



Azymuth Acoustics UK

Professional Acoustic Services

Approved by: Matthew Gibson
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Noise Assessment Report

Ref: AA0364

Acoustic Assessment for Proposed Bar & Restaurant:

Unit 3, House by Urban Splash

9 Keepers Quay

New Islington

Manchester

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Signature				

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1.0 Introduction

Azymuth Acoustics UK is appointed by DJR Food and Beverage to provide an acoustic assessment of a proposed bar / restaurant at Unit 3, 9 Keepers Quay, New Islington, Manchester.

Currently, the unit is an unoccupied commercial space. The proposed space has separating elements to neighbouring properties as follows:

- Separating wall to a commercial space (understood to be currently unoccupied).
- Separating wall to a residential lift lobby and circulation space.
- Separating floor to residential unit.

The operating hours of the business are understood to be from 10:00 to 00:30hrs, with the kitchen remaining open throughout operating hours.

This report addresses the potential noise impact of the bar and dining area. Neighbouring residential are considered, along with the nearest receptors away from the site.

This acoustic assessment includes the following aspects:

- The results of a baseline noise survey at the premises to assist in the assessment of noise as it might affect the nearest receptors.
- Criteria developed to set acceptable noise levels at sensitive receptors in nearby properties.
- A review of the existing & proposed building envelope.
- Suitable internal entertainment noise limits within the premises.
- A noise impact assessment including break-out and break-through predictions.

2.0 Baseline Noise Survey

2.1 Measurement Procedures

The instrumentation used for the environmental noise survey consisted of a SvanTek 959 type 1 precision sound level meter. The equipment was calibrated before and after the noise measurements. No significant drift in calibration was observed during the measurements. The sound level meter measured at A-weighted (fast response) noise levels as well as octave bands noise levels for all measurement record.

An attended ambient noise level surveys were undertaken on between 12:20 and 15:20 hours on Wednesday 30th June 2021 and between 21:55 and 00:30 on the night of Thursday 1st July 2021. The measurement locations are shown in figure 1. During the time of the survey, light construction works were being undertaken in a canal boat directly outside of the proposed bar / restaurant. Measurement positions at the adjacent Keeper's Quay commercial units were chosen to be representative of a normal noise climate of the area.

