



Acoustic Survey and Assessment for Proposed conversion to House IN multiple Occupation of 167 and 169 Rochdale Road, Bury, BL9 7BB.

Prepared for:

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1. Introduction

- 1.1. Martin Environmental Solutions has been commissioned to undertake an acoustic survey and assessment to support a planning application for the conversion of 167-169 to a House in Multiple Occupation over three floors.

Site Location and Context

- 1.2. The development site is situated north of the busy Rochdale Road in Bury. The property forms part of a terrace row of similar properties constructed at the same time. The neighbouring properties have commercial units to the ground floor with a mixture of storage, offices and accommodation to the first. The property to the east is a hot-food takeaway.
- 1.3. An aerial Photograph is enclosed in Figure 1, together with a proposed layout drawing in Figure 2.
- 1.4. The report has been produced to clarify the potential impact on the proposed development and to identify mitigation measures if required to ensure the development is appropriate in terms of noise impact.



2. Policy and Guidance

- 2.1. The impact of noise can be a material consideration in the determination of planning applications. The planning system has the task of guiding development to the most appropriate locations. It is recognised that on occasions it will be difficult to reconcile some land uses, such as housing, hospitals, or schools, with other activities that generate high levels of noise. However, the planning system is tasked to ensure that, wherever practicable, noise-sensitive developments are separated from major sources of noise (such as road, rail and air transport and certain types of industrial development).
- 2.2. The Government's publication of the National Planning Policy Framework (NPPF), updated in December 2024, states that planning policies and decisions should prevent new and existing development from contributing to or being put at unacceptable risk from, of being adversely affected by unacceptable levels of noise pollution.
- 2.3. The Government have also issued the Noise Policy Statement for England (NPSE). The NPSE clarifies the Government's underlying principles and aims in relation to noise and sets a vision to promote good health and a good quality of life through the effective management of noise while having regard to the Government's sustainable development strategy. The NPSE aims to mitigate and minimise adverse impacts on health and quality of life through the effective management and control of noise.
- 2.4. The NPSE introduces the following terms, although no sound levels are given to represent these, many authorities have identified the sound level criteria in line with the World Health Organisation, BS8233:2014 and BS4142: 2014 levels. The terms introduced by the NPSE are:
- NOEL – No Observed Effect Level (<30dB(A) inside <50dB(A) outside, 10dB below background)
- LOAEL – Lowest Observed Adverse Effect Level (30-35dB(A) inside 50-55dB(A) outside, background to +5dB)
- SOAEL – Significant Observed Adverse Effect Level (>35dB(A) inside, >55dB(A) outside, >+10dB above background)
- 2.5. The sound levels within the brackets of the previous paragraph are those determined as appropriate levels to indicate the relevant effect levels represented by the NPSE.



- 2.6. Other commonly used examples of standards utilised by Local Planning authorities for the consideration of noise impacts include comparison of the likely noise levels to be experienced at a development, with levels that have been recommended by the World Health Organisation (WHO) as Guidelines for the prevention of Community Noise Annoyance and within BS8233: 2014.
- 2.7. The WHO recommended noise levels for outdoor amenity areas (gardens) that should not be exceeded are 55dB(A) $L_{Aeq,16hr}$ in order to avoid 'Serious Community Annoyance' or 50dB(A) $L_{Aeq,16hr}$ to avoid 'Moderate Community Annoyance' during the day. For indoor levels WHO set 35dB(A) $L_{Aeq,16hr}$ during the day to prevent Moderate Annoyance and 30 dB(A) $L_{Aeq,8hr}$ at night to prevent sleep disturbance.
- 2.8. The WHO guidance also recommends that maximum sound levels at night should not regularly exceed 45dB(A) within bedrooms to prevent sleep disturbance. Regularly is considered to be more than 10 times during any 8-hour night-time period.
- 2.9. BS 8233:2014 'Guidance on sound insulation and noise reduction for buildings' also specifies desirable noise levels to be achieved inside dwellings.
- 2.10. BS 8233:2014 'Sound insulation and noise reduction for buildings – Code of Practice' also specifies desirable noise levels to be achieved inside dwellings. BS 8233 presents two levels, the first between the hours of 07:00 – 23:00 and the second between 23:00 -07:00.
- 2.11. The daytime period suggests internal noise levels of 35dB $L_{Aeq,16hr}$, for resting in living rooms and bedrooms while for night-time a level of 30dB $L_{Aeq,8hr}$ is recommended. Criteria for external areas mirrors that within the WHO guidance.
- 2.12. Another commonly used standard is British Standard 4142:2014 'Method for rating industrial and commercial sound' compares the sound predicted by the source in question against the background, L_{A90} sound levels.
- 2.13. The "residual" L_{Aeq} measurement is then subtracted from the "ambient" L_{Aeq} measurement (with the sound source) to calculate the sound level created by the "problem" sound alone -termed the "specific" sound level.



- 2.14. If the "problem" sound is tonal, such as whine or hum, or if it is impulsive such as bangs or clatters or if it is irregular enough to attract attention a correction is added to the "specific level" to produce the "rating level". The "background" L_{A90} measurement is then compared against the "rating level".
- 2.15. If the "rating level" exceeds the "background" by around 10dB(A) or more this "indicates a significant adverse impact". A difference of around 5dB(A) 'indicates an adverse impact. The lower the commercial noise level is, the lower the likely impact.
- 2.16. In addition, the 'ProPG Planning & Noise, Professional Practice Guidance on Planning & Noise, New Residential Development' provides a 4-staged approach to undertaking a risk assessment in relation to anticipated sound levels at new residential development and the provision of mitigation measures. The guidance is principally aimed at sites exposed predominantly to noise from transportation sources.
- 2.17. The first stage consists of an initial noise risk assessment, based on indicative day and night-time *noise* levels. Simply put, the higher the ambient noise in an area the greater the impact. The levels given are shown below although it should be noted that these are in excess of both the WHO and BS 8233: 2014 guidance.

Noise Risk Category*	Potential Effect if Unmitigated	Pre-Planning Application Guidance
0 – Negligible $L_{Aeq,16hr} < 50dB$ $L_{Aeq,8hr} < 40dB$	May be noticeable but no adverse effect on health and quality of life	In this category the development is likely to be acceptable from a noise perspective, nevertheless a good acoustic design process is encouraged to improve the existing environment and/or safeguard against possible future deterioration and to protect any designated tranquil areas. A noise assessment may be requested to demonstrate no adverse impact from noise. Application need not normally be delayed on noise grounds.
1 – Low $L_{Aeq,16hr} 50-63dB$ $L_{Aeq,8hr} 40-55dB$	Adverse effect on health and quality of life	In this category the development may be refused unless a good acoustic design process is followed and is demonstrated via a Level 1 Acoustic Design Statement which confirms how the adverse impacts of noise on the new development will be mitigated and minimised and that a significant adverse impact will not arise in the finished development. Planning conditions and other measures to control noise may be required.
2 – Medium $L_{Aeq,16hr} 63-69dB$ $L_{Aeq,8hr} 55-60dB$ $L_{AFmax} > 80dB^{**}$	Significant adverse effect on health and quality of life	In this category the development is likely to be refused unless good acoustic design process is followed and is demonstrated via a Level 2 Acoustic Design Statement which confirms how the adverse impacts of noise on the new development will be mitigated and minimised, and clearly demonstrates that a significant adverse noise impact will not arise in the finished development. Planning conditions and other measures to control noise will normally be required.
3 – High $L_{Aeq,16hr} > 69dB$ $L_{Aeq,8hr} > 60dB$ $L_{AFmax} > 80dB^{**}$	Unacceptable adverse effect of health and quality of life	In this category the development is very likely to be refused on noise grounds, even if a good acoustic design process is followed and is demonstrated via a Level 2 Acoustic Design Statement. Applicants are advised to seek expert advice on possible mitigation measures. Advice on the circumstances when the refusal of a new housing on noise grounds should normally be anticipated is included in the ProPG.

2.18. Stage 2, consists of a full assessment of the prevailing ambient noise and requires 4 elements to be considered:

- I. Element 1 – Good Acoustic Design
- II. Element 2 – Internal Noise Level Guidelines
- III. Element 3 – External Amenity Area Noise Assessment
- IV. Element 4 – Assessment of Other Relevant Issues

2.19. A good acoustic design is implicit in meeting the requirements of the NPPF and can help to resolve many potential acoustic issues.

2.20. Details of the criteria considered suitable are provided above for both internal and external sound levels. Element 4 includes such issues as local and national policy, likely occupants, wider planning objectives.

3. The Assessment

The development

3.1 The proposed development consists of the change of use to the building to form one House in Multiple Occupation.

3.2 Figure 2 below provides an overview of the proposed development.

Existing Situation.

3.3 In order to obtain representative background sound levels for the area on site monitoring was undertaken over the 28th-30th September 2025.

3.4 Two sound level meters were utilised for the monitoring, both Cirrus Optimus Green units. One was placed to the front façade overlooking Rochdale Road, while the other was placed to the rear of the building overlooking the yards and rear alleyway.

