

M25 junction 10/A3 Wisley interchange TR010030

6.5 Environmental Statement: Appendix 6.1 Calibration certificates

Regulation 5(2)(a)
Planning Act 2008

Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009



Infrastructure Planning

Planning Act 2008

The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 (as amended)

M25 junction 10/A3 Wisley interchange

The M25 junction 10/A3 Wisley interchange Development Consent Order 202[x]

6.5 ENVIRONMENTAL STATEMENT: APPENDIX 6.1 CALIBRATION CERTIFICATES

Regulation Number:	Regulation 5(2)(a)
Planning Inspectorate Scheme Reference	TR010030
Application Document Reference	TR010030/APP/6.5
Author:	M25 junction 10/A3 Wisley interchange project team, Highways England

Version	Date	Status of Version
Rev 0	June 2019	Development Consent Order application

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Appendix 6.1

Calibration Certificates

6.1 Introduction

- 6.1.1 The calibration certificates of the instrumentation used to undertake the baseline noise monitoring for the Scheme are provided in this document.
- 6.1.2 For information about the survey methodology, please refer to Chapter 6 (Noise and Vibration) of the ES Volume 1. Detailed results from the baseline surveys are provided in Appendix 6.2.

6.2 Summary of instrumentation

- 6.2.1 The instrumentation details and laboratory calibration dates are summarised in Table 6.2.1. A microphone, preamplifier and sound level meter are calibrated together as a set and separate calibration certificates for each component are not always issued. Each set has an associated calibrator. The calibration certificates are provided in section 6.3.

Table 6.2.1: Summary of instrumentation details

Set ID	Equipment	Type	Serial number	Last laboratory calibration date
52	Sound level meter	01dB Fusion	11200	27/10/2016
	Microphone	GRAS 40CE	226400	27/10/2016
	Preamplifier	01dB Pre 22	1605098	27/10/2016
	Calibrator	01dB Cal 21	34565047	28/11/2016
100	Sound level meter	01dB Cube	11111	05/12/2017
	Microphone	GRAS 40CD	287790	05/12/2017
	Preamplifier	01dB Pre 22	1610535	05/12/2017
	Calibrator	01dB Cal 21	34675325	18/07/2017
50	Sound level meter	01dB Fusion	11195	27/10/2016
	Microphone	GRAS 40CE	233266	27/10/2016
	Preamplifier	01dB Pre 22	1605094	27/10/2016
	Calibrator	01dB Cal 21	34565045	11/01/2018
34	Sound level meter	Norsonic 118	31653	20/05/2016
	Microphone	Norsonic 1225	59992	20/05/2016
	Preamplifier	Norsonic 1206	30627	20/05/2016
	Calibrator	Norsonic 1251	31228	20/05/2016
33	Sound level meter	Norsonic 118	31474	14/02/2017
	Microphone	GRAS 40F	11038	14/02/2017
	Preamplifier	Norsonic 1206	30626	14/02/2017
	Calibrator	Norsonic 1251	31009	14/02/2017
41	Sound level meter	Rion NL-52	00620857	26/08/2016
	Microphone	Rion UC-59	03693	26/08/2016

Set ID	Equipment	Type	Serial number	Last laboratory calibration date
	Preamplifier	Rion NH-25	20917	26/08/2016
	Calibrator	Rion NC-74	35125804	29/11/2017

6.3 Calibration certificates

5

Chapitre 1. CONSTAT DE VERIFICATION VERIFICATION CERTIFICATE

CV-DTE-L-16-PVE-43994

DELIVRE PAR :
ISSUED BY : ACOEM
Service Métrologie

69760 LIMONEST
France

INSTRUMENT VERIFIE
INSTRUMENT CHECKED

Désignation :
Designation : **Sonomètre Intégrateur-Moyenneur**
Integrating-Averaging Sound Level Meter

Constructeur :
Manufacturer : **01dB**

Type :
Type : **FUSION**

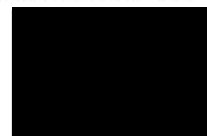
N° de serie :
Serial number : **11200**

N° d'identification :
Identification number

Date d'émission :
Date of issue : **27/10/16**

Ce constat comprend **5** pages
This certificate includes **pages**

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Chapitre 2. CERTIFICAT D'ETALONNAGE CALIBRATION CERTIFICATE