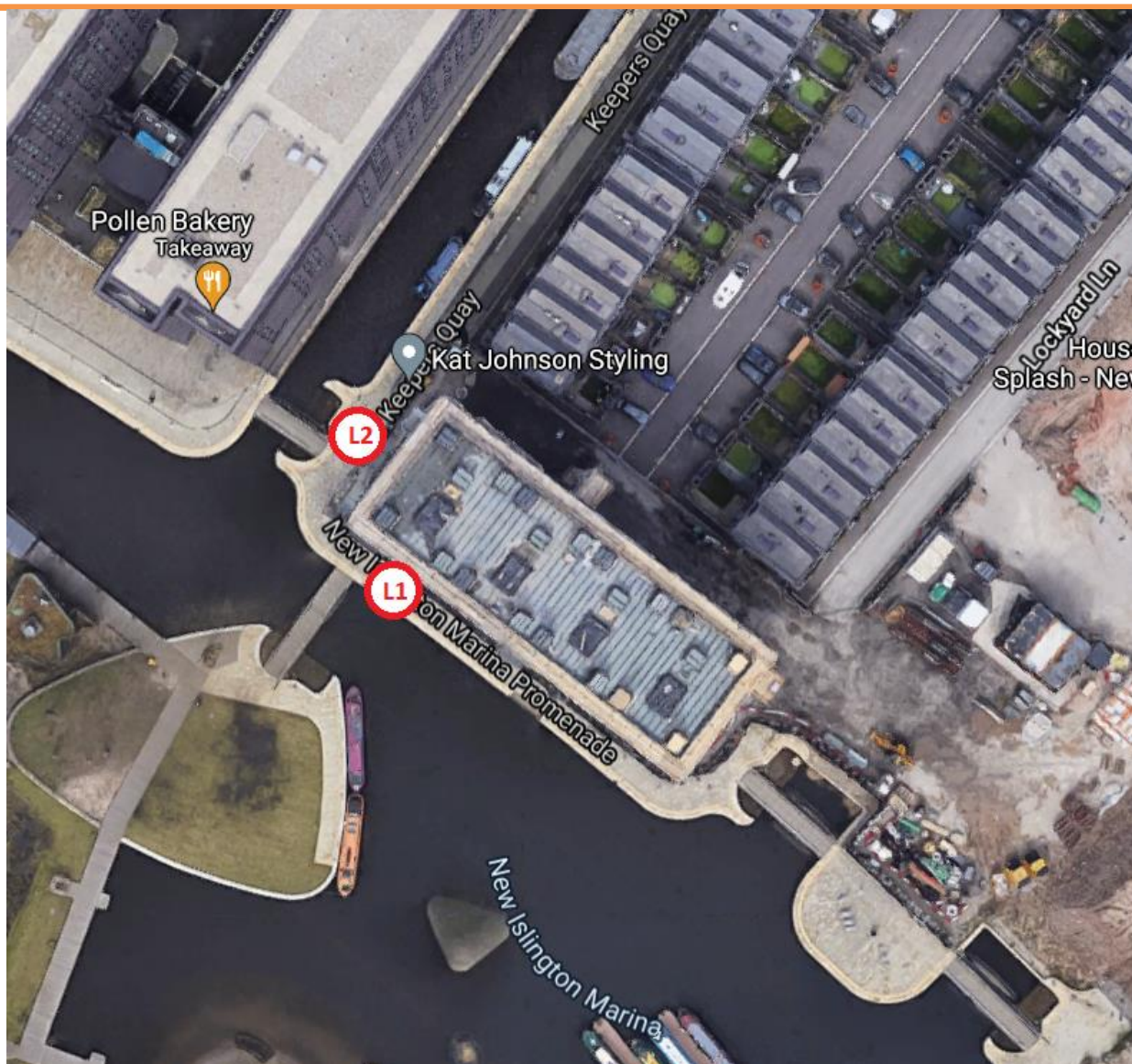


Figure 1: Noise Measurement Locations

2.2 Measurement Results

The results of the noise measurements are summarised in Table 1 below; full results of surveys are set out in Appendix B.

The following table summarises the results of the noise measurements undertaken at the premises in terms of averaged day / night time statistical noise levels.



Measurement Location	Time period	L _{Amax}	L _{Aeq}	L _{A10}	L _{A50}	L _{A90}
L1: New Islington Marina Promenade	Day 12:20 – 14:40	79	55	56	51	48
L2: Keepers Quay	Day 14:40 – 15:20	72	48	49	45	43
L1: New Islington Marina Promenade	Evening / night 21:55 – 23:45	73	47	48	44	42
L2: Keepers Quay	Night 23:45 – 00:30	74	43	44	41	39

Table 1: Summary of averaged noise measurement results (dBA)

2.3 Description of Noise Climate

The proposed bar / restaurant is situated on the New Islington Marina Promenade. The daytime sound climate consists of pedestrians using the promenade, and patrons in surrounding cafes and restaurants. Traffic noise from the nearby A665, Great Ancoats Street, and surrounding local roads is audible, as well as domestic noise from canal boats and nearby apartment buildings.

During the night, (distant) traffic noise on the A665, Great Ancoats Street is the dominant noise source. Foot traffic is still present, but strongly reduces as compared to the daytime period.

3.0 Assessment Criteria

In order to assess the extent of any measures which might be necessary in order to comply with suitable conditions relating to entertainment noise break-out / through, Azymuth Acoustics has reviewed the following guidance documents and standards:

- British Standard 8233: 2014
- World Health Organisation Guidelines on Community Noise
- British Standard 4142: 2014
- Noise from Pubs and Clubs – IOA Report for Defra (2005)

3.1 British Standard 8233: 2014

BS 8233 provides a code of practice for the sound insulation of a variety of building types affected by general environmental noise. It provides recommendations for control of noise in and around buildings and suggests appropriate internal ambient noise level criteria / limits for a variety of different situations including residential properties.