3.5 The meters were field calibrated at the start and end of the monitoring period with no significant variation and full laboratory calibration certificates are available on request.

3.6 The weather during the monitoring was dry with little wind <5m/s.

3.7 The full results are shown in Appendix A, with a summary in the tables below.

Front

Start Time	End Time	Duration	L _{Aeq}	L _{A90}	L _{AMax}
28/09/2025 20:00	28/09/2025 23:00	02:59:59	71.4	57.6	92.8
28/09/2025 23:00	29/09/2025 07:00	08:00:00	68.9	45.1	97.4
29/09/2025 07:00	29/09/2025 23:00	16:00:00	74.4	64.5	104.9
29/09/2025 23:00	30/09/2025 07:00	08:00:00	69.1	48.2	90.3
30/09/2025 07:00	30/09/2025 09:00	02:00:01	72.2	63.7	89.0

Rear

Start Time	End Time	Duration	L _{Aeq}	L _{A90}	L _{AMax}
28/09/2025 20:00	28/09/2025 23:00	02:59:59	54.8	51.8	88.2
28/09/2025 23:00	29/09/2025 07:00	08:00:00	53.4	51.2	76.9
29/09/2025 07:00	29/09/2025 23:00	16:00:00	56.1	52.3	83.1
29/09/2025 23:00	30/09/2025 07:00	08:00:00	50.4	42.1	76.6
30/09/2025 07:00	30/09/2025 09:00	02:00:01	53.3	49.4	72.6

3.8 Background sound levels were dominated by passing traffic on Rochdale Road with night-time maximum sound levels not regularly exceeded identified at 85.7dB(A) to the



front and 65.2dB(A) to the rear. During the middle of the night recordings identified a slight noise from refrigeration units to the rear of the site, this was drowned out by the traffic during the rest of the day.

Impact from Prevailing External Sound levels.

- 3.9 Given a 15dB attenuation¹ for an open window the sound levels to be experienced by the future occupants are above those identified within the guidance documents detailed in section 2 of the report. Therefore, further mitigation measures are required.
- 3.10 A standard 6/12/6 double glazing unit will, when closed, provide a sound reduction, $R_w(C;C_{tr})$, of 36(-2;-5). Therefore, adequate to protect the future occupants of the accommodation to the rear of the site from the prevailing environmental sound levels.
- 3.11 To the front, when the full façade of the building is taken into consideration an enhanced glazing specification is required. A Pilkington 6/16/6.8 Optiphon double glazing unit will provide 41(-2;-6)dB attenuation $R_w(C;C_{tr})$, and when closed will be adequate to protect the occupants from the prevailing sound levels, see Appendix B for calculations.
- 3.12 Therefore, to ensure that suitable internal sound levels are maintained it is recommended that all habitable rooms to the rear façade are fitted with the 6/12/6 standard double-glazing units, while to the front façade an enhanced Pilkington 6/16/6.8 Optiphon double glazing unit will be required.
- 3.13 In order to be able to keep windows closed additional ventilation provision must be made for the property. As such it is recommended that a mechanical ventilation system is used.
- 3.14 Care must be taken to ensure that windows are well fitted and gaps between the window frame and the brick work are minimised. Where gaps do occur, these should be filled with a suitable acoustic material, not expandable foam. The window frame should be sealed across the full depth of the frame and not just around the edges. This will ensure that sound does not 'leak' around the edge of the frame.

¹ BS8233: 2014; Guidance on sound insulation and noise reduction for buildings



- 3.15 It is worth noting that the above provision does not prohibit the short opening of windows for purge ventilation of the property. The recommended mechanical ventilation is design to achieve the required background ventilation for the property.
- 3.16 A consideration of the Building Regulations, and Approved Document O requirements around overheating is essential given the need for closed windows. The Regulations require adequate provision to be made for the removal of heat from the building and to limit solar gain.
- 3.17 In consideration of the refrigeration units identified at night, these were intermittent and non-tonal with a sound level of ~48.6dB(A) against a background sound level of 40dB $L_{A90,15mins}$. As mentioned above the sound level to the rear of the site was dominated by plant noise. This was continuous throughout the monitoring, i.e. no cycling on/off was identified. A review of the octave frequency data showed no tonal noise associated with the plant. As such a BS4142:2014 assessment has been undertaken for the rear.

	Night	
Measured Ambient sound level	$L_{Aeq} = 47.5dB$	Average 15-minute ambient sound level between 03:00-04:00
Residual Sound level	$L_{Aeq} = 47.1dB$	
Background Sound Level	$L_{A90} = 40.0dB$	Average 15-minute ambient sound level between 03:00-04:00
Reference period	15 minutes	Normal ref period,
Specific sound Level	$L_{Aeq} = 48.6dB$	
Acoustic feature	+3	+3 Intermittency
Rating level	$48.6+3 = 51.6dB$	
Background sound level	$L_{A90} = 40.0dB$	
Excess of Rating level over background level	$(40.0-51.6) dB = +11dB$ indicates significant adverse impact	
Uncertainty		Refrigeration units cannot be identified during the daytime, early morning or late



		evenings due to traffic noise.
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- 3.18 The assessment; indicates a significant adverse impact at the façade of the property, however when the above mitigation measures are introduced and a reduction for the closed windows considered the resulting internal rating level falls to ~21dB(A), lower than the average day/night sound levels from the traffic. The refrigeration plant will not result in any adverse impact on the future residents.

Internal Transfer of Sound

- 3.19 It is important to ensure that transfer of sound between the proposed rooms does not result in any adverse impact. As such specifications have been identified for the party walls and separating floors/walls in the property.
- 3.20 These are detailed within Appendix C and will ensure no adverse impact by slightly exceeding the building regulation requirements.
- 3.21 The party wall consists of a plastered solid wall and as such will offer a 58dB R_w level of attenuation allowing sound levels of up to 88dB(A) within the adjacent property without exceeding the nighting average sound level of 30dB(A). This is equivalent to a busy manufacturing site and sound levels are unlikely to be this high within a small take-away or shop.



4 Conclusion

- 4.1 On-site monitoring has identified existing background sound levels will result in an adverse impact on the proposed development. As such additional mitigation measures are required.
- 4.2 These have been identified as standard double-glazing units with trickle window vents to ensure a suitable level of ventilation is achieved.
- 4.3 These have been identified as standard double-glazing units with trickle window vents to ensure a suitable level of ventilation is achieved, and 1.8m high close-boarded fencing to the garden amenity areas front the road.
- 4.4 The inclusion of the above mitigation measures to all habitable rooms will ensure that the internal and external sound levels are acceptable and will result in a No Observe Effect on the future residents in line with the Noise Policy Statement for England.
- 4.5 As such the development will meet the objectives of the National Planning Policy Framework in ensuring that no significant adverse impact is experienced by the future residents. The development is therefore considered to be acceptable in terms of noise.