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DELIVRE PAR : ACOEM
ISSUED BY : Service Métrologie

69760 LIMONEST
France

INSTRUMENT ETALONNE
CALIBRATED INSTRUMENT

Désignation : Sonomètre Intégrateur-Moyenneur
Designation : Integrating-Averaging Sound Level Meter

Constructeur : 01dB
Manufacturer :

Type : FUSION
Type :

N° de serie : 11200
Serial number :

N° d'identification :
Identification number

Date d'émission : 27/10/16
Date of issue :

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CC-DTE-L-16-PVE-43994

Nous, fabricant
We, manufacturer

Acoem
200, Chemin des Ormeaux
F 69578 LIMONEST Cedex- FRANCE

déclarons sous notre seule responsabilité que le produit suivant :
declare under our own responsibility that the following equipment:

Désignation : **Sonomètre Intégrateur Moyenneur**
Designation: **Integrating-Averaging Sound level meter**

Référence : **FUSION**
Reference:

Numéro de série : **11200**
Serial Number:

est conforme aux dispositions des normes suivantes :
complies with the requirements of the following standards:

	Norme Standard	Classe Class	Edition du Edition of
Sonomètre :	IEC 60651	1	10-2000
Sound level meter :	IEC 60804	1	10-2000
	IEC 61672-1	1	09-2013
	IEC 61260	1	07-1995-2011
	ANSI S1.11	1	2004
	ANSI S1.4	1	1983-1985

et répond en tout point, après vérification et essais, aux exigences spécifiées, aux normes et règlements applicables, sauf exceptions, réserves ou dérogations énumérées dans la présente déclaration de conformité.

After testing and verification, this device satisfies all specified requirements and applicable standards and regulations apart from exceptions, reservations, or exemptions listed in this conformance certificate.

Date LE REFERENT METROLOGIE ACOUSTIQUE
PAR DELEGATION
Date THE REFERENT ACOUSTIC METROLOGY
Bertrand LEROY

27/10/16



CERTIFICAT D'ETALONNAGE CALIBRATION CERTIFICATE

N° CE-DTE-L-16-PVE-44720

DELIVRE PAR :
ISSUED BY :

ACOEM
Service Métrologie
200 Chemin des Ormeaux

69760 LIMONEST
France

INSTRUMENT ETALONNE
CALIBRATED INSTRUMENT

Désignation : **Calibreur acoustique**
Designation : **Sound level calibrator**

Constructeur : **01dB**
Manufacturer :

Type : **Cal 21**
Type :

N° de serie : **34565047**
Serial number :

N° d'identification :
Identification number

Date d'émission : **28/11/2016**
Date of issue :

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VERIFICATION CERTIFICATE

CV-DTE-L-17-PVE-47962

DELIVRE PAR :
ISSUED BY :

ACOEM
Service Métrologie

69760 LIMONEST
France

INSTRUMENT VERIFIE
INSTRUMENT CHECKED

Désignation :
Designation :

Sonomètre Intégrateur-Moyenneur
Integrating-Averaging Sound Level Meter

Constructeur :
Manufacturer :

01dB

Type :
Type :

CUBE

N° de serie :
Serial number :

11111

N° d'identification :
Identification number

Date d'émission :
Date of issue :

05/12/2017

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CALIBRATION CERTIFICATE

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DELIVRE PAR : ACOEM
ISSUED BY : Service Métrologie

69760 LIMONEST
France

INSTRUMENT ETALONNE
CALIBRATED INSTRUMENT

Désignation : **Sonomètre Intégrateur-Moyenueur**
Designation : **Integrating-Averaging Sound Level Meter**

Constructeur : **01dB**
Manufacturer :

Type : **CUBE**
Type :

N° de serie : **11111**
Serial number :

N° d'identification :
Identification number

Date d'émission : **05/12/2017**
Date of issue :

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CONFORMITY CERTIFICATE

CC-DTE-L-17-PVE-47962

Nous, fabricant
We, manufacturer

Acoem
200, Chemin des Ormeaux
F 69578 LIMONEST Cedex- FRANCE

déclarons sous notre seule responsabilité que le produit suivant :
declare under our own responsibility that the following equipment:

Désignation : **Sonomètre Intégrateur Moyenneur**
Designation: Integrating-Averaging Sound level meter