The following table summarises the noise limits suggested by BS 8233 applying to residential properties:

Activity	Room	Good Design Range $L_{Aeq, T}$ dB	
		07:00-23:00hrs	23:00-07:00hrs
Resting	Living rooms	35	-
Dining	Dining room / area	40	-
Sleeping (daytime resting)	Bedroom (at night)	35	30

Table 2: Noise Limits for Residential Properties Suggested in BS 8233

3.2 W.H.O Guidelines on Community Noise

In 1980 the World Health Organisation proposed environmental health criteria for community noise including consideration of noise levels at which sleep disturbance may take place. These guidelines were amended by the World Health Organisation in 1999. The guidance suggests that an internal L_{Aeq} below 30dB is required to preserve the restorative process of sleep. This is equivalent to a free-field level of around 42 to 45dB L_{Aeq} or a façade level of 45 to 48dB L_{Aeq} , assuming open windows.



3.3 British Standard 4142: 2014

British Standard 4142: 2014 “Methods for assessing and rating industrial sound” describes methods for rating and assessing sound of an industrial and/or commercial nature. The methods described in this British Standard use outdoor sound levels to assess the likely effects of sound on people who might be inside or outside a dwelling or premises used for residential purposes upon which sound is incident.

- a) Typically, the greater this difference, the greater the magnitude of the impact.
- b) A difference of around +10 dB or more is likely to be an indication of a significant adverse impact, depending on the context.
- c) A difference of around +5 dB is likely to be an indication of an adverse impact, depending on the context.
- d) The lower the rating level is relative to the measured background sound level, the less likely it is that the specific sound source will have an adverse impact or a significant adverse impact. Where the rating level does not exceed the background sound level, this is an indication of the specific sound source having a low impact, depending on the context.

BS4142 notes that: *Adverse impacts include, but are not limited to, annoyance and sleep disturbance. Not all adverse impacts will lead to complaints and not every complaint is proof of an adverse impact.*

It should be noted however, that BS4142 states that the standard is not intended to be applied to the rating and assessment of sound from recreational activities or music and other entertainment. Hence, BS4142 is primarily presented here for guidance and to assist in the assessment of the proposed ventilation and chiller equipment.

3.4 Noise from Pubs and Clubs – IOA Report for Defra (2005)

Noise from Pubs and Clubs was the final report for a contract led by the Department for the Environment, Food and Rural Affairs to review existing knowledge of noise from entertainment sources from pubs and clubs. The overall aim of the publication was to recommend criteria and measurement methods for assessing the noise from pubs and clubs for use by Environmental Health Officers (EHOs) and others.

The report considered it inappropriate to use only A-weighted target levels for music noise intrusion, because the impact of the bass elements of the noise. A relatively common application of absolute criteria is to use Noise Rating Curves to provide a target level in design work.

The absolute limit suggested in the report was the use of Noise Rating Curve NR30 (07:00 to 23:00 hours) and Noise Rating Curve NR25 (23:00 to 07:00 hours). A target range of NR25 – 30 is suggested in this noise assessment in order to reflect the opening hours of the premises.

3.5 Manchester City Council Planning and Noise Technical Guidance 2015

The GD03 guidance document provides developers with information related to Manchester City Council policy on discharging planning conditions imposed by the City Wide Environmental and Public Protection Team. The document has specific sections covering policy on noise from entertainment venues, fixed plant and equipment etc. The document states, ‘A planning application for an entertainment venue should demonstrate that music noise from the proposal will not be audible inside residential properties nearby assuming that the residential properties in question have their windows open. The target noise criteria here should be 10dB (LAeq) below the existing LA90 in each octave band.’



In relation to proposed entertainment venues structurally connected to residential developments the document provides the following criteria: 'Noise levels in the 63Hz and 125Hz octave frequency bands should be controlled so as not to exceed (in habitable rooms) 47dB and 41dB respectively'.

