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Tel: (852) 2873 6860 Fax: (852) 2555 7533



CERTIFICATE OF CALIBRATION

Certificate No.:

13CA1107 01-01

Page

Item tested

Description:

Sound Level Meter (Type 1) Rion Co., Ltd.

Microphone

Manufacturer: Type/Model No.:

NL-31

Rion Co., Ltd.

Serial/Equipment No .:

00320528 / N.007.03A

UC-53A 90565

Adaptors used:

Item submitted by

Customer Name: Address of Customer: AECOM ASIA CO., LTD.

Request No.:

Date of receipt:

07-Nov-2013

Date of test:

08-Nov-2013

Model:

DS 360

DS 360

B&K 4226

Reference equipment used in the calibration

Description: Signal generator

Signal generator

Multi function sound calibrator

Serial No. 2288444

33873 15-Apr-2014 61227 15-Apr-2014

Expiry Date: Traceable to: 22-Jun-2014 CIGISMEC

CEPREI **CEPREI**

Ambient conditions

Temperature: Relative humidity: 22 ± 1 °C 60 ± 10 %

Air pressure:

1000 ± 10 hPa

Test specifications

The Sound Level Meter has been calibrated in accordance with the requirements as specified in BS 7580: Part 1: 1997 and the lab calibration procedure SMTP004-CA-152.

The electrical tests were performed using an electrical signal substituted for the microphone which was removed and 2, replaced by an equivalent capacitance within a tolerance of +20%.

3, The acoustic calibration was performed using an B&K 4226 sound calibrator and corrections was applied for the difference between the free-field and pressure responsess of the Sound Level Meter.

Test results

This is to certify that the Sound Level Meter conforms to BS 7580: Part 1: 1997 for the conditions under which the test was performed.

Details of the performed measurements are presented on page 2 of this certificate.

Huang Jian Min/Feng Jun Qi

Actual Measurement data are documented on worksheets.

Approved Signatory:

Date:

11-Nov-2013

Company Chop:

The results reported in this certificate refer to the condition of the instrument on the date of calibration and carry no implication regarding the long-term stability of the instrument.

Soils & Materials Engineering Co., Ltd.

Form No.CARP152-1/Issue 1/Rev.C/01/02/2007



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Tel: (852) 2873 6860 Fax: (852) 2555 7533



CERTIFICATE OF CALIBRATION

Certificate No.:

13CA0305 01-02

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Item tested

Description: Manufacturer:

Sound Level Meter (Type 1)

B&K

2270

B&K

Microphone

4189

Serial/Equipment No.: Adaptors used:

Type/Model No .:

2644597

2638713

Item submitted by

Customer Name:

AECOM ASIA CO LTD

Address of Customer:

Request No .: Date of receipt:

05-Mar-2013

Date of test:

05-Mar-2013

Reference equipment used in the calibration

Description:

Multi function sound calibrator Signal generator

Signal generator

Model: B&K 4226

DS 360 DS 360

Serial No. 2288444 33873

61227

Expiry Date:

22-Jun-2013

29-May-2013 29-May-2013 Traceable to:

CIGISMEC CEPREI CEPREI

Ambient conditions

Temperature:

(21 ± 1) °C $(60 \pm 10) \%$

Relative humidity: Air pressure:

(1000 ± 10) hPa

Test specifications

The Sound Level Meter has been calibrated in accordance with the requirements as specified in BS 7580: Part 1: 1997 1, and the lab calibration procedure SMTP004-CA-152. 2,

The electrical tests were performed using an electrical signal substituted for the microphone which was removed and replaced by an equivalent capacitance within a tolerance of ±20%.

3, The acoustic calibration was performed using an B&K 4226 sound calibrator and corrections was applied for the difference between the free-field and pressure responsess of the Sound Level Meter.

Test results

This is to certify that the Sound Level Meter conforms to BS 7580: Part 1: 1997 for the conditions under which the test was performed.

Details of the performed measurements are presented on page 2 of this certificate.

Actual Measurement data are documented on worksheets.

Approved Signatory:

Huang Jian Min/Feng Jun Qi

Date:

05-Mar-2013

Company Chop:

FNGIA

Comments: The results reported in this certificate refer to the condition of the instrument on the date of calibration and carry no implication regarding the long-term stability of the instrument.

C Soils & Materials Engineering Co., Ltd.

Form No.CARP152-1/Issue 1/Rev.C/01/02/2007



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CERTIFICATE OF CALIBRATION

Certificate No.:

13CA1107 01-02

Page:

of

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Item tested

Description:

Acoustical Calibrator (Class 1)

Manufacturer: Type/Model No.: Rion Co., Ltd. NC-73

Serial/Equipment No.:

10307223 / N.004.08

Adaptors used:

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Item submitted by

Curstomer:

AECOM ASIA CO., LTD.