Référence : **CUBE**
Reference:

Numéro de série : **11111**
Serial Number:

est conforme aux dispositions des normes suivantes :
complies with the requirements of the following standards:

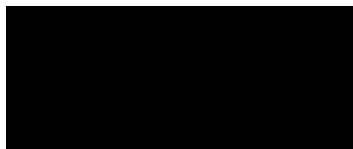
	Norme Standard	Classe Class	Edition du Edition of
Sonomètre :	IEC 60651	1	10-2000
Sound level meter :	IEC 60804	1	10-2000
	IEC 61672-1	1	09-2013
	IEC 61260	1	07-1995-2011
	ANSI S1.11	1	2004
	ANSI S1.4	1	1983-1985

et répond en tout point, après vérification et essais, aux exigences spécifiées, aux normes et règlements applicables, sauf exceptions, réserves ou dérogations énumérées dans la présente déclaration de conformité.

After testing and verification, this device satisfies all specified requirements and applicable standards and regulations apart from exceptions, reservations, or exemptions listed in this conformance certificate.

Date
Date
05/12/2017

LE REFERENT METROLOGIE ACOUSTIQUE
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Bertrand LEROY




Brand of ACOEM

CERTIFICAT D'ETALONNAGE
CALIBRATION CERTIFICATE

N° CE-DTE-L-17-PVE-50537

DELIVRE PAR : ACOEM
ISSUED BY : Service Métrologie
200 Chemin des Ormeaux
69760 LIMONEST
France

INSTRUMENT ETALONNE
CALIBRATED INSTRUMENT

Désignation : Calibreur acoustique
Designation : Sound level calibrator

Constructeur : 01dB
Manufacturer :

Type : Cal 21
Type :

N° de serie : 34675325
Serial number :

N° d'identification :
Identification number

Date d'émission : 18/07/2017
Date of issue :

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CONSTAT DE VERIFICATION

VERIFICATION CERTIFICATE

CV-DTE-L-16-PVE-44032

DELIVRE PAR :
ISSUED BY :

ACOEM
Service Métrologie

69760 LIMONEST
France

INSTRUMENT VERIFIE
INSTRUMENT CHECKED

Désignation :
Designation :

Sonomètre Intégrateur-Moyenueur
Integrating-Averaging Sound Level Meter

Constructeur :
Manufacturer :

01dB

Type :
Type :

FUSION

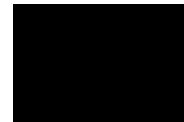
N° de serie :
Serial number : **11195**

N° d'identification :
Identification number

Date d'émission :
Date of issue : **27/10/16**

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CALIBRATION CERTIFICATE

CE-DTE-L-16-PVE-44032

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ISSUED BY :

ACOEM
Service Métrologie

69760 LIMONEST
France

INSTRUMENT ETALONNE
CALIBRATED INSTRUMENT

Désignation :
Designation :

Sonomètre Intégrateur-Moyenneur
Integrating-Averaging Sound Level Meter

Constructeur :
Manufacturer :

01dB

Type :
Type :

FUSION

N° de serie :
Serial number :

11195

N° d'identification :
Identification number

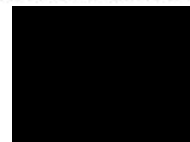
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We, manufacturer

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F 69578 LIMONEST Cedex- FRANCE

déclarons sous notre seule responsabilité que le produit suivant :
declare under our own responsibility that the following equipment:

Désignation : **Sonomètre Intégrateur Moyenneur**
Designation: Integrating-Averaging Sound level meter

Référence : **FUSION**
Reference:

Numéro de série : **11195**
Serial Number:

est conforme aux dispositions des normes suivantes :
complies with the requirements of the following standards:

	Norme <i>Standard</i>	Classe <i>Class</i>	Edition du <i>Edition of</i>
Sonomètre :	IEC 60651	1	10-2000
Sound level meter :	IEC 60804	1	10-2000
	IEC 61672-1	1	09-2013
	IEC 61260	1	07-1995-2011
	ANSI S1.11	1	2004
	ANSI S1.4	1	1983-1985



et répond en tout point, après vérification et essais, aux exigences spécifiées, aux normes et règlements applicables, sauf exceptions, réserves ou dérogations énumérées dans la présente déclaration de conformité.