3.6 Recommended Noise Assessment Criteria

Based on the guidance above it is recommended that the following criteria would be reasonable with the aim of minimising the impact of the proposed operation:

- A predicted incident level due to entertainment noise from the venue ≥ 5 dB below the typical measured Background Sound Level (BSL, L_{A90}) externally at the nearest residential receptor.
- Daytime / evening noise levels inside the upstairs apartment is not greater than 35dB $L_{Aeq,15min}$ or NR30 during the period 07:00 to 23:00hrs.
- Night time noise levels inside the upstairs apartment is not greater than 30dB $L_{Aeq,1hour}$ or NR25 during the period 23:00 to 07:00hrs (it is understood that closing time is no later than 00:30hrs).
- Noise levels in 63Hz and 125Hz octave bands not exceeding 47dB and 41dB $L_{Aeq,T}$ respectively inside the adjoining residence.
- Noise levels from new / modified external fixed mechanical plant ≥ 5 dB below the typical measured Background Sound Level (BSL, L_{A90}) externally at the nearest residential receptor.

4.0 Assessment of Noise Levels

4.1 Typical Noise Levels in Restaurants and Bars

The following noise levels would typically be expected within entertainment venues (based on Azymuth Acoustics historical survey data and Noise from Pubs and Clubs Phase 1 document):

- Café bars and restaurants during quiet periods, approx. 65-70dB L_{Aeq}
- Café bars and restaurants during busy periods, no or minimal/background music (customer noise only), up to approx. 88dB L_{Aeq}
- Bars / entertainment venues playing music (including customer noise), approx. 90-95dB L_{Aeq}
- Dance floor of large night club, up to approx. 105dB L_{Aeq}

Azymuth Acoustics has measured data from entertainment noise inside a similarly sized bar / restaurant. The data includes periods during a busy weekend (with live band), and midweek with nominally 15 no. customers and low-level background music on small loudspeakers. Table 3 provides a summary of measurement results.



Measurement Location	Time period	L _{Amax}	L _{Aeq}	L _{A10}	L _{A50}	L _{A90}
Inside bar area (busy, live music through third party PA system)	Friday Evening	104	90	93	88	81
Inside bar area (chatting, low level background music through in-house sound system)	Wednesday Evening	86	72	75	71	66

Table 3: Measured internal entertainment noise levels, 2019 (dB, fast response time)

It should be noted that levels from the Friday evening measurements would be considered very much worst-case; it is understood that live music is not currently planned for the proposed restaurant, and the venue itself will not include a public address system for sound reinforcement of bands, only provision of a small in-house background music system. The proposal would likely include bookshelf style loudspeakers suitably installed for background music.

As such, the following assumptions have been made for the proposed bar / restaurant:

- Internal sound pressure levels up to approx. 85dB L_{Aeq,30sec} during busy weekend evening / night time periods would be expected. Low frequency content not generally exceeding 80dB in 63-125Hz octave bands due to small scale sound system.
- Weekday (Tuesday – Thursday) evening / early night time levels up to approx. 82dB L_{Aeq,15min} during busier periods.

Table 4 shows the internal sound pressure levels used in the noise impact assessment.

Parameter (bar / restaurant noise levels)	Location	Octave Band Centre Frequency (Hz)							Total dBA
		63	125	250	500	1k	2k	4k	
Source sound pressure level limit L _{Aeq,30sec}	Inside cafe / dining area	80	80	81	81	81	79	73	85
Assumed worst case sound pressure level L _{Aeq,30sec} per m ²	Around outdoor seating area	68	65	65	59	51	46	42	60

Table 4: Expected worst-case internal sound pressure levels

4.2 Building Envelope Review

4.2.1 Existing Separating Floor

The sound insulation performance of the separating floor between the proposed bar/restaurant and first floor apartment has been previously measured. Sound insulation testing was undertaken by DBx Acoustics, and reported by Syntegra Consulting. The test results are shown in table 5 below.



