
UZIMA LTD

**PROPOSED DENTAL PRACTICE
23 NEWBOLD ROAD, DESFORD, LEICESTER.
LE9 9GT**

NOISE IMPACT ASSESSMENT

Client: UZIMA LTD.

Report Ref: P10465-NA1-V1

Issue Date: 8th September, 2026

Document Status: Version 1



DATE ISSUED: 8th SEPTEMBER, 2026

REPORT REFERENCE P10465-NA1-V1

UZIMA LTD

NOISE IMPACT ASSESSMENT

**PROPOSED DENTAL PRACTICE, 23 NEWBOLD ROAD,
DESFORD, LEICESTERSHIRE LE9 9GT**

REPORT VERSION CONTROL:

Document Reference	Date	Report Prepared by	Report Checked by	Report Authorised by
P10465-NA1-V1	08/09/26	S. Moore BSc (Hons), MSc CEng, MIMarEST	M. J. Malone, BSc (Hons), MIOA	M. J. Malone, BSc (Hons), MIOA
				

This report has been prepared by NoiseAir Limited with all reasonable skill, care and diligence, within the terms of the contract with the client. The report is confidential to the Client and NoiseAir Limited accept no responsibility of whatever nature to third parties to whom this report may be made known.

No part of this document may be reproduced without the prior written approval of NoiseAir Limited.

CONTENTS

1	INTRODUCTION	4
2	THE PREVAILING NOISE ENVIRONMENT	6
3	NOISE PRINCIPLES, STANDARDS AND RELEVANT GUIDANCE	9
4	NOISE IMPACT ASSESSMENT	12
5	CONCLUSIONS	14

APPENDICES

APPENDIX A - REPORT LIMITATIONS

APPENDIX B - GLOSSARY

1 INTRODUCTION

- 1.1.1 Uzima Ltd propose to convert the former Cooperative food store premises at 23 Newbold Road, Desford LE9 9GT to a medical/dental practice, within Planning Use Class E(e). The proposals include minor external alterations to the front and side elevations and the installation of condensing units along one side elevation.
- 1.1.2 The property is located reasonably close to existing dwellings, and Hinckley and Bosworth Borough Council has requested a noise impact assessment to demonstrate that the proposals would not give rise to unacceptable adverse effects on the amenity of local residents.
- 1.1.3 NoiseAir was commissioned to carry out a noise survey at the site to establish the prevailing noise environment in the locality and to provide advice to ensure that, following completion of the alterations, the amenity of existing nearby residents remains protected.
- 1.1.4 The recommendations made in this report are based on the results of a protracted noise survey at the site, on the scheme proposals as supplied to us by IDC Architecture and the Standards and guidance relating to noise in the environment.

1.2 The Site and its surroundings

- 1.2.1 The application site is located at 23 Newbold Road, Desford, Leicestershire. It is located within a residential area with only relatively minor commercial activity in the vicinity of the site.
- 1.2.2 The site is undulating but not markedly so. The land rises slightly to the rear with dwellings behind Cottage Lane and to the west on Newbold Road. Number 29 Newbold Road and number 6 Cottage Lane are the dwellings closest to the application site and to the mechanical plant that is to be installed.
- 1.2.3 There are dwellings on Newbold Road to the east and south of the site but they are unlikely to be affected by noise from the plant.
- 1.2.4 Newbold Road is not a heavily trafficked thoroughfare and is mainly used by residential traffic.
- 1.2.5 The site location plan is shown in **Figure 1** below.

Location Plan
Site Address: Easting: 447608 Northing: 303611

Planning Portal

Date Produced: 16-May-2026

Scale: 1:1250 @A4



Figure 1: Site location plan

1.3 The Development Proposals

- 1.3.1 The property was, until earlier this year, in use as a food retail store. Although its trading hours were limited to between 7am and 8pm, the former high-level condensing units on the western elevation are likely to have operated outside those hours to maintain the low temperatures required for chilled and frozen produce.
- 1.3.2 The proposal is to convert the property into a medical and dental practice operating between 9am and 5.30pm, Monday to Friday only, at this stage.
- 1.3.3 The alterations to the building itself are limited and have no material acoustic impact. The proposed dental practice will, however, require a number of condensing units to be installed on the western flank of the building, in positions broadly similar to those previously occupied by the food store's condensing units. The proposed units will operate during the daytime practice hours only.