Figure 1 – Aerial Photograph



Figure 2 – Proposed Layout Plan

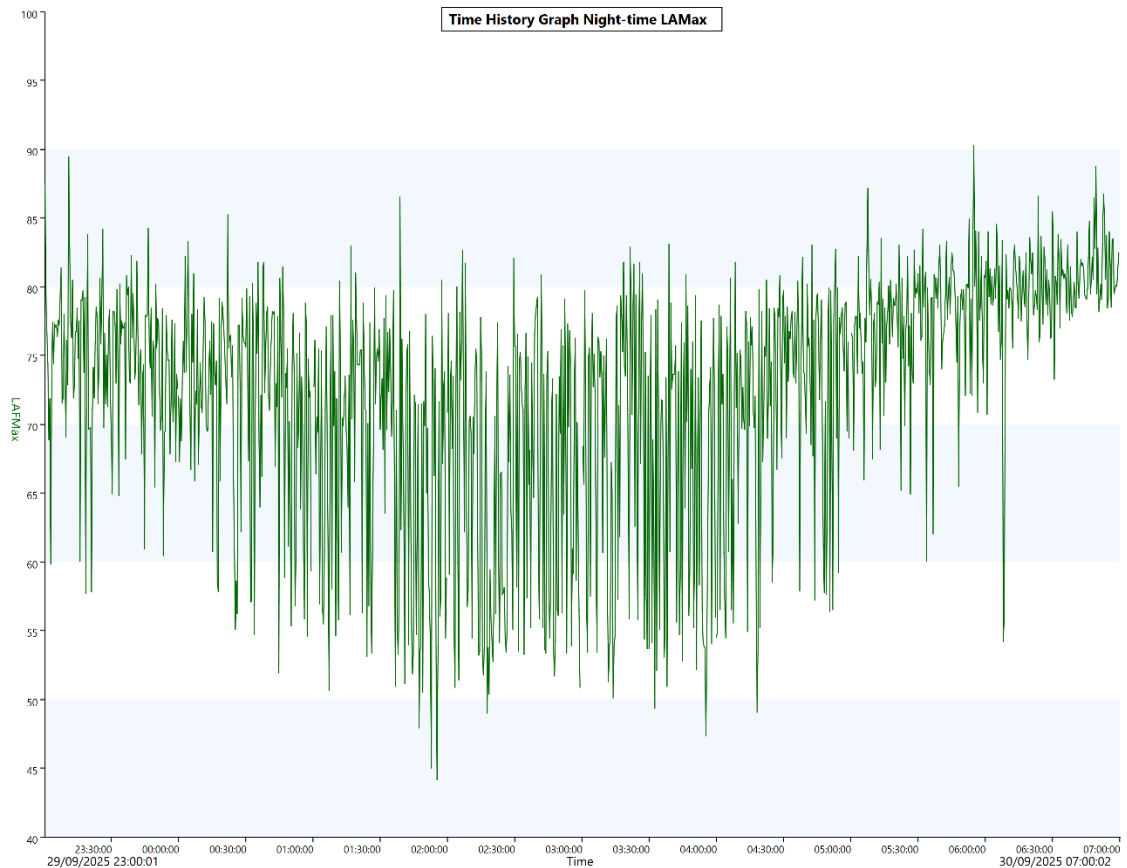
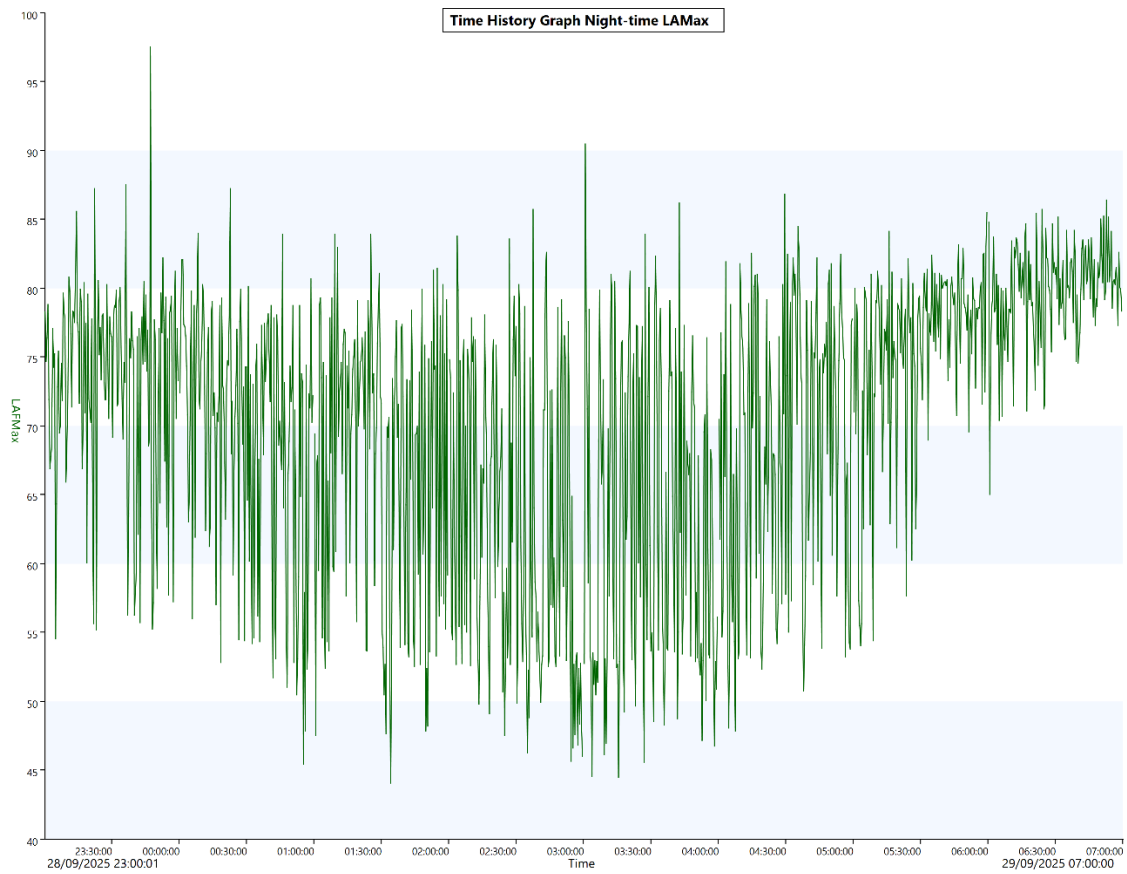




Appendix A – Full Monitoring Results

Front

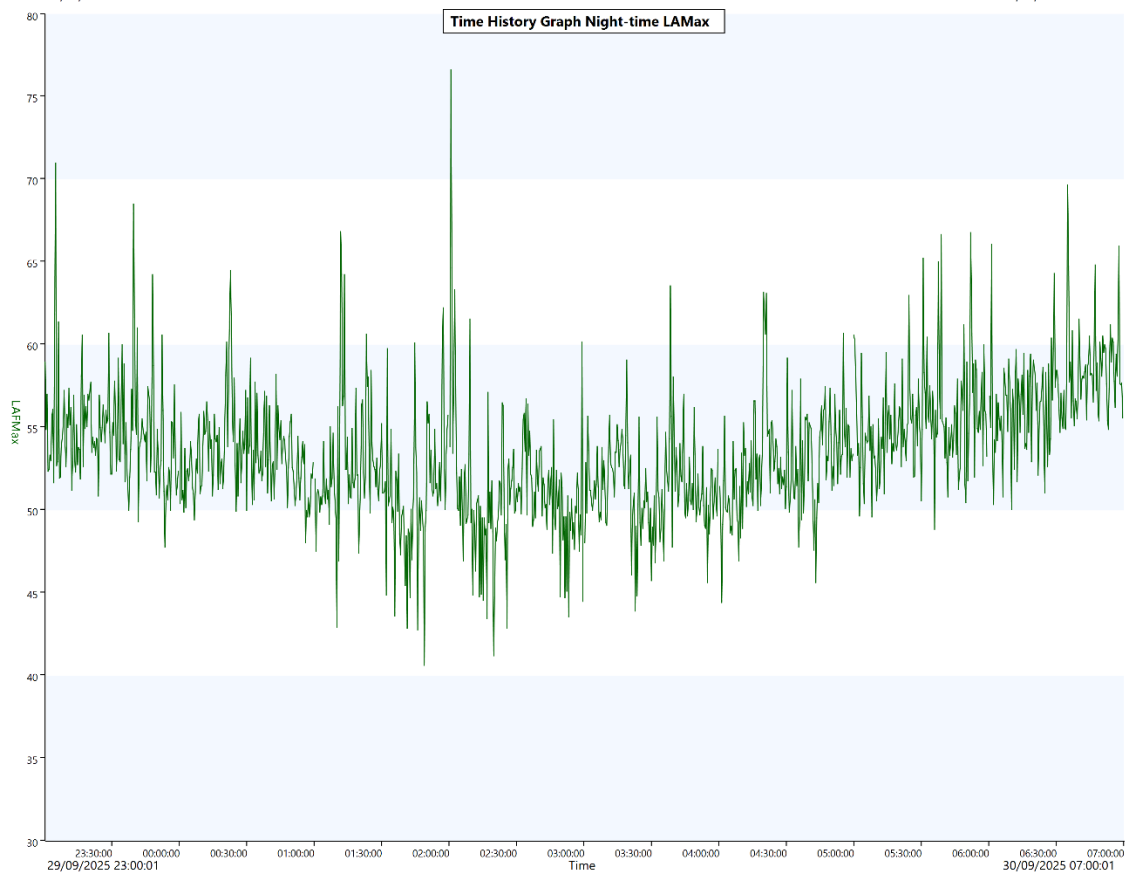
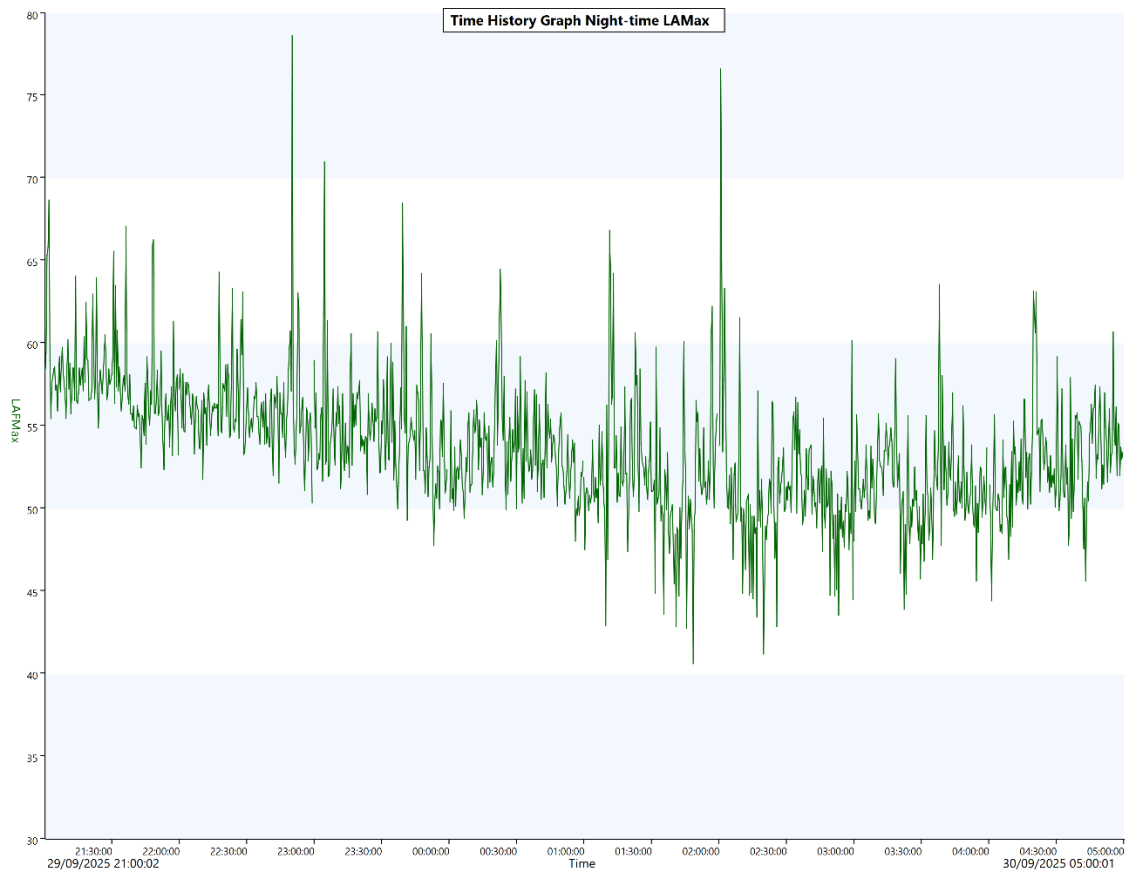
Time	L _{Aeq} (dB)	L _{AMax} (dB)	L _{A90} (dB)
28/09/2025 20:00	72.0	84.4	61.5
28/09/2025 21:00	71.8	90.5	58.4
28/09/2025 22:00	70.0	92.8	54.9
28/09/2025 23:00	69.9	97.4	51.3
29/09/2025 00:00	66.3	87.2	46.3
29/09/2025 01:00	65.4	83.9	43.8
29/09/2025 02:00	63.2	85.7	42.7
29/09/2025 03:00	63.7	90.5	42.5
29/09/2025 04:00	66.8	86.8	47.4
29/09/2025 05:00	70.2	85.5	54.2
29/09/2025 06:00	74.1	86.3	60.0
29/09/2025 07:00	76.0	96.1	66.2
29/09/2025 08:00	76.6	104.6	65.7
29/09/2025 09:00	76.2	93.3	67.1
29/09/2025 10:00	75.3	95.4	66.5
29/09/2025 11:00	75.5	94.2	66.8
29/09/2025 12:00	74.3	91.6	65.7
29/09/2025 13:00	75.4	104.9	65.6
29/09/2025 14:00	74.0	91.8	65.4
29/09/2025 15:00	73.1	92.9	65.1
29/09/2025 16:00	71.5	94.7	63.7
29/09/2025 17:00	73.6	102.5	63.5
29/09/2025 18:00	74.3	88.1	64.7
29/09/2025 19:00	74.1	103.4	65.0
29/09/2025 20:00	71.3	94.3	63.5
29/09/2025 21:00	72.6	92.5	61.9
29/09/2025 22:00	70.8	89.4	59.1
29/09/2025 23:00	68.7	89.4	54.6
30/09/2025 00:00	66.8	85.2	51.0
30/09/2025 01:00	64.7	86.5	44.3
30/09/2025 02:00	63.7	82.7	45.6
30/09/2025 03:00	64.9	83.1	45.4
30/09/2025 04:00	67.1	83.0	50.1
30/09/2025 05:00	71.1	90.3	56.2
30/09/2025 06:00	74.3	88.7	60.4
30/09/2025 07:00	73.4	89.0	65.3
30/09/2025 08:00	70.5	87.8	62.6





