



Acoustic Consultancy Report

Facade Noise Survey -1

Report Prepared For
Trident Building Consultancy Ltd
Highgate Road Baptist Chapel

Date

29 March 2007

Report Reference

52707/3/1/3

Prepared By

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1. Introduction

The premises of Highgate Road Baptist Chapel is being developed into a number of residential dwellings.

The Lee Cunningham Partnership Ltd has been commissioned to conduct an environmental noise survey to quantify the existing background and ambient noise levels at the site.

This information can be used to determine the noise exposure category applicable to the site in accordance with relevant national planning policy guidance and The sound insulation requirements of the primary building envelope.

1. Site Description

The development site and its adjoining land uses are illustrated in Appendix A.

2. Local Noise Climate

The dominant noise within the area was from the passing of traffic on the Highgate Road, also from traffic stopping at junction of Chetwynd Road and Highgate Road.

3. Measurements

Road traffic noise surveys were carried out on 17th March 2007. Measurements were obtained at the positions illustrated in Appendix A.

Weather conditions during both of the survey periods were mild and dry with a moderate westerly breeze.

4. Conclusions

Environmental noise surveys have been undertaken to determine day noise levels affecting the proposed development site. These results are shown in appendix B.

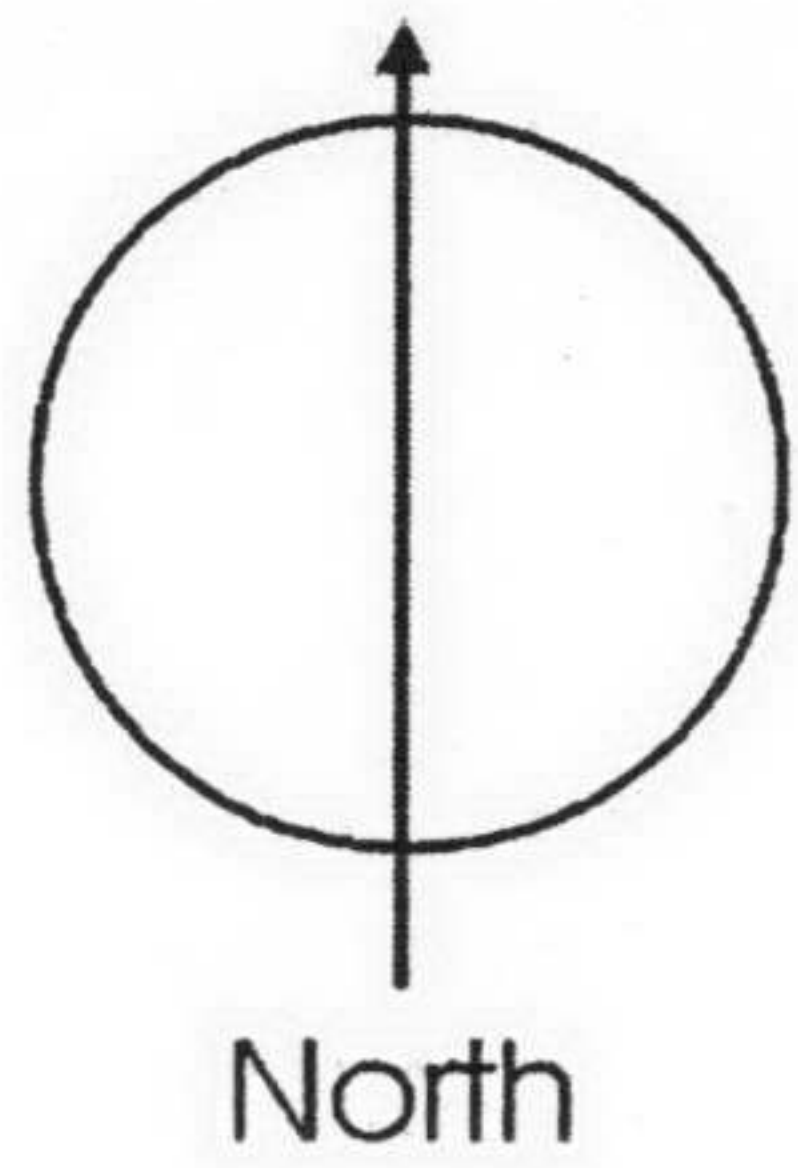
Client Trident Building Consultancy Ltd
Project Highgate Road Baptist Chapel

