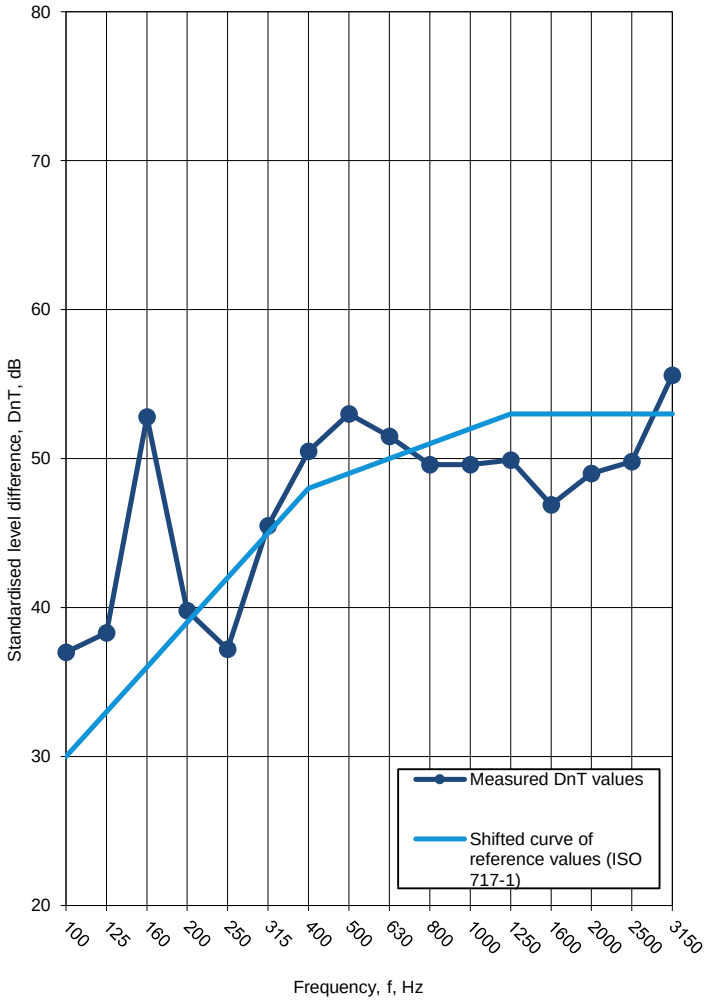
Airborne Wall Sound Insulation Test: AW15

Date of test: 10/01/2024

Source Room: 14-06-LKD Approximate Source Room Volume: 70m³

Receive Room: 14-05-B Approximate Receive Room Volume: 35m³

Frequency f Hz	DnT dB
100	37.0
125	38.3
160	≥ 52.8
200	39.8
250	37.2
315	45.5
400	50.5
500	53.0
630	51.5
800	49.6
1000	49.6
1250	49.9
1600	46.9
2000	≥ 49.0
2500	≥ 49.8
3150	≥ 55.6



Test Result

$D_{nT,w} + C_{tr} = \geq 46$ dB

≥ Results limited due to high background noise levels

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 49 (-1 ; -3) dB; $C_{(100\text{-}3150)}$ = -1 dB

$D_{nT,w}$ = ≥ 49 dB $C_{tr\ (100\text{-}3150)}$ -3 dB

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

Certificate Ref: 25173/SIT2/C15

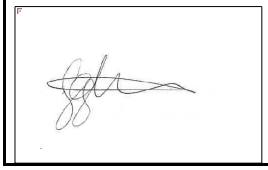
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Greg Moore

Test Engineer No: 82

Test Engineer Signature:



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Project Details

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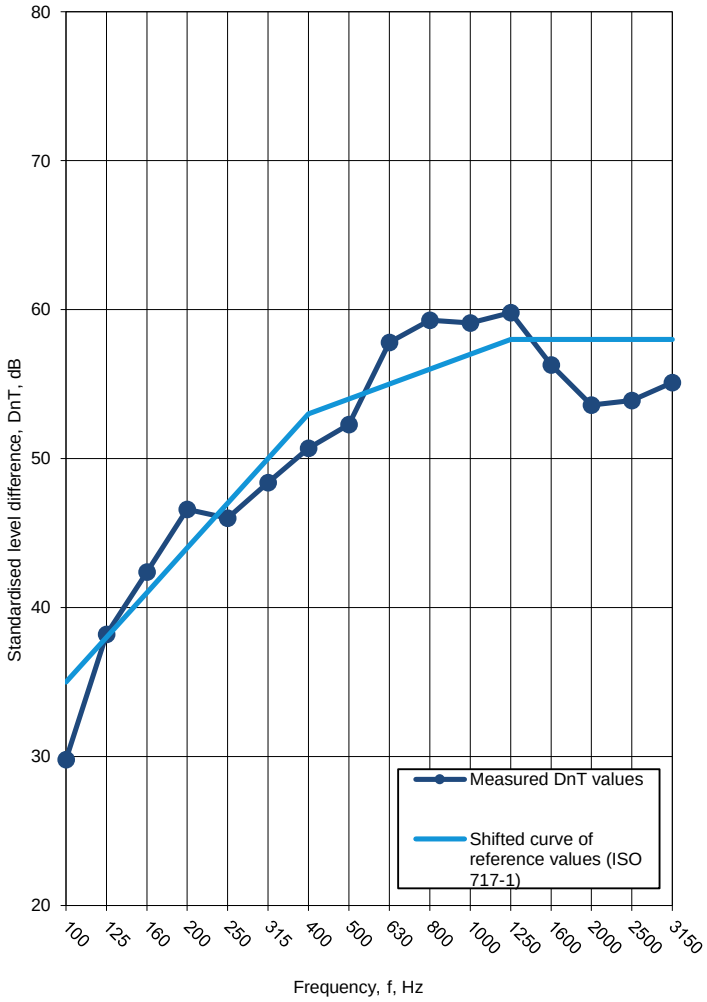
Airborne Wall Sound Insulation Test: AW16

Date of test: 10/01/2024

Source Room: 14-06-B Approximate Source Room Volume: 35m³

Receive Room: 14-07-B Approximate Receive Room Volume: 35m³

Frequency f Hz	DnT dB
100	29.8
125	38.2
160	42.4
200	46.6
250	46.0
315	48.4
400	50.7
500	52.3
630	57.8
800	≥ 59.3
1000	≥ 59.1
1250	≥ 59.8
1600	≥ 56.3
2000	≥ 53.6
2500	≥ 53.9
3150	55.1



Test Result

$D_{nT,w} + C_{tr} = \geq 48$ dB

≥ Results limited due to high background noise levels

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 54 (-1 ; -6) dB; $C_{(100-3150)}$ = -1 dB

$D_{nT,w}$ = ≥ 54 dB $C_{tr\ (100-3150)}$ -6 dB

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

Certificate Ref: 25173/SIT2/C16

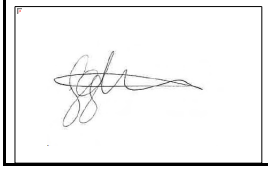
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Greg Moore

Test Engineer No: 82

Test Engineer Signature:



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Project Details

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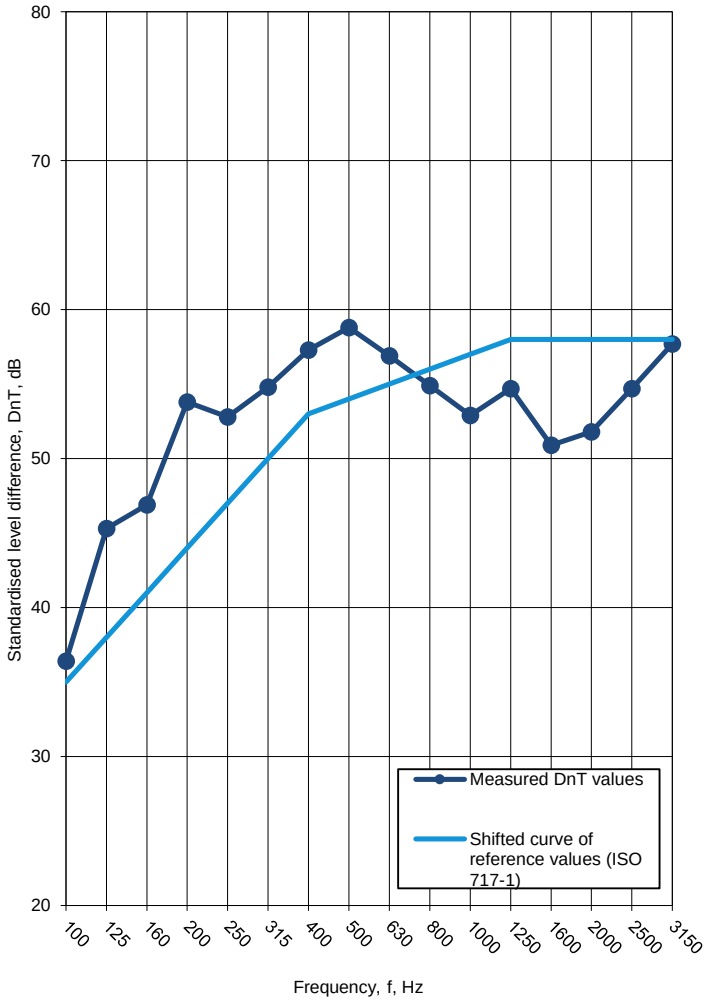
Airborne Wall Sound Insulation Test: AW17

Date of test: 10/01/2024

Source Room: 13-02-LKD Approximate Source Room Volume: 57m³

Receive Room: 13-01-B Approximate Receive Room Volume: 30m³

Frequency f Hz	DnT dB
100	36.4
125	45.3
160	46.9
200	53.8
250	52.8
315	54.8
400	57.3
500	58.8
630	56.9
800	54.9
1000	52.9
1250	54.7
1600	50.9
2000	51.8
2500	54.7
3150	57.7



Test Result

$D_{nT,w} + C_{tr} = 52$ dB

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = 54 (-1 ; -2) dB; $C_{(100-3150)}$ = -1 dB

$D_{nT,w}$ = 54 dB $C_{tr\ (100-3150)}$ -2 dB

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

Certificate Ref: 25173/SIT2/C17

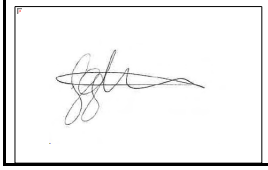
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Greg Moore

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Test Engineer Signature:



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Project Details

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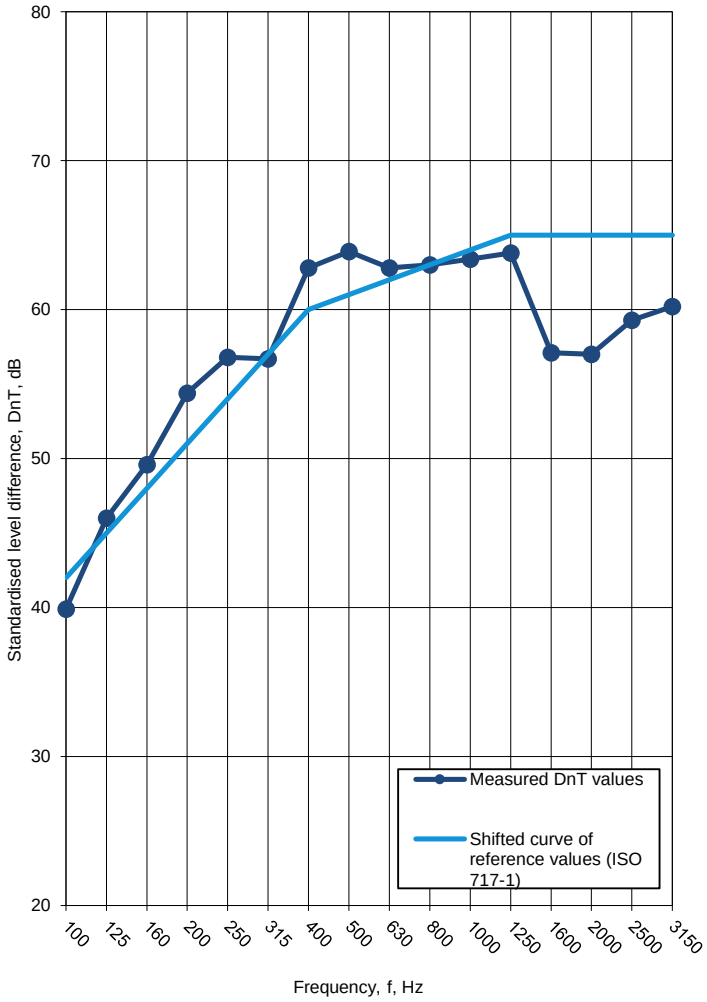
Airborne Wall Sound Insulation Test: AW18

Date of test: 10/01/2024

Source Room: 16-04-LKD Approximate Source Room Volume: 64m³

Receive Room: 16-03-B Approximate Receive Room Volume: 26m³

Frequency f Hz	DnT dB
100	39.9
125	46.0
160	49.6
200	54.4
250	56.8
315	56.7
400	62.8
500	63.9
630	62.8
800	63.0
1000	63.4
1250	63.8
1600	57.1
2000	≥ 57.0
2500	59.3
3150	60.2



Test Result

$D_{nT,w} + C_{tr} = \geq 56$ dB

≥ Results limited due to high background noise levels

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 61 (-2 ; -5) dB; $C_{(100\text{-}3150)}$ = -2 dB

$D_{nT,w}$ = ≥ 61 dB $C_{tr\ (100\text{-}3150)}$ -5 dB

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

Certificate Ref: 25173/SIT2/C18

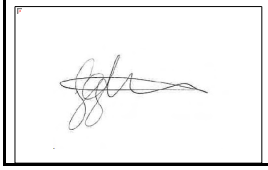
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Greg Moore

Test Engineer No: 82

Test Engineer Signature:



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Field measurements of airborne sound insulation between rooms

Project Details

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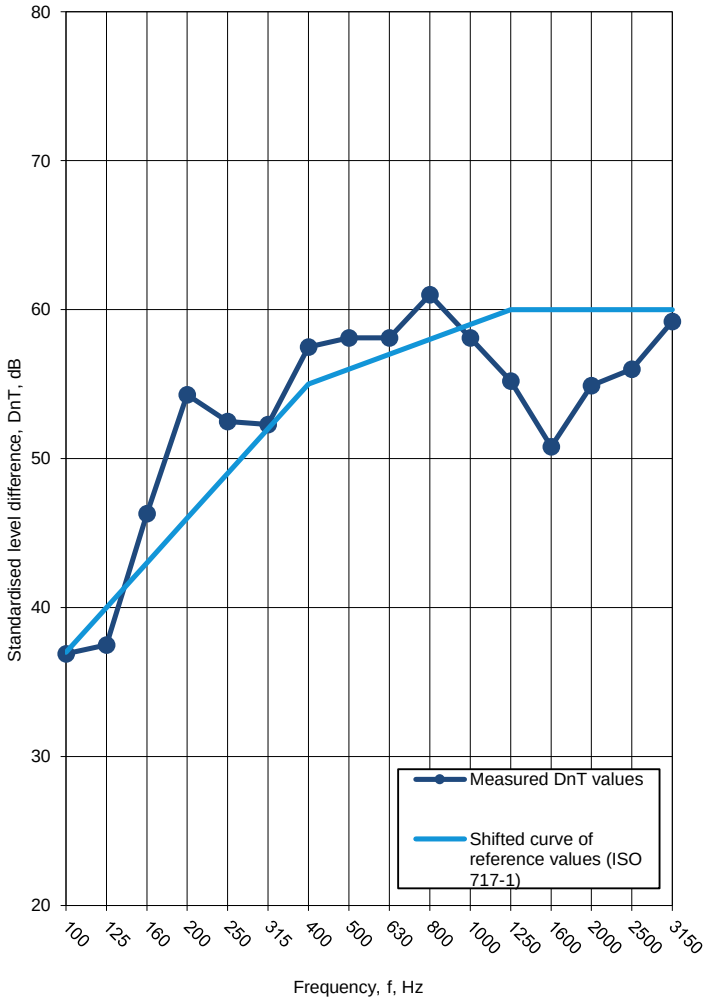
Airborne Wall Sound Insulation Test: AW19

Date of test: 10/01/2024

Source Room: 16-05-LKD Approximate Source Room Volume: 57m³

Receive Room: 16-04-B Approximate Receive Room Volume: 25m³

Frequency f Hz	DnT dB
100	36.9
125	37.5
160	46.3
200	54.3
250	52.5
315	52.3
400	57.5
500	58.1
630	58.1
800	61.0
1000	58.1
1250	55.2
1600	50.8
2000	54.9
2500	56.0
3150	59.2



Test Result

$D_{nT,w} + C_{tr} =$ **52 dB**

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = 56 (-2 ; -4) dB; $C_{(100\text{-}3150)}$ = -2 dB

$D_{nT,w}$ = 56 dB $C_{tr\ (100\text{-}3150)}$ -4 dB

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

Certificate Ref: 25173/SIT2/C19

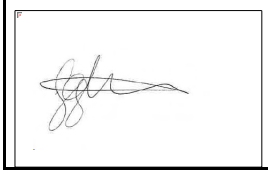
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Greg Moore

Test Engineer No: 82

Test Engineer Signature:



Hann Tucker Associates
Consultants in Acoustics Noise & Vibration
Head Office: Duke House, 1-2 Duke Street, Woking, Surrey GU21 5BA (t) +44 (0) 1483 770 595
Manchester Office: First Floor, 346 Deansgate, Manchester M3 4LY (t) +44 (0) 161 832 7041
(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

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

Project Details

Development: Swan House, Manchester Client: RG Group Report Ref: 25173/SIT2

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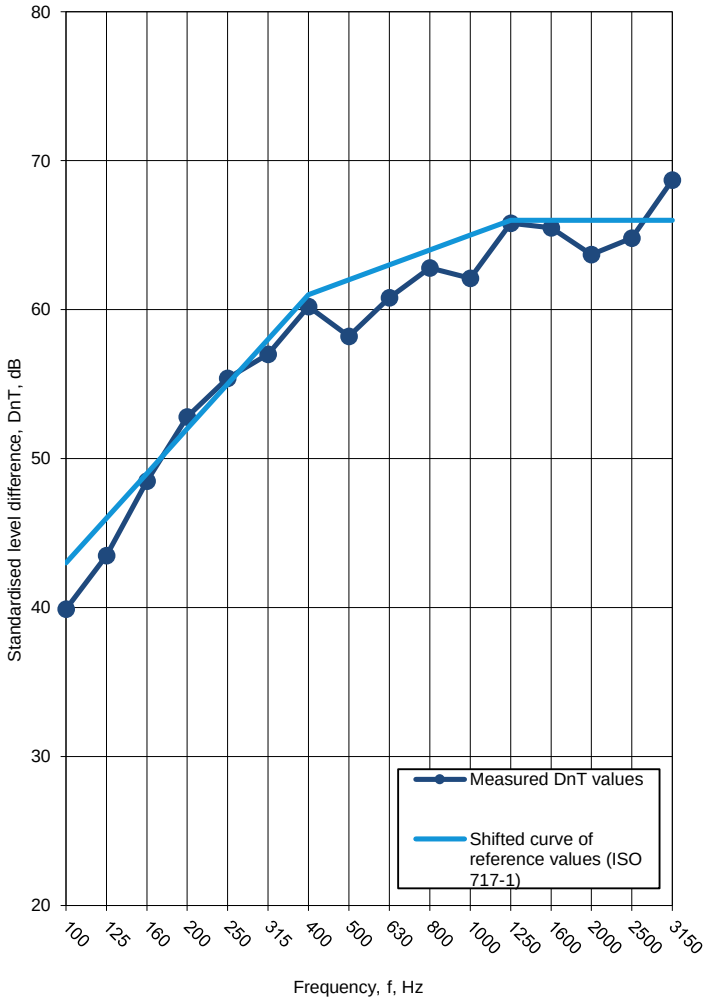
Airborne Wall Sound Insulation Test: AW20

Date of test: 29/03/2024

Source Room: 31-04-LKD Approximate Source Room Volume: 49m³

Receive Room: 31-03-B Approximate Receive Room Volume: 26m³

Frequency f Hz	DnT dB
100	39.9
125	43.5
160	48.5
200	52.8
250	55.4
315	57.0
400	60.2
500	58.2
630	60.8
800	62.8
1000	62.1
1250	65.8
1600	65.5
2000	63.7
2500	64.8
3150	68.7



Test Result

$D_{nT,w} + C_{tr} = \geq 56$ dB

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 62 (-1 ; -6) dB; $C_{(100\text{-}3150)}$ = -1 dB

$D_{nT,w}$ = ≥ 62 dB $C_{tr\ (100\text{-}3150)}$ -6 dB

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

Certificate Ref: 25173/SIT2/C20

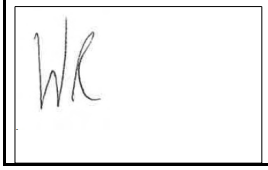
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Will Robertson

Test Engineer No: 80

Test Engineer Signature:



Hann Tucker Associates
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Project Details

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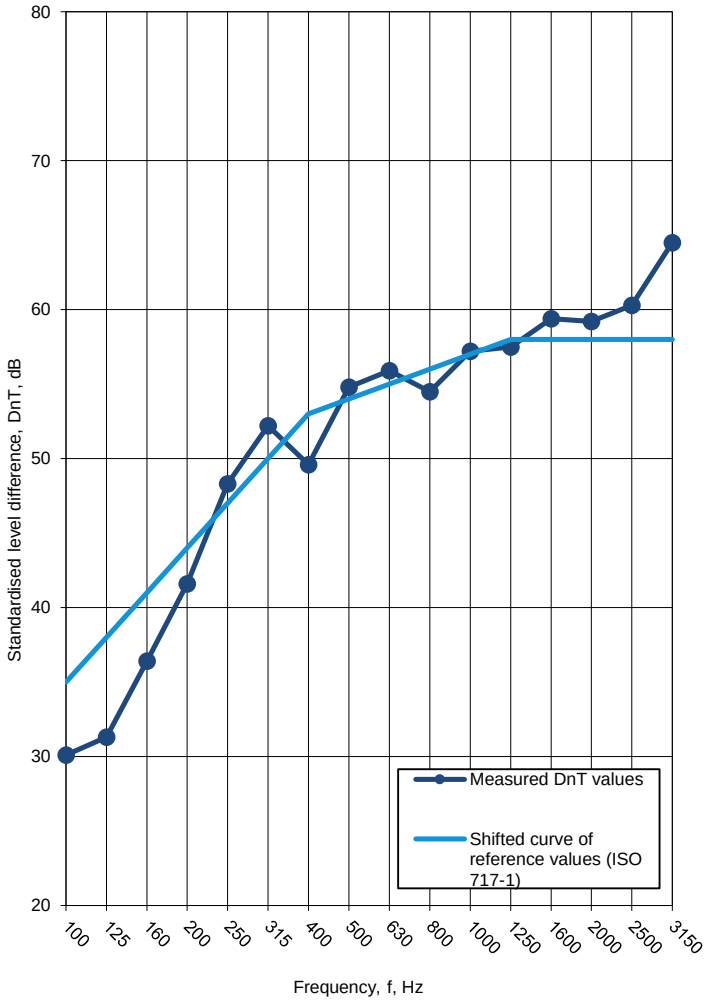
Airborne Wall Sound Insulation Test: AW21

Date of test: 29/03/2024

Source Room: 31-05-LKD Approximate Source Room Volume: 57m³

Receive Room: 31-04-B Approximate Receive Room Volume: 25m³

Frequency f Hz	DnT dB
100	30.1
125	31.3
160	36.4
200	41.6
250	48.3
315	52.2
400	49.6
500	54.8
630	55.9
800	54.5
1000	57.2
1250	57.5
1600	59.4
2000	59.2
2500	60.3
3150	64.5



Test Result

$D_{nT,w} + C_{tr} = \geq 46$ dB

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 54 (-2 ; -8) dB; $C_{(100\text{-}3150)}$ = -2 dB

$D_{nT,w}$ = ≥ 54 dB $C_{tr\ (100\text{-}3150)}$ -8 dB

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

Certificate Ref: 25173/SIT2/C21

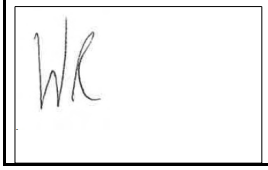
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Will Robertson

Test Engineer No: 80

Test Engineer Signature:



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(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

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Project Details

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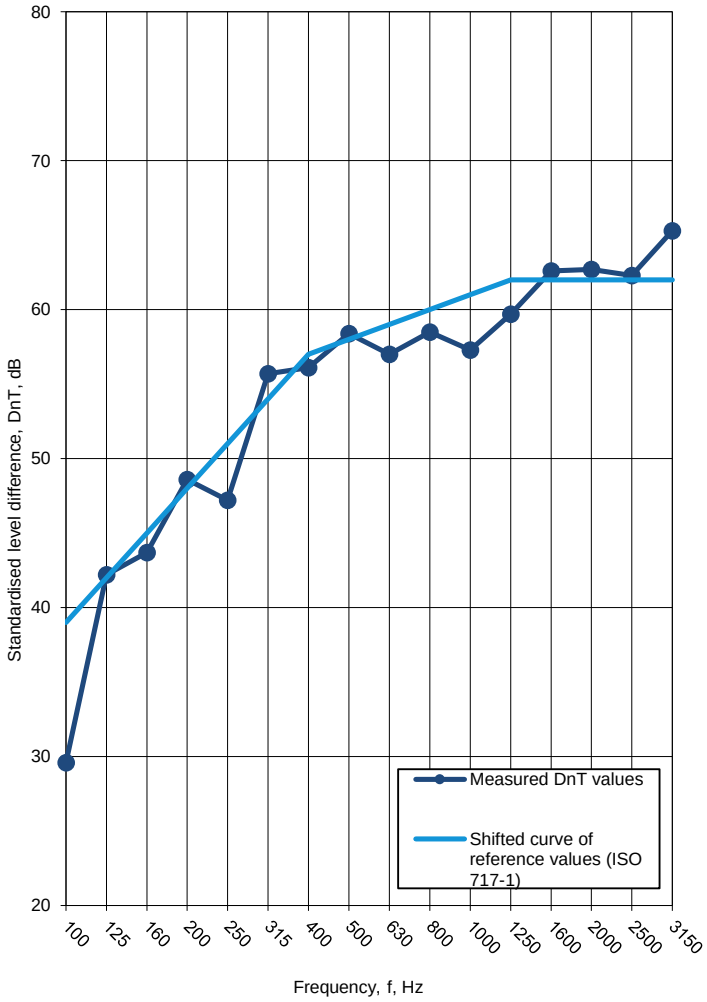
Airborne Wall Sound Insulation Test: AW22

Date of test: 29/03/2024

Source Room: 30-06-LKD Approximate Source Room Volume: 57m³

Receive Room: 30-05-B Approximate Receive Room Volume: 30m³

Frequency f Hz	DnT dB
100	29.6
125	42.2
160	43.7
200	48.6
250	47.2
315	55.7
400	56.1
500	58.4
630	57.0
800	58.5
1000	57.3
1250	59.7
1600	62.6
2000	62.7
2500	62.3
3150	65.3



Test Result

$D_{nT,w} + C_{tr} = \geq 48$ dB

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 58 (-3 ; -10) $C_{(100\text{-}3150)}$ = -3 dB

$D_{nT,w}$ = ≥ 58 dB $C_{tr\ (100\text{-}3150)}$ -10 dB

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

Certificate Ref: 25173/SIT2/C22

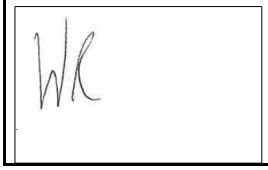
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Will Robertson

Test Engineer No: 80

Test Engineer Signature:



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(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

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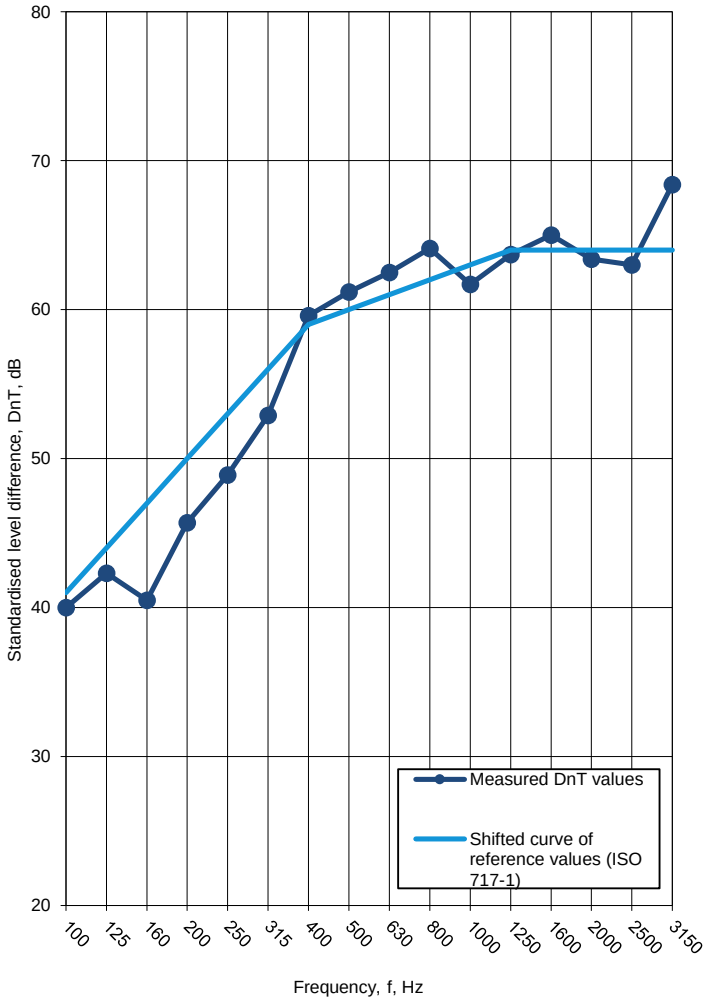
Airborne Wall Sound Insulation Test: AW23

Date of test: 29/03/2024

Source Room: 30-06-B Approximate Source Room Volume: 35m³

Receive Room: 30-07-B Approximate Receive Room Volume: 35m³

Frequency f Hz	DnT dB
100	40.0
125	42.3
160	40.5
200	45.7
250	48.9
315	52.9
400	≥ 59.6
500	≥ 61.2
630	62.5
800	≥ 64.1
1000	61.7
1250	≥ 63.7
1600	≥ 65.0
2000	≥ 63.4
2500	≥ 63.0
3150	≥ 68.4



Test Result

$D_{nT,w} + C_{tr} = \geq 53$ dB

≥ Results limited due to high background noise levels

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 60 (-2 ; -7) dB; $C_{(100\text{-}3150)}$ = -2 dB

$D_{nT,w}$ = ≥ 60 dB $C_{tr\ (100\text{-}3150)}$ -7 dB

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

Certificate Ref: 25173/SIT2/C23

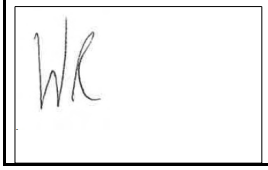
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Will Robertson

Test Engineer No: 80

Test Engineer Signature:



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Field measurements of airborne sound insulation between rooms

Project Details

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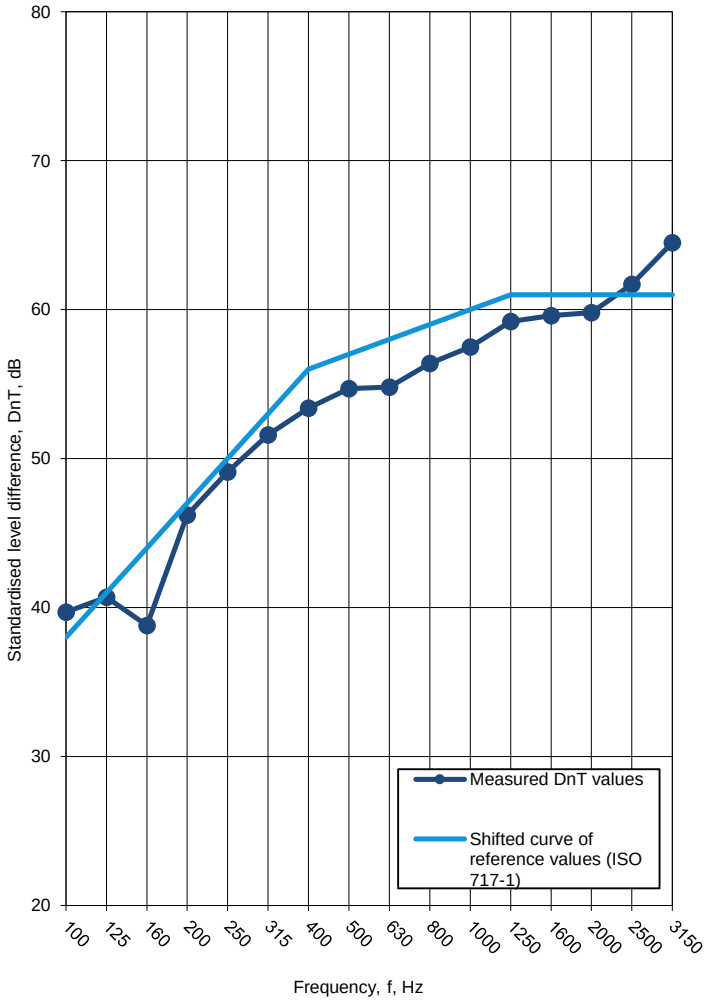
Airborne Wall Sound Insulation Test: AW24

Date of test: 29/03/2024

Source Room: 29-02-B Approximate Source Room Volume: 35m³

Receive Room: 29-03-B Approximate Receive Room Volume: 31m³

Frequency f Hz	DnT dB
100	39.7
125	40.7
160	38.8
200	46.2
250	49.1
315	51.6
400	53.4
500	54.7
630	54.8
800	56.4
1000	57.5
1250	59.2
1600	59.6
2000	59.8
2500	61.7
3150	64.5



Test Result

$D_{nT,w} + C_{tr} = \geq 52$ dB

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 57 (-2 ; -5) dB; $C_{(100\text{-}3150)}$ = -2 dB

$D_{nT,w}$ = ≥ 57 dB $C_{tr\ (100\text{-}3150)}$ -5 dB

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

Certificate Ref: 25173/SIT2/C24

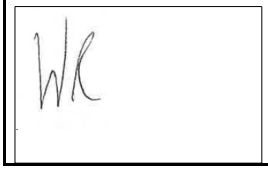
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Will Robertson

Test Engineer No: 80

Test Engineer Signature:



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Project Details

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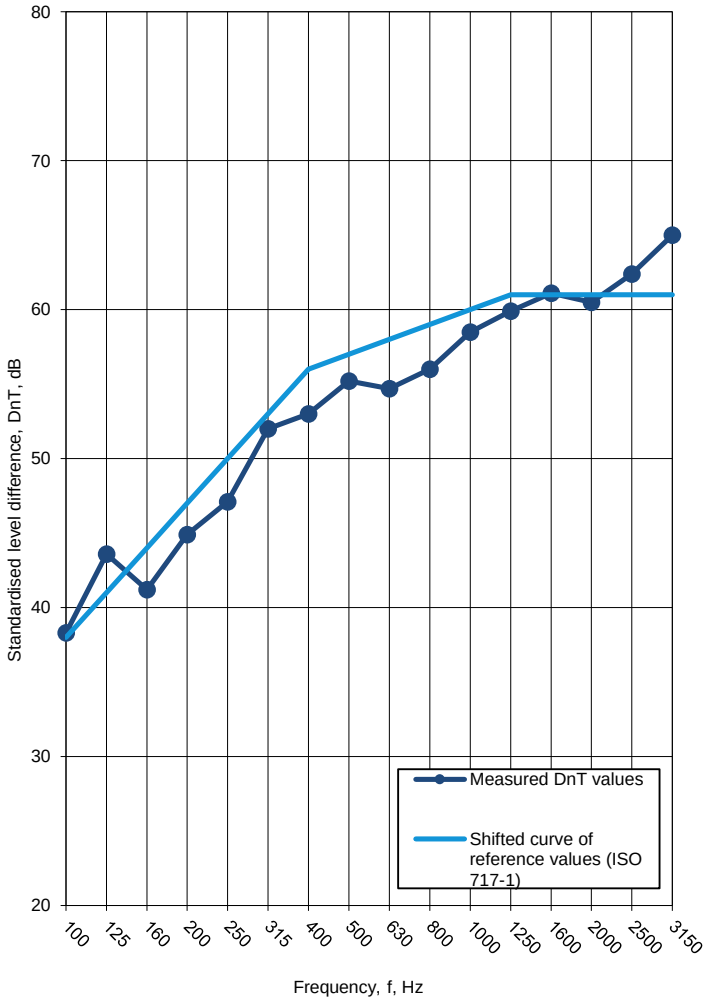
Airborne Wall Sound Insulation Test: AW25

Date of test: 29/03/2024

Source Room: 29-02-LKD Approximate Source Room Volume: 57m³

Receive Room: 29-01-B Approximate Receive Room Volume: 30m³

Frequency f Hz	DnT dB
100	38.3
125	43.6
160	41.2
200	44.9
250	47.1
315	52.0
400	53.0
500	55.2
630	54.7
800	56.0
1000	58.5
1250	59.9
1600	61.1
2000	60.5
2500	62.4
3150	65.0



Test Result

$D_{nT,w} + C_{tr} = \geq 52$ dB

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 57 (-1 ; -5) dB; $C_{(100\text{-}3150)}$ = -1 dB

$D_{nT,w}$ = ≥ 57 dB $C_{tr\ (100\text{-}3150)}$ -5 dB

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

Certificate Ref: 25173/SIT2/C25

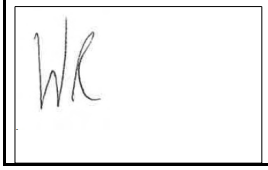
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Will Robertson

Test Engineer No: 80

Test Engineer Signature:



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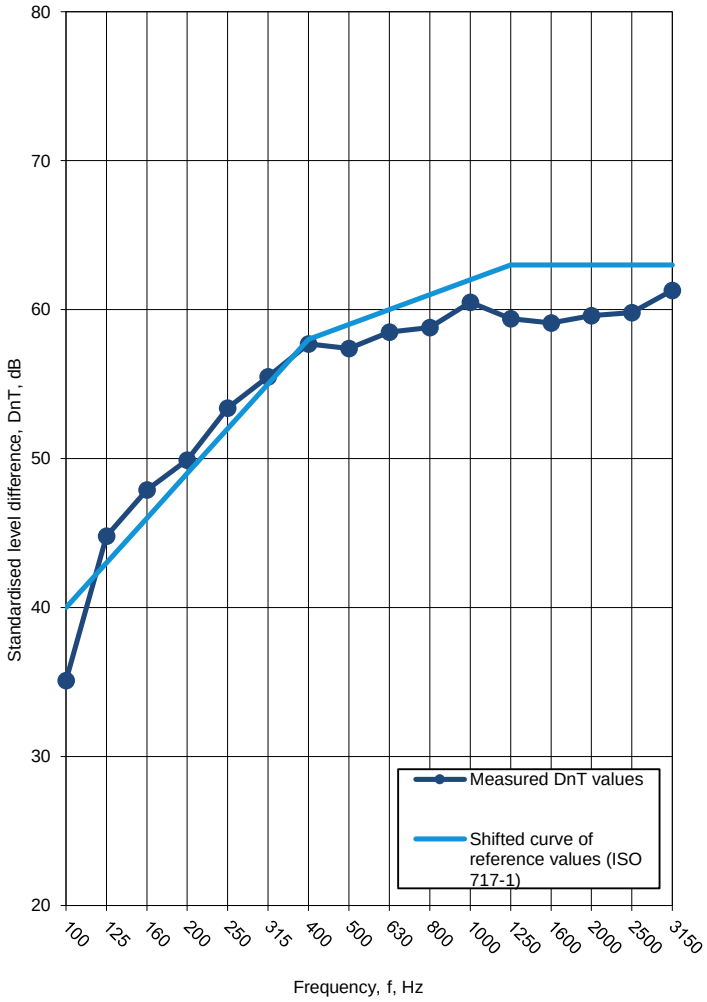
Airborne Wall Sound Insulation Test: AW26

Date of test: 29/03/2024

Source Room: 27-08-LKD Approximate Source Room Volume: 49m³

Receive Room: 27-07-B Approximate Receive Room Volume: 26m³

Frequency f Hz	DnT dB
100	35.1
125	44.8
160	47.9
200	49.9
250	53.4
315	55.5
400	57.7
500	57.4
630	58.5
800	58.8
1000	60.5
1250	59.4
1600	59.1
2000	59.6
2500	59.8
3150	61.3



Test Result

$D_{nT,w} + C_{tr} = \geq 53$ dB

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 59 (-2 ; -6) dB; $C_{(100\text{-}3150)}$ = -2 dB

$D_{nT,w}$ = ≥ 59 dB $C_{tr\ (100\text{-}3150)}$ -6 dB

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

Certificate Ref: 25173/SIT2/C26

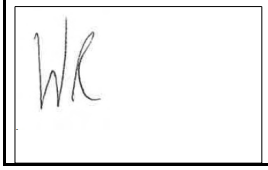
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Will Robertson

Test Engineer No: 80

Test Engineer Signature:



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Project Details

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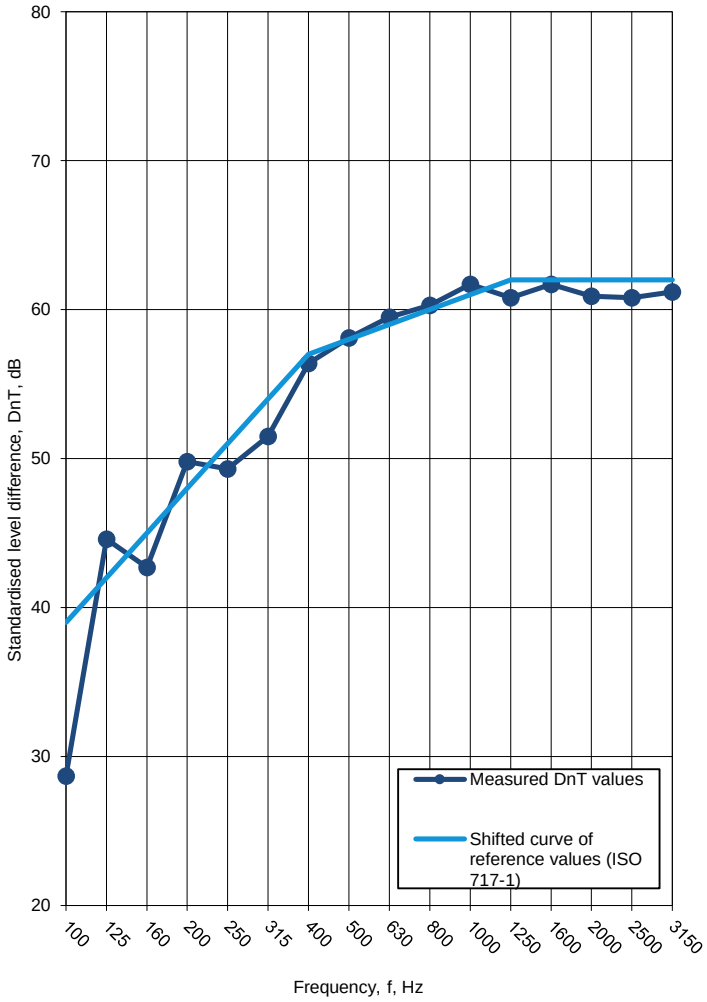
Airborne Wall Sound Insulation Test: AW27

Date of test: 29/03/2024

Source Room: 27-01-LKD Approximate Source Room Volume: 59m³

Receive Room: 27-08-B Approximate Receive Room Volume: 28m³

Frequency f Hz	DnT dB
100	28.7
125	44.6
160	42.7
200	49.8
250	49.3
315	51.5
400	56.4
500	58.1
630	59.5
800	60.3
1000	61.7
1250	60.8
1600	61.7
2000	60.9
2500	60.8
3150	61.2



Test Result

$D_{nT,w} + C_{tr} = \geq 48$ dB

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 58 (-3 ; -10) $C_{(100\text{-}3150)}$ = -3 dB

$D_{nT,w}$ = ≥ 58 dB $C_{tr\ (100\text{-}3150)}$ -10 dB

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

Certificate Ref: 25173/SIT2/C27

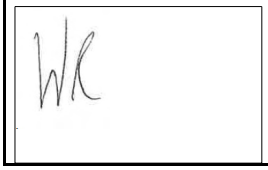
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Will Robertson

Test Engineer No: 80

Test Engineer Signature:



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

Project Details

Development: Swan House, Manchester Client: RG Group Report Ref: 25173/SIT2

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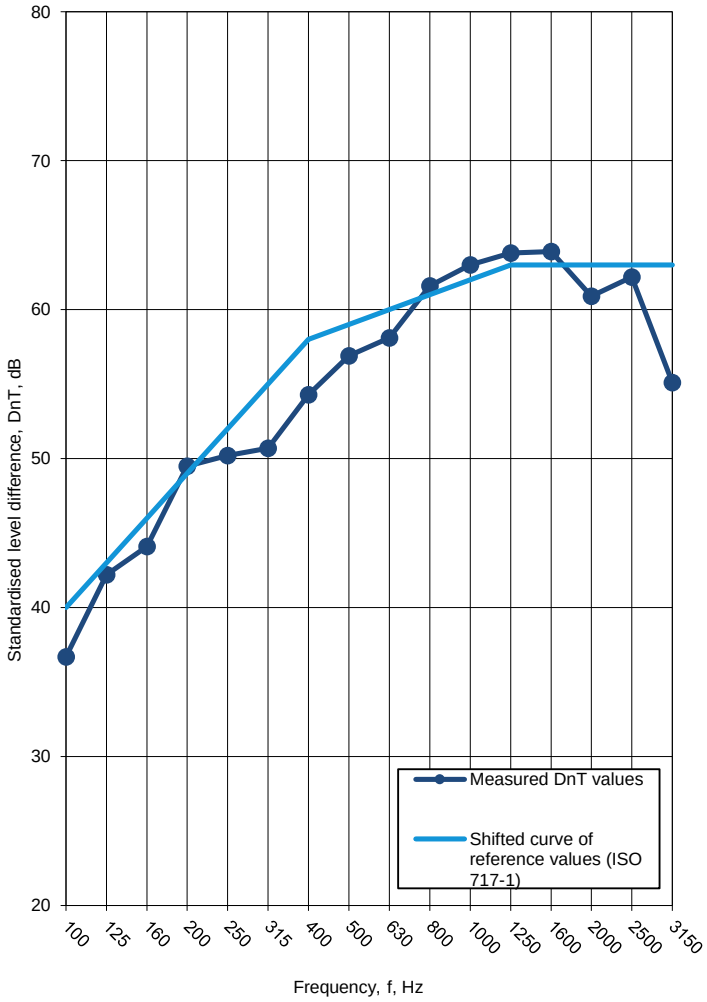
Airborne Wall Sound Insulation Test: AW28

Date of test: 29/03/2024

Source Room: 24-01-LKD Approximate Source Room Volume: 59m³

Receive Room: 24-08-B Approximate Receive Room Volume: 28m³

Frequency f Hz	DnT dB
100	36.7
125	42.2
160	44.1
200	49.5
250	50.2
315	50.7
400	54.3
500	56.9
630	58.1
800	61.6
1000	63.0
1250	63.8
1600	63.9
2000	60.9
2500	62.2
3150	55.1



Test Result

$D_{nT,w} + C_{tr} = \geq 53$ dB

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 59 (-2 ; -6) dB; $C_{(100\text{-}3150)}$ = -2 dB

$D_{nT,w}$ = ≥ 59 dB $C_{tr\ (100\text{-}3150)}$ -6 dB

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

Certificate Ref: 25173/SIT2/C28

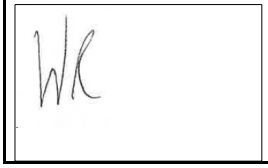
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Will Robertson

Test Engineer No: 80

Test Engineer Signature:



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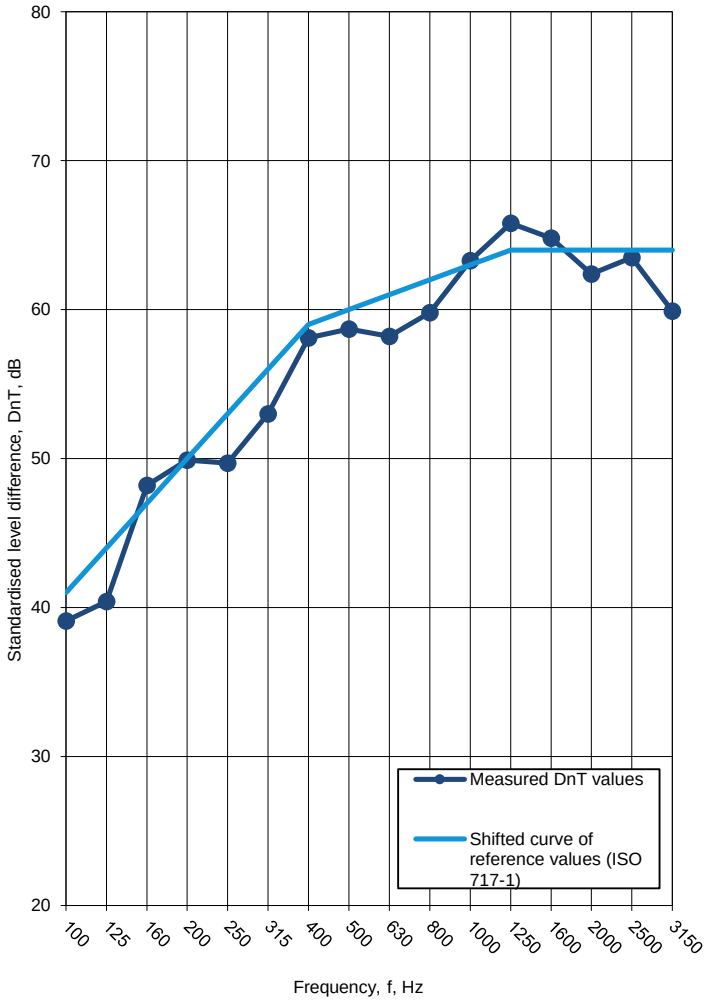
Airborne Wall Sound Insulation Test: AW29

Date of test: 29/03/2024

Source Room: 24-02-LKD Approximate Source Room Volume: 57m³

Receive Room: 24-01-B Approximate Receive Room Volume: 30m³

Frequency f Hz	DnT dB
100	39.1
125	40.4
160	48.2
200	49.9
250	49.7
315	53.0
400	58.1
500	58.7
630	58.2
800	59.8
1000	63.3
1250	65.8
1600	64.8
2000	62.4
2500	63.5
3150	59.9



Test Result

$D_{nT,w} + C_{tr} = \geq 54$ dB

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 60 (-2 ; -6) dB; $C_{(100\text{-}3150)}$ = -2 dB

$D_{nT,w}$ = ≥ 60 dB $C_{tr\ (100\text{-}3150)}$ -6 dB

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

Certificate Ref: 25173/SIT2/C29

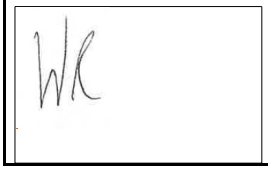
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Will Robertson

Test Engineer No: 80

Test Engineer Signature:



Hann Tucker Associates
Consultants in Acoustics Noise & Vibration
Head Office: Duke House, 1-2 Duke Street, Woking, Surrey GU21 5BA (t) +44 (0) 1483 770 595
Manchester Office: First Floor, 346 Deansgate, Manchester M3 4LY (t) +44 (0) 161 832 7041
(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

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

Project Details

Development: Swan House, Manchester Client: RG Group Report Ref: 25173/SIT2

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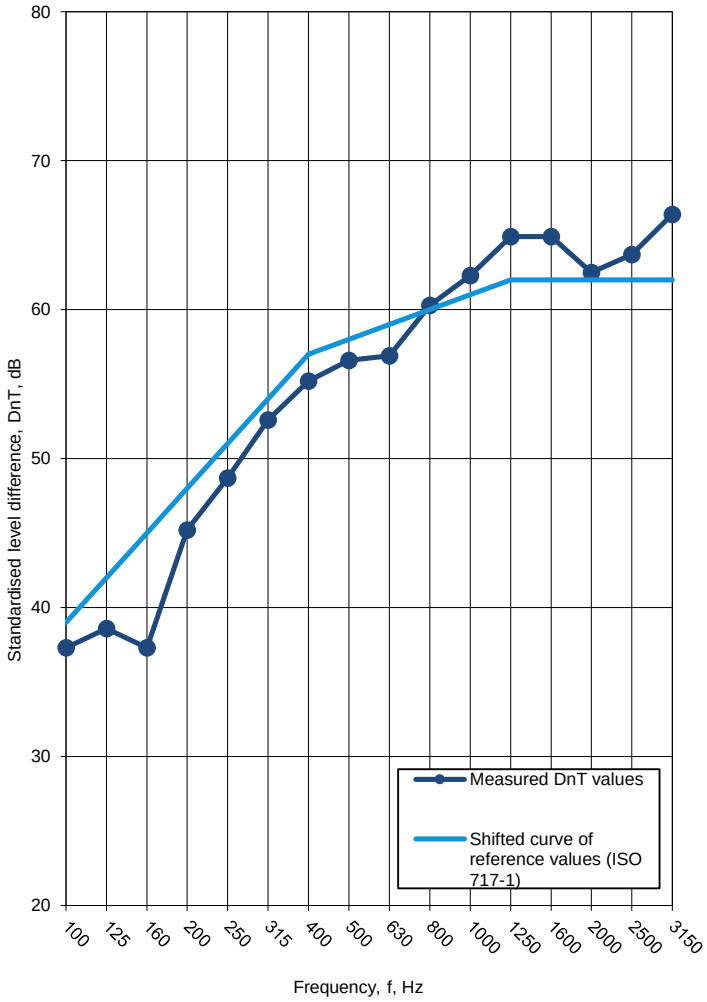
Airborne Wall Sound Insulation Test: AW30

Date of test: 29/03/2024

Source Room: 22-06-LKD Approximate Source Room Volume: 57m³

Receive Room: 22-05-B Approximate Receive Room Volume: 30m³

Frequency f Hz	DnT dB
100	37.3
125	38.6
160	37.3
200	45.2
250	48.7
315	52.6
400	55.2
500	56.6
630	56.9
800	60.3
1000	62.3
1250	64.9
1600	64.9
2000	62.5
2500	63.7
3150	66.4



Test Result

$D_{nT,w} + C_{tr} = \geq 51$ dB

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 58 (-2 ; -7) dB; $C_{(100\text{-}3150)}$ = -2 dB

$D_{nT,w}$ = ≥ 58 dB $C_{tr\ (100\text{-}3150)}$ -7 dB

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

Certificate Ref: 25173/SIT2/C30

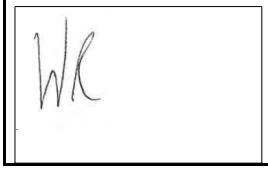
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Will Robertson

Test Engineer No: 80

Test Engineer Signature:



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(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

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Project Details

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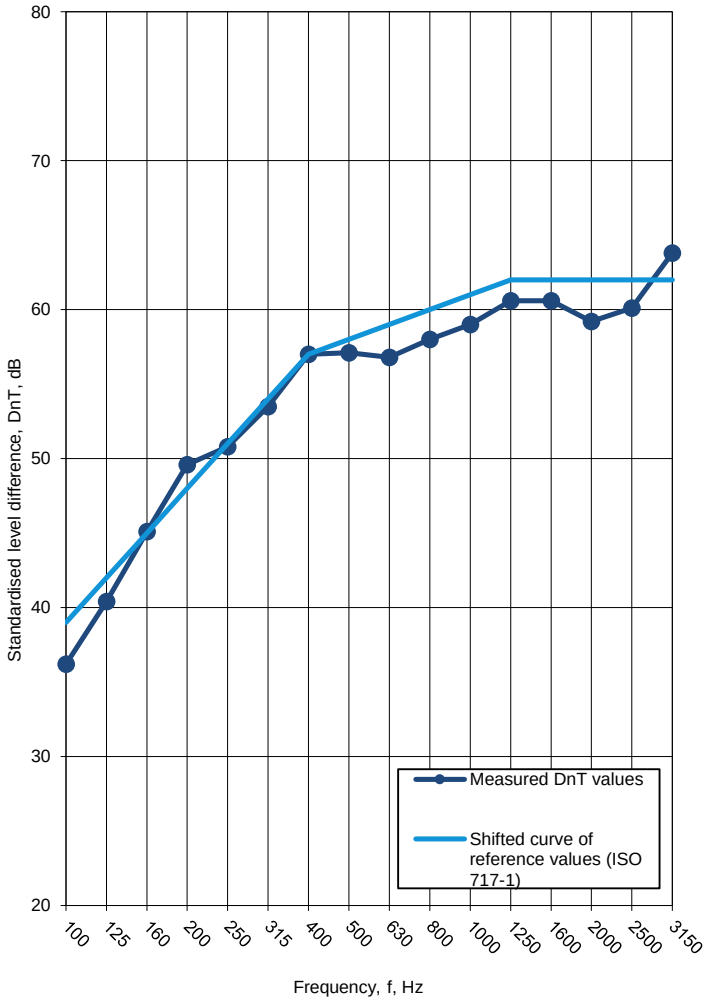
Airborne Wall Sound Insulation Test: AW31

Date of test: 29/03/2024

Source Room: 22-05-LKD Approximate Source Room Volume: 57m³

Receive Room: 22-04-B Approximate Receive Room Volume: 25m³

Frequency f Hz	DnT dB
100	36.2
125	40.4
160	45.1
200	49.6
250	50.8
315	53.5
400	57.0
500	57.1
630	56.8
800	58.0
1000	59.0
1250	60.6
1600	60.6
2000	59.2
2500	60.1
3150	63.8



Test Result

$D_{nT,w} + C_{tr} = \geq 52$ dB

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 58 (-1 ; -6) dB; $C_{(100\text{-}3150)}$ = -1 dB

$D_{nT,w}$ = ≥ 58 dB $C_{tr\ (100\text{-}3150)}$ -6 dB

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

Certificate Ref: 25173/SIT2/C31

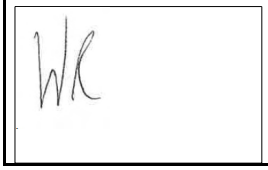
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Will Robertson

Test Engineer No: 80

Test Engineer Signature:



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Head Office: Duke House, 1-2 Duke Street, Woking, Surrey GU21 5BA (t) +44 (0) 1483 770 595
Manchester Office: First Floor, 346 Deansgate, Manchester M3 4LY (t) +44 (0) 161 832 7041
(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

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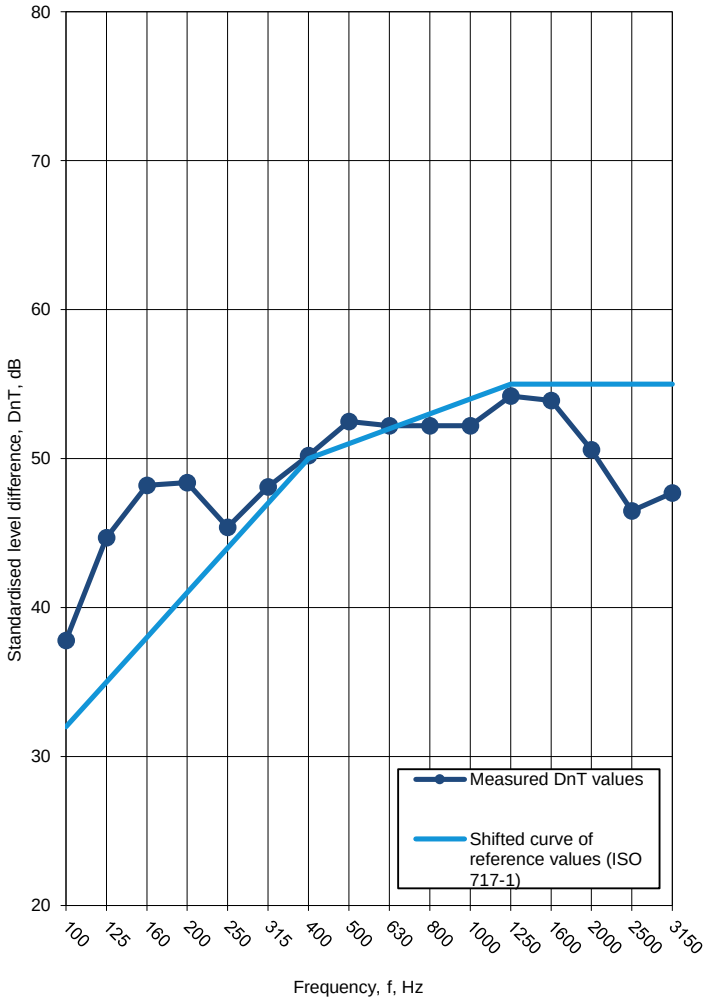
Airborne Wall Sound Insulation Test: AW32

Date of test: 29/03/2024

Source Room: 04-06-LKD Approximate Source Room Volume: 56m³

Receive Room: 04-07-LKD Approximate Receive Room Volume: 54m³

Frequency f Hz	DnT dB
100	37.8
125	44.7
160	48.2
200	48.4
250	45.4
315	48.1
400	50.2
500	52.5
630	52.2
800	52.2
1000	52.2
1250	54.2
1600	53.9
2000	50.6
2500	46.5
3150	47.7



Test Result

$D_{nT,w} + C_{tr} = \geq 50$ dB

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 51 (-1 ; -1) dB; $C_{(100\text{-}3150)}$ = -1 dB

$D_{nT,w}$ = ≥ 51 dB $C_{tr\ (100\text{-}3150)}$ -1 dB

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

Certificate Ref: 25173/SIT2/C32

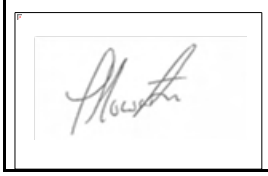
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Jake Howarth

Test Engineer No: 64

Test Engineer Signature:



Hann Tucker Associates
Consultants in Acoustics Noise & Vibration
Head Office: Duke House, 1-2 Duke Street, Woking, Surrey GU21 5BA (t) +44 (0) 1483 770 595
Manchester Office: First Floor, 346 Deansgate, Manchester M3 4LY (t) +44 (0) 161 832 7041
(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

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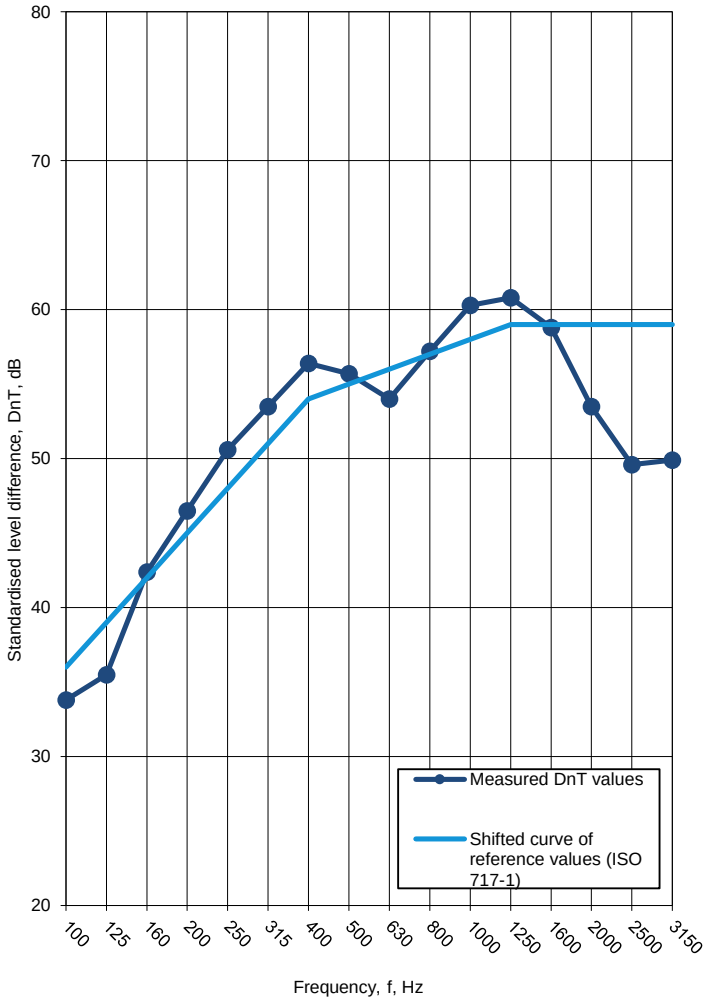
Airborne Wall Sound Insulation Test: AW33

Date of test: 29/03/2024

Source Room: 04-13-LKD Approximate Source Room Volume: 45m³

Receive Room: 04-11-LKD Approximate Receive Room Volume: 45m³

Frequency f Hz	DnT dB
100	33.8
125	35.5
160	42.4
200	46.5
250	50.6
315	53.5
400	56.4
500	55.7
630	54.0
800	57.2
1000	60.3
1250	60.8
1600	58.8
2000	53.5
2500	49.6
3150	49.9



Test Result

$D_{nT,w} + C_{tr} = \geq 49$ dB

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 55 (-3 ; -6) dB; $C_{(100\text{-}3150)}$ = -3 dB

$D_{nT,w}$ = ≥ 55 dB $C_{tr\ (100\text{-}3150)}$ -6 dB

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

Certificate Ref: 25173/SIT2/C33

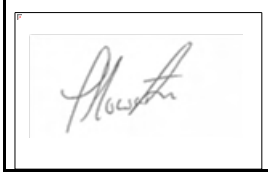
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Jake Howarth

Test Engineer No: 64

Test Engineer Signature:



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Head Office: Duke House, 1-2 Duke Street, Woking, Surrey GU21 5BA (t) +44 (0) 1483 770 595
Manchester Office: First Floor, 346 Deansgate, Manchester M3 4LY (t) +44 (0) 161 832 7041
(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

