

sonic element
limited
www.sonicelement.co.uk

TECHNICAL REPORT

Flats I-L, 1-8 New College Parade, Hampstead,
London NW3 5EP
SOUND INSULATION TEST REPORT

8th March 2013

AUTHOR : PATRICK LEWIS

REF : REP – 1-8 New College Parade, Hampstead 1.DOC

SIGNED
Patrick Lewis

CHECKED
Amber Naqvi

DATE : 8th March 2013

1.0 CLIENT DETAILS

Sonic Element Ltd. have undertaken sound insulation tests for Building Regulations compliance purposes on behalf of:

Standard Securities Ltd
C/O 78/79 Long Lane
London
EC1A 9RP

The property, former first floor offices converted to form four flats. Flats I-L sit directly above commercial units at ground floor level and directly below existing second floor flats.

2.0 TEST ORGANISATION DETAILS

The sound insulation tests were performed on Friday 8th March 2013 on site by Patrick Lewis. Mr Lewis is a fully accredited engineer responsible for field testing.

Sonic Element Ltd. is a member organisation of the Association of Noise Consultants (ANC) Registration Scheme with the accreditation number 147.

3.0 CONSTRUCTION FORMS TESTED

Floor construction

Test A4 & I4 – ADE Floor Type 2.

Test A5 – ADE Floor Type 3.

Party Wall construction

Test A1 – ADE Wall Type 1

Test A2 & A3 – ADE Wall Type 4

4.0 BASIS OF ASSESSMENT

The Building Regulations Approved Document E^[1,2] provides minimum design and in-situ performance standard requirements for various forms of residential accommodation. A summary of the in-situ performance standards forming the basis of assessment for the tests undertaken is provided in Appendix 1 attached.

For ease of reference acoustic terminology used in this report is provided in Appendix 2 attached.

A total of one floor sample (airborne and impact) was taken between corridors between residential flats on the second and first floors due to no access to SF flats. A single floor sample (airborne only) was taken between a ground floor commercial unit (café) and the first floor flat above. A total of two wall samples were taken between adjacent habitable rooms on the first floor. A single wall sample was taken between the first floor dental practice office and the adjacent first floor flat.

In our view, the above number of samples tested fulfils and exceeds the 10% minimum requirements of ADE 2003 sample testing per site and is in line with performance requirement E1 of the approved document E.

5.0 TEST METHODOLOGY

The airborne tests detailed in this report have been carried out in full accordance with the measurement procedures of BS EN ISO 140-4:1998^[3] for field measurements of airborne sound insulation.

7.0 TEST RESULTS

Table 3 below provides the results of the field sound insulation tests undertaken. All calculation procedures in Annex B of the Approved Document E^[1,2] to the Building Regulations have been followed. The measured levels have been compared to the requirements of Approved Document E of the Building Regulations 2000 to determine the 'Pass' or 'Fail' categorisation as required.

Source Room		Receiver Room		Measured	Measured	Approved	Pass
				$D_{nT,w} + C_{tr}$	$L'_{nT,w}$	Document E	Or
				dB	dB	Requirement	Fail
						dB	
Description	Vol. m ³	Description	Vol. m ³				
FF Flat L living area	38	FF dental practice office area	25	51 (wall)	-	43 (minimum)	Pass (A1)
FF Flat L bedroom	33	FF Flat K bedroom	28	54 (wall)	-	43 (minimum)	Pass (A2)
FF Flat I living area	41	FF Flat J living area	38	56 (wall)	-	43 (minimum)	Pass (A3)
SF corridor between existing flats	25	FF corridor between converted flats	25	54 (floor)	-	43 (minimum)	Pass (A4)
SF corridor between existing flats	-	FF corridor between converted flats	25	-	48 (floor)	64 (maximum)	Pass (I4)
GF commercial unit (café)	58	FF Flat L living area	38	56 (floor)	-	43 (minimum)	Pass (A5)

Table 3: Comparison of Measured Levels of Sound Insulation

Note:

1. For approved document E requirements, see appendix 1
2. Numbers in brackets refer to Figures to this report.

8.0 OBSERVATIONS AND COMMENTS

The site is situated near busy roads. Although there was normal traffic activity at the time of testing, some measurements were affected by background noise. The affected measurements were corrected for background noise and affected frequencies are shown on the relevant reports in line with BS EN ISO 140-4: 1998^[3] and BS EN ISO 140-7: 1998^[3].

The tests were conducted during periods when no other noisy activities were taking place on site.

9.0 SUMMARY AND CONCLUSIONS

Sonic Element Ltd. has undertaken sound insulation tests for Building Regulations compliance purposes on behalf of Standard Securities Ltd. Sonic Element Ltd. is a member organisation of the Association of Noise Consultants (ANC) Registration Scheme with the accreditation number 147.

The property for which this report has been prepared is known as Flats I-L, 1-8 New College Parade, Hampstead, London NW3 5EP.