Reference
Date

52707/3/1/3

29 March 2007

Appendix A: Site Plan



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Client: Trident Building
Consultancy Ltd

Project: Highgate Road
Baptist Chapel

Title: Site Plan

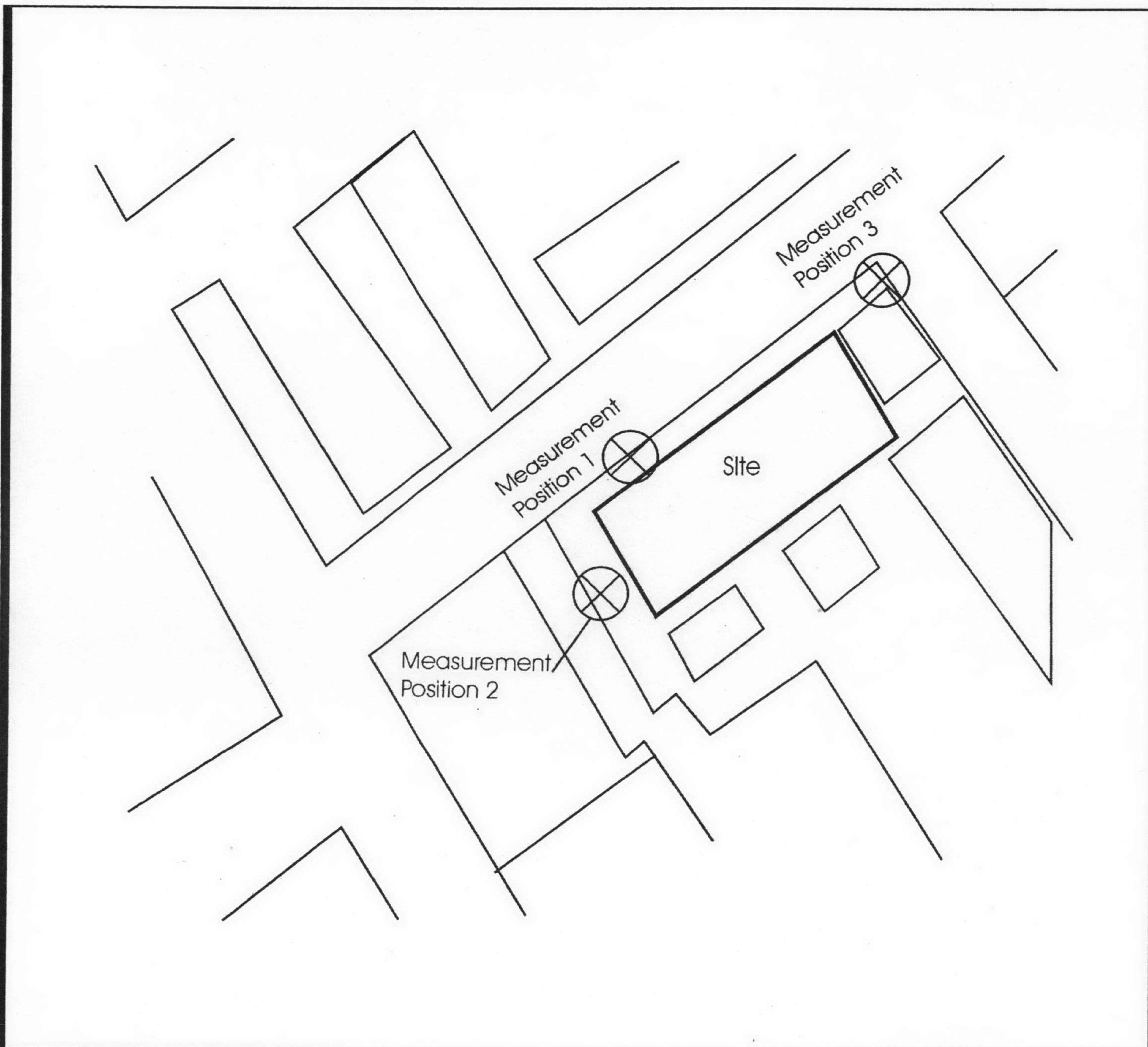
Drawn: MJC

Date: 28/03/07

Scale: NTS

Drawing No: 52707-1

Lee Cunningham Partnership Ltd accept no responsibility for any unauthorised amendments to this drawing.