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

Project Details

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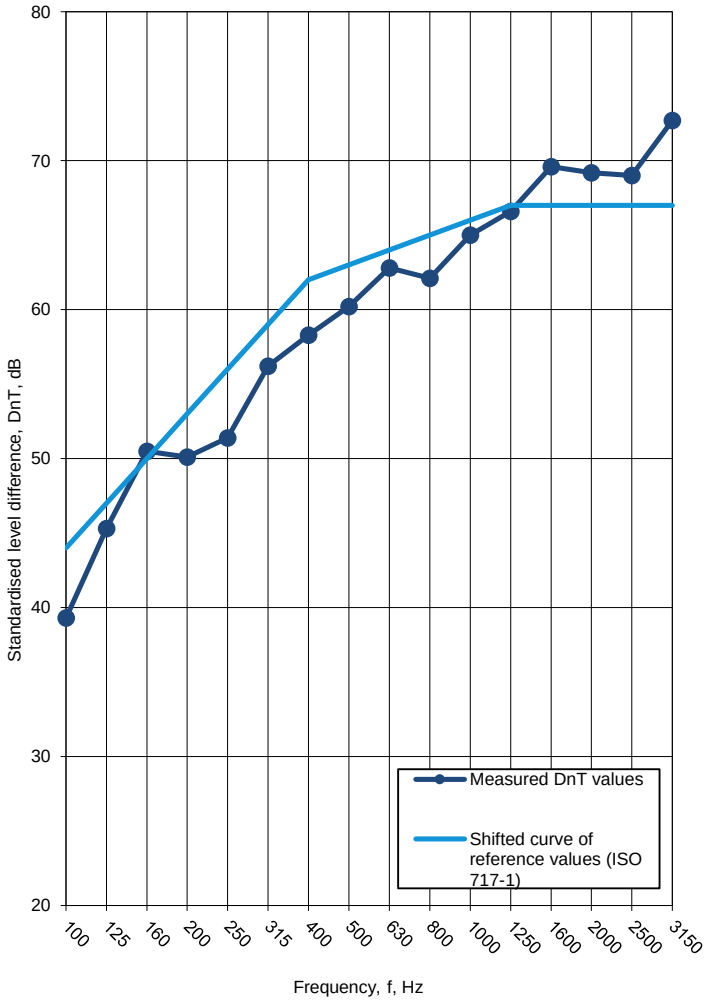
Airborne Wall Sound Insulation Test: AW34

Date of test: 29/03/2024

Source Room: 04-19-LKD Approximate Source Room Volume: 45m³

Receive Room: 04-13-B Approximate Receive Room Volume: 27m³

Frequency f Hz	DnT dB
100	39.3
125	45.3
160	50.5
200	50.1
250	51.4
315	56.2
400	58.3
500	60.2
630	62.8
800	62.1
1000	65.0
1250	66.6
1600	69.6
2000	69.2
2500	69.0
3150	72.7



Test Result

$D_{nT,w} + C_{tr} = \geq 56$ dB

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 63 (-2 ; -7) dB; $C_{(100\text{-}3150)}$ = -2 dB

$D_{nT,w}$ = ≥ 63 dB $C_{tr\ (100\text{-}3150)}$ -7 dB

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

Certificate Ref: 25173/SIT2/C34

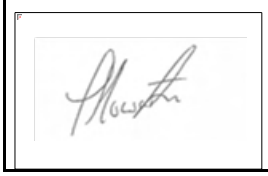
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Jake Howarth

Test Engineer No: 64

Test Engineer Signature:



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(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

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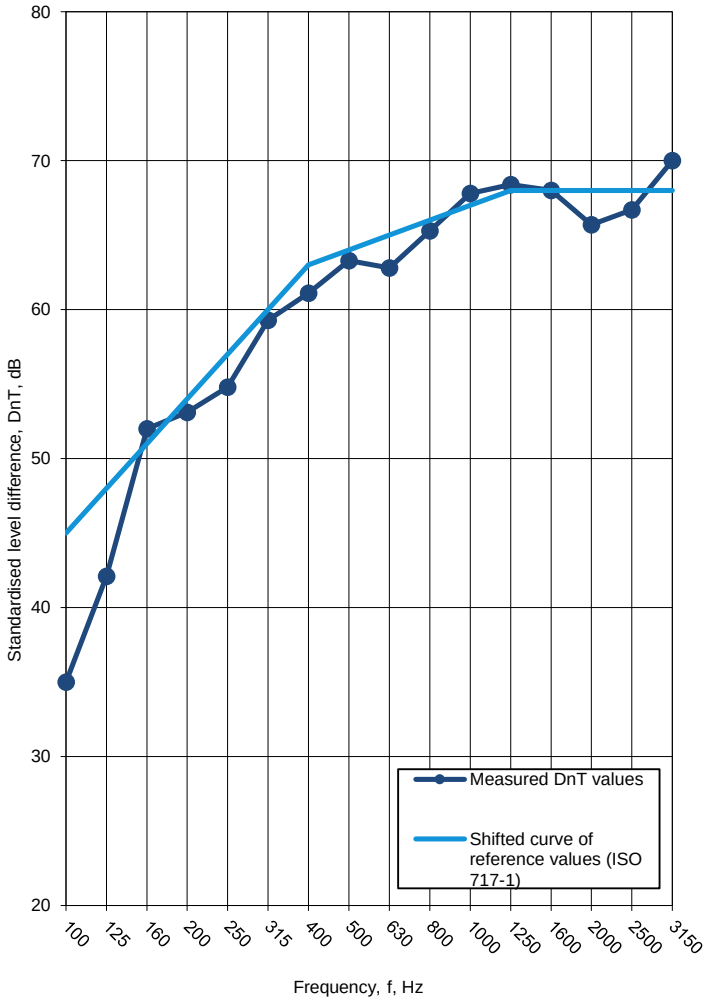
Airborne Wall Sound Insulation Test: AW35

Date of test: 29/03/2024

Source Room: 04-14-LKD Approximate Source Room Volume: 91m³

Receive Room: 04-15-LKD Approximate Receive Room Volume: 50m³

Frequency f Hz	DnT dB
100	35.0
125	42.1
160	52.0
200	53.1
250	54.8
315	59.3
400	61.1
500	63.3
630	62.8
800	65.3
1000	67.8
1250	68.4
1600	68.0
2000	65.7
2500	66.7
3150	70.0



Test Result

$D_{nT,w} + C_{tr} = \geq 54$ dB

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 64 (-4 ; -10) $C_{(100\text{-}3150)}$ = -4 dB

$D_{nT,w}$ = ≥ 64 dB $C_{tr\ (100\text{-}3150)}$ -10 dB

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

Certificate Ref: 25173/SIT2/C35

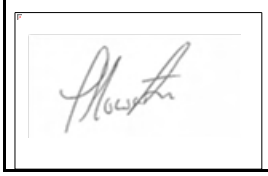
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Jake Howarth

Test Engineer No: 64

Test Engineer Signature:



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Project Details

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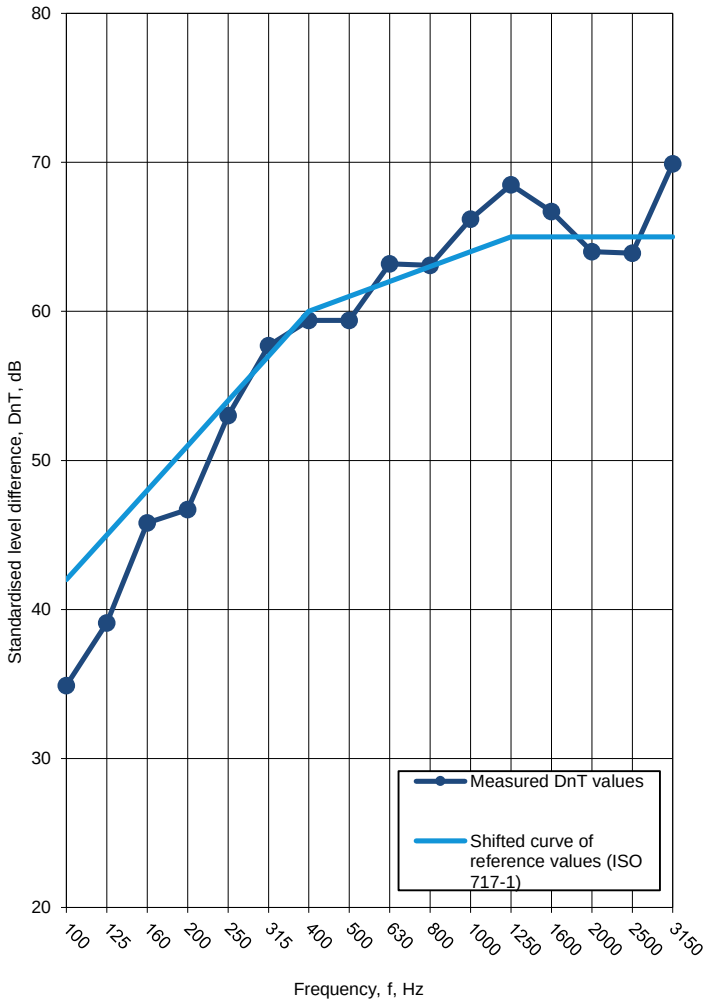
Airborne Wall Sound Insulation Test: AW36

Date of test: 29/03/2024

Source Room: 04-15-B Approximate Source Room Volume: 29m³

Receive Room: 04-16-B Approximate Receive Room Volume: 29m³

Frequency f Hz	DnT dB
100	34.9
125	39.1
160	45.8
200	46.7
250	53.0
315	57.7
400	59.4
500	59.4
630	63.2
800	63.1
1000	66.2
1250	68.5
1600	66.7
2000	64.0
2500	63.9
3150	69.9



Test Result

$D_{nT,w} + C_{tr} = \geq 52$ dB

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 61 (-3 ; -9) dB; $C_{(100-3150)}$ = -3 dB

$D_{nT,w}$ = ≥ 61 dB $C_{tr\ (100-3150)}$ -9 dB

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

Certificate Ref: 25173/SIT2/C36

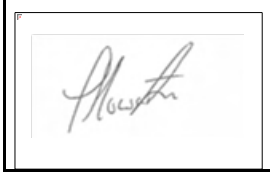
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Jake Howarth

Test Engineer No: 64

Test Engineer Signature:



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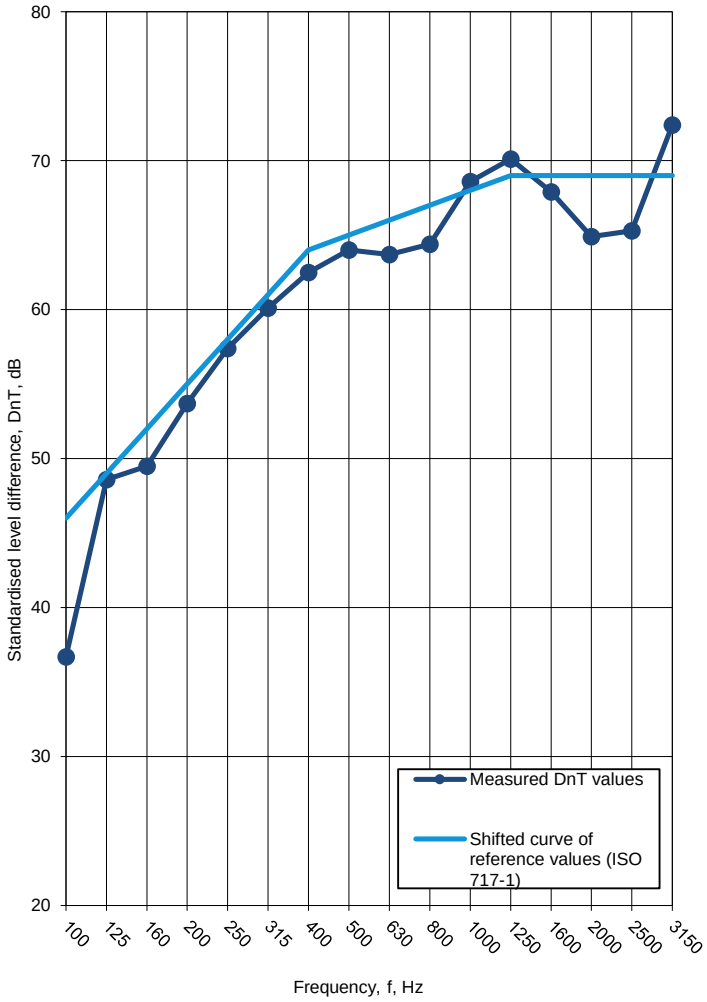
Airborne Wall Sound Insulation Test: AW37

Date of test: 29/03/2024

Source Room: 04-18-B Approximate Source Room Volume: 26m³

Receive Room: 04-17-B Approximate Receive Room Volume: 26m³

Frequency f Hz	DnT dB
100	36.7
125	48.6
160	49.5
200	53.7
250	57.4
315	60.1
400	62.5
500	64.0
630	63.7
800	64.4
1000	68.6
1250	70.1
1600	67.9
2000	64.9
2500	65.3
3150	72.4



Test Result

$D_{nT,w} + C_{tr} = \geq 55$ dB

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 65 (-3 ; -10) $C_{(100\text{-}3150)}$ = -3 dB

$D_{nT,w}$ = ≥ 65 dB $C_{tr\ (100\text{-}3150)}$ -10 dB

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

Certificate Ref: 25173/SIT2/C37

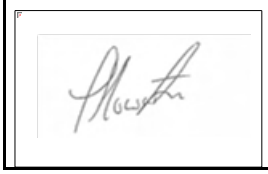
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Jake Howarth

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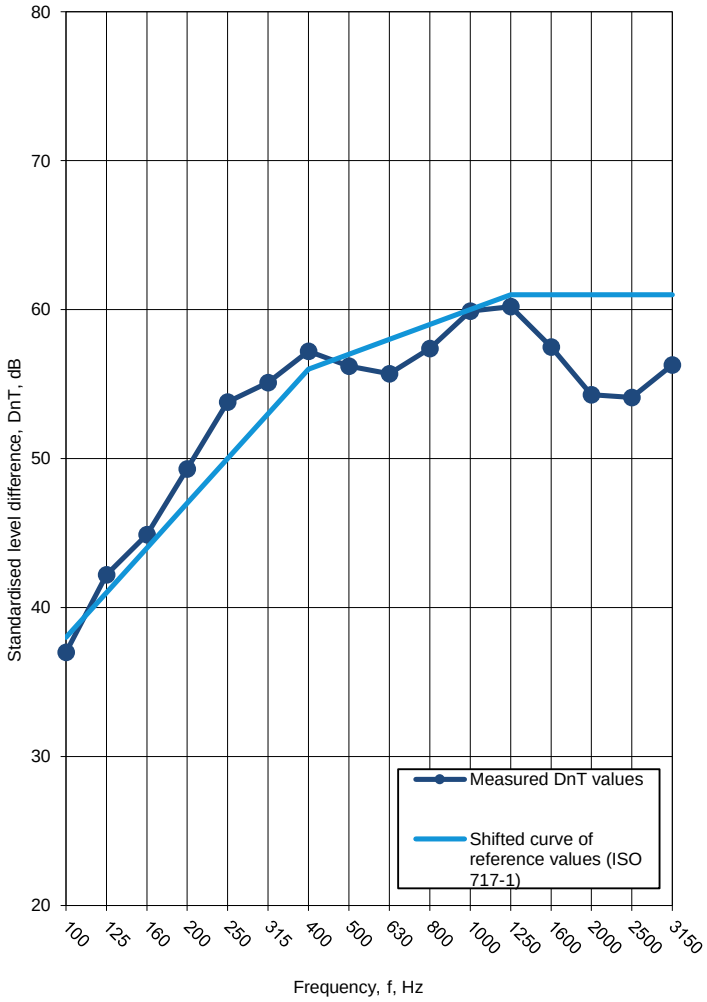
Airborne Wall Sound Insulation Test: AW38

Date of test: 29/03/2024

Source Room: 03-13-LKD Approximate Source Room Volume: 45m³

Receive Room: 03-11-LKD Approximate Receive Room Volume: 45m³

Frequency f Hz	DnT dB
100	37.0
125	42.2
160	44.9
200	49.3
250	53.8
315	55.1
400	57.2
500	56.2
630	55.7
800	57.4
1000	59.9
1250	60.2
1600	57.5
2000	54.3
2500	54.1
3150	56.3



Test Result

$D_{nT,w} + C_{tr} = \geq 53$ dB

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 57 (-2 ; -4) dB; $C_{(100\text{-}3150)}$ = -2 dB

$D_{nT,w}$ = ≥ 57 dB $C_{tr\ (100\text{-}3150)}$ -4 dB

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

Certificate Ref: 25173/SIT2/C38

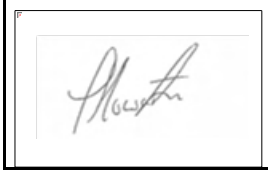
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Jake Howarth

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Test Engineer Signature:



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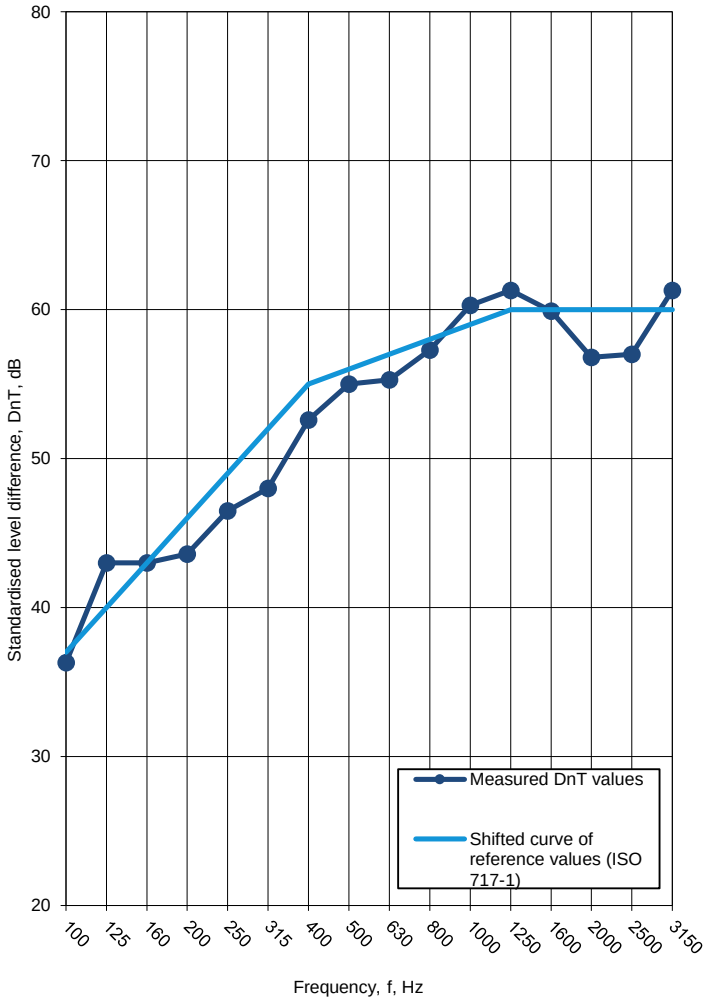
Airborne Wall Sound Insulation Test: AW39

Date of test: 29/03/2024

Source Room: 03-09-LKD Approximate Source Room Volume: 64m³

Receive Room: 03-05-B Approximate Receive Room Volume: 26m³

Frequency f Hz	DnT dB
100	36.3
125	43.0
160	43.0
200	43.6
250	46.5
315	48.0
400	52.6
500	55.0
630	55.3
800	57.3
1000	60.3
1250	61.3
1600	59.9
2000	56.8
2500	57.0
3150	61.3



Test Result

$D_{nT,w} + C_{tr} = \geq 51$ dB

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 56 (-1 ; -5) dB; $C_{(100\text{-}3150)}$ = -1 dB

$D_{nT,w}$ = ≥ 56 dB $C_{tr\ (100\text{-}3150)}$ -5 dB

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

Certificate Ref: 25173/SIT2/C39

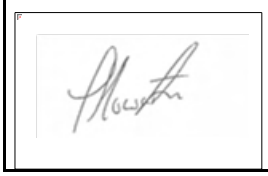
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Jake Howarth

Test Engineer No: 64

Test Engineer Signature:



Hann Tucker Associates
Consultants in Acoustics Noise & Vibration
Head Office: Duke House, 1-2 Duke Street, Woking, Surrey GU21 5BA (t) +44 (0) 1483 770 595
Manchester Office: First Floor, 346 Deansgate, Manchester M3 4LY (t) +44 (0) 161 832 7041
(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

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

Project Details

Development: Swan House, Manchester Client: RG Group Report Ref: 25173/SIT2

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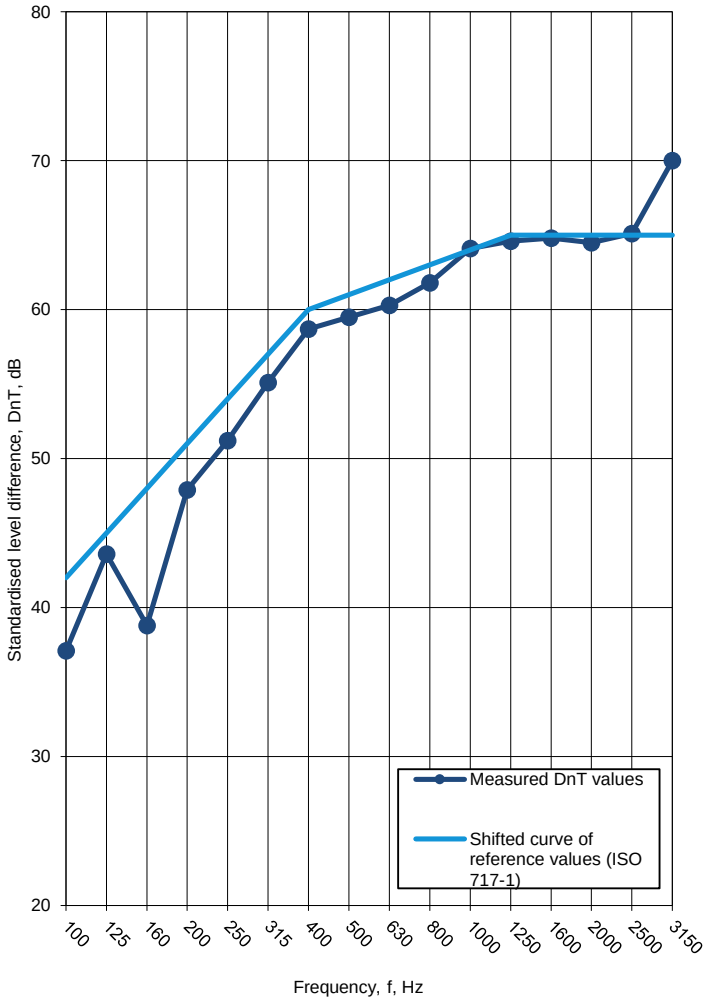
Airborne Wall Sound Insulation Test: AW40

Date of test: 29/03/2024

Source Room: 03-05-LKD Approximate Source Room Volume: 64m³

Receive Room: 03-04-B Approximate Receive Room Volume: 26m³

Frequency f Hz	DnT dB
100	37.1
125	43.6
160	38.8
200	47.9
250	51.2
315	55.1
400	58.7
500	59.5
630	60.3
800	61.8
1000	64.1
1250	64.6
1600	64.8
2000	64.5
2500	65.1
3150	70.0



Test Result

$D_{nT,w} + C_{tr} = \geq 52$ dB

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 61 (-3 ; -9) dB; $C_{(100\text{-}3150)}$ = -3 dB

$D_{nT,w}$ = ≥ 61 dB $C_{tr\ (100\text{-}3150)}$ -9 dB

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

Certificate Ref: 25173/SIT2/C40

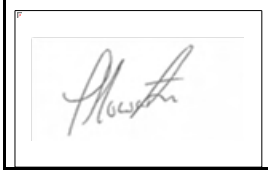
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Jake Howarth

Test Engineer No: 64

Test Engineer Signature:



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(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

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Project Details

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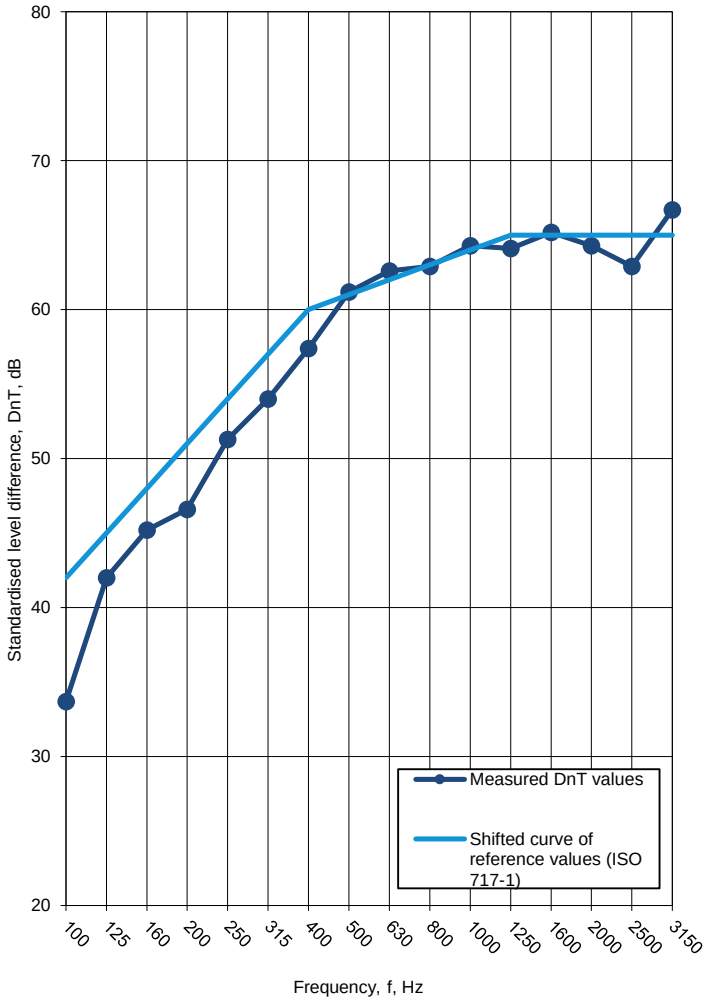
Airborne Wall Sound Insulation Test: AW41

Date of test: 29/03/2024

Source Room: 03-10-LKD Approximate Source Room Volume: 45m³

Receive Room: 03-11-B Approximate Receive Room Volume: 26m³

Frequency f Hz	DnT dB
100	33.7
125	42.0
160	45.2
200	46.6
250	51.3
315	54.0
400	57.4
500	61.2
630	62.6
800	62.9
1000	64.3
1250	64.1
1600	65.2
2000	64.3
2500	62.9
3150	≥ 66.7



Test Result

$D_{nT,w} + C_{tr} = \geq 52$ dB

≥ Results limited due to high background noise levels

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 61 (-3 ; -9) dB; $C_{(100\text{-}3150)}$ = -3 dB

$D_{nT,w}$ = ≥ 61 dB $C_{tr\ (100\text{-}3150)}$ -9 dB

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

Certificate Ref: 25173/SIT2/C41

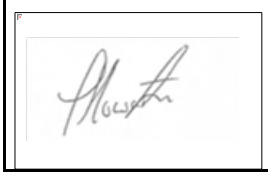
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Jake Howarth

Test Engineer No: 64

Test Engineer Signature:



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Standardised level difference according to ISO 140-4
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Project Details

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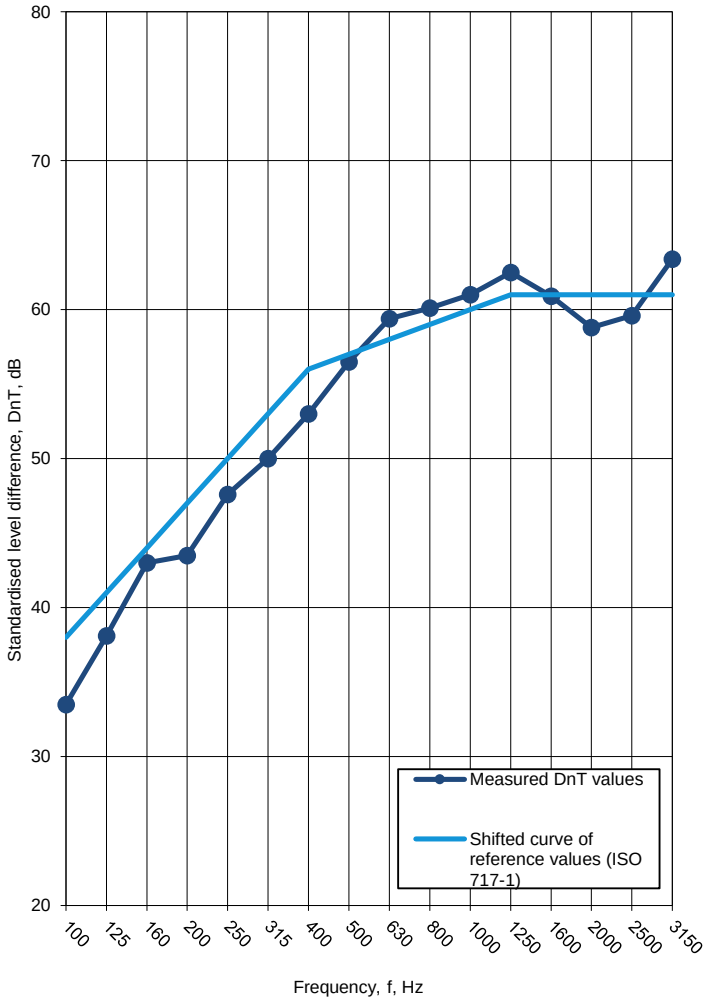
Airborne Wall Sound Insulation Test: AW42

Date of test: 29/03/2024

Source Room: 02-09LKD Approximate Source Room Volume: 64m³

Receive Room: 02-05-B Approximate Receive Room Volume: 26m³

Frequency f Hz	DnT dB
100	33.5
125	38.1
160	43.0
200	43.5
250	47.6
315	50.0
400	53.0
500	56.5
630	59.4
800	60.1
1000	61.0
1250	62.5
1600	60.9
2000	58.8
2500	59.6
3150	63.4



Test Result

$D_{nT,w} + C_{tr} = \geq 50$ dB

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 57 (-2 ; -7) dB; $C_{(100\text{-}3150)}$ = -2 dB

$D_{nT,w}$ = ≥ 57 dB $C_{tr\ (100\text{-}3150)}$ -7 dB

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

Certificate Ref: 25173/SIT2/C42

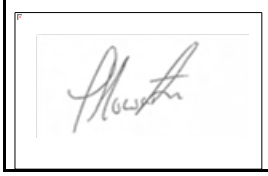
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Jake Howarth

Test Engineer No: 64

Test Engineer Signature:



Hann Tucker Associates
Consultants in Acoustics Noise & Vibration
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Manchester Office: First Floor, 346 Deansgate, Manchester M3 4LY (t) +44 (0) 161 832 7041
(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

Standardised level difference according to ISO 140-4
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Project Details

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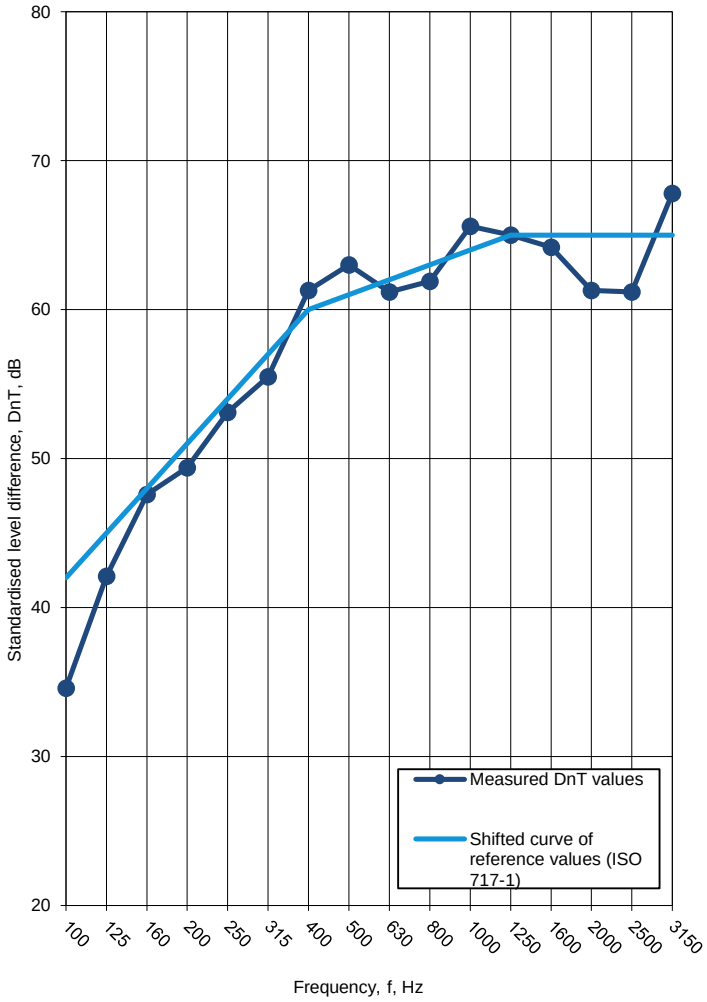
Airborne Wall Sound Insulation Test: AW43

Date of test: 30/03/2024

Source Room: 02-09-B Approximate Source Room Volume: 28m³

Receive Room: 02-12-B Approximate Receive Room Volume: 27m³

Frequency f Hz	DnT dB
100	34.6
125	42.1
160	47.6
200	49.4
250	53.1
315	55.5
400	61.3
500	63.0
630	61.2
800	61.9
1000	65.6
1250	65.0
1600	64.2
2000	61.3
2500	61.2
3150	67.8



Test Result

$D_{nT,w} + C_{tr} = \geq 53$ dB

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 61 (-2 ; -8) dB; $C_{(100\text{-}3150)}$ = -2 dB

$D_{nT,w}$ = ≥ 61 dB $C_{tr\ (100\text{-}3150)}$ -8 dB

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

Certificate Ref: 25173/SIT2/C43

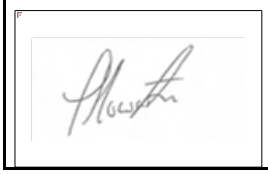
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Jake Howarth

Test Engineer No: 64

Test Engineer Signature:



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Head Office: Duke House, 1-2 Duke Street, Woking, Surrey GU21 5BA (t) +44 (0) 1483 770 595
Manchester Office: First Floor, 346 Deansgate, Manchester M3 4LY (t) +44 (0) 161 832 7041
(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

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

Project Details

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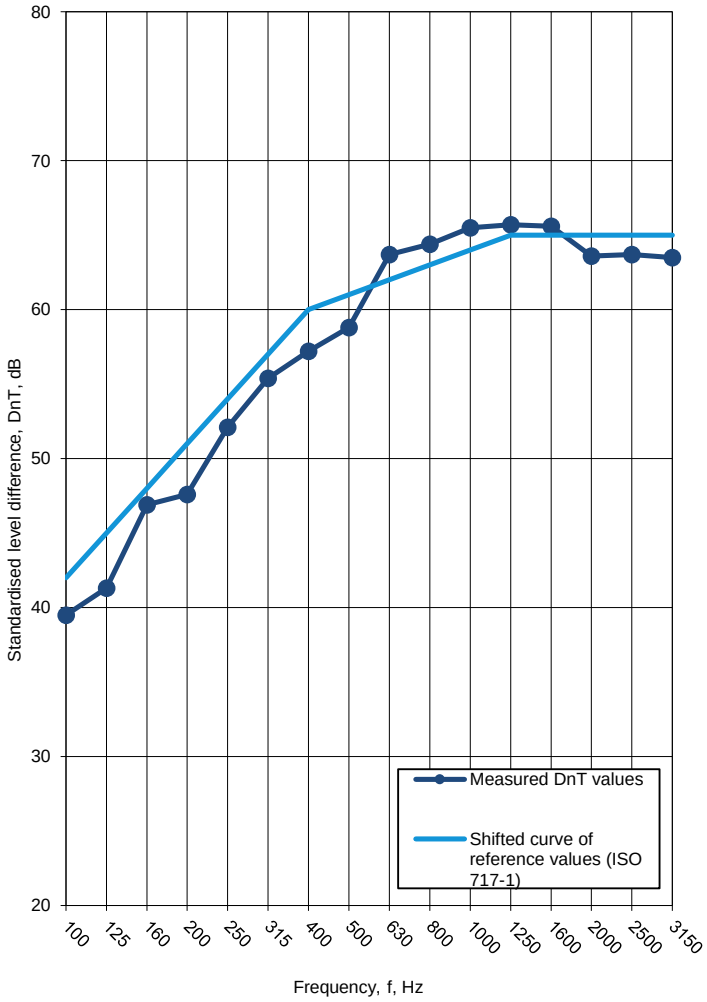
Airborne Wall Sound Insulation Test: AW44

Date of test: 30/03/2024

Source Room: 02-10-LKD Approximate Source Room Volume: 56m³

Receive Room: 02-11-B Approximate Receive Room Volume: 27m³

Frequency f Hz	DnT dB
100	39.5
125	41.3
160	46.9
200	47.6
250	52.1
315	55.4
400	57.2
500	58.8
630	63.7
800	64.4
1000	65.5
1250	65.7
1600	65.6
2000	63.6
2500	63.7
3150	63.5



Test Result

$D_{nT,w} + C_{tr} = \geq 55$ dB

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 61 (-2 ; -6) dB; $C_{(100\text{-}3150)}$ = -2 dB

$D_{nT,w}$ = ≥ 61 dB $C_{tr\ (100\text{-}3150)}$ -6 dB

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

Certificate Ref: 25173/SIT2/C44

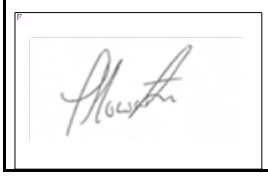
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Jake Howarth

Test Engineer No: 64

Test Engineer Signature:



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(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

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Project Details

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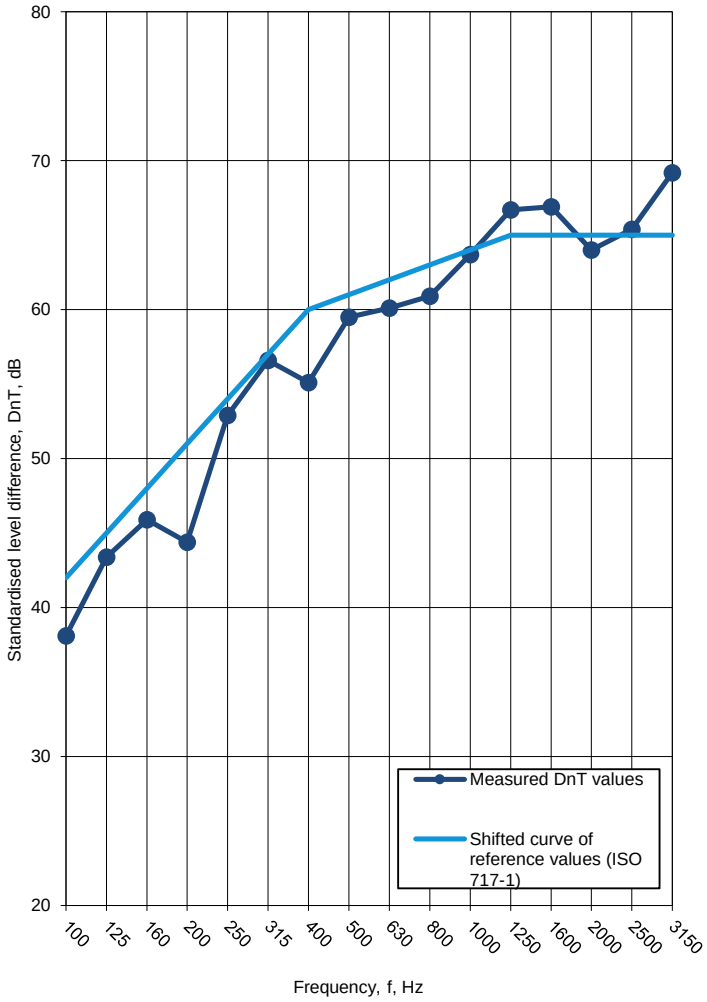
Airborne Wall Sound Insulation Test: AW45

Date of test: 30/03/2024

Source Room: 02-08-LKD Approximate Source Room Volume: 53m³

Receive Room: 02-10-B Approximate Receive Room Volume: 26m³

Frequency f Hz	DnT dB
100	38.1
125	43.4
160	45.9
200	44.4
250	52.9
315	56.6
400	55.1
500	59.5
630	60.1
800	60.9
1000	63.7
1250	66.7
1600	66.9
2000	64.0
2500	65.4
3150	69.2



Test Result

$D_{nT,w} + C_{tr} = \geq 54$ dB

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 61 (-2 ; -7) dB; $C_{(100\text{-}3150)}$ = -2 dB

$D_{nT,w}$ = ≥ 61 dB $C_{tr\ (100\text{-}3150)}$ -7 dB

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

Certificate Ref: 25173/SIT2/C45

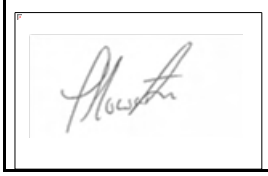
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Jake Howarth

Test Engineer No: 64

Test Engineer Signature:



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Project Details

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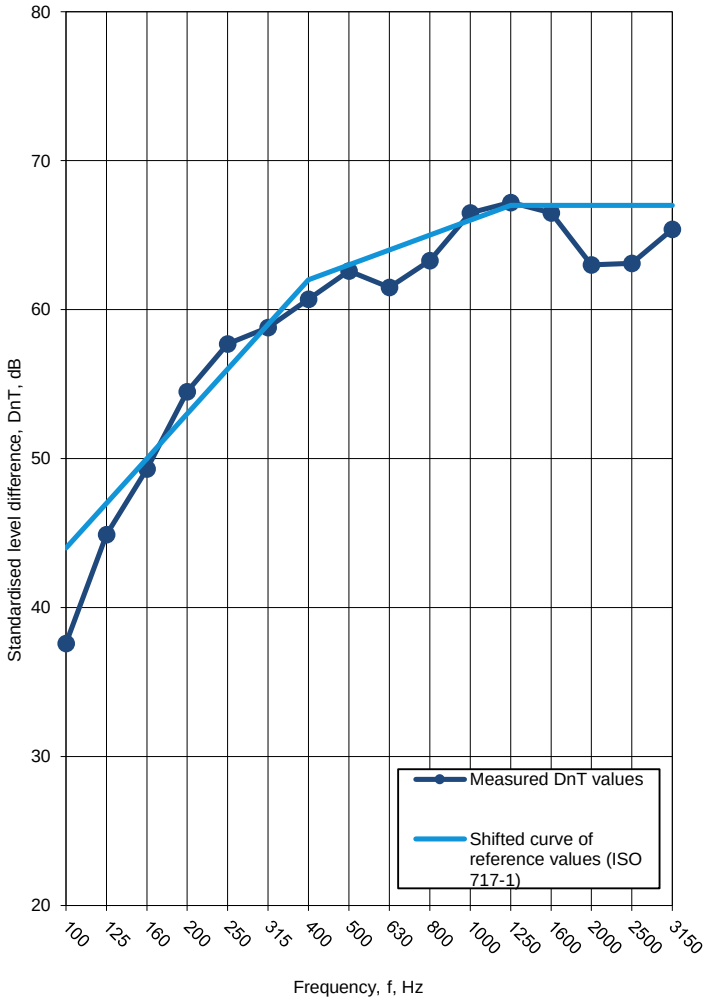
Airborne Wall Sound Insulation Test: AW46

Date of test: 30/03/2024

Source Room: 01-12-LKD Approximate Source Room Volume: 76m³

Receive Room: 01-13-LKD Approximate Receive Room Volume: 76m³

Frequency f Hz	DnT dB
100	37.6
125	44.9
160	49.3
200	54.5
250	57.7
315	58.8
400	60.7
500	62.6
630	61.5
800	63.3
1000	66.5
1250	67.2
1600	66.5
2000	63.0
2500	63.1
3150	65.4



Test Result

$D_{nT,w} + C_{tr} = \geq 56$ dB

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 63 (-2 ; -7) dB; $C_{(100\text{-}3150)}$ = -2 dB

$D_{nT,w}$ = ≥ 63 dB $C_{tr\ (100\text{-}3150)}$ -7 dB

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

Certificate Ref: 25173/SIT2/C46

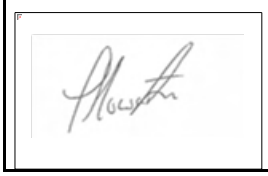
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Jake Howarth

Test Engineer No: 64

Test Engineer Signature:



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Project Details

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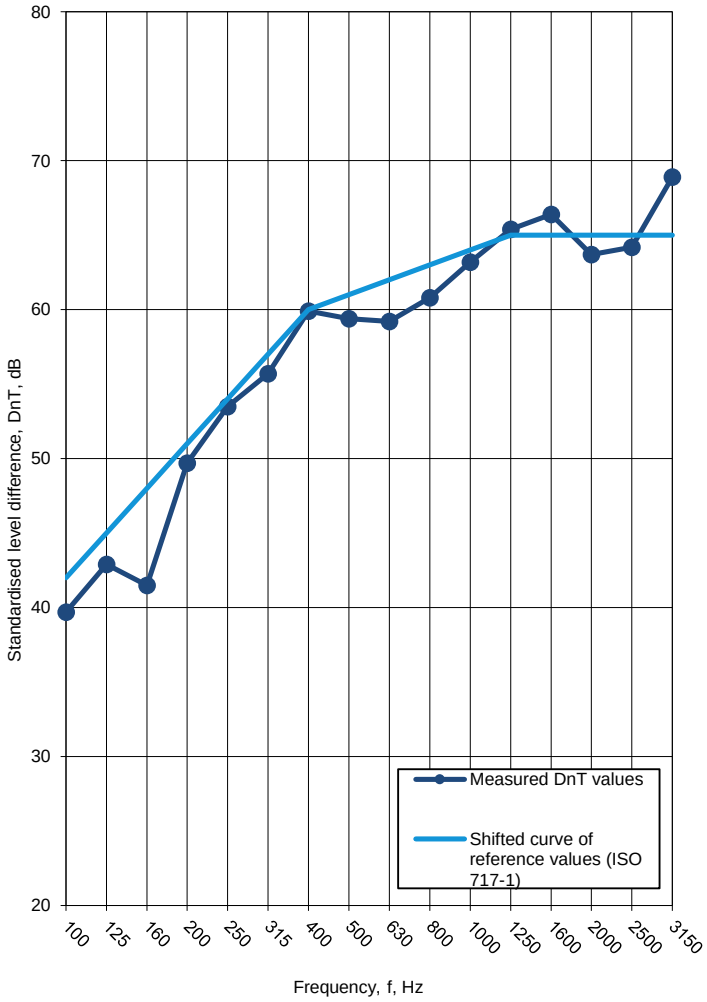
Airborne Wall Sound Insulation Test: AW47

Date of test: 30/03/2024

Source Room: 01-12-B Approximate Source Room Volume: 28m³

Receive Room: 01-10-B Approximate Receive Room Volume: 28m³

Frequency f Hz	DnT dB
100	39.7
125	42.9
160	41.5
200	49.7
250	53.5
315	55.7
400	59.9
500	59.4
630	59.2
800	60.8
1000	63.2
1250	65.4
1600	66.4
2000	63.7
2500	64.2
3150	68.9



Test Result

$D_{nT,w} + C_{tr} = \geq 54$ dB

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 61 (-2 ; -7) dB; $C_{(100\text{-}3150)}$ = -2 dB

$D_{nT,w}$ = ≥ 61 dB $C_{tr\ (100\text{-}3150)}$ -7 dB

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

Certificate Ref: 25173/SIT2/C47

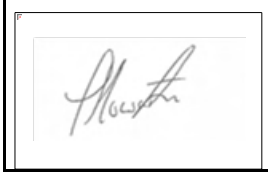
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Jake Howarth

Test Engineer No: 64

Test Engineer Signature:



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Project Details

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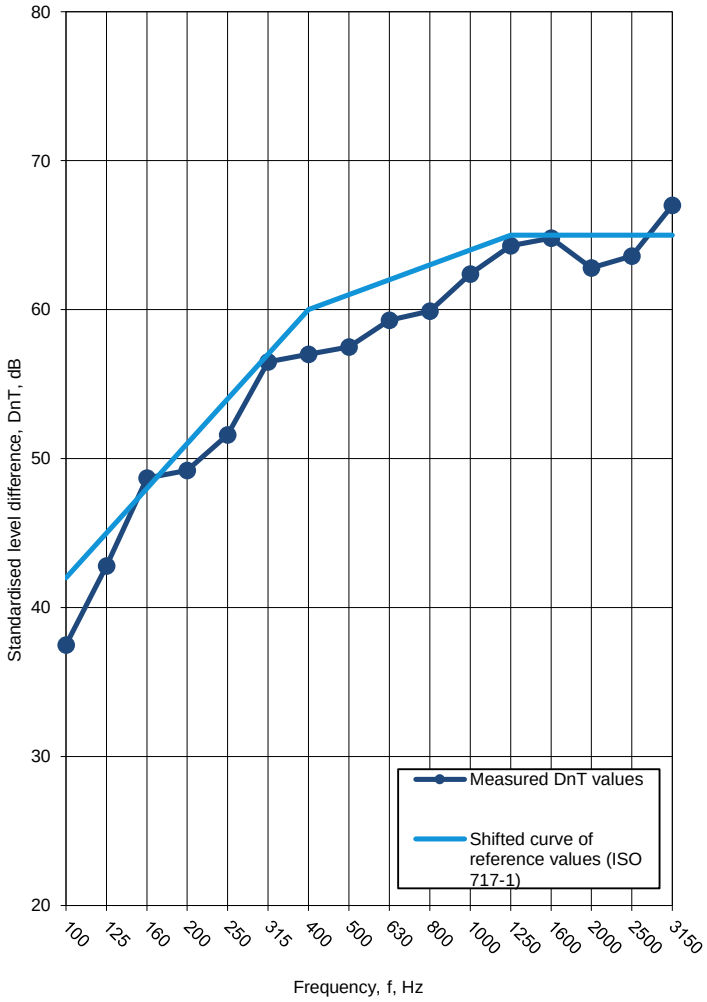
Airborne Wall Sound Insulation Test: AW48

Date of test: 30/03/2024

Source Room: 01-06-LKD Approximate Source Room Volume: 70m³

Receive Room: 01-08-B Approximate Receive Room Volume: 26m³

Frequency f Hz	DnT dB
100	37.5
125	42.8
160	48.7
200	49.2
250	51.6
315	56.5
400	57.0
500	57.5
630	59.3
800	59.9
1000	62.4
1250	64.3
1600	64.8
2000	62.8
2500	63.6
3150	67.0



Test Result

$D_{nT,w} + C_{tr} = \geq 54$ dB

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 61 (-2 ; -7) dB; $C_{(100\text{-}3150)}$ = -2 dB

$D_{nT,w}$ = ≥ 61 dB $C_{tr\ (100\text{-}3150)}$ -7 dB

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

Certificate Ref: 25173/SIT2/C48

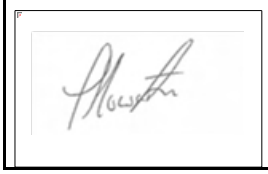
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Jake Howarth

Test Engineer No: 64

Test Engineer Signature:



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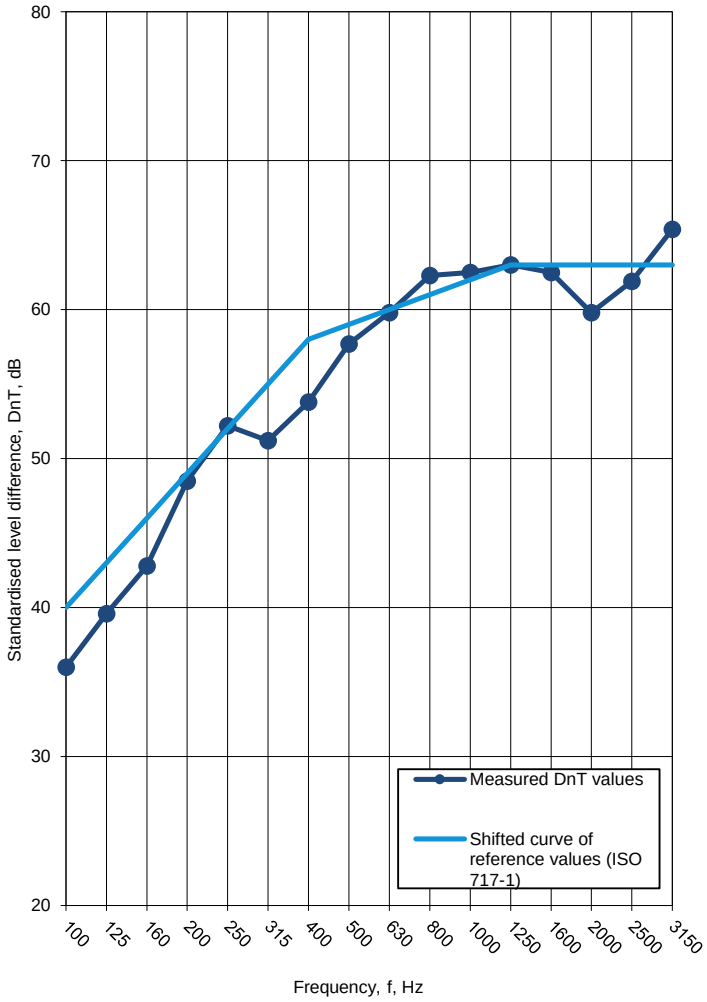
Airborne Wall Sound Insulation Test: AW49

Date of test: 30/03/2024

Source Room: 17-03-B Approximate Source Room Volume: 35m³

Receive Room: 17-02-B Approximate Receive Room Volume: 35m³

Frequency f Hz	DnT dB
100	36.0
125	39.6
160	42.8
200	48.5
250	52.2
315	51.2
400	53.8
500	57.7
630	59.8
800	62.3
1000	62.5
1250	63.0
1600	62.5
2000	59.8
2500	61.9
3150	≥ 65.4



Test Result

$D_{nT,w} + C_{tr} = \geq 52$ dB

≥ Results limited due to high background noise levels

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 59 (-2 ; -7) dB; $C_{(100\text{-}3150)}$ = -2 dB

$D_{nT,w}$ = ≥ 59 dB $C_{tr\ (100\text{-}3150)}$ -7 dB

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

Certificate Ref: 25173/SIT2/C49

Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Will Robertson

Test Engineer No: 80

Test Engineer Signature:

Hann Tucker Associates
Consultants in Acoustics Noise & Vibration
Head Office: Duke House, 1-2 Duke Street, Woking, Surrey GU21 5BA (t) +44 (0) 1483 770 595
Manchester Office: First Floor, 346 Deansgate, Manchester M3 4LY (t) +44 (0) 161 832 7041
(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

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

Project Details

Development: Swan House, Manchester Client: RG Group Report Ref: 25173/SIT2

UKAS TESTING
4083

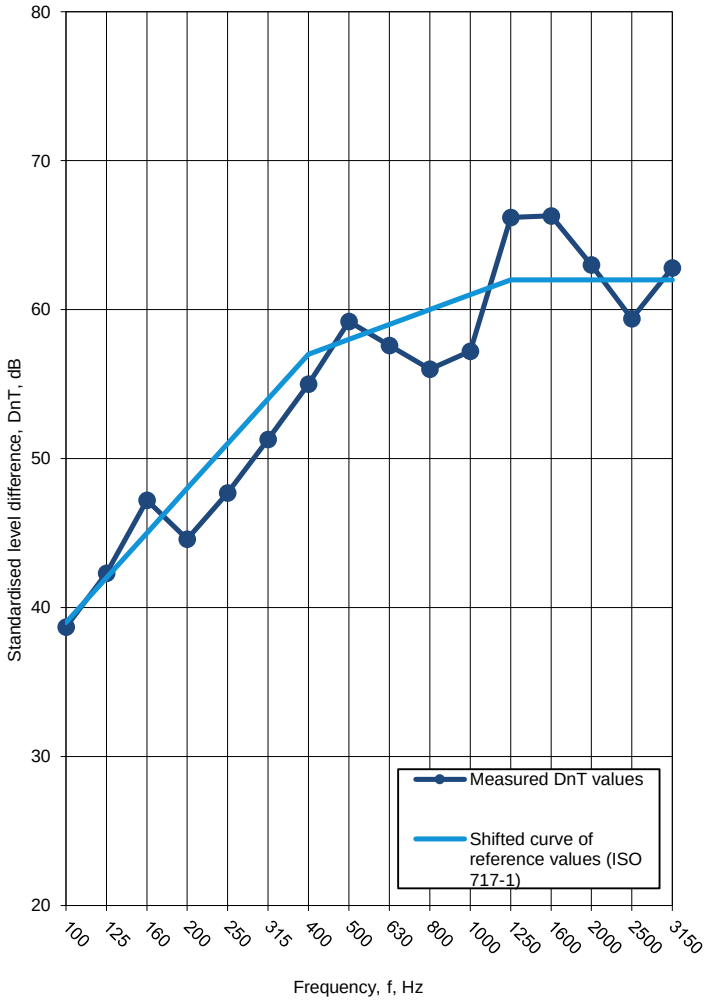
Airborne Wall Sound Insulation Test: AW50

Date of test: 30/03/2024

Source Room: 17-04-LKD Approximate Source Room Volume: 49m³

Receive Room: 17-03-B Approximate Receive Room Volume: 26m³

Frequency f Hz	DnT dB
100	38.7
125	42.3
160	47.2
200	44.6
250	47.7
315	51.3
400	55.0
500	59.2
630	57.6
800	56.0
1000	57.2
1250	66.2
1600	66.3
2000	63.0
2500	59.4
3150	62.8



Test Result

$D_{nT,w} + C_{tr} = \geq 53$ dB

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 58 (-1 ; -5) dB; $C_{(100\text{-}3150)}$ = -1 dB

$D_{nT,w}$ = ≥ 58 dB $C_{tr\ (100\text{-}3150)}$ -5 dB

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

Certificate Ref: 25173/SIT2/C50

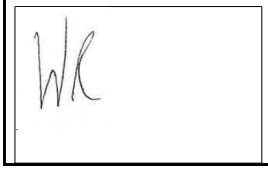
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Will Robertson

Test Engineer No: 80

Test Engineer Signature:



Hann Tucker Associates
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(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

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

Project Details

Development: Swan House, Manchester Client: RG Group Report Ref: 25173/SIT2

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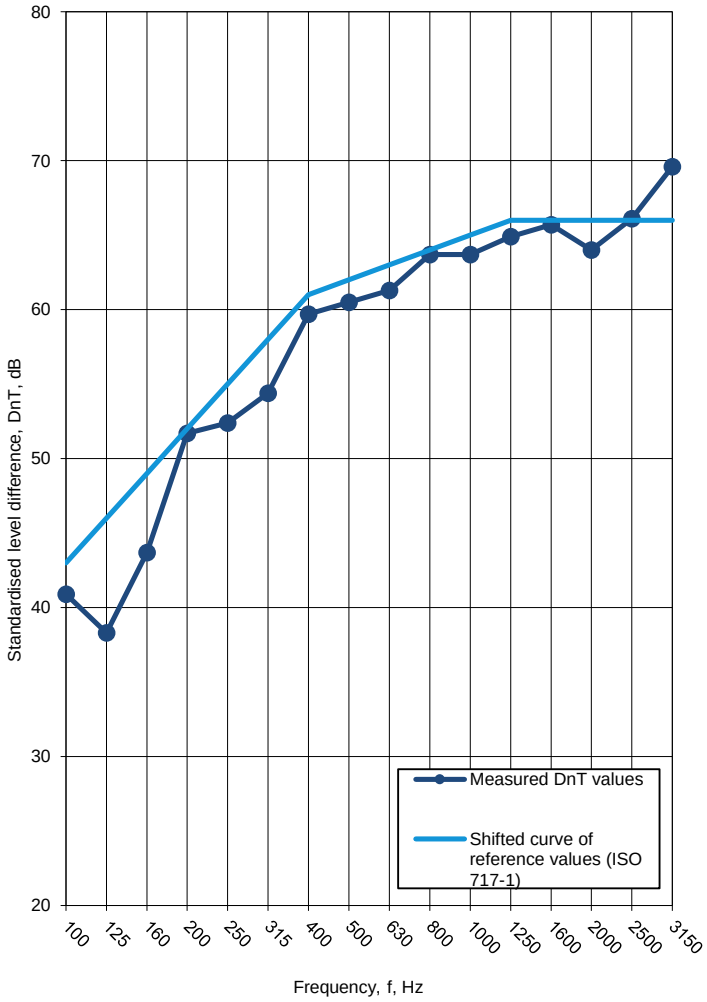
Airborne Wall Sound Insulation Test: AW51

Date of test: 30/03/2024

Source Room: 06-03-B Approximate Source Room Volume: 35m³

Receive Room: 06-02-B Approximate Receive Room Volume: 35m³

Frequency f Hz	DnT dB
100	40.9
125	38.3
160	43.7
200	51.7
250	52.4
315	54.4
400	59.7
500	60.5
630	61.3
800	63.7
1000	63.7
1250	64.9
1600	65.7
2000	64.0
2500	66.1
3150	69.6



Test Result

$D_{nT,w} + C_{tr} = \geq 54$ dB

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 62 (-3 ; -8) dB; $C_{(100\text{-}3150)}$ = -3 dB

$D_{nT,w}$ = ≥ 62 dB $C_{tr\ (100\text{-}3150)}$ -8 dB

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

Certificate Ref: 25173/SIT2/C51

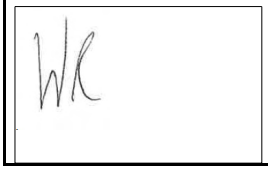
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Will Robertson

Test Engineer No: 80

Test Engineer Signature:



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Manchester Office: First Floor, 346 Deansgate, Manchester M3 4LY (t) +44 (0) 161 832 7041
(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

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

Project Details

Development: Swan House, Manchester Client: RG Group Report Ref: 25173/SIT2

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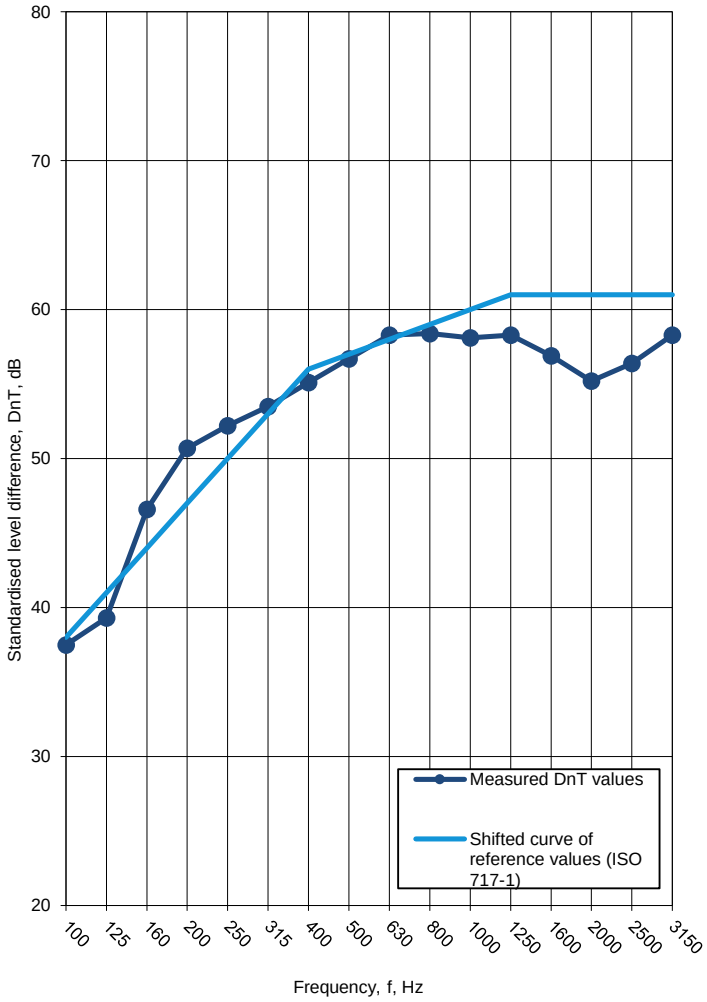
Airborne Wall Sound Insulation Test: AW52

Date of test: 30/03/2024

Source Room: 06-04-LKD Approximate Source Room Volume: 49m³

Receive Room: 06-03-B Approximate Receive Room Volume: 26m³

Frequency f Hz	DnT dB
100	37.5
125	39.3
160	46.6
200	50.7
250	52.2
315	53.5
400	55.1
500	56.7
630	58.3
800	58.4
1000	58.1
1250	58.3
1600	56.9
2000	55.2
2500	56.4
3150	58.3



Test Result

$D_{nT,w} + C_{tr} = \geq 53$ dB

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 57 (-1 ; -4) dB; $C_{(100\text{-}3150)}$ = -1 dB

$D_{nT,w}$ = ≥ 57 dB $C_{tr\ (100\text{-}3150)}$ -4 dB

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

Certificate Ref: 25173/SIT2/C52

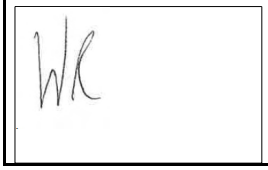
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Will Robertson

Test Engineer No: 80

Test Engineer Signature:



Hann Tucker Associates
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Head Office: Duke House, 1-2 Duke Street, Woking, Surrey GU21 5BA (t) +44 (0) 1483 770 595
Manchester Office: First Floor, 346 Deansgate, Manchester M3 4LY (t) +44 (0) 161 832 7041
(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