Frequency Hz	D _{nt} 1/3 octave dB
50	-
63	-
80	-
100	38.5
125	41.3
160	42
200	40.8
250	43.5
315	46.7
400	48.3
500	50.3
630	53.1
800	56.7
1000	59.4
1250	60.2
1600	58.5
2000	63.5
2500	67.4
3150	70.3
4000	-
5000	-
D_{nt,w} (+C_{tr}) dB	56 (-5)

Table 5: Measured sound insulation performance between proposed bar / restaurant and first floor apartment (provided by Syntegra and DBx)

The separating floor is constructed from cross laminated timber, with a void containing mineral wool, and floorboards with impact resistant layer. The dimensions of the floor construction are unknown.

4.2.2 Existing External Envelope

It is understood that windows of the bar / restaurant are standard double glazed window units. The estimated acoustic rating for this glass is R_w 31dB (and $R_{w+C_{tr}}$ 26dB). Noise break-out calculations assume the existing glazing specification.

The existing external wall construction is of insulated timber frame construction, with steel panel cladding. The walls are designed to achieve an R_w of 61 dB. Up-rating of the external walls will not be required.

4.3 Acoustic Treatment Recommendations

The separating floor between the bar / restaurant and first floor apartment is the most sensitive boundary for noise impact. The developer intends to maintain the current ceiling construction, therefore treatment in the form of acoustic absorption panels is recommended.

The inclusion of absorptive panels will not improve the performance of the separating floor, however, controlling the internal reverberation will help reduce the internal ambient noise of the dining area, with more customers present.



It is recommended that at least 60 % of the ceiling area incorporates hanging acoustic baffles, such as Frontier Acoustic Fins.

The existing glazing to the 1st floor area should be in good condition to form a good airtight seal, i.e. no gaps when closed. Windows should be kept closed during evening / night time operation periods.

4.4 Noise Break-out Calculation and Assessment

Based on the existing building envelope as described above, the table below provides octave band noise limits for activity inside the proposed bar / dining area, with the aim of compliance with targets described in Section 3.5. The limits would apply to noise from all sources combined including music, chatting, customer / staff activity etc. It is understood that outdoor seating will only be used during daytime service, and will be packed away at 21:00 hrs in compliance with the lease of the unit.

Parameter (Break-out, rear elevation)	Location	Octave Band Centre Frequency (Hz)							Total dBA
		63	125	250	500	1k	2k	4k	
Source sound pressure level limit $L_{Aeq,30sec}$	Inside bar / dining area	80	80	81	81	81	79	73	85
Receiver sound pressure level (calculated)	Externally, first floor apartment @3 m distance	34	38	45	44	40	36	32	48
Typical measured Background Sound Level L_{A90}	External to ground floor of apartment building	30	33	36	44	45	43	38	48
Specific level compared with BSL	first floor apartment @3 m distance	+4	+5	+9	+0	-5	-7	-5	+0
Calculated internal level due to sound break-in (window partially open)	Inside first floor apartment @3 m distance								≈35

Table 6: Assessment of predicted entertainment noise during daytime periods



Parameter (Break-out, rear elevation)	Location	Octave Band Centre Frequency (Hz)							Total dBA
		63	125	250	500	1k	2k	4k	
Source sound pressure level limit $L_{Aeq,30sec}$	Inside bar / dining area	80	80	81	81	81	79	73	85
Receiver sound pressure level (calculated)	Externally, first floor apartment @3 m distance	23	26	34	33	29	25	20	38
Typical measured Background Sound Level L_{A90}	External to ground floor of apartment building	33	29	30	34	37	33	23	42
Specific level compared with BSL	first floor apartment @3 m distance	-10	-3	+4	-1	-8	-8	-3	-4
Calculated internal level due to sound break-in (window partially open)	Inside first floor apartment @3 m distance								≈25

Table 7: Assessment of predicted entertainment noise during late-evening and night time periods

4.5 Noise Break-through Calculation and Assessment

The table below provides a prediction of noise break-through for night time periods based on the recommended internal sound level limit and existing party floor construction.