2 THE PREVAILING NOISE ENVIRONMENT

- 2.1.1 Protracted measurements of the prevailing noise climate were made at the position shown in Figure 2 below and identified as ML1.



Figure 2: Noise measurement position

- 2.1.2 Measurements were made between the 20th and 26th August, 2026.
- 2.1.3 The surveys were conducted using the following Class 1 integrating sound level meter.

Table 1: Summary of SLM Used for Survey and Associated Field Calibration				
SLM (Serial Number)	Preamp (Serial Number)	Microphone (Serial Number)	Calibrator (Serial Number)	Calibration Drift
LARSON DAVIS (40655)	PRM821 (2156)	377B02 (364998)	B&K4231 (2482550)	< 0.2

- 2.1.2 The equipment was calibrated before and after the noise monitoring periods with no significant drift observed.
- 2.1.3 Weather conditions over the survey period were within the bounds that permit representative estimates of the prevailing noise environment to be obtained. There was no precipitation during the survey period, wind speeds were generally below 5 m/s and predominately from the east, and the temperature and humidity were within prescribed limits. The weather data was obtained from the ILEICE32 weather station which is the station closest to the site and is presented below.

Table 2: Summary weather conditions during survey period

Date	Temperature (°F)			Dew Point (°F)			Humidity (%)			Wind Speed (mph)			Pressure (in)		Rain (in)
	High	Avg	Low	High	Avg	Low	High	Avg	Low	High	Avg	Low	High	Low	
21/08/2026	69.3	59.4	32.0	51.5	48.6	32.0	87	69	0	6.6	2.1	0.0	30.10	29.83	0.00
22/08/2026	70.2	59.0	47.5	49.8	46.6	44.0	89	66	43	3.9	1.3	0.0	30.26	30.09	0.00
23/08/2026	75.0	61.0	46.2	51.9	46.7	41.6	94	63	33	5.5	1.7	0.0	30.29	30.20	0.00
24/08/2026	70.5	61.4	51.3	52.5	49.2	46.3	84	65	44	9.4	4.7	0.1	30.24	30.01	0.00
25/08/2026	76.1	64.2	32.0	56.7	53.3	32.0	91	70	0	9.1	5.0	1.4	30.03	29.88	0.00
26/08/2026	78.1	67.1	59.4	64.1	59.8	55.9	95	79	55	7.5	4.2	2.2	29.93	29.84	0.00