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

Project Details

Development: Swan House, Manchester Client: RG Group Report Ref: 25173/SIT2

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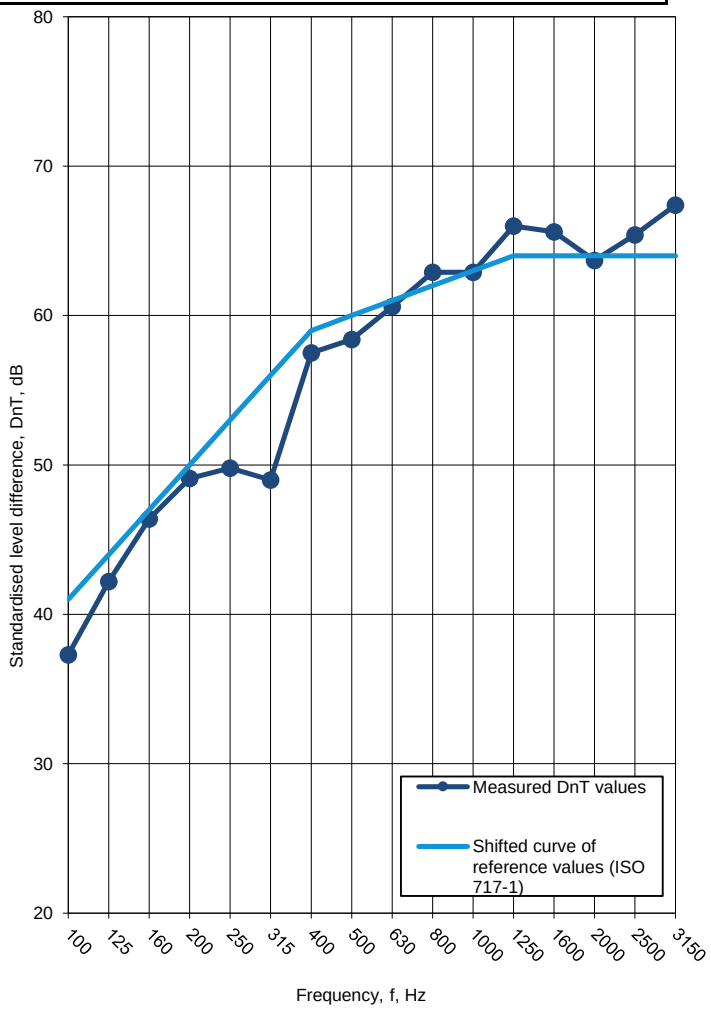
Airborne Wall Sound Insulation Test: AW53

Date of test: 30/03/2024

Source Room: 05-01-LKD Approximate Source Room Volume: 59m³

Receive 05-08-B Approximate Receive Room Volume: 28m³

Frequency f Hz	DnT dB
100	37.3
125	42.2
160	46.4
200	49.1
250	49.8
315	49.0
400	57.5
500	58.4
630	60.6
800	62.9
1000	62.9
1250	66.0
1600	65.6
2000	63.7
2500	65.4
3150	67.4



Test Result

$D_{nT,w} + C_{tr} = \geq 53$ dB

Rating according to ISO 717-1:

$D_{nT,w}$ (C;C_{tr}) = ≥ 60 (-2 ; -7) dB; $C_{(100\text{-}3150)}$ = -2 dB

$D_{nT,w}$ = ≥ 60 dB $C_{tr\ (100\text{-}3150)}$ -7 dB

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

Certificate Ref: 25173/SIT2/C53

Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Will Robertson

Test Engineer No: 80

Test Engineer Signature:

Hann Tucker Associates
Consultants in Acoustics Noise & Vibration
Head Office: Duke House, 1-2 Duke Street, Woking, Surrey GU21 5BA (t) +44 (0) 1483 770 595
Manchester Office: First Floor, 346 Deansgate, Manchester M3 4LY (t) +44 (0) 161 832 7041
(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

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

Project Details

Development: Swan House, Manchester Client: RG Group Report Ref: 25173/SIT2

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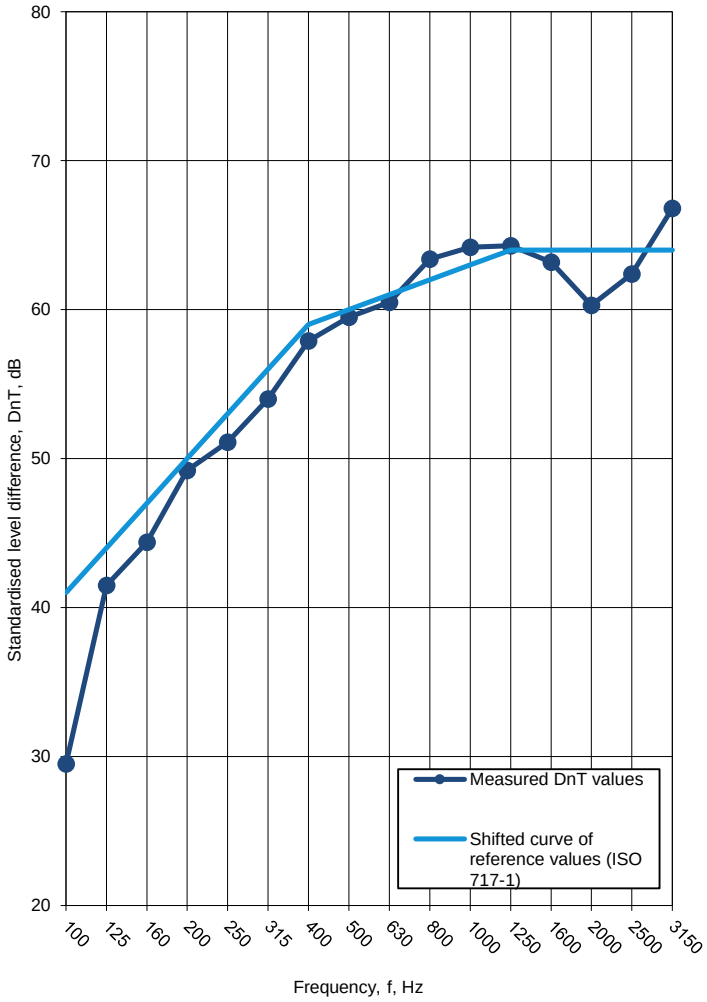
Airborne Wall Sound Insulation Test: AW54

Date of test: 30/03/2024

Source Room: 05-02-LKD Approximate Source Room Volume: 57m³

Receive Room: 05-01-B Approximate Receive Room Volume: 30m³

Frequency f Hz	DnT dB
100	29.5
125	41.5
160	44.4
200	49.2
250	51.1
315	54.0
400	57.9
500	59.5
630	60.5
800	63.4
1000	≥ 64.2
1250	64.3
1600	63.2
2000	60.3
2500	62.4
3150	≥ 66.8



Test Result

$D_{nT,w} + C_{tr} = \geq 49$ dB

≥ Results limited due to high background noise levels

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 60 (-4 ; -11) $C_{(100-3150)}$ = -4 dB

$D_{nT,w}$ = ≥ 60 dB $C_{tr\ (100-3150)}$ -11 dB

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

Certificate Ref: 25173/SIT2/C54

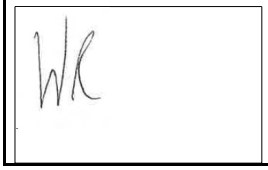
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Will Robertson

Test Engineer No: 80

Test Engineer Signature:



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(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

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

Project Details

Development: Swan House, Manchester Client: RG Group Report Ref: 25173/SIT2

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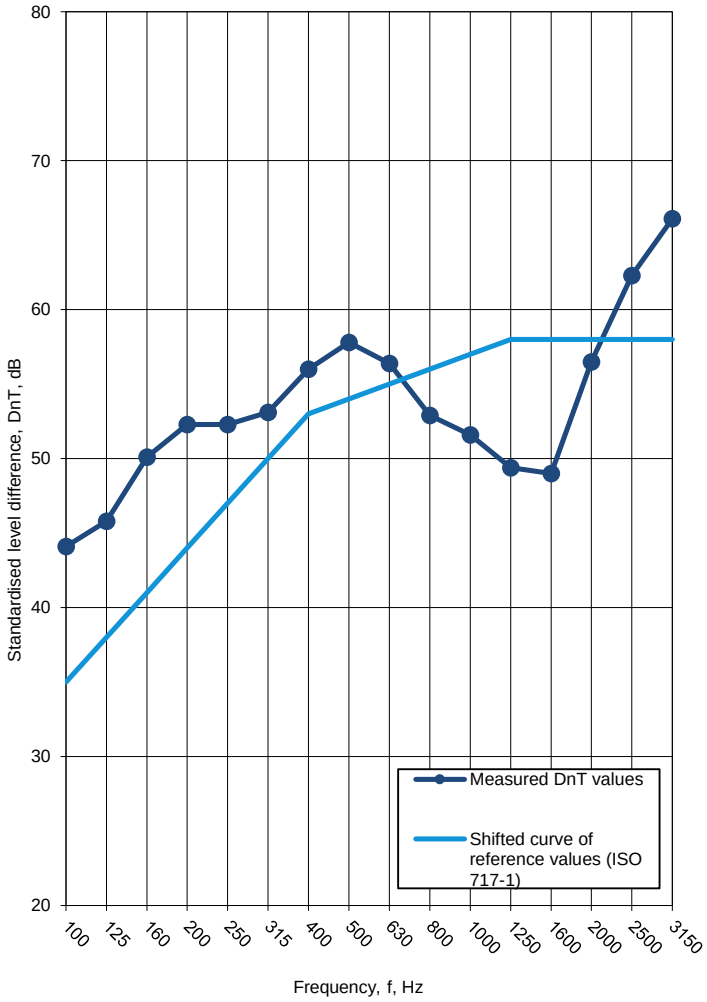
Airborne Floor Sound Insulation Test: AF1

Date of test: 09/01/2024

Source Room: 12-02-B Approximate Source Room Volume: 35m³

Receive Room: 11-02-B Approximate Receive Room Volume: 35m³

Frequency f Hz	DnT dB
100	44.1
125	45.8
160	50.1
200	52.3
250	52.3
315	53.1
400	56.0
500	57.8
630	56.4
800	52.9
1000	51.6
1250	49.4
1600	49.0
2000	56.5
2500	62.3
3150	≥ 66.1



Test Result

$D_{nT,w} + C_{tr} = \geq 52$ dB

≥ Results limited due to high background noise levels

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 54 (-1 ; -2) dB; $C_{(100\text{-}3150)}$ = -1 dB

$D_{nT,w}$ = ≥ 54 dB $C_{tr\ (100\text{-}3150)}$ -2 dB

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

Certificate Ref: 25173/SIT2/C55

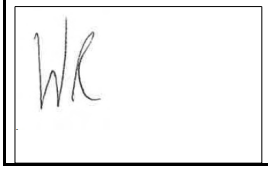
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Will Robertson

Test Engineer No: 80

Test Engineer Signature:



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Head Office: Duke House, 1-2 Duke Street, Woking, Surrey GU21 5BA (t) +44 (0) 1483 770 595
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(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

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

Project Details

Development: Swan House, Manchester Client: RG Group Report Ref: 25173/SIT2

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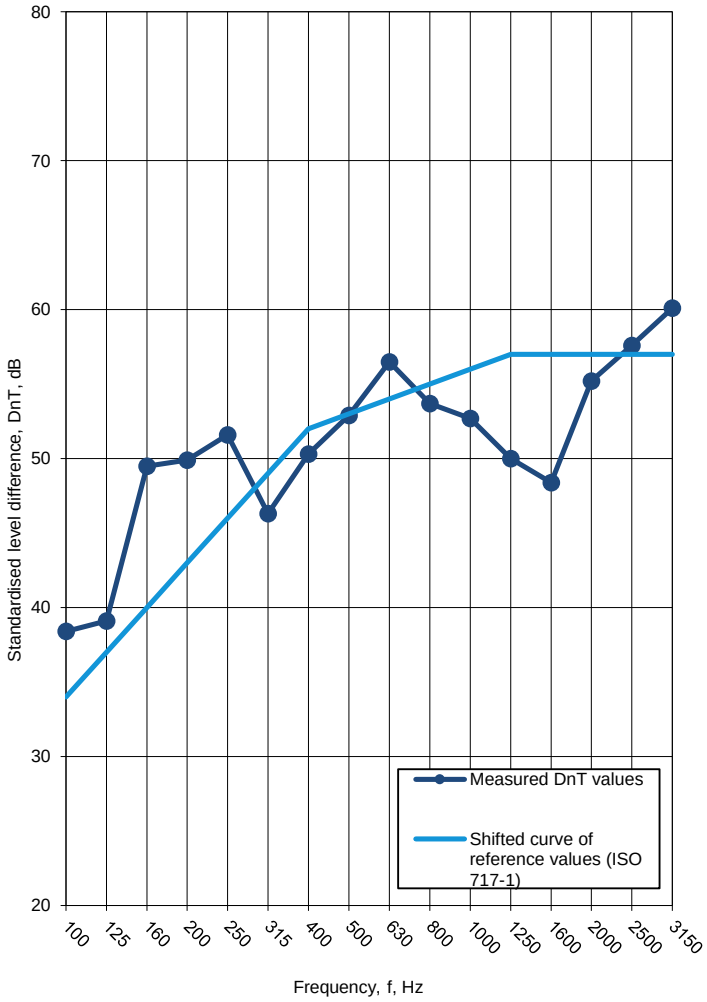
Airborne Floor Sound Insulation Test: AF2

Date of test: 09/01/2024

Source Room: 12-02-LKD Approximate Source Room Volume: 34m³

Receive Room: 11-02-LKD Approximate Receive Room Volume: 34m³

Frequency f Hz	DnT dB
100	38.4
125	39.1
160	49.5
200	49.9
250	51.6
315	46.3
400	50.3
500	52.9
630	56.5
800	53.7
1000	52.7
1250	50.0
1600	48.4
2000	55.2
2500	≥ 57.6
3150	≥ 60.1



Test Result

$D_{nT,w} + C_{tr} = \geq 50$ dB

≥ Results limited due to high background noise levels

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 53 (-1 ; -3) dB; $C_{(100\text{-}3150)}$ = -1 dB

$D_{nT,w}$ = ≥ 53 dB $C_{tr\ (100\text{-}3150)}$ -3 dB

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

Certificate Ref: 25173/SIT2/C56

Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Will Robertson

Test Engineer No: 80

Test Engineer Signature:

Hann Tucker Associates
Consultants in Acoustics Noise & Vibration
Head Office: Duke House, 1-2 Duke Street, Woking, Surrey GU21 5BA (t) +44 (0) 1483 770 595
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(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

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

Project Details

Development: Swan House, Manchester Client: RG Group Report Ref: 25173/SIT2

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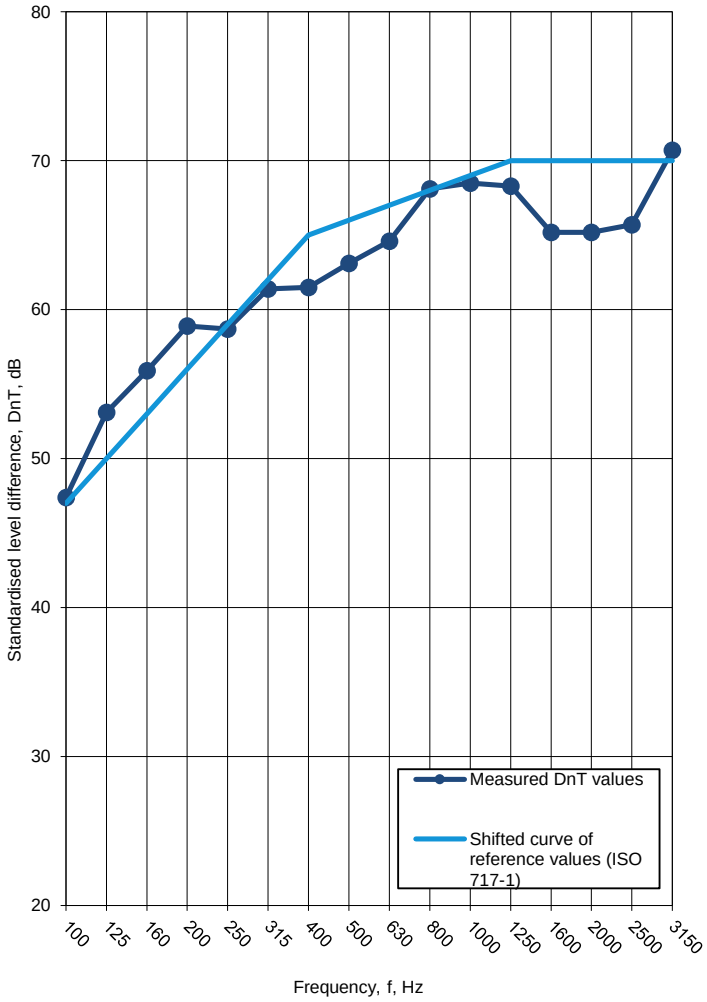
Airborne Floor Sound Insulation Test: AF3

Date of test: 09/01/2024

Source Room: 11-04-LKD Approximate Source Room Volume: 48m³

Receive Room: 10-04-LKD Approximate Receive Room Volume: 48m³

Frequency f Hz	DnT dB
100	47.4
125	53.1
160	55.9
200	58.9
250	≥ 58.7
315	≥ 61.4
400	≥ 61.5
500	≥ 63.1
630	≥ 64.6
800	≥ 68.1
1000	≥ 68.5
1250	≥ 68.3
1600	≥ 65.2
2000	≥ 65.2
2500	≥ 65.7
3150	≥ 70.7



Test Result

$D_{nT,w} + C_{tr} = \geq 62$ dB

≥ Results limited due to high background noise levels

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 66 (-1 ; -4) dB; $C_{(100\text{-}3150)}$ = -1 dB

$D_{nT,w}$ = ≥ 66 dB $C_{tr\ (100\text{-}3150)}$ -4 dB

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

Certificate Ref: 25173/SIT2/C57

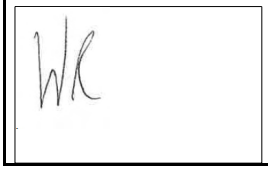
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Will Robertson

Test Engineer No: 80

Test Engineer Signature:



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(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

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

Project Details

Development: Swan House, Manchester Client: RG Group Report Ref: 25173/SIT2

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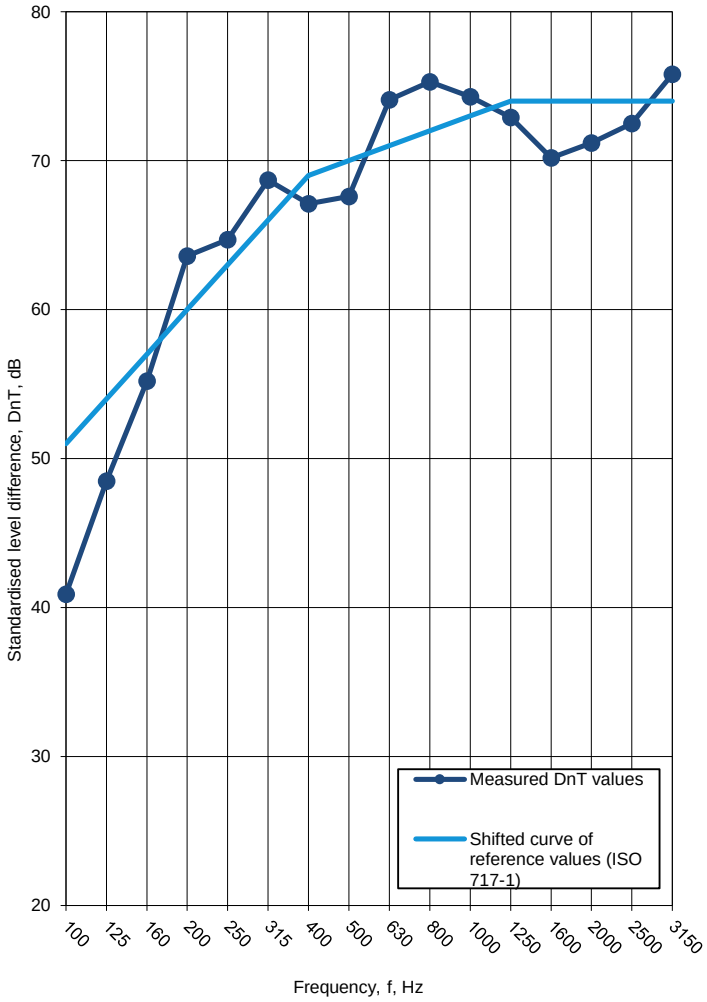
Airborne Floor Sound Insulation Test: AF4

Date of test: 09/01/2024

Source Room: 11-04-B Approximate Source Room Volume: 33m³

Receive Room: 10-04-B Approximate Receive Room Volume: 33m³

Frequency f Hz	DnT dB
100	40.9
125	48.5
160	55.2
200	63.6
250	64.7
315	≥ 68.7
400	≥ 67.1
500	≥ 67.6
630	≥ 74.1
800	≥ 75.3
1000	≥ 74.3
1250	≥ 72.9
1600	≥ 70.2
2000	≥ 71.2
2500	≥ 72.5
3150	≥ 75.8



Test Result

$D_{nT,w} + C_{tr} = \geq 60$ dB

≥ Results limited due to high background noise levels

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 70 (-4 ; -10) $C_{(100\text{-}3150)}$ = -4 dB

$D_{nT,w}$ = ≥ 70 dB $C_{tr\ (100\text{-}3150)}$ -10 dB

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

Certificate Ref: 25173/SIT2/C58

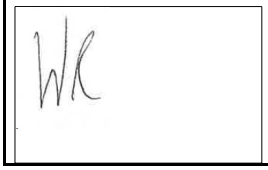
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Will Robertson

Test Engineer No: 80

Test Engineer Signature:



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(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

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

Project Details

Development: Swan House, Manchester Client: RG Group Report Ref: 25173/SIT2

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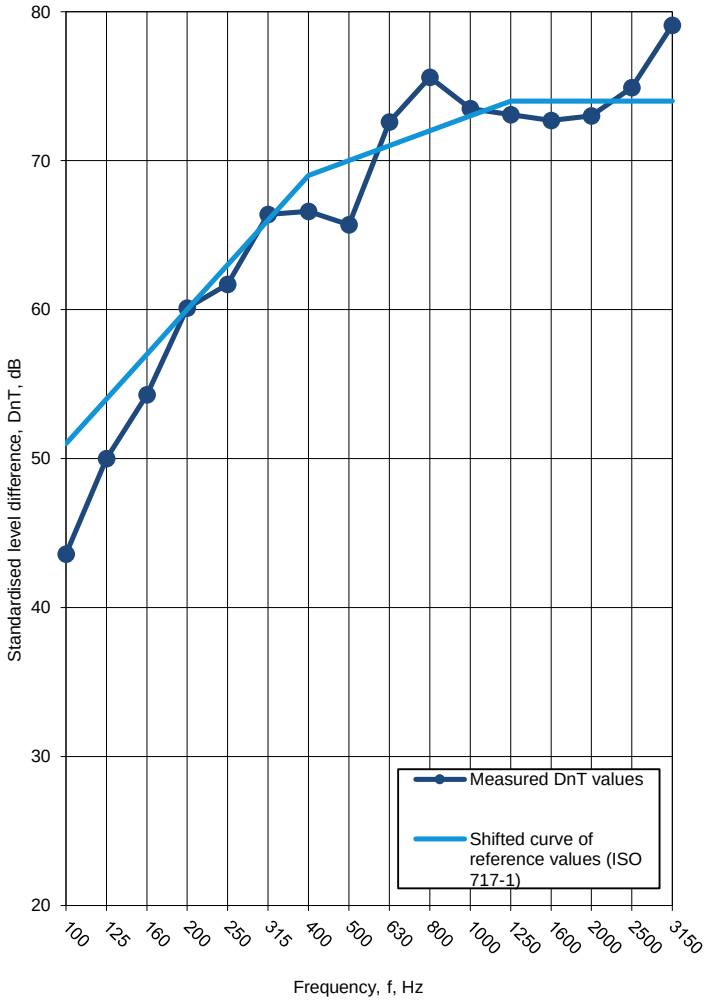
Airborne Floor Sound Insulation Test: AF5

Date of test: 09/01/2024

Source Room: 09-03-B Approximate Source Room Volume: 26m³

Receive Room: 08-03-B Approximate Receive Room Volume: 26m³

Frequency f Hz	DnT dB
100	43.6
125	50.0
160	54.3
200	60.1
250	61.7
315	66.4
400	66.6
500	65.7
630	≥ 72.6
800	≥ 75.6
1000	≥ 73.5
1250	≥ 73.1
1600	≥ 72.7
2000	≥ 73.0
2500	≥ 74.9
3150	≥ 79.1



Test Result

$D_{nT,w} + C_{tr} = \geq 61$ dB

≥ Results limited due to high background noise levels

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 70 (-2 ; -9) dB; $C_{(100\text{-}3150)}$ = -2 dB

$D_{nT,w}$ = ≥ 70 dB $C_{tr\ (100\text{-}3150)}$ -9 dB

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

Certificate Ref: 25173/SIT2/C59

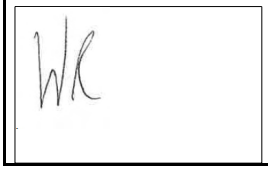
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Will Robertson

Test Engineer No: 80

Test Engineer Signature:



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Head Office: Duke House, 1-2 Duke Street, Woking, Surrey GU21 5BA (t) +44 (0) 1483 770 595
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Standardised level difference according to ISO 140-4
Field measurements of airborne sound insulation between rooms

Project Details

Development: Swan House, Manchester Client: RG Group Report Ref: 25173/SIT2

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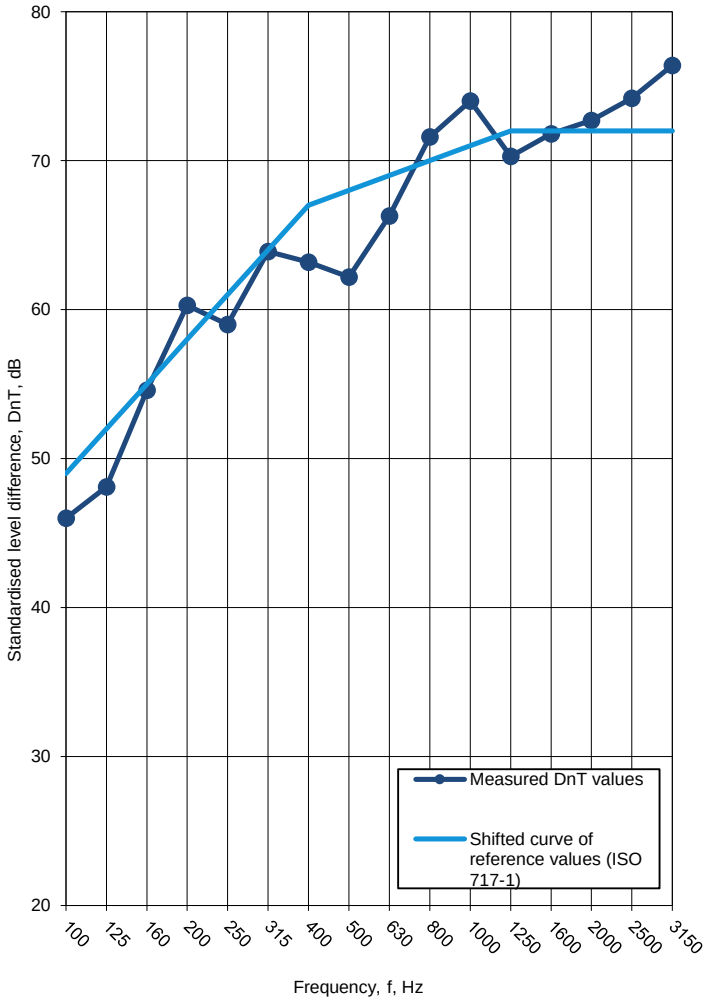
Airborne Floor Sound Insulation Test: AF6

Date of test: 09/01/2024

Source Room: 09-03-B Approximate Source Room Volume: 32m³

Receive Room: 08-02-B Approximate Receive Room Volume: 32m³

Frequency f Hz	DnT dB
100	46.0
125	48.1
160	54.6
200	60.3
250	59.0
315	63.9
400	63.2
500	62.2
630	66.3
800	71.6
1000	≥ 74.0
1250	≥ 70.3
1600	≥ 71.8
2000	≥ 72.7
2500	≥ 74.2
3150	76.4



Test Result

$D_{nT,w} + C_{tr} = \geq 62$ dB

≥ Results limited due to high background noise levels

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 68 (-1 ; -6) dB; $C_{(100\text{-}3150)}$ = -1 dB

$D_{nT,w}$ = ≥ 68 dB $C_{tr\ (100\text{-}3150)}$ -6 dB

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

Certificate Ref: 25173/SIT2/C60

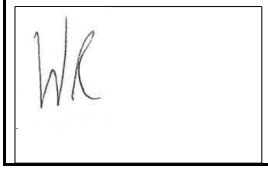
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Will Robertson

Test Engineer No: 80

Test Engineer Signature:



Hann Tucker Associates
Consultants in Acoustics Noise & Vibration
Head Office: Duke House, 1-2 Duke Street, Woking, Surrey GU21 5BA (t) +44 (0) 1483 770 595
Manchester Office: First Floor, 346 Deansgate, Manchester M3 4LY (t) +44 (0) 161 832 7041
(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

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

Project Details

Development: Swan House, Manchester Client: RG Group Report Ref: 25173/SIT2

UKAS TESTING
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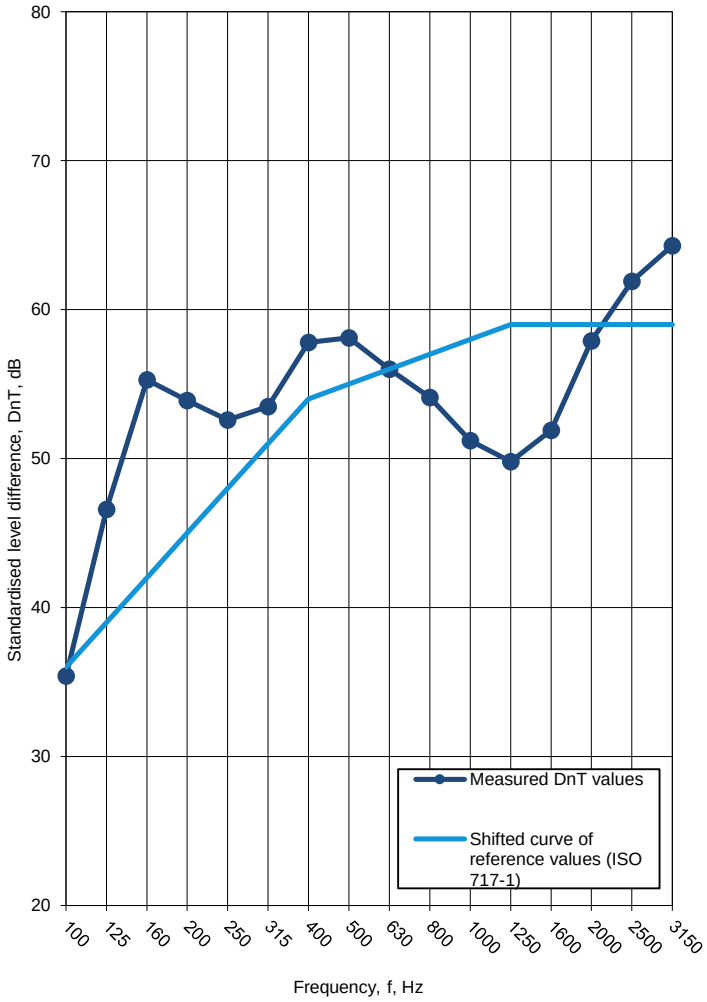
Airborne Floor Sound Insulation Test: AF7

Date of test: 09/01/2024

Source Room: 8-05-LKD Approximate Source Room Volume: 57m³

Receive Room: 7-05-LKD Approximate Receive Room Volume: 57m³

Frequency f Hz	DnT dB
100	35.4
125	46.6
160	55.3
200	53.9
250	52.6
315	53.5
400	57.8
500	58.1
630	56.0
800	54.1
1000	51.2
1250	49.8
1600	51.9
2000	57.9
2500	61.9
3150	64.3



Test Result

$D_{nT,w} + C_{tr} =$ **51 dB**

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = 55 (-1 ; -4) dB; $C_{(100\text{-}3150)}$ = -1 dB

$D_{nT,w}$ = 55 dB $C_{tr\ (100\text{-}3150)}$ -4 dB

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

Certificate Ref: 25173/SIT2/C61

Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Sandy Wilson

Test Engineer No: 66

Test Engineer Signature:

Hann Tucker Associates
Consultants in Acoustics Noise & Vibration
Head Office: Duke House, 1-2 Duke Street, Woking, Surrey GU21 5BA (t) +44 (0) 1483 770 595
Manchester Office: First Floor, 346 Deansgate, Manchester M3 4LY (t) +44 (0) 161 832 7041
(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

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

Project Details

Development: Swan House, Manchester Client: RG Group Report Ref: 25173/SIT2

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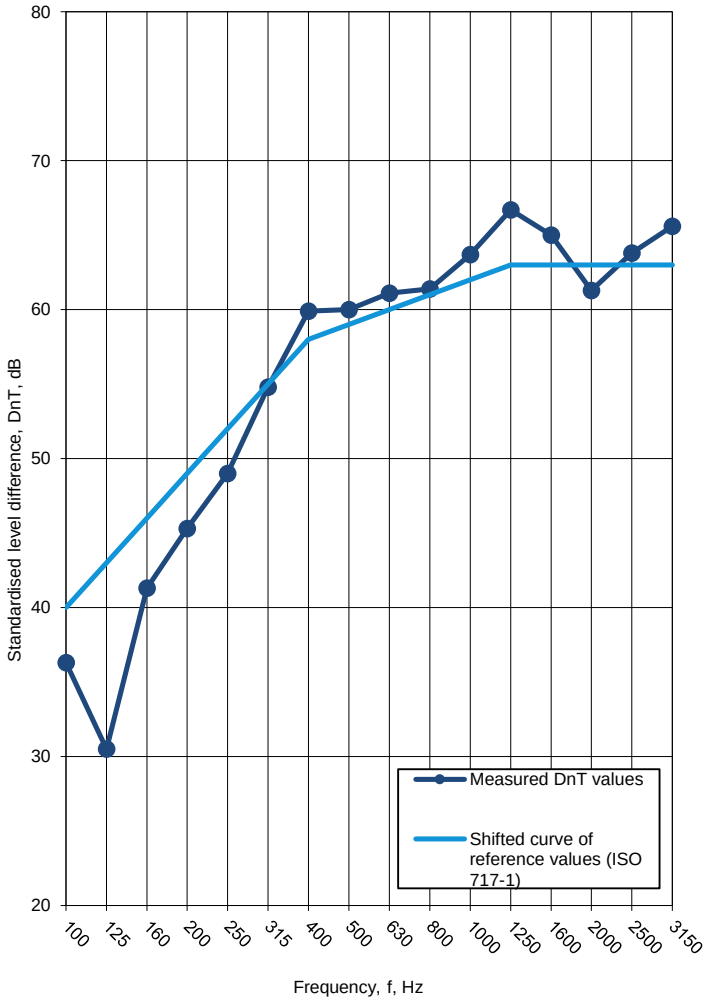
Airborne Floor Sound Insulation Test: AF8

Date of test: 09/01/2024

Source Room: 8-05-B Approximate Source Room Volume: 30m³

Receive Room: 7-05-B Approximate Receive Room Volume: 30m³

Frequency f Hz	DnT dB
100	36.3
125	30.5
160	41.3
200	45.3
250	49.0
315	54.8
400	59.9
500	≥ 60.0
630	≥ 61.1
800	≥ 61.4
1000	≥ 63.7
1250	≥ 66.7
1600	≥ 65.0
2000	≥ 61.3
2500	≥ 63.8
3150	≥ 65.6



Test Result

$D_{nT,w} + C_{tr} = \geq 48$ dB

≥ Results limited due to high background noise levels

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 59 (-5 ; -11) $C_{(100-3150)}$ = -5 dB

$D_{nT,w}$ = ≥ 59 dB $C_{tr\ (100-3150)}$ -11 dB

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

Certificate Ref: 25173/SIT2/C62

Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Sandy Wilson

Test Engineer No: 66

Test Engineer Signature:

Hann Tucker Associates
Consultants in Acoustics Noise & Vibration
Head Office: Duke House, 1-2 Duke Street, Woking, Surrey GU21 5BA (t) +44 (0) 1483 770 595
Manchester Office: First Floor, 346 Deansgate, Manchester M3 4LY (t) +44 (0) 161 832 7041
(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

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

Project Details

Development: Swan House, Manchester Client: RG Group Report Ref: 25173/SIT2

UKAS TESTING
4083

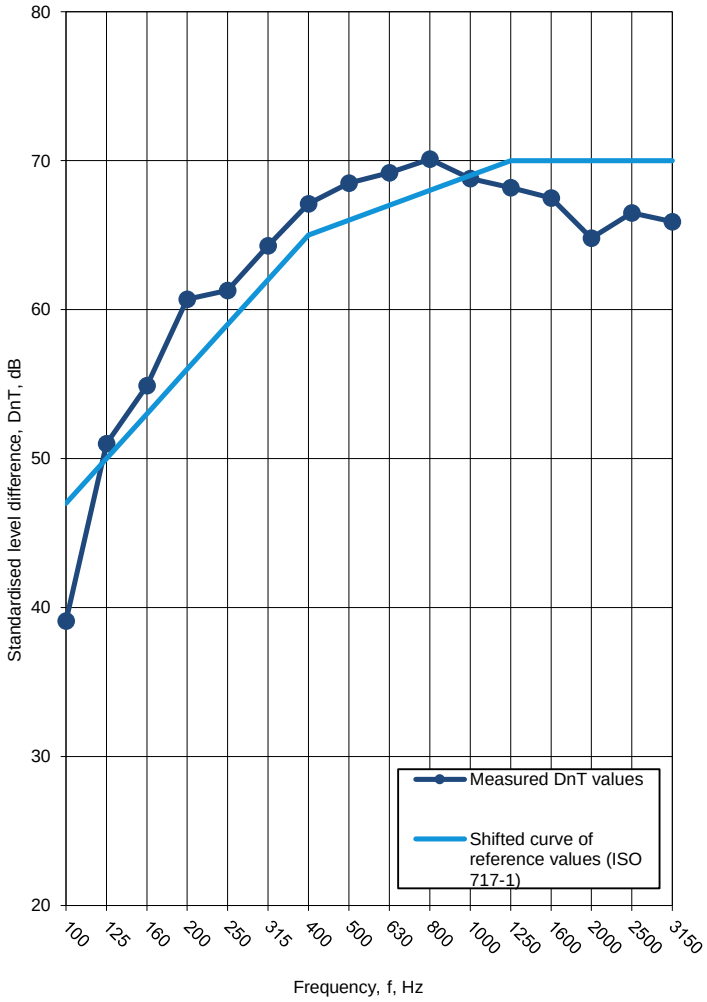
Airborne Floor Sound Insulation Test: AF9

Date of test: 09/01/2024

Source Room: 7-04-LKD Approximate Source Room Volume: 49m³

Receive Room: 6-04-LKD Approximate Receive Room Volume: 49m³

Frequency f Hz	DnT dB
100	39.1
125	51.0
160	54.9
200	60.7
250	61.3
315	64.3
400	67.1
500	≥ 68.5
630	≥ 69.2
800	70.1
1000	68.8
1250	68.2
1600	67.5
2000	64.8
2500	66.5
3150	65.9



Test Result

$D_{nT,w} + C_{tr} = \geq 58$ dB

≥ Results limited due to high background noise levels

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 66 (-2 ; -8) dB; $C_{(100\text{-}3150)}$ = -2 dB

$D_{nT,w}$ = ≥ 66 dB $C_{tr\ (100\text{-}3150)}$ -8 dB

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

Certificate Ref: 25173/SIT2/C63

Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Sandy Wilson

Test Engineer No: 66

Test Engineer Signature:

Hann Tucker Associates
Consultants in Acoustics Noise & Vibration
Head Office: Duke House, 1-2 Duke Street, Woking, Surrey GU21 5BA (t) +44 (0) 1483 770 595
Manchester Office: First Floor, 346 Deansgate, Manchester M3 4LY (t) +44 (0) 161 832 7041
(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

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

Project Details

Development: Swan House, Manchester Client: RG Group Report Ref: 25173/SIT2

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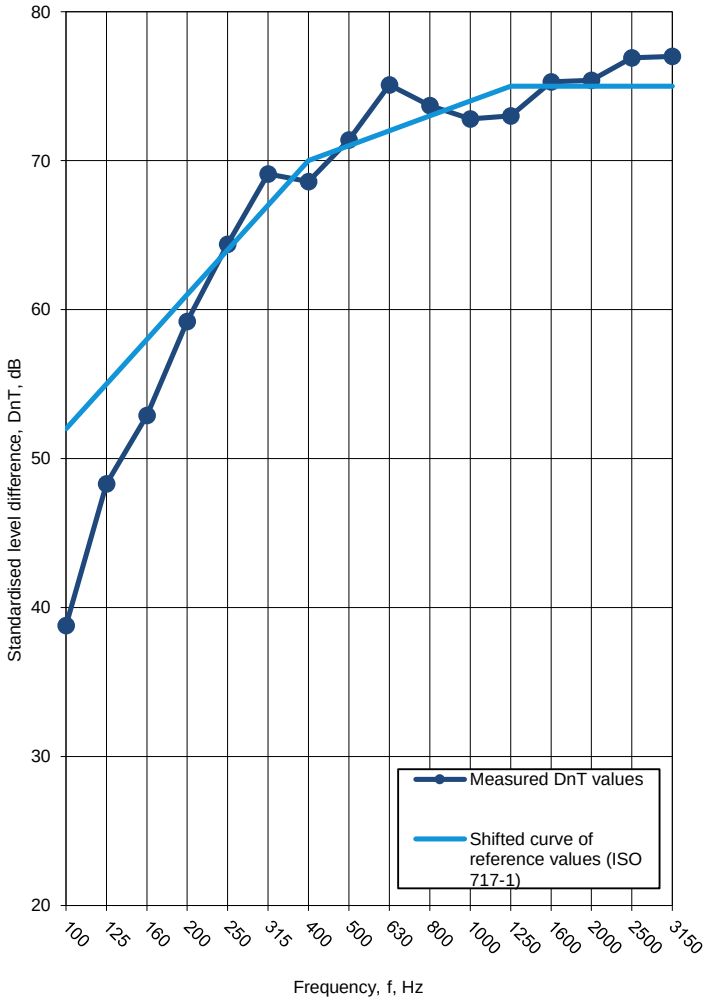
Airborne Floor Sound Insulation Test: AF10

Date of test: 09/01/2024

Source Room: 7-04-B Approximate Source Room Volume: 25m³

Receive Room: 6-04-B Approximate Receive Room Volume: 25m³

Frequency f Hz	DnT dB
100	38.8
125	48.3
160	52.9
200	59.2
250	64.4
315	69.1
400	68.6
500	≥ 71.4
630	≥ 75.1
800	≥ 73.7
1000	≥ 72.8
1250	≥ 73.0
1600	≥ 75.3
2000	≥ 75.4
2500	≥ 76.9
3150	≥ 77.0



Test Result

$D_{nT,w} + C_{tr} = \geq 58$ dB

≥ Results limited due to high background noise levels

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 71 (-6 ; -13) $C_{(100-3150)}$ = -6 dB

$D_{nT,w}$ = ≥ 71 dB $C_{tr\ (100-3150)}$ -13 dB

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

Certificate Ref: 25173/SIT2/C64

Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Sandy Wilson

Test Engineer No: 66

Test Engineer Signature:

Hann Tucker Associates
Consultants in Acoustics Noise & Vibration
Head Office: Duke House, 1-2 Duke Street, Woking, Surrey GU21 5BA (t) +44 (0) 1483 770 595
Manchester Office: First Floor, 346 Deansgate, Manchester M3 4LY (t) +44 (0) 161 832 7041
(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

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

Project Details

Development: Swan House, Manchester Client: RG Group Report Ref: 25173/SIT2

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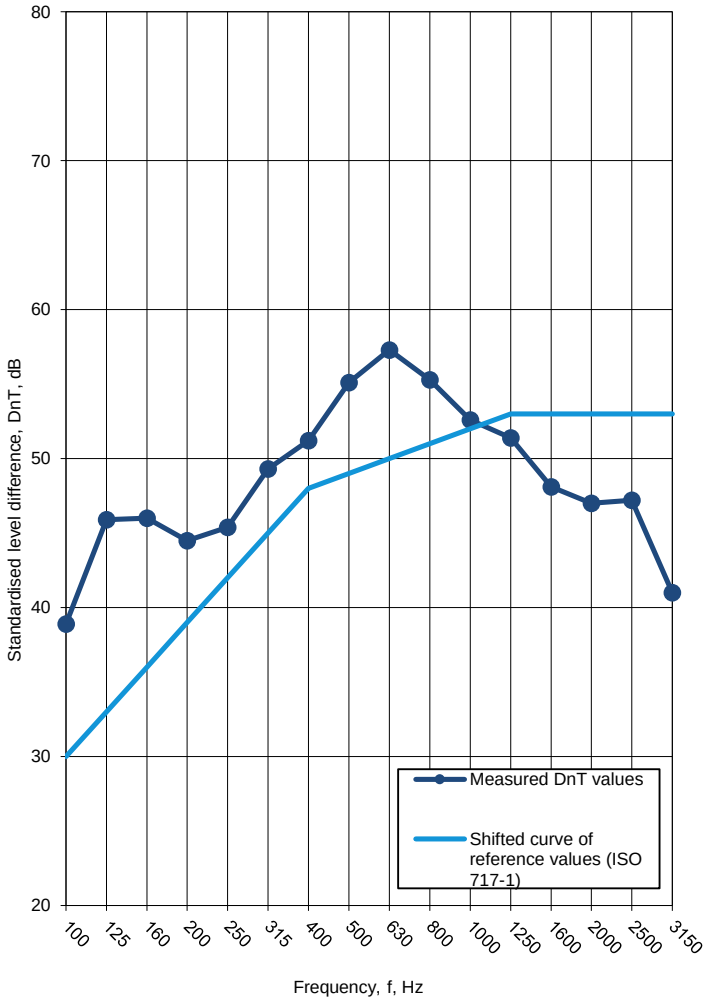
Airborne Floor Sound Insulation Test: AF11

Date of test: 10/01/2024

Source Room: 18-02-LKD Approximate Source Room Volume: 70m³

Receive Room: 17-02-LKD Approximate Receive Room Volume: 70m³

Frequency f Hz	DnT dB
100	38.9
125	45.9
160	46.0
200	44.5
250	45.4
315	49.3
400	51.2
500	55.1
630	57.3
800	≥ 55.3
1000	52.6
1250	51.4
1600	48.1
2000	47.0
2500	47.2
3150	41.0



Test Result

$D_{nT,w} + C_{tr} = \geq 50$ dB

≥ Results limited due to high background noise levels

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 49 (-2 ; 1) dB; $C_{(100-3150)}$ = -2 dB

$D_{nT,w}$ = ≥ 49 dB $C_{tr\ (100-3150)}$ 1 dB

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

Certificate Ref: 25173/SIT2/C65

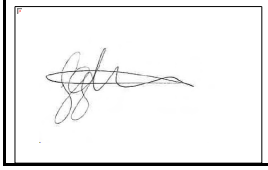
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Greg Moore

Test Engineer No: 82

Test Engineer Signature:



Hann Tucker Associates
Consultants in Acoustics Noise & Vibration
Head Office: Duke House, 1-2 Duke Street, Woking, Surrey GU21 5BA (t) +44 (0) 1483 770 595
Manchester Office: First Floor, 346 Deansgate, Manchester M3 4LY (t) +44 (0) 161 832 7041
(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

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

Project Details

Development: Swan House, Manchester Client: RG Group Report Ref: 25173/SIT2

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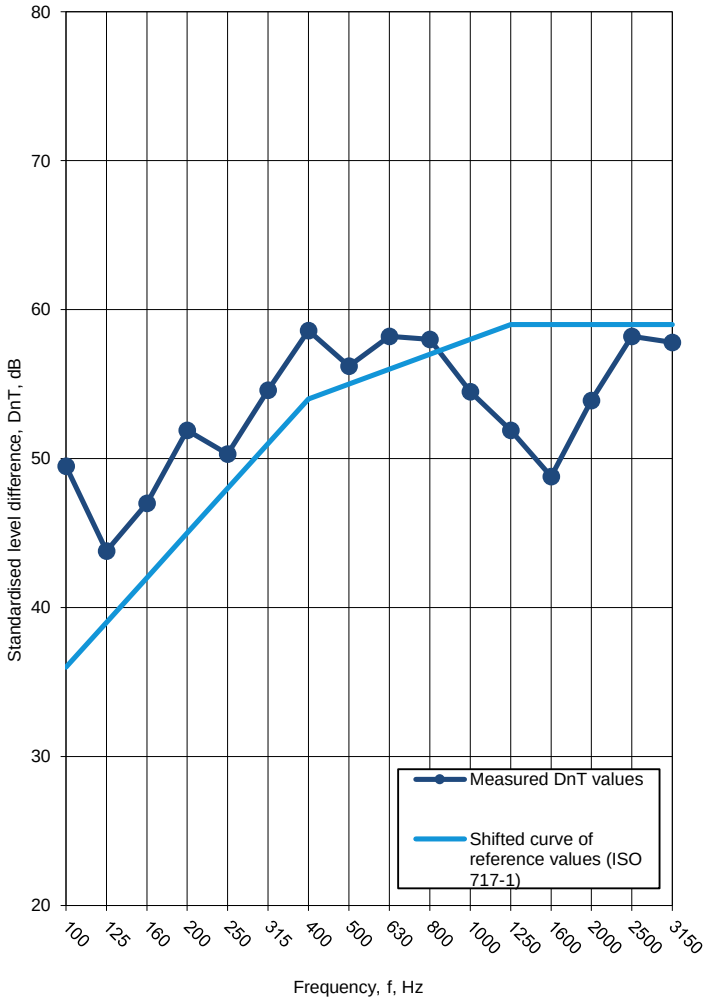
Airborne Floor Sound Insulation Test: AF12

Date of test: 10/01/2024

Source Room: 18-02-B Approximate Source Room Volume: 35m³

Receive Room: 17-02-B Approximate Receive Room Volume: 35m³

Frequency f Hz	DnT dB
100	49.5
125	43.8
160	47.0
200	51.9
250	50.3
315	54.6
400	58.6
500	≥ 56.2
630	≥ 58.2
800	≥ 58.0
1000	54.5
1250	51.9
1600	48.8
2000	≥ 53.9
2500	≥ 58.2
3150	57.8



Test Result

$D_{nT,w} + C_{tr} = \geq 53$ dB

≥ Results limited due to high background noise levels

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 55 (-2 ; -2) dB; $C_{(100\text{-}3150)}$ = -2 dB

$D_{nT,w}$ = ≥ 55 dB $C_{tr\ (100\text{-}3150)}$ -2 dB

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

Certificate Ref: 25173/SIT2/C66

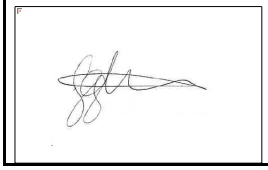
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Greg Moore

Test Engineer No: 82

Test Engineer Signature:



Hann Tucker Associates
Consultants in Acoustics Noise & Vibration
Head Office: Duke House, 1-2 Duke Street, Woking, Surrey GU21 5BA (t) +44 (0) 1483 770 595
Manchester Office: First Floor, 346 Deansgate, Manchester M3 4LY (t) +44 (0) 161 832 7041
(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

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

Project Details

Development: Swan House, Manchester Client: RG Group Report Ref: 25173/SIT2

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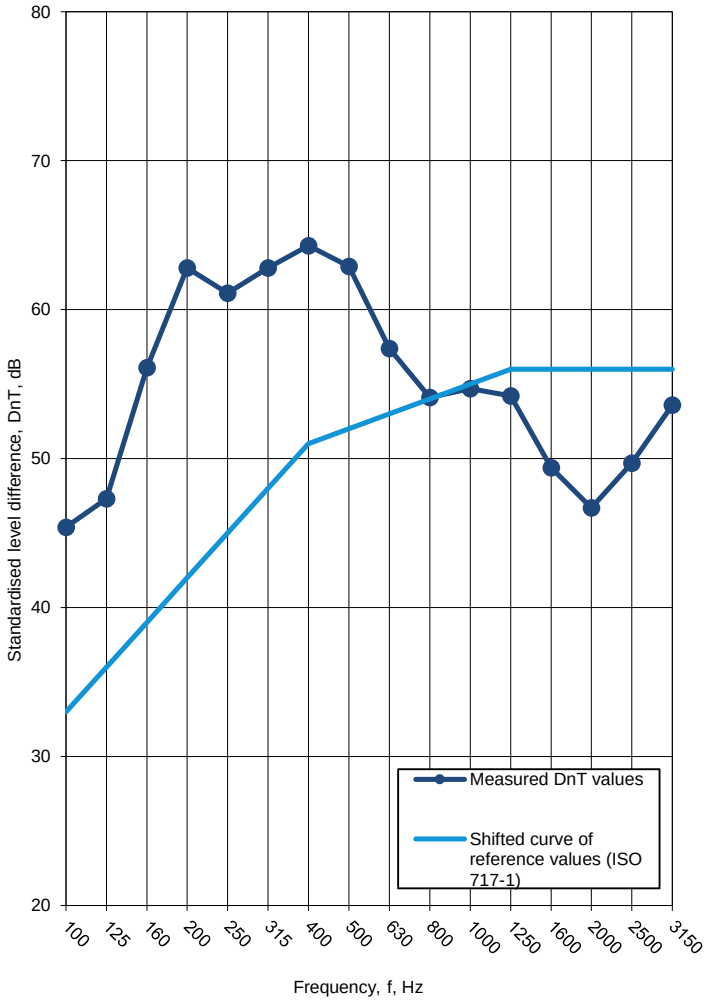
Airborne Floor Sound Insulation Test: AF13

Date of test: 10/01/2024

Source Room: 15-06-LKD Approximate Source Room Volume: 57m³

Receive Room: 14-06-LKD Approximate Receive Room Volume: 57m³

Frequency f Hz	DnT dB
100	≥ 45.4
125	47.3
160	≥ 56.1
200	≥ 62.8
250	≥ 61.1
315	≥ 62.8
400	≥ 64.3
500	≥ 62.9
630	57.4
800	≥ 54.1
1000	≥ 54.7
1250	≥ 54.2
1600	49.4
2000	46.7
2500	49.7
3150	53.6



Test Result

$D_{nT,w} + C_{tr} = \geq 52$ dB

≥ Results limited due to high background noise levels

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 52 (-1 ; 0) dB; $C_{(100-3150)}$ = -1 dB

$D_{nT,w}$ = ≥ 52 dB $C_{tr\ (100-3150)}$ 0 dB

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

Certificate Ref: 25173/SIT2/C67

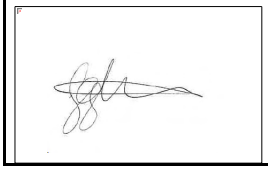
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Greg Moore

Test Engineer No: 82

Test Engineer Signature:



Hann Tucker Associates
Consultants in Acoustics Noise & Vibration
Head Office: Duke House, 1-2 Duke Street, Woking, Surrey GU21 5BA (t) +44 (0) 1483 770 595
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(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

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

Project Details

Development: Swan House, Manchester Client: RG Group Report Ref: 25173/SIT2

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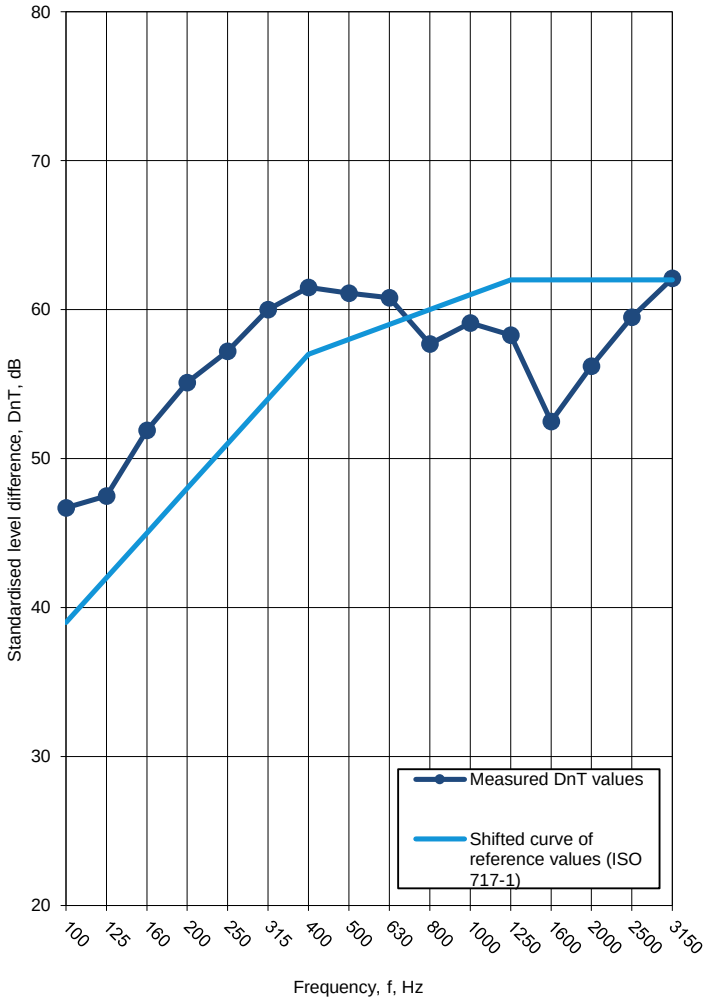
Airborne Floor Sound Insulation Test: AF14

Date of test: 10/01/2024

Source Room: 15-06-B Approximate Source Room Volume: 35m³

Receive Room: 14-06-B Approximate Receive Room Volume: 35m³

Frequency f Hz	DnT dB
100	≥ 46.7
125	47.5
160	≥ 51.9
200	≥ 55.1
250	≥ 57.2
315	≥ 60.0
400	≥ 61.5
500	≥ 61.1
630	≥ 60.8
800	≥ 57.7
1000	≥ 59.1
1250	≥ 58.3
1600	≥ 52.5
2000	≥ 56.2
2500	≥ 59.5
3150	≥ 62.1



Test Result

$D_{nT,w} + C_{tr} = \geq 56$ dB

≥ Results limited due to high background noise levels

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 58 (-1 ; -2) dB; $C_{(100\text{-}3150)}$ = -1 dB

$D_{nT,w}$ = ≥ 58 dB $C_{tr\ (100\text{-}3150)}$ -2 dB

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

Certificate Ref: 25173/SIT2/C68

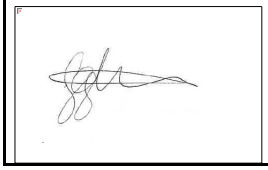
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Greg Moore

Test Engineer No: 82

Test Engineer Signature:



Hann Tucker Associates
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(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

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

Project Details

Development: Swan House, Manchester Client: RG Group Report Ref: 25173/SIT2

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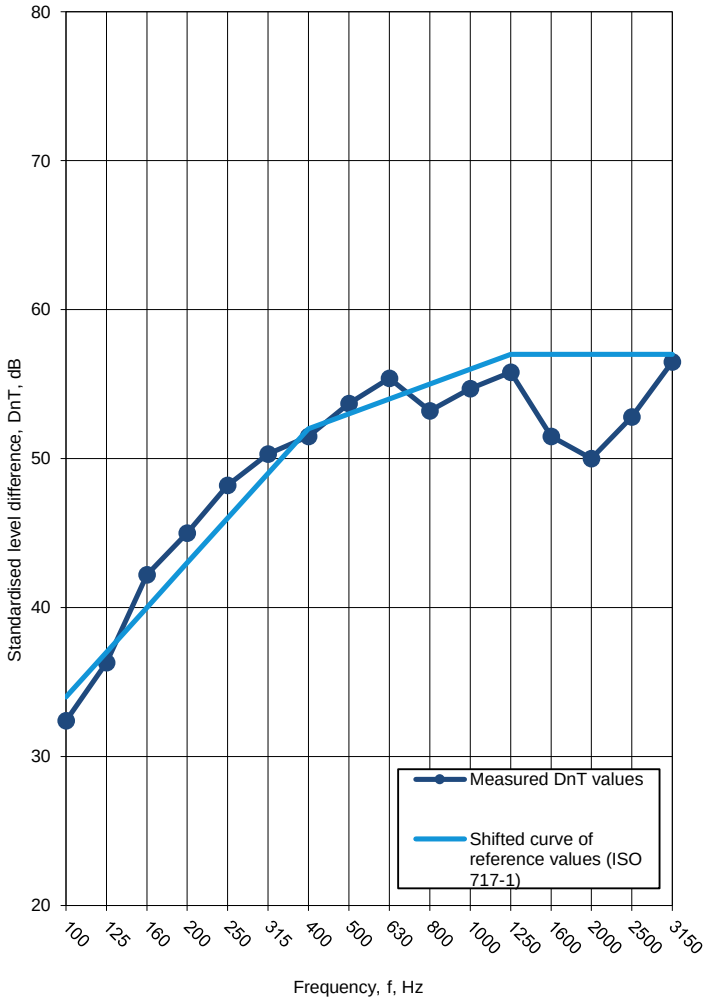
Airborne Floor Sound Insulation Test: AF15

Date of test: 10/01/2024

Source Room: 14-06-LKD Approximate Source Room Volume: 70m³

Receive Room: 13-06-LKD Approximate Receive Room Volume: 70m³

Frequency f Hz	DnT dB
100	32.4
125	36.3
160	42.2
200	45.0
250	48.2
315	50.3
400	51.5
500	53.7
630	55.4
800	53.2
1000	≥ 54.7
1250	≥ 55.8
1600	≥ 51.5
2000	≥ 50.0
2500	≥ 52.8
3150	≥ 56.5



Test Result

$D_{nT,w} + C_{tr} = \geq 48$ dB

≥ Results limited due to high background noise levels

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 53 (-1 ; -5) dB; $C_{(100\text{-}3150)}$ = -1 dB

$D_{nT,w}$ = ≥ 53 dB $C_{tr\ (100\text{-}3150)}$ -5 dB

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

Certificate Ref: 25173/SIT2/C69

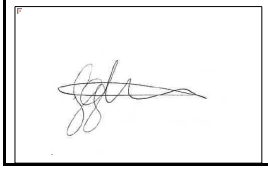
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Greg Moore

Test Engineer No: 82

Test Engineer Signature:



Hann Tucker Associates
Consultants in Acoustics Noise & Vibration
Head Office: Duke House, 1-2 Duke Street, Woking, Surrey GU21 5BA (t) +44 (0) 1483 770 595
Manchester Office: First Floor, 346 Deansgate, Manchester M3 4LY (t) +44 (0) 161 832 7041
(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

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

Project Details

Development: Swan House, Manchester Client: RG Group Report Ref: 25173/SIT2

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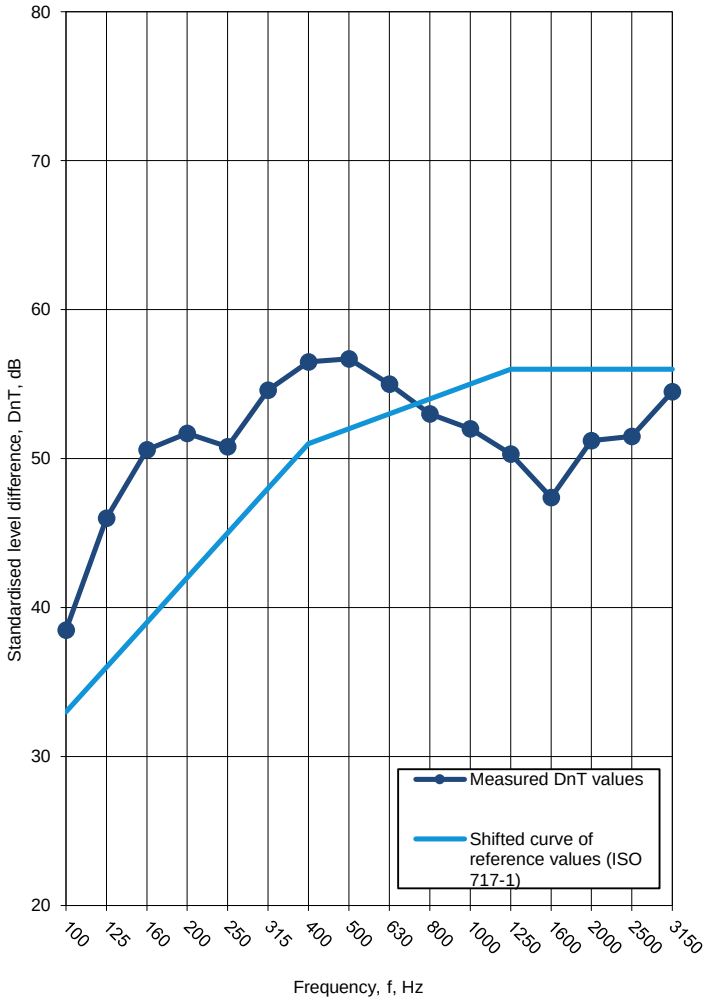
Airborne Floor Sound Insulation Test: AF16

Date of test: 10/01/2024

Source Room: 14-06-B Approximate Source Room Volume: 35m³

Receive Room: 13-06-B Approximate Receive Room Volume: 35m³

Frequency f Hz	DnT dB
100	38.5
125	46.0
160	50.6
200	51.7
250	50.8
315	54.6
400	56.5
500	56.7
630	55.0
800	53.0
1000	52.0
1250	50.3
1600	47.4
2000	51.2
2500	51.5
3150	54.5



Test Result

$D_{nT,w} + C_{tr} = 51$ dB

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = 52 (-1 ; -1) dB; $C_{(100\text{-}3150)}$ = -1 dB

$D_{nT,w}$ = 52 dB $C_{tr\ (100\text{-}3150)}$ -1 dB

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

Certificate Ref: 25173/SIT2/C70

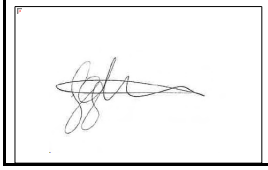
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Greg Moore

Test Engineer No: 82

Test Engineer Signature:



Hann Tucker Associates
Consultants in Acoustics Noise & Vibration
Head Office: Duke House, 1-2 Duke Street, Woking, Surrey GU21 5BA (t) +44 (0) 1483 770 595
Manchester Office: First Floor, 346 Deansgate, Manchester M3 4LY (t) +44 (0) 161 832 7041
(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

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

Project Details

Development: Swan House, Manchester Client: RG Group Report Ref: 25173/SIT2

UKAS TESTING
4083

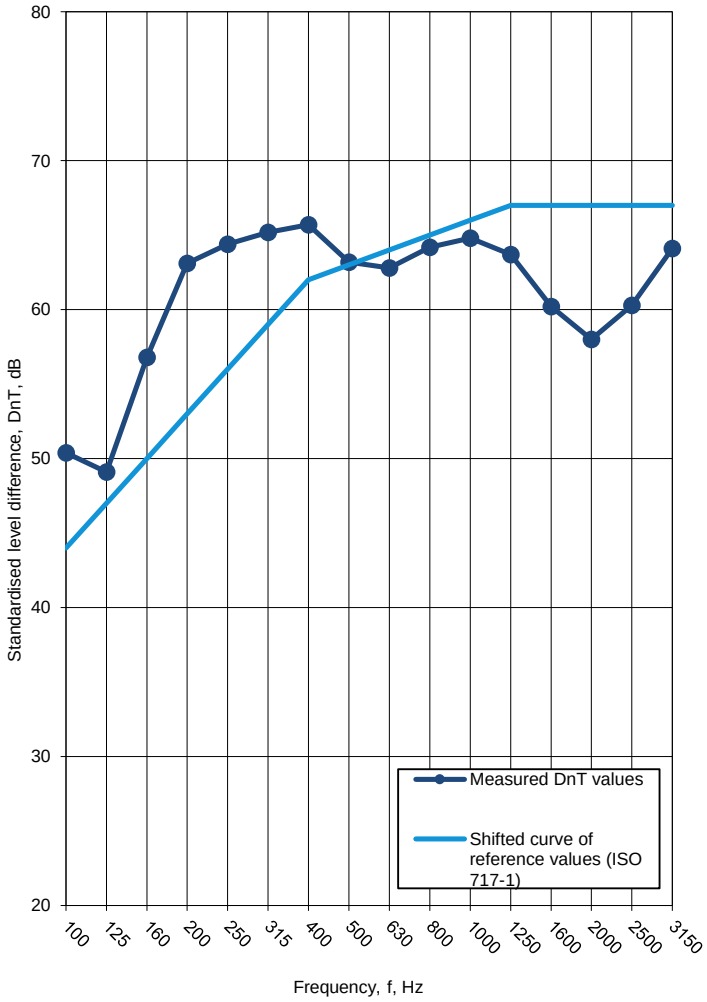
Airborne Floor Sound Insulation Test: AF17

Date of test: 10/01/2024

Source Room: 13-01-LKD Approximate Source Room Volume: 59m³

Receive Room: 12-01-LKD Approximate Receive Room Volume: 59m³

Frequency f Hz	DnT dB
100	≥ 50.4
125	≥ 49.1
160	≥ 56.8
200	≥ 63.1
250	≥ 64.4
315	≥ 65.2
400	≥ 65.7
500	≥ 63.2
630	≥ 62.8
800	≥ 64.2
1000	≥ 64.8
1250	≥ 63.7
1600	≥ 60.2
2000	≥ 58.0
2500	≥ 60.3
3150	≥ 64.1



Test Result

$D_{nT,w} + C_{tr} = \geq 61$ dB

≥ Results limited due to high background noise levels

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 63 (-2 ; -2) dB; $C_{(100\text{-}3150)}$ = -2 dB

$D_{nT,w}$ = ≥ 63 dB $C_{tr\ (100\text{-}3150)}$ -2 dB

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

Certificate Ref: 25173/SIT2/C71

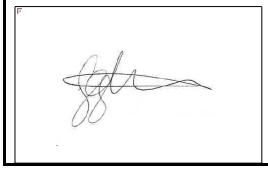
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Greg Moore

Test Engineer No: 82

Test Engineer Signature:



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(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

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

Project Details

Development: Swan House, Manchester Client: RG Group Report Ref: 25173/SIT2

UKAS TESTING
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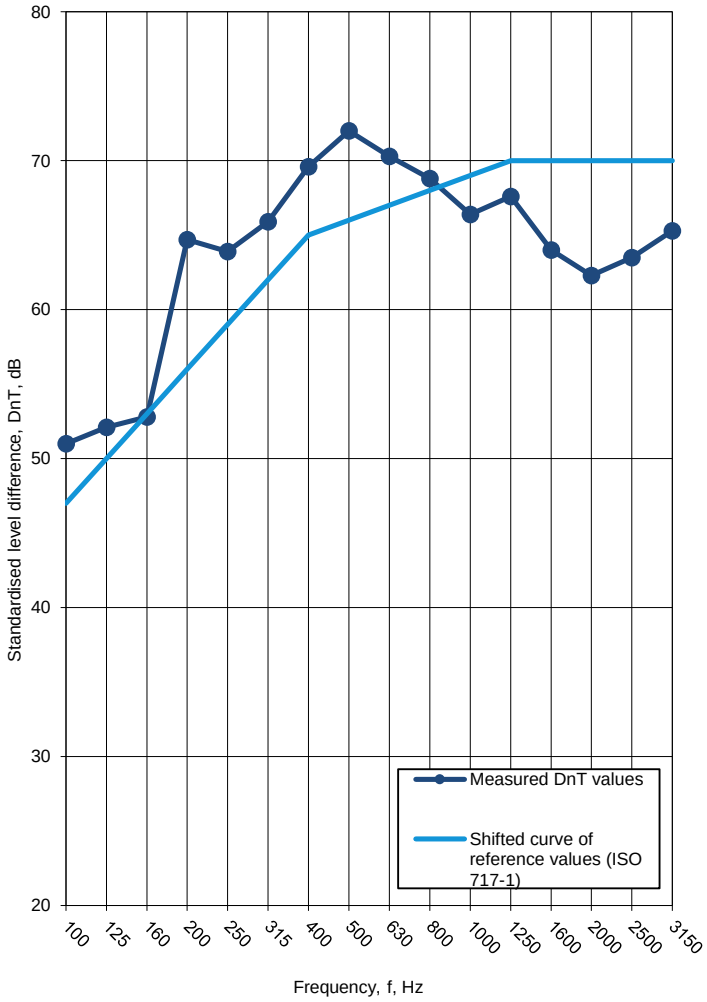
Airborne Floor Sound Insulation Test: AF18

Date of test: 10/01/2024

Source Room: 13-01-B Approximate Source Room Volume: 30m³

Receive Room: 12-01-B Approximate Receive Room Volume: 30m³

Frequency f Hz	DnT dB
100	51.0
125	52.1
160	52.8
200	64.7
250	63.9
315	≥ 65.9
400	≥ 69.6
500	≥ 72.0
630	≥ 70.3
800	≥ 68.8
1000	≥ 66.4
1250	≥ 67.6
1600	≥ 64.0
2000	≥ 62.3
2500	63.5
3150	65.3



Test Result

$D_{nT,w} + C_{tr} = \geq 63$ dB

≥ Results limited due to high background noise levels

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 66 (-1 ; -3) dB; $C_{(100\text{-}3150)}$ = -1 dB

$D_{nT,w}$ = ≥ 66 dB $C_{tr\ (100\text{-}3150)}$ -3 dB

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

Certificate Ref: 25173/SIT2/C72

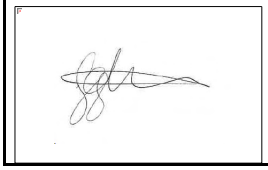
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Greg Moore

Test Engineer No: 82

Test Engineer Signature:



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(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

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

Project Details

Development: Swan House, Manchester Client: RG Group Report Ref: 25173/SIT2

UKAS TESTING
4083

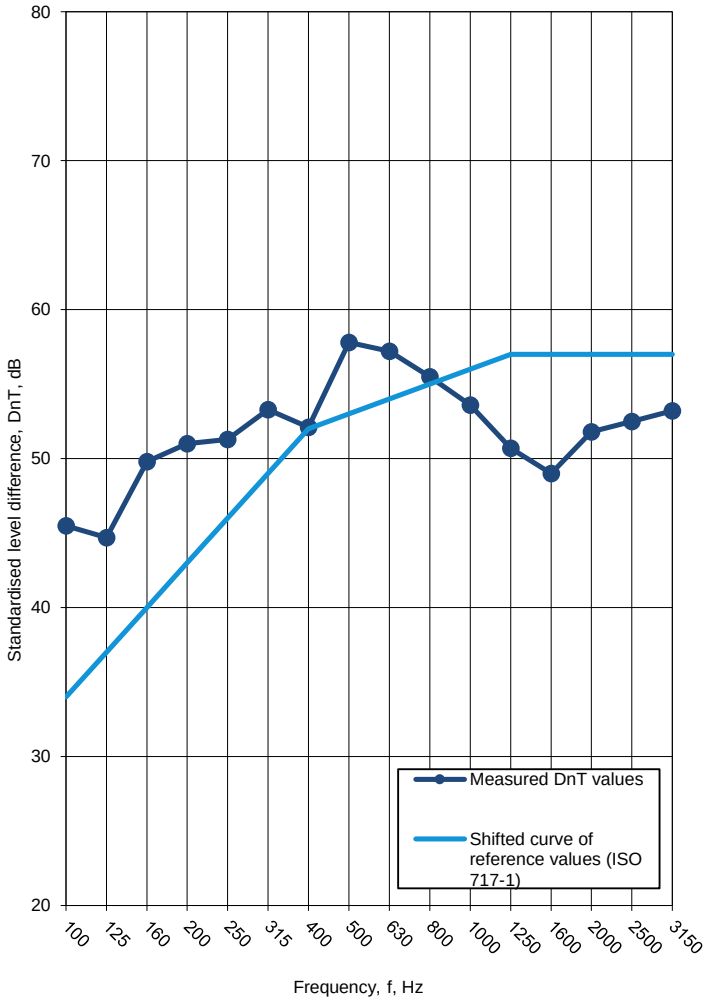
Airborne Floor Sound Insulation Test: AF19

Date of test: 10/01/2024

Source Room: 16-04-LKD Approximate Source Room Volume: 64m³

Receive Room: 15-04-LKD Approximate Receive Room Volume: 64m³

Frequency f Hz	DnT dB
100	45.5
125	44.7
160	49.8
200	51.0
250	51.3
315	53.3
400	52.1
500	57.8
630	57.2
800	55.5
1000	53.6
1250	50.7
1600	49.0
2000	51.8
2500	52.5
3150	53.2



Test Result

$D_{nT,w} + C_{tr} =$ **52 dB**

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = 53 (-1 ; -1) dB; $C_{(100\text{-}3150)}$ = -1 dB

$D_{nT,w}$ = 53 dB $C_{tr\ (100\text{-}3150)}$ -1 dB

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

Certificate Ref: 25173/SIT2/C73

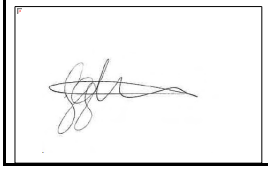
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Greg Moore

Test Engineer No: 82

Test Engineer Signature:



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Manchester Office: First Floor, 346 Deansgate, Manchester M3 4LY (t) +44 (0) 161 832 7041
(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

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

Project Details

Development: Swan House, Manchester Client: RG Group Report Ref: 25173/SIT2

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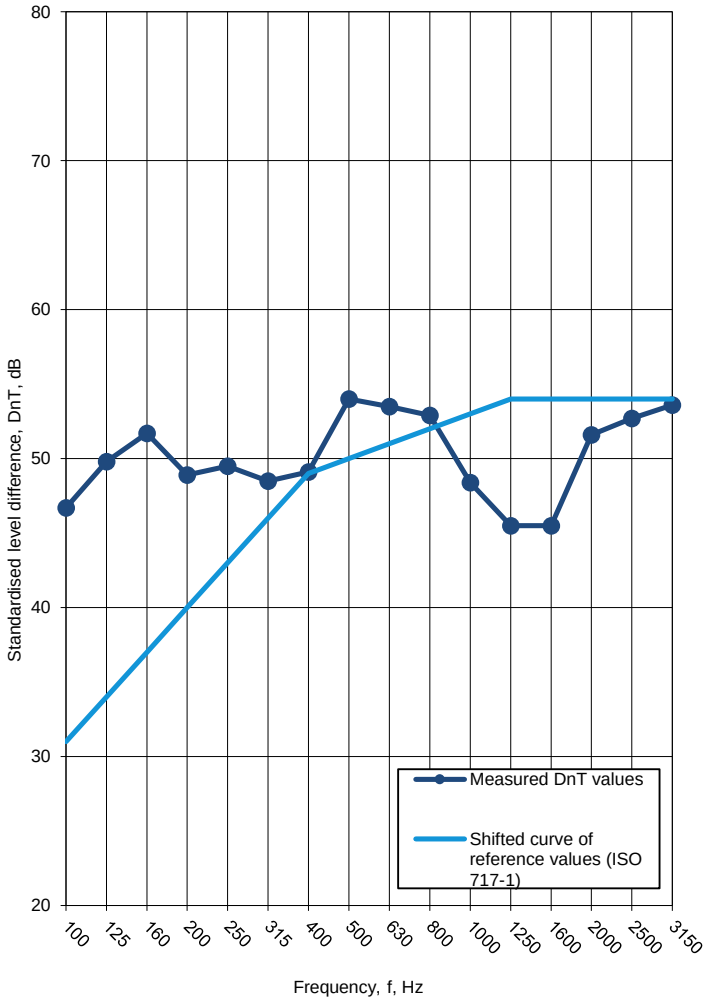
Airborne Floor Sound Insulation Test: AF20

Date of test: 10/01/2024

Source Room: 16-04-B2 Approximate Source Room Volume: 25m³

Receive Room: 15-04-B2 Approximate Receive Room Volume: 25m³

Frequency f Hz	DnT dB
100	46.7
125	49.8
160	51.7
200	48.9
250	49.5
315	48.5
400	49.1
500	≥ 54.0
630	≥ 53.5
800	≥ 52.9
1000	48.4
1250	45.5
1600	45.5
2000	51.6
2500	52.7
3150	53.6



Test Result

$D_{nT,w} + C_{tr} = \geq 49$ dB

≥ Results limited due to high background noise levels

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 50 (-1 ; -1) dB; $C_{(100\text{-}3150)}$ = -1 dB

$D_{nT,w}$ = ≥ 50 dB $C_{tr\ (100\text{-}3150)}$ -1 dB

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

Certificate Ref: 25173/SIT2/C74

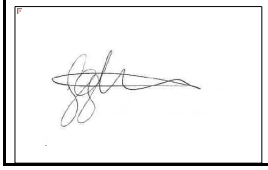
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Greg Moore

Test Engineer No: 82

Test Engineer Signature:



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Manchester Office: First Floor, 346 Deansgate, Manchester M3 4LY (t) +44 (0) 161 832 7041
(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

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

Project Details

Development: Swan House, Manchester Client: RG Group Report Ref: 25173/SIT2

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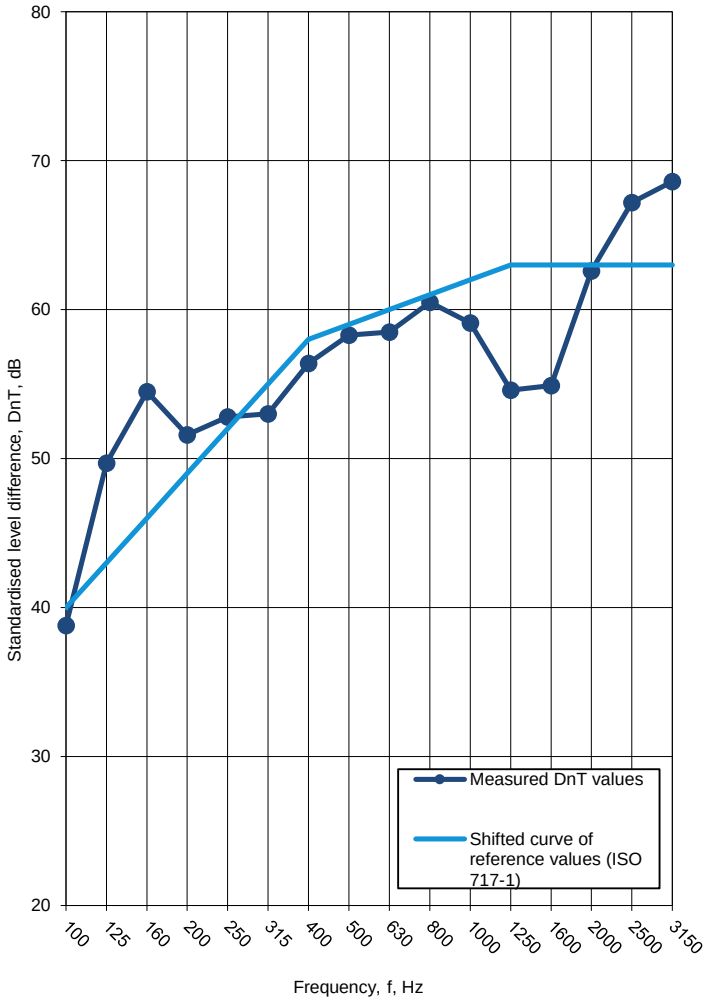
Airborne Floor Sound Insulation Test: AF21

Date of test: 29/03/2024

Source Room: 31-04-LKD Approximate Source Room Volume: 49m³

Receive Room: 30-04-LKD Approximate Receive Room Volume: 49m³

Frequency f Hz	DnT dB
100	38.8
125	49.7
160	54.5
200	51.6
250	52.8
315	53.0
400	56.4
500	58.3
630	58.5
800	60.5
1000	59.1
1250	54.6
1600	54.9
2000	62.6
2500	67.2
3150	68.6



Test Result

$D_{nT,w} + C_{tr} = \geq 55$ dB

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 59 (-2 ; -4) dB; $C_{(100\text{-}3150)}$ = -2 dB

$D_{nT,w}$ = ≥ 59 dB $C_{tr\ (100\text{-}3150)}$ -4 dB

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

Certificate Ref: 25173/SIT2/C75

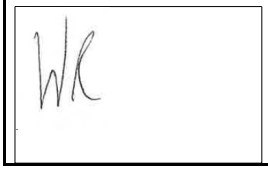
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Will Robertson

Test Engineer No: 80

Test Engineer Signature:



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Head Office: Duke House, 1-2 Duke Street, Woking, Surrey GU21 5BA (t) +44 (0) 1483 770 595
Manchester Office: First Floor, 346 Deansgate, Manchester M3 4LY (t) +44 (0) 161 832 7041
(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

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

Project Details

Development: Swan House, Manchester Client: RG Group Report Ref: 25173/SIT2

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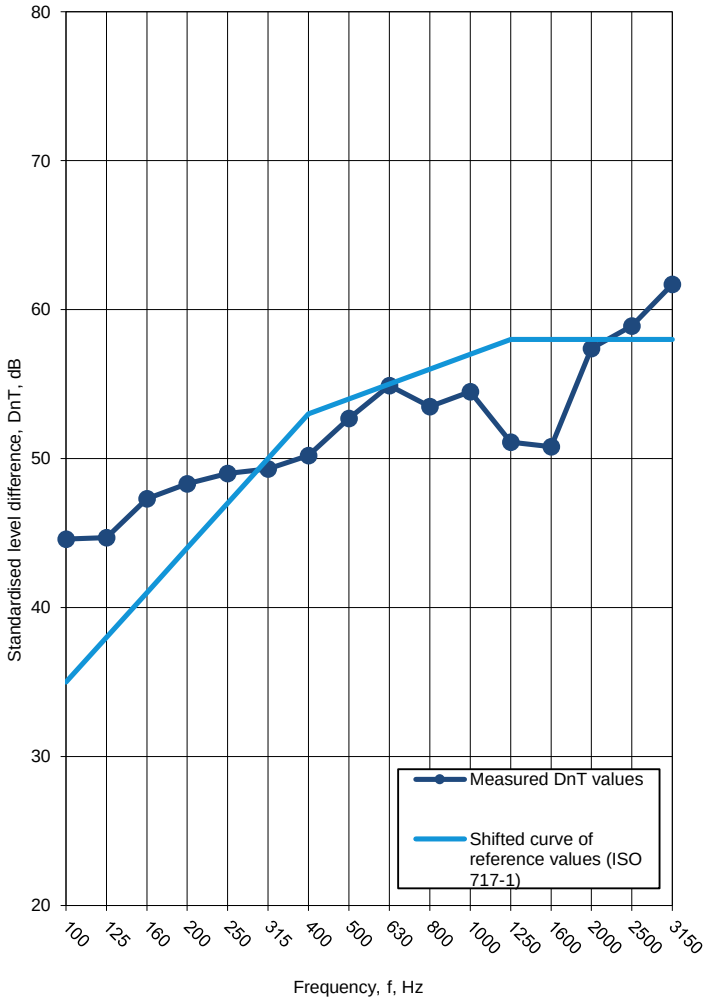
Airborne Floor Sound Insulation Test: AF22

Date of test: 29/03/2024

Source Room: 31-04-B Approximate Source Room Volume: 25m³

Receive Room: 30-04-B Approximate Receive Room Volume: 25m³

Frequency f Hz	DnT dB
100	44.6
125	44.7
160	47.3
200	48.3
250	49.0
315	49.3
400	50.2
500	52.7
630	54.9
800	53.5
1000	54.5
1250	51.1
1600	50.8
2000	57.4
2500	58.9
3150	61.7



Test Result

$D_{nT,w} + C_{tr} = \geq 52$ dB

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 54 (-1 ; -2) dB; $C_{(100\text{-}3150)}$ = -1 dB

$D_{nT,w}$ = ≥ 54 dB $C_{tr\ (100\text{-}3150)}$ -2 dB

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

Certificate Ref: 25173/SIT2/C76

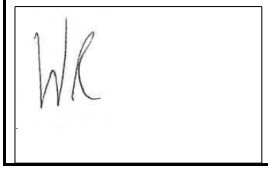
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Will Robertson

Test Engineer No: 80

Test Engineer Signature:



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

Project Details

Development: Swan House, Manchester Client: RG Group Report Ref: 25173/SIT2

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4083

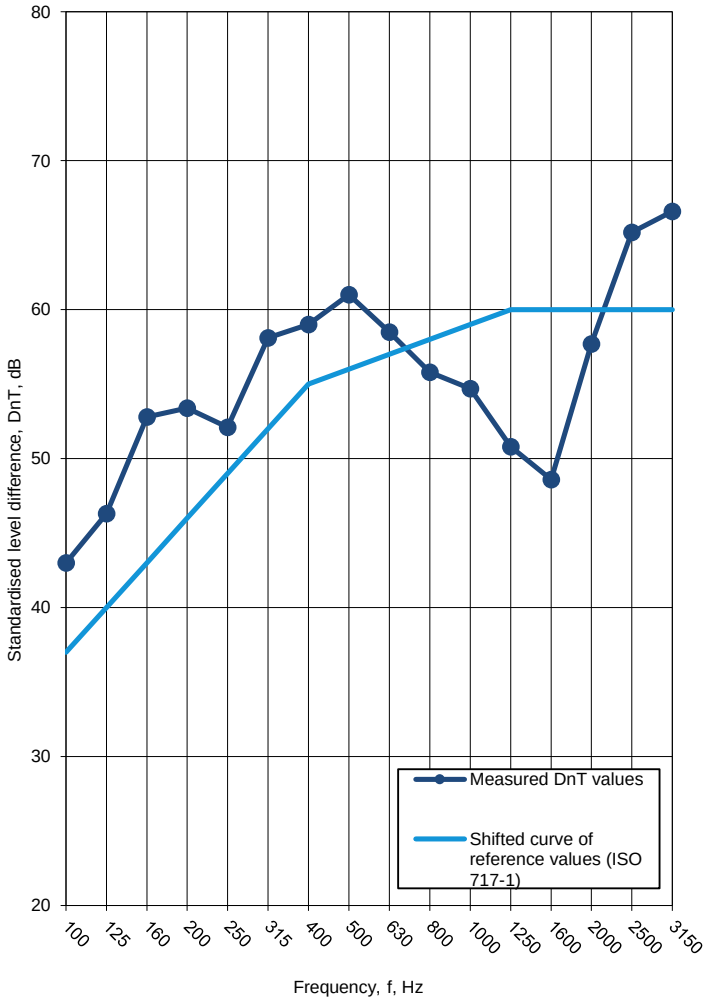
Airborne Floor Sound Insulation Test: AF23

Date of test: 29/03/2024

Source Room: 30-06-LKD Approximate Source Room Volume: 57m³

Receive Room: 29-06-LKD Approximate Receive Room Volume: 57m³

Frequency f Hz	DnT dB
100	43.0
125	46.3
160	52.8
200	53.4
250	52.1
315	58.1
400	59.0
500	61.0
630	58.5
800	55.8
1000	54.7
1250	50.8
1600	48.6
2000	57.7
2500	65.2
3150	66.6



Test Result

$D_{nT,w} + C_{tr} = \geq 53$ dB

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 56 (-2 ; -3) dB; $C_{(100\text{-}3150)}$ = -2 dB

$D_{nT,w}$ = ≥ 56 dB $C_{tr\ (100\text{-}3150)}$ -3 dB

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

Certificate Ref: 25173/SIT2/C77

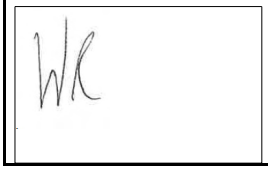
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Will Robertson

Test Engineer No: 80

Test Engineer Signature:



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

Project Details

Development: Swan House, Manchester Client: RG Group Report Ref: 25173/SIT2

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4083

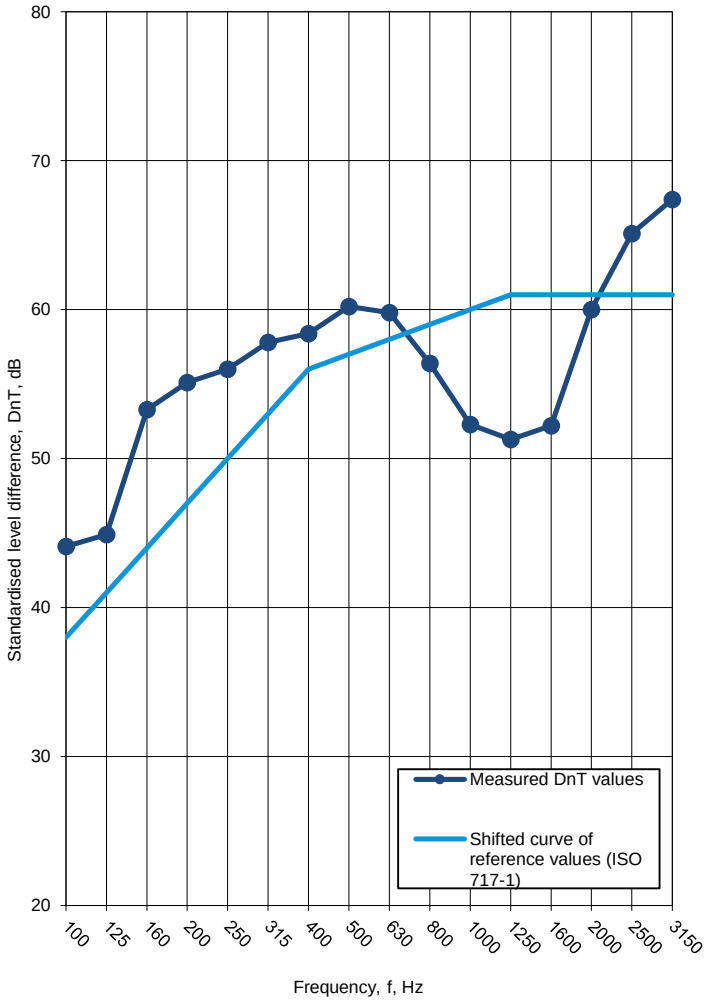
Airborne Floor Sound Insulation Test: AF24

Date of test: 29/03/2024

Source Room: 30-06-B Approximate Source Room Volume: 35m³

Receive Room: 29-06-B Approximate Receive Room Volume: 35m³

Frequency f Hz	DnT dB
100	44.1
125	44.9
160	53.3
200	55.1
250	56.0
315	57.8
400	58.4
500	60.2
630	59.8
800	56.4
1000	52.3
1250	51.3
1600	52.2
2000	60.0
2500	65.1
3150	67.4



Test Result

$D_{nT,w} + C_{tr} = \geq 54$ dB

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 57 (-2 ; -3) dB; $C_{(100\text{-}3150)}$ = -2 dB

$D_{nT,w}$ = ≥ 57 dB $C_{tr\ (100\text{-}3150)}$ -3 dB

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

Certificate Ref: 25173/SIT2/C78

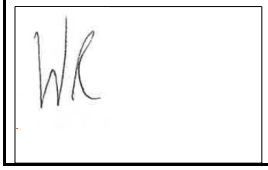
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Will Robertson

Test Engineer No: 80

Test Engineer Signature:



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(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

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

Project Details

Development: Swan House, Manchester Client: RG Group Report Ref: 25173/SIT2

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4083

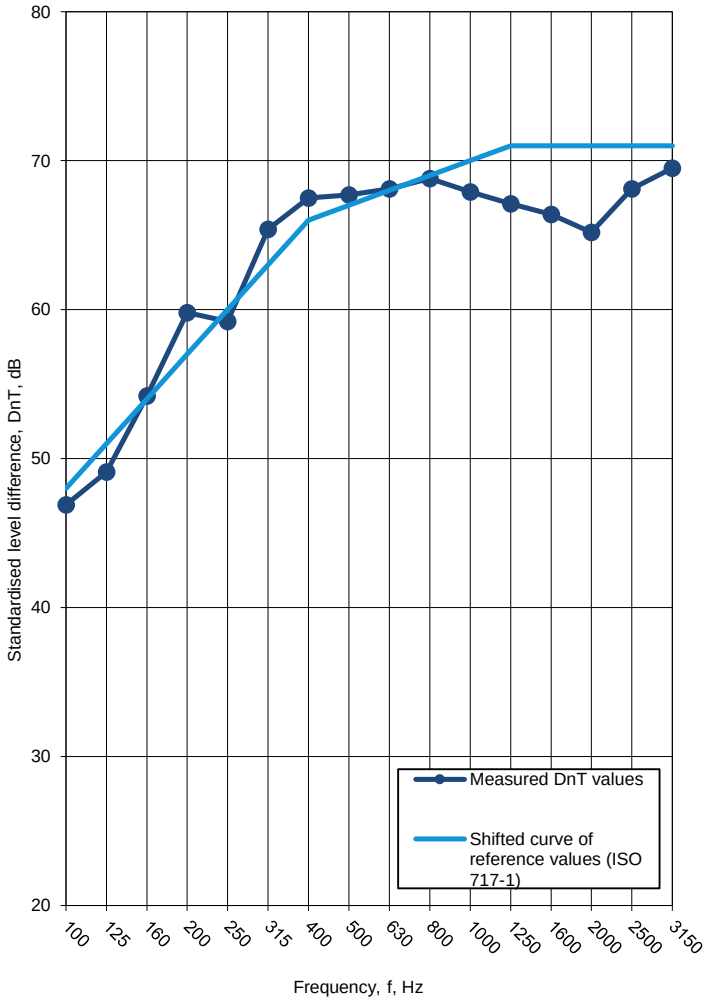
Airborne Floor Sound Insulation Test: AF25

Date of test: 29/03/2024

Source Room: 29-02-B Approximate Source Room Volume: 35m³

Receive Room: 28-02-B Approximate Receive Room Volume: 35m³

Frequency f Hz	DnT dB
100	46.9
125	49.1
160	54.2
200	59.8
250	59.2
315	65.4
400	67.5
500	67.7
630	68.1
800	68.8
1000	67.9
1250	67.1
1600	66.4
2000	65.2
2500	68.1
3150	69.5



Test Result

$D_{nT,w} + C_{tr} = \geq 62$ dB

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 67 (-1 ; -5) dB; $C_{(100\text{-}3150)}$ = -1 dB

$D_{nT,w}$ = ≥ 67 dB $C_{tr\ (100\text{-}3150)}$ -5 dB

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

Certificate Ref: 25173/SIT2/C79

Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Will Robertson

Test Engineer No: 80

Test Engineer Signature:

Hann Tucker Associates
Consultants in Acoustics Noise & Vibration
Head Office: Duke House, 1-2 Duke Street, Woking, Surrey GU21 5BA (t) +44 (0) 1483 770 595
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(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

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

Project Details

Development: Swan House, Manchester Client: RG Group Report Ref: 25173/SIT2

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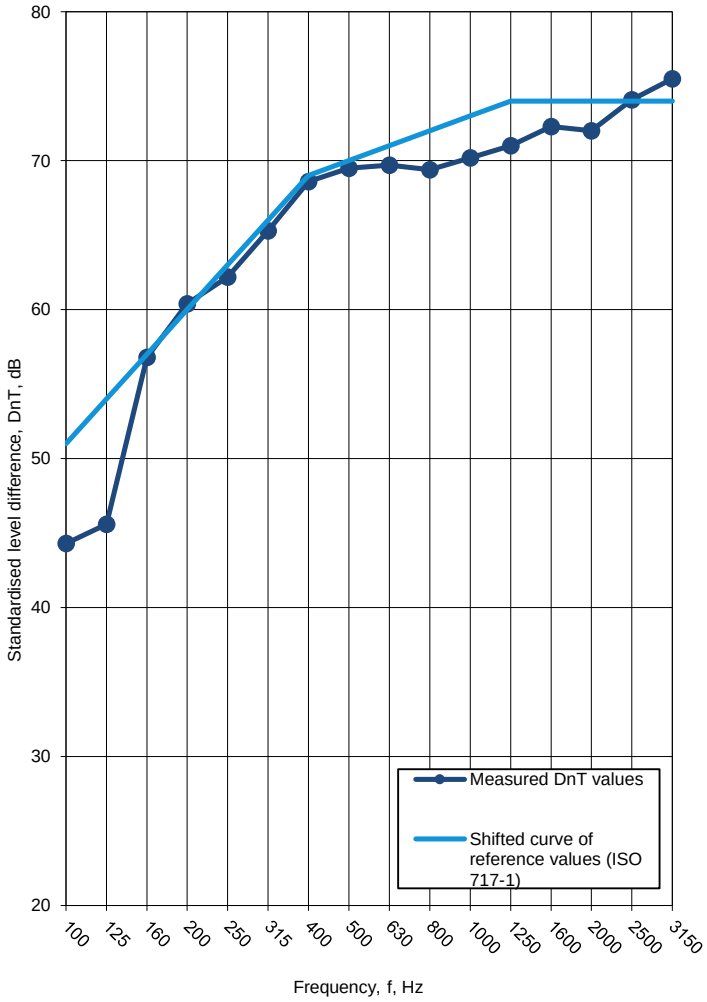
Airborne Floor Sound Insulation Test: AF26

Date of test: 29/03/2024

Source Room: 29-02-LKD Approximate Source Room Volume: 57m³

Receive Room: 28-02-LKD Approximate Receive Room Volume: 57m³

Frequency f Hz	DnT dB
100	44.3
125	45.6
160	56.8
200	60.4
250	62.2
315	≥ 65.3
400	≥ 68.6
500	≥ 69.5
630	≥ 69.7
800	≥ 69.4
1000	≥ 70.2
1250	≥ 71.0
1600	≥ 72.3
2000	≥ 72.0
2500	≥ 74.1
3150	≥ 75.5



Test Result

$D_{nT,w} + C_{tr} = \geq 61$ dB

≥ Results limited due to high background noise levels

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 70 (-3 ; -9) dB; $C_{(100\text{-}3150)}$ = -3 dB

$D_{nT,w}$ = ≥ 70 dB $C_{tr\ (100\text{-}3150)}$ -9 dB

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

Certificate Ref: 25173/SIT2/C80

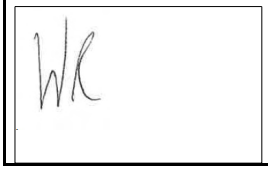
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Will Robertson

Test Engineer No: 80

Test Engineer Signature:



Hann Tucker Associates
Consultants in Acoustics Noise & Vibration
Head Office: Duke House, 1-2 Duke Street, Woking, Surrey GU21 5BA (t) +44 (0) 1483 770 595
Manchester Office: First Floor, 346 Deansgate, Manchester M3 4LY (t) +44 (0) 161 832 7041
(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

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

Project Details

Development: Swan House, Manchester Client: RG Group Report Ref: 25173/SIT2

UKAS TESTING
4083

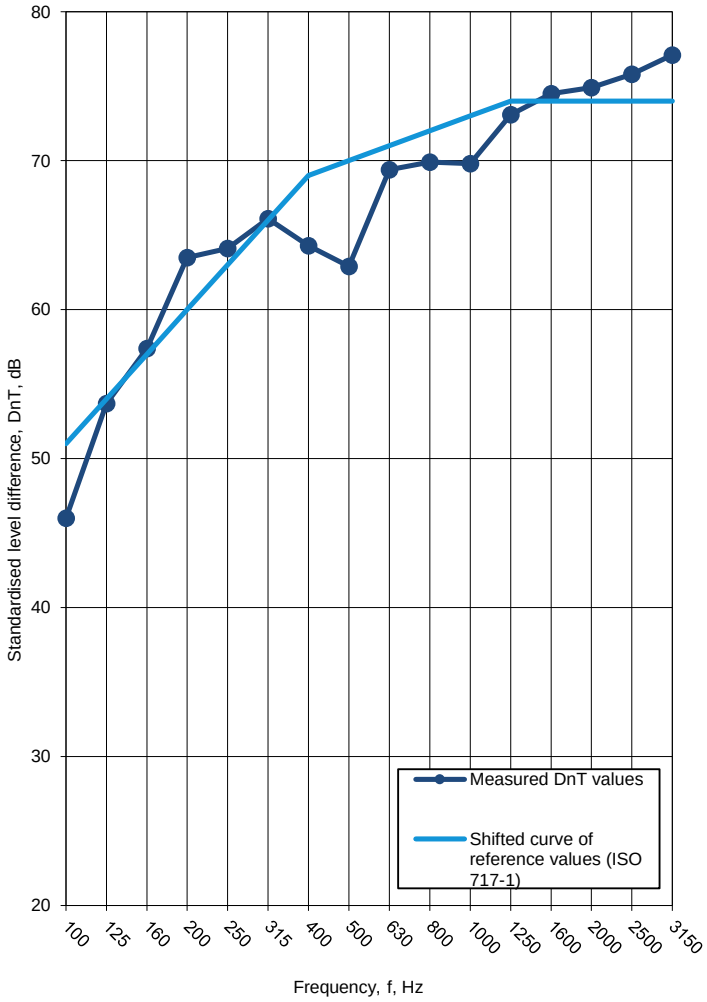
Airborne Floor Sound Insulation Test: AF27

Date of test: 29/03/2024

Source Room: 27-08-LKD Approximate Source Room Volume: 49m³

Receive Room: 26-08-LKD Approximate Receive Room Volume: 49m³

Frequency f Hz	DnT dB
100	46.0
125	53.7
160	57.4
200	63.5
250	64.1
315	66.1
400	64.3
500	62.9
630	69.4
800	69.9
1000	69.8
1250	≥ 73.1
1600	74.5
2000	74.9
2500	75.8
3150	77.1



Test Result

$D_{nT,w} + C_{tr} = \geq 63$ dB

≥ Results limited due to high background noise levels

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 70 (-2 ; -7) dB; $C_{(100\text{-}3150)}$ = -2 dB

$D_{nT,w}$ = ≥ 70 dB $C_{tr\ (100\text{-}3150)}$ -7 dB

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

Certificate Ref: 25173/SIT2/C81

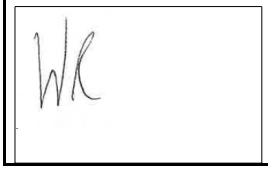
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Will Robertson

Test Engineer No: 80

Test Engineer Signature:



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(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

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

Project Details

Development: Swan House, Manchester Client: RG Group Report Ref: 25173/SIT2

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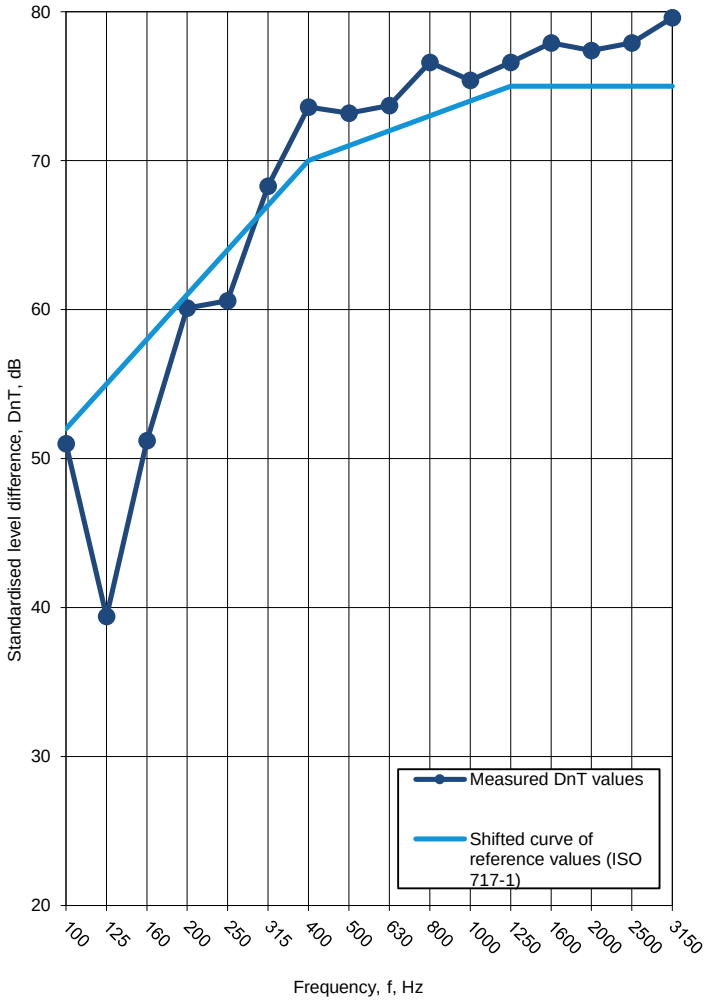
Airborne Floor Sound Insulation Test: AF28

Date of test: 29/03/2024

Source Room: 27-08-B Approximate Source Room Volume: 28m³

Receive Room: 26-08-B Approximate Receive Room Volume: 28m³

Frequency f Hz	DnT dB
100	51.0
125	39.4
160	51.2
200	60.1
250	60.6
315	68.3
400	73.6
500	73.2
630	73.7
800	76.6
1000	75.4
1250	76.6
1600	77.9
2000	77.4
2500	77.9
3150	79.6



Test Result

$D_{nT,w} + C_{tr} = \geq 58$ dB

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 71 (-7 ; -13) $C_{(100\text{-}3150)}$ = -7 dB

$D_{nT,w}$ = ≥ 71 dB $C_{tr\ (100\text{-}3150)}$ -13 dB

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

Certificate Ref: 25173/SIT2/C82

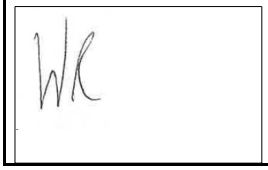
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Will Robertson

Test Engineer No: 80

Test Engineer Signature:



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Head Office: Duke House, 1-2 Duke Street, Woking, Surrey GU21 5BA (t) +44 (0) 1483 770 595
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Standardised level difference according to ISO 140-4
Field measurements of airborne sound insulation between rooms

Project Details

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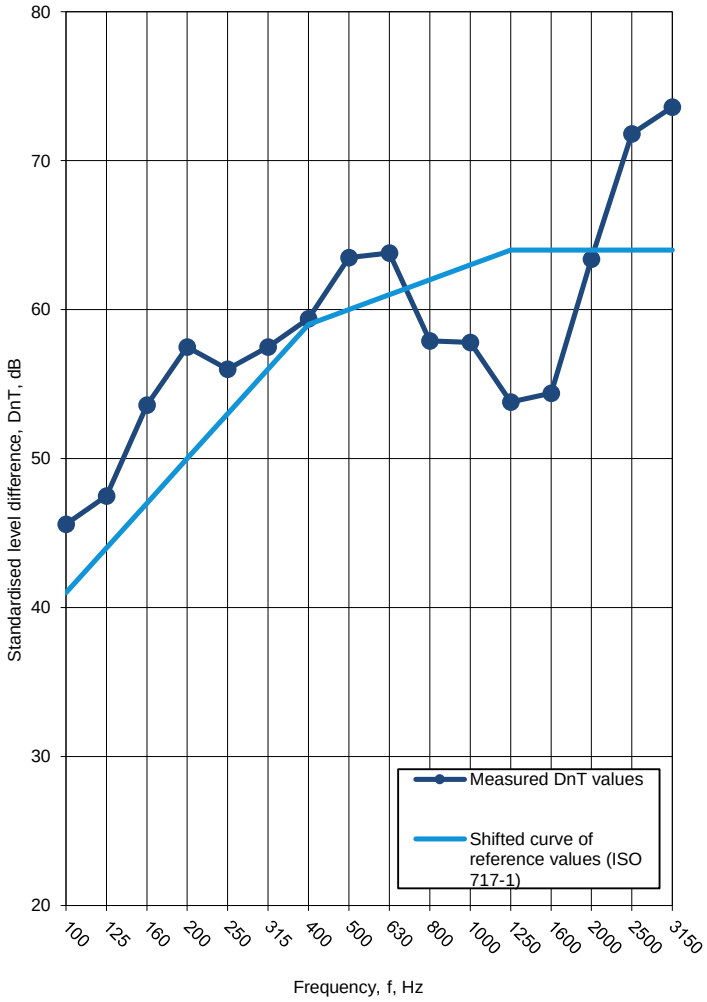
Airborne Floor Sound Insulation Test: AF29

Date of test: 29/03/2024

Source Room: 24-01-LKD Approximate Source Room Volume: 59m³

Receive Room: 23-01-LKD Approximate Receive Room Volume: 59m³

Frequency f Hz	DnT dB
100	45.6
125	47.5
160	53.6
200	57.5
250	56.0
315	57.5
400	59.4
500	63.5
630	63.8
800	57.9
1000	57.8
1250	53.8
1600	54.4
2000	63.4
2500	71.8
3150	≥ 73.6



Test Result

$D_{nT,w} + C_{tr} = \geq 57$ dB

≥ Results limited due to high background noise levels

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 60 (-2 ; -3) dB; $C_{(100\text{-}3150)}$ = -2 dB

$D_{nT,w}$ = ≥ 60 dB $C_{tr\ (100\text{-}3150)}$ -3 dB

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

Certificate Ref: 25173/SIT2/C83

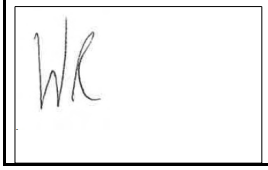
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Will Robertson

Test Engineer No: 80

Test Engineer Signature:



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Head Office: Duke House, 1-2 Duke Street, Woking, Surrey GU21 5BA (t) +44 (0) 1483 770 595
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(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

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Field measurements of airborne sound insulation between rooms

Project Details

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4083

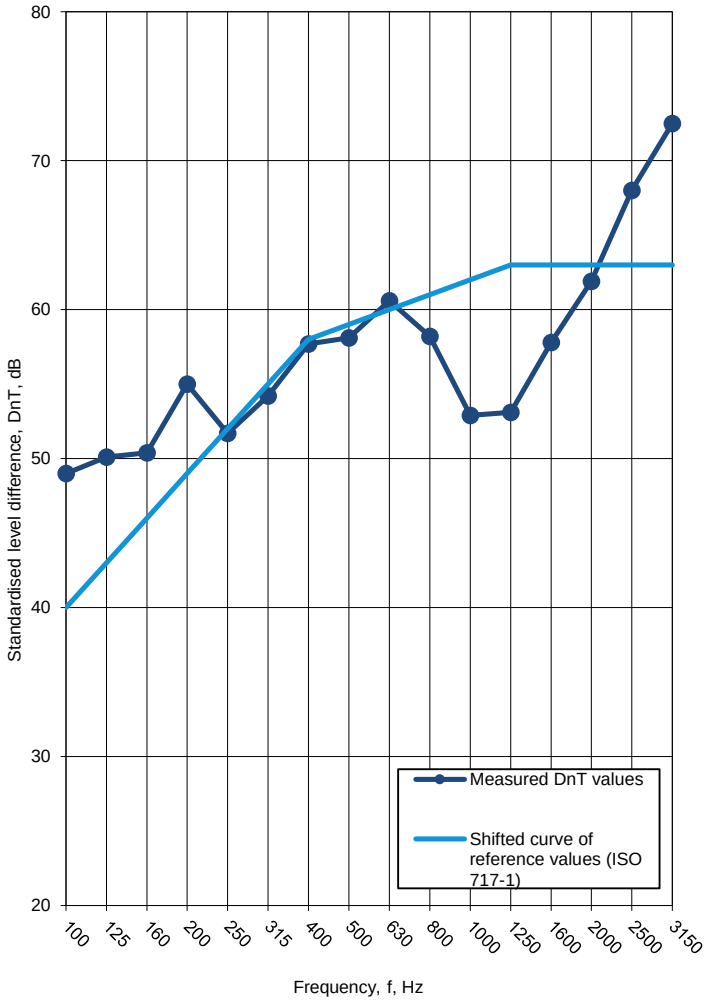
Airborne Floor Sound Insulation Test: AF30

Date of test: 29/03/2024

Source Room: 24-01-B Approximate Source Room Volume: 30m³

Receive Room: 23-01-B Approximate Receive Room Volume: 30m³

Frequency f Hz	DnT dB
100	49.0
125	50.1
160	50.4
200	55.0
250	51.7
315	54.2
400	57.7
500	58.1
630	60.6
800	58.2
1000	52.9
1250	53.1
1600	57.8
2000	61.9
2500	68.0
3150	≥ 72.5



Test Result

$D_{nT,w} + C_{tr} = \geq 55$ dB

≥ Results limited due to high background noise levels

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 59 (-2 ; -4) dB; $C_{(100\text{-}3150)}$ = -2 dB

$D_{nT,w}$ = ≥ 59 dB $C_{tr\ (100\text{-}3150)}$ -4 dB

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

Certificate Ref: 25173/SIT2/C84

Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Will Robertson

Test Engineer No: 80

Test Engineer Signature:

Hann Tucker Associates
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Head Office: Duke House, 1-2 Duke Street, Woking, Surrey GU21 5BA (t) +44 (0) 1483 770 595
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(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

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

Project Details

Development: Swan House, Manchester Client: RG Group Report Ref: 25173/SIT2

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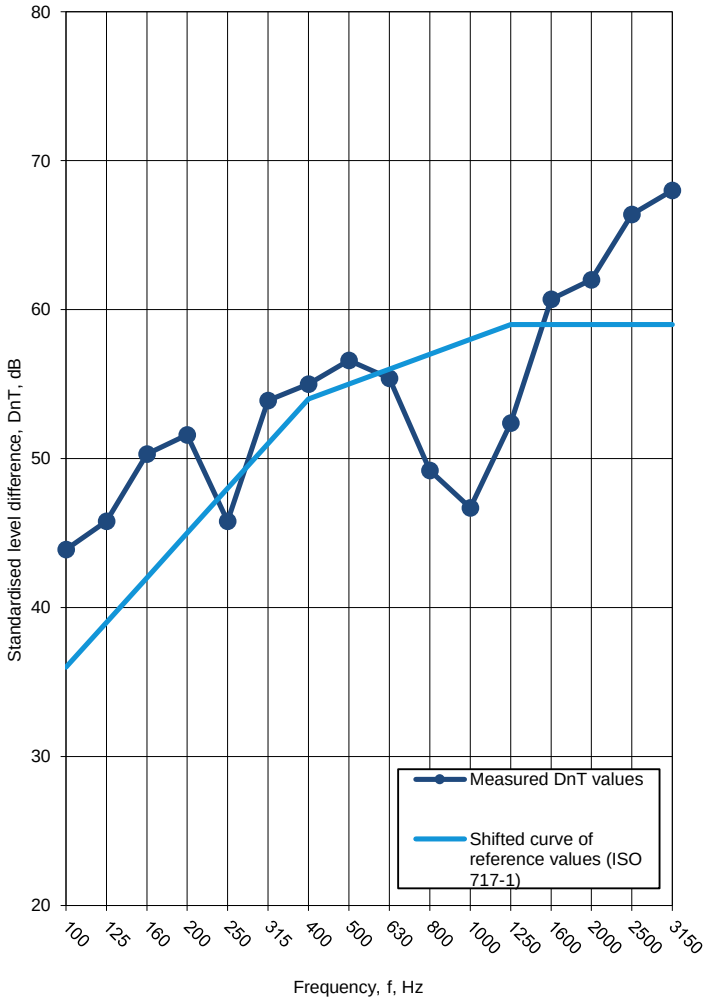
Airborne Floor Sound Insulation Test: AF31

Date of test: 29/03/2024

Source Room: 22-05-B Approximate Source Room Volume: 30m³

Receive Room: 21-05-B Approximate Receive Room Volume: 30m³

Frequency f Hz	DnT dB
100	43.9
125	45.8
160	50.3
200	51.6
250	45.8
315	53.9
400	55.0
500	56.6
630	55.4
800	49.2
1000	46.7
1250	52.4
1600	60.7
2000	62.0
2500	66.4
3150	68.0



Test Result

$D_{nT,w} + C_{tr} = \geq 51$ dB

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 55 (-2 ; -4) dB; $C_{(100\text{-}3150)}$ = -2 dB

$D_{nT,w}$ = ≥ 55 dB $C_{tr\ (100\text{-}3150)}$ -4 dB

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

Certificate Ref: 25173/SIT2/C85

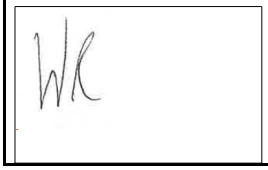
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Will Robertson

Test Engineer No: 80

Test Engineer Signature:



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Head Office: Duke House, 1-2 Duke Street, Woking, Surrey GU21 5BA (t) +44 (0) 1483 770 595
Manchester Office: First Floor, 346 Deansgate, Manchester M3 4LY (t) +44 (0) 161 832 7041
(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

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Project Details

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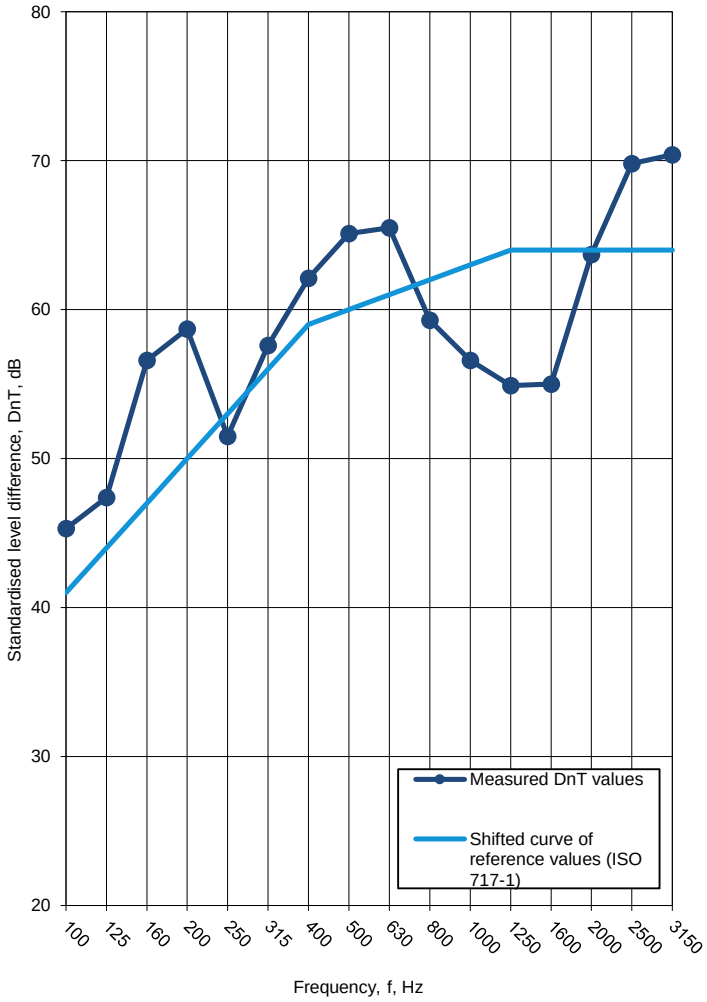
Airborne Floor Sound Insulation Test: AF32

Date of test: 29/03/2024

Source Room: 22-05-LKD Approximate Source Room Volume: 57m³

Receive Room: 21-05-LKD Approximate Receive Room Volume: 57m³

Frequency f Hz	DnT dB
100	45.3
125	47.4
160	56.6
200	58.7
250	51.5
315	57.6
400	62.1
500	65.1
630	65.5
800	59.3
1000	56.6
1250	54.9
1600	55.0
2000	63.7
2500	69.8
3150	70.4



Test Result

$D_{nT,w} + C_{tr} = \geq 57$ dB

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 60 (-2 ; -3) dB; $C_{(100\text{-}3150)}$ = -2 dB

$D_{nT,w}$ = ≥ 60 dB $C_{tr\ (100\text{-}3150)}$ -3 dB

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

Certificate Ref: 25173/SIT2/C86

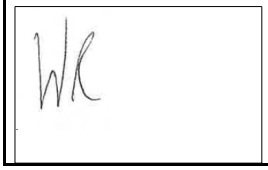
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Will Robertson

Test Engineer No: 80

Test Engineer Signature:



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Head Office: Duke House, 1-2 Duke Street, Woking, Surrey GU21 5BA (t) +44 (0) 1483 770 595
Manchester Office: First Floor, 346 Deansgate, Manchester M3 4LY (t) +44 (0) 161 832 7041
(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

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

Project Details

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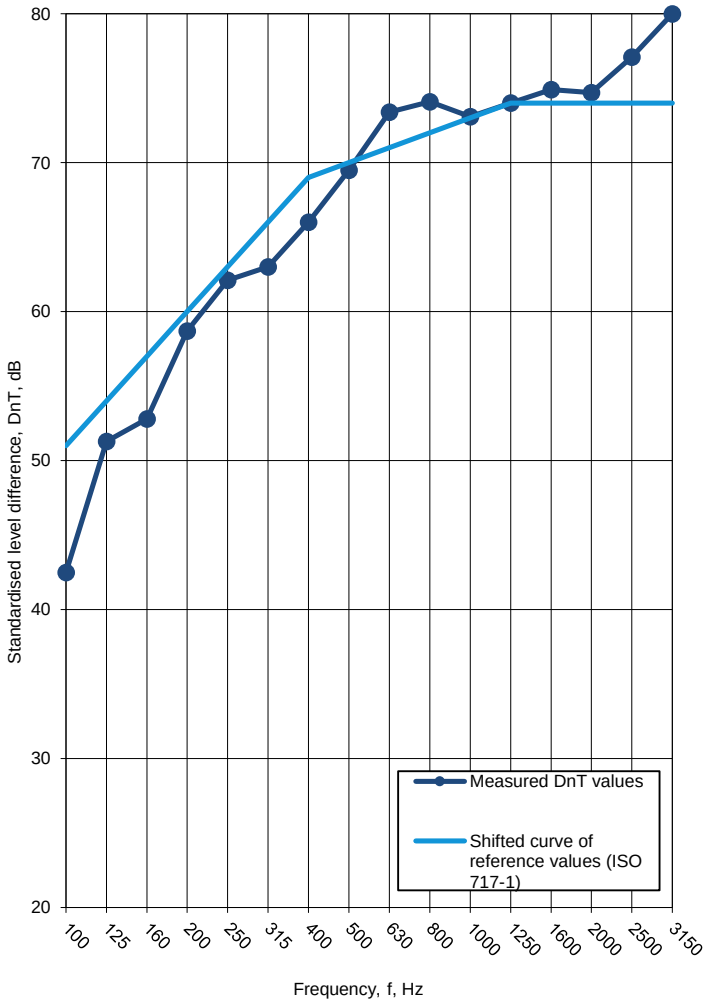
Airborne Floor Sound Insulation Test: AF33

Date of test: 29/03/2024

Source Room: 17-03-LKD Approximate Source Room Volume: 64m³

Receive Room: 16-03-LKD Approximate Receive Room Volume: 64m³

Frequency f Hz	DnT dB
100	42.5
125	51.3
160	52.8
200	58.7
250	62.1
315	63.0
400	66.0
500	≥ 69.5
630	≥ 73.4
800	≥ 74.1
1000	≥ 73.1
1250	74.0
1600	74.9
2000	74.7
2500	77.1
3150	80.0



Test Result

$D_{nT,w} + C_{tr} = \geq 61$ dB

≥ Results limited due to high background noise levels

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 70 (-3 ; -9) dB; $C_{(100-3150)}$ = -3 dB

$D_{nT,w}$ = ≥ 70 dB $C_{tr\ (100-3150)}$ -9 dB

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

Certificate Ref: 25173/SIT2/C87

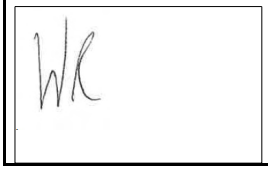
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Will Robertson

Test Engineer No: 80

Test Engineer Signature:



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(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

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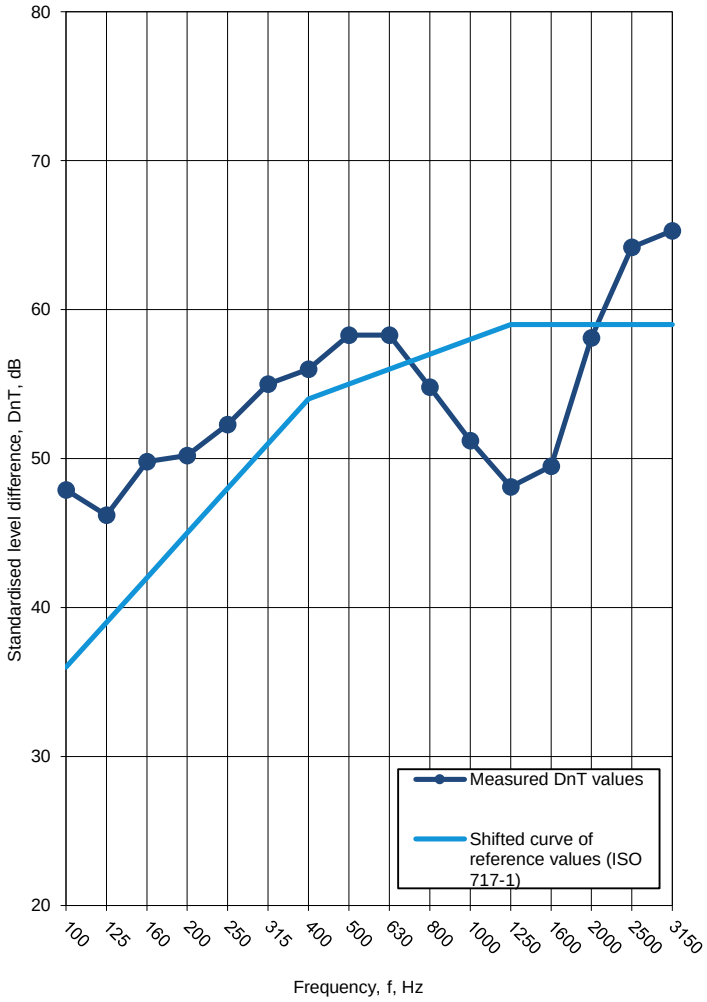
Airborne Floor Sound Insulation Test: AF34

Date of test: 29/03/2024

Source Room: 04-06-LKD Approximate Source Room Volume: 56m³

Receive Room: 03-06-LKD Approximate Receive Room Volume: 56m³

Frequency f Hz	DnT dB
100	47.9
125	46.2
160	49.8
200	50.2
250	52.3
315	55.0
400	56.0
500	58.3
630	58.3
800	54.8
1000	51.2
1250	48.1
1600	49.5
2000	58.1
2500	64.2
3150	65.3



Test Result

$D_{nT,w} + C_{tr} = \geq 52$ dB

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 55 (-2 ; -3) dB; $C_{(100\text{-}3150)}$ = -2 dB

$D_{nT,w}$ = ≥ 55 dB $C_{tr\ (100\text{-}3150)}$ -3 dB

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

Certificate Ref: 25173/SIT2/C88

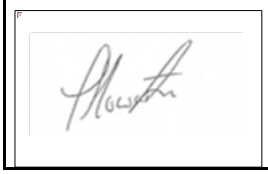
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Jake Howarth

Test Engineer No: 64

Test Engineer Signature:



Hann Tucker Associates
Consultants in Acoustics Noise & Vibration
Head Office: Duke House, 1-2 Duke Street, Woking, Surrey GU21 5BA (t) +44 (0) 1483 770 595
Manchester Office: First Floor, 346 Deansgate, Manchester M3 4LY (t) +44 (0) 161 832 7041
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Project Details

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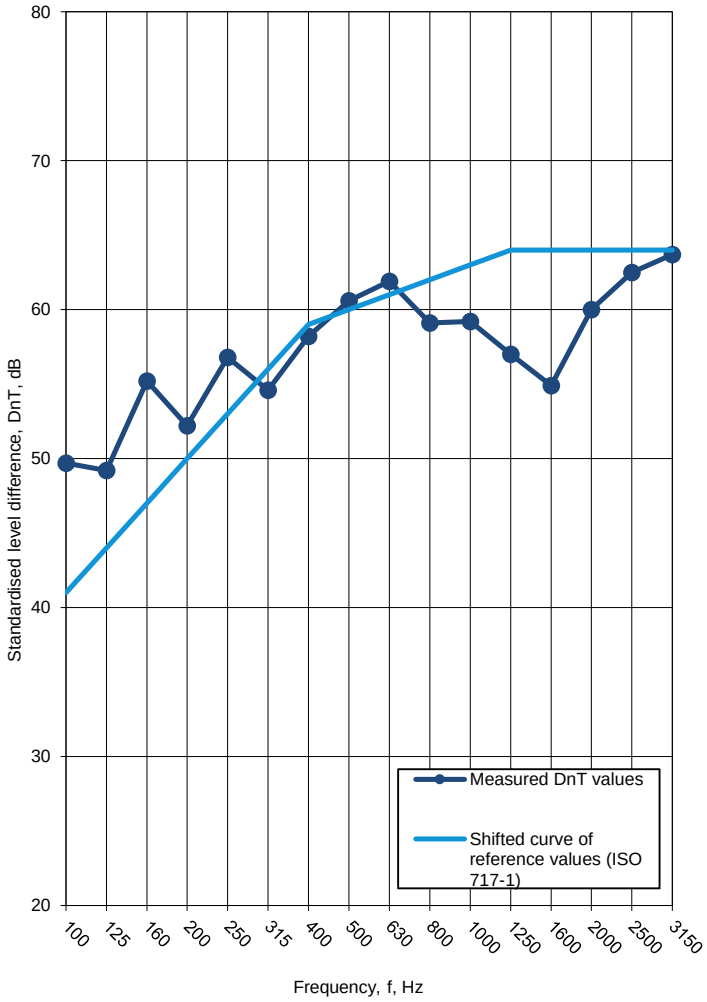
Airborne Floor Sound Insulation Test: AF35