Parameter (Break-through)	Location	Octave Band Centre Frequency (Hz)							Total dBA
		63	125	250	500	1k	2k	4k	
Source sound pressure level limit $L_{Aeq,30sec}$	Inside bar / dining area	80	80	81	81	81	79	73	85
Receiver sound pressure level (calculated)	Inside first floor apartment	34	34	32	25	17	10	3	27
Noise level limit criteria	Inside first floor apartment	47	41						30 NR25
Predicted level compared with limit	Inside first floor apartment	-13	-7						27 NR22

Table 8: Assessment of predicted entertainment noise break-through



The sound level limit detailed in Table 4 be described as worst-case in terms of typical activity within the bar / restaurant. Levels approx. 75-85 dBA could generally be expected within bar / dining areas during busy weekend periods and as such receptor levels would normally be lower than shown in predictions.

Music sound levels should be limited to not greater than 80 dB $L_{Aeq, 30sec}$ inside the venue. This implies that the sound system should not exceed a total of 75W per channel and is likely to consist of not more than 6 no. compact bookshelf type wall mounted loudspeakers. The installation of a subwoofer is not recommended.

The noise predictions with the recommended mitigation will be compliant with MCC entertainment noise guidance, and as such, Urban Splash's noise guidance.

5.0 External Mechanical Plant

The proposal includes the installation of a new mechanical ventilation system throughout the establishment. The ventilation system would be in use throughout the opening hours of the proposed bar / restaurant. The ventilation inlet and outlet ducts are located above the commercial unit at 2.5m height on the north façade of the premises (approx. 4m distance from the nearest receptor window, partially screened by the building facade).

The new ventilation system should be suitably designed in order to limit noise output from the inlet and outlet louvres to $\leq 55dB L_{Aeq, Tr}$ @1m distance. This will likely be achieved with the current ventilation strategy, with the inclusion of an in-duct silencer between fans and atmosphere termination points. Incorporation of the noise limit would result in a rating level 5dB or more below the background sound level at the nearest receptors. As such, BS 4142 would suggest a low likelihood of adverse impact. This will also ensure the ventilation system is compliant with Manchester City Council GM3 guidance.

Refrigerators in the new kitchen will be domestic style units only i.e. no outdoor condensers are proposed. The kitchen will not include a ducted extract system.



6.0 Conclusions

Azymuth Acoustics has undertaken an acoustic assessment of the proposed bar / restaurant at unit 3, 9 Keepers Quay, New Islington, Manchester.

Background levels at the front of the premises were measured to be 48dB $L_{A90, 5min}$ during the day and 42dB $L_{A90, 5min}$ during the early night time periods. Road traffic noise on Great Ancoats Street, and pedestrians made the greatest contribution to the existing ambient levels in the vicinity of the building.

The building envelope would allow noise levels to operate up to the limits shown in Table 4 of the report with the additional sound insulation measures set out in Section 4.3 in place.

The proposed mechanical ventilation system should be designed to control noise to not greater than 55dBA @1m distance from atmosphere connection.

- Incorporate absorptive acoustic panels equivalent to at least 60% of the ceiling area. It is recommended to use suspended acoustic fins, of class-A absorption.
- Limit the internal (ambient) music sound levels to not greater than 85 dB $L_{Aeq, 5min}$ inside the dining area.
- Existing glazing, doors and external wall construction would not require up-rating from a noise break-out perspective.
- The predicted noise transmission through the separating floor / ceiling between the proposed venue and the 1st floor apartments will be in the range 26-29dB $L_{Aeq, 5min}$ and this has been shown to be compliant with the Urban Splash noise criteria.

Following the recommendations laid out within this report, the premises will be compliant with Manchester City Council's guidance for noise from entertainment premises, and as such will be compliant with the requirements of the Urban Splash lease.



Appendix A – Glossary of Acoustical Terms

Decibel (dB)

this is the unit used to measure sound. The human ear has an approximately logarithmic response to acoustic pressure over a very large dynamic range (typically 20 micro Pascal to 100 Pascal).

dB (A)

This is a measure of the overall noise level of sound across the audible spectrum with a frequency weighting (i.e. A-weighting) to compensate for the sensitivity of the human ear to sound of different frequencies. The A-weighting curve is implemented in sound level meters using an electronic filter that approximately corresponds to the frequency response of the ear.