2.1.4 The variation in noise levels at position ML1 is shown in **Figure 3**.

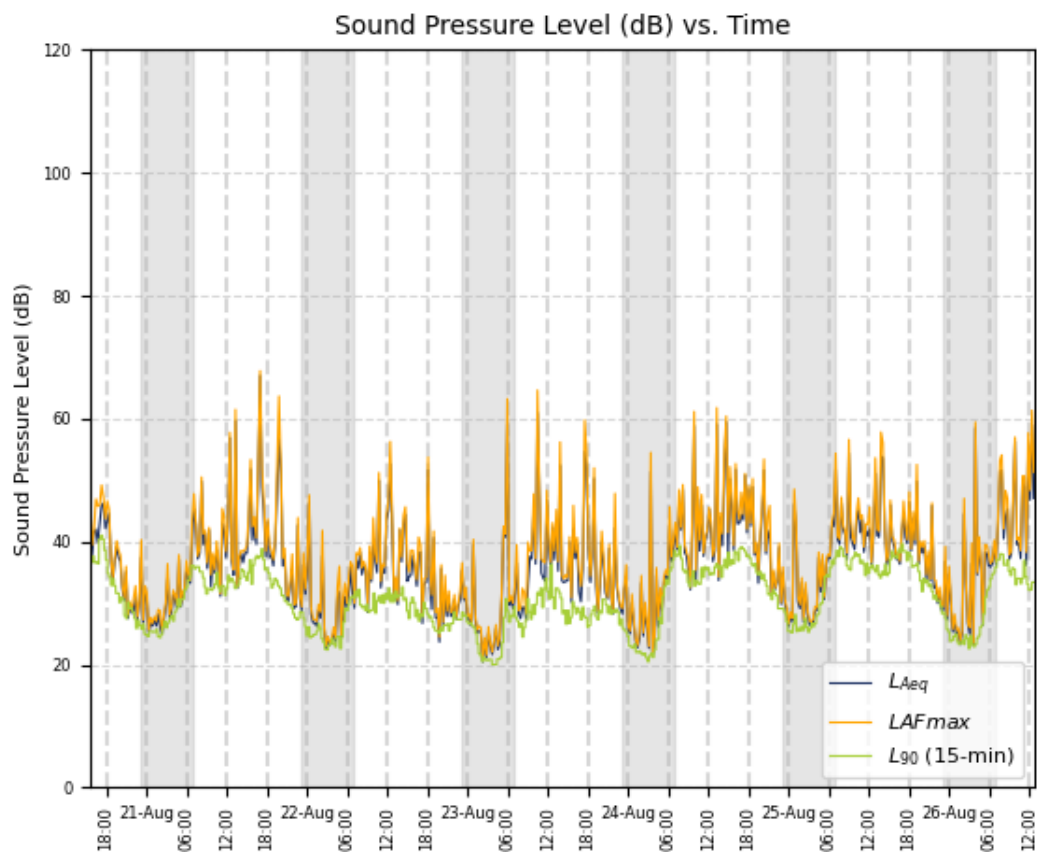


Figure 3: Chart showing the variation in noise during the survey period

2.1.5 A synopsis of the above data, separated into daytime and night-time periods, is given in

Table 3 below:

Table 3: Daytime and night-time noise levels			
Date	L _{Aeq} (Day)	L _{Aeq} (Night)	L _A F _{max} (11th highest)
20/08/2026	47.5	36.6	61.4
21/08/2026	47.6	39.7	64.8
22/08/2026	44.3	37.1	63.9
23/08/2026	47.1	41	66.4
24/08/2026	46.1	38.6	60.1
25/08/2026	46.8	41.9	65.9
26/08/2026	53.1		

- 2.1.6 A more detailed analysis of the data presented in **Figure 3** indicates that the lowest weekday daytime background noise levels during the proposed opening hours of the dental practice, expressed as LA₉₀,1hr, fall within the range 34 dB to 36 dB LA₉₀,1hr.
- 2.1.7 The site and its surroundings are, in noise terms, characterised by a moderately low prevailing noise environment.

3 NOISE PRINCIPLES, STANDARDS AND RELEVANT GUIDANCE

- 3.1.1 Noise in the environment is a constantly varying phenomenon and it is generally described by reference to a range of parameters that best describe differing components of the noise environment. There are very many parameters that are used but in relation to planning, there are generally only a few in regular use.
- 3.1.2 These parameters provide estimates for the ambient noise, that is the totally encompassing sound at a given time and given situation and is composed of all sounds, both local and distant; the background noise which is that remaining when all local sources are no longer present to any degree, and the maximum transient noise, which are the very short duration peaks in the noise. The above three features of the noise environment are expressed as the L_{eq} , the L_{90} and the L_{Amax} respectively.
- 3.1.3 In planning terms, the principal document that provides the policy framework and pertinent advice is the National Planning Policy Framework (NPPF). It confirms that planning decisions should seek to prevent unacceptable levels of noise pollution through a planning policy statement specific to noise. That policy statement is the Noise Policy Statement for England (NPSE). It says that developments should be designed such that potential adverse impacts arising from them are minimised and that avoidance of noise giving rise to significant adverse impacts on health and quality of life is paramount. Also, where possible, identify and protect tranquil areas that are relatively undisturbed by noise and have recreational and amenity values.
- 3.1.4 The NPSE, in relation to its objectives, introduces a series of noise categories with respect to adverse impacts. These range from the case where there is no observed effect on health or quality of life through to the lowest observed adverse effect level (LOAEL) and up to the state where there is a significant observed adverse effect level (SOAEL) on either or both health or quality of life.
- 3.1.5 The latter state (SOAEL) is to be avoided and an impact that lies between LOAEL and SOAEL levels should, as far as reasonably practicable, be mitigated to a degree governed generally by reference to other established sources of relevant guidance.
- 3.1.6 Amongst the objectives of the NPSE is the call, where possible, to improve health and quality of life, though this is not always possible.
- 3.1.7 The NPSE does not seek to quantify the boundaries between the three states of impact. Assistance with the interpretation of the relationship between response outcomes, effect levels and action requirements is available in the National Planning Practice Guidance note.