After testing and verification, this device satisfies all specified requirements and applicable standards and regulations apart from exceptions, reservations, or exemptions listed in this conformance certificate.

Date LE REFERENT METROLOGIE ACOUSTIQUE
PAR DELEGATION
Date THE REFERENT ACOUSTIC METROLOGY
Bertrand LEROY

27/10/16



<h2 style="text-align: center;">Certificate of Calibration</h2> <p>Issued by University of Salford (Acoustics Calibration Laboratory) UKAS ACCREDITED CALIBRATION LABORATORY NO. 0801</p>		 UKAS CALIBRATION 0801
Page 1 of 2		
APPROVED SIGNATORIES Claire Lomax [x] Andy Moorhouse [] Gary Phillips [] Danny McCaul []		
<p>acoustic calibration laboratory</p> <p>The University of Salford, Salford, Greater Manchester, M5 4WT, UK http://www.acoustics.salford.ac.uk t 0161 295 3030/0161 295 3319 f 0161 295 4456 e c.lomax1@salford.ac.uk</p>		
		University of Salford MANCHESTER

Certificate Number: 03580/2

Date of Issue: 11 January 2018

CALIBRATION OF A SOUND CALIBRATOR

FOR:	Atkins The Axis 10 Holliday Street Birmingham B1 1TF
FOR THE ATTENTION OF:	Christopher Wilson
DESCRIPTION:	Calibrator with housing for one-inch microphones and adaptor type BAC21 for half-inch microphones.
MANUFACTURER:	01 dB
TYPE:	CAL21
SERIAL NUMBER:	34565045 (2016)
DATE OF CALIBRATION:	11/01/2018
TEST PROCEDURE:	CTP06 (Laboratory Manual)

Test Engineer (initial): GP Name: Gary Phillips

Calibrations marked 'Not UKAS Accredited' in this certificate have been included for completeness.

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GREAT DUNMOW, Essex, GB-CM6 1HD
www.campbell-associates.co.uk
Phone 01371 871030 Facsimile 01371879106

**Certificate of Calibration
and Conformance**



CALIBRATION



0789

Certificate Number:- U21688

Test object: Sound Level Meter, BS EN IEC 61672-1:2003 Class 1 (Precision) and associated Frequency Analyser BS EN IEC 61260, Class 1

Manufacturer: Norsonic

Type: 118

Serial no: 31653

Customer: Atkins Group Limited

Address: 1 Kings Court, Charles Hastings Way,
Worcester, Worcestershire. WR5 1WS.

Contact Person: Dan Boote.

Method :

Calibration has been performed as set out in CA Technical Procedures TP01 & 02 as appropriate. These are based on the procedures for periodic verification of sound level meters as set out in BS EN IEC 61672-3:2006 and for electrical testing of frequency filters as set out in BS EN IEC 61260. Results and conformance statement are overleaf and detailed results are in the attached Test Report.

	Producer:	Type:	Serial No:	Certificate number
Microphone	Norsonic	1225	59992	21687
Calibrator*	Norsonic	1251	31228	U21686
Preamplifier	Norsonic	1206	30627	Included

Additional items that also have been submitted for verification

Wind shield	Norsonic	Nor1451
Attenuator	None	
Extension cable	None	

These items have been taken into account wherever appropriate.

Environmental conditions:	Pressure:	Temperature:	Relative humidity:
Reference conditions:	101.325 kPa	23.0 °C	50.0 %RH
Measurement conditions:	100.85 kPa	23.7 °C	45.6 %RH

Date received : 17/05/2016
Date of calibration: 20/05/2016
Date of issue: 20/05/2016

Engineer

Michael Tickner

Supervisor

Darren Batten Tech IOA

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www.campbell-associates.co.uk
Phone 01371 871030 Facsimile 01371879106

**Certificate of Calibration
and Conformance**



CALIBRATION



0789

Certificate No.: U24740

Test object: Sound Level Meter, BS EN IEC 61672-1:2003 Class 1 (Precision) and associated Frequency Analyser BS EN IEC 61260, Class 1

Manufacturer: Norsonic

Type: 118

Serial no: 31474

Customer: ATKINS

Address: Chadwick House, Birchwood Park,
Birchwood, Warrington. WA3 6AE.