The sound insulation tests were performed on Friday 8th March 2013 at the above site address.

The test results in this report are shown in Section 7. Floor and wall samples tested demonstrated compliance with Approved Document E minimum performance requirements. See appendix 1 for performance requirements.

APPENDICES

APPENDIX 1 - APPROVED DOCUMENT E IN-SITU PERFORMANCE REQUIREMENTS

Protection against sound from other parts of the building and adjoining buildings

- E1. Dwelling-houses, flats and rooms for residential purpose shall be designed and constructed in such a way that they provide reasonable resistance to sound from other parts of the same building and from adjoining buildings.

In the Secretary of State's view the normal way of satisfying Requirement E1 will be to build separating walls, separating floors and stairs that have a separating function, together with the associated flanking construction, in such a way that they achieve the sound insulation values for dwellings-houses and flats set out in Table 1a, and the values for rooms for residential purposes set out in Table 1b. For walls that separate rooms for residential purposes from adjoining dwelling-houses and flats, the performance standards given in Table 1a should be achieved.

Table 1a: Dwellings-houses and flats – performance standards for separating walls, separating floors, and stairs that have a separating function.

Description of Area	Airborne Sound Insulation $D_{nT,w} + C_{tr}$ dB (Minimum Values)	Impact Sound Insulation $L'_{nT,w}$ dB (Maximum Values)
Purpose built dwelling-houses and flats		
Walls	45	-
Floors and stairs	45	62
Dwelling-houses and flats formed by material change of use		
Walls	43	-
Floors and stairs	43	64

Table 1b: Rooms for residential purposes – performance standards for separating walls, separating floors, and stairs that have a separating function.

Description of Area	Airborne Sound Insulation $D_{nT,w} + C_{tr}$ dB (Minimum Values)	Impact Sound Insulation $L'_{nT,w}$ dB (Maximum Values)
Purpose built dwelling-houses and flats		
Walls	43	-
Floors and stairs	45	62
Dwelling-houses and flats formed by material change of use		
Walls	43	-
Floors and stairs	43	64

Airborne Single Number Quantity Weighting

This is a weighting procedure defined in BS EN ISO 717, Part 1 for converting third octave band R , R' , D and D_{nT} values to a single number quantity denoted as R_w , R'_{w} , D_w or $D_{nT,w}$. It is a decibel value.