This document establishes a hierarchy for consideration with respect to noise when planning decisions are under consideration.

- 3.1.8 In terms of relevant and more specific guidance on acceptable noise limits for common situations, these are set out in a number of Standards and guidance documents.
- 3.1.9 The first of these is Pro-PG 2017 Planning and Noise. This provides guidance on achieving a good acoustic design for new residential development close to sources of transportation noise.
- 3.1.10 The approach to the assessment is in two stages; the first stage is an initial risk assessment of the development and the second is a systematic consideration of four key elements. These elements which are to be considered in parallel are, in rank order: showing good acoustic design, observing internal noise guidelines, conducting an external amenity area noise assessment and deliberation of other issues.
- 3.1.11 For internal noise level guidelines, these are taken from BS 8233:2014 and are shown in **Table 4** below:

Table 4: Summary of internal noise guidelines – BS 8233:2014.			
Activity	Location	07:00 – 23:00 hours	23:00 – 07:00 hours
Resting	Living Room	35 dB $L_{Aeq,16hour}$	-
Dining	Dining room / area	40 dB $L_{Aeq,16hour}$	-
Sleeping (daytime resting)	Bedroom	35 dB $L_{Aeq,16hour}$	30 dB $L_{Aeq,8hour}$

- 3.1.12 The figures in the above table are based on noise that has no specific character. For noise that has no noticeable characteristics or an irregularity that is sufficient to attract attention, then lower noise limits may be apposite.
- 3.1.13 In addition to consideration of the $L_{Aeq,T}$ index, in the night period, the noise arising from individual events that are quantified with the L_{Amax} or SEL metrics. There is a great deal of uncertainty as to the level of transient noise and the number of such events that give rise to sleep disturbance. This is largely related to the difficulty in specifying precisely what constitutes disturbance to sleep.
- 3.1.14 It is suggested that transient noise levels in bedrooms overnight, arising from external stimuli, should not exceed a level of 45 dB L_{Amax} more than 10-15 times at night. This represents one of the current design objectives for residential development.

-
- 3.1.15 For the external assessment, the advice draws on guidelines set out by the World Health Organisation and which are also presented in BS 8233:2014.
- 3.1.16 The Standard advises that the acoustic environment of external amenity areas are an intrinsic consideration within the overall design and should, preferably, not be above the range 50-55 dB L_{Aeq} (16hour), though exceeding the upper limit is not, of itself, a reason to prevent development.
- 3.1.17 For developments of an industrial nature or those having an element of noise-producing plant or equipment, the Standard to be consulted is BS4142:2014+A1:2019.
- 3.1.18 This is a method for rating and assessing industrial and commercial sound which includes noise from fixed and in some cases, moving plant or equipment.
- 3.1.19 The method of assessment relies on rating the sound being assessed, when corrections for any distinguishable features that it may have are applied. The rating level is then compared with a representative measurement of the prevailing background noise level.
- 3.1.20 The assessment of the impact depends on the degree by which the rating level exceeds the background noise level. Typically, the greater difference between the two, the greater the magnitude of the impact. When the difference is greater than +10dB, the adverse impact is deemed to be significant; a difference of +5dB may give rise to an adverse impact depending on the prevailing circumstances and where the rating level is below the background noise level, there is likely to be a low impact.

4 NOISE IMPACT ASSESSMENT

4.1 Basis

- 4.1.1 The assessment is based on there being a total of 6 condensing units positioned in the manner shown on IDC Architecture drg. no.:26017 – 04 – D, 'Proposed Elevations', dated March 2026.
- 4.1.2 These units are all Daikin RXM25R condensers, each having a rated sound power level of 55 dBA, when operating in 'quiet' mode.
- 4.1.3 Using the submitted site plan (Planning Portal Ref. PP-14938513v1), the proposed elevations drawing and available ground-height information, a 3D model of the site and its surroundings was constructed using SoundPLAN v9.1.
- 4.1.4 The property of most concern is number 29 Newbold Road which is the nearest affected property.

4.2 Model Results

- 4.2.1 The results, taking a most likely worst-case scenario of having all condensers operating at full capacity, are shown in **Figure 4** below.