Date of test: 29/03/2024

Source Room: 04-06-B Approximate Source Room Volume: 26m³

Receive Room: 03-06-B Approximate Receive Room Volume: 26m³

Frequency f Hz	DnT dB
100	49.7
125	49.2
160	55.2
200	52.2
250	56.8
315	54.6
400	58.2
500	60.6
630	61.9
800	59.1
1000	59.2
1250	57.0
1600	54.9
2000	60.0
2500	62.5
3150	63.7



Test Result

$D_{nT,w} + C_{tr} = \geq 57$ dB

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 60 (-2 ; -3) dB; $C_{(100\text{-}3150)}$ = -2 dB

$D_{nT,w}$ = ≥ 60 dB $C_{tr\ (100\text{-}3150)}$ -3 dB

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

Certificate Ref: 25173/SIT2/C89

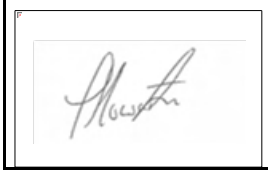
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Jake Howarth

Test Engineer No: 64

Test Engineer Signature:



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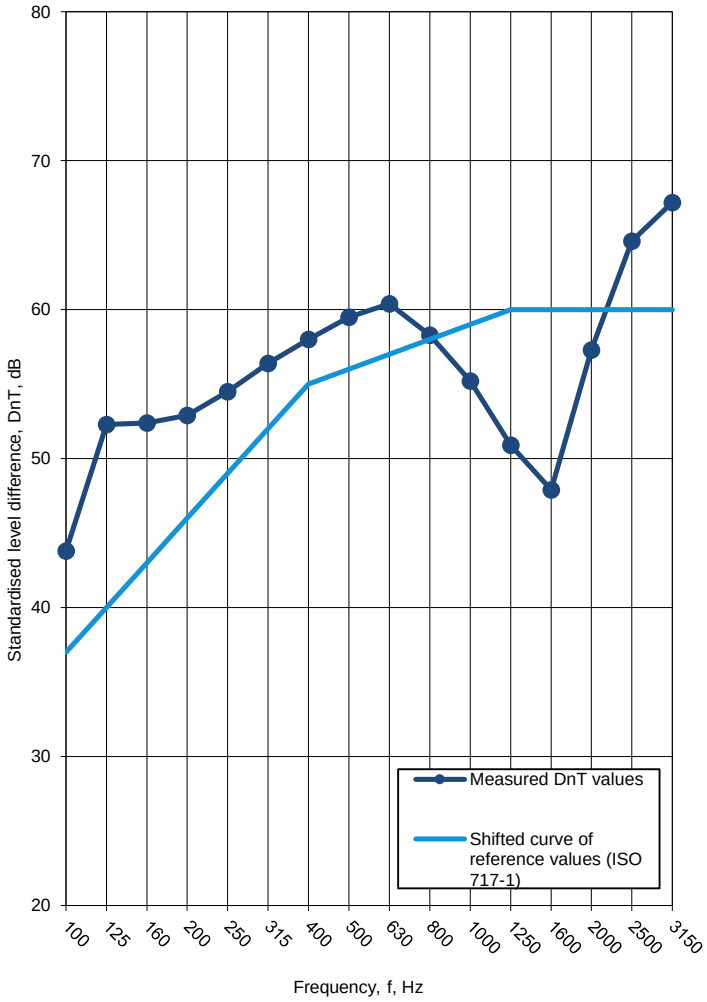
Airborne Floor Sound Insulation Test: AF36

Date of test: 29/03/2024

Source Room: 04-13-LKD Approximate Source Room Volume: 45m³

Receive Room: 03-13-LKD Approximate Receive Room Volume: 45m³

Frequency f Hz	DnT dB
100	43.8
125	52.3
160	52.4
200	52.9
250	54.5
315	56.4
400	58.0
500	59.5
630	60.4
800	58.3
1000	55.2
1250	50.9
1600	47.9
2000	57.3
2500	64.6
3150	67.2



Test Result

$D_{nT,w} + C_{tr} = \geq 53$ dB

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 56 (-2 ; -3) dB; $C_{(100\text{-}3150)}$ = -2 dB

$D_{nT,w}$ = ≥ 56 dB $C_{tr\ (100\text{-}3150)}$ -3 dB

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

Certificate Ref: 25173/SIT2/C90

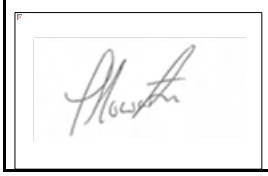
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Jake Howarth

Test Engineer No: 64

Test Engineer Signature:



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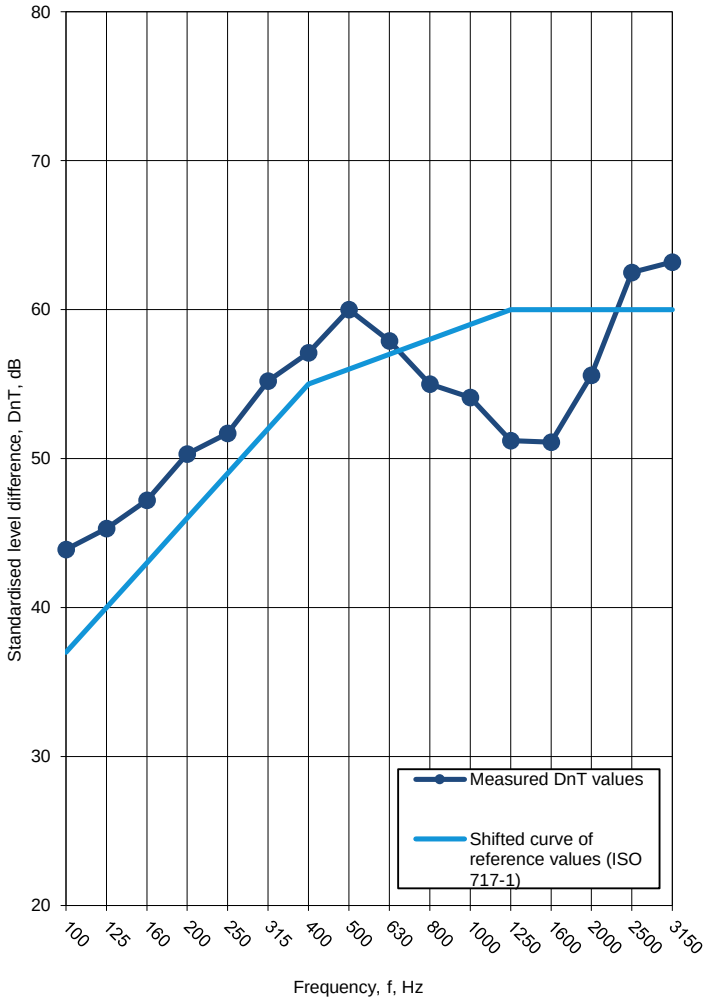
Airborne Floor Sound Insulation Test: AF37

Date of test: 29/03/2024

Source Room: 04-13-B Approximate Source Room Volume: 27m³

Receive Room: 03-13-B Approximate Receive Room Volume: 27m³

Frequency f Hz	DnT dB
100	43.9
125	45.3
160	47.2
200	50.3
250	51.7
315	55.2
400	57.1
500	60.0
630	57.9
800	55.0
1000	54.1
1250	51.2
1600	51.1
2000	55.6
2500	62.5
3150	63.2



Test Result

$D_{nT,w} + C_{tr} = \geq 53$ dB

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 56 (-2 ; -3) dB; $C_{(100\text{-}3150)}$ = -2 dB

$D_{nT,w}$ = ≥ 56 dB $C_{tr\ (100\text{-}3150)}$ -3 dB

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

Certificate Ref: 25173/SIT2/C91

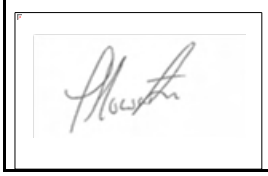
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Jake Howarth

Test Engineer No: 64

Test Engineer Signature:



Hann Tucker Associates
Consultants in Acoustics Noise & Vibration
Head Office: Duke House, 1-2 Duke Street, Woking, Surrey GU21 5BA (t) +44 (0) 1483 770 595
Manchester Office: First Floor, 346 Deansgate, Manchester M3 4LY (t) +44 (0) 161 832 7041
(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

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

Project Details

Development: Swan House, Manchester Client: RG Group Report Ref: 25173/SIT2

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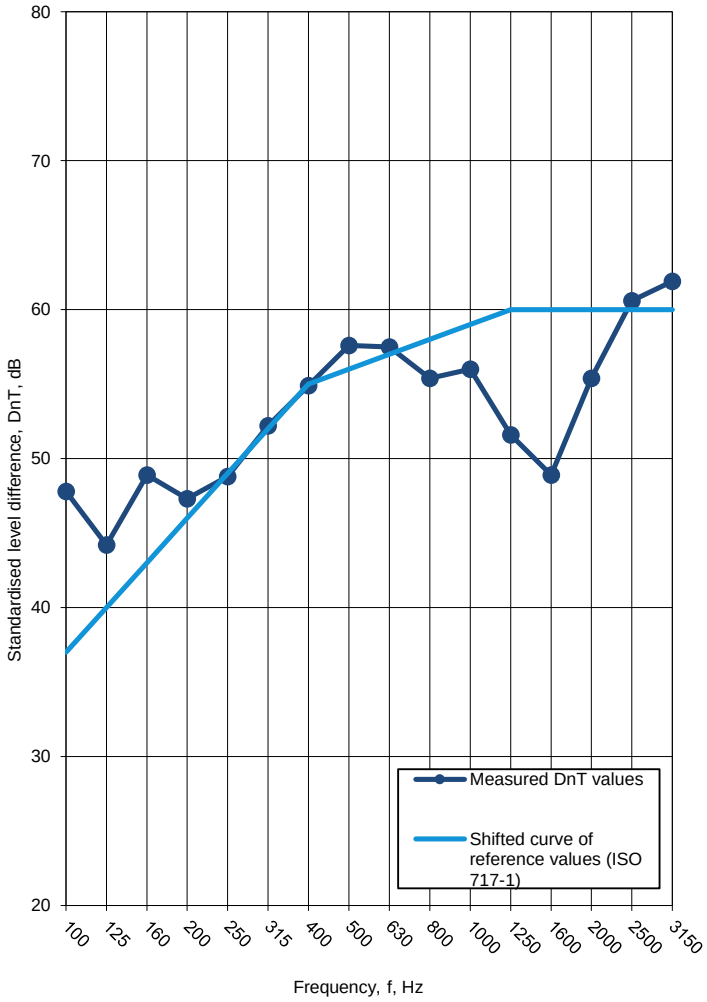
Airborne Floor Sound Insulation Test: AF38

Date of test: 29/03/2024

Source Room: 04-15-B Approximate Source Room Volume: 29m³

Receive Room: 03-15-B Approximate Receive Room Volume: 29m³

Frequency f Hz	DnT dB
100	47.8
125	44.2
160	48.9
200	47.3
250	48.8
315	52.2
400	54.9
500	57.6
630	57.5
800	55.4
1000	56.0
1250	51.6
1600	48.9
2000	55.4
2500	60.6
3150	61.9



Test Result

$D_{nT,w} + C_{tr} = \geq 53$ dB

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 56 (-2 ; -3) dB; $C_{(100\text{-}3150)}$ = -2 dB

$D_{nT,w}$ = ≥ 56 dB $C_{tr\ (100\text{-}3150)}$ -3 dB

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

Certificate Ref: 25173/SIT2/C92

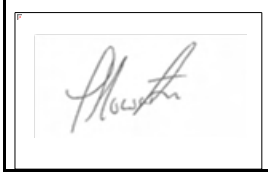
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

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Test Engineer No: 64

Test Engineer Signature:



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(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

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

Project Details

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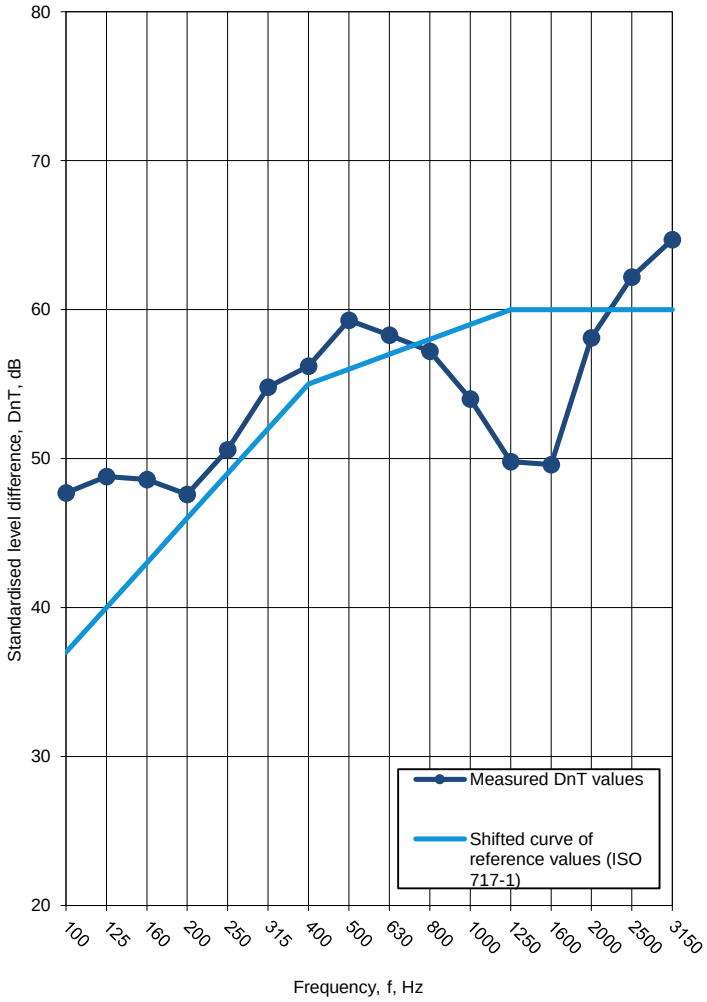
Airborne Floor Sound Insulation Test: AF39

Date of test: 29/03/2024

Source Room: 04-15-LKD Approximate Source Room Volume: 50m³

Receive Room: 03-15-LKD Approximate Receive Room Volume: 50m³

Frequency f Hz	DnT dB
100	47.7
125	48.8
160	48.6
200	47.6
250	50.6
315	54.8
400	56.2
500	59.3
630	58.3
800	57.2
1000	54.0
1250	49.8
1600	49.6
2000	58.1
2500	62.2
3150	64.7



Test Result

$D_{nT,w} + C_{tr} = \geq 53$ dB

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 56 (-2 ; -3) dB; $C_{(100\text{-}3150)}$ = -2 dB

$D_{nT,w}$ = ≥ 56 dB $C_{tr\ (100\text{-}3150)}$ -3 dB

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

Certificate Ref: 25173/SIT2/C93

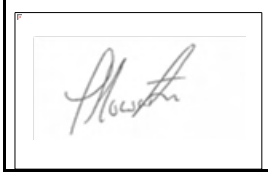
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Jake Howarth

Test Engineer No: 64

Test Engineer Signature:



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Manchester Office: First Floor, 346 Deansgate, Manchester M3 4LY (t) +44 (0) 161 832 7041
(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

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

Project Details

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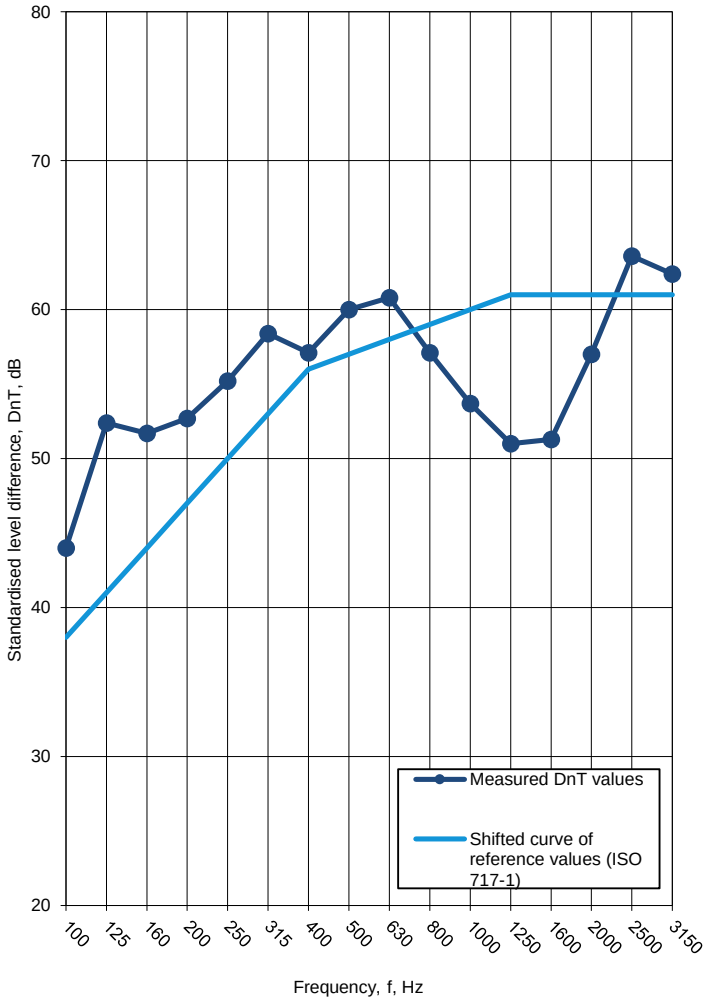
Airborne Floor Sound Insulation Test: AF40

Date of test: 29/03/2024

Source Room: 04-18-B Approximate Source Room Volume: 26m³

Receive Room: 03-18-B Approximate Receive Room Volume: 26m³

Frequency f Hz	DnT dB
100	44.0
125	52.4
160	51.7
200	52.7
250	55.2
315	58.4
400	57.1
500	60.0
630	60.8
800	57.1
1000	53.7
1250	51.0
1600	51.3
2000	57.0
2500	63.6
3150	62.4



Test Result

$D_{nT,w} + C_{tr} = \geq 54$ dB

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 57 (-2 ; -3) dB; $C_{(100\text{-}3150)}$ = -2 dB

$D_{nT,w}$ = ≥ 57 dB $C_{tr\ (100\text{-}3150)}$ -3 dB

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

Certificate Ref: 25173/SIT2/C94

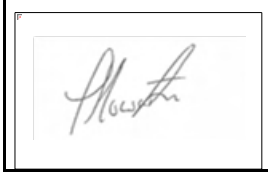
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Jake Howarth

Test Engineer No: 64

Test Engineer Signature:



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(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

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

Project Details

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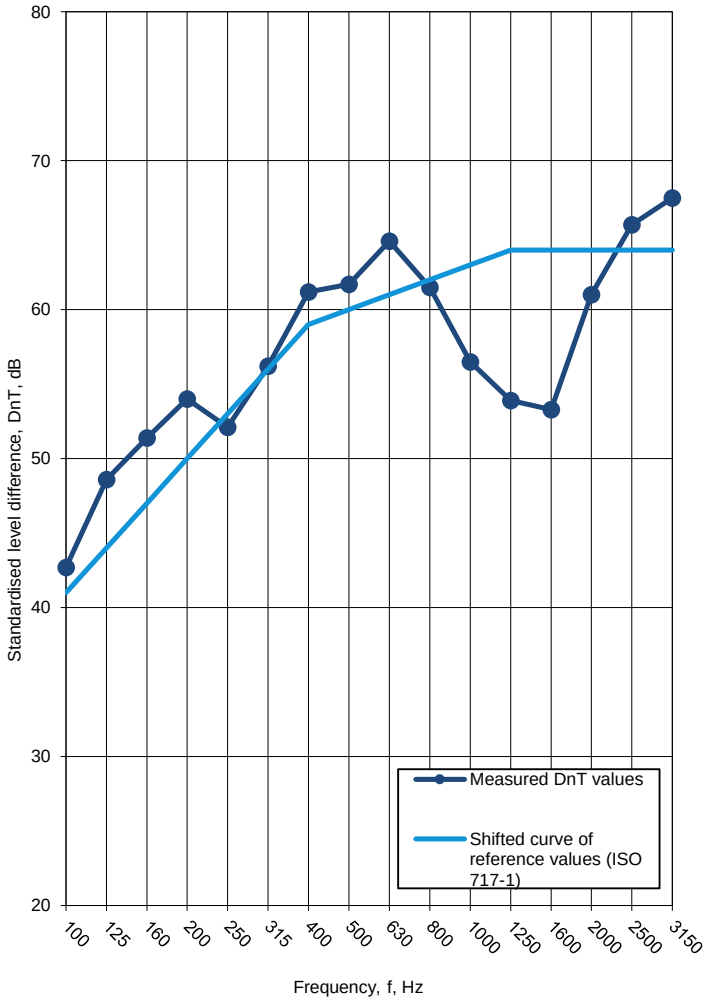
Airborne Floor Sound Insulation Test: AF41

Date of test: 29/03/2024

Source Room: 04-18-LKD Approximate Source Room Volume: 91m³

Receive Room: 03-18-LKD Approximate Receive Room Volume: 91m³

Frequency f Hz	DnT dB
100	42.7
125	48.6
160	51.4
200	54.0
250	52.1
315	56.2
400	61.2
500	61.7
630	64.6
800	61.5
1000	56.5
1250	53.9
1600	53.3
2000	61.0
2500	65.7
3150	67.5



Test Result

$D_{nT,w} + C_{tr} = \geq 56$ dB

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 60 (-3 ; -4) dB; $C_{(100\text{-}3150)}$ = -3 dB

$D_{nT,w}$ = ≥ 60 dB $C_{tr\ (100\text{-}3150)}$ -4 dB

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

Certificate Ref: 25173/SIT2/C95

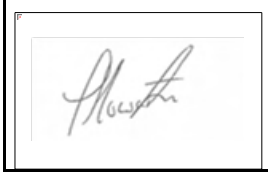
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Jake Howarth

Test Engineer No: 64

Test Engineer Signature:



Hann Tucker Associates
Consultants in Acoustics Noise & Vibration
Head Office: Duke House, 1-2 Duke Street, Woking, Surrey GU21 5BA (t) +44 (0) 1483 770 595
Manchester Office: First Floor, 346 Deansgate, Manchester M3 4LY (t) +44 (0) 161 832 7041
(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

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

Project Details

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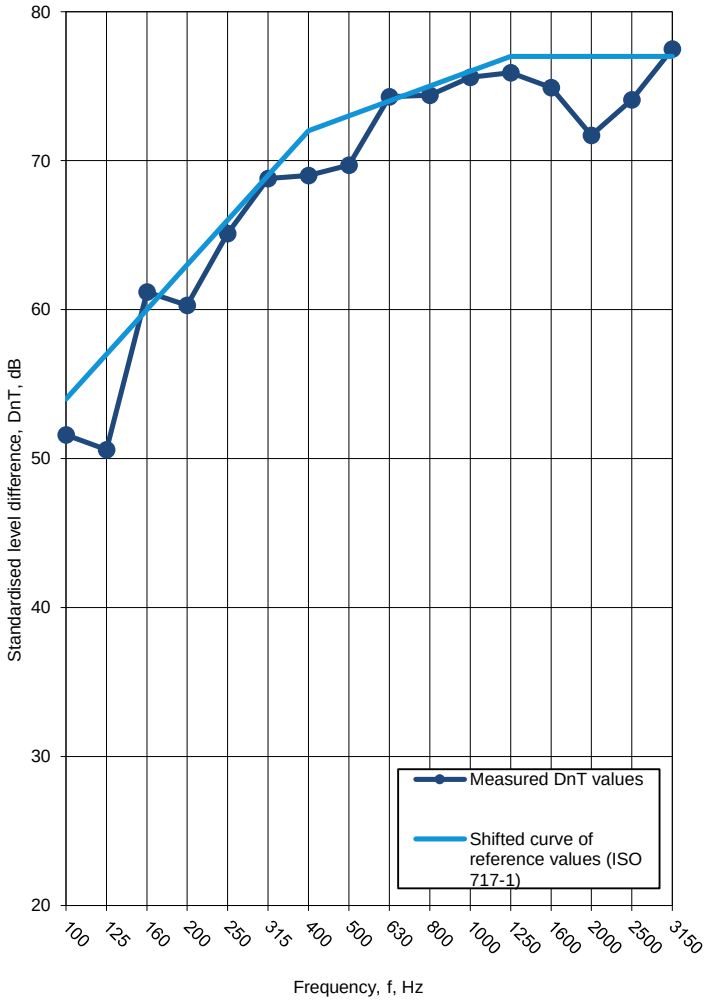
Airborne Floor Sound Insulation Test: AF42

Date of test: 29/03/2024

Source Room: 03-13-LKD Approximate Source Room Volume: 45m³

Receive Room: 02-13-LKD Approximate Receive Room Volume: 45m³

Frequency f Hz	DnT dB
100	51.6
125	50.6
160	61.2
200	60.3
250	65.1
315	68.8
400	69.0
500	69.7
630	74.3
800	74.4
1000	75.6
1250	75.9
1600	74.9
2000	71.7
2500	74.1
3150	77.5



Test Result

$D_{nT,w} + C_{tr} = \geq 66$ dB

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 73 (-2 ; -7) dB; $C_{(100\text{-}3150)}$ = -2 dB

$D_{nT,w}$ = ≥ 73 dB $C_{tr\ (100\text{-}3150)}$ -7 dB

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

Certificate Ref: 25173/SIT2/C96

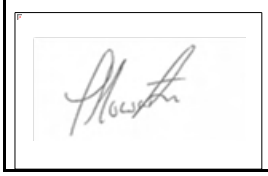
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Jake Howarth

Test Engineer No: 64

Test Engineer Signature:



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Consultants in Acoustics Noise & Vibration
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Manchester Office: First Floor, 346 Deansgate, Manchester M3 4LY (t) +44 (0) 161 832 7041
(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

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

Project Details

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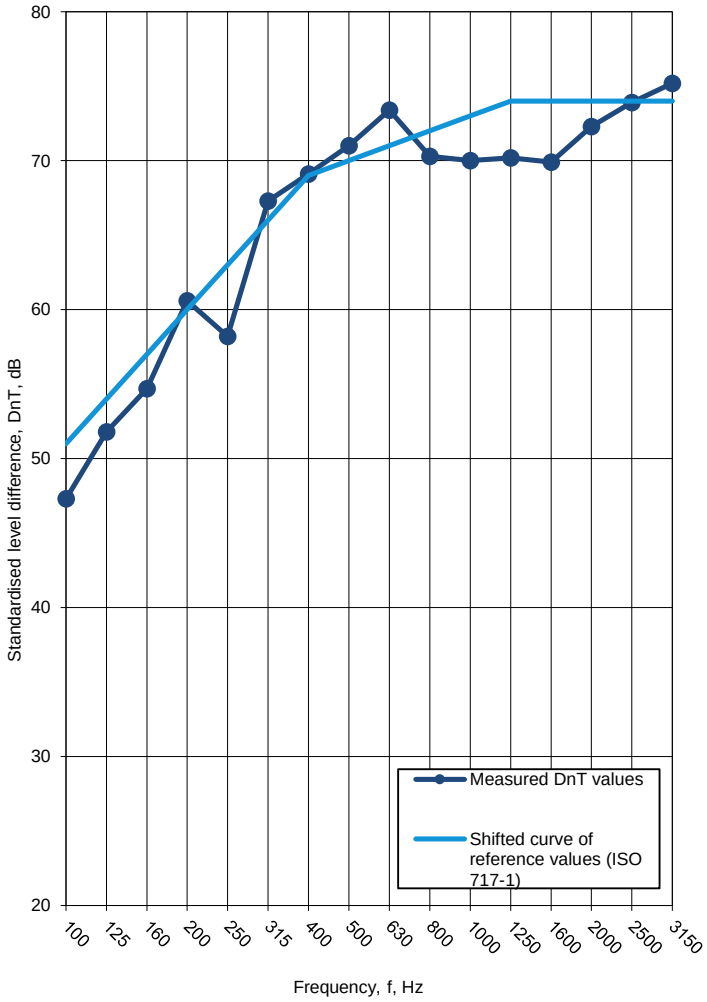
Airborne Floor Sound Insulation Test: AF43

Date of test: 29/03/2024

Source Room: 03-09-LKD Approximate Source Room Volume: 64m³

Receive Room: 02-09-LKD Approximate Receive Room Volume: 64m³

Frequency f Hz	DnT dB
100	47.3
125	51.8
160	54.7
200	60.6
250	58.2
315	67.3
400	69.1
500	≥ 71.0
630	≥ 73.4
800	≥ 70.3
1000	≥ 70.0
1250	≥ 70.2
1600	≥ 69.9
2000	≥ 72.3
2500	≥ 73.9
3150	75.2



Test Result

$D_{nT,w} + C_{tr} = \geq 63$ dB

≥ Results limited due to high background noise levels

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 70 (-2 ; -7) dB; $C_{(100\text{-}3150)}$ = -2 dB

$D_{nT,w}$ = ≥ 70 dB $C_{tr\ (100\text{-}3150)}$ -7 dB

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

Certificate Ref: 25173/SIT2/C97

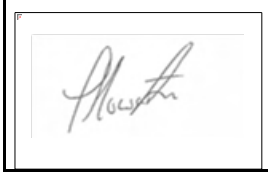
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Jake Howarth

Test Engineer No: 64

Test Engineer Signature:



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

Project Details

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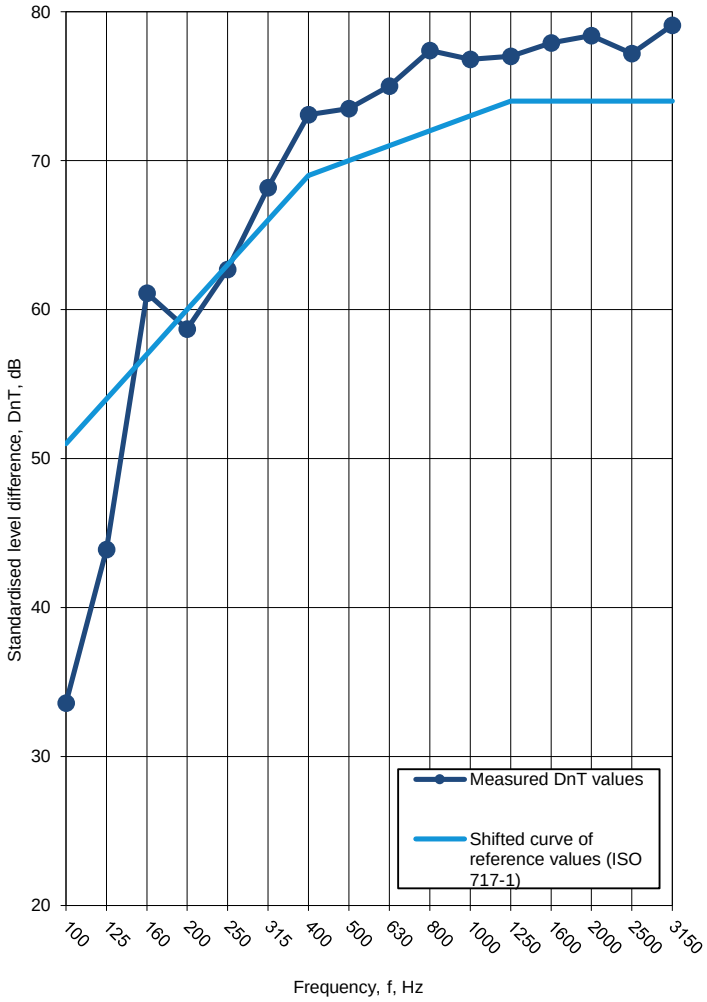
Airborne Floor Sound Insulation Test: AF44

Date of test: 29/03/2024

Source Room: 03-05-LKD Approximate Source Room Volume: 64m³

Receive Room: 02-05-LKD Approximate Receive Room Volume: 64m³

Frequency f Hz	DnT dB
100	33.6
125	43.9
160	61.1
200	58.7
250	62.7
315	68.2
400	73.1
500	73.5
630	75.0
800	≥ 77.4
1000	≥ 76.8
1250	≥ 77.0
1600	≥ 77.9
2000	≥ 78.4
2500	≥ 77.2
3150	≥ 79.1



Test Result

$D_{nT,w} + C_{tr} = \geq 53$ dB

≥ Results limited due to high background noise levels

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 70 (-8 ; -17) $C_{(100\text{-}3150)}$ = -8 dB

$D_{nT,w}$ = ≥ 70 dB $C_{tr\ (100\text{-}3150)}$ -17 dB

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

Certificate Ref: 25173/SIT2/C98

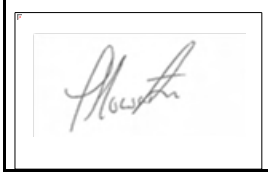
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

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Test Engineer Signature:



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(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

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Project Details

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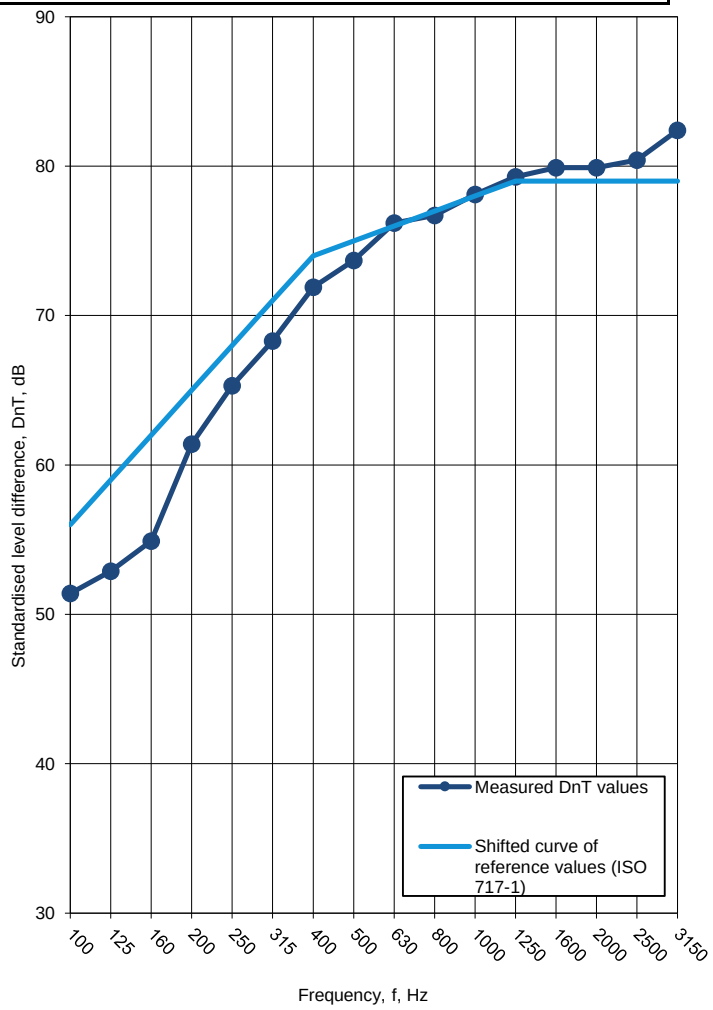
Airborne Floor Sound Insulation Test: AF45

Date of test: 29/03/2024

Source Room: 03-10-LKD Approximate Source Room Volume: 45m³

Receive 02-10-LKD Approximate Receive Room Volume: 45m³

Frequency f Hz	DnT dB
100	51.4
125	52.9
160	54.9
200	61.4
250	65.3
315	68.3
400	≥ 71.9
500	≥ 73.7
630	≥ 76.2
800	≥ 76.7
1000	≥ 78.1
1250	≥ 79.3
1600	≥ 79.9
2000	≥ 79.9
2500	≥ 80.4
3150	≥ 82.4



Test Result

$D_{nT,w} + C_{tr} = \geq 66$ dB

≥ Results limited due to high background noise levels

Rating according to ISO 717-1:

$D_{nT,w}$ (C;C_{tr}) = ≥ 75 (-3 ; -9) dB; $C_{(100-3150)}$ = -3 dB

$D_{nT,w}$ = ≥ 75 dB $C_{tr\ (100-3150)}$ -9 dB

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

Certificate Ref: 25173/SIT2/C99

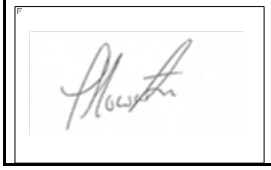
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Jake Howarth

Test Engineer No: 64

Test Engineer Signature:



Hann Tucker Associates
Consultants in Acoustics Noise & Vibration
Head Office: Duke House, 1-2 Duke Street, Woking, Surrey GU21 5BA (t) +44 (0) 1483 770 595
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Standardised level difference according to ISO 140-4
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Project Details

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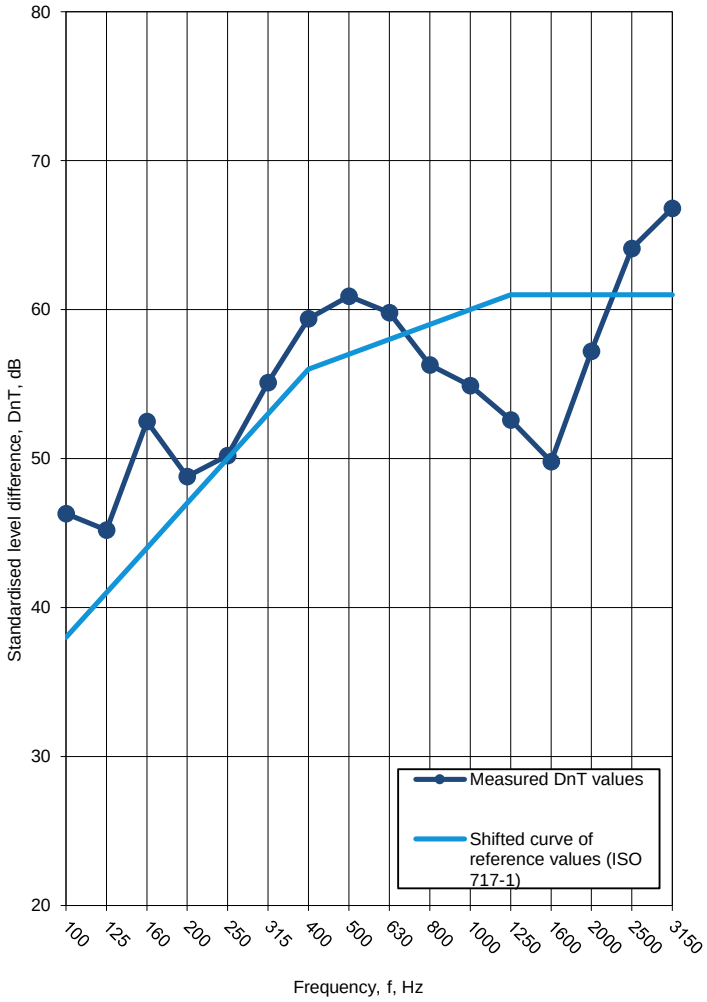
Airborne Floor Sound Insulation Test: AF46

Date of test: 29/03/2024

Source Room: 02-09-LKD Approximate Source Room Volume: 64m³

Receive Room: 01-07-LKD Approximate Receive Room Volume: 64m³

Frequency f Hz	DnT dB
100	46.3
125	45.2
160	52.5
200	48.8
250	50.2
315	55.1
400	59.4
500	60.9
630	59.8
800	56.3
1000	54.9
1250	52.6
1600	49.8
2000	57.2
2500	64.1
3150	66.8



Test Result

$D_{nT,w} + C_{tr} = \geq 54$ dB

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 57 (-2 ; -3) dB; $C_{(100\text{-}3150)}$ = -2 dB

$D_{nT,w}$ = ≥ 57 dB $C_{tr\ (100\text{-}3150)}$ -3 dB

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

Certificate Ref: 25173/SIT2/C100

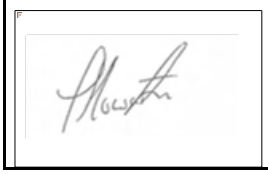
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Jake Howarth

Test Engineer No: 64

Test Engineer Signature:



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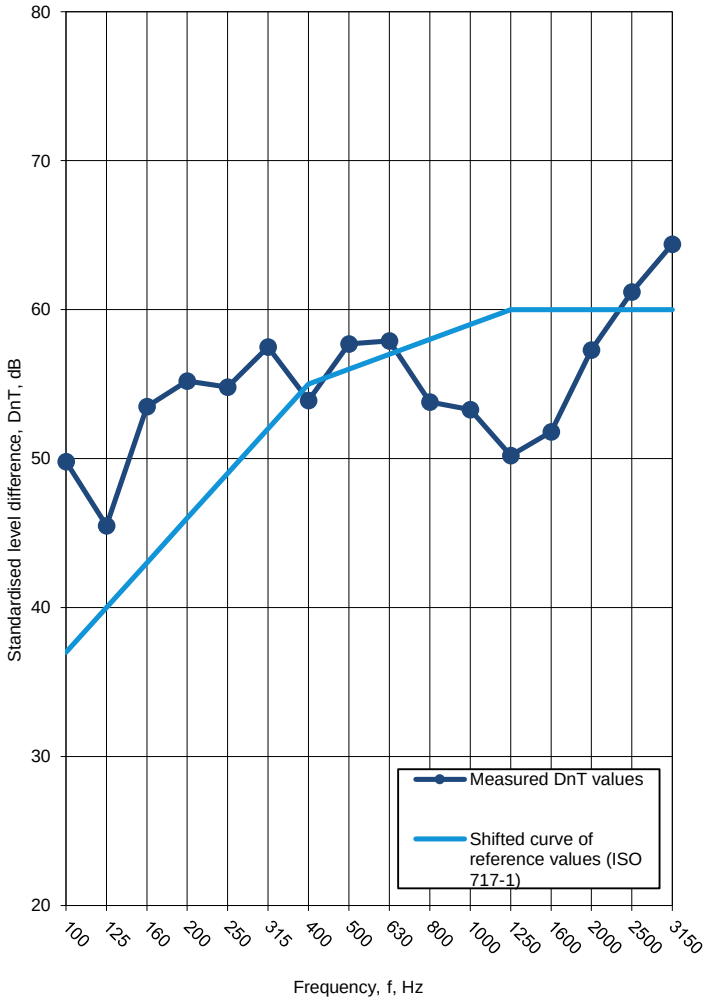
Airborne Floor Sound Insulation Test: AF47

Date of test: 30/03/2024

Source Room: 02-09-B Approximate Source Room Volume: 28m³

Receive Room: 01-07-B Approximate Receive Room Volume: 26m³

Frequency f Hz	DnT dB
100	49.8
125	45.5
160	53.5
200	55.2
250	54.8
315	57.5
400	53.9
500	57.7
630	57.9
800	53.8
1000	53.3
1250	50.2
1600	51.8
2000	57.3
2500	61.2
3150	64.4



Test Result

$D_{nT,w} + C_{tr} = \geq 53$ dB

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 56 (-2 ; -3) dB; $C_{(100\text{-}3150)}$ = -2 dB

$D_{nT,w}$ = ≥ 56 dB $C_{tr\ (100\text{-}3150)}$ -3 dB

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

Certificate Ref: 25173/SIT2/C101

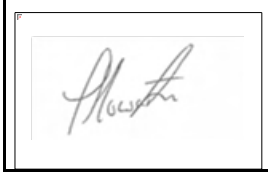
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Jake Howarth

Test Engineer No: 64

Test Engineer Signature:



Hann Tucker Associates
Consultants in Acoustics Noise & Vibration
Head Office: Duke House, 1-2 Duke Street, Woking, Surrey GU21 5BA (t) +44 (0) 1483 770 595
Manchester Office: First Floor, 346 Deansgate, Manchester M3 4LY (t) +44 (0) 161 832 7041
(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

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

Project Details

Development: Swan House, Manchester Client: RG Group Report Ref: 25173/SIT2

UKAS TESTING
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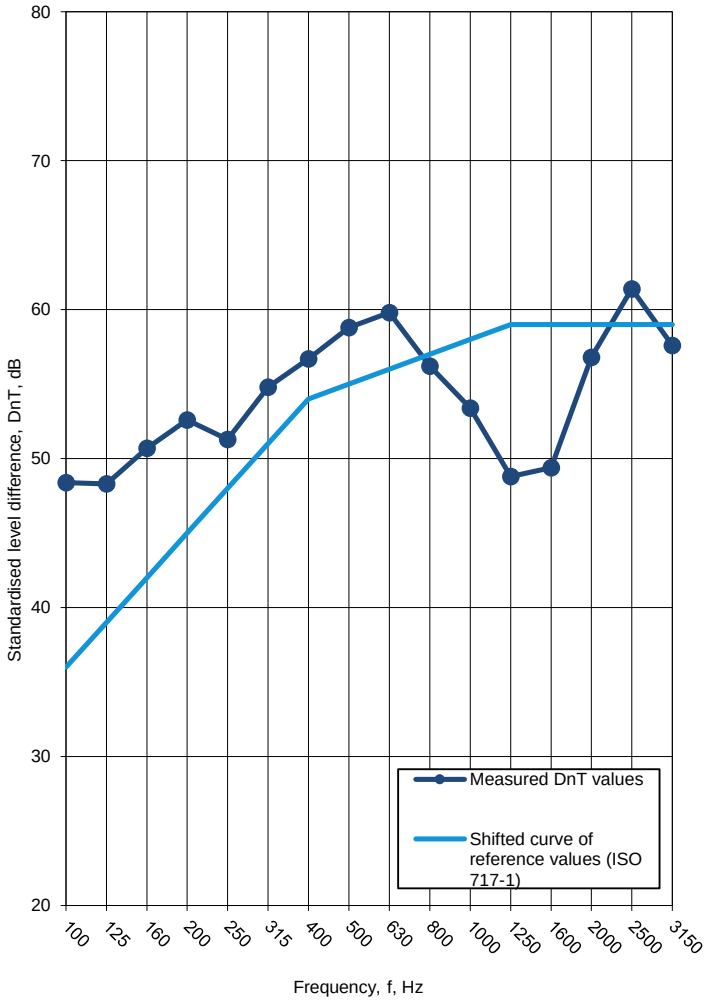
Airborne Floor Sound Insulation Test: AF48

Date of test: 30/03/2024

Source Room: 02-10-LKD Approximate Source Room Volume: 56m³

Receive Room: 01-08-LKD Approximate Receive Room Volume: 56m³

Frequency f Hz	DnT dB
100	48.4
125	48.3
160	50.7
200	52.6
250	51.3
315	54.8
400	56.7
500	58.8
630	59.8
800	56.2
1000	53.4
1250	48.8
1600	49.4
2000	56.8
2500	61.4
3150	57.6



Test Result

$D_{nT,w} + C_{tr} = \geq 53$ dB

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 55 (-2 ; -2) dB; $C_{(100-3150)}$ = -2 dB

$D_{nT,w}$ = ≥ 55 dB $C_{tr\ (100-3150)}$ -2 dB

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

Certificate Ref: 25173/SIT2/C102

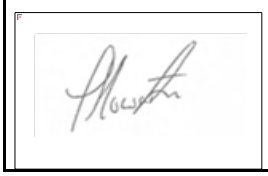
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Jake Howarth

Test Engineer No: 64

Test Engineer Signature:



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Head Office: Duke House, 1-2 Duke Street, Woking, Surrey GU21 5BA (t) +44 (0) 1483 770 595
Manchester Office: First Floor, 346 Deansgate, Manchester M3 4LY (t) +44 (0) 161 832 7041
(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

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

Project Details

Development: Swan House, Manchester Client: RG Group Report Ref: 25173/SIT2

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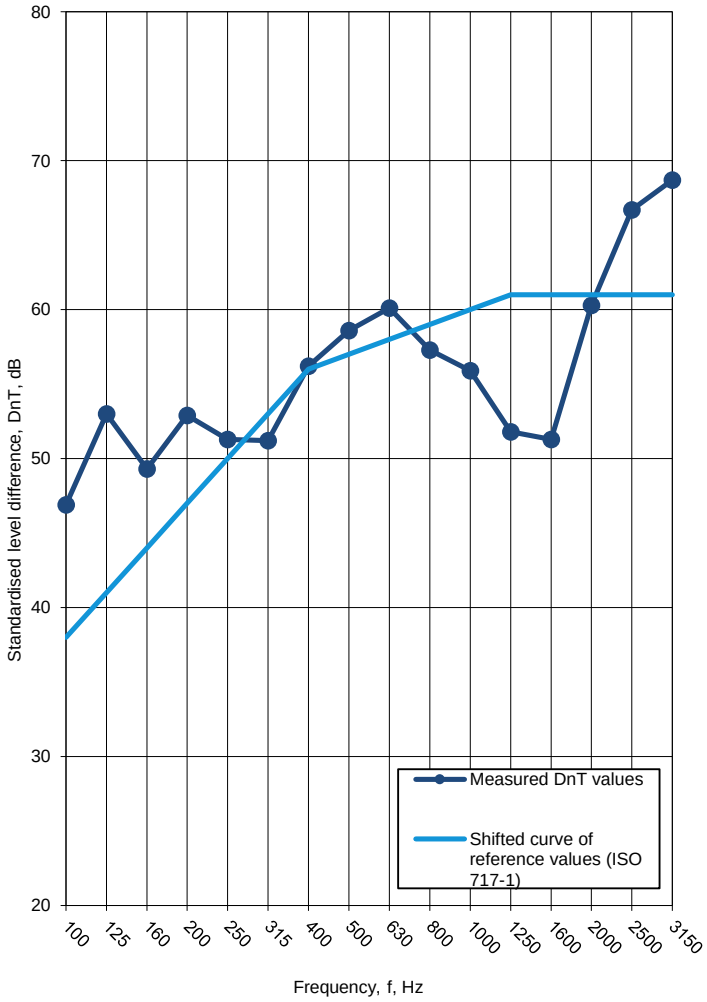
Airborne Floor Sound Insulation Test: AF49

Date of test: 30/03/2024

Source Room: 02-08-LKD Approximate Source Room Volume: 53m³

Receive Room: 01-06-LKD Approximate Receive Room Volume: 52m³

Frequency f Hz	DnT dB
100	46.9
125	53.0
160	49.3
200	52.9
250	51.3
315	51.2
400	56.2
500	58.6
630	60.1
800	57.3
1000	55.9
1250	51.8
1600	51.3
2000	60.3
2500	66.7
3150	68.7



Test Result

$D_{nT,w} + C_{tr} = \geq 54$ dB

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 57 (-2 ; -3) dB; $C_{(100\text{-}3150)}$ = -2 dB

$D_{nT,w}$ = ≥ 57 dB $C_{tr\ (100\text{-}3150)}$ -3 dB

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

Certificate Ref: 25173/SIT2/C103

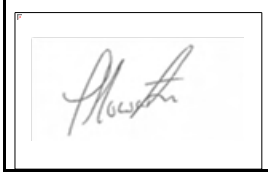
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Jake Howarth

Test Engineer No: 64

Test Engineer Signature:



Hann Tucker Associates
Consultants in Acoustics Noise & Vibration
Head Office: Duke House, 1-2 Duke Street, Woking, Surrey GU21 5BA (t) +44 (0) 1483 770 595
Manchester Office: First Floor, 346 Deansgate, Manchester M3 4LY (t) +44 (0) 161 832 7041
(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

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

Project Details

Development: Swan House, Manchester Client: RG Group Report Ref: 25173/SIT2

UKAS TESTING
4083

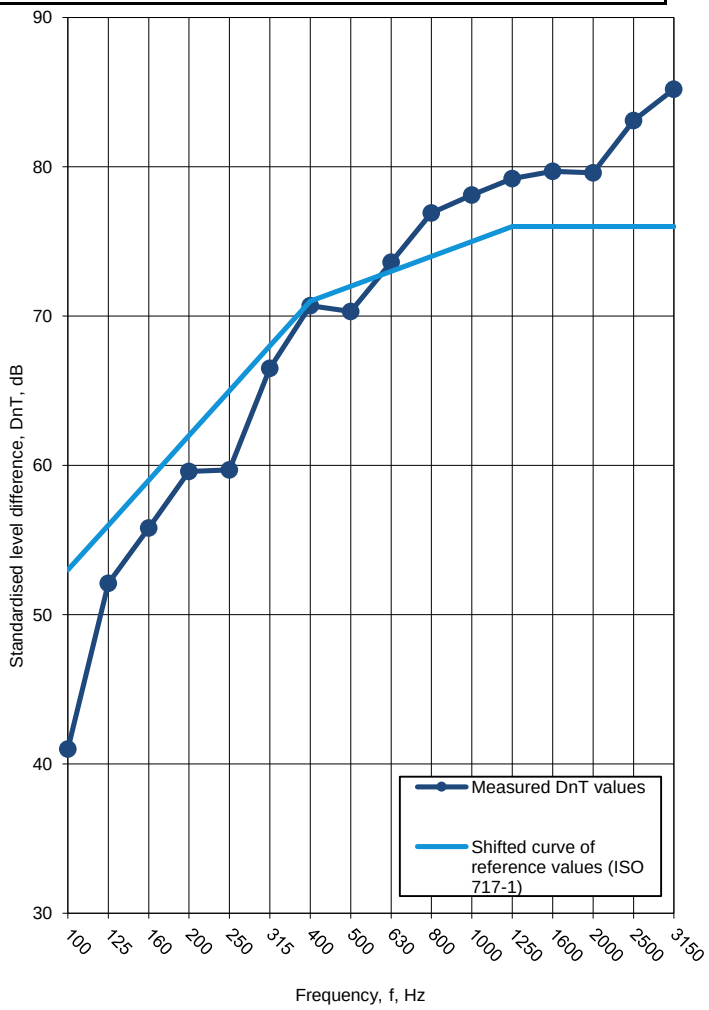
Airborne Floor Sound Insulation Test: AF50

Date of test: 30/03/2024

Source 17-03-B Approximate Source Room Volume: 35m³

Receive 16-03-B Approximate Receive Room Volume: 35m³

Frequency f Hz	DnT dB
100	41.0
125	52.1
160	55.8
200	59.6
250	59.7
315	66.5
400	70.7
500	70.3
630	73.6
800	76.9
1000	≥ 78.1
1250	≥ 79.2
1600	≥ 79.7
2000	≥ 79.6
2500	≥ 83.1
3150	≥ 85.2



Test Result

$D_{nT,w} + C_{tr} = \geq 60$ dB

≥ Results limited due to high background noise levels

Rating according to ISO 717-1:

$D_{nT,w}$ (C;C_{tr}) = ≥ 72 (-4 ; -12) $C_{(100-3150)}$ = -4 dB

$D_{nT,w}$ = ≥ 72 dB $C_{tr\ (100-3150)}$ -12 dB

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

Certificate Ref: 25173/SIT2/C104

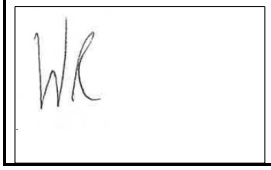
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Will Robertson

Test Engineer No: 80

Test Engineer Signature:



Hann Tucker Associates
Consultants in Acoustics Noise & Vibration
Head Office: Duke House, 1-2 Duke Street, Woking, Surrey GU21 5BA (t) +44 (0) 1483 770 595
Manchester Office: First Floor, 346 Deansgate, Manchester M3 4LY (t) +44 (0) 161 832 7041
(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

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

Project Details

Development: Swan House, Manchester Client: RG Group Report Ref: 25173/SIT2

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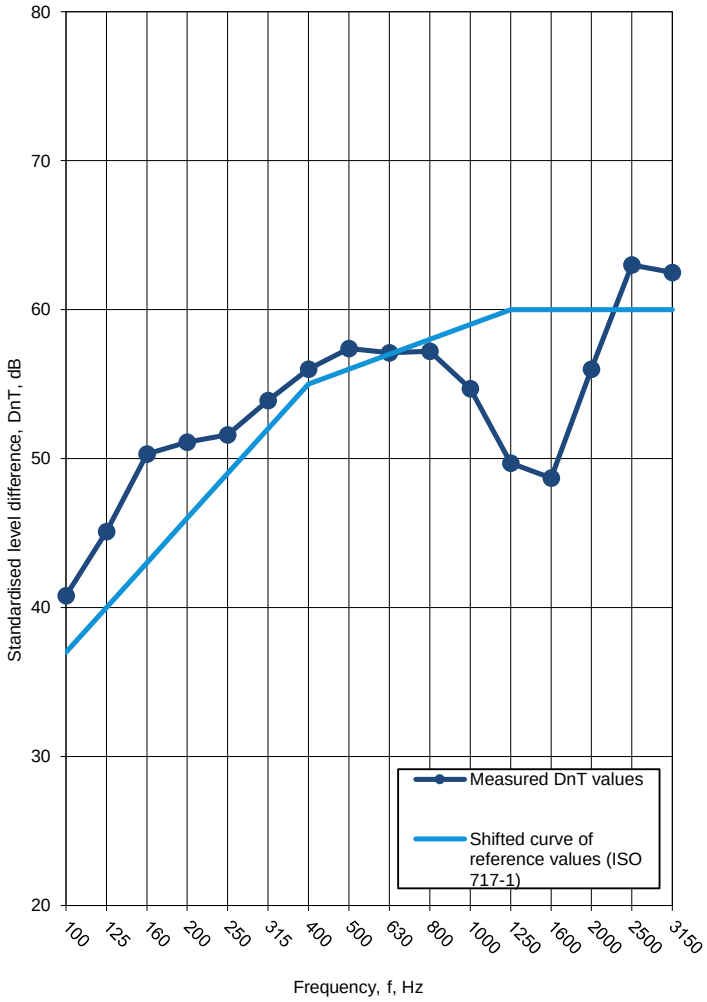
Airborne Floor Sound Insulation Test: AF51

Date of test: 30/03/2024

Source Room: 06-03-B Approximate Source Room Volume: 35m³

Receive Room: 05-03-B Approximate Receive Room Volume: 35m³

Frequency f Hz	DnT dB
100	40.8
125	45.1
160	50.3
200	51.1
250	51.6
315	53.9
400	56.0
500	57.4
630	57.1
800	57.2
1000	54.7
1250	49.7
1600	48.7
2000	56.0
2500	63.0
3150	62.5



Test Result

$D_{nT,w} + C_{tr} = \geq 52$ dB

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 56 (-3 ; -4) dB; $C_{(100\text{-}3150)}$ = -3 dB

$D_{nT,w}$ = ≥ 56 dB $C_{tr\ (100\text{-}3150)}$ -4 dB

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

Certificate Ref: 25173/SIT2/C105

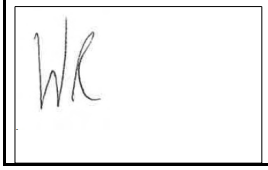
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Will Robertson

Test Engineer No: 80

Test Engineer Signature:



Hann Tucker Associates
Consultants in Acoustics Noise & Vibration
Head Office: Duke House, 1-2 Duke Street, Woking, Surrey GU21 5BA (t) +44 (0) 1483 770 595
Manchester Office: First Floor, 346 Deansgate, Manchester M3 4LY (t) +44 (0) 161 832 7041
(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

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

Project Details

Development: Swan House, Manchester Client: RG Group Report Ref: 25173/SIT2

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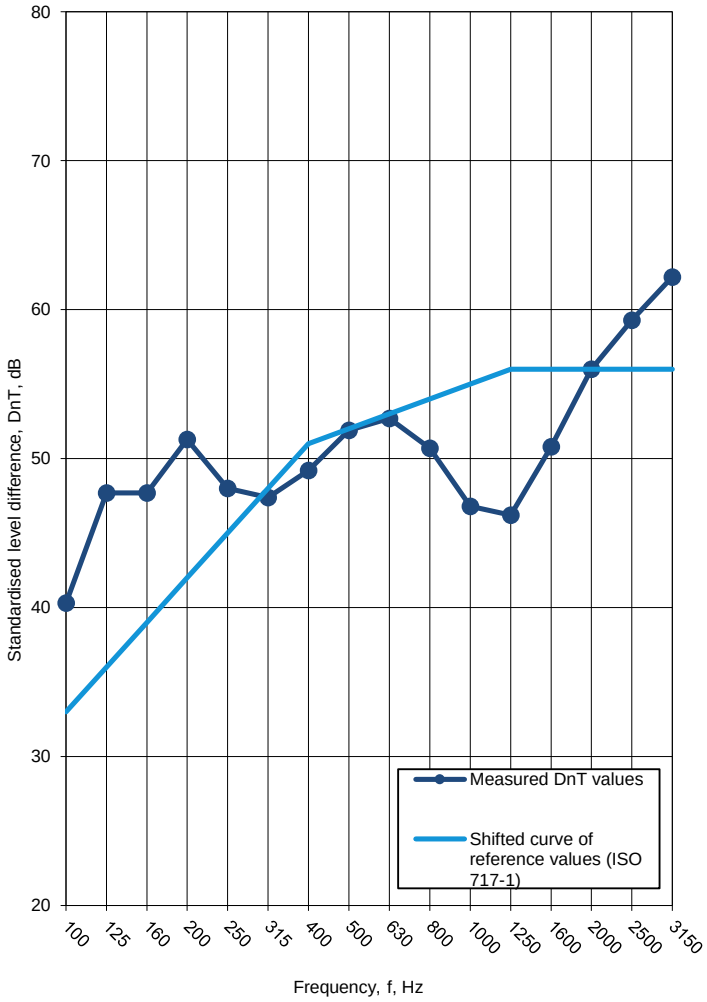
Airborne Floor Sound Insulation Test: AF52

Date of test: 30/03/2024

Source Room: 06-03-B2 Approximate Source Room Volume: 35m³

Receive Room: 05-03-B2 Approximate Receive Room Volume: 35m³

Frequency f Hz	DnT dB
100	40.3
125	47.7
160	47.7
200	51.3
250	48.0
315	47.4
400	49.2
500	51.9
630	52.7
800	50.7
1000	46.8
1250	46.2
1600	50.8
2000	56.0
2500	59.3
3150	62.2



Test Result

$D_{nT,w} + C_{tr} = \geq 49$ dB

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 52 (-2 ; -3) dB; $C_{(100\text{-}3150)}$ = -2 dB

$D_{nT,w}$ = ≥ 52 dB $C_{tr\ (100\text{-}3150)}$ -3 dB

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

Certificate Ref: 25173/SIT2/C106

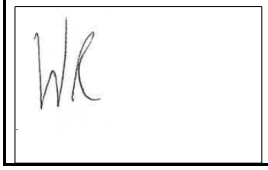
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Will Robertson

Test Engineer No: 80

Test Engineer Signature:



Hann Tucker Associates
Consultants in Acoustics Noise & Vibration
Head Office: Duke House, 1-2 Duke Street, Woking, Surrey GU21 5BA (t) +44 (0) 1483 770 595
Manchester Office: First Floor, 346 Deansgate, Manchester M3 4LY (t) +44 (0) 161 832 7041
(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

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

Project Details

Development: Swan House, Manchester Client: RG Group Report Ref: 25173/SIT2

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4083

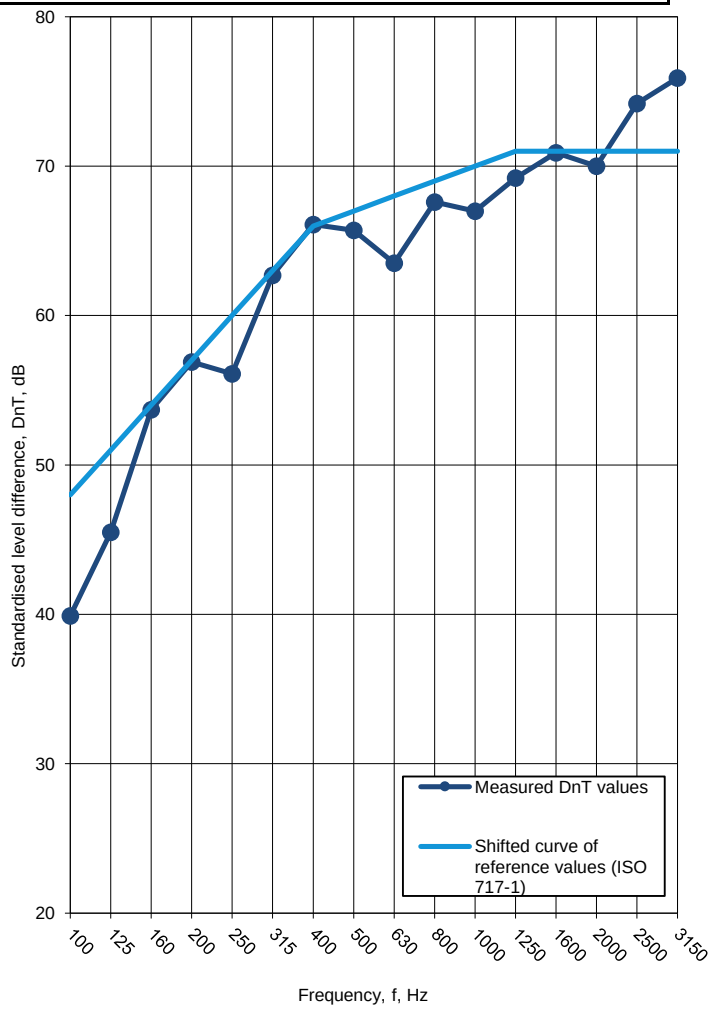
Airborne Floor Sound Insulation Test: AF53