Rear

Time	L _{Aeq} (dB)	L _{AMax} (dB)	L _{A90} (dB)
28/09/2025 20:00	55.4	88.2	50.3
28/09/2025 21:00	54.7	77.4	52.5
28/09/2025 22:00	54.1	78.9	51.9
28/09/2025 23:00	53.8	76.9	51.6
29/09/2025 00:00	52.7	62.9	51.2
29/09/2025 01:00	52.8	66.4	51.0
29/09/2025 02:00	52.2	66.8	50.9
29/09/2025 03:00	52.0	58.9	50.9
29/09/2025 04:00	52.9	61.9	51.3
29/09/2025 05:00	54.1	69.4	51.9
29/09/2025 06:00	55.7	70.5	53.5
29/09/2025 07:00	57.6	73.2	55.4
29/09/2025 08:00	57.2	83.1	53.5
29/09/2025 09:00	56.3	71.1	53.9
29/09/2025 10:00	56.3	80.9	53.7
29/09/2025 11:00	56.4	75.8	54.1
29/09/2025 12:00	56.3	82.3	53.8
29/09/2025 13:00	56.9	73.8	53.6
29/09/2025 14:00	56.8	80.8	53.8
29/09/2025 15:00	56.5	73.2	54.3
29/09/2025 16:00	56.1	77.0	53.2
29/09/2025 17:00	54.9	77.3	51.1
29/09/2025 18:00	55.3	68.8	52.3
29/09/2025 19:00	54.3	74.8	50.9
29/09/2025 20:00	55.7	82.3	50.4
29/09/2025 21:00	54.8	68.7	51.3
29/09/2025 22:00	53.4	78.6	49.3
29/09/2025 23:00	51.2	70.9	46.3
30/09/2025 00:00	49.9	64.4	45.1
30/09/2025 01:00	48.3	66.8	39.2
30/09/2025 02:00	48.2	76.6	39.5
30/09/2025 03:00	47.5	63.5	39.8
30/09/2025 04:00	49.1	63.1	43.2
30/09/2025 05:00	51.3	66.8	46.4
30/09/2025 06:00	53.9	69.6	48.4
30/09/2025 07:00	54.4	72.6	51.0
30/09/2025 08:00	51.8	65.5	48.6



Appendix B – Sound Break-in Calculations

Summary

Room	Daytime (dB(A))	Night-time (dB(A))	Night-time LAMax (dB(A))
B1	31.8	25.6	40.7
B2	32.6	26.4	41.5
B5	32.1	26.0	41.0
B6	32.2	26.1	41.1

Ground Floor B1

Day

Outdoor To Indoor Sound Transmission (v10.0.6)

Program copyright Marshall Day Acoustics
Margin of error is generally within ± 3 dB
- Key No. 2594

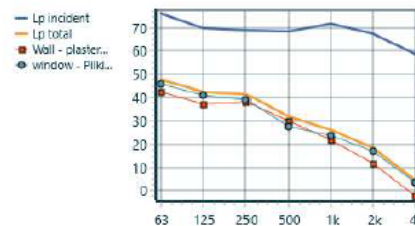
Job Name:

Job No.:

Date: 08/10/2025

File Name:

Initials: info



Octave Band Centre Frequency (Hz)								
Source	63	125	250	500	1k	2k	4k	NR
Incident sound level (freefield)	76.0	69.9	68.9	68.5	71.7	67.3	58.5	71.7
Path								
Element 1, STL	-36	-35	-33	-41	-52	-58	-63	
Facade Shape factor Level diff.	0	0	0	0	0	0	0	
Insertion Loss	0	0	0	0	0	0	0	
Area (+10LogA), 10 m²	9.8	9.8	9.8	9.8	9.8	9.8	9.8	
Element sound level contribution	42	37	38	30	22	12	-2	28.2
Element 2, STL	-27	-26	-27	-38	-45	-47	-52	
Facade Shape factor Level diff.	0	0	0	0	0	0	0	
Insertion Loss	0	0	0	0	0	0	0	
Area (+10LogA), 3 m²	4.4	4.4	4.4	4.4	4.4	4.4	4.4	
Element sound level contribution	46	41	39	27	24	17	3	28.9
Receiver								
Room volume (-10LogV), 34.77 m³	-4.4	-4.4	-4.4	-4.4	-4.4	-4.4	-4.4	
Reverberation time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	
RT (+10LogT)	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	
Equation Constant	11	11	11	11	11	11	11	
Room sound level	48	42	42	32	26	18	4	31.8
Level difference								LpAinc - LpArev,T0
D2m,nT	31.6	30.6	30.5	39.8	48.9	52.2	57.2	71.7

** Element descriptions:

#1: Wall - plastered solid brick, rendered

Wall (Single):

- Panel 1: 1 x 122 mm Plastered Brick + 1 x 10 mm Sand/Cement render (plaster)
- Details: Panel Size: 2.7 m x 4.0 m, Partition surface mass = 211 kg/m²

#2: window - Pilkington 6/16/6.8 phon

Glazing (Double):