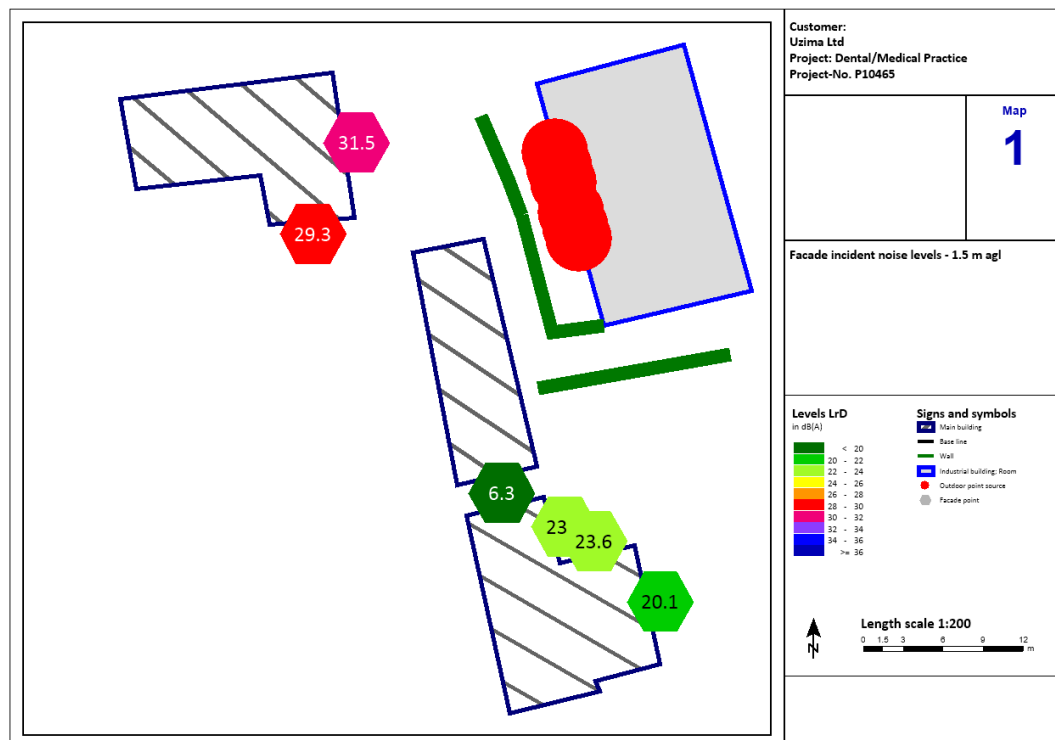


Figure 4: Predicted noise levels at 1.5 m agl.

4.2.2 The highest noise level incident on number 29 Newbold Road is 31.5 dBA.

4.3 BS4142 Assessment.

4.3.1 A BS4142 assessment compares the specific noise level incident on the nearest sensitive receptor, rated for any attention attracting characteristics, with the prevailing background noise level in that location. The likelihood of adverse comment is related to the degree by which the rating level exceeds the background noise level.

4.3.2 The specific noise level, from **Figure 4** above is 31.5 dBA. This is rounded to 32 dBA for the purpose of this assessment.

4.3.3 The noise emitted by the proposed condensing units is not expected to be tonal, impulsive or intermittent. It may, however, be just perceptible as a distinct mechanical source in the local acoustic environment and, on that basis, a +3 dB rating correction has been applied in accordance with BS 4142:2014+A1:2019.

4.3.4 In this case, the rating level would be 35 dBA.

4.3.5 From the survey, the prevailing lowest background noise level was 34 dBA during the normal business hours of the dental practice.

4.3.6 Hence the difference between the rating level and the background noise level is +1 dBA.

4.3.7 Where the rating level does not exceed the background noise level, this is an indication of low impact, depending on context. In this case, the marginal +1 dB exceedance is considered unlikely to give rise to an adverse impact, particularly as the practice will operate only between 9am and 5.30pm.

4.3.8 In the past, when the Cooperative food store was in operation, noise emission levels associated with the type and model of condensing units they had installed were higher than the quieter condensing units now being proposed for the dental practice.