Date of test: 30/03/2024

Source Room: 05-01-LKD Approximate Source Room Volume: 59m³

Receive 04-01-LKD Approximate Receive Room Volume: 59m³

Frequency f Hz	DnT dB
100	39.9
125	45.5
160	53.7
200	56.9
250	56.1
315	62.7
400	≥ 66.1
500	≥ 65.7
630	≥ 63.5
800	≥ 67.6
1000	≥ 67.0
1250	≥ 69.2
1600	≥ 70.9
2000	≥ 70.0
2500	≥ 74.2
3150	≥ 75.9



Test Result

$D_{nT,w} + C_{tr} = \geq 58$ dB

≥ Results limited due to high background noise levels

Rating according to ISO 717-1:

$D_{nT,w}$ (C;C_{tr}) = ≥ 67 (-3 ; -9) dB; $C_{(100-3150)}$ = -3 dB

$D_{nT,w}$ = ≥ 67 dB $C_{tr\ (100-3150)}$ -9 dB

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

Certificate Ref: 25173/SIT2/C107

Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Will Robertson

Test Engineer No: 80

Test Engineer Signature:

Hann Tucker Associates
Consultants in Acoustics Noise & Vibration
Head Office: Duke House, 1-2 Duke Street, Woking, Surrey GU21 5BA (t) +44 (0) 1483 770 595
Manchester Office: First Floor, 346 Deansgate, Manchester M3 4LY (t) +44 (0) 161 832 7041
(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

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

Project Details

Development: Swan House, Manchester Client: RG Group Report Ref: 25173/SIT2

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4083

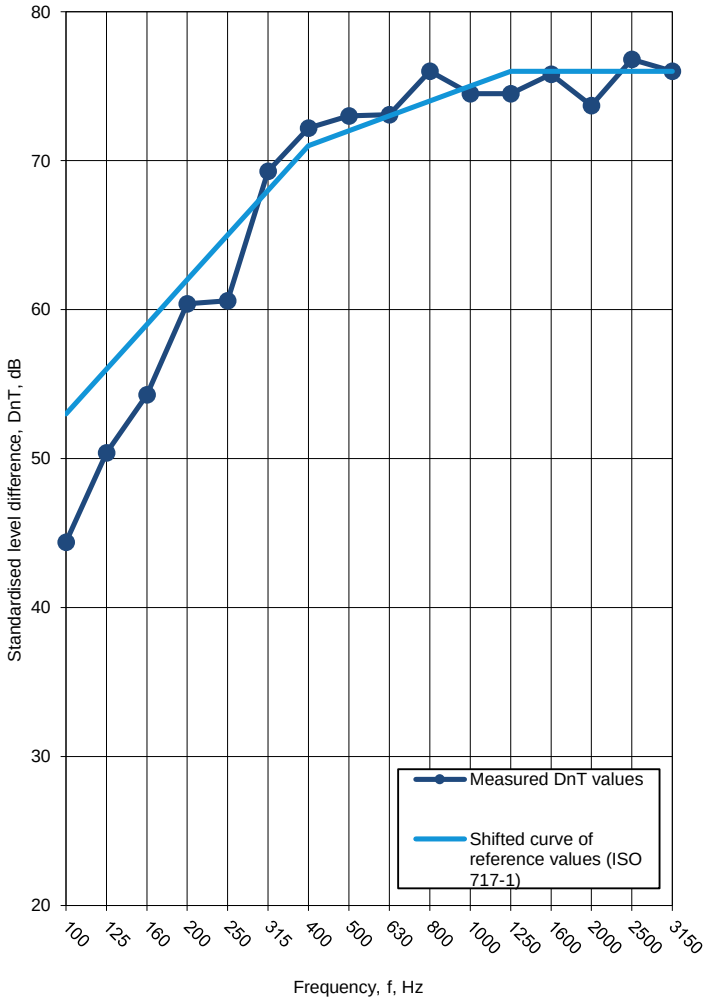
Airborne Floor Sound Insulation Test: AF54

Date of test: 30/03/2024

Source Room: 05-01-B Approximate Source Room Volume: 34m³

Receive Room: 04-01-B Approximate Receive Room Volume: 34m³

Frequency f Hz	DnT dB
100	44.4
125	50.4
160	54.3
200	60.4
250	60.6
315	69.3
400	72.2
500	≥ 73.0
630	73.1
800	76.0
1000	≥ 74.5
1250	74.5
1600	75.8
2000	73.7
2500	76.8
3150	76.0



Test Result

$D_{nT,w} + C_{tr} = \geq 62$ dB

≥ Results limited due to high background noise levels

Rating according to ISO 717-1:

$D_{nT,w}$ ($C;C_{tr}$) = ≥ 72 (-3 ; -10) $C_{(100-3150)}$ = -3 dB

$D_{nT,w}$ = ≥ 72 dB $C_{tr\ (100-3150)}$ -10 dB

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

Certificate Ref: 25173/SIT2/C108

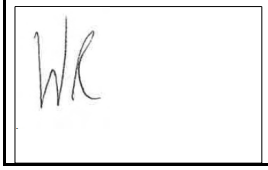
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Will Robertson

Test Engineer No: 80

Test Engineer Signature:



Hann Tucker Associates
Consultants in Acoustics Noise & Vibration
Head Office: Duke House, 1-2 Duke Street, Woking, Surrey GU21 5BA (t) +44 (0) 1483 770 595
Manchester Office: First Floor, 346 Deansgate, Manchester M3 4LY (t) +44 (0) 161 832 7041
(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

Standardised impact sound pressure levels according to ISO 140-7
Field measurements of impact sound insulation of floors

Project Details

Development: Swan House, Manchester Client: RG Group Report Ref: 25173/SIT2

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4083

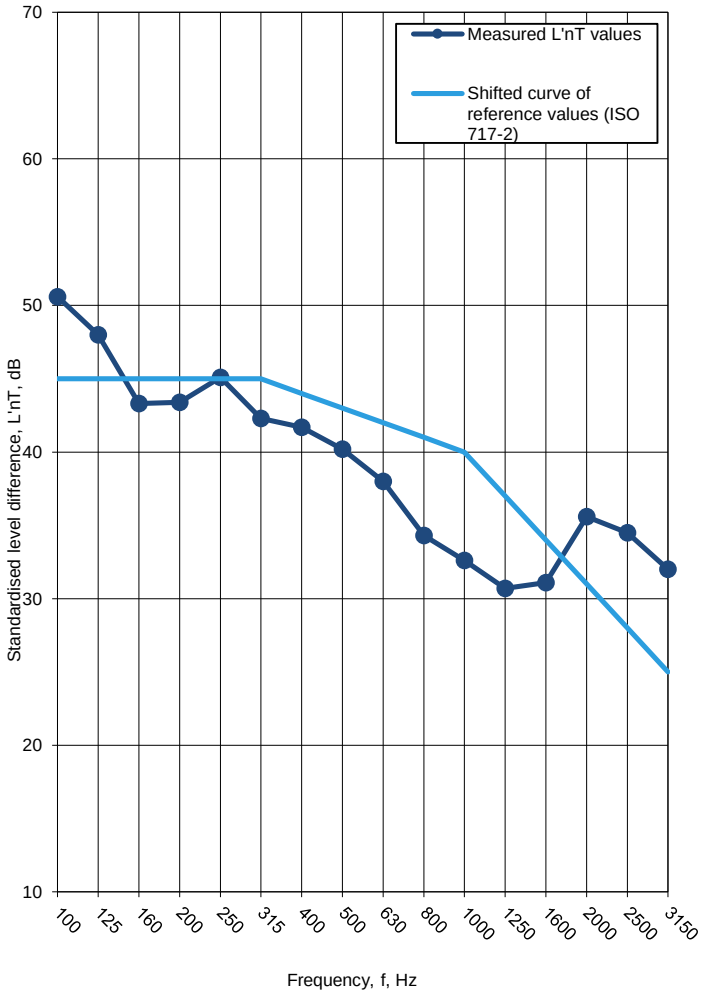
Impact Floor Sound Insulation Test: IF1

Date of test: 09/01/2024

Source Room: 8-05-LKD Approximate Source Room Volume: 57m³

Receive Room: 7-05-LKD Approximate Receive Room Volume: 57m³

Frequency f Hz	L'nT dB
100	51
125	48.0
160	43.3
200	43.4
250	45.1
315	42.3
400	41.7
500	40.2
630	38.0
800	34.3
1000	32.6
1250	30.7
1600	31.1
2000	35.6
2500	34.5
3150	32.0



Test Result

$L'_{nT,w}$ = 43 dB

Rating according to ISO 717-2:

$L'_{nT,w}$ (C_1) = 43 (-3) dB; $C_{1\ (100\text{-}3150)}$ = -3 dB

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

Certificate Ref: 25173/SIT2/C109

Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Sandy Wilson

Test Engineer No: 66

Test Engineer Signature:

Hann Tucker Associates
Consultants in Acoustics Noise & Vibration
Head Office: Duke House, 1-2 Duke Street, Woking, Surrey GU21 5BA (t) +44 (0) 1483 770 595
Manchester Office: First Floor, 346 Deansgate, Manchester M3 4LY (t) +44 (0) 161 832 7041
(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

Standardised impact sound pressure levels according to ISO 140-7
Field measurements of impact sound insulation of floors

Project Details

Development: Swan House, Manchester Client: RG Group Report Ref: 25173/SIT2

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4083

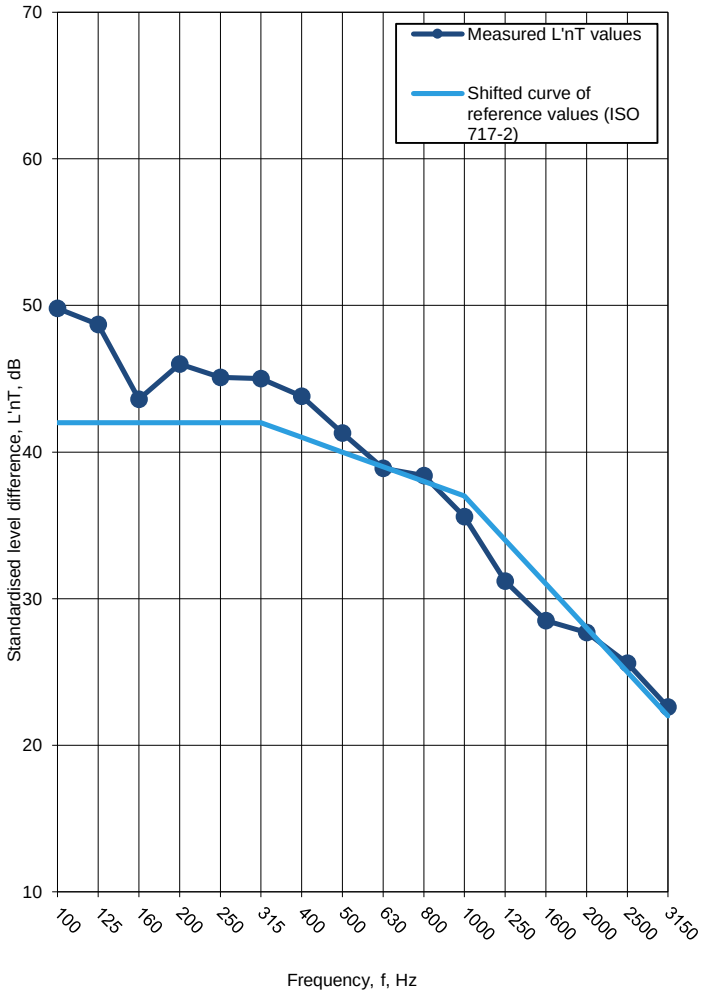
Impact Floor Sound Insulation Test: IF2

Date of test: 09/01/2024

Source Room: 8-05-B Approximate Source Room Volume: 30m³

Receive Room: 7-05-B Approximate Receive Room Volume: 30m³

Frequency f Hz	L'nT dB
100	50
125	≤ 48.7
160	≤ 43.6
200	46.0
250	≤ 45.1
315	45.0
400	≤ 43.8
500	≤ 41.3
630	≤ 38.9
800	≤ 38.4
1000	≤ 35.6
1250	≤ 31.2
1600	≤ 28.5
2000	≤ 27.7
2500	≤ 25.6
3150	≤ 22.6



Test Result

$L'_{nT,w} = \leq 40$ dB

≤ Results limited due to high background noise levels

Rating according to ISO 717-2:

$L'_{nT,w}$ (C_1) = ≤ 40 (1) dB; $C_{1\ (100\text{-}3150)}$ = 1 dB

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

Certificate Ref: 25173/SIT2/C110

Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Sandy Wilson

Test Engineer No: 66

Test Engineer Signature:

Hann Tucker Associates
Consultants in Acoustics Noise & Vibration
Head Office: Duke House, 1-2 Duke Street, Woking, Surrey GU21 5BA (t) +44 (0) 1483 770 595
Manchester Office: First Floor, 346 Deansgate, Manchester M3 4LY (t) +44 (0) 161 832 7041
(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

Standardised impact sound pressure levels according to ISO 140-7
Field measurements of impact sound insulation of floors

Project Details

Development: Swan House, Manchester Client: RG Group Report Ref: 25173/SIT2

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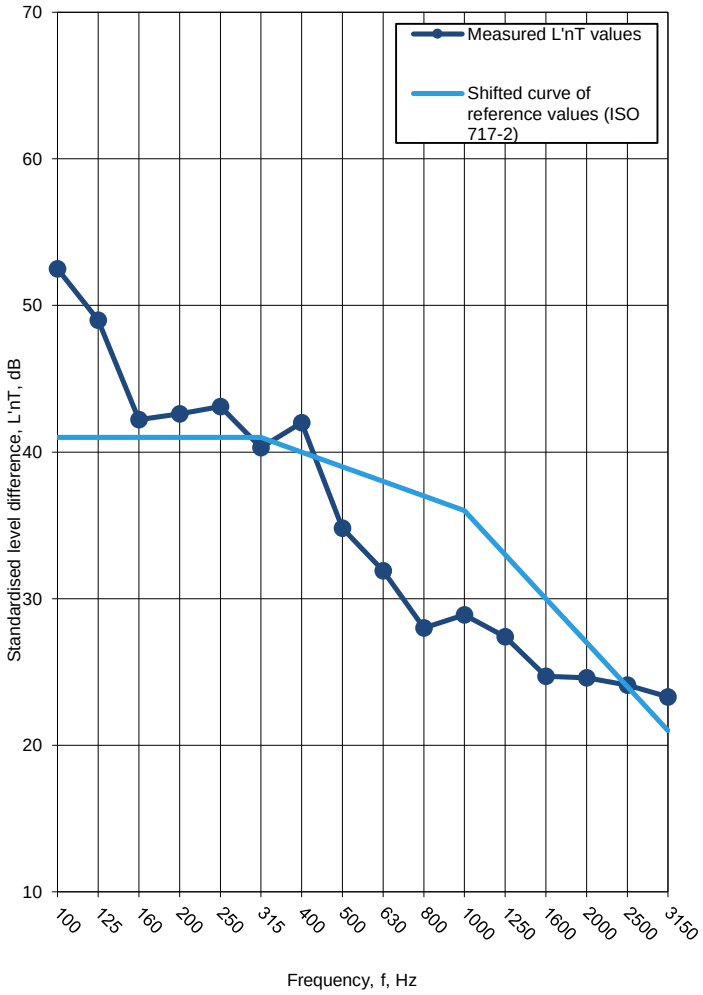
Impact Floor Sound Insulation Test: IF3

Date of test: 09/01/2024

Source Room: 7-04-LKD Approximate Source Room Volume: 49m³

Receive Room: 6-04-LKD Approximate Receive Room Volume: 49m³

Frequency f Hz	L'nT dB
100	53
125	49.0
160	42.2
200	42.6
250	43.1
315	40.3
400	42.0
500	≤ 34.8
630	≤ 31.9
800	≤ 28.0
1000	≤ 28.9
1250	≤ 27.4
1600	≤ 24.7
2000	≤ 24.6
2500	≤ 24.1
3150	≤ 23.3



Test Result

$L'_{nT,w} = \leq 39$ dB

≤ Results limited due to high background noise levels

Rating according to ISO 717-2:

$L'_{nT,w}$ (C_1) = ≤ 39 (1) dB; $C_{1\ (100\text{-}3150)}$ = 1 dB

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

Certificate Ref: 25173/SIT2/C111

Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Sandy Wilson

Test Engineer No: 66

Test Engineer Signature:

Hann Tucker Associates
Consultants in Acoustics Noise & Vibration
Head Office: Duke House, 1-2 Duke Street, Woking, Surrey GU21 5BA (t) +44 (0) 1483 770 595
Manchester Office: First Floor, 346 Deansgate, Manchester M3 4LY (t) +44 (0) 161 832 7041
(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

Standardised impact sound pressure levels according to ISO 140-7
Field measurements of impact sound insulation of floors

Project Details

Development: Swan House, Manchester Client: RG Group Report Ref: 25173/SIT2

UKAS TESTING
4083

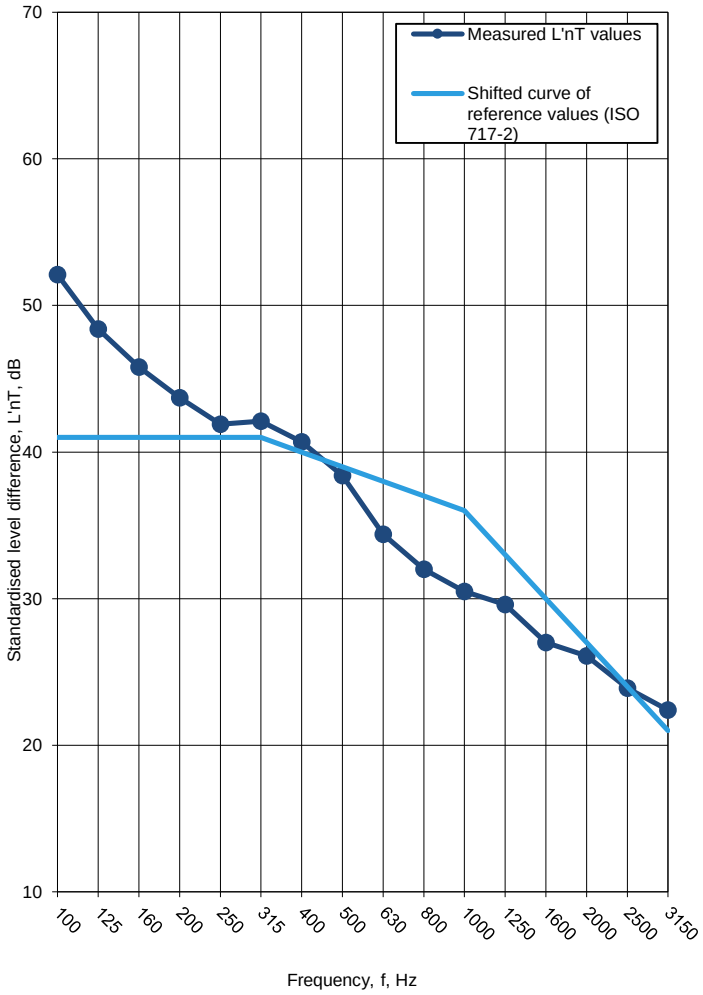
Impact Floor Sound Insulation Test: IF4

Date of test: 09/01/2024

Source Room: 7-04-B Approximate Source Room Volume: 25m³

Receive Room: 6-04-B Approximate Receive Room Volume: 25m³

Frequency f Hz	L'nT dB
100	52
125	48.4
160	45.8
200	43.7
250	41.9
315	42.1
400	40.7
500	38.4
630	34.4
800	≤ 32.0
1000	≤ 30.5
1250	≤ 29.6
1600	≤ 27.0
2000	≤ 26.1
2500	≤ 23.9
3150	≤ 22.4



Test Result

$L'_{nT,w} = \leq 39$ dB

≤ Results limited due to high background noise levels

Rating according to ISO 717-2:

$L'_{nT,w}$ (C_1) = ≤ 39 (1) dB; $C_{1\ (100\text{-}3150)}$ = 1 dB

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

Certificate Ref: 25173/SIT2/C112

Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Sandy Wilson

Test Engineer No: 66

Test Engineer Signature:

Hann Tucker Associates
Consultants in Acoustics Noise & Vibration
Head Office: Duke House, 1-2 Duke Street, Woking, Surrey GU21 5BA (t) +44 (0) 1483 770 595
Manchester Office: First Floor, 346 Deansgate, Manchester M3 4LY (t) +44 (0) 161 832 7041
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Standardised impact sound pressure levels according to ISO 140-7
Field measurements of impact sound insulation of floors

Project Details

Development: Swan House, Manchester Client: RG Group Report Ref: 25173/SIT2

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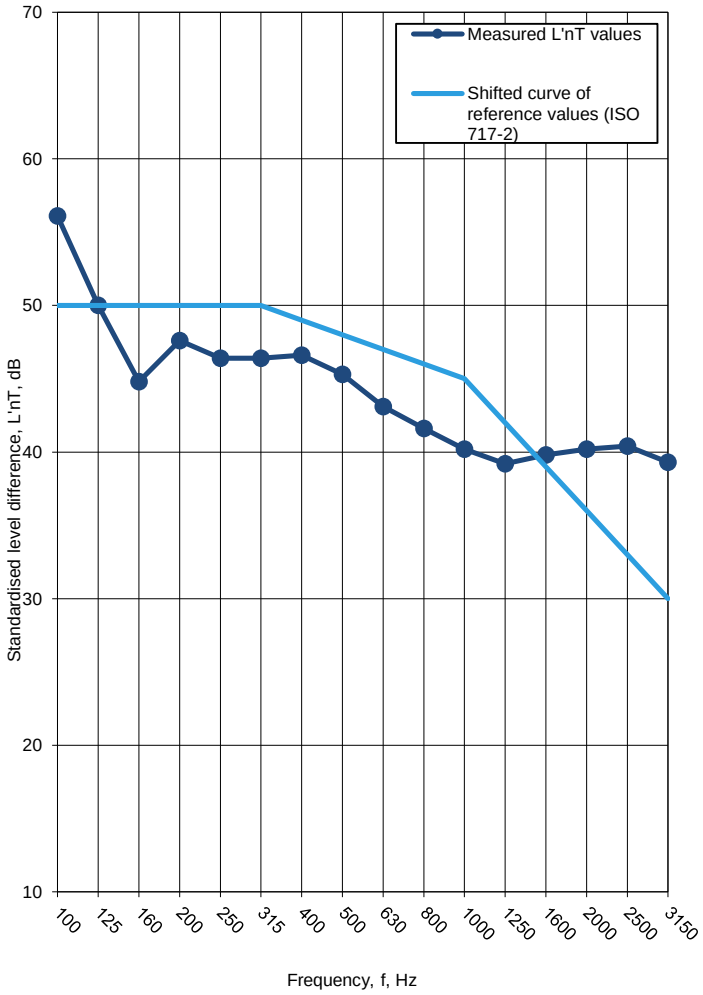
Impact Floor Sound Insulation Test: IF5

Date of test: 10/01/2024

Source Room: 12-02-LKD Approximate Source Room Volume: 57m³

Receive Room: 11-02-LKD Approximate Receive Room Volume: 57m³

Frequency f Hz	L'nT dB
100	56
125	50.0
160	44.8
200	47.6
250	46.4
315	46.4
400	46.6
500	45.3
630	43.1
800	41.6
1000	40.2
1250	39.2
1600	39.8
2000	40.2
2500	40.4
3150	39.3



Test Result

$L'_{nT,w} = \leq 48$ dB

Rating according to ISO 717-2:

$L'_{nT,w}$ (C_1) = ≤ 48 (-4) dB; $C_{1\ (100\text{-}3150)}$ = -4 dB

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

Certificate Ref: 25173/SIT2/C113

Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: James Hardacre

Test Engineer No: 76

Test Engineer Signature:

Hann Tucker Associates
Consultants in Acoustics Noise & Vibration
Head Office: Duke House, 1-2 Duke Street, Woking, Surrey GU21 5BA (t) +44 (0) 1483 770 595
Manchester Office: First Floor, 346 Deansgate, Manchester M3 4LY (t) +44 (0) 161 832 7041
(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

Standardised impact sound pressure levels according to ISO 140-7
Field measurements of impact sound insulation of floors

Project Details

Development: Swan House, Manchester Client: RG Group Report Ref: 25173/SIT2

UKAS TESTING
4083

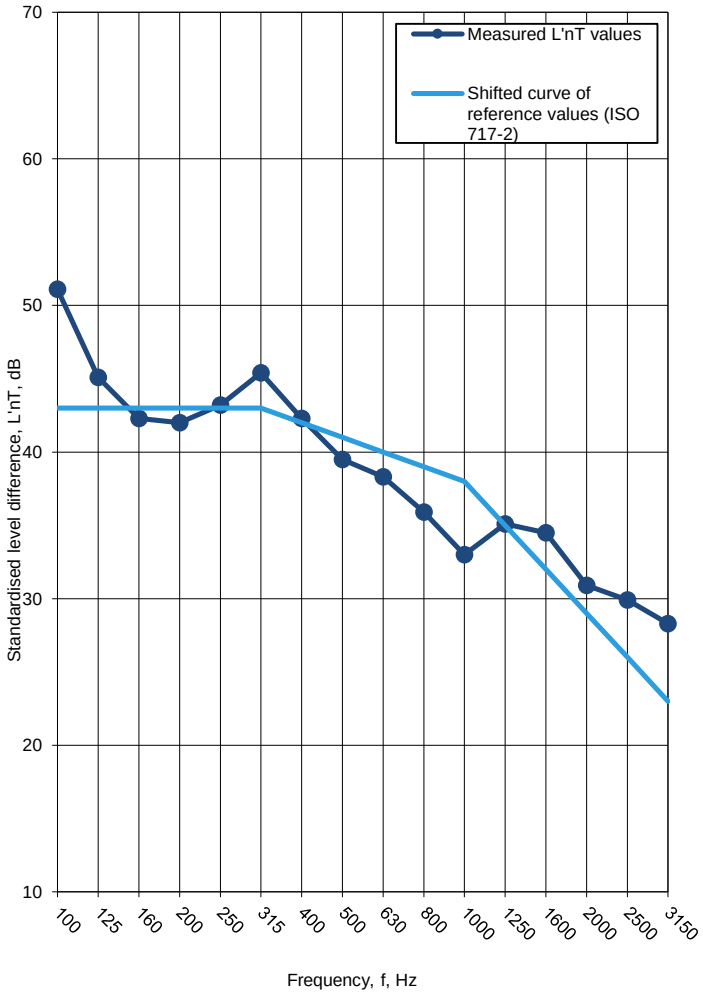
Impact Floor Sound Insulation Test: IF6

Date of test: 10/01/2024

Source Room: 12-02-B Approximate Source Room Volume: 35m³

Receive Room: 11-02-B Approximate Receive Room Volume: 35m³

Frequency f Hz	L'nT dB
100	51
125	45.1
160	42.3
200	42.0
250	43.2
315	45.4
400	42.3
500	39.5
630	38.3
800	35.9
1000	33.0
1250	35.1
1600	34.5
2000	30.9
2500	29.9
3150	28.3



Test Result

$L'_{nT,w} = \leq 41$ dB

Rating according to ISO 717-2:

$L'_{nT,w}$ (C_1) = ≤ 41 (-1) dB; $C_{1\ (100\text{-}3150)}$ = -1 dB

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

Certificate Ref: 25173/SIT2/C114

Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: James Hardacre

Test Engineer No: 76

Test Engineer Signature:



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Consultants in Acoustics Noise & Vibration
Head Office: Duke House, 1-2 Duke Street, Woking, Surrey GU21 5BA (t) +44 (0) 1483 770 595
Manchester Office: First Floor, 346 Deansgate, Manchester M3 4LY (t) +44 (0) 161 832 7041
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Standardised impact sound pressure levels according to ISO 140-7
Field measurements of impact sound insulation of floors

Project Details

Development: Swan House, Manchester Client: RG Group Report Ref: 25173/SIT2

UKAS TESTING
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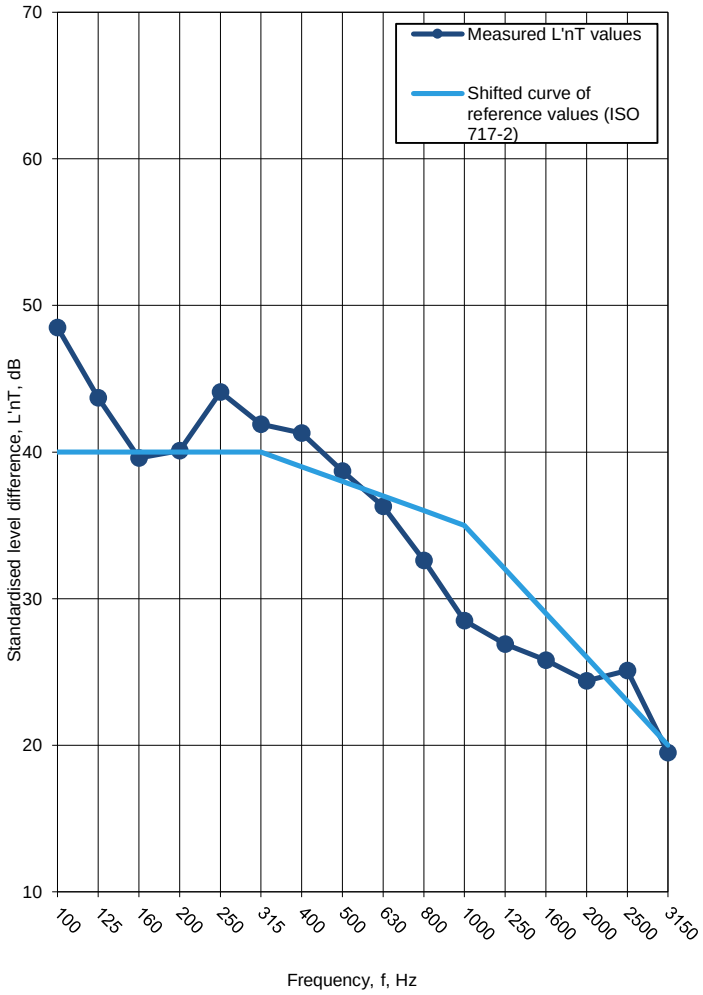
Impact Floor Sound Insulation Test: IF7

Date of test: 10/01/2024

Source Room: 11-04-LKD Approximate Source Room Volume: 49m³

Receive Room: 10-04-LKD Approximate Receive Room Volume: 49m³

Frequency f Hz	L'nT dB
100	49
125	43.7
160	39.6
200	40.1
250	44.1
315	41.9
400	41.3
500	38.7
630	36.3
800	32.6
1000	28.5
1250	26.9
1600	25.8
2000	24.4
2500	25.1
3150	19.5



Test Result

$L'_{nT,w} = \leq 38$ dB

Rating according to ISO 717-2:

$L'_{nT,w}$ (C_1) = ≤ 38 (0) dB; $C_{1\ (100\text{-}3150)}$ = 0 dB

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

Certificate Ref: 25173/SIT2/C115

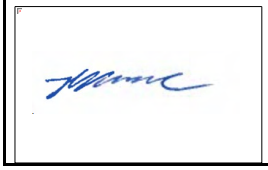
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: James Hardacre

Test Engineer No: 76

Test Engineer Signature:



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Head Office: Duke House, 1-2 Duke Street, Woking, Surrey GU21 5BA (t) +44 (0) 1483 770 595
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Standardised impact sound pressure levels according to ISO 140-7
Field measurements of impact sound insulation of floors

Project Details

Development: Swan House, Manchester Client: RG Group Report Ref: 25173/SIT2

UKAS TESTING
4083

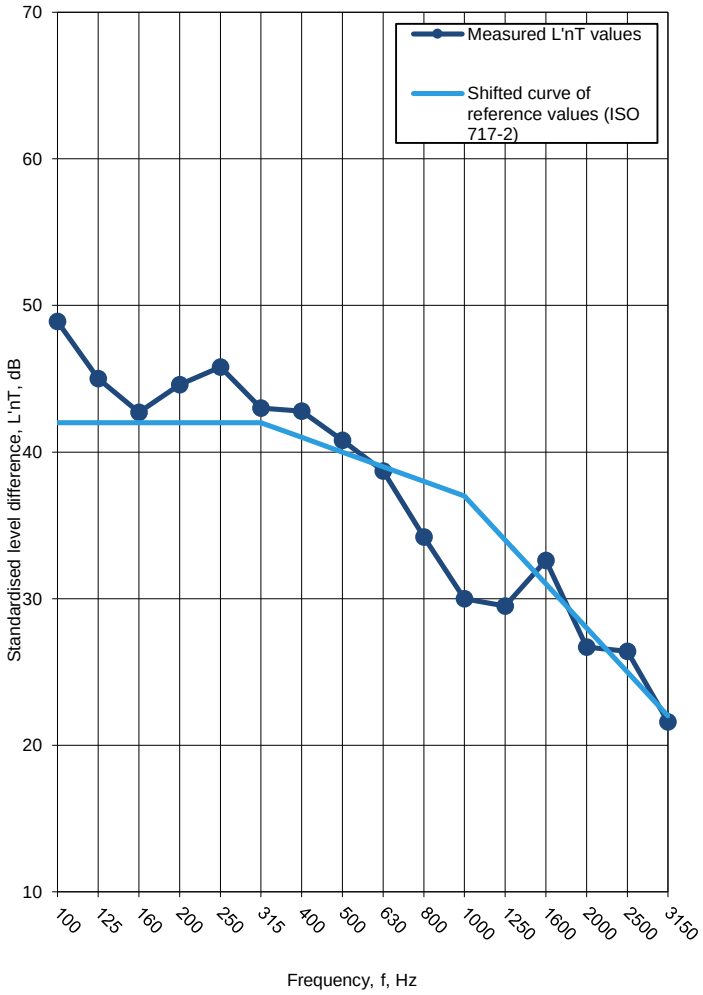
Impact Floor Sound Insulation Test: IF8

Date of test: 10/01/2024

Source Room: 11-04-B Approximate Source Room Volume: 25m³

Receive Room: 10-04-B Approximate Receive Room Volume: 25m³

Frequency f Hz	L'nT dB
100	49
125	45.0
160	42.7
200	44.6
250	45.8
315	43.0
400	42.8
500	40.8
630	38.7
800	34.2
1000	≤ 30.0
1250	29.5
1600	32.6
2000	26.7
2500	26.4
3150	21.6



Test Result

$L'_{nT,w} = \leq 40$ dB

≤ Results limited due to high background noise levels

Rating according to ISO 717-2:

$L'_{nT,w}$ (C_1) = ≤ 40 (-1) dB; $C_{1\ (100\text{-}3150)}$ = -1 dB

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

Certificate Ref: 25173/SIT2/C116

Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: James Hardacre

Test Engineer No: 76

Test Engineer Signature:



Hann Tucker Associates
Consultants in Acoustics Noise & Vibration
Head Office: Duke House, 1-2 Duke Street, Woking, Surrey GU21 5BA (t) +44 (0) 1483 770 595
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Standardised impact sound pressure levels according to ISO 140-7
Field measurements of impact sound insulation of floors

Project Details

Development: Swan House, Manchester Client: RG Group Report Ref: 25173/SIT2

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4083

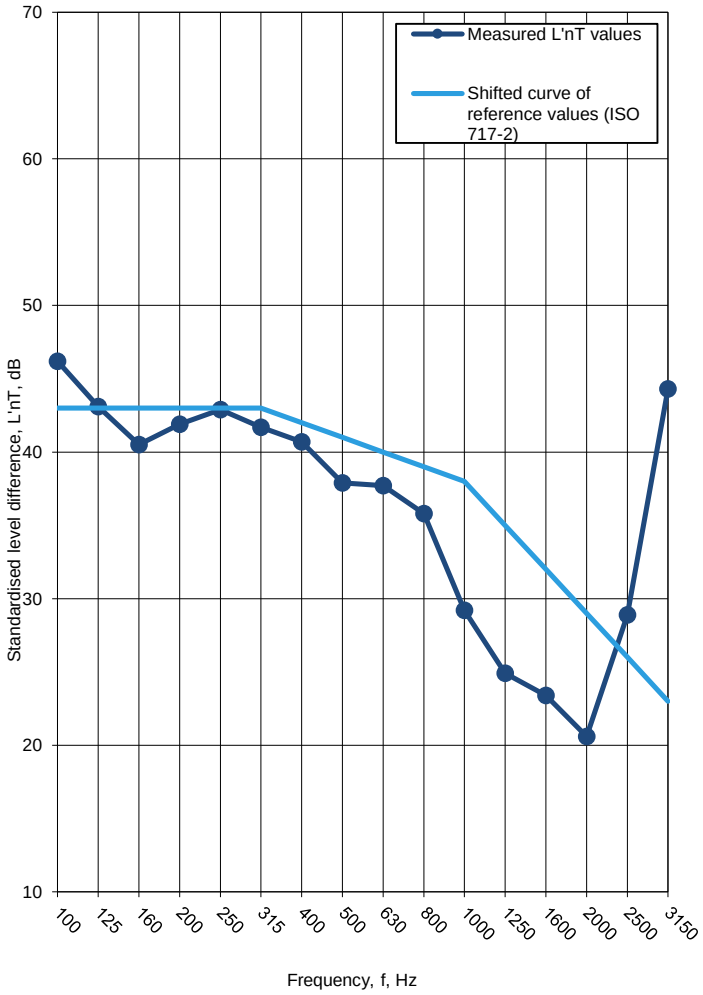
Impact Floor Sound Insulation Test: IF9

Date of test: 10/01/2024

Source Room: 18-02-LKD Approximate Source Room Volume: 57m³

Receive Room: 17-02-LKD Approximate Receive Room Volume: 57m³

Frequency f Hz	L'nT dB
100	46
125	43.1
160	40.5
200	41.9
250	42.9
315	41.7
400	40.7
500	37.9
630	37.7
800	35.8
1000	29.2
1250	24.9
1600	≤ 23.4
2000	≤ 20.6
2500	28.9
3150	44.3



Test Result

$L'_{nT,w} = \leq 41$ dB

≤ Results limited due to high background noise levels

Rating according to ISO 717-2:

$L'_{nT,w}$ (C_1) = ≤ 41 (-3) dB; $C_{1\ (100\text{-}3150)}$ = -3 dB

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

Certificate Ref: 25173/SIT2/C117

Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: James Hardacre

Test Engineer No: 76

Test Engineer Signature:



Hann Tucker Associates
Consultants in Acoustics Noise & Vibration
Head Office: Duke House, 1-2 Duke Street, Woking, Surrey GU21 5BA (t) +44 (0) 1483 770 595
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Standardised impact sound pressure levels according to ISO 140-7
Field measurements of impact sound insulation of floors

Project Details

Development: Swan House, Manchester Client: RG Group Report Ref: 25173/SIT2

UKAS TESTING
4083

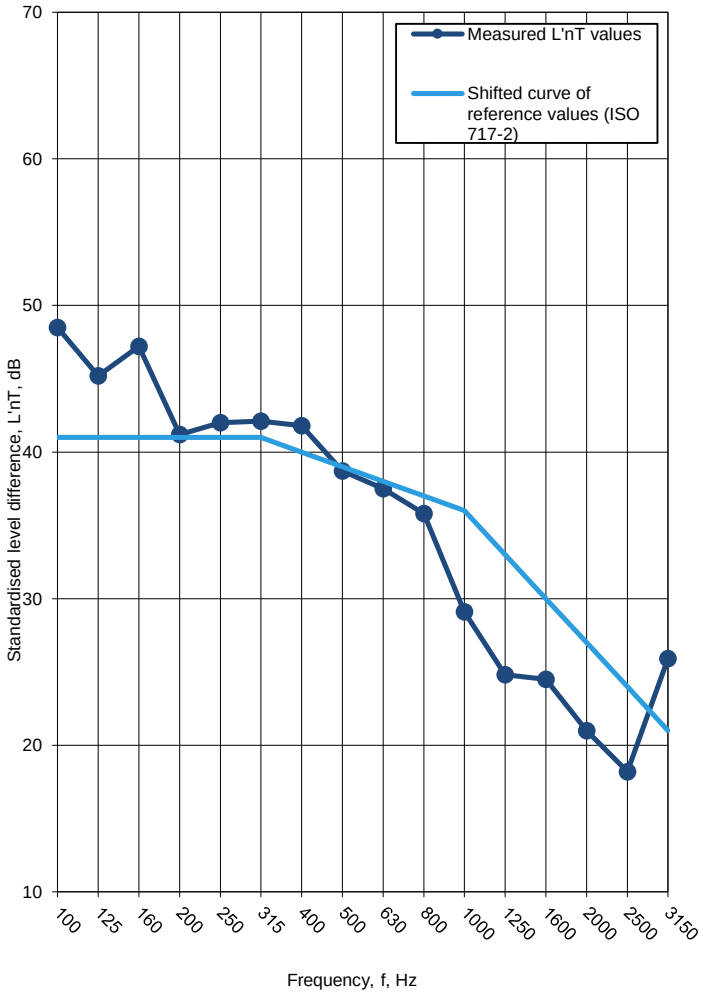
Impact Floor Sound Insulation Test: IF10

Date of test: 10/01/2024

Source Room: 18-02-B Approximate Source Room Volume: 35m³

Receive Room: 17-02-B Approximate Receive Room Volume: 35m³

Frequency f Hz	L'nT dB
100	49
125	45.2
160	47.2
200	41.2
250	42.0
315	42.1
400	41.8
500	38.7
630	37.5
800	35.8
1000	29.1
1250	≤ 24.8
1600	24.5
2000	21.0
2500	≤ 18.2
3150	≤ 25.9



Test Result

$L'_{nT,w} = \leq 39$ dB

≤ Results limited due to high background noise levels

Rating according to ISO 717-2:

$L'_{nT,w}$ (C_1) = ≤ 39 (0) dB; $C_{1\ (100\text{-}3150)}$ = 0 dB

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

Certificate Ref: 25173/SIT2/C118

Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: James Hardacre

Test Engineer No: 76

Test Engineer Signature:



Hann Tucker Associates
Consultants in Acoustics Noise & Vibration
Head Office: Duke House, 1-2 Duke Street, Woking, Surrey GU21 5BA (t) +44 (0) 1483 770 595
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(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

Standardised impact sound pressure levels according to ISO 140-7
Field measurements of impact sound insulation of floors

Project Details

Development: Swan House, Manchester Client: RG Group Report Ref: 25173/SIT2

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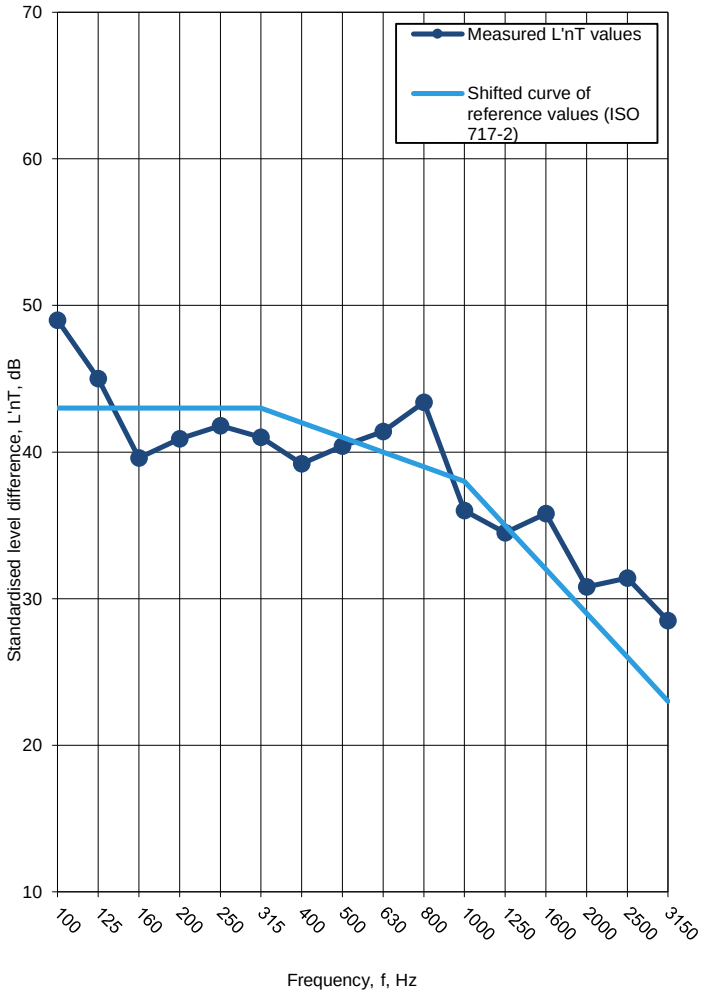
Impact Floor Sound Insulation Test: IF11

Date of test: 10/01/2024

Source Room: 15-02-LKD Approximate Source Room Volume: 57m³

Receive Room: 14-02-LKD Approximate Receive Room Volume: 57m³

Frequency f Hz	L'nT dB
100	49
125	45.0
160	39.6
200	40.9
250	41.8
315	41.0
400	39.2
500	40.4
630	41.4
800	43.4
1000	36.0
1250	34.5
1600	35.8
2000	30.8
2500	31.4
3150	28.5



Test Result

$L'_{nT,w} = \leq 41$ dB

Rating according to ISO 717-2:

$L'_{nT,w}$ (C_1) = ≤ 41 (-2) dB; $C_{1\ (100\text{-}3150)}$ = -2 dB

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

Certificate Ref: 25173/SIT2/C119

Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: James Hardacre

Test Engineer No: 76

Test Engineer Signature:

Hann Tucker Associates
Consultants in Acoustics Noise & Vibration
Head Office: Duke House, 1-2 Duke Street, Woking, Surrey GU21 5BA (t) +44 (0) 1483 770 595
Manchester Office: First Floor, 346 Deansgate, Manchester M3 4LY (t) +44 (0) 161 832 7041
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Standardised impact sound pressure levels according to ISO 140-7
Field measurements of impact sound insulation of floors

Project Details

Development: Swan House, Manchester Client: RG Group Report Ref: 25173/SIT2

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4083

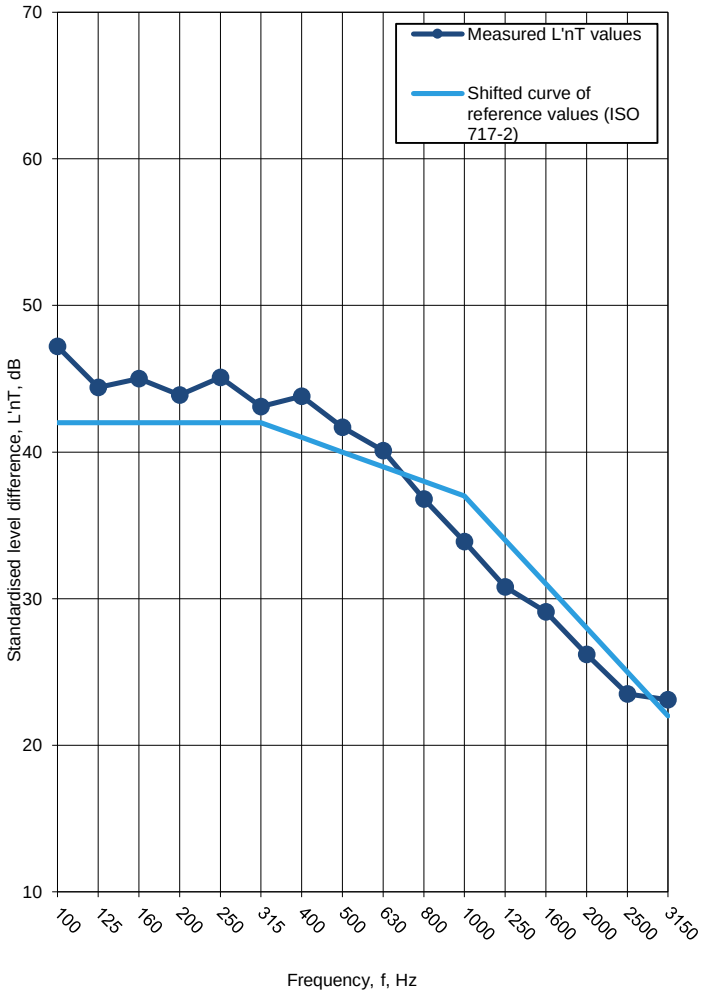
Impact Floor Sound Insulation Test: IF12

Date of test: 10/01/2024

Source Room: 15-02-B Approximate Source Room Volume: 35m³

Receive Room: 14-02-B Approximate Receive Room Volume: 35m³

Frequency f Hz	L'nT dB
100	47
125	44.4
160	45.0
200	43.9
250	45.1
315	43.1
400	43.8
500	41.7
630	40.1
800	≤ 36.8
1000	≤ 33.9
1250	≤ 30.8
1600	≤ 29.1
2000	≤ 26.2
2500	≤ 23.5
3150	≤ 23.1



Test Result

$L'_{nT,w} = \leq 40$ dB

≤ Results limited due to high background noise levels

Rating according to ISO 717-2:

$L'_{nT,w}$ (C_1) = ≤ 40 (-1) dB; $C_{1\ (100\text{-}3150)}$ = -1 dB

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

Certificate Ref: 25173/SIT2/C120

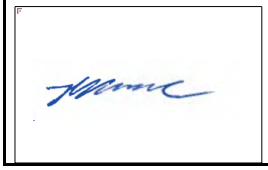
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: James Hardacre

Test Engineer No: 76

Test Engineer Signature:



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Field measurements of impact sound insulation of floors

Project Details

Development: Swan House, Manchester Client: RG Group Report Ref: 25173/SIT2

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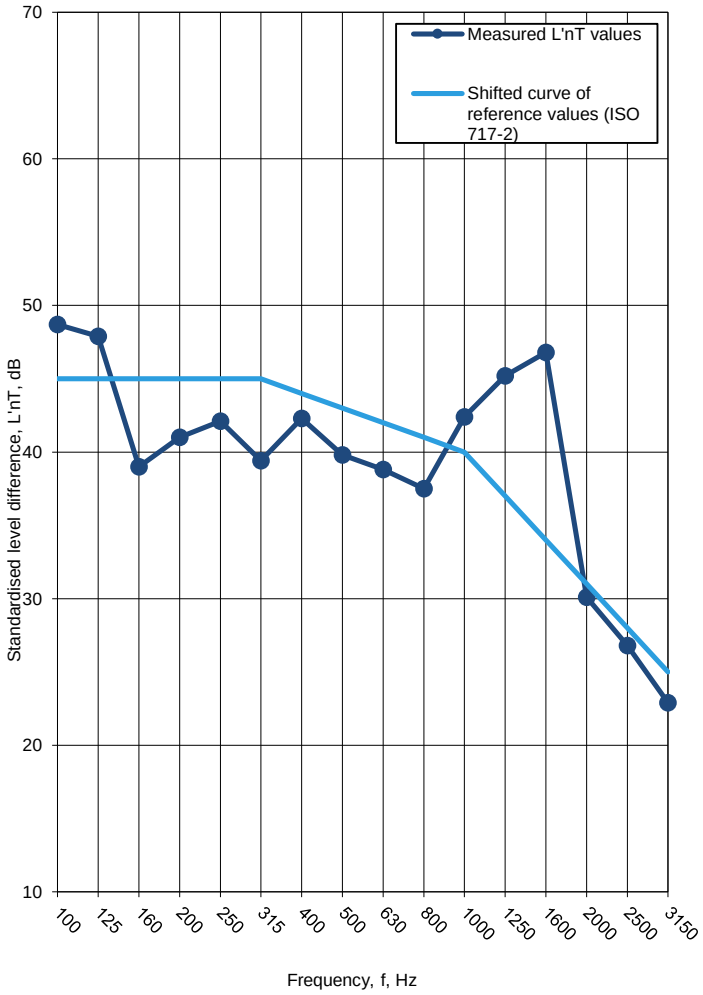
Impact Floor Sound Insulation Test: IF13

Date of test: 10/01/2024

Source Room: 14-02-LKD Approximate Source Room Volume: 57m³

Receive Room: 13-02-LKD Approximate Receive Room Volume: 57m³

Frequency f Hz	L'nT dB
100	49
125	47.9
160	39.0
200	41.0
250	42.1
315	≤ 39.4
400	42.3
500	39.8
630	38.8
800	≤ 37.5
1000	42.4
1250	45.2
1600	46.8
2000	≤ 30.1
2500	≤ 26.8
3150	≤ 22.9



Test Result

$L'_{nT,w} = \leq 43$ dB

≤ Results limited due to high background noise levels

Rating according to ISO 717-2:

$L'_{nT,w}$ (C_1) = ≤ 43 (-3) dB; $C_{1\ (100\text{-}3150)}$ = -3 dB

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

Certificate Ref: 25173/SIT2/C121

Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: James Hardacre

Test Engineer No: 76

Test Engineer Signature:



Hann Tucker Associates
Consultants in Acoustics Noise & Vibration
Head Office: Duke House, 1-2 Duke Street, Woking, Surrey GU21 5BA (t) +44 (0) 1483 770 595
Manchester Office: First Floor, 346 Deansgate, Manchester M3 4LY (t) +44 (0) 161 832 7041
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Standardised impact sound pressure levels according to ISO 140-7
Field measurements of impact sound insulation of floors

Project Details

Development: Swan House, Manchester Client: RG Group Report Ref: 25173/SIT2

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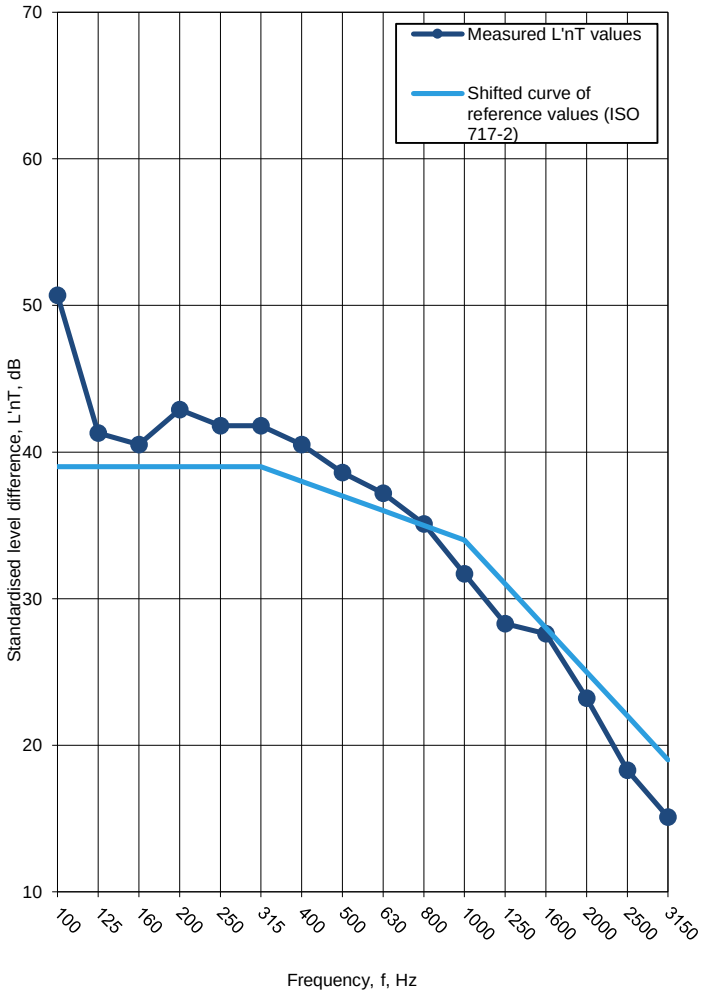
Impact Floor Sound Insulation Test: IF14

Date of test: 10/01/2024

Source Room: 14-02-B Approximate Source Room Volume: 35m³

Receive Room: 13-02-B Approximate Receive Room Volume: 35m³

Frequency f Hz	L'nT dB
100	51
125	41.3
160	40.5
200	42.9
250	41.8
315	41.8
400	40.5
500	38.6
630	37.2
800	35.1
1000	≤ 31.7
1250	≤ 28.3
1600	≤ 27.6
2000	≤ 23.2
2500	≤ 18.3
3150	≤ 15.1



Test Result

$L'_{nT,w} = \leq 37$ dB

≤ Results limited due to high background noise levels

Rating according to ISO 717-2:

$L'_{nT,w}$ (C_1) = ≤ 37 (1) dB; $C_{1\ (100\text{-}3150)}$ = 1 dB

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

Certificate Ref: 25173/SIT2/C122

Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: James Hardacre

Test Engineer No: 76

Test Engineer Signature:



Hann Tucker Associates
Consultants in Acoustics Noise & Vibration
Head Office: Duke House, 1-2 Duke Street, Woking, Surrey GU21 5BA (t) +44 (0) 1483 770 595
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Field measurements of impact sound insulation of floors

Project Details

Development: Swan House, Manchester Client: RG Group Report Ref: 25173/SIT2

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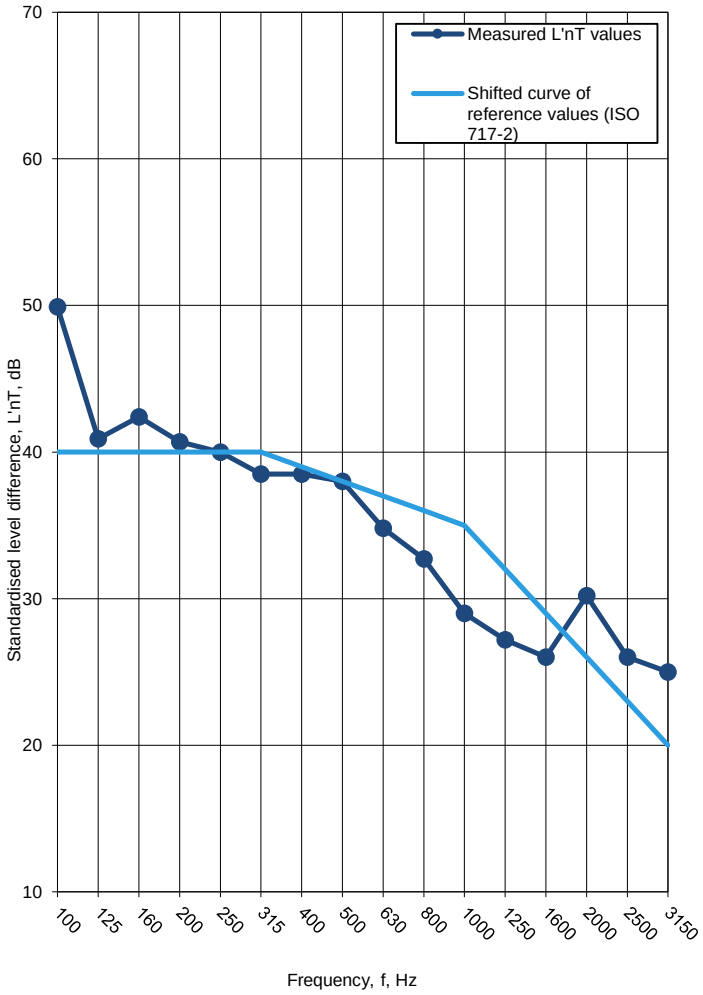
Impact Floor Sound Insulation Test: IF15

Date of test: 10/01/2024

Source Room: 9-03-LKD Approximate Source Room Volume: 64m³

Receive Room: 8-03-LKD Approximate Receive Room Volume: 64m³

Frequency f Hz	L'nT dB
100	50
125	40.9
160	42.4
200	40.7
250	40.0
315	38.5
400	38.5
500	38.0
630	34.8
800	32.7
1000	29.0
1250	27.2
1600	26.0
2000	30.2
2500	26.0
3150	25.0



Test Result

$L'_{nT,w} = \leq 38$ dB

Rating according to ISO 717-2:

$L'_{nT,w}$ (C_1) = ≤ 38 (0) dB; $C_{1\ (100\text{-}3150)}$ = 0 dB

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

Certificate Ref: 25173/SIT2/C123

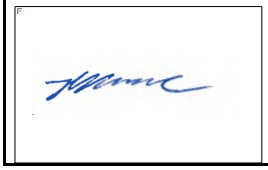
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: James Hardacre

Test Engineer No: 76

Test Engineer Signature:



Hann Tucker Associates
Consultants in Acoustics Noise & Vibration
Head Office: Duke House, 1-2 Duke Street, Woking, Surrey GU21 5BA (t) +44 (0) 1483 770 595
Manchester Office: First Floor, 346 Deansgate, Manchester M3 4LY (t) +44 (0) 161 832 7041
(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

Standardised impact sound pressure levels according to ISO 140-7
Field measurements of impact sound insulation of floors

Project Details

Development: Swan House, Manchester Client: RG Group Report Ref: 25173/SIT2

UKAS TESTING
4083

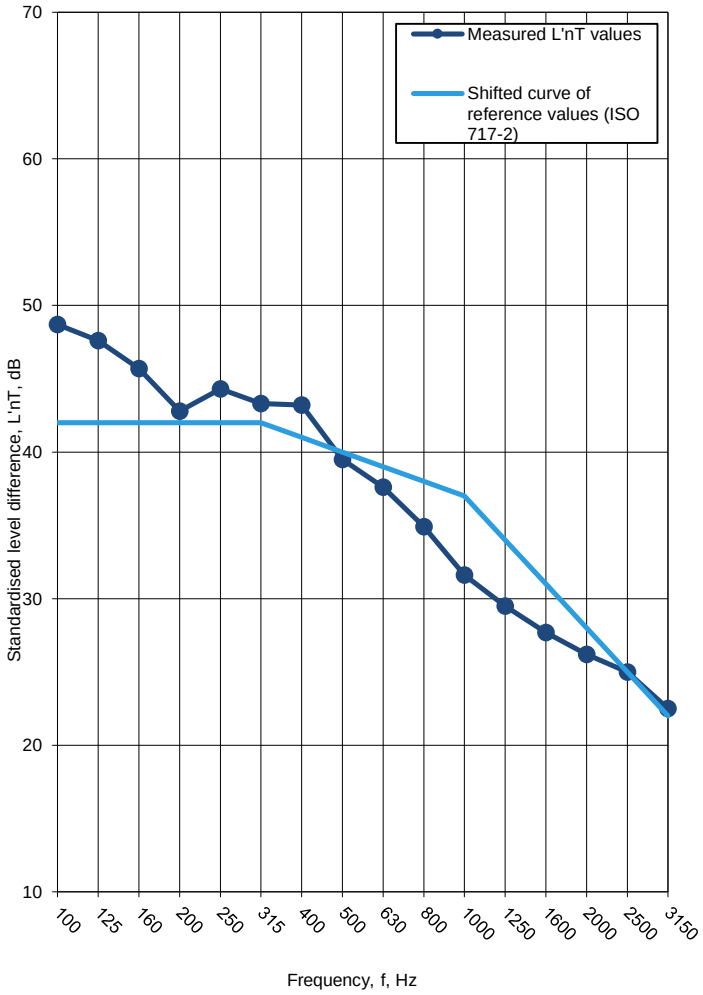
Impact Floor Sound Insulation Test: IF16

Date of test: 10/01/2024

Source Room: 9-03-B Approximate Source Room Volume: 26m³

Receive Room: 8-03-B Approximate Receive Room Volume: 26m³

Frequency f Hz	L'nT dB
100	49
125	47.6
160	45.7
200	42.8
250	44.3
315	43.3
400	43.2
500	39.5
630	37.6
800	34.9
1000	31.6
1250	29.5
1600	27.7
2000	26.2
2500	25.0
3150	≤ 22.5



Test Result

$L'_{nT,w} = \leq 40$ dB

≤ Results limited due to high background noise levels

Rating according to ISO 717-2:

$L'_{nT,w}$ (C_1) = ≤ 40 (-1) dB; $C_{1\ (100\text{-}3150)}$ = -1 dB

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

Certificate Ref: 25173/SIT2/C124

Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: James Hardacre

Test Engineer No: 76

Test Engineer Signature:



Hann Tucker Associates
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Project Details

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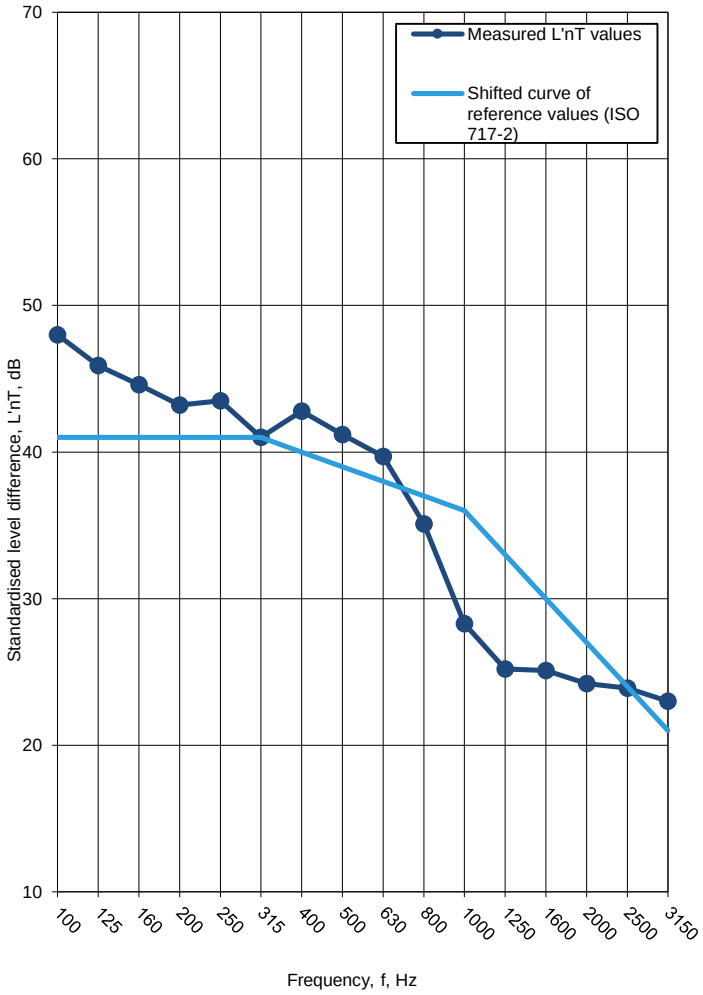
Impact Floor Sound Insulation Test: IF17