Client Trident Building Consultancy Ltd
Project Highgate Road Baptist Chapel

Reference 52707/3/1/3
Date 29 March 2007

Appendix B: Measured Data

Measurement	Leq - 15min										
Position	Date	Time	63	125	250	500	1000	2000	4000	8000	TOT_A
1	17/03/07	10:30'58	78	72	65	62	70	68	55	50	73
2	17/03/07	10:48'20	78	71	66	62	59	57	52	44	65
3	17/03/07	11:05'12	75	67	61	59	60	57	50	43	64
1	17/03/07	11:28'12	74	69	64	60	60	60	55	45	66
2	17/03/07	11:45'34	76	69	65	61	70	66	56	44	72
3	17/03/07	12:02'06	74	67	63	62	61	57	51	47	65
1	17/03/07	12:19'16	76	71	66	63	61	58	53	47	66
2	17/03/07	12:34'38	77	70	65	61	59	56	51	43	64
3	17/03/07	12:51'20	73	66	61	59	60	57	50	43	64

Measurement	L90 - 15min										
Position	Date	Time	63	125	250	500	1000	2000	4000	8000	TOT_A
1	17/03/07	10:30'58	68	62	57	54	53	50	43	34	58
2	17/03/07	10:48'20	71	65	60	55	53	51	44	35	59
3	17/03/07	11:05'12	67	57	51	49	47	43	35	24	53
1	17/03/07	11:28'12	67	61	56	53	53	49	43	34	58
2	17/03/07	11:45'34	67	60	58	54	53	51	44	34	58
3	17/03/07	12:02'06	59	54	49	48	46	42	35	25	51
1	17/03/07	12:19'16	67	61	56	52	51	49	42	34	57
2	17/03/07	12:34'38	68	61	58	53	51	49	42	33	57
3	17/03/07	12:51'20	59	53	49	46	45	41	33	24	50

Measurement	Lmax - 15min										
Position	Date	Time	63	125	250	500	1000	2000	4000	8000	TOT_A
1	17/03/07	10:30'58	94	92	81	90	97	96	78	79	98
2	17/03/07	10:48'20	91	90	84	85	78	76	78	70	81
3	17/03/07	11:05'12	96	90	79	79	76	75	72	66	82
1	17/03/07	11:28'12	88	92	85	79	83	88	83	63	91
2	17/03/07	11:45'34	90	87	87	74	100	94	84	65	102
3	17/03/07	12:02'06	93	92	87	90	86	80	78	79	91
1	17/03/07	12:19'16	90	90	92	91	78	80	78	75	88
2	17/03/07	12:34'38	91	90	79	80	73	74	65	64	78
3	17/03/07	12:51'20	95	89	79	76	77	77	74	65	82

Measurement	L10 - 15min										
Position	Date	Time	63	125	250	500	1000	2000	4000	8000	TOT_A
1	17/03/07	10:30'58	81	76	68	64	65	62	56	49	70
2	17/03/07	10:48'20	81	74	69	64	62	60	54	47	68
3	17/03/07	11:05'12	77	69	65	62	64	61	52	45	68
1	17/03/07	11:28'12	78	72	66	64	63	61	54	48	68
2	17/03/07	11:45'34	79	72	68	64	63	61	55	47	68
3	17/03/07	12:02'06	76	70	66	64	65	61	54	47	69
1	17/03/07	12:19'16	79	73	68	65	64	61	56	49	69
2	17/03/07	12:34'38	80	73	68	64	62	59	54	46	67
3	17/03/07	12:51'20	76	69	65	63	64	60	53	46	68

Sound pressure level measurements were obtained using the following instrumentation complying with the Type 1 specification of IEC 651(1979) Amend.1 and IEC 804(1985) Amend 2:

- Svantek 959 Sound Level Meter

Calibration checks were made prior to and after completion of measurements using a Brüel & Kjær Type 4231 calibrator complying with Class 1 of IEC 942 (1988), calibration level 94.0 dB, ± 0.3 dB, @ 1.0 kHz. All acoustic instrumentation carried current manufacturer's certificates of conformance.



Acoustic Consultancy Report

Internal Main Structures

Report Prepared For

Trident Building Consultancy

Highgate Rd Baptist Church Conversion

Date

12th October 2007

Report Reference

52707- S3-ATN

Prepared By

Lee Cunningham Partnership

Author A Nethersole MIOA

A handwritten signature in black ink, appearing to be 'A Nethersole', is written over a horizontal line. Below this line is another horizontal line, creating a space for a second signature or stamp.

