

RAD ACOUSTICS

Noise Impact Assessment

For Planning Application 25/00922/FUL

**Produced in Accordance with
Approved Document E 2003
Incorporating 2004, 2010, 2013 & 2015
Amendments.**

**Project Address:
231 Boarshaw Road
Middleton
Rochdale
M24 2WQ**

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1.0 Summary

RAD Acoustic have been appointed by Mr Ibrahim Bin Awais to Noise Impact Assessment for the development at 231 Boarshaw Road, Middleton, Rochdale, M24 2WQ.

The assessment were conducted in accordance with the latest version of Building Regulations Approved Document E (ADE) 2003 edition incorporating 2004, 2010, 2013 & 2015 amendments.

The results of the sound insulation tests have demonstrated that the airborne sound insulation of the tested separating walls and floor, complied with the performance requirements, contained within ADE and the Local Authority Framework Document, and so the tested elements may be regarded as having 'passed' the test. Report prepared and authorised by:

2.0 Introduction

This noise impact assessment has been prepared by Rizwan Ahmed on behalf of Mr Ibrahim Bin Awais (“the Applicant”) in support of the planning application (25/00922/FUL) for 231 Boarshaw Road, Middleton, Rochdale, M24 2WQ.

The assessment were conducted in accordance with the latest version of Building Regulations Approved Document E (ADE) 2003 edition incorporating 2004, 2010, 2013 & 2015 amendments.

The results of the sound insulation tests have demonstrated that the airborne sound insulation of the tested separating walls and floor, complied with the performance requirements, contained within ADE and the Local Authority Framework Document, and so the tested elements may be regarded as having ‘passed’ the test.

A noise survey has been undertaken to establish the prevailing sound levels at the proposed development. The findings have been subsequently used to assess the suitability of the site for residential use. Measures required to mitigate noise impacts for the proposed development have been assessed in accordance with the relevant performance standards, legislation, policy, and guidance.

3.0 Assessment Standards

Approved Document E

The new version of Building Regulations Approved Document E: 2003 came into force in July 2003, with the latest amendment being 2015. Among the aspects covered are a range of performance criteria required for Building Regulations approval. A brief summary of the performance criteria is shown below.

Type of Accommodation	Nature of Building Work	Transmission Paths	Type of Party Element	Performance Criterion (dB)
Dwellings	Purpose Built	Airborne	Wall	45 DnT _w +Ctr
			Floor	45 DnT _w +Ctr
			Stairs	45 DnT _w +Ctr
		Impact	Floor	62 L'nTw
Dwellings	Formed by Material Change of Use	Airborne	Wall	43 DnT _w +Ctr
			Floor	43 DnT _w +Ctr
			Stairs	43 DnT _w +Ctr
		Impact	Floor	64 L'nTw
Rooms for Residential Purposes	Purpose Built	Airborne	Wall	43 DnT _w +Ctr
			Floor	45 DnT _w +Ctr
			Stairs	45 DnT _w +Ctr
		Impact	Floor	62 L'nTw
Rooms for Residential Purposes	Formed by Material Change of Use	Airborne	Wall	43 DnT _w +Ctr
			Floor	43 DnT _w +Ctr
			Stairs	43 DnT _w +Ctr
		Impact	Floor	64 L'nTw

Note that, for airborne sound insulation, the larger value means better performance, so the values in the above table are minimum performance standards. For impact sound level, however, a lower value means better performance, so the values in the above table are maximum levels.

4.0 Sound Test Details

4.1 Dates

The sound insulation tests were conducted the hours 11:00am-2:00pm on Sunday 5th October 2025 & 3:00pm-6pm Thursday 9th October 2025.

Tests were carried out for completion stage sound insulation testing, to demonstrate compliance with the requirements of Approved Document E (2003 edition incorporating the 2004, 2010, 2013 and 2015 amendments).

4.2 Equipment

The following equipment was used:

Equipment Description	Manufacturer	Type Number	Type Number
Sound Level Meter	NTi Audio	XL2-TA	A2A-18213E0
Acoustic Calibrator	Brüel & Kjær	4231	3016820
Microphone	NTi Audio	MA220	09563
Power Amplifier	Norsonic	280	2804828
Tapping Machine	Norsonic	277	2776497
Dodecahedron Speaker	Norsonic	276	2766465

4.3 Test Method

The testing methods for airborne and impact sound insulation were in full accordance with the methods presented in BS EN ISO 140 Part 4:1998 'Field Measurements of Airborne Sound Insulation Between Rooms'.

The calculation of single number values was also in full accordance with ISO 717:1 and ISO 717:2. For airborne tests, two individual speaker positions were used for each source room, with a total of twelve individual one third octave measurements of ten seconds each, recorded for both the source and receiver rooms.

Twelve measurements were made of the reverberation time of the receiving room of each test. A steady noise level is generated via the B&K 2250 Sound Analyser, and then interrupted: From this, the reverberation time is calculated in accordance with ISO 3382:1997.

The sound level meter was calibrated at the beginning and end of the tests with no significant deviation observed.

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

4.4 Background

Background noise on site comprised heavily of local road traffic noise close to the premises. Measurements were made to monitor the background noise levels in the receiving rooms and situations where the level of background noise has influenced the measurement are highlighted on the test certificates.

4.5 Construction of Tested Element

The following information was provided by the client:

No information was provided by client.

ADE Wall Type 1

ADE Floor Type 3

4.6 Deviations

The following deviations to the test procedure were noted:

No deviations to the standard test procedure were noted.