Date of test: 10/01/2024

Source Room: 13-01-LKD Approximate Source Room Volume: 59m³

Receive Room: 12-01-LKD Approximate Receive Room Volume: 59m³

Frequency f Hz	L'nT dB
100	48
125	45.9
160	44.6
200	43.2
250	43.5
315	41.0
400	42.8
500	41.2
630	39.7
800	35.1
1000	28.3
1250	25.2
1600	25.1
2000	24.2
2500	23.9
3150	23.0



Test Result

$L'_{nT,w}$ = ≤ 39 dB

Rating according to ISO 717-2:

$L'_{nT,w}$ (C_1) = ≤ 39 (0) dB; $C_{1\ (100\text{-}3150)}$ = 0 dB

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

Certificate Ref: 25173/SIT2/C125

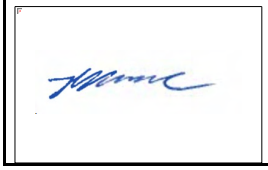
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: James Hardacre

Test Engineer No: 76

Test Engineer Signature:



Hann Tucker Associates
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Field measurements of impact sound insulation of floors

Project Details

Development: Swan House, Manchester Client: RG Group Report Ref: 25173/SIT2

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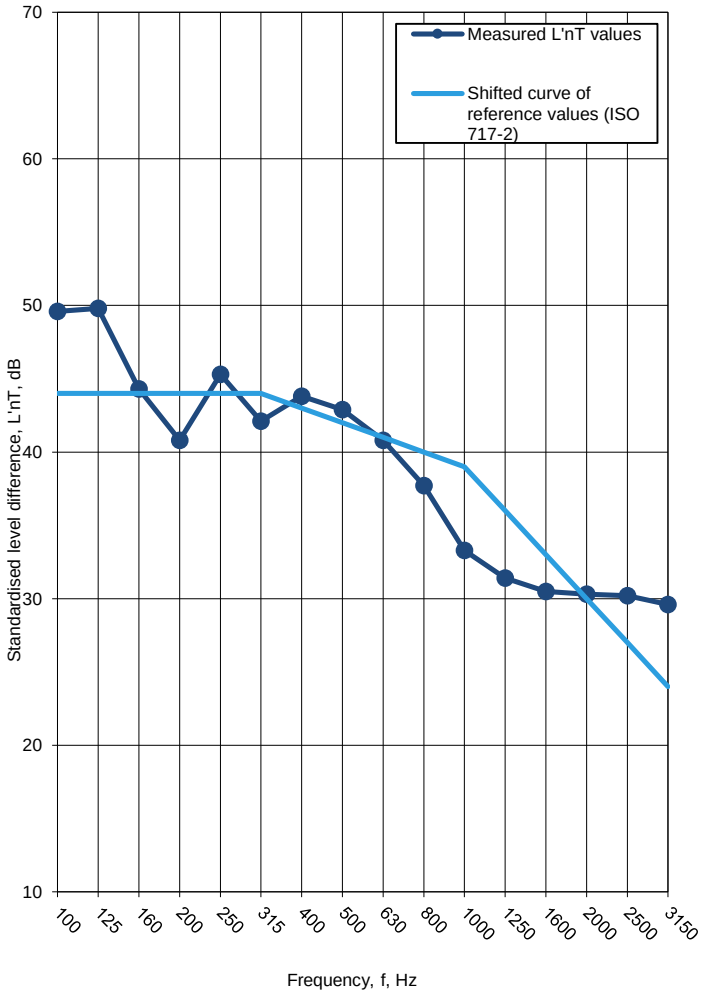
Impact Floor Sound Insulation Test: IF18

Date of test: 10/01/2024

Source Room: 13-01-B Approximate Source Room Volume: 30m³

Receive Room: 12-01-B Approximate Receive Room Volume: 30m³

Frequency f Hz	L'nT dB
100	50
125	49.8
160	44.3
200	40.8
250	45.3
315	42.1
400	43.8
500	42.9
630	40.8
800	37.7
1000	33.3
1250	31.4
1600	30.5
2000	30.3
2500	30.2
3150	29.6



Test Result

$L'_{nT,w} = \leq 42$ dB

Rating according to ISO 717-2:

$L'_{nT,w}$ (C_1) = ≤ 42 (-2) dB; $C_{1\ (100\text{-}3150)}$ = -2 dB

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

Certificate Ref: 25173/SIT2/C126

Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: James Hardacre

Test Engineer No: 76

Test Engineer Signature:

Hann Tucker Associates
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(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

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Project Details

Development: Swan House, Manchester Client: RG Group Report Ref: 25173/SIT2

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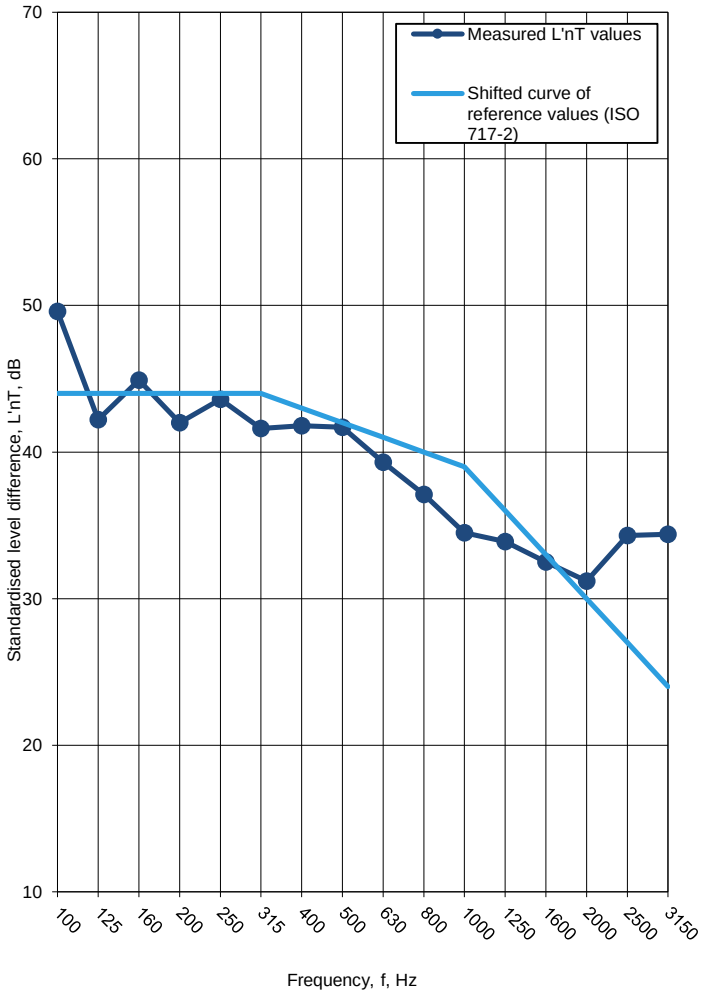
Impact Floor Sound Insulation Test: IF19

Date of test: 10/01/2024

Source Room: 16-04-LKD Approximate Source Room Volume: 49m³

Receive Room: 15-04-LKD Approximate Receive Room Volume: 49m³

Frequency f Hz	L'nT dB
100	50
125	42.2
160	44.9
200	42.0
250	43.6
315	41.6
400	41.8
500	41.7
630	39.3
800	37.1
1000	34.5
1250	33.9
1600	32.5
2000	31.2
2500	34.3
3150	34.4



Test Result

$L'_{nT,w} = \leq 42$ dB

Rating according to ISO 717-2:

$L'_{nT,w}$ (C_1) = ≤ 42 (-3) dB; $C_{1\ (100\text{-}3150)}$ = -3 dB

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

Certificate Ref: 25173/SIT2/C127

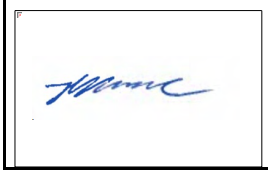
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: James Hardacre

Test Engineer No: 76

Test Engineer Signature:



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(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

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Project Details

Development: Swan House, Manchester Client: RG Group Report Ref: 25173/SIT2

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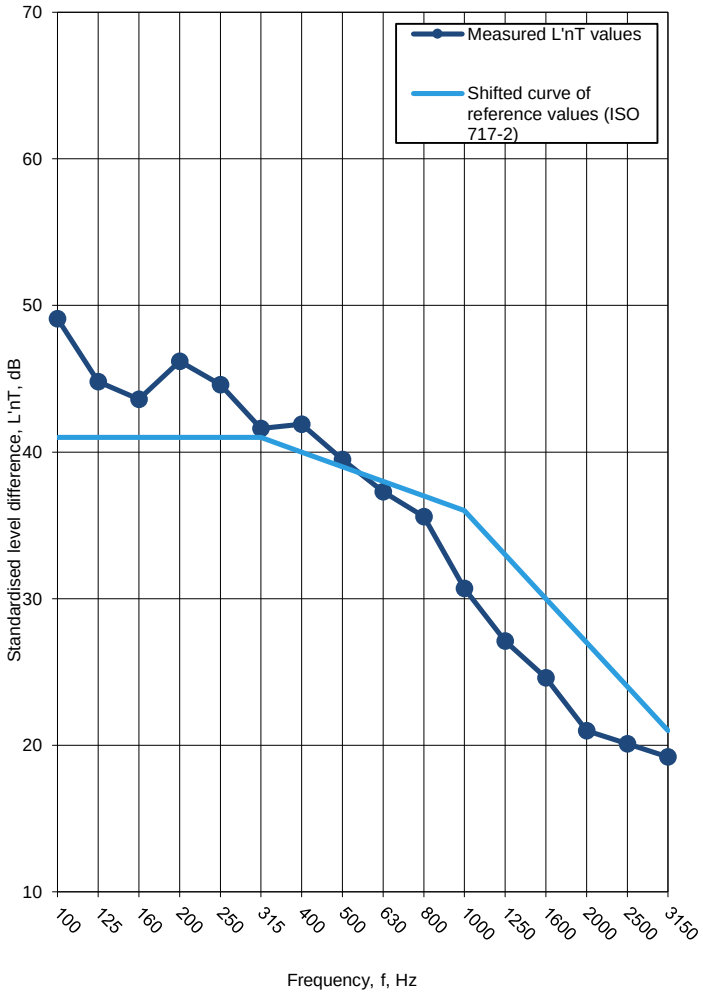
Impact Floor Sound Insulation Test: IF20

Date of test: 10/01/2024

Source Room: 16-04-B Approximate Source Room Volume: 25m³

Receive Room: 15-04-B Approximate Receive Room Volume: 25m³

Frequency f Hz	L'nT dB
100	49
125	44.8
160	43.6
200	46.2
250	44.6
315	41.6
400	41.9
500	39.5
630	37.3
800	35.6
1000	≤ 30.7
1250	≤ 27.1
1600	≤ 24.6
2000	≤ 21.0
2500	≤ 20.1
3150	≤ 19.2



Test Result

$L'_{nT,w} = \leq 39$ dB

≤ Results limited due to high background noise levels

Rating according to ISO 717-2:

$L'_{nT,w}$ (C_1) = ≤ 39 (0) dB; $C_{1\ (100\text{-}3150)}$ = 0 dB

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

Certificate Ref: 25173/SIT2/C128

Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: James Hardacre

Test Engineer No: 76

Test Engineer Signature:



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Project Details

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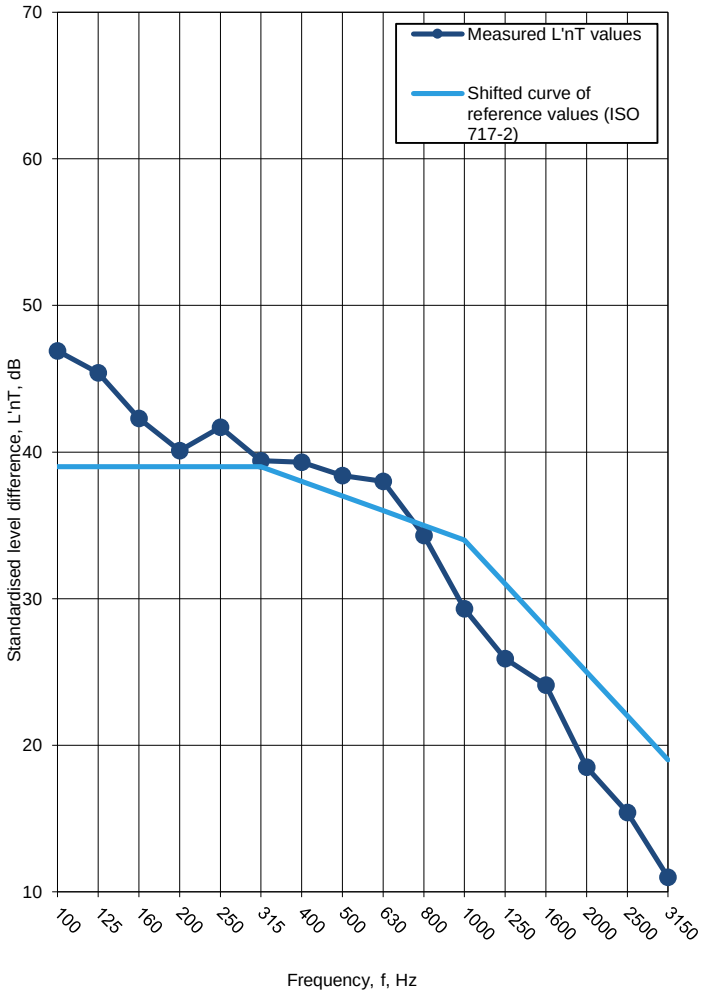
Impact Floor Sound Insulation Test: IF21

Date of test: 28/03/2024

Source Room: 31-04-LKD Approximate Source Room Volume: 49m³

Receive Room: 30-04-LKD Approximate Receive Room Volume: 49m³

Frequency f Hz	L'nT dB
100	47
125	45.4
160	42.3
200	40.1
250	41.7
315	39.4
400	39.3
500	38.4
630	38.0
800	34.3
1000	29.3
1250	25.9
1600	24.1
2000	18.5
2500	15.4
3150	11.0



Test Result

$L'_{nT,w}$ = ≤ 37 dB

Rating according to ISO 717-2:

$L'_{nT,w}$ (C_1) = ≤ 37 (0) dB; $C_{1\ (100\text{-}3150)}$ = 0 dB

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

Certificate Ref: 25173/SIT2/C129

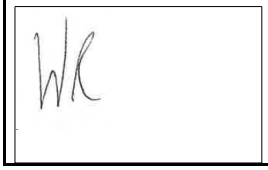
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Will Robertson

Test Engineer No: 80

Test Engineer Signature:



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Project Details

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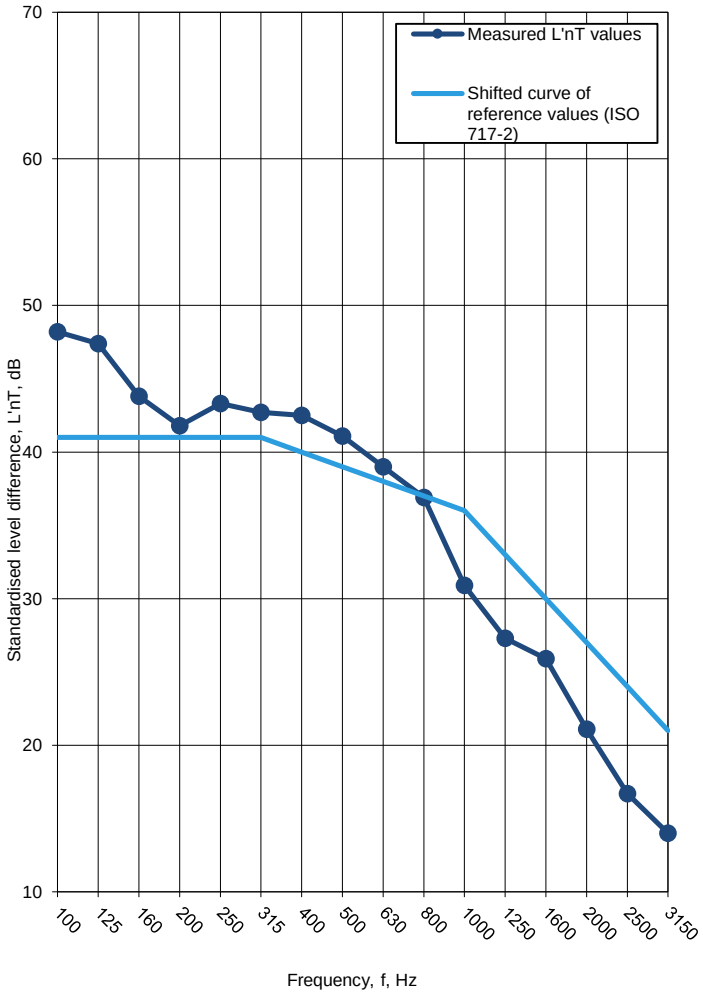
Impact Floor Sound Insulation Test: IF22

Date of test: 28/03/2024

Source Room: 31-04-B Approximate Source Room Volume: 25m³

Receive Room: 30-04-B Approximate Receive Room Volume: 25m³

Frequency f Hz	L'nT dB
100	48
125	47.4
160	43.8
200	41.8
250	43.3
315	42.7
400	42.5
500	41.1
630	39.0
800	36.9
1000	30.9
1250	27.3
1600	25.9
2000	21.1
2500	16.7
3150	14.0



Test Result

$L'_{nT,w}$ = ≤ 39 dB

Rating according to ISO 717-2:

$L'_{nT,w}$ (C_1) = ≤ 39 (0) dB; $C_{1\ (100\text{-}3150)}$ = 0 dB

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

Certificate Ref: 25173/SIT2/C130

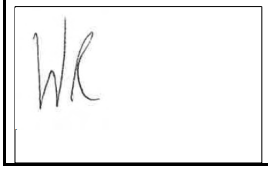
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Will Robertson

Test Engineer No: 80

Test Engineer Signature:



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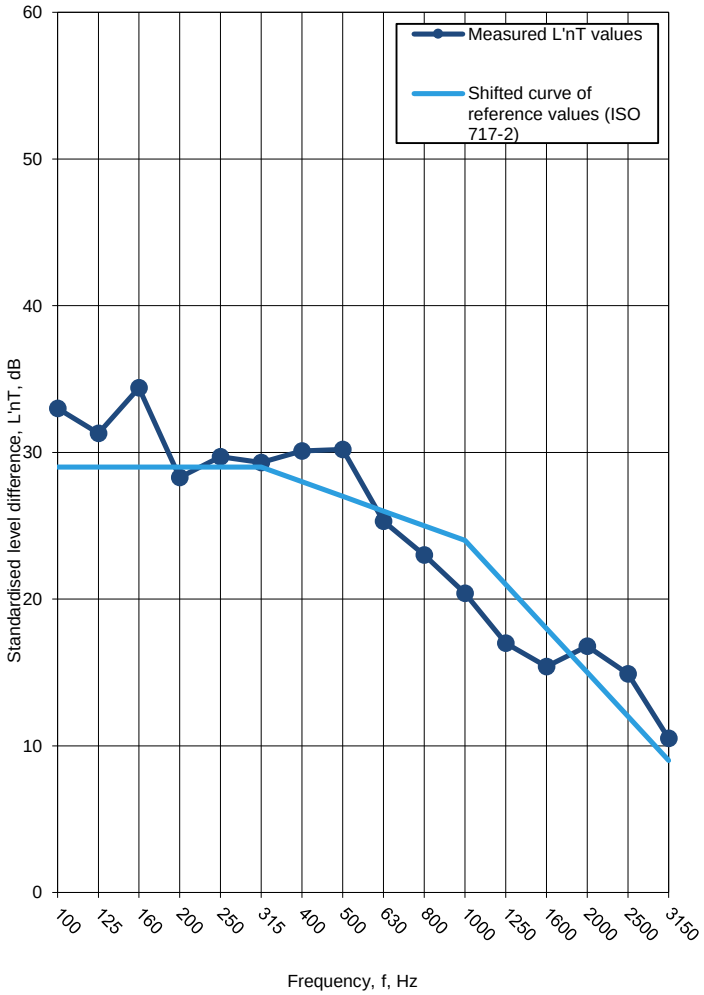
Impact Floor Sound Insulation Test: IF23

Date of test: 28/03/2024

Source Room: 30-06-LKD Approximate Source Room Volume: 57m³

Receive Room: 29-06-LKD Approximate Receive Room Volume: 57m³

Frequency f Hz	L'nT dB
100	≤ 33
125	≤ 31.3
160	34.4
200	≤ 28.3
250	29.7
315	29.3
400	30.1
500	30.2
630	25.3
800	23.0
1000	≤ 20.4
1250	≤ 17.0
1600	≤ 15.4
2000	≤ 16.8
2500	≤ 14.9
3150	≤ 10.5



Test Result

$L'_{nT,w} = \leq 27$ dB

≤ Results limited due to high background noise levels

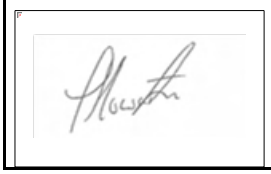
Rating according to ISO 717-2:

$L'_{nT,w}$ (C_1) = ≤ 27 (-1) dB; $C_{1\ (100\text{-}3150)}$ = -1 dB

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

Certificate Ref: 25173/SIT2/C131

Test organisation: Hann Tucker Associates
Date of issue: 12/04/2024
Test Engineer: Jake Howarth
Test Engineer No: 64
Test Engineer Signature:



Hann Tucker Associates
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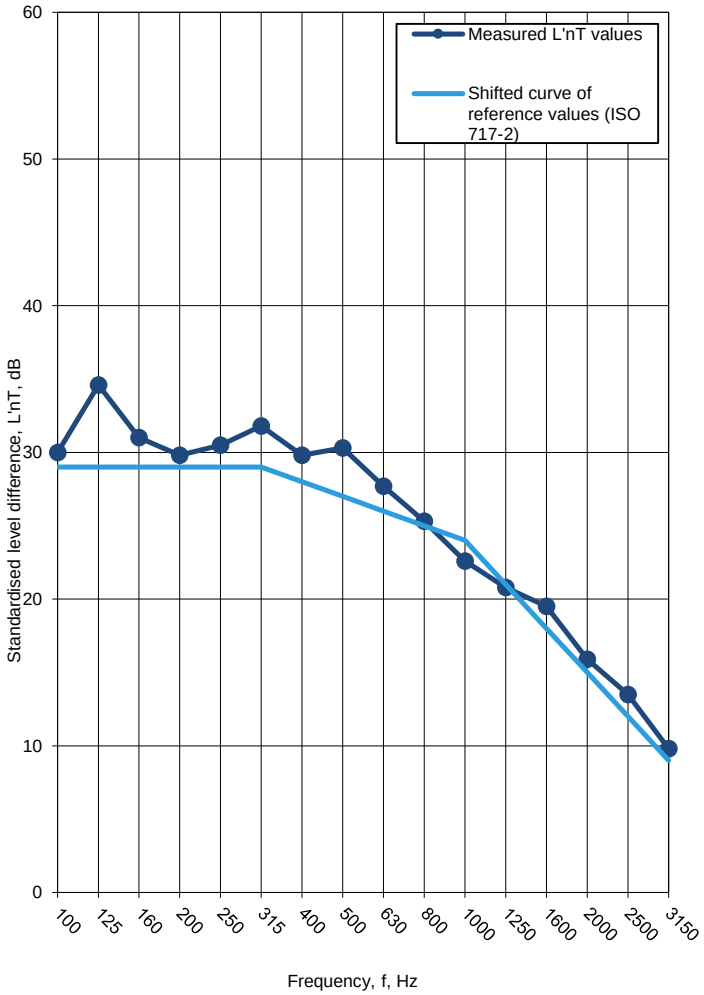
Impact Floor Sound Insulation Test: IF24

Date of test: 28/03/2024

Source Room: 30-06-B Approximate Source Room Volume: 35m³

Receive Room: 29-06-B Approximate Receive Room Volume: 35m³

Frequency f Hz	L'nT dB
100	≤ 30
125	≤ 34.6
160	31.0
200	≤ 29.8
250	30.5
315	31.8
400	29.8
500	30.3
630	27.7
800	25.3
1000	22.6
1250	20.8
1600	19.5
2000	≤ 15.9
2500	≤ 13.5
3150	≤ 9.8



Test Result

$L'_{nT,w} = \leq 27$ dB

≤ Results limited due to high background noise levels

Rating according to ISO 717-2:

$L'_{nT,w}$ (C_1) = ≤ 27 (-1) dB; $C_{1\ (100\text{-}3150)}$ = -1 dB

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

Certificate Ref: 25173/SIT2/C132

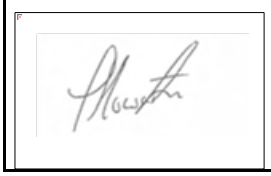
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Jake Howarth

Test Engineer No: 64

Test Engineer Signature:



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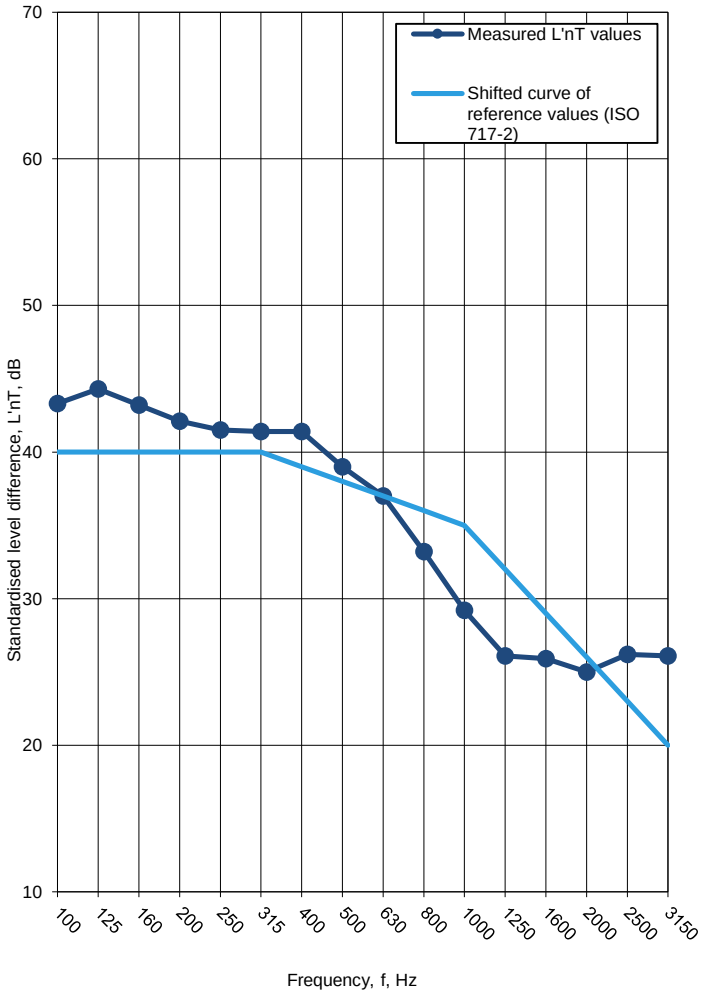
Impact Floor Sound Insulation Test: IF25

Date of test: 28/03/2024

Source Room: 29-02-LKD Approximate Source Room Volume: 57m³

Receive Room: 28-02-LKD Approximate Receive Room Volume: 57m³

Frequency f Hz	L'nT dB
100	43
125	44.3
160	43.2
200	42.1
250	41.5
315	41.4
400	41.4
500	39.0
630	37.0
800	33.2
1000	29.2
1250	26.1
1600	25.9
2000	25.0
2500	26.2
3150	26.1



Test Result

$L'_{nT,w} = \leq 38$ dB

Rating according to ISO 717-2:

$L'_{nT,w}$ (C_1) = ≤ 38 (-1) dB; $C_{1\ (100\text{-}3150)}$ = -1 dB

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

Certificate Ref: 25173/SIT2/C133

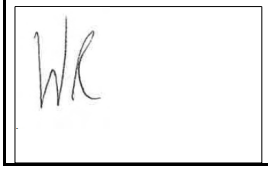
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Will Robertson

Test Engineer No: 80

Test Engineer Signature:



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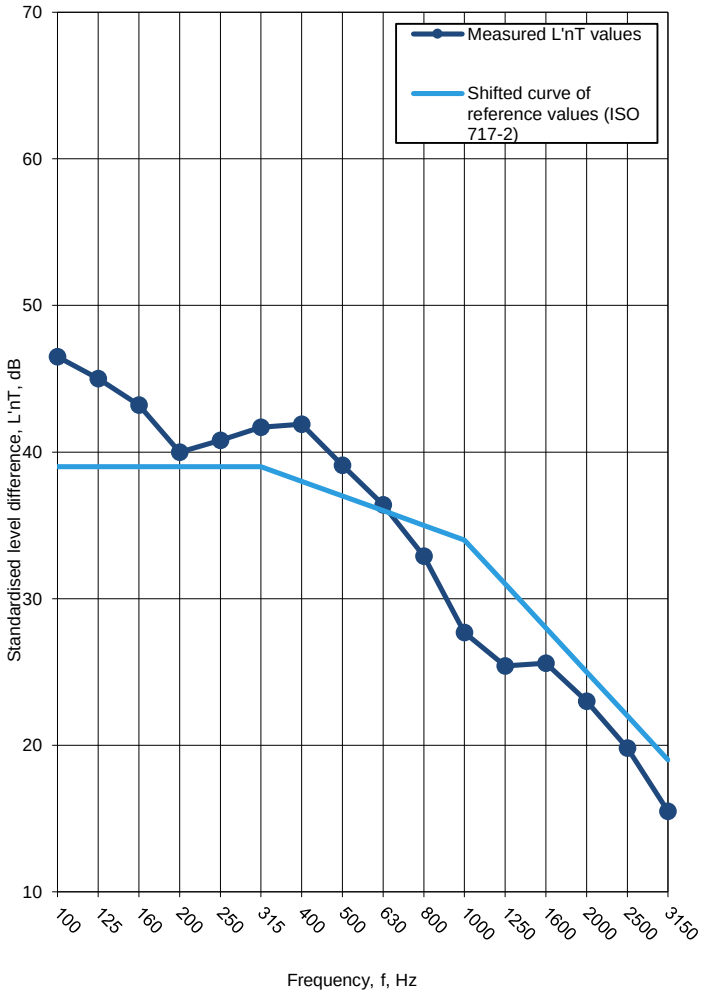
Impact Floor Sound Insulation Test: IF26

Date of test: 28/03/2024

Source Room: 29-02-B Approximate Source Room Volume: 35m³

Receive Room: 28-02-B Approximate Receive Room Volume: 35m³

Frequency f Hz	L'nT dB
100	47
125	45.0
160	43.2
200	40.0
250	40.8
315	41.7
400	41.9
500	39.1
630	36.4
800	32.9
1000	27.7
1250	25.4
1600	25.6
2000	23.0
2500	19.8
3150	15.5



Test Result

$L'_{nT,w}$ = ≤ 37 dB

Rating according to ISO 717-2:

$L'_{nT,w}$ (C_1) = ≤ 37 (0) dB; $C_{1\ (100\text{-}3150)}$ = 0 dB

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

Certificate Ref: 25173/SIT2/C134

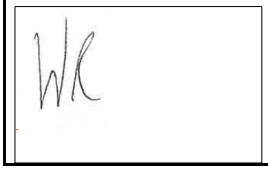
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Will Robertson

Test Engineer No: 80

Test Engineer Signature:



Hann Tucker Associates
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Head Office: Duke House, 1-2 Duke Street, Woking, Surrey GU21 5BA (t) +44 (0) 1483 770 595
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(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

Standardised impact sound pressure levels according to ISO 140-7
Field measurements of impact sound insulation of floors

Project Details

Development: Swan House, Manchester Client: RG Group Report Ref: 25173/SIT2

UKAS TESTING
4083

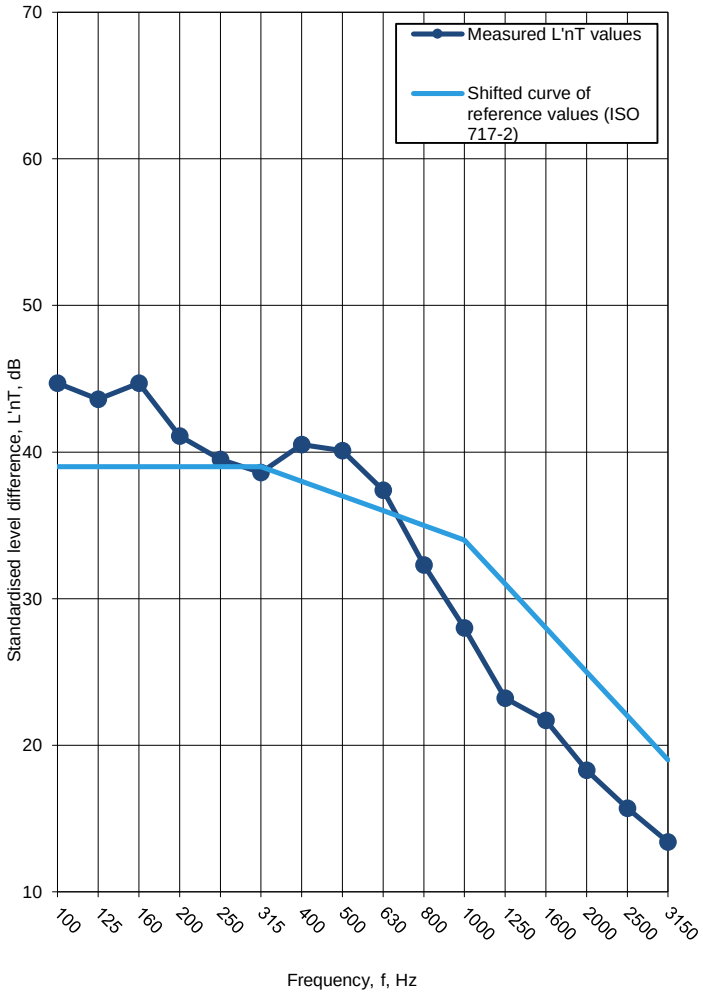
Impact Floor Sound Insulation Test: IF27

Date of test: 28/03/2024

Source Room: 27-08-LKD Approximate Source Room Volume: 49m³

Receive Room: 26-08-LKD Approximate Receive Room Volume: 49m³

Frequency f Hz	L'nT dB
100	45
125	43.6
160	44.7
200	41.1
250	39.5
315	38.6
400	40.5
500	40.1
630	37.4
800	≤ 32.3
1000	≤ 28.0
1250	≤ 23.2
1600	≤ 21.7
2000	≤ 18.3
2500	≤ 15.7
3150	≤ 13.4



Test Result

$L'_{nT,w} = \leq 37$ dB

≤ Results limited due to high background noise levels

Rating according to ISO 717-2:

$L'_{nT,w}$ (C_1) = ≤ 37 (-1) dB; $C_{1\ (100\text{-}3150)}$ = -1 dB

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

Certificate Ref: 25173/SIT2/C135

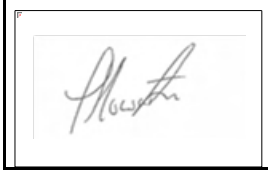
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Jake Howarth

Test Engineer No: 64

Test Engineer Signature:



Hann Tucker Associates
Consultants in Acoustics Noise & Vibration
Head Office: Duke House, 1-2 Duke Street, Woking, Surrey GU21 5BA (t) +44 (0) 1483 770 595
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Project Details

Development: Swan House, Manchester Client: RG Group Report Ref: 25173/SIT2

UKAS TESTING
4083

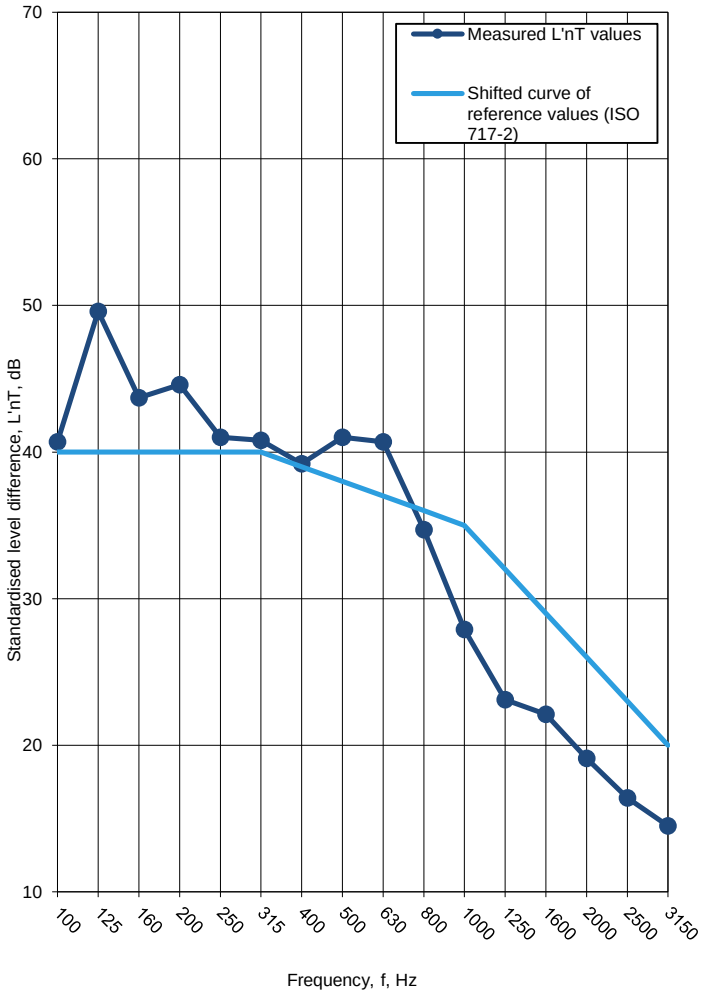
Impact Floor Sound Insulation Test: IF28

Date of test: 28/03/2024

Source Room: 27-08-B Approximate Source Room Volume: 28m³

Receive Room: 26-08-B Approximate Receive Room Volume: 28m³

Frequency f Hz	L'nT dB
100	41
125	49.6
160	43.7
200	44.6
250	41.0
315	40.8
400	39.2
500	41.0
630	40.7
800	34.7
1000	27.9
1250	23.1
1600	22.1
2000	≤ 19.1
2500	≤ 16.4
3150	≤ 14.5



Test Result

$L'_{nT,w} = \leq 38$ dB

≤ Results limited due to high background noise levels

Rating according to ISO 717-2:

$L'_{nT,w}$ (C_1) = ≤ 38 (0) dB; $C_{1\ (100\text{-}3150)}$ = 0 dB

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

Certificate Ref: 25173/SIT2/C136

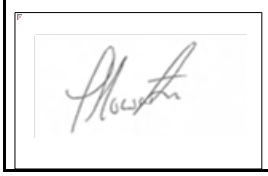
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Jake Howarth

Test Engineer No: 64

Test Engineer Signature:



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Head Office: Duke House, 1-2 Duke Street, Woking, Surrey GU21 5BA (t) +44 (0) 1483 770 595
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Project Details

Development: Swan House, Manchester Client: RG Group Report Ref: 25173/SIT2

UKAS TESTING
4083

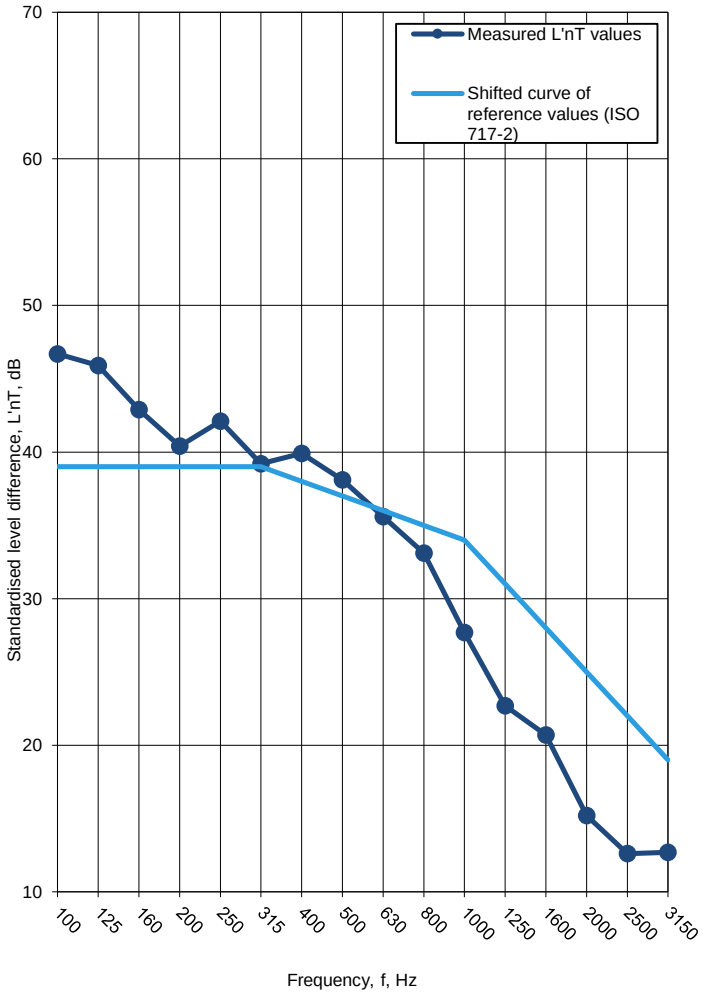
Impact Floor Sound Insulation Test: IF29

Date of test: 28/03/2024

Source Room: 24-01-LKD Approximate Source Room Volume: 59m³

Receive Room: 23-01-LKD Approximate Receive Room Volume: 59m³

Frequency f Hz	L'nT dB
100	47
125	45.9
160	42.9
200	40.4
250	42.1
315	39.2
400	39.9
500	38.1
630	35.6
800	33.1
1000	27.7
1250	22.7
1600	20.7
2000	≤ 15.2
2500	≤ 12.6
3150	≤ 12.7



Test Result

$L'_{nT,w} = \leq 37$ dB

≤ Results limited due to high background noise levels

Rating according to ISO 717-2:

$L'_{nT,w}$ (C_1) = ≤ 37 (0) dB; $C_{1\ (100\text{-}3150)}$ = 0 dB

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

Certificate Ref: 25173/SIT2/C137

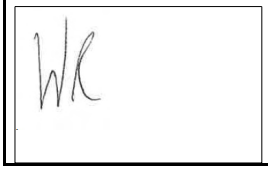
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Will Robertson

Test Engineer No: 80

Test Engineer Signature:



Hann Tucker Associates
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UKAS TESTING
4083

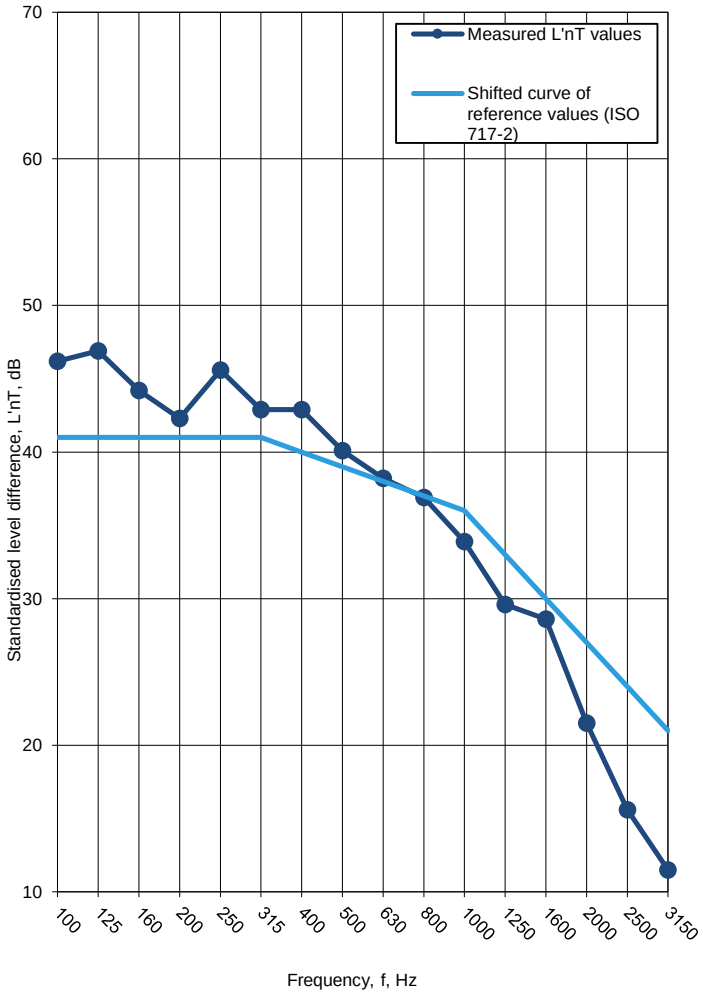
Impact Floor Sound Insulation Test: IF30

Date of test: 28/03/2024

Source Room: 24-01-B Approximate Source Room Volume: 34m³

Receive Room: 23-01-B Approximate Receive Room Volume: 34m³

Frequency f Hz	L'nT dB
100	46
125	46.9
160	44.2
200	42.3
250	45.6
315	42.9
400	42.9
500	40.1
630	38.2
800	36.9
1000	33.9
1250	29.6
1600	28.6
2000	21.5
2500	15.6
3150	11.5



Test Result

$L'_{nT,w}$ = ≤ 39 dB

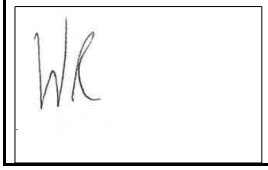
Rating according to ISO 717-2:

$L'_{nT,w}$ (C_1) = ≤ 39 (0) dB; $C_{1\ (100\text{-}3150)}$ = 0 dB

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

Certificate Ref: 25173/SIT2/C138

Test organisation: Hann Tucker Associates
Date of issue: 12/04/2024
Test Engineer: Will Robertson
Test Engineer No: 80
Test Engineer Signature:



Hann Tucker Associates
Consultants in Acoustics Noise & Vibration
Head Office: Duke House, 1-2 Duke Street, Woking, Surrey GU21 5BA (t) +44 (0) 1483 770 595
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Standardised impact sound pressure levels according to ISO 140-7
Field measurements of impact sound insulation of floors

Project Details

Development: Swan House, Manchester Client: RG Group Report Ref: 25173/SIT2

UKAS TESTING
4083

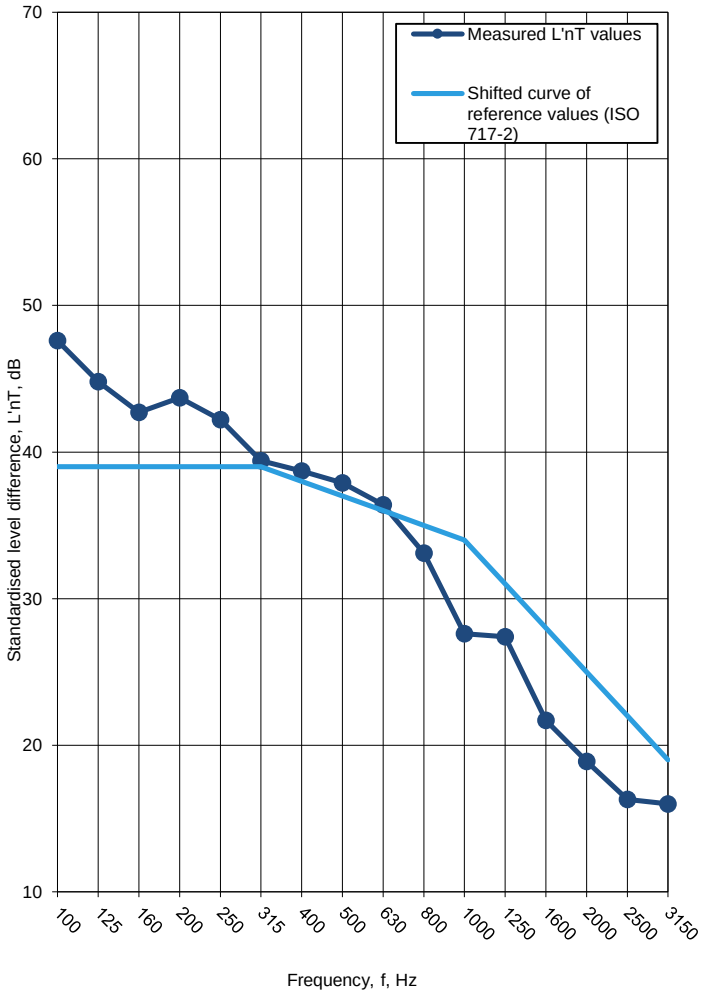
Impact Floor Sound Insulation Test: IF31

Date of test: 28/03/2024

Source Room: 22-05-LKD Approximate Source Room Volume: 57m³

Receive Room: 21-05-LKD Approximate Receive Room Volume: 57m³

Frequency f Hz	L'nT dB
100	48
125	44.8
160	42.7
200	43.7
250	42.2
315	39.4
400	38.7
500	37.9
630	36.4
800	33.1
1000	27.6
1250	≤ 27.4
1600	≤ 21.7
2000	≤ 18.9
2500	≤ 16.3
3150	≤ 16.0



Test Result

$L'_{nT,w} = \leq 37$ dB

≤ Results limited due to high background noise levels

Rating according to ISO 717-2:

$L'_{nT,w}$ (C_1) = ≤ 37 (0) dB; $C_{1\ (100\text{-}3150)}$ = 0 dB

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

Certificate Ref: 25173/SIT2/C139

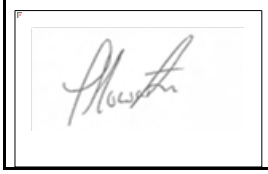
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Jake Howarth

Test Engineer No: 64

Test Engineer Signature:



Hann Tucker Associates
Consultants in Acoustics Noise & Vibration
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(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

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Field measurements of impact sound insulation of floors

Project Details

Development: Swan House, Manchester Client: RG Group Report Ref: 25173/SIT2

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4083

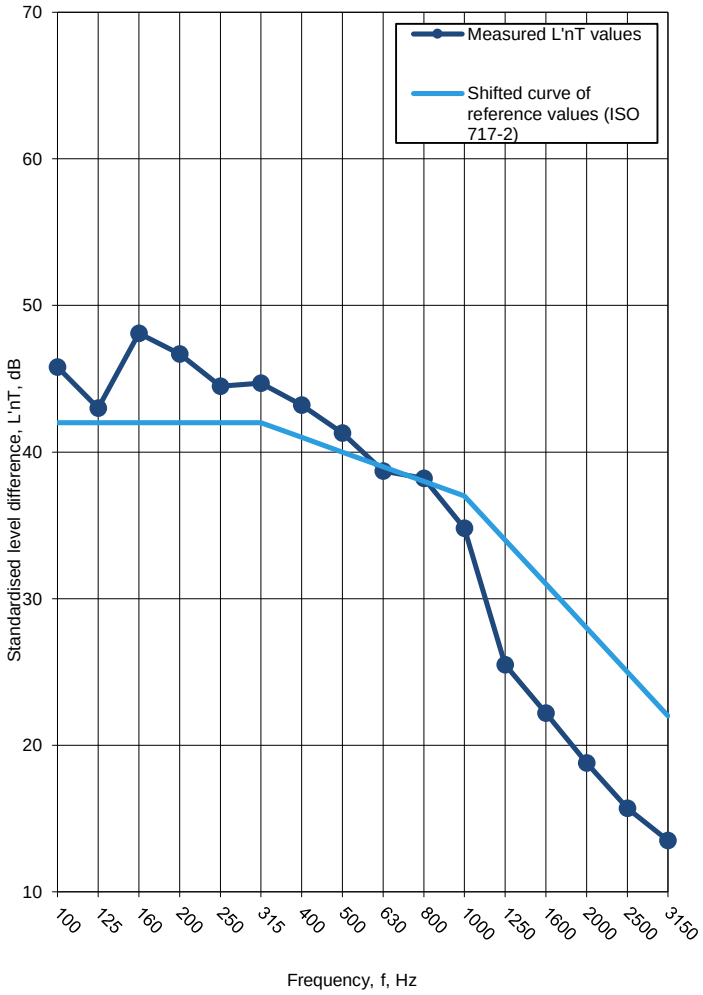
Impact Floor Sound Insulation Test: IF32

Date of test: 28/03/2024

Source Room: 22-05-B Approximate Source Room Volume: 30m³

Receive Room: 21-05-B Approximate Receive Room Volume: 30m³

Frequency f Hz	L'nT dB
100	46
125	≤ 43.0
160	48.1
200	46.7
250	44.5
315	44.7
400	43.2
500	41.3
630	38.7
800	38.2
1000	34.8
1250	≤ 25.5
1600	≤ 22.2
2000	≤ 18.8
2500	15.7
3150	13.5



Test Result

$L'_{nT,w} = \leq 40$ dB

≤ Results limited due to high background noise levels

Rating according to ISO 717-2:

$L'_{nT,w}$ (C_1) = ≤ 40 (-1) dB; $C_{1\ (100\text{-}3150)}$ = -1 dB

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

Certificate Ref: 25173/SIT2/C140

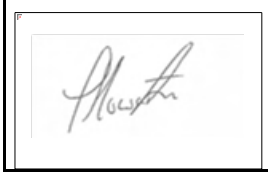
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Jake Howarth

Test Engineer No: 64

Test Engineer Signature:



Hann Tucker Associates
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(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

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Field measurements of impact sound insulation of floors

Project Details

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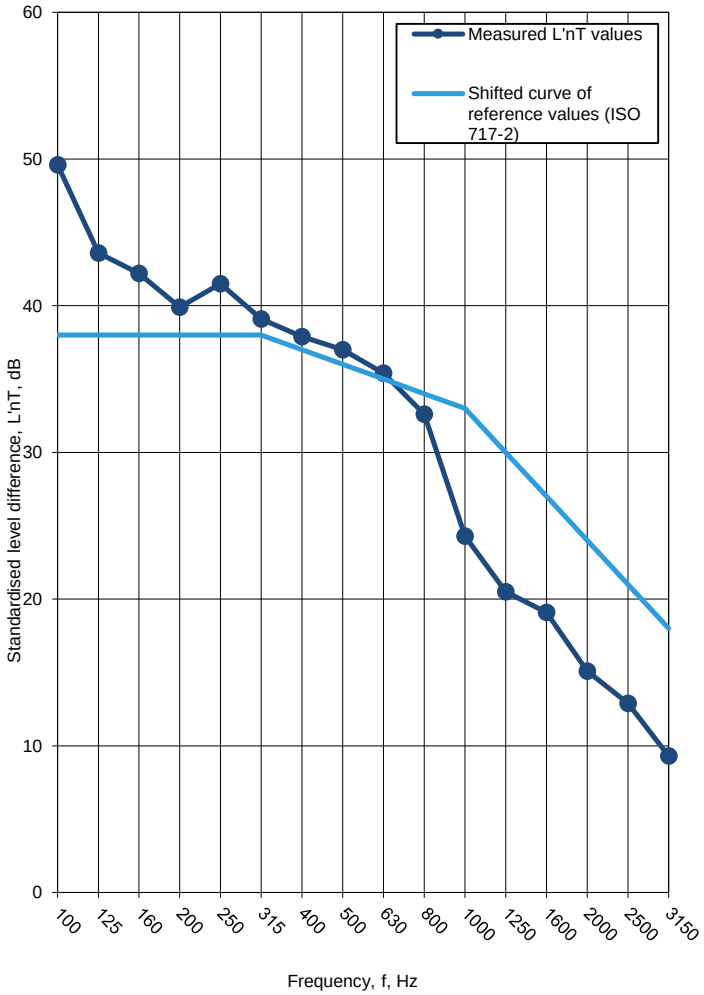
Impact Floor Sound Insulation Test: IF33

Date of test: 28/03/2024

Source Room: 17-03-LKD Approximate Source Room Volume: 64m³

Receive Room: 16-03-LKD Approximate Receive Room Volume: 64m³

Frequency f Hz	L'nT dB
100	50
125	43.6
160	42.2
200	39.9
250	41.5
315	39.1
400	37.9
500	37.0
630	35.4
800	32.6
1000	24.3
1250	≤ 20.5
1600	19.1
2000	≤ 15.1
2500	≤ 12.9
3150	≤ 9.3



Test Result

$L'_{nT,w} = \leq 36$ dB

≤ Results limited due to high background noise levels

Rating according to ISO 717-2:

$L'_{nT,w}$ (C_1) = ≤ 36 (2) dB; $C_{1\ (100\text{-}3150)}$ = 2 dB

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

Certificate Ref: 25173/SIT2/C141

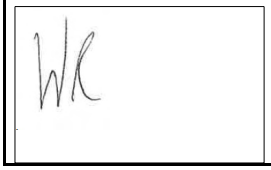
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Will Robertson

Test Engineer No: 80

Test Engineer Signature:



Hann Tucker Associates
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Head Office: Duke House, 1-2 Duke Street, Woking, Surrey GU21 5BA (t) +44 (0) 1483 770 595
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(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

Standardised impact sound pressure levels according to ISO 140-7
Field measurements of impact sound insulation of floors

Project Details

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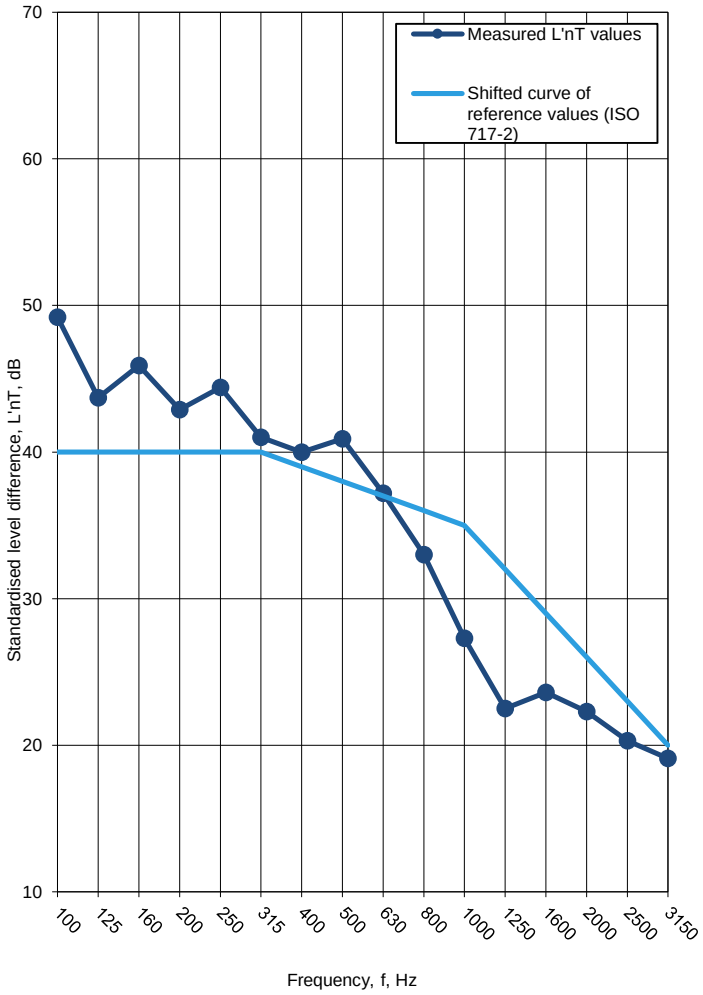
Impact Floor Sound Insulation Test: IF34

Date of test: 28/03/2024

Source Room: 17-03-B Approximate Source Room Volume: 26m³

Receive Room: 16-03-B Approximate Receive Room Volume: 26m³

Frequency f Hz	L'nT dB
100	49
125	43.7
160	45.9
200	42.9
250	44.4
315	41.0
400	40.0
500	40.9
630	37.2
800	33.0
1000	≤ 27.3
1250	≤ 22.5
1600	≤ 23.6
2000	≤ 22.3
2500	20.3
3150	19.1



Test Result

$L'_{nT,w} = \leq 38$ dB

≤ Results limited due to high background noise levels

Rating according to ISO 717-2:

$L'_{nT,w}$ (C_1) = ≤ 38 (1) dB; $C_{1\ (100\text{-}3150)}$ = 1 dB

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

Certificate Ref: 25173/SIT2/C142

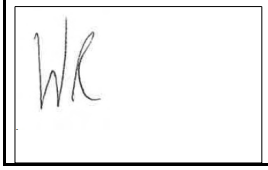
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Will Robertson

Test Engineer No: 80

Test Engineer Signature:



Hann Tucker Associates
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(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

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Project Details

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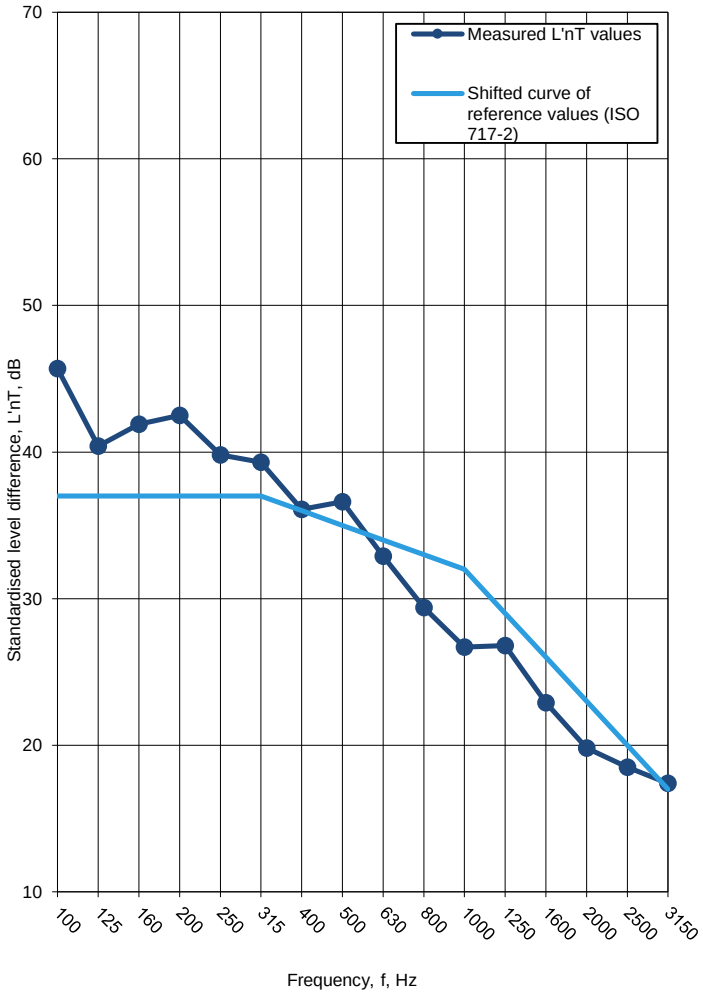
Impact Floor Sound Insulation Test: IF35

Date of test: 28/03/2024

Source Room: 06-03-LKD Approximate Source Room Volume: 64m³

Receive Room: 05-03-LKD Approximate Receive Room Volume: 64m³

Frequency f Hz	L'nT dB
100	≤ 46
125	≤ 40.4
160	≤ 41.9
200	42.5
250	39.8
315	39.3
400	36.1
500	36.6
630	32.9
800	29.4
1000	≤ 26.7
1250	≤ 26.8
1600	≤ 22.9
2000	≤ 19.8
2500	≤ 18.5
3150	≤ 17.4



Test Result

$L'_{nT,w}$ = ≤ 35 dB

≤ Results limited due to high background noise levels

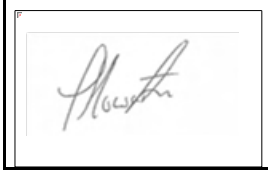
Rating according to ISO 717-2:

$L'_{nT,w}$ (C_1) = ≤ 35 (1) dB; $C_{1\ (100\text{-}3150)}$ = 1 dB

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

Certificate Ref: 25173/SIT2/C143

Test organisation: Hann Tucker Associates
Date of issue: 12/04/2024
Test Engineer: Jake Howarth
Test Engineer No: 64
Test Engineer Signature:



Hann Tucker Associates
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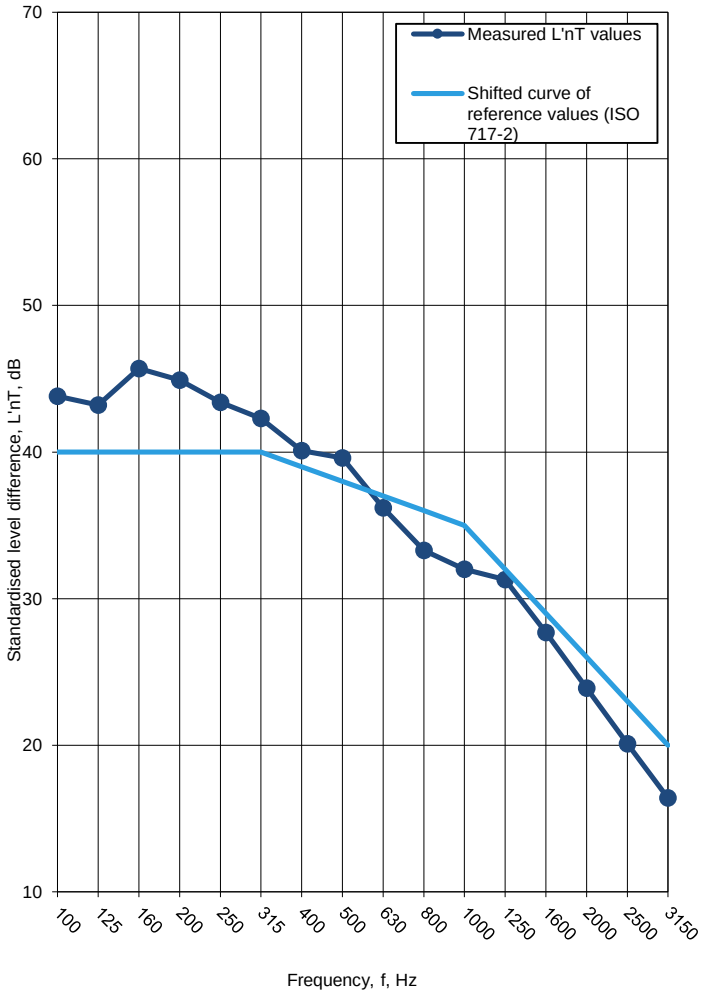
Impact Floor Sound Insulation Test: IF36