Contact Person: Matthew Thomson - Acoustician

Order No: 12192556

Method :

Calibration has been performed as set out in CA Technical Procedures TP01 & 02 as appropriate. These are based on the procedures for periodic verification of sound level meters as set out in BS EN IEC 61672-3:2006 and for electrical testing of frequency filters as set out in BS EN IEC 61260. Results and conformance statement are overleaf and detailed results are in the attached Test Report.

	Producer:	Type:	Serial No:	Certificate number
Microphone	GRAS	40AF	11038	24739
Calibrator*	Norsonic	1251	31009	U24738
Preamplifier	Norsonic	1206	30626	Included

Additional items that also have been submitted for verification

Wind shield	Norsonic	Nor1451
Attenuator	None	
Extension cable	None	

These items have been taken into account wherever appropriate.

Environmental conditions:	Pressure:	Temperature:	Relative humidity:
Reference conditions:	101.325 kPa	23.0 °C	50 %RH
Measurement conditions:	101.81 ± 0.01kPa	22.6 ± 0.2°C	32.2 ± 2%RH

Date received : 31/01/2017
Date of calibration: 14/02/2017
Date of issue: 14/02/2017

Engineer


Palanivel Marappan B.Eng (Hons), M.Sc

Supervisor


Darren Batten Tech IOA

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ISSUED BY AV CALIBRATION			
Date of issue	26 August 2016	Certificate N°	09403



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 Chicksands, Shefford
 Bedfordshire SG17 5QB
 U.K.
 Tel: +44 (0)1462 638600
 Fax: +44 (0)1462 638601
 Email: lab@avcalib.co.uk
 www.avcalibration.co.uk

Page 1 of 3 Pages
Approved Signatory
G. Parry []
B. Baker [✓] J. Harriman []

Acoustics Noise and Vibration Ltd trading as AV Calibration

CLIENT Atkins Noise and Vibrattion
 The Hub
 500 Park Avenue
 Aztec West
 Bristol
 BS32 4RZ

F.A.O. Dan Boote

ORDER No 12187508 **Job No** UKAS16/08286/04

DATE OF RECEIPT 26 August 2016

PROCEDURE AV Calibration Engineer's Handbook, section 25: periodic testing of sound level meters to IEC 61672-3:2006 (BS EN 61672-3:2006) as modified by UKAS TPS 49 Edition 2:June 2009

IDENTIFICATION Sound level meter Rion type NL-52 serial No 00620857 connected via a preamplifier type NH-25 serial No 20917 to a half-inch microphone type UC-59 serial No 03693. Associated calibrator Rion type NC-74 serial No 35125804 with a one-inch housing and adapter type NC-74-002 for half-inch microphone.

CALIBRATED ON 26 August 2016

PREVIOUS CALIBRATION Calibrated on 07 August 2014, Certificate No. 07862 issued by this laboratory.

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CERTIFICATE OF CALIBRATION



0653

Date of Issue: 29 November 2017

Certificate Number: UCRT17/1989

Issued by:

ANV Measurement Systems

Beaufort Court

17 Roebuck Way

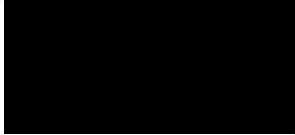
Milton Keynes MK5 8HL

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Acoustics Noise and Vibration Ltd trading as ANV Measurement Systems

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Approved Signatory	
K. Mistry	

Customer Atkins Acoustics, Noise & Vibration
Chadwick House
Birchwood Park
Warrington
WA3 6AE

Order No. 12201462

Test Procedure Procedure TP 1 Calibration of Sound Calibrators

Description Accoustic Calibrator

Identification	Manufacturer	Instrument	Model	Serial No.
	Rion	Calibrator	NC-74	35125804

The calibrator has been tested as specified in Annex B of IEC 60942:2003. As public evidence was available from a testing organisation (PTB) responsible for approving the results of pattern evaluation tests, to demonstrate that the model of sound calibrator fully conformed to the requirements for pattern evaluation described in Annex A of IEC 60942:2003, the sound calibrator tested is considered to conform to all the class 1 requirements of IEC 60942:2003.

ANV Job No. UKAS17/11607

Date Received 06 November 2017

Date Calibrated 29 November 2017

Previous Certificate	<i>Dated</i>	26 August 2016
	<i>Certificate No.</i>	09396
	<i>Laboratory</i>	0653

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