Content

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Appendices

Appendix A Results

1.0 Introduction

Trident Building Consultancy has commissioned Lee Cunningham Partnership to review the structures proposed for the conversion of the Highgate Road Baptist Church to Flats, to establish whether the proposed structural elements will provide sufficient resistance to sound transmission when compared to the recommendations contained in Part E of Schedule 1 to the Building Regulations, 2000.

2.0 Building Regulation Requirements.

The recommended sound insulation values for residential properties formed by a change of use are as follows:-

Airborne Sound

Walls between dwellings, between dwellings and staircases, and all floors DnTw 43 dB Min

Walls dividing rooms within dwellings Rw 40 dB Min

Impact Sound

Floors between dwellings LnTw 64 dB Max

Floors dividing rooms within dwellings LnTw 64 dB Max

3.0 Analysis

This report deals with the anticipated performance of the main structural elements of the project.

An analysis of the various structural elements of the design has been conducted by the following methods.

Some of the constructions have been modelled using a software package called "Insul", by Marshall Day Acoustics Ltd, which provides estimated Sound Reduction Index values for the selected design.

INSUL is a program for predicting the sound insulation of walls, floors, ceilings, and windows. It is based upon theoretical models that require only minimal information but can make reasonable estimates of the sound transmission loss of a given structure, for use in sound insulation calculations, and the design of inter-tenancy partitions.

It has evolved over several versions into a tool that has refined by continued comparison with laboratory tests to provide acceptable accuracy for a wide range of constructions.

However, like any prediction it is not a substitute for test data.

Robust Details

In some cases we have been able to compare the design proposed with Robust Details Part E Handbook

The Robust Details have undergone an extensive sound insulation testing regime, Robust design analysis and independent audit, and have satisfied the Robust Details Management Board that they should provide a level of sound insulation compliant with Part E.

We also consider White Book data prepared by British Gypsum, which details common structures which will meet the Part E requirements.

The acoustic sound insulation information printed in their literature are laboratory based figures for imperforate partitions, walls and ceilings incorporating boards with taped joints and filled or skimmed according to British Gypsum recommendations.

In all other cases the performance of the structure has been estimated from published data, coupled with our own experience, however most of this data is predicted and is not guaranteed

4.0 Results

The results of our review are given below in Appendix A, and are based upon information contained on the following main relevant drawings that have been used in our analysis..

11862 – 100	11862 – 174
11862 – 101C	11862 – 175
11862 – 102C	11862 – 176
11862 – 103C	11862 – 177
11862 – 104C	11862 – 178
11862 – 105B	11862 – 181
11862 – 108	11862 – 182A
11862 – 141B	
11862 – 142C	
11862 – 143B	
11862 – 144A	
11862 – 145	
11862 – 150A	
11862 – 151B	
11862 – 161A	
11862 – 171	
11862 – 172	
11862 – 173	

5.0 Comments.

The results of our analysis indicate that the current main structure designs should comply with the recommendations of Part E of Schedule 1 to the Building Regulations, 2000.

Client: Trident Building Consultancy
 Project: Highgate Rd Baptist Church

Reference: 52707- S3-ATN
 Date: 12th October 2007

Appendix A Results

Description	Comment	Doc E Reqmt	DnTw+Ctr Rating	Doc E Reqmt	LnTw+Ctr Rating
		Airborne		Impact	
GENERAL DETAILS					
Intermediate floor slabs	Nominal 12.5mm plasterboard ceiling, skim coated, on timber battens to corrugated steel min 75mm concrete, 50mm Rockwool Rockfloor, 65mm screed, plywood on underfloor heating medium, plus finished floor.	43	67	64	40
Roof Construction	Slate on timber battens, cross battens, 150 x 50 joists, 12.5mm plasterboard ceiling with skim coat plaster.		44	N/A	N/A
Party Wall	Two skins of 140 blockwork either side of 75mm cavity, each faced with 12.5mm plasterboard and 2.5mm plaster skim coat. (Drg is showing 100mm block?)	43	57	N/A	N/A
Party Wall	Two skins of 100 blockwork either side of 75mm cavity, each faced with 12.5mm plasterboard and 2.5mm plaster skim coat. (Drg is showing 100mm block?)	43	56	N/A	N/A
Internal Partition within individual dwellings	Two 12.5mm skins, on each side of 48mm steel battens, 50mm cavity filled with Rockwool	40	Rw 43	N/A	N/A