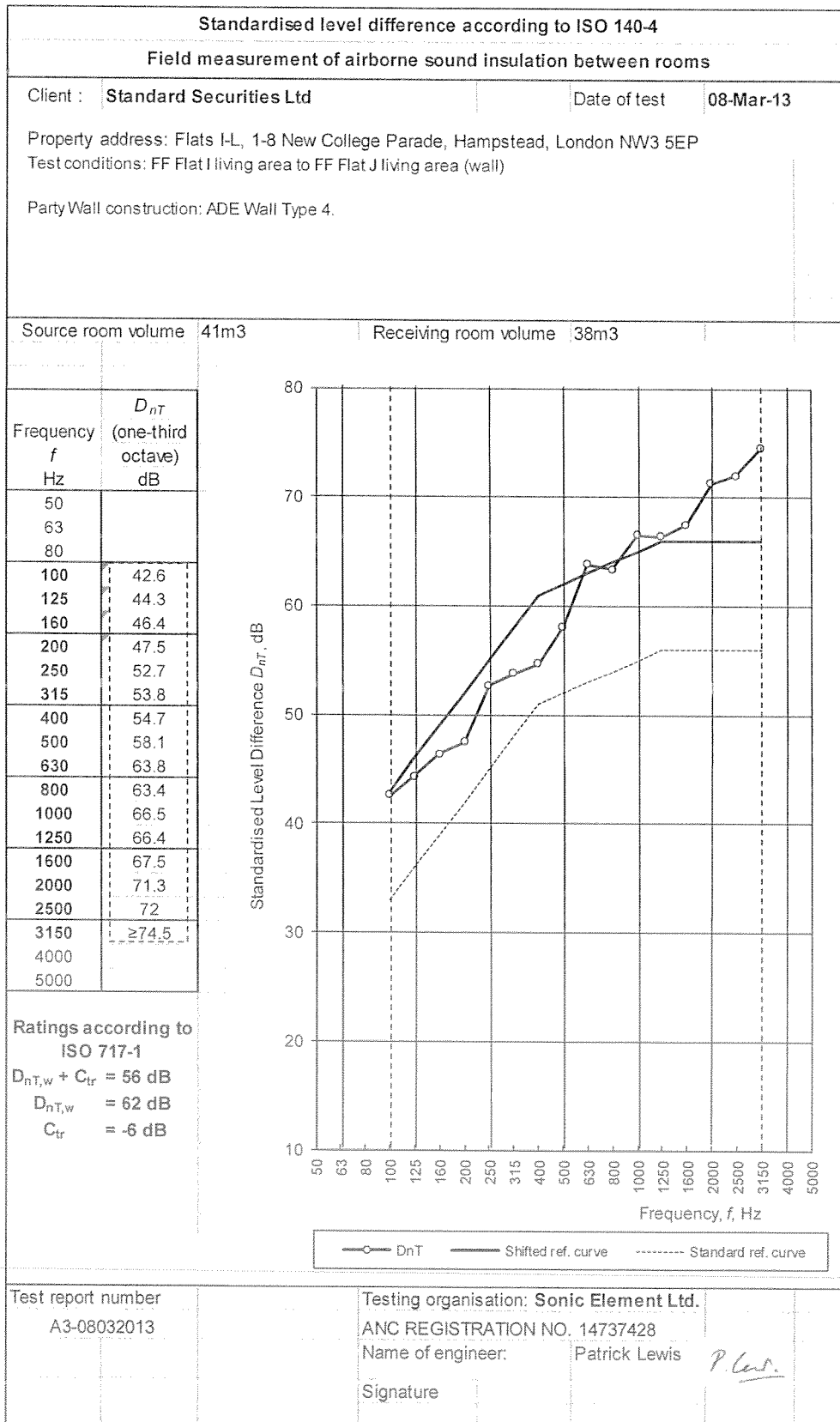
Impact Single Number Quantity Weighting

This is a weighting procedure defined in BS EN ISO 717, Part 2 for converting third octave band L'_{nT} values to a single number quantity denoted in $L'_{nT,w}$. It is a decibel value.

Spectrum Adaptation Term C_{tr}

This is a correction factor calculated from the measured R_w , R'_{w} , $D_{nT,w}$ and the corresponding third octave band R , R' and D_{nT} values. It uses a set of weighting levels in third octave bands derived from a road traffic noise spectrum. It is applied to airborne test results and is measured in dB.

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Ratings according to ISO 717-2 $L'_{nT,w}$ = 48 dB C_1 = 0 dB																																													
Test report number 14-08032013	Testing organisation: Sonic Element Ltd. ANC REGISTRATION NO. 14737428 Name of engineer: Patrick Lewis Signature: <i>P. Lewis</i>																																												

CERTIFICATION OF PRE-COMPLETION SOUND INSULATION TESTING

DATE TASK ACCESSED
12 March 2013

Task number	37428	Password	6CJS45	Registered organisation number	147
Task registration date	12/03/2013			Registered organisation name	Sonic Element
Client	Standard Securities Ltd			Registered organisation address	11 Cottage Field Close, Sidcup, Kent, DA14 4PD
Site address	Flats I-L, 1-8 New College Parade, Hampstead, London, NW3 5EP			Registered organisation e-mail	amber@sonicelement.co.uk

Test ID	Test Date	Source Room	Receiving Room	Project Type	Wall / Floor	Type	Target	Descriptor	Result	Pass / Fail †	Retest Comments
1	08/03/2013	FF Flat L living area	FF Dental Practice office area	HFCON	Wall	Airborne	≥ 43 dB	$D_{nT,w}+C_{tr}$	51 dB	✓	New test
2	08/03/2013	FF Flat L bedroom	FF Flat K bedroom	HFCON	Wall	Airborne	≥ 43 dB	$D_{nT,w}+C_{tr}$	54 dB	✓	New test
3	08/03/2013	FF Flat I living area	FF Flat J living area	HFCON	Wall	Airborne	≥ 43 dB	$D_{nT,w}+C_{tr}$	56 dB	✓	New test
4	08/03/2013	SF corridor between existing flats	FF corridor between converted flats	HFCON	Floor	Airborne	≥ 43 dB	$D_{nT,w}+C_{tr}$	54 dB	✓	New test
5	08/03/2013	SF corridor between existing flats	FF corridor between converted flats	HFCON	Floor	Impact	≤ 64 dB	$L'_{nT,w}$	48 dB	✓	New test
6	08/03/2013	GF commercial unit (café)	FF Flat L living area	HFCON	Floor	Airborne	≥ 43 dB	$D_{nT,w}+C_{tr}$	56 dB	✓	New test
<p>HFNB - Purpose built houses and flats HFCON - Houses and flats formed by material change of use</p> <p>✓ Performance at or better than the performance standard cited in Building Regulations Approved Document E ✗ Performance is worse than the performance standard cited in Building Regulations Approved Document E † Responsibility for deciding on compliance with Building Regulations lies with the Building Control Body</p> <p>RRNB - Purpose built rooms for residential purposes RRCON - Rooms for residential purposes formed by material change of use</p>											

To check this certificate against the official online test log, please go to <http://www.theanc.co.uk>, follow the link to the ADVANCE website and input TASK NUMBER 37428 and PASSWORD 6CJS45

This Certificate confirms that the tests described in the list above gave the results stated and were carried out by the named ANC registered test organisation, at the stated property, on the stated date and that the named test organisation was a member of the ANC Scheme at the time of the tests.