4.4 Uncertainty

4.4.1 There is some uncertainty in relation to the survey data collected. The measurement position was in a location which would be likely to be subjected to a greater degree of screening than that experienced at the nearest affected property. The consequence of this is that background noise levels recorded are likely to be lower than at the nearest receptor. It is likely therefore that the assessment overstates the impact.

5 CONCLUSIONS

- 5.1.1 Uzima Ltd. propose to convert premises at 23 Newbold Road, Desford, Leicestershire LE9 9GT for use as a medical/ dental practice.
- 5.1.2 As part of the redevelopment, it is proposed to install 6 no. condensers in the same location as those which previously serviced the cooling load for the Cooperative food retail store, albeit that the new condensers will be significantly quieter than the ones previously used.
- 5.1.3 Noise Air have conducted a protracted noise survey on the site with the objective of establishing the prevailing ambient and background sound levels in the vicinity of the development site.
- 5.1.4 Predictions of the resultant impact of noise arising from the operation of the condensers under full load conditions indicates that when judged in relation to the requirements of BS4142, adverse comment is unlikely.
- 5.1.5 Provided the condensers that have formed the basis of this assessment are installed, there is no reason on the grounds of noise, why permission for the proposed development should not be granted.

APPENDIX A - REPORT LIMITATIONS

This Report is presented to Uzima Ltd may not be used or relied on by any other person or by Tate in relation to any other matters not covered specifically by the scope of this report.

Notwithstanding anything to the contrary contained in the report, NoiseAir Limited is obliged to exercise reasonable skill, care and diligence in the performance of the services required by Uzima Ltd and NoiseAir shall not be liable except to the extent that it has failed to exercise reasonable skill, care and diligence, and this report shall be read and construed accordingly.

This report has been prepared by NoiseAir Limited. No individual is personally liable in connection with the preparation of this report. By receiving this report and acting on it, Tate or any other person accepts that no individual is personally liable whether in contract, tort, for breach of statutory duty or otherwise.

The conclusions and recommendations contained in this report are based upon information provided by others and upon the assumption that all relevant information has been provided by those parties from who it has been requested and that such information is accurate. Information obtained by NoiseAir Limited has not been independently verified by NoiseAir Limited unless otherwise stated in the report and should be treated accordingly.

Where assessments of works or costs identified in this report are made, such assessments are based upon the information available at the time and where appropriate are subject to further investigations or information which may become available.

Where / if estimates and projects are made within this report, are made based on reasonable assumptions as of the date of this report, such statements however by their very nature involve risks and uncertainties that could cause actual results to differ materially from the results predicted. NoiseAir Limited specifically does not guarantee or warrant any estimates or projects contained in this report.

DISCLAIMER- This report was prepared by NoiseAir Limited. The material in it contains NoiseAir Limited best judgment in light of the information available at the time of preparation of this report. Any use which a third party makes of this report, or any reliance on, or decisions based on it are the responsibility of such third parties. NoiseAir Limited accept no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions taken based on this report.