- Panel 1: 1 x 6 mm Glass
- Cavity: 16 mm
- Panel 2: 1 x 7.18 mm Laminated Glass (Pilkington Optiplex)
- Details: Energy-based model, Panel Size: 1.3 m x 1.5 m, Partition surface mass = 31.5 kg/m², Mass-air-mass resonant frequency = 167 Hz

Night

Outdoor To Indoor Sound Transmission (v10.0.6)

Program copyright Marshall Day Acoustics

Margin of error is generally within ± 3 dB

- Key No. 2594

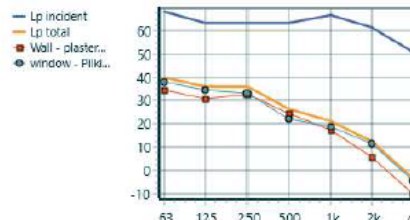
Job Name:

Job No.:

Date: 08/10/2025

File Name:

Initials: info



Octave Band Centre Frequency (Hz)								
Source	63	125	250	500	1k	2k	4k	NR
Incident sound level (freefield)	68.1	63.5	63.2	63.3	66.8	61.5	59.6	66.8
Path								
Element 1, STL	-36	-35	-33	-41	-52	-58	-63	22.1
Facade Shape factor Level diff.	0	0	0	0	0	0	0	
Insertion Loss	0	0	0	0	0	0	0	
Area (+10LogA), 10 m²	9.8	9.8	9.8	9.8	9.8	9.8	9.8	
Element sound level contribution	34	31	33	25	17	6	-10	
Element 2, STL	-27	-26	-27	-38	-45	-47	-52	22.7
Facade Shape factor Level diff.	0	0	0	0	0	0	0	
Insertion Loss	0	0	0	0	0	0	0	
Area (+10LogA), 3 m²	4.4	4.4	4.4	4.4	4.4	4.4	4.4	
Element sound level contribution	38	34	33	22	19	11	-4	
Receiver								
Room volume (-10LogV), 34.77 m³	-4.4	-4.4	-4.4	-4.4	-4.4	-4.4	-4.4	25.6
Reverberation time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	
RT (+10LogT)	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	
Equation Constant	11	11	11	11	11	11	11	
Room sound level	40	36	36	27	21	12	-3	
Level difference								
D2m,nT	31.6	30.6	30.5	39.8	48.9	52.2	57.2	LpAinc - LpArev,T0 66.8

** Element descriptions:

#1: Wall - plastered solid brick, rendered

Wall (Single):

• Panel 1: 1 x 122 mm Plastered Brick + 1 x 10 mm Sand/Cement render (plaster)

• Details: Panel Size: 2.7 m x 4.0 m, Partition surface mass = 211 kg/m²

#2: window - Pilkington 6/16/6.8 phon

Glazing (Double):

• Pane 1: 1 x 6 mm Glass

• Cavity: 16 mm

• Pane 2: 1 x 7.18 mm Laminated Glass (Pilkington Optiplex)

• Details: Energy-based model, Panel Size: 1.3 m x 1.5 m, Partition surface mass = 31.5 kg/m², Mass-air-mass resonant frequency = 167 Hz

Night-time LAMax

Outdoor To Indoor Sound Transmission (v10.0.6)

Program copyright Marshall Day Acoustics

Margin of error is generally within ± 3 dB

- Key No. 2594

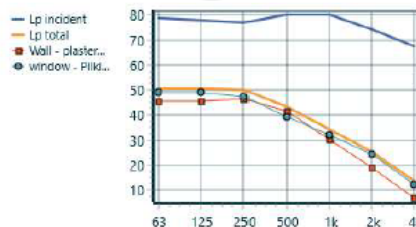
Job Name:

Job No.:

Date: 08/10/2025

File Name:

Initials: info



Octave Band Centre Frequency (Hz)								
Source	63	125	250	500	1k	2k	4k	NR
Incident sound level (freefield)	79.0	78.1	77.2	80.2	80.1	74.5	67.5	80.1
Path								
Element 1, STL	-36	-35	-33	-41	-52	-58	-63	37.7
Facade Shape factor Level diff.	0	0	0	0	0	0	0	
Insertion Loss	0	0	0	0	0	0	0	
Area (+10LogA), 10 m²	9.8	9.8	9.8	9.8	9.8	9.8	9.8	
Element sound level contribution	45	45	47	42	30	19	7	
Element 2, STL	-27	-26	-27	-38	-45	-47	-52	37.8
Facade Shape factor Level diff.	0	0	0	0	0	0	0	
Insertion Loss	0	0	0	0	0	0	0	
Area (+10LogA), 3 m²	4.4	4.4	4.4	4.4	4.4	4.4	4.4	
Element sound level contribution	49	49	47	39	32	24	12	
Receiver								
Room volume (-10LogV), 34.77 m³	-4.4	-4.4	-4.4	-4.4	-4.4	-4.4	-4.4	40.7
Reverberation time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	
RT (+10LogT)	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	
Equation Constant	11	11	11	11	11	11	11	
Room sound level	51	51	50	43	34	25	13	
Level difference								
D2m,nT	31.6	30.6	30.5	39.8	48.9	52.2	57.2	LpAinc - LpArev,T0
	31.6	30.6	30.5	39.8	48.9	52.2	57.2	80.1

** Element descriptions:

#1: Wall - plastered solid brick, rendered

Wall (Single):

- Panel 1: 1 x 122 mm Plastered Brick + 1 x 10 mm Sand/Cement render (plaster)
- Details: Panel Size: 2.7 m x 4.0 m, Partition surface mass = 211 kg/m²

#2: window - Pilkington 6/16/6.8 phon

Glazing (Double):

- Panel 1: 1 x 6 mm Glass
- Cavity: 16 mm
- Panel 2: 1 x 7.18 mm Laminated Glass (Pilkington Optiplex)
- Details: Energy-based model, Panel Size: 1.3 m x 1.5 m, Partition surface mass = 31.5 kg/m², Mass-air-mass resonant frequency = 167 Hz

Ground Floor B2

Day

Outdoor To Indoor Sound Transmission (v10.0.6)

Program copyright Marshall Day Acoustics

Margin of error is generally within ± 3 dB

- Key No. 2594

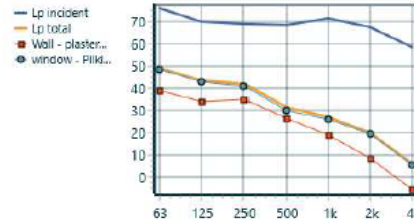
Job Name:

Job No.:

Date: 08/10/2025

File Name:

Initials/info



Octave Band Centre Frequency (Hz)								
Source	63	125	250	500	1k	2k	4k	NR
Incident sound level (freefield)	76.0	69.9	68.9	68.5	71.7	67.3	58.5	71.7
Path								
Element 1 , STL	-36	-35	-33	-41	-52	-58	-63	24.9
Facade Shape factor Level diff.	0	0	0	0	0	0	0	
Insertion Loss	0	0	0	0	0	0	0	
Area (+10LogA), 3 m²	4.2	4.2	4.2	4.2	4.2	4.2	4.2	
Element sound level contribution	39	34	35	27	19	9	5	
Element 2 , STL	-27	-26	-27	-38	-45	-47	-52	31.6
Facade Shape factor Level diff.	0	0	0	0	0	0	0	
Insertion Loss	0	0	0	0	0	0	0	
Area (+10LogA), 3 m²	4.4	4.4	4.4	4.4	4.4	4.4	4.4	
Element sound level contribution	48	43	41	30	26	20	6	
Receiver								
Room volume (-10LogV), 19.50 m³	-1.9	-1.9	-1.9	-1.9	-1.9	-1.9	-1.9	32.6
Reverberation time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	
RT (+10LogT)	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	
Equation Constant	11	11	11	11	11	11	11	
Room sound level	49	44	42	32	27	20	6	
Level difference								
D2m,nT	30.2	29.2	29.8	40.0	47.9	50.4	55.4	LpAinc - LpArev,T0 71.7

** Element descriptions:

#1: Wall - plastered solid brick, rendered

Wall (Single):

• Panel 1: 1 x 122 mm Plastered Brick + 1 x 10 mm Sand/Cement render (plaster)

• Details: Panel Size: 2.7 m x 4.0 m, Partition surface mass = 211 kg/m²

#2: window - Pilkington 6/16/6.8 phon

Glazing (Double):

• Pane 1: 1 x 6 mm Glass

• Cavity: 16 mm

• Pane 2: 1 x 7.18 mm Laminated Glass (Pilkington Optiplex)

• Details: Energy-based model, Panel Size: 1.3 m x 1.5 m, Partition surface mass = 31.5 kg/m², Mass-air-mass resonant frequency = 167 Hz

Night

Outdoor To Indoor Sound Transmission (v10.0.6)

Program copyright Marshall Day Acoustics

Margin of error is generally within ± 3 dB

- Key No. 2594

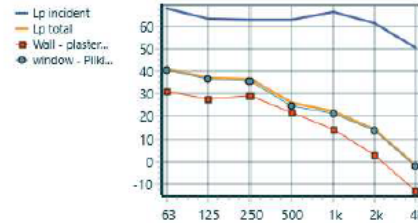
Job Name:

Job No.:

Date: 08/10/2025

File Name:

Initials/info



Octave Band Centre Frequency (Hz)								
Source	63	125	250	500	1k	2k	4k	NR
Incident sound level (freefield)	68.1	63.5	63.2	63.3	66.8	61.5	50.6	66.8
Path								
Element 1 , STL	-36	-35	-33	-41	-52	-58	-63	18.8
Facade Shape factor Level diff.	0	0	0	0	0	0	0	
Insertion Loss	0	0	0	0	0	0	0	
Area (+10LogA), 3 m²	4.2	4.2	4.2	4.2	4.2	4.2	4.2	
Element sound level contribution	31	28	29	22	14	3	-13	
Element 2 , STL	-27	-26	-27	-38	-45	-47	-52	25.4
Facade Shape factor Level diff.	0	0	0	0	0	0	0	
Insertion Loss	0	0	0	0	0	0	0	
Area (+10LogA), 3 m²	4.4	4.4	4.4	4.4	4.4	4.4	4.4	
Element sound level contribution	41	37	36	25	21	14	-2	
Receiver								
Room volume (-10LogV), 19.50 m³	-1.9	-1.9	-1.9	-1.9	-1.9	-1.9	-1.9	26.4
Reverberation time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	
RT (+10LogT)	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	
Equation Constant	11	11	11	11	11	11	11	
Room sound level	41	37	37	26	22	14	-2	
Level difference								
D2m,nT	30.2	29.2	29.8	40.0	47.9	50.4	55.4	LpAinc - LpAREv,T0
								66.8

** Element descriptions:

#1: Wall - plastered solid brick, rendered

Wall (Single):

- Panel 1: 1 x 122 mm Plastered Brick + 1 x 10 mm Sand/Cement render (plaster)
- Details: Panel Size: 2.7 m x 4.0 m, Partition surface mass = 211 kg/m²

#2: window - Pilkington 6/16/6.8 phon

Glazing (Double):

- Pane 1: 1 x 6 mm Glass
- Cavity: 16 mm
- Pane 2: 1 x 7.18 mm Laminated Glass (Pilkington Optip...
- Details: Energy-based model, Panel Size: 1.3 m x 1.5 m, Partition surface mass = 31.5 kg/m², Mass-air-mass resonant frequency = 167 Hz

Night-time LAMax

Outdoor To Indoor Sound Transmission (v10.0.6)

Program copyright Marshall Day Acoustics

Margin of error is generally within ± 3 dB

- Key No. 2594

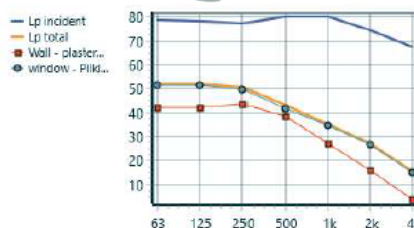
Job Name:

Job No.:

Date: 08/10/2025

File Name:

Initials: info



Octave Band Centre Frequency (Hz)								
Source	63	125	250	500	1k	2k	4k	NR
Incident sound level (freefield)	79.0	78.1	77.2	80.2	80.1	74.5	67.5	80.1
Path								
Element 1 , STL	-36	-35	-33	-41	-52	-58	-63	34.6
Facade Shape factor Level diff.	0	0	0	0	0	0	0	
Insertion Loss	0	0	0	0	0	0	0	
Area (+10LogA), 3 m²	4.2	4.2	4.2	4.2	4.2	4.2	4.2	
Element sound level contribution	42	42	43	38	27	16	4	
Element 2 , STL	-27	-26	-27	-38	-45	-47	-52	40.5
Facade Shape factor Level diff.	0	0	0	0	0	0	0	
Insertion Loss	0	0	0	0	0	0	0	
Area (+10LogA), 3 m²	4.4	4.4	4.4	4.4	4.4	4.4	4.4	
Element sound level contribution	51	52	50	42	35	27	15	
Receiver								
Room volume (-10LogV), 19.50 m³	-1.9	-1.9	-1.9	-1.9	-1.9	-1.9	-1.9	41.5
Reverberation time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	
RT (+10LogT)	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	
Equation Constant	11	11	11	11	11	11	11	
Room sound level	52	52	51	43	35	27	15	
Level difference								
D2m,nT	30.2	29.2	29.8	40.0	47.9	50.4	55.4	80.1

** Element descriptions:

#1: Wall - plastered solid brick, rendered

Wall (Single):

- Panel 1: 1 x 122 mm Plastered Brick + 1 x 10 mm Sand/Cement render (plaster)
- Details: Panel Size: 2.7 m x 4.0 m, Partition surface mass = 211 kg/m²

#2: window - Pilkington 6/16/6/8 phon

Glazing (Double):

- Panel 1: 1 x 6 mm Glass
- Cavity: 16 mm
- Panel 2: 1 x 7.18 mm Laminated Glass (Pilkington Optiplex)
- Details: Energy-based model, Panel Size: 1.3 m x 1.5 m, Partition surface mass = 31.5 kg/m², Mass-air-mass resonant frequency = 167 Hz

First Floor B5

Day

Outdoor To Indoor Sound Transmission (v10.0.6)

Program copyright Marshall Day Acoustics

Margin of error is generally within ± 3 dB

- Key No. 2594

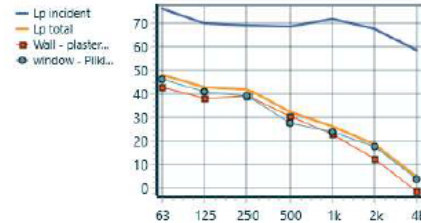
Job Name:

Job No.:

Date: 06/10/2025

File Name:

Initials: info



Octave Band Centre Frequency (Hz)								
Source	63	125	250	500	1k	2k	4k	NR
Incident sound level (freefield)	70.0	69.9	68.9	68.5	71.7	67.3	58.5	71.7
Path								
Element 1 , STL	-36	-35	-33	-41	-52	-58	-63	28.8
Facade Shape factor Level diff.	0	0	0	0	0	0	0	
Insertion Loss	0	0	0	0	0	0	0	
Area (+10LogA), 7 m²	8.2	8.2	8.2	8.2	8.2	8.2	8.2	
Element sound level contribution	43	38	39	30	23	12	-2	
Element 2 , STL	-27	-26	-27	-38	-45	-47	-52	28.9
Facade Shape factor Level diff.	0	0	0	0	0	0	0	
Insertion Loss	0	0	0	0	0	0	0	
Area (+10LogA), 2 m²	2.3	2.3	2.3	2.3	2.3	2.3	2.3	
Element sound level contribution	46	41	39	27	24	17	3	
Receiver								
Room volume (-10LogV), 20.91 m³	-2.2	-2.2	-2.2	-2.2	-2.2	-2.2	-2.2	32.1
Reverberation time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	
RT (+10LogT)	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	
Equation Constant	11	11	11	11	11	11	11	
Room sound level	48	43	42	32	26	18	5	
Level difference								LpAinc - LpArev,T0
D2m,nT	31.4	30.4	30.2	39.4	48.7	52.0	57.0	71.7

** Element descriptions:

#1: Wall - plastered solid brick, rendered

Wall (Single):

• Panel 1: 1 x 122 mm Plastered Brick + 1 x 10 mm Sand/Cement render (plaster)

• Details: Panel Size: 2.7 m x 4.0 m, Partition surface mass = 211 kg/m²

#2: window - Pilkington 6/16/6.8 phon

Glazing (Double):

• Pane 1: 1 x 6 mm Glass

• Cavity: 16 mm

• Pane 2: 1 x 7.18 mm Laminated Glass (Pilkington Optiplex)

• Details: Energy-based model, Panel Size: 1.3 m x 1.5 m, Partition surface mass = 31.5 kg/m², Mass-air-mass resonant frequency = 167 Hz

Night

Outdoor To Indoor Sound Transmission (v10.0.6)

Program copyright Marshall Day Acoustics

Margin of error is generally within ± 3 dB

- Key No. 2594

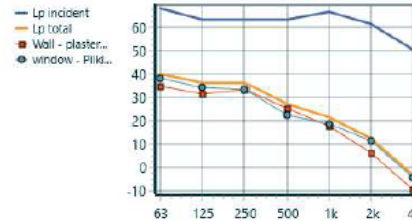
Job Name:

Job No.:

Date: 08/10/2025

File Name:

Initials: info



Octave Band Centre Frequency (Hz)								
Source	63	125	250	500	1k	2k	4k	NR
Incident sound level (freefield)	68.1	63.5	63.2	63.3	66.8	61.5	50.6	66.8
Path								
Element 1, STL	-36	-35	-33	-41	-52	-58	-63	22.7
Facade Shape factor Level diff.	0	0	0	0	0	0	0	
Insertion Loss	0	0	0	0	0	0	0	
Area (+10LogA), 7 m²	8.2	8.2	8.2	8.2	8.2	8.2	8.2	
Element sound level contribution	35	31	33	25	18	6	9	
Element 2, STL	-27	-26	-27	-38	-45	-47	-52	22.8
Facade Shape factor Level diff.	0	0	0	0	0	0	0	
Insertion Loss	0	0	0	0	0	0	0	
Area (+10LogA), 2 m²	2.3	2.3	2.3	2.3	2.3	2.3	2.3	
Element sound level contribution	38	34	33	22	19	11	-4	
Receiver								
Room volume (-10LogV), 20.91 m³	-2.2	-2.2	-2.2	-2.2	-2.2	-2.2	-2.2	26.0
Reverberation time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	
RT (+10LogT)	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	
Equation Constant	11	11	11	11	11	11	11	
Room sound level	40	36	36	27	21	13	-3	
Level difference								
D2m,nT	31.4	30.4	30.2	39.4	48.7	52.0	57.0	LpAinc - LpARev,T0 66.8

** Element descriptions:

#1: Wall - plastered solid brick, rendered

Wall (Single):

• Panel 1: 1 x 122 mm Plastered Brick + 1 x 10 mm Sand/Cement render (plaster)

• Details: Panel Size: 2.7 m x 4.0 m, Partition surface mass = 211 kg/m²

#2: window - Pilkington 6/16/6.8 phon

Glazing (Double):

• Pane 1: 1 x 6 mm Glass

• Cavity: 16 mm

• Pane 2: 1 x 7.18 mm Laminated Glass (Pilkington Optiplex)

• Details: Energy-based model, Panel Size: 1.3 m x 1.5 m, Partition surface mass = 31.5 kg/m², Mass-air-mass resonant frequency = 167 Hz

Night-time LAMax

Outdoor To Indoor Sound Transmission (v10.0.6)

Program copyright Marshall Day Acoustics

Margin of error is generally within ± 3 dB

- Key No. 2594

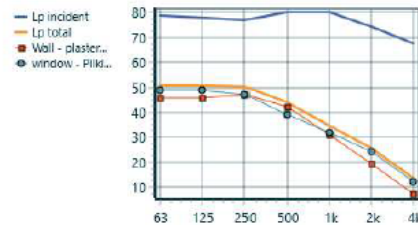
Job Name:

Job No.:

Date: 08/10/2025

File Name:

Initials: info



Octave Band Centre Frequency (Hz)								
Source	63	125	250	500	1k	2k	4k	NR
Incident sound level (freefield)	79.0	78.1	77.2	80.2	80.1	74.5	67.5	80.1
Path								
Element 1, STL	-36	-35	-33	-41	-52	-58	-63	38.3
Facade Shape factor Level diff.	0	0	0	0	0	0	0	
Insertion Loss	0	0	0	0	0	0	0	
Area (+10LogA), 7 m²	8.2	8.2	8.2	8.2	8.2	8.2	8.2	
Element sound level contribution	46	46	47	42	31	19	7	
Element 2, STL	-27	-26	-27	-38	-45	-47	-52	37.8
Facade Shape factor Level diff.	0	0	0	0	0	0	0	
Insertion Loss	0	0	0	0	0	0	0	
Area (+10LogA), 2 m²	2.3	2.3	2.3	2.3	2.3	2.3	2.3	
Element sound level contribution	49	49	47	39	32	24	12	
Receiver								
Room volume (-10LogV), 20.91 m³	-2.2	-2.2	-2.2	-2.2	-2.2	-2.2	-2.2	41.0
Reverberation time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	
RT (+10LogT)	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	
Equation Constant	11	11	11	11	11	11	11	
Room sound level	51	51	50	44	35	26	14	
Level difference								
D2m,nT	31.4	30.4	30.2	39.4	48.7	52.0	57.0	80.1

** Element descriptions:

#1: Wall - plastered solid brick, rendered

Wall (Single):

• Panel 1: 1 x 122 mm Plastered Brick + 1 x 10 mm Sand/Cement render (plaster)

• Details: Panel Size: 2.7 m x 4.0 m, Partition surface mass = 211 kg/m²

#2: window - Pilkington 6/16/6.8 phon

Glazing (Double):

• Pane 1: 1 x 6 mm Glass

• Cavity: 16 mm

• Pane 2: 1 x 7.18 mm Laminated Glass (Pilkington Optip...

• Details: Energy-based model, Panel Size: 1.3 m x 1.5 m, Partition surface mass = 31.5 kg/m², Mass-air-mass resonant frequency = 167 Hz

First Floor B6

Day

Outdoor To Indoor Sound Transmission (v10.0.6)

Program copyright Marshall Day Acoustics

Margin of error is generally within ± 3 dB

- Key No. 2594

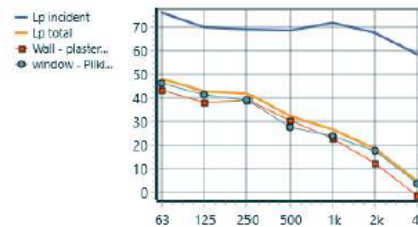
Job Name:

Job No.:

Date: 08/10/2025

File Name:

Initials: info



Octave Band Centre Frequency (Hz)								
Source	63	125	250	500	1k	2k	4k	NR
Incident sound level (freefield)	76.0	69.9	68.9	68.5	71.7	67.3	58.5	71.7
Path								
Element 1, STL	-36	-35	-33	-41	-52	-58	-63	28.9
Facade Shape factor Level diff.	0	0	0	0	0	0	0	
Insertion Loss	0	0	0	0	0	0	0	
Area (+10LogA), 6 m²	8.0	8.0	8.0	8.0	8.0	8.0	8.0	
Element sound level contribution	43	38	39	30	23	12	-2	
Element 2, STL	-27	-26	-27	-38	-45	-47	-52	29.1
Facade Shape factor Level diff.	0	0	0	0	0	0	0	
Insertion Loss	0	0	0	0	0	0	0	
Area (+10LogA), 2 m²	2.3	2.3	2.3	2.3	2.3	2.3	2.3	
Element sound level contribution	46	41	39	28	24	17	4	
Receiver								
Room volume (-10LogV), 20.00 m³	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	32.2
Reverberation time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	
RT (+10LogT)	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	
Equation Constant	11	11	11	11	11	11	11	
Room sound level	48	43	42	32	26	19	5	
Level difference								
D2m,nT	31.3	30.3	30.1	39.4	48.5	51.8	56.8	LpAinc - LpArev,T0
								71.7

** Element descriptions:

#1: Wall - plastered solid brick, rendered

Wall (Single):

- Panel 1: 1 x 122 mm Plastered Brick + 1 x 10 mm Sand/Cement render (plaster)

- Details: Panel Size: 2.7 m x 4.0 m, Partition surface mass = 211 kg/m²

#2: window - Pilkington 6/16/6.8 phon

Glazing (Double):

- Pane 1: 1 x 6 mm Glass

- Cavity: 16 mm

- Pane 2: 1 x 7.18 mm Laminated Glass (Pilkington Optiplex)

- Details: Energy-based model, Panel Size: 1.3 m x 1.5 m, Partition surface mass = 31.5 kg/m², Mass-air-mass resonant frequency = 167 Hz

Night

Outdoor To Indoor Sound Transmission (v10.0.6)

Program copyright Marshall Day Acoustics

Margin of error is generally within ± 3 dB

- Key No. 2594

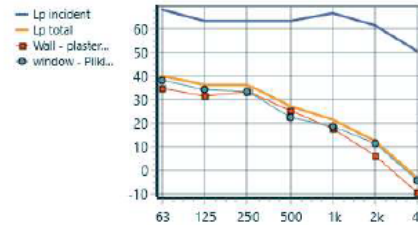
Job Name:

Job No.:

Date: 08/10/2025

File Name:

Initials: info



Octave Band Centre Frequency (Hz)								
Source	63	125	250	500	1k	2k	4k	NR
Incident sound level (freefield)	68.1	63.5	63.2	63.3	66.8	61.5	50.6	66.8
Path								
Element 1 , STL	-36	-35	-33	-41	-52	-58	-63	22.7
Facade Shape factor Level diff.	0	0	0	0	0	0	0	
Insertion Loss	0	0	0	0	0	0	0	
Area (+10LogA), 7 m²	8.2	8.2	8.2	8.2	8.2	8.2	8.2	
Element sound level contribution	35	31	33	25	18	6	-9	
Element 2 , STL	-27	-26	-27	-38	-45	-47	-52	22.8
Facade Shape factor Level diff.	0	0	0	0	0	0	0	
Insertion Loss	0	0	0	0	0	0	0	
Area (+10LogA), 2 m²	2.3	2.3	2.3	2.3	2.3	2.3	2.3	
Element sound level contribution	38	34	33	22	19	11	-4	
Receiver								
Room volume (-10LogV), 20.91 m³	-2.2	-2.2	-2.2	-2.2	-2.2	-2.2	-2.2	26.0
Reverberation time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	
RT (+10LogT)	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	
Equation Constant	11	11	11	11	11	11	11	
Room sound level	40	36	36	27	21	13	-3	
Level difference								
D2m,nT	31.4	30.4	30.2	39.4	48.7	52.0	57.0	LpAinc - LpARev,T0 66.8