Octave Band Noise Level

The human ear is sensitive to sound over a range of frequencies between approximately 20 Hz to 20 kHz. The ear is also generally more sensitive to medium and high frequencies than to low frequencies. In order to define the frequency content of a noise, the spectrum can be divided into frequency bands. The most commonly used frequency bands are octave bands, in which the mid-frequency of each band is twice that of the band below it.

L_{Aeq}

this is the equivalent steady sound level in dB (A) containing the same acoustic energy as the actual fluctuating sound level over a given time period.

Reverberation Time (RT or sometimes T_{30} or T_{60})

This is the time taken for the reverberant sound energy in an enclosure to decay one millionth of its equilibrium value, i.e. by 60 dB, after the source has been switched off, is known as the reverberation time. The reverberation time is frequency dependent and it is customary to measure its value in octave or one-third octave bands. Reverberation occurs when sound waves are repeatedly reflected from each surface of the room.

Sound Reduction Index (SRI)

Difference measured between the amount of energy flowing towards the wall in the source room and the total amount of energy flowing towards the wall in the source room and the total amount of energy entering the receiving room (usual range 100 - 3150 Hz for one third octave band values). The SRI varies with frequency and is measured in a laboratory in either octave or one-third octave bands.

$$SRI = L1 - L2 + 10 \log (S/A)$$

Where: $L1$ = Noise level in the source room

$L2$ = Noise levels in the receiving room

S = Surface area of test specimen

A = Equivalent acoustic absorption area in the receiving room

Weighted Sound Reduction Index (R_w)

this is a weighted single figure descriptor of the sound insulation performance of a partition measured under laboratory conditions. The procedure used to quantify the R_w is to compare the sound reduction index (SRI) in each of the one-third octave bands from 100Hz to 3150Hz against a set of standard reference curves. Appendix B – Graphical Results of Sound Insulation Tests



Appendix B – Full tabulation of results

Time	Location	L _{Amax}	L _{Aeq}	L _{A10}	L _{A50}	L _{A90}
30/06/2021 12:20	L1	78.4	58.1	58.9	52.6	49.1
30/06/2021 12:25	L1	67.9	54.6	57.3	52.3	49.1
30/06/2021 12:30	L1	68.6	55.8	58.7	53.9	50.3
30/06/2021 12:35	L1	71.2	57.3	59.8	55	51.5
30/06/2021 12:40	L1	68.2	57.4	60.2	56	52.6
30/06/2021 12:45	L1	70.1	58	61	56.1	52.6
30/06/2021 12:50	L1	72.8	57.3	59.9	55.3	51.1
30/06/2021 12:55	L1	69.1	53.9	56.1	50.6	47.1
30/06/2021 13:00	L1	77.4	54.1	56	49.6	46.8
30/06/2021 13:05	L1	65.2	51.7	54.2	49.1	47
30/06/2021 13:10	L1	85.1	60.7	55.9	49.6	46.9
30/06/2021 13:15	L1	81.1	54.5	55.7	50	47.2
30/06/2021 13:20	L1	73.3	55.8	59.2	50.3	47.3
30/06/2021 13:25	L1	72.6	55.2	57.6	50.2	46.8
30/06/2021 13:30	L1	72.9	53.5	52.7	48.1	45.8
30/06/2021 13:35	L1	73.4	50.4	51	47.3	45.3
30/06/2021 13:40	L1	69.9	50.7	51.9	47.5	45.4
30/06/2021 13:45	L1	77.1	54.6	52.8	48.1	45.5
30/06/2021 13:50	L1	61.9	48.3	50.2	47.3	45.4
30/06/2021 13:55	L1	78.4	55.9	54.3	48.3	46
30/06/2021 13:57	L1	79.3	65.7	69.4	59	48.5