APPENDIX B - GLOSSARY

A-weighted sound pressure, p_A	Value of overall sound pressure, measured in pascals (Pa), after the electrical signal derived from a microphone has been passed through an A-weighting network. <i>NOTE: The A-weighting network modifies the electrical response of a sound level meter with frequency in approximately the same way as the sensitivity of the human hearing system.</i>
A-weighted sound pressure level, L_{pA}	Quantity of A-weighted sound pressure in decibels (dBA).
Acoustic environment	Sound from all sound sources as modified by the environment [BS ISO 12913-1:2013].
Ambient sound	Totally encompassing sound in a given situation at a given time, usually composed of sound from many sources near and far. <i>NOTE: The ambient sound comprises the residual sound and the specific sound when present.</i>
Ambient sound level, $L_a = L_{Aeq,T}$ (BS4142:2014)	Equivalent continuous A-weighted sound pressure level of the totally encompassing sound in a given situation at a given time, usually from many sources near and far, at the assessment location over a given time interval, T <i>NOTE: The ambient sound level is a measure of the residual sound and the specific sound when present.</i>
Background sound	Underlying level of sound over a period, T, which might in part be an indication of relative quietness at a given location.
Background sound level, $L_{A90,T}$ (BS4142:2014)	A-weighted sound pressure level that is exceeded by the residual sound at the assessment location for 90% of a given time interval, T, measured using time weighting F and quoted to the nearest whole number of decibels.
Break-in	Noise transmission into a structure from outside.
Break-out	Noise transmission from inside a structure to the outside.
Cross-talk	Noise transmission between one room and another room or space via a duct or other path.
C_{tr}	Correction term applied against the sound insulation single-number values (R_w , D_w , and $D_{nT,w}$) to provide a weighting against low frequency performance. <i>NOTE: The reference values used within the C_{tr} calculation are based on urban traffic noise.</i>
Equivalent continuous A-weighted sound pressure level, $L_{Aeq,T}$	Value of the A-weighted sound pressure level in decibels (dB) of a continuous, steady sound that, within a specified time interval, T, has the same mean-squared sound pressure as the sound under consideration that varies with time.
Equivalent continuous A-weighted sound pressure level, $L_{Aeq,T}$ (BS4142:2014)	Value of the A-weighted sound pressure level in decibels of continuous steady sound that, within a specified time interval, $T = t_2 - t_1$, has the same mean-squared sound pressure as a sound that varies with time.
Equivalent sound absorption area of a room, A	Hypothetical area of a totally absorbing surface without diffraction effects, expressed in square metres (m ²), which, if it were the only absorbing element in the room, would give the same reverberation time as the room under consideration
Facade level	Sound pressure level 1 m in front of the façade. <i>NOTE: Facade level measurements of L_{pA} are typically 1 dB to 2 dB higher than corresponding free-field measurements because of the reflection from the facade.</i>

Free-field level	Sound pressure level away from reflecting surfaces. <i>NOTE: Measurements made 1.2 m to 1.5 m above the ground and at least 3.5 m away from other reflecting surfaces are usually regarded as free-field. To minimize the effect of reflections the measuring position has to be at least 3.5 m to the side of the reflecting surface (i.e. not 3.5 m from the reflecting surface in the direction of the source). Estimates of noise from aircraft overhead usually include a correction of 2 dB to allow for reflections from the ground.</i>
Impact sound pressure level, L_i	Average sound pressure level in a specific frequency band in a room below a floor when it is excited by a standard tapping machine or equivalent.
Indoor ambient noise	Noise in a given situation at a given time, usually composed of noise from many sources, inside and outside the building, but excluding noise from activities of the occupants. <i>NOTE: The location(s) within the room at which the ambient indoor noise is to be measured or calculated ought to be considered.</i>
Measurement time interval, T_m (BS4142:2014)	Total time over which measurements are taken. <i>NOTE: This may consist of the sum of a number of non-contiguous, short-term measurement time intervals.</i>
Noise criteria	Numerical indices used to define design goals in a given space.
Noise rating, NR	Graphical method for rating a noise by comparing the noise spectrum with a family of noise rating curves.
Normalised impact sound pressure level, L_n	Impact sound pressure level normalized for a standard absorption area in the receiving room. <i>NOTE: Normalised impact sound pressure level is usually used to characterize the insulation of a floor in a laboratory against impact sound in a stated frequency band.</i>
Octave band	Band of frequencies in which the upper limit of the band is twice the frequency of the lower limit.
Percentile level, $L_{AN,T}$	A-weighted sound pressure level obtained using time-weighting "F", which is exceeded for N% of a specified time interval.
Reference time interval, T_r (BS4142:2014)	Specified interval over which the specific sound level is determined. <i>NOTE: This is 1 h during the day from 07:00 h to 23:00 h and a shorter period of 15 min at night from 23:00 h to 07:00 h.</i>
Residual sound (BS4142:2014)	Ambient sound remaining at the assessment location when the specific sound source is suppressed to such a degree that it does not contribute to the ambient sound.
Residual sound level, $L_r = L_{Aeq,T}$ (BS4142:2014)	Equivalent continuous A-weighted sound pressure level of the residual sound at the assessment location over a given time interval, T.
Rating level, L_{Ar,T_r}	Equivalent continuous A-weighted sound pressure level of the noise, plus any adjustment for the characteristic features of the noise. <i>NOTE: This is used in BS 7445 and BS 4142 for rating industrial noise, where the noise is the specific noise from the source under investigation.</i>
Reverberation time, T	Time that would be required for the sound pressure level to decrease by 60 dB after the sound source has stopped.
Sound exposure level, L_{AE}	Level of a sound, of 1 s duration, that has the same sound energy as the actual noise event considered.
Sound level difference, D	Difference between the sound pressure level in the source room and the sound pressure level in the receiving room.