Date of test: 28/03/2024

Source Room: 06-03-B Approximate Source Room Volume: 31m³

Receive Room: 05-03-B Approximate Receive Room Volume: 31m³

Frequency f Hz	L'nT dB
100	≤ 44
125	≤ 43.2
160	45.7
200	44.9
250	43.4
315	42.3
400	40.1
500	39.6
630	36.2
800	33.3
1000	≤ 32.0
1250	≤ 31.3
1600	≤ 27.7
2000	≤ 23.9
2500	≤ 20.1
3150	≤ 16.4



Test Result

$L'_{nT,w} = \leq 38$ dB

≤ Results limited due to high background noise levels

Rating according to ISO 717-2:

$L'_{nT,w}$ (C_1) = ≤ 38 (0) dB; $C_{1\ (100\text{-}3150)}$ = 0 dB

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

Certificate Ref: 25173/SIT2/C144

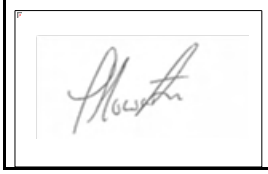
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Jake Howarth

Test Engineer No: 64

Test Engineer Signature:



Hann Tucker Associates
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Head Office: Duke House, 1-2 Duke Street, Woking, Surrey GU21 5BA (t) +44 (0) 1483 770 595
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(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

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Field measurements of impact sound insulation of floors

Project Details

Development: Swan House, Manchester Client: RG Group Report Ref: 25173/SIT2

UKAS TESTING
4083

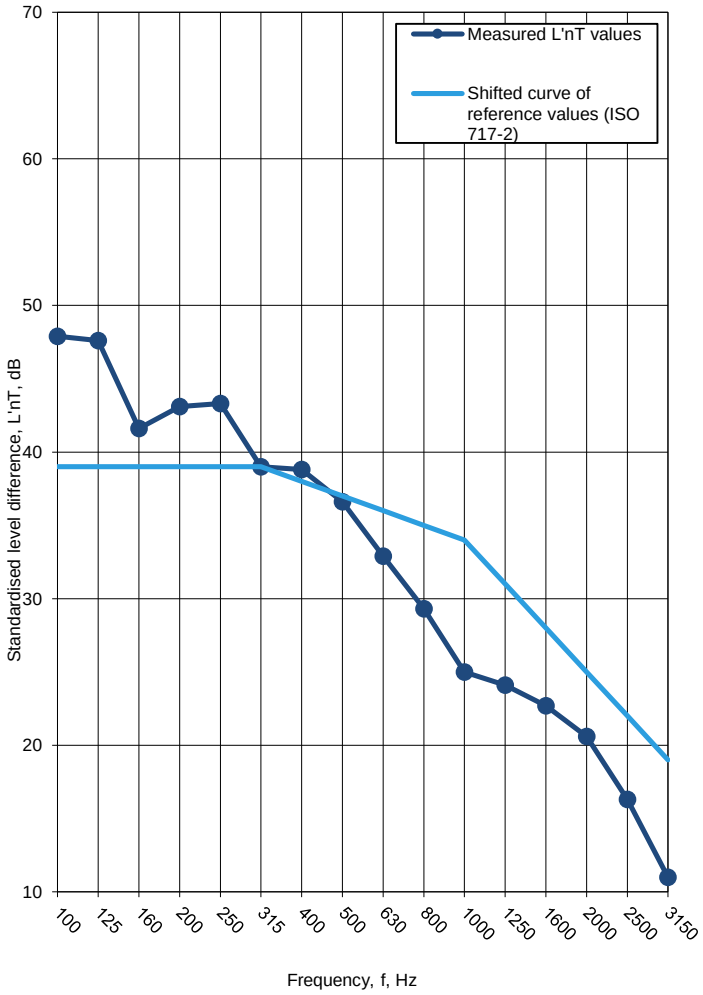
Impact Floor Sound Insulation Test: IF37

Date of test: 28/03/2024

Source Room: 05-01-LKD Approximate Source Room Volume: 61m³

Receive Room: 04-01-LKD Approximate Receive Room Volume: 61m³

Frequency f Hz	L'nT dB
100	48
125	47.6
160	41.6
200	43.1
250	43.3
315	39.0
400	38.8
500	36.6
630	32.9
800	29.3
1000	25.0
1250	24.1
1600	22.7
2000	20.6
2500	16.3
3150	≤ 11.0



Test Result

$L'_{nT,w} = \leq 37$ dB

≤ Results limited due to high background noise levels

Rating according to ISO 717-2:

$L'_{nT,w}$ (C_1) = ≤ 37 (1) dB; $C_{1\ (100\text{-}3150)}$ = 1 dB

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

Certificate Ref: 25173/SIT2/C145

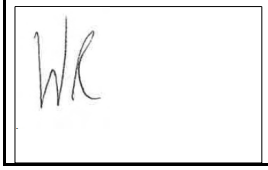
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Will Robertson

Test Engineer No: 80

Test Engineer Signature:



Hann Tucker Associates
Consultants in Acoustics Noise & Vibration
Head Office: Duke House, 1-2 Duke Street, Woking, Surrey GU21 5BA (t) +44 (0) 1483 770 595
Manchester Office: First Floor, 346 Deansgate, Manchester M3 4LY (t) +44 (0) 161 832 7041
(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

Standardised impact sound pressure levels according to ISO 140-7
Field measurements of impact sound insulation of floors

Project Details

Development: Swan House, Manchester Client: RG Group Report Ref: 25173/SIT2

UKAS TESTING
4083

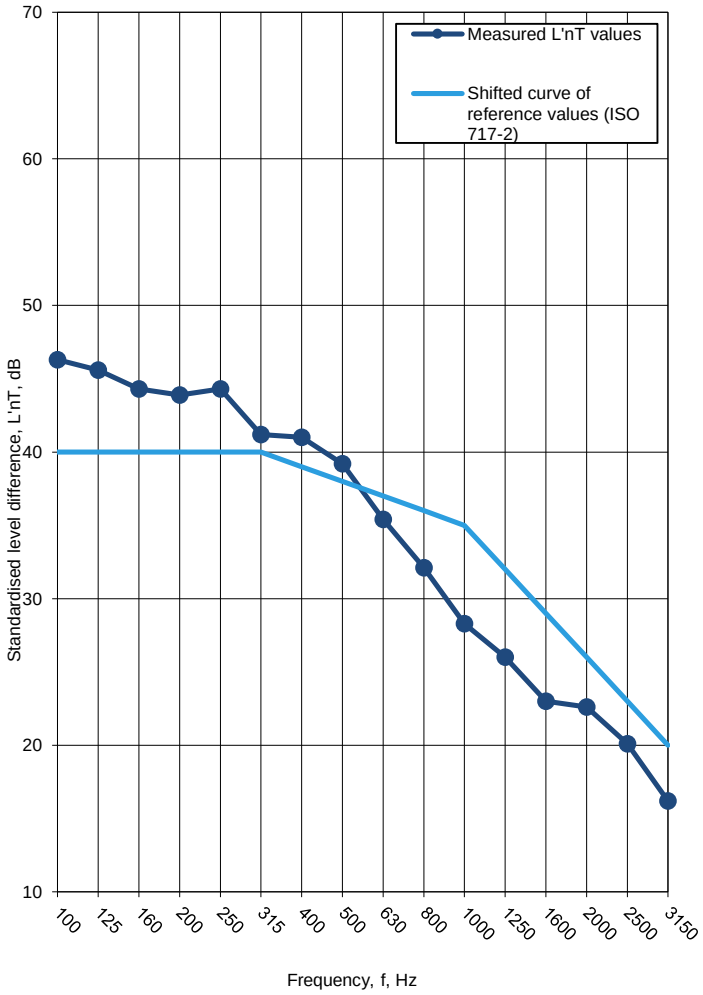
Impact Floor Sound Insulation Test: IF38

Date of test: 28/03/2024

Source Room: 05-01-B Approximate Source Room Volume: 27m³

Receive Room: 04-01-B Approximate Receive Room Volume: 27m³

Frequency f Hz	L'nT dB
100	46
125	45.6
160	44.3
200	43.9
250	44.3
315	41.2
400	41.0
500	39.2
630	35.4
800	32.1
1000	≤ 28.3
1250	26.0
1600	23.0
2000	22.6
2500	20.1
3150	16.2



Test Result

$L'_{nT,w} = \leq 38$ dB

≤ Results limited due to high background noise levels

Rating according to ISO 717-2:

$L'_{nT,w}$ (C_1) = ≤ 38 (0) dB; $C_{1\ (100\text{-}3150)}$ = 0 dB

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

Certificate Ref: 25173/SIT2/C146

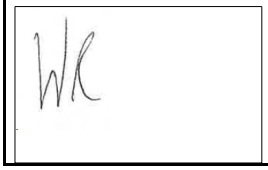
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Will Robertson

Test Engineer No: 80

Test Engineer Signature:



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Head Office: Duke House, 1-2 Duke Street, Woking, Surrey GU21 5BA (t) +44 (0) 1483 770 595
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(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

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Project Details

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4083

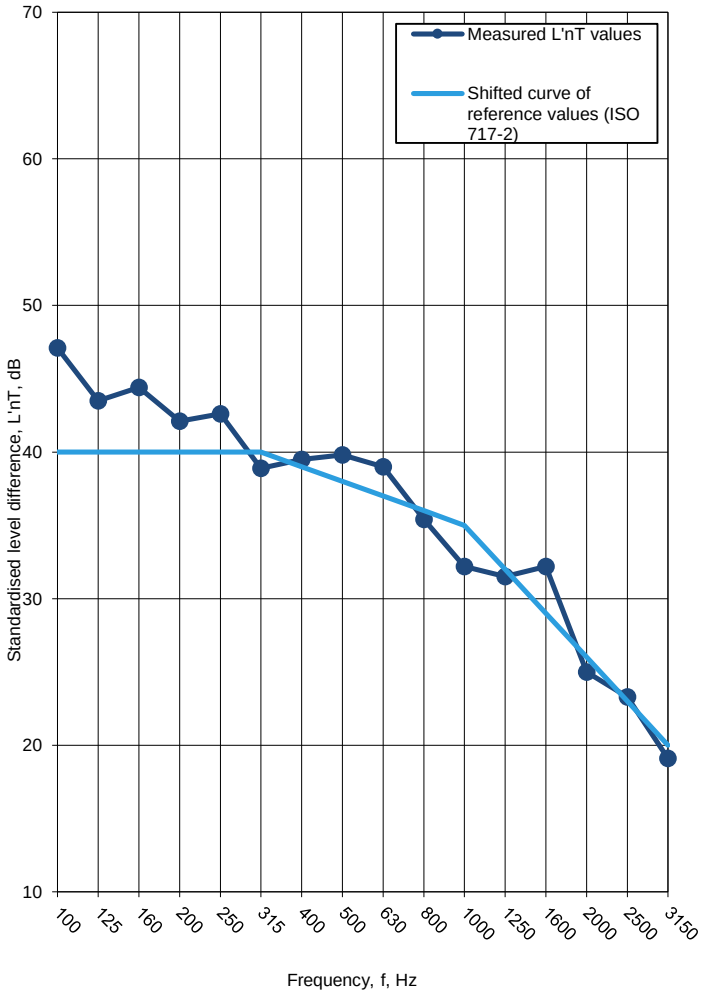
Impact Floor Sound Insulation Test: IF39

Date of test: 28/03/2024

Source Room: 04-06-LKD Approximate Source Room Volume: 56m³

Receive Room: 03-06-LKD Approximate Receive Room Volume: 56m³

Frequency f Hz	L'nT dB
100	47
125	43.5
160	44.4
200	42.1
250	42.6
315	38.9
400	39.5
500	39.8
630	39.0
800	35.4
1000	32.2
1250	31.5
1600	32.2
2000	≤ 25.0
2500	≤ 23.3
3150	≤ 19.1



Test Result

$L'_{nT,w} = \leq 38$ dB

≤ Results limited due to high background noise levels

Rating according to ISO 717-2:

$L'_{nT,w}$ (C_1) = ≤ 38 (0) dB; $C_{1\ (100\text{-}3150)}$ = 0 dB

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

Certificate Ref: 25173/SIT2/C147

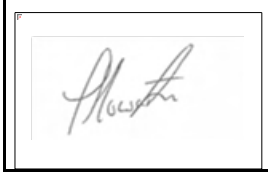
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Jake Howarth

Test Engineer No: 64

Test Engineer Signature:



Hann Tucker Associates
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(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

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Field measurements of impact sound insulation of floors

Project Details

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UKAS TESTING
4083

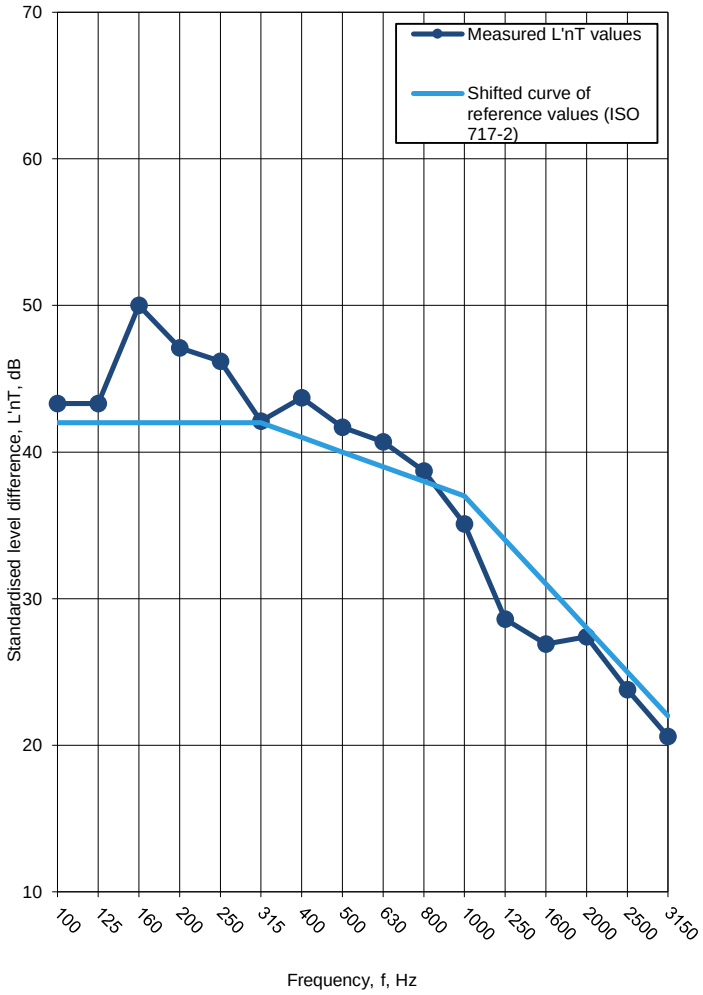
Impact Floor Sound Insulation Test: IF40

Date of test: 28/03/2024

Source Room: 04-06-B Approximate Source Room Volume: 26m³

Receive Room: 03-06-B Approximate Receive Room Volume: 26m³

Frequency f Hz	L'nT dB
100	≤ 43
125	43.3
160	50.0
200	47.1
250	46.2
315	42.1
400	43.7
500	41.7
630	40.7
800	38.7
1000	35.1
1250	28.6
1600	26.9
2000	≤ 27.4
2500	≤ 23.8
3150	≤ 20.6



Test Result

$L'_{nT,w}$ = ≤ 40 dB

≤ Results limited due to high background noise levels

Rating according to ISO 717-2:

$L'_{nT,w}$ (C_1) = ≤ 40 (0) dB; $C_{1\ (100\text{-}3150)}$ = 0 dB

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

Certificate Ref: 25173/SIT2/C148

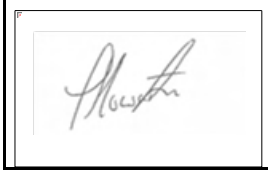
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Jake Howarth

Test Engineer No: 64

Test Engineer Signature:



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(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

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4083

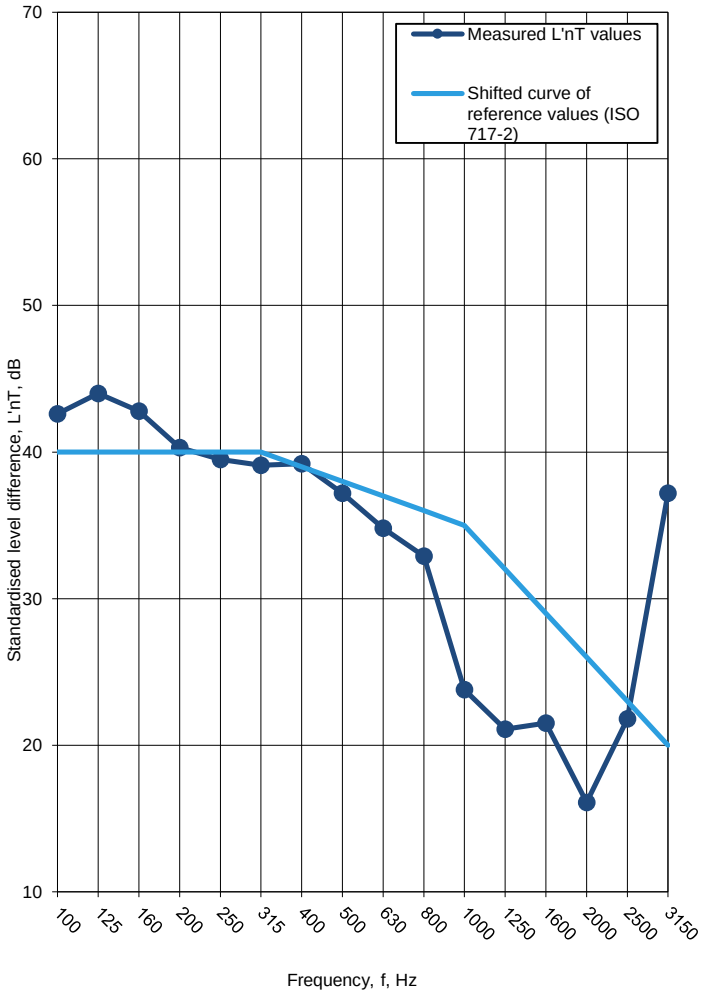
Impact Floor Sound Insulation Test: IF41

Date of test: 28/03/2024

Source Room: 04-13-LKD Approximate Source Room Volume: 45m³

Receive Room: 03-13-LKD Approximate Receive Room Volume: 45m³

Frequency f Hz	L'nT dB
100	43
125	44.0
160	42.8
200	≤ 40.3
250	39.5
315	39.1
400	39.2
500	37.2
630	34.8
800	32.9
1000	≤ 23.8
1250	≤ 21.1
1600	≤ 21.5
2000	≤ 16.1
2500	21.8
3150	37.2



Test Result

$L'_{nT,w} = \leq 38$ dB

≤ Results limited due to high background noise levels

Rating according to ISO 717-2:

$L'_{nT,w}$ (C_1) = ≤ 38 (-2) dB; $C_{1\ (100\text{-}3150)}$ = -2 dB

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

Certificate Ref: 25173/SIT2/C149

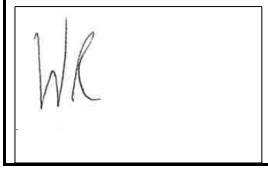
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Will Robertson

Test Engineer No: 80

Test Engineer Signature:



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Consultants in Acoustics Noise & Vibration
Head Office: Duke House, 1-2 Duke Street, Woking, Surrey GU21 5BA (t) +44 (0) 1483 770 595
Manchester Office: First Floor, 346 Deansgate, Manchester M3 4LY (t) +44 (0) 161 832 7041
(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

Standardised impact sound pressure levels according to ISO 140-7
Field measurements of impact sound insulation of floors

Project Details

Development: Swan House, Manchester Client: RG Group Report Ref: 25173/SIT2

UKAS TESTING
4083

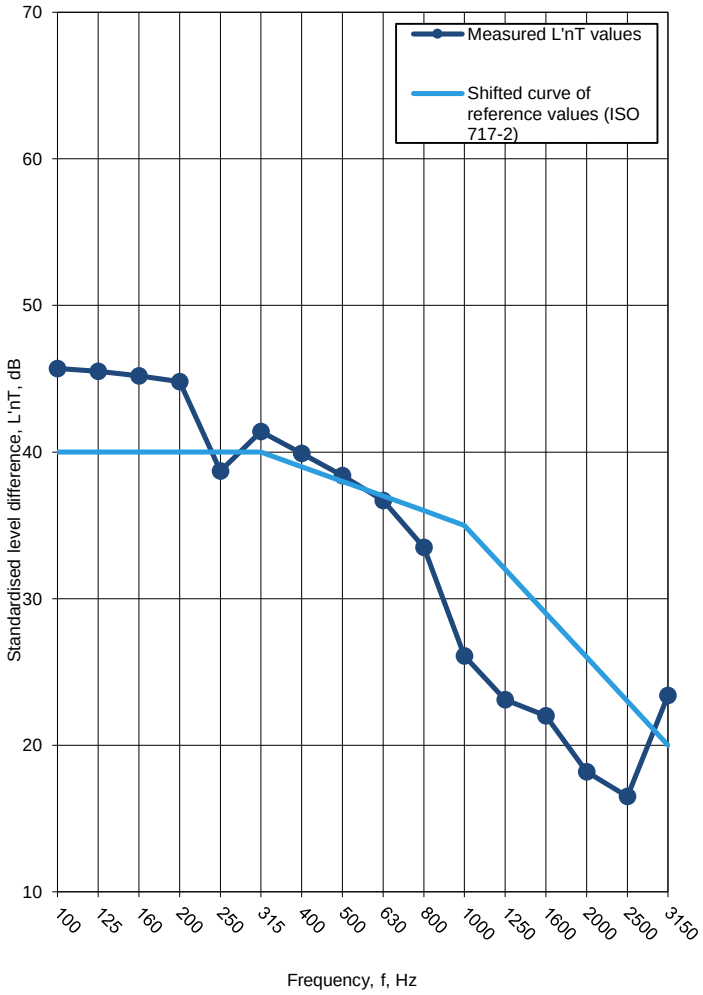
Impact Floor Sound Insulation Test: IF42

Date of test: 28/03/2024

Source Room: 04-13-B Approximate Source Room Volume: 27m³

Receive Room: 03-13-B Approximate Receive Room Volume: 27m³

Frequency f Hz	L'nT dB
100	46
125	45.5
160	45.2
200	44.8
250	38.7
315	41.4
400	39.9
500	38.4
630	36.7
800	33.5
1000	26.1
1250	≤ 23.1
1600	≤ 22.0
2000	≤ 18.2
2500	≤ 16.5
3150	≤ 23.4



Test Result

$L'_{nT,w} = \leq 38$ dB

≤ Results limited due to high background noise levels

Rating according to ISO 717-2:

$L'_{nT,w}$ (C_1) = ≤ 38 (0) dB; $C_{1\ (100\text{-}3150)}$ = 0 dB

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

Certificate Ref: 25173/SIT2/C150

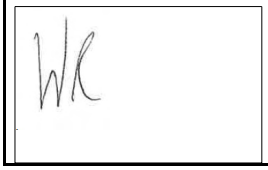
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Will Robertson

Test Engineer No: 80

Test Engineer Signature:



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Head Office: Duke House, 1-2 Duke Street, Woking, Surrey GU21 5BA (t) +44 (0) 1483 770 595
Manchester Office: First Floor, 346 Deansgate, Manchester M3 4LY (t) +44 (0) 161 832 7041
(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

Standardised impact sound pressure levels according to ISO 140-7
Field measurements of impact sound insulation of floors

Project Details

Development: Swan House, Manchester Client: RG Group Report Ref: 25173/SIT2

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4083

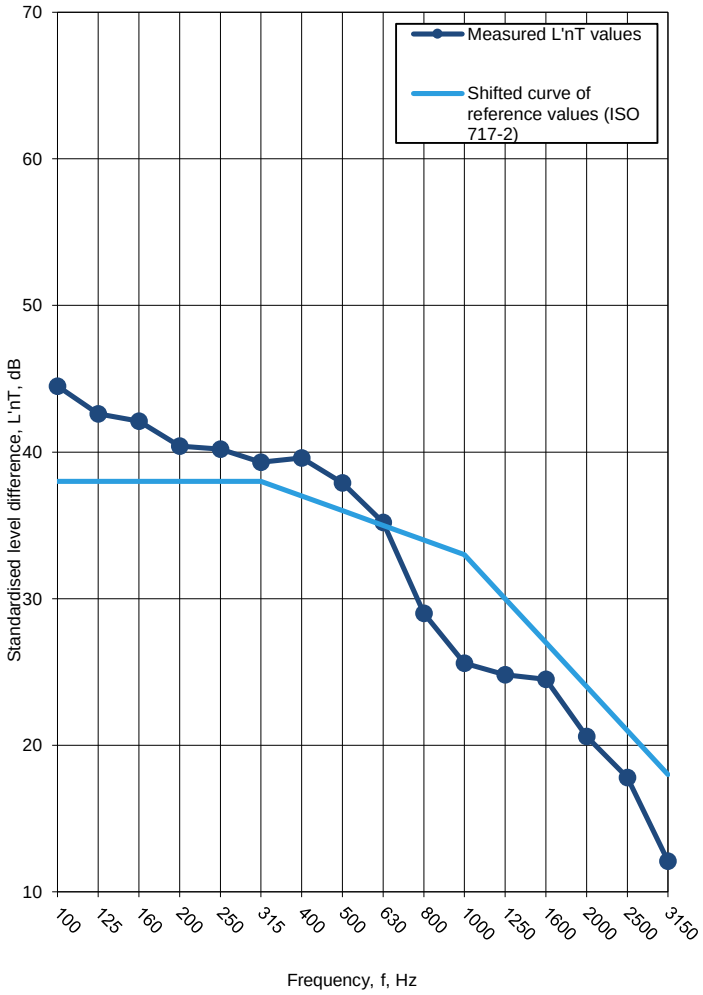
Impact Floor Sound Insulation Test: IF43

Date of test: 28/03/2024

Source Room: 03-05-LKD Approximate Source Room Volume: 64m³

Receive Room: 02-05-LKD Approximate Receive Room Volume: 64m³

Frequency f Hz	L'nT dB
100	45
125	42.6
160	42.1
200	40.4
250	40.2
315	39.3
400	39.6
500	37.9
630	35.2
800	29.0
1000	≤ 25.6
1250	≤ 24.8
1600	24.5
2000	20.6
2500	≤ 17.8
3150	≤ 12.1



Test Result

$L'_{nT,w} = \leq 36$ dB

≤ Results limited due to high background noise levels

Rating according to ISO 717-2:

$L'_{nT,w}$ (C_1) = ≤ 36 (0) dB; $C_{1\ (100\text{-}3150)}$ = 0 dB

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

Certificate Ref: 25173/SIT2/C151

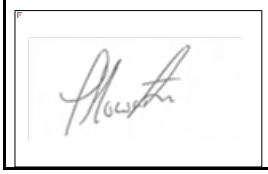
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Jake Howarth

Test Engineer No: 64

Test Engineer Signature:



Hann Tucker Associates
Consultants in Acoustics Noise & Vibration
Head Office: Duke House, 1-2 Duke Street, Woking, Surrey GU21 5BA (t) +44 (0) 1483 770 595
Manchester Office: First Floor, 346 Deansgate, Manchester M3 4LY (t) +44 (0) 161 832 7041
(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

Standardised impact sound pressure levels according to ISO 140-7
Field measurements of impact sound insulation of floors

Project Details

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UKAS TESTING
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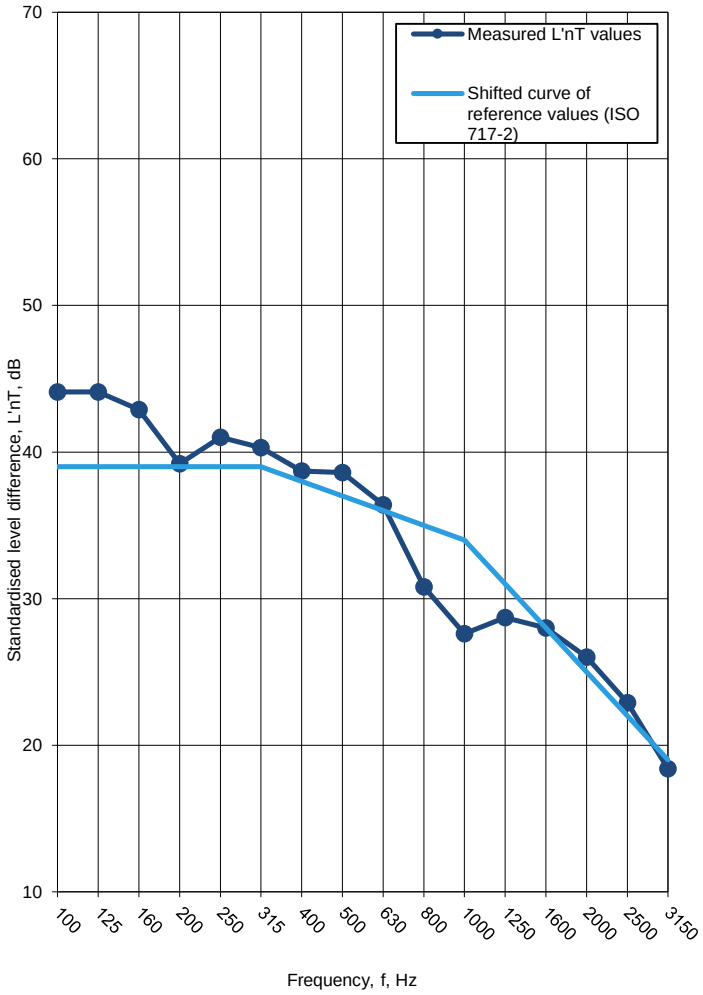
Impact Floor Sound Insulation Test: IF44

Date of test: 28/03/2024

Source Room: 03-05-B Approximate Source Room Volume: 26m³

Receive Room: 02-05-B Approximate Receive Room Volume: 26m³

Frequency f Hz	L'nT dB
100	44
125	44.1
160	42.9
200	39.2
250	41.0
315	40.3
400	38.7
500	38.6
630	36.4
800	30.8
1000	27.6
1250	28.7
1600	28.0
2000	26.0
2500	22.9
3150	18.4



Test Result

$L'_{nT,w} = \leq 37$ dB

Rating according to ISO 717-2:

$L'_{nT,w}$ (C_1) = ≤ 37 (-1) dB; $C_{1\ (100\text{-}3150)}$ = -1 dB

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

Certificate Ref: 25173/SIT2/C152

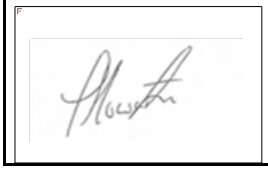
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Jake Howarth

Test Engineer No: 64

Test Engineer Signature:



Hann Tucker Associates
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Standardised impact sound pressure levels according to ISO 140-7
Field measurements of impact sound insulation of floors

Project Details

Development: Swan House, Manchester Client: RG Group Report Ref: 25173/SIT2

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4083

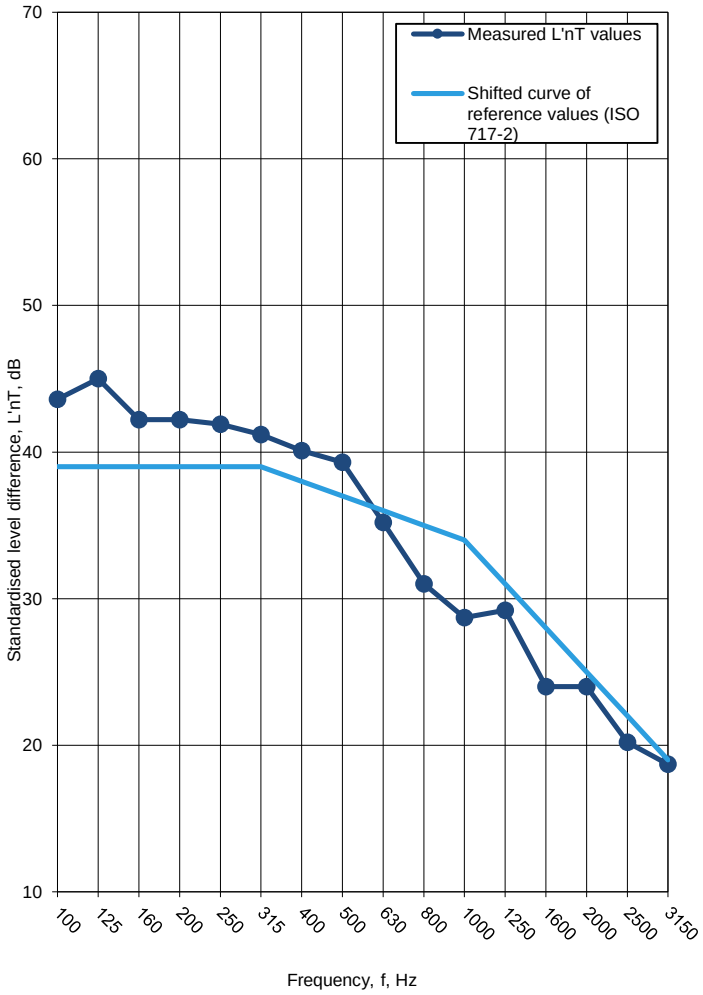
Impact Floor Sound Insulation Test: IF45

Date of test: 28/03/2024

Source Room: 03-11-LKD Approximate Source Room Volume: 45m³

Receive Room: 02-11-LKD Approximate Receive Room Volume: 45m³

Frequency f Hz	L'nT dB
100	44
125	45.0
160	42.2
200	42.2
250	41.9
315	41.2
400	40.1
500	39.3
630	35.2
800	31.0
1000	28.7
1250	29.2
1600	24.0
2000	24.0
2500	20.2
3150	≤ 18.7



Test Result

$L'_{nT,w} = \leq 37$ dB

≤ Results limited due to high background noise levels

Rating according to ISO 717-2:

$L'_{nT,w}$ (C_1) = ≤ 37 (0) dB; $C_{1\ (100\text{-}3150)}$ = 0 dB

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

Certificate Ref: 25173/SIT2/C153

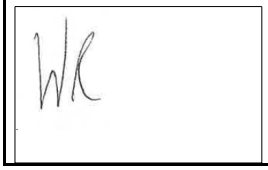
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Will Robertson

Test Engineer No: 80

Test Engineer Signature:



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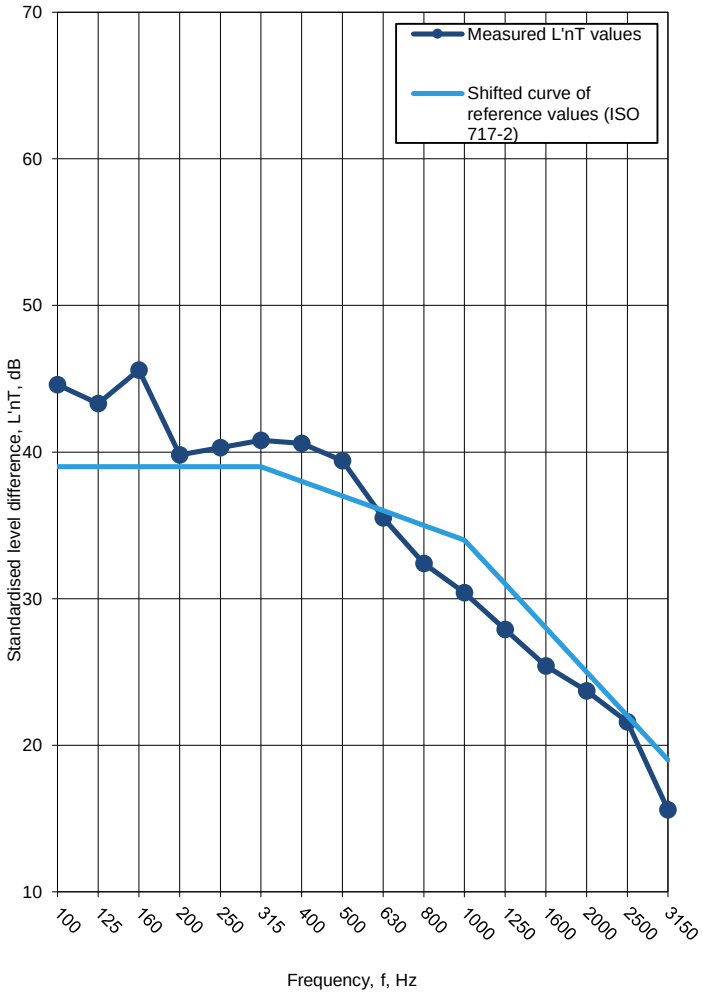
Impact Floor Sound Insulation Test: IF46

Date of test: 28/03/2024

Source Room: 03-11-B Approximate Source Room Volume: 26m³

Receive Room: 02-11-B Approximate Receive Room Volume: 26m³

Frequency f Hz	L'nT dB
100	45
125	43.3
160	45.6
200	39.8
250	40.3
315	40.8
400	40.6
500	39.4
630	35.5
800	32.4
1000	30.4
1250	27.9
1600	25.4
2000	23.7
2500	21.6
3150	15.6



Test Result

$L'_{nT,w} = \leq 37$ dB

Rating according to ISO 717-2:

$L'_{nT,w}$ (C_1) = ≤ 37 (0) dB; $C_{1\ (100\text{-}3150)}$ = 0 dB

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

Certificate Ref: 25173/SIT2/C154

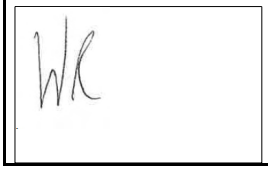
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Will Robertson

Test Engineer No: 80

Test Engineer Signature:



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Project Details

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UKAS TESTING
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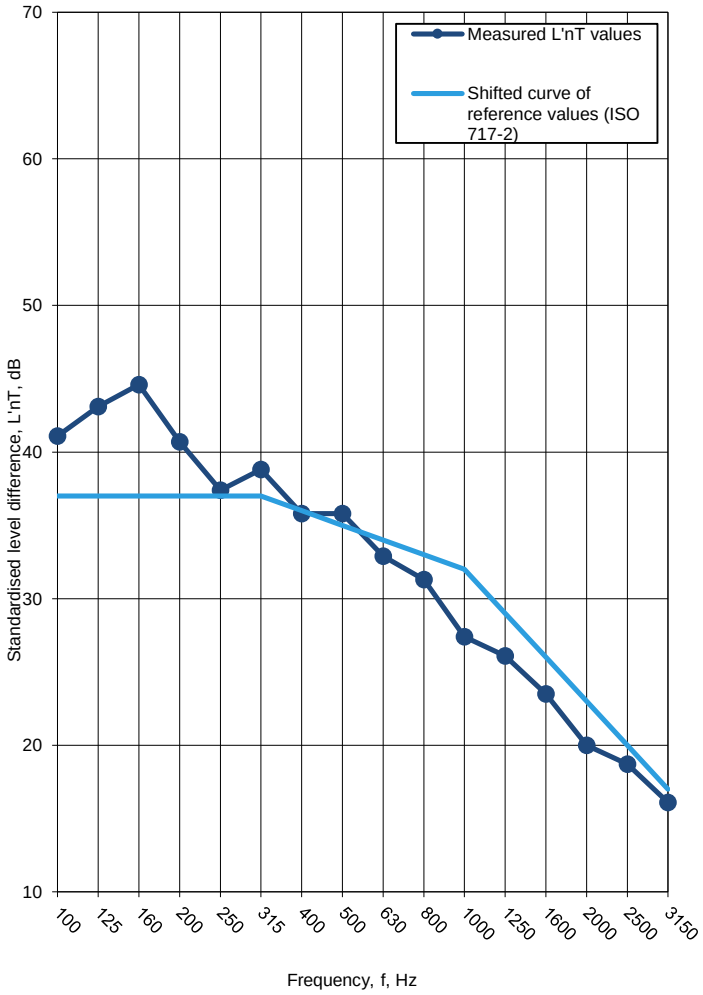
Impact Floor Sound Insulation Test: IF47

Date of test: 28/03/2024

Source Room: 02-10-LKD Approximate Source Room Volume: 45m³

Receive Room: 01-08-LKD Approximate Receive Room Volume: 45m³

Frequency f Hz	L'nT dB
100	41
125	43.1
160	44.6
200	40.7
250	37.4
315	38.8
400	35.8
500	35.8
630	32.9
800	31.3
1000	27.4
1250	26.1
1600	23.5
2000	≤ 20.0
2500	≤ 18.7
3150	≤ 16.1



Test Result

$L'_{nT,w} = \leq 35$ dB

≤ Results limited due to high background noise levels

Rating according to ISO 717-2:

$L'_{nT,w}$ (C_1) = ≤ 35 (0) dB; $C_{1\ (100\text{-}3150)}$ = 0 dB

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

Certificate Ref: 25173/SIT2/C155

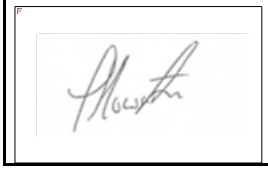
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Jake Howarth

Test Engineer No: 64

Test Engineer Signature:



Hann Tucker Associates
Consultants in Acoustics Noise & Vibration
Head Office: Duke House, 1-2 Duke Street, Woking, Surrey GU21 5BA (t) +44 (0) 1483 770 595
Manchester Office: First Floor, 346 Deansgate, Manchester M3 4LY (t) +44 (0) 161 832 7041
(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

Standardised impact sound pressure levels according to ISO 140-7
Field measurements of impact sound insulation of floors

Project Details

Development: Swan House, Manchester Client: RG Group Report Ref: 25173/SIT2

UKAS TESTING
4083

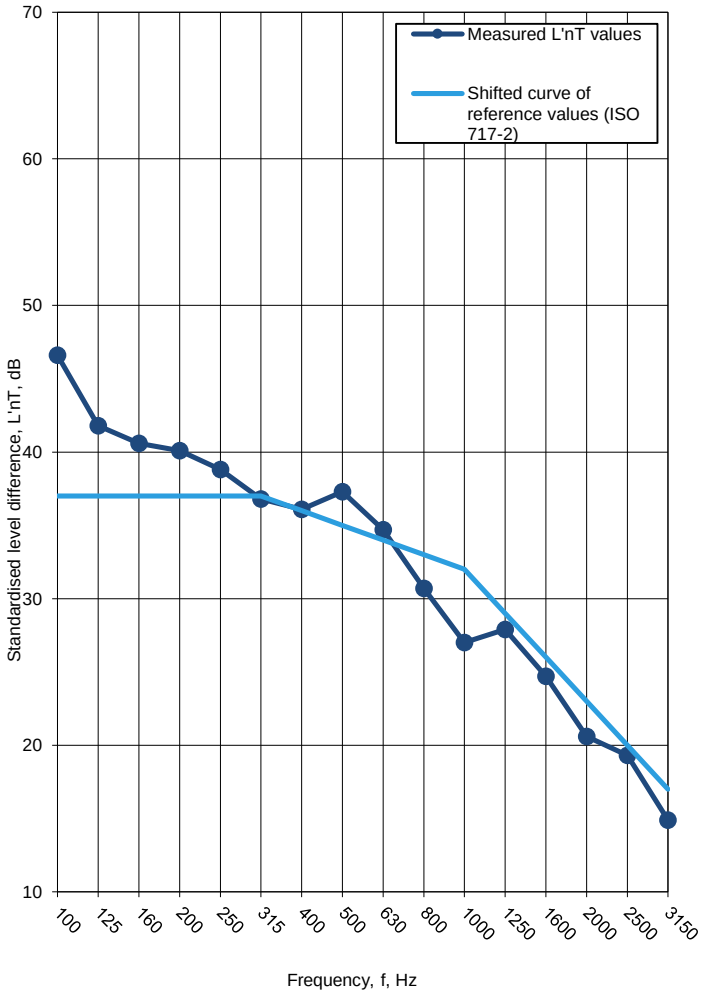
Impact Floor Sound Insulation Test: IF48

Date of test: 28/03/2024

Source Room: 02-10-B Approximate Source Room Volume: 26m³

Receive Room: 01-08-B Approximate Receive Room Volume: 26m³

Frequency f Hz	L'nT dB
100	47
125	41.8
160	40.6
200	40.1
250	38.8
315	36.8
400	36.1
500	37.3
630	34.7
800	30.7
1000	27.0
1250	27.9
1600	24.7
2000	≤ 20.6
2500	≤ 19.3
3150	≤ 14.9



Test Result

$L'_{nT,w} = \leq 35$ dB

≤ Results limited due to high background noise levels

Rating according to ISO 717-2:

$L'_{nT,w}$ (C_1) = ≤ 35 (0) dB; $C_{1\ (100\text{-}3150)}$ = 0 dB

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

Certificate Ref: 25173/SIT2/C156

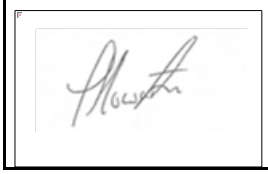
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Jake Howarth

Test Engineer No: 64

Test Engineer Signature:



Hann Tucker Associates
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Field measurements of impact sound insulation of floors

Project Details

Development: Swan House, Manchester Client: RG Group Report Ref: 25173/SIT2

UKAS TESTING
4083

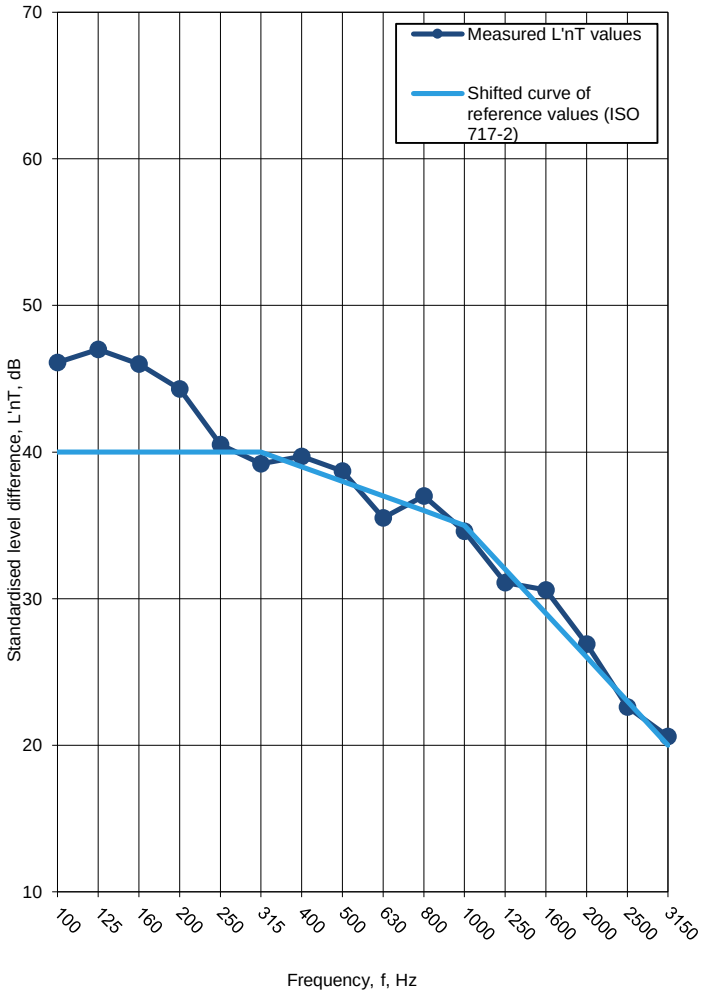
Impact Floor Sound Insulation Test: IF49

Date of test: 28/03/2024

Source Room: 02-09-LKD Approximate Source Room Volume: 64m³

Receive Room: 01-07-LKD Approximate Receive Room Volume: 64m³

Frequency f Hz	L'nT dB
100	46
125	47.0
160	46.0
200	44.3
250	40.5
315	39.2
400	39.7
500	38.7
630	35.5
800	≤ 37.0
1000	≤ 34.6
1250	≤ 31.1
1600	≤ 30.6
2000	≤ 26.9
2500	≤ 22.6
3150	≤ 20.6



Test Result

$L'_{nT,w} = \leq 38$ dB

≤ Results limited due to high background noise levels

Rating according to ISO 717-2:

$L'_{nT,w}$ (C_1) = ≤ 38 (0) dB; $C_{1\ (100\text{-}3150)}$ = 0 dB

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

Certificate Ref: 25173/SIT2/C157

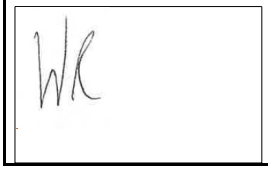
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Will Robertson

Test Engineer No: 80

Test Engineer Signature:



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Field measurements of impact sound insulation of floors

Project Details

Development: Swan House, Manchester Client: RG Group Report Ref: 25173/SIT2

UKAS TESTING
4083

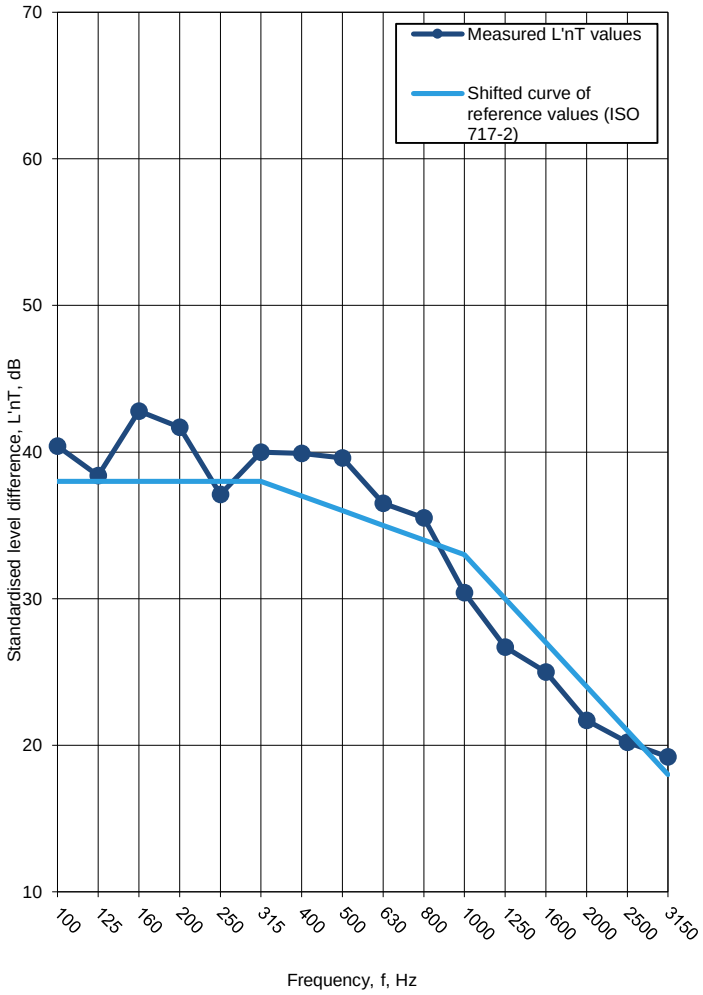
Impact Floor Sound Insulation Test: IF50

Date of test: 28/03/2024

Source Room: 02-09-B Approximate Source Room Volume: 26m³

Receive Room: 01-07-B Approximate Receive Room Volume: 26m³

Frequency f Hz	L'nT dB
100	≤ 40
125	≤ 38.4
160	42.8
200	41.7
250	37.1
315	40.0
400	39.9
500	39.6
630	36.5
800	35.5
1000	30.4
1250	26.7
1600	≤ 25.0
2000	≤ 21.7
2500	≤ 20.2
3150	≤ 19.2



Test Result

$L'_{nT,w} = \leq 36$ dB

≤ Results limited due to high background noise levels

Rating according to ISO 717-2:

$L'_{nT,w}$ (C_1) = ≤ 36 (-1) dB; $C_{1\ (100\text{-}3150)}$ = -1 dB

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

Certificate Ref: 25173/SIT2/C158

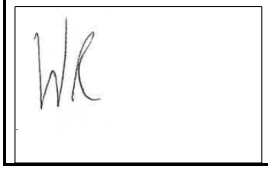
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Will Robertson

Test Engineer No: 80

Test Engineer Signature:



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Project Details

Development: Swan House, Manchester Client: RG Group Report Ref: 25173/SIT2

UKAS TESTING
4083

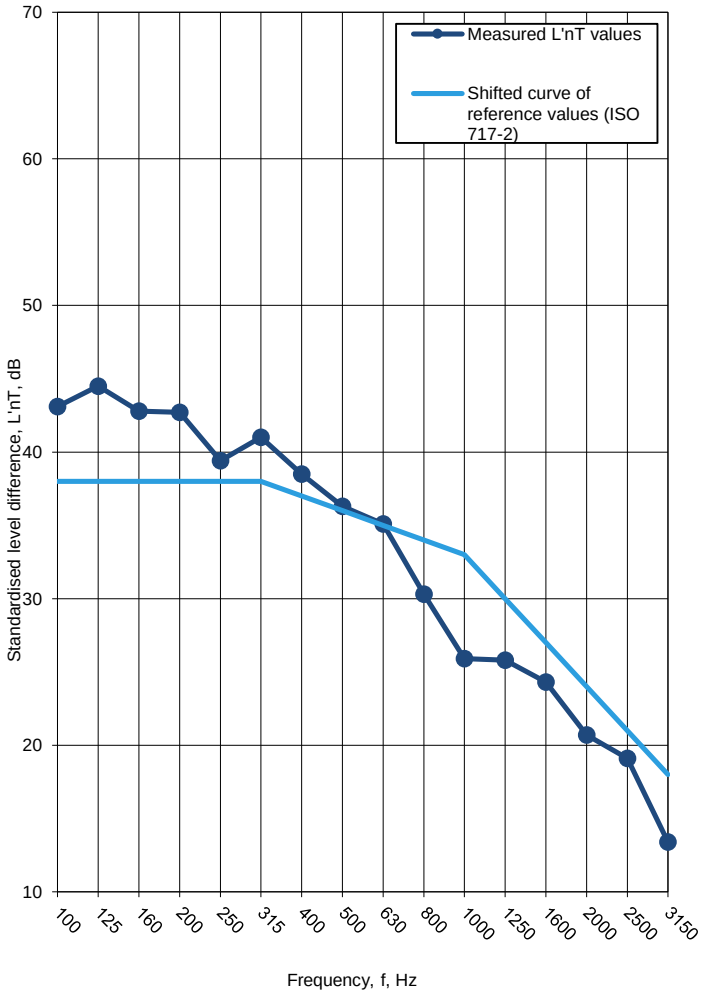
Impact Floor Sound Insulation Test: IF51

Date of test: 30/03/2024

Source Room: 04-15-LKD Approximate Source Room Volume: 50m³

Receive Room: 03-15-LKD Approximate Receive Room Volume: 50m³

Frequency f Hz	L'nT dB
100	43
125	44.5
160	42.8
200	42.7
250	39.4
315	41.0
400	38.5
500	36.3
630	35.1
800	30.3
1000	25.9
1250	25.8
1600	24.3
2000	20.7
2500	19.1
3150	≤ 13.4



Test Result

$L'_{nT,w} = \leq 36$ dB

≤ Results limited due to high background noise levels

Rating according to ISO 717-2:

$L'_{nT,w}$ (C_1) = ≤ 36 (0) dB; $C_{1\ (100\text{-}3150)}$ = 0 dB

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

Certificate Ref: 25173/SIT2/C159

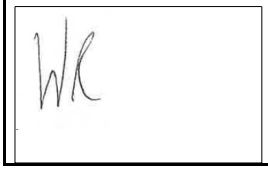
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Will Robertson

Test Engineer No: 80

Test Engineer Signature:



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(w) hanntucker.co.uk (e) enquiries@hanntucker.co.uk

Standardised impact sound pressure levels according to ISO 140-7
Field measurements of impact sound insulation of floors

Project Details

Development: Swan House, Manchester Client: RG Group Report Ref: 25173/SIT2

UKAS TESTING
4083

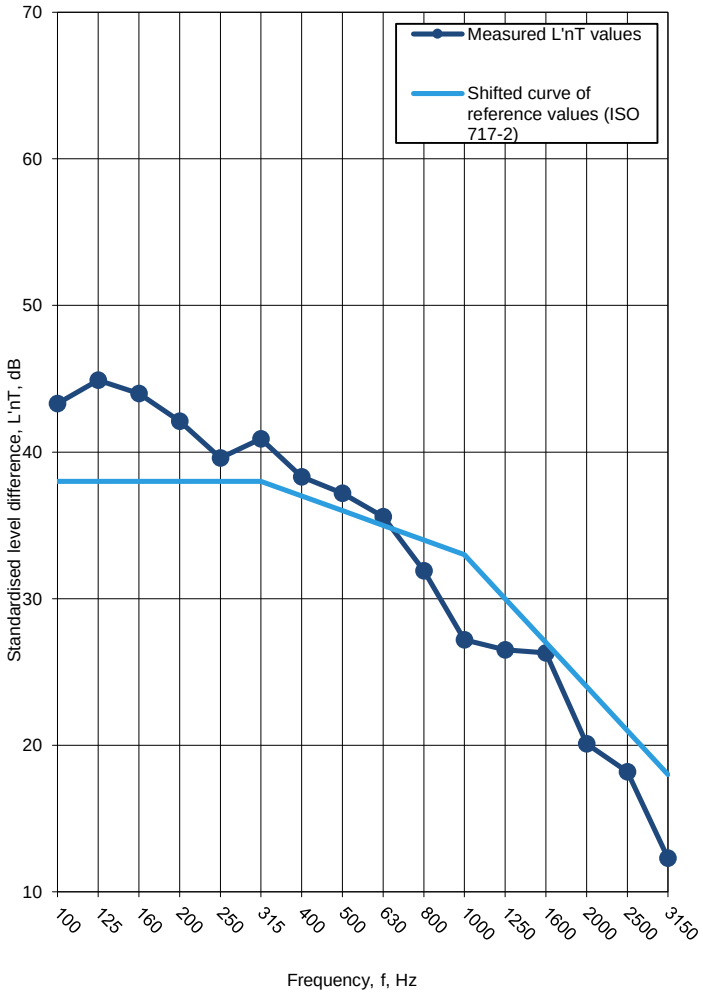
Impact Floor Sound Insulation Test: IF52

Date of test: 30/03/2024

Source Room: 04-15-B Approximate Source Room Volume: 29m³

Receive Room: 03-15-B Approximate Receive Room Volume: 29m³

Frequency f Hz	L'nT dB
100	43
125	44.9
160	44.0
200	42.1
250	39.6
315	40.9
400	38.3
500	37.2
630	35.6
800	31.9
1000	27.2
1250	26.5
1600	26.3
2000	20.1
2500	≤ 18.2
3150	12.3



Test Result

$L'_{nT,w} = \leq 36$ dB

≤ Results limited due to high background noise levels

Rating according to ISO 717-2:

$L'_{nT,w}$ (C_1) = ≤ 36 (0) dB; $C_{1\ (100\text{-}3150)}$ = 0 dB

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

Certificate Ref: 25173/SIT2/C160

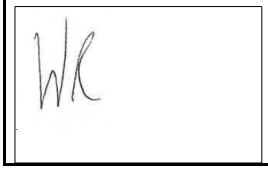
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Will Robertson

Test Engineer No: 80

Test Engineer Signature:



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Project Details

Development: Swan House, Manchester Client: RG Group Report Ref: 25173/SIT2

UKAS TESTING
4083

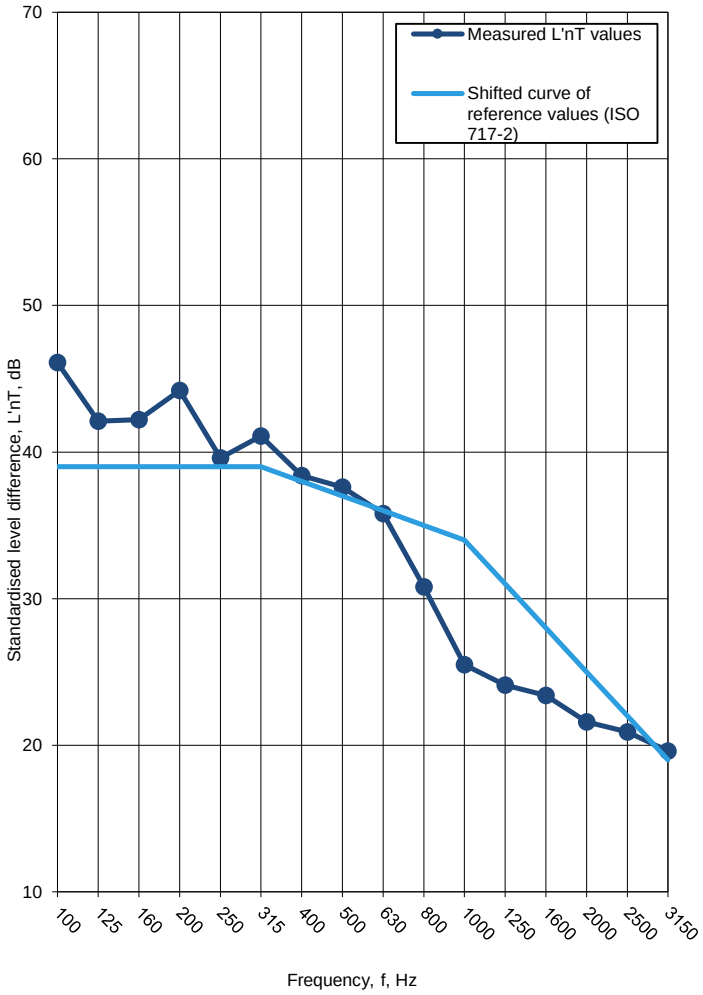
Impact Floor Sound Insulation Test: IF53

Date of test: 30/03/2024

Source Room: 04-18-LKD Approximate Source Room Volume: 91m³

Receive Room: 03-18-LKD Approximate Receive Room Volume: 91m³

Frequency f Hz	L'nT dB
100	46
125	42.1
160	42.2
200	44.2
250	39.6
315	41.1
400	38.4
500	37.6
630	35.8
800	30.8
1000	≤ 25.5
1250	≤ 24.1
1600	≤ 23.4
2000	≤ 21.6
2500	≤ 20.9
3150	19.6



Test Result

$L'_{nT,w} = \leq 37$ dB

≤ Results limited due to high background noise levels

Rating according to ISO 717-2:

$L'_{nT,w}$ (C_1) = ≤ 37 (-1) dB; $C_{1\ (100\text{-}3150)}$ = -1 dB

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

Certificate Ref: 25173/SIT2/C161

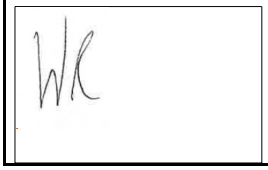
Test organisation: Hann Tucker Associates

Date of issue: 12/04/2024

Test Engineer: Will Robertson

Test Engineer No: 80

Test Engineer Signature:



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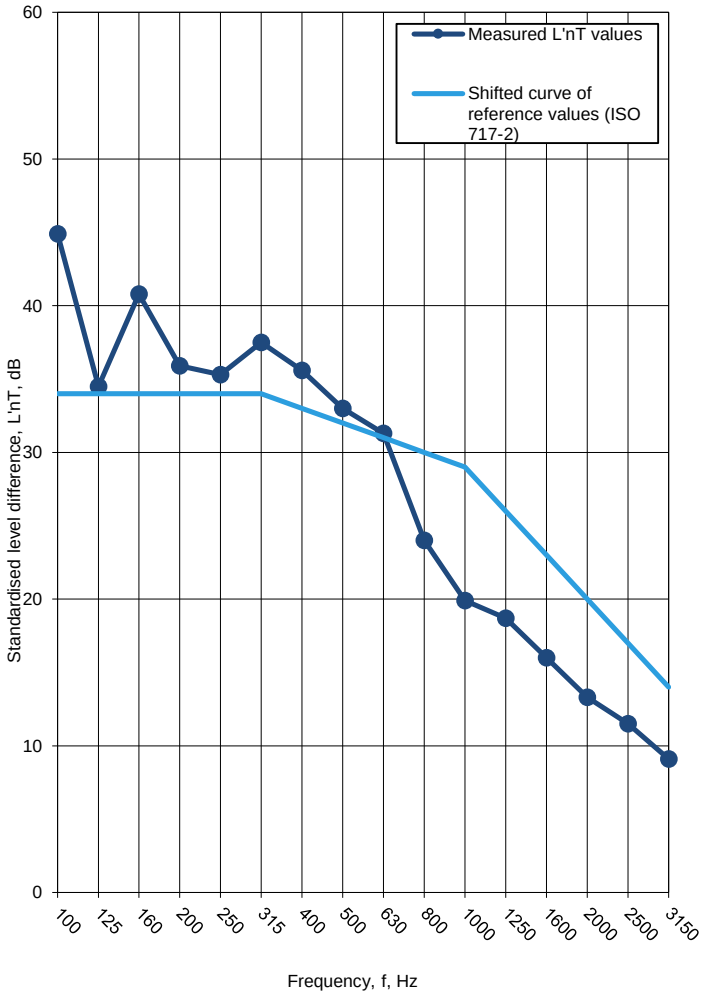
Impact Floor Sound Insulation Test: IF54

Date of test: 30/03/2024

Source Room: 04-18-B Approximate Source Room Volume: 26m³

Receive Room: 03-18-B Approximate Receive Room Volume: 26m³

Frequency f Hz	L'nT dB
100	45
125	34.5
160	40.8
200	35.9
250	35.3
315	37.5
400	35.6
500	33.0
630	31.3
800	24.0
1000	≤ 19.9
1250	≤ 18.7
1600	≤ 16.0
2000	≤ 13.3
2500	≤ 11.5
3150	≤ 9.1



Test Result

$L'_{nT,w} = \leq 32$ dB

≤ Results limited due to high background noise levels

Rating according to ISO 717-2:

$L'_{nT,w}$ (C_1) = ≤ 32 (1) dB; $C_{1\ (100\text{-}3150)}$ = 1 dB

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

Certificate Ref: 25173/SIT2/C162

Test organisation: Hann Tucker Associates
Date of issue: 12/04/2024
Test Engineer: Will Robertson
Test Engineer No: 80
Test Engineer Signature:

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Head Office: Duke House, 1-2 Duke Street, Woking, Surrey GU21 5BA (t) +44 (0) 1483 770 595
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