30/06/2021 14:04	L1	74.7	54.7	56.9	51.6	48.6
30/06/2021 14:09	L1	69.1	53.2	55.6	51.2	48.3
30/06/2021 14:14	L1	66.9	54.3	57.3	52.3	49.1
30/06/2021 14:19	L1	66.4	50.8	53.3	48.3	46.3
30/06/2021 14:24	L1	60.2	49.4	51.5	48.4	46.3
30/06/2021 14:29	L1	69.1	49.9	50.8	47.6	46
30/06/2021 14:31	L1	75	59.8	63.8	53.2	46.4
30/06/2021 14:34	L1	66.2	49.2	50.8	47.7	45.3
30/06/2021 14:39	L2	78.8	59.4	56.2	46.6	44.1
30/06/2021 14:44	L2	65	50.5	54	47.7	44.4
30/06/2021 14:49	L2	70.4	47.9	48.2	45.6	44
30/06/2021 14:54	L2	58.3	45.7	47.4	44.9	43
30/06/2021 14:59	L2	58.2	45	47	44.1	41.9
30/06/2021 15:04	L2	57.6	45.2	46.8	44.6	42.5
30/06/2021 15:09	L2	58	46.6	48.9	45.3	43.4
30/06/2021 15:14	L2	67.4	47.2	48.7	45.6	43.9
30/06/2021 15:15	L2	67	47	46.5	44.6	43.2
01/07/2021 21:56	L1	58.7	46.2	47.5	45.4	44.1
01/07/2021 22:01	L1	60.7	46.9	49.2	45.8	43.4
01/07/2021 22:06	L1	64.2	48.8	50.4	46.1	43.9
01/07/2021 22:11	L1	65.8	48.1	49	45.9	44
01/07/2021	L1	73.5	48.5	47.7	45.5	43.5



22:16 L1						
01/07/2021 22:21	L1	68.6	51.2	53	46.6	44.3
01/07/2021 22:26	L1	68.9	49.5	50.6	46.6	44.7
01/07/2021 22:31	L1	76.7	52.4	50.8	46.4	44.4
01/07/2021 22:36	L1	70.1	48.3	48.2	45.5	43.4
01/07/2021 22:41	L1	68.9	48.5	48.1	45.1	43.5
01/07/2021 22:46	L1	58	44.7	46	43.7	42.4
01/07/2021 22:51	L1	69.6	52.2	53.9	46.1	43
01/07/2021 22:56	L1	63.1	44.5	47.5	42.6	40.7
01/07/2021 23:01	L1	53	42.7	44.7	41.9	40.4
01/07/2021 23:06	L1	51.3	41.1	42.3	40.5	39.2
01/07/2021 23:11	L1	62.4	46.6	48.7	44.6	42.3
01/07/2021 23:16	L1	74.6	46.6	46.3	42.3	40.5
01/07/2021 23:21	L1	46	40.6	41.9	40.3	39
01/07/2021 23:26	L1	58.7	43.3	45	40.7	39.1
01/07/2021 23:31	L1	68.7	47.7	49.1	41.6	39.4
01/07/2021 23:36	L1	51	39.8	41.4	39.3	38.1
01/07/2021 23:39	L1	57.1	45.8	50.2	39.7	38.1
01/07/2021 23:44	L2	57.8	45	49.4	41.4	38.8
01/07/2021 23:49	L2	51.2	41.5	43	41	38.8
01/07/2021 23:54	L2	79.5	51.2	45.1	41.2	39.4
01/07/2021 23:59	L2	51.6	41.3	42.8	41.1	39.2
02/07/2021	L2	59.3	42.2	43.3	41.3	39.5



00:04						
02/07/2021 00:09	L2	61.9	42.7	44.7	40.2	38.2
02/07/2021 00:14	L2	51.1	39.6	40.9	39.3	38
02/07/2021 00:19	L2	53	41.8	44.1	40.8	39
02/07/2021 00:24	L2	73.8	45.2	43.9	41.6	38.8
02/07/2021 00:28	L2	53.8	43.5	45.4	42.6	40.8