Sound pressure, p	Root-mean-square value of the variation in air pressure, measured in pascals (Pa) above and below atmospheric pressure, caused by the sound.
Sound pressure level, L_p	Quantity of sound pressure, in decibels (dB).
Sound reduction index, R	Laboratory measure of the sound insulating properties of a material or building element in a stated frequency band.
Specific sound level, $L_s = L_{Aeq,T_r}$ (BS4142:2014)	Equivalent continuous A-weighted sound pressure level produced by the specific sound source at the assessment location over a given reference time interval, T_r .
Specific sound source (BS4142:2014)	Sound source being assessed.
Standardised impact sound pressure level, L_{nT}	Impact sound pressure level normalized to a reverberation time in the receiving room of 0.5 s.
Standardised level difference, D_{nT}	Difference in sound level between a pair of rooms, in a stated frequency band, normalized to a reference reverberation time of 0.5 s for dwellings.
Groundborne noise	Audible noise caused by the vibration of elements of a structure, for which the vibration propagation path from the source is partially or wholly through the ground. <i>NOTE Common sources of ground-borne noise include railways and heavy construction work on adjacent construction sites.</i>
Structure-borne noise	Audible noise caused by the vibration of elements of a structure, the source of which is within a building or structure with common elements. <i>NOTE Common sources of structure-borne noise include building services plant, manufacturing machinery and construction or demolition of the structure.</i>
Third octave band	Band of frequencies in which the upper limit of the band is 2% times the frequency of the lower limit.
Weighted level difference, D_w	Single-number quantity that characterizes airborne sound insulation between rooms, but which is not adjusted to reference conditions. <i>NOTE Weighted level difference is used to characterize the insulation between rooms in a building as they are. Values cannot normally be compared with measurements made under other conditions (see BS EN ISO 717-1).</i>
Weighted normalised impact sound pressure level, $L'_{n,w}$	Single-number quantity used to characterize the impact sound insulation of floors over a range of frequencies.
Weighted sound reduction index, R_w	Single-number quantity which characterizes the airborne sound insulating properties of a material or
Weighted standardised impact sound pressure level $L_{nT,w}$	Single-number quantity used to characterize the impact sound insulation of floors over a range of frequencies.
Weighted standardised level difference, $D_{nT,w}$	Single-number quantity that characterizes the airborne sound insulation between rooms.

Symbols

D_w	Weighted level difference (dB)
D_{nT}	Standardized level difference (dB)
$D_{nT,w}$	Weighted standardized level difference (dB)
L_{Amax}	Maximum noise level (dB)
$L_{Ar,Tr}$	Rating level (dB)
L_n	Normalised impact sound pressure level (dB)
L'_{nT}	Standardised impact sound pressure level (dB)
$L'_{nT,w}$	Weighted standardised impact sound pressure level (dB)
$L'_{n,w}$	Weighted normalised impact sound pressure level (dB)
L_p	Sound pressure level (dB)
L_{pA}	A-weighted sound pressure level (dB)
$L_{AN,T}$	Percentile level (dB)
L_{AE}	Sound exposure level (dB)
$L_{Aeq,T}$	Equivalent continuous A-weighted sound pressure level (dB)
p	Sound pressure (Pa)
p_A	A-weighted sound pressure (dB)

$p_{A(t)}$	Instantaneous A-weighted sound pressure (Pa)
R	Sound reduction index (dB)
R_w	Weighted sound reduction index (dB)
T	Time interval (also used for reverberation time) (s)
t_0	Reference time interval (s)

NoiseAir Limited

Specialist acoustic and air quality engineers providing a fast, professional, cost-effective service for all types of Acoustic Consultancy services across the UK.

Over 25 years of experience in the field.

Contact us now for a free, no obligation quote or to discuss your requirements.

NOISEAIR LIMITED, THE COUNTING HOUSE, HIGH STREET,
LUTTERWORTH. LE17 4AY

TEL. 0116 272 5908

EMAIL. INFO@NOISEAIR.CO.UK

WWW.NOISEAIR.CO.UK