Address of Customer:

-

Request No.: Date of receipt:

07-Nov-2013

Date of test:

08-Nov-2013

Reference equipment used in the calibration

Description: Lab standard microphone Preamplifier Measuring amplifier Signal generator Digital multi-meter Audio analyzer	Model: B&K 4180 B&K 2673 B&K 2610 DS 360 34401A 8903B	Serial No. 2341427 2239857 2346941 61227 US36087050 GB41300350	Expiry Date: 17-Apr-2014 16-Apr-2014 24-Apr-2014 15-Apr-2014 10-Dec-2013 15-Apr-2014	Traceable to: SCL CEPREI CEPREI CEPREI CEPREI CEPREI CEPREI
Audio analyzer	8903B	GB41300350	15-Apr-2014	CEPREI
Universal counter	53132A	MY40003662	15-Apr-2014	CEPREI

Ambient conditions

Temperature: Relative humidity:

Air pressure:

22 ± 1 °C 60 ± 10 % 1000 ± 10 hPa

Test specifications

- The Sound Calibrator has been calibrated in accordance with the requirements as specified in IEC 60942 1997 Annex B
 and the lab calibration procedure SMTP004-CA-156.
- 2, The calibrator was tested with its axis vertical facing downwards at the specific frequency using insert voltage technique.
- 3, The results are rounded to the nearest 0.01 dB and 0.1 Hz and have not been corrected for variations from a reference pressure of 1013.25 hectoPascals as the maker's information indicates that the instrument is insensitive to pressure changes.

Test results

This is to certify that the sound calibrator conforms to the requirements of annex B of IEC 60942: 1997 for the conditions under which the test was performed. This does not imply that the sound calibrator meets IEC 60942 under any other conditions.

Details of the performed measurements are presented on page 2 of this certificate.

Approved Signatory:

Huang Jian Min/Feng Jun Qi

: 11-Nov-2013

Company Chop:

Comments: The results reported in this certificate refer to the condition of the instrument on the date of calibration and carry no implication regarding the long-term stability of the instrument.

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Form No.CARP156-1/Issue 1/Rev.D/01/03/2007



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CERTIFICATE OF CALIBRATION

Certificate No.:

13CA0325 01-03

Page:

Item tested

Description:

Acoustical Calibrator (Class 1)

Manufacturer:

Rion Co., Ltd.

Type/Model No.:

NC-73

Serial/Equipment No.:

10186482 / N.004.09

Adaptors used:

Item submitted by

Curstomer:

AECOM ASIA CO., LTD.

Address of Customer:

Request No.:

Date of receipt:

25-Mar-2013

Date of test:

26-Mar-2013

Reference equipment used in the calibration

Description: Lab standard microphone Preamplifier Measuring amplifier	Model:	Serial No.	Expiry Date:	Traceable to:
	B&K 4180	2412857	29-May-2013	SCL
	B&K 2673	2239857	17-Dec-2013	CEPREI
	B&K 2610	2346941	17-Dec-2013	CEPREI
Signal generator Digital multi-meter Audio analyzer Universal counter	DS 360 34401A 8903B 53132A	61227 US36087050 GB41300350 MY40003662	29-May-2013 10-Dec-2013 29-May-2013 29-May-2013	CEPREI CEPREI CEPREI

Ambient conditions

Temperature:

22 ± 1 °C

Relative humidity:

60 ± 10 %

Air pressure:

1000 ± 10 hPa

Test specifications

- The Sound Calibrator has been calibrated in accordance with the requirements as specified in IEC 60942 1997 Annex B 1, and the lab calibration procedure SMTP004-CA-156.
- The calibrator was tested with its axis vertical facing downwards at the specific frequency using insert voltage technique. 2,
- The results are rounded to the nearest 0.01 dB and 0.1 Hz and have not been corrected for variations from a reference 3, pressure of 1013.25 hectoPascals as the maker's information indicates that the instrument is insensitive to pressure changes.

Test results

This is to certify that the sound calibrator conforms to the requirements of annex B of IEC 60942: 1997 for the conditions under which the test was performed. This does not imply that the sound calibrator meets IEC 60942 under any other conditions.

Details of the performed measurements are presented on page 2 of this certificate.

Approved Signatory:

Date:

26-Mar-2013

Huang Jian Min/Feng Jun Qi

Company Chop:

Comments: The results reported in this certificate refer to the condition of the instrument on the date of calibration and carry no implication regarding the long-term stability of the instrument.

Soils & Materials Engineering Co., Ltd

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