** Element descriptions:

#1: Wall - plastered solid brick, rendered

Wall (Single):

- Panel 1: 1 x 122 mm Plastered Brick + 1 x 10 mm Sand/Cement render (plaster)
- Details: Panel Size: 2.7 m x 4.0 m, Partition surface mass = 211 kg/m²

#2: window - Pilkington 6/16/6 phon

Glazing (Double):

- Panel 1: 1 x 6 mm Glass
- Cavity: 16 mm
- Panel 2: 1 x 7.18 mm Laminated Glass (Pilkington Optiplex)
- Details: Energy-based model, Panel Size: 1.3 m x 1.5 m, Partition surface mass = 31.5 kg/m², Mass-air-mass resonant frequency = 167 Hz

Night-time LAMax

Outdoor To Indoor Sound Transmission (v10.0.6)

Program copyright Marshall Day Acoustics

Margin of error is generally within ± 3 dB

- Key No. 2594

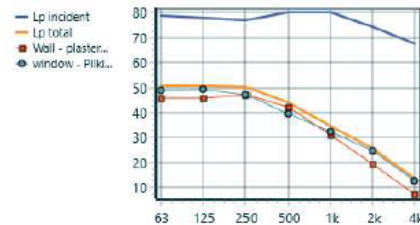
Job Name:

Job No.:

Date: 08/10/2025

File Name:

Initials: info



Octave Band Centre Frequency (Hz)								
Source	63	125	250	500	1k	2k	4k	NR
Incident sound level (freefield)	79.0	78.1	77.2	80.2	80.1	74.5	67.5	80.1
Path								
Element 1, STL	-36	-35	-33	-41	-52	-58	-63	38.3
Facade Shape factor Level diff.	0	0	0	0	0	0	0	
Insertion Loss	0	0	0	0	0	0	0	
Area (+10LogA), 6 m²	8.0	8.0	8.0	8.0	8.0	8.0	8.0	
Element sound level contribution	46	46	47	42	31	19	7	
Element 2, STL	-27	-26	-27	-38	-45	-47	-52	38.0
Facade Shape factor Level diff.	0	0	0	0	0	0	0	
Insertion Loss	0	0	0	0	0	0	0	
Area (+10LogA), 2 m²	2.3	2.3	2.3	2.3	2.3	2.3	2.3	
Element sound level contribution	49	49	47	39	32	25	13	
Receiver								
Room volume (-10LogV), 20.00 m³	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	41.1
Reverberation time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	
RT (+10LogT)	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	
Equation Constant	11	11	11	11	11	11	11	
Room sound level	51	51	50	44	35	26	14	
Level difference								
D2m,nT	31.3	30.3	30.1	39.4	48.5	51.8	56.8	LpAinc - LpArev,T0 80.1

** Element descriptions:

#1: Wall - plastered solid brick, rendered

Wall (Single):

• Panel 1: 1 x 122 mm Plastered Brick + 1 x 10 mm Sand/Cement render (plaster)

• Details: Panel Size: 2.7 m x 4.0 m, Partition surface mass = 211 kg/m²

#2: window - Pilkington 6/16/6.8 phon

Glazing (Double):

• Pane 1: 1 x 6 mm Glass

• Cavity: 16 mm

• Pane 2: 1 x 7.18 mm Laminated Glass (Pilkington Optiplex)

• Details: Energy-based model, Panel Size: 1.3 m x 1.5 m, Partition surface mass = 31.5 kg/m², Mass-air-mass resonant frequency = 167 Hz

Appendix C – Separating Structure Details

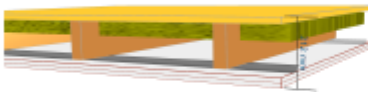
Separating Floors

Sound Insulation Prediction (v10.0.6)

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Date: 08/10/2025

Job Name:



R_w 57 dB

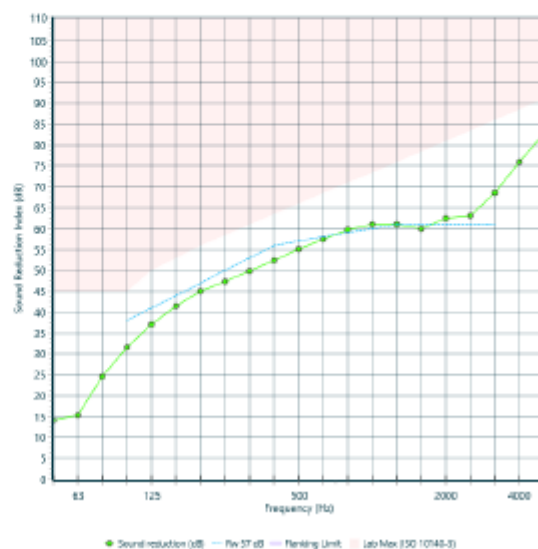
C -2 dB

Ctr -8 dB

System description

Panel 1 1 x 20 mm Flooring Particle Board
Frame Solid Joist with resilient rail (144 mm x 47 mm), Stud spacing 600 mm, Cavity Width 162 mm + 60 mm Fibreglass (10kg/m3) 60mm
Panel 2 2 x 15 mm Gyproc Fireline 15mm
Details Panel Size 2.7 m x 4.0 m, Partition surface mass = 38.2 kg/m², Mass-air-mass resonant frequency = 49 Hz

freq. (Hz)	R (dB)	Roct (dB)
50	14	
63	15	16
80	25	
100	31	
125	37	35
160	41	
200	45	
250	47	47
315	50	
400	52	
500	55	55
630	58	
800	60	
1000	61	61
1250	61	
1600	60	
2000	62	62
2500	63	
3150	68	
4000	76	72
5000	83	





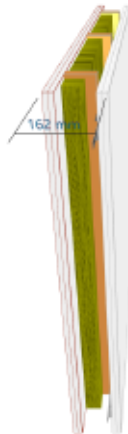
Separating Wall

Sound Insulation Prediction (v10.0.6)

Program copyright Marshall Day Acoustics 2023 | Margin of error is generally within $R_w \pm 3$ dB

Date: 08/10/2025

Job Name:



R_w 58 dB

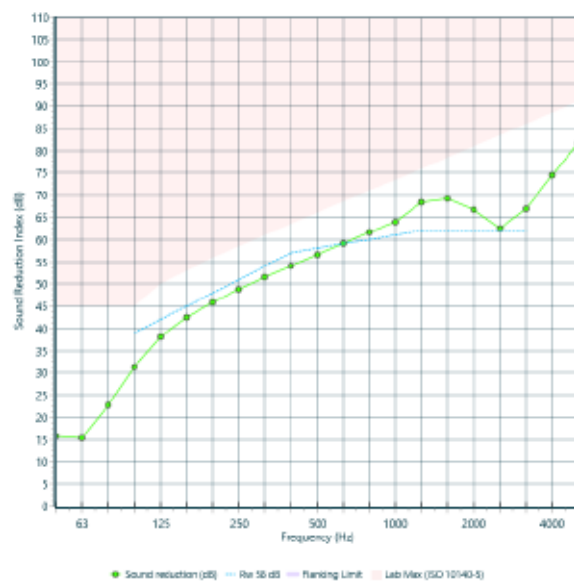
C -2 dB

Ctr -9 dB

System description

Panel 1 2 x 15 mm Gyproc Fireline 15mm
Frame Timber stud + Resilient rail/bar (90 mm x 45 mm), Stud spacing 600 mm, Cavity Width 102 mm + 60 mm Fibreglass (10kg/m3) 60mm
Panel 2 2 x 15 mm Gyproc Fireline 15mm
Details Panel Size 2.7 m x 4.0 m, Partition surface mass = 47.4 kg/m², Mass-air-mass resonant frequency = 53 Hz

freq. (Hz)	R (dB)	Roct (dB)
50	16	
63	15	17
80	23	
100	31	
125	38	35
160	43	
200	46	
250	49	48
315	51	
400	54	
500	57	56
630	59	
800	62	
1000	64	64
1250	68	
1600	69	
2000	67	65
2500	63	
3150	67	
4000	75	71
5000	82	





Appendix D - Report Author Details

This report has been produced by Neil Martin, BSc (Hons), PGDip, CEnvH MCIEH, MIOA.

Neil is the principal acoustic consultant at Martin Environmental Solutions Ltd, a consultancy company specialising in Environmental Health disciplines including environmental noise assessment and control. He holds a Bachelor's degree in Environmental Health and Diploma in Acoustics. He is a Chartered Member of the Chartered Institute of Environmental Health and a Full member of the Institute of Acoustics.

Neil has over 20 years' experience working within a Local Authority Environmental Health setting, principally in the Environmental Protection and Public Health areas and has been working as an acoustic consultant since 2011.

Since its formation, Martin Environmental Solutions has advised and assisted many groups including residents, developers and local authorities about the problems of noise and vibration in the environment and the possible solutions. Neil also acts as an expert witness in the area of acoustics.