5.0 Images



Image 1



Image 2

Image 1 & 2 are of the Games room on the first Floor from different points of the room



Image 3

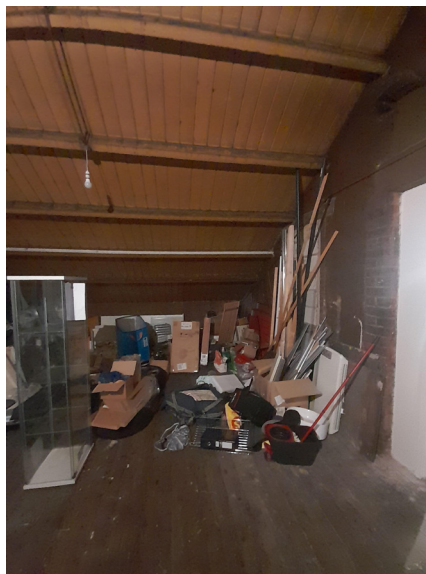


Image 4



Image 5

Image 2, 3 & 4 are of the Storage room on the first Floor from different points of the room



Image 6

Image 6 is the Void area located above the shop floor and the wall is facing Boarshaw Road



Image 7



Image 8

Image 7 & 8 are of the only door for customers to come into the shop and inside the shop in image 8, in the suspended ceiling (located above the door), is where the door entry sensor is



Image 9



Image 10

Image 9 & 10 are of the street view outside of 231 Boarshaw Road

5.0 Results

The results of the sound insulation tests are reproduced in the tables below, graphical presentation of the results may be found within Appendices 1 & 2.

Airborne sound insulation test results - Floors

Sunday 5th October 2025 11:00am-2:00pm

Source Room	Receiver Room	Source Room Volume (m ³)	Receiver Room Volume (m ³)	Performance (DnTw + Ctr)	Minimum Criterion (DnTw + Ctr)	Test Result
Storage (Ground Floor)	Games Room (First Floor)	50.78	48.84	68.42	43	FAIL
Shop Counter	Storage Room (First Floor)	79.76	62.65	78.89	43	FAIL
Shop Counter	Void Area (First Floor)	79.76	70.96	84.67	43	FAIL

External Noise Level Assessment - Boarshaw Road

Sunday 5th October 2025 11:00am-2:00pm

Source Area	Receiver Room	Source Area Volume (m ³)	Receiver Room Volume (m ³)	Performance (DnTw + Ctr)	Minimum Criterion (DnTw + Ctr)	Test Result
Outside of 231 Boarshaw Road	Void Area (First Floor)	66.82	52.65	71.89	43	FAIL

Airborne sound insulation test results - Walls

Sunday 5th October 2025 11:00am-2:00pm

Source Room	Source Room Noise	Minimum Criterion (DnTw + Ctr)	Test Result
Games Room (First Floor)	48.84	45	FAIL
Void Area (First Floor)	70.96	45	FAIL
Storage Room	62.65	45	FAIL

The results of the sound insulation tests are reproduced in the tables below, graphical presentation of the results may be found within Appendices 1 & 2.

Airborne sound insulation test results - Floors

Thursday 9th October 2025 3:00pm-6:00pm

Source Room	Receiver Room	Source Room Volume (m ³)	Receiver Room Volume (m ³)	Performance (DnTw + Ctr)	Minimum Criterion (DnTw + Ctr)	Test Result
Storage (Ground Floor)	Games Room (First Floor)	64.47	51.97	74.59	43	FAIL
Shop Counter	Storage Room (First Floor)	90.62	68.29	87.49	43	FAIL
Shop Counter	Void Area (First Floor)	90.62	81.77	105.39	43	FAIL

External Noise Level Assessment - Boarshaw Road

Thursday 9th October 2025 3:00pm-6:00pm

Source Area	Receiver Room	Source Area Volume (m ³)	Receiver Room Volume (m ³)	Performance (DnTw + Ctr)	Minimum Criterion (DnTw + Ctr)	Test Result
Outside of 231 Boarshaw Road	Void Area (First Floor)	89.31	64.85	80.19	43	FAIL

Airborne sound insulation test results - Walls

Thursday 9th October 2025 3:00pm-6:00pm

Source Room	Source Room Noise	Minimum Criterion (DnTw + Ctr)	Test Result
Games Room (First Floor)	51.97	45	FAIL
Void Area (First Floor)	81.77	45	FAIL
Storage Room	68.29	45	FAIL

7.0 Conclusion

The tests for this project were conducted between the separating walls and floor to comply against Part E building Regs. All airborne tests have failed the required criteria and can be considered to not complying with the requirements of Building Regulations ADE & the guidelines set out in the Local Authority Framework Document.

For HMOs created from conversions, the performance level for airborne sound insulation ($D_{nT,w} + C_{tr}$) for separating walls should be greater than 43 dB. For separating floors and stairs in converted dwellings, the requirement is also a minimum of 43 dB for airborne sound insulation and a maximum of 64 dB for impact sound insulation.

To comply with Part E Building Regulation, during the technical design stage, the applicant should plan to add sound insulation between the walls, floor joists and roof. Although to apply sound insulation or specific acoustic materials (to block sound transmission) to the roof can be complex process that often requires more than just adding insulation to reduce noise. The most effective methods involve adding dense acoustic insulation, acoustic mineral wool, or mass-loaded vinyl, and may require installing a new ceiling layer with resilient channels to decouple it from the existing structure.

For any external windows facing Boarshaw Road, they must be double or triple glazed with the trickle vents with the right U values. This shall reduce the noise from any vehicles passing 231 Boarshaw Road.

As cross examination on site, I found the door ntry sensor from the shop in creating the most noise. Also, the noise from the customer varied in level of noise. However, the void space requires remediating due to exposure of noise from outside vehicles passing by and being above the shop.

Once the construction phase has been completed, a new set of sound tests must be carried out to prove that the construction now meets the required standard for HMO standards set out in Building Regulation Part E.