

<b>OUR REF</b>	<b>RFQ/20/886</b>
ENQUIRIES	Tintswalo Nyathi
TELEPHONE	012 428 6179
DATE	15 June 2023

**RFQ 20/886: PANEL OF SUPPLIERS FOR THE CALIBRATION OF LABORATORY EQUIPMENT FOR A PERIOD OF 3 MONTHS**

**Dear Bidder,**

The South African Bureau of Standards (SABS) hereby invites you to submit a proposal for the calibration of Laboratory Equipment.

The details of the service to be provided is in the attached Request for Quote, **RFQ RFQ/20/886**.

**Please note the following:**

- Scope of services specified on page 3.
- Closing date specified on page 3.
- SABS Procurement terms and conditions (accessed on the sabs website)
- **Bidder must submit the following documents with the quotation:**
  - Treasury Central Supplier Database (CSD) registration report
  - A valid certified copy of BBBEE certificate/Sworn Affidavit
  - SBD 4 Bidder's Disclosure
  - SBD 6.1 Preference points claim form in terms of the Preferential procurement Regulation 2022
  - Appendix A – Non-Disclosure Agreement

**SOUTH AFRICAN BUREAU OF STANDARDS** – Established in terms of Section 2 of the Standards Act, 1945, as amended

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**West Coast Region**

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15 Garth Road,  
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**Background**

The SABS is a statutory body established in term of Standards Act, 1945 (Act No. 24 of 1945) and continues to operate in terms of the Standards Act, 2008 (Act No. 8 of 2008) as the national standardization institution in South Africa, mandated to:

- develop, promote and maintain South African National Standards.
- promote quality in connection with commodities; and
- render conformity assessment services and matters connected therewith.

**Request for Quotation (RFQ)**

This RFQ serves as an invitation to submit a quotation for supply and delivery of calibration of Laboratory Equipment, of which a copy is available on [www.sabs.co.za, accessible through the link: https://www.sabs.co.za/Procurement/proc\\_toc.asp](https://www.sabs.co.za/Procurement/proc_toc.asp)

The Bidder is requested to supply its quotation, in writing, by the date specified. Should the Bidder require any clarification, the clarification should be submitted by e-mail to the Procurement Specialist identified in this document.

By submitting a quotation in response to this RFQ or participating in this RFQ process, the Bidder accepts that it is subject to and bound by all the terms and conditions contained in this RFQ document.

**1. Confidentiality**

This document may not be used for any purpose by the Bidder other than for developing their response to it, and all reasonable efforts must be taken by the Bidder to ensure confidentiality of any information provided. This document and any other information of a confidential nature provided to the Bidder during RFQ process are and will be covered by the non-disclosure agreement to be signed between the SABS and the Bidder.

**2. No Contract**

Bidders shall note that this RFQ does not commit the SABS to any course of action resulting from the receipt of quotations and the SABS may, at its discretion reject any submission which does not conform to instructions and specifications which are contained herein or select a Bidder based upon its own unique set of criteria. The SABS also reserves the right not to select a bidder.

Nothing in this document shall be construed as a contract between the SABS and the Bidder, and no communication, whether verbal or written, by the SABS personnel or agents during the course of this process shall create such a contract in respect of the requirements specified in this RFQ.

**3. No Obligation to Proceed**

The SABS reserves the right to discontinue the RFQ evaluation process at any time and will not be responsible for any losses incurred by the Bidder as a result of discontinuance of the RFQ process.

#### 4. Validity of Proposals

The Bidder's quotation shall remain valid for a period of sixty (60) days from the closing date. The SABS may at any time prior to the expiry of the bid validity period, extend the above validity period by sixty (60) days by written notice to the Bidders. In that event, the SABS will not require any consent from the Bidders, and bidders will not be required or permitted to amend any of their quotations.

The SABS retains the right, but is under no obligation, to request Bidders to extend the validity periods of their quotations, prior to expiry thereof, if it has already invoked the extension referred to above and it is in the SABS' interest to further extend the bid validity period. Such request shall be in writing. The Bidder is not obliged to extend the validity period. Also, bidders will not be required or permitted to amend any of their quotations.

#### 5. Scope of work

The SABS requires the services of accredited service providers to calibrate laboratory equipment across multiple laboratories. These laboratories cross amongst various clusters and sectors, and the preliminary list of equipment is included as Annexure A. The laboratory equipment is located at the SABS offices across South Africa and require both on-site and off-site calibration.

The panel will be appointed based on the mandatory requirements and quotes will be requested from the panel as and when required. It must be noted that the preliminary list is included for bidders to assess their ability to calibrate laboratory equipment of this nature and not exhaustive. Whilst every effort will be made for multiple equipment not to be added or removed from the list, this decision will be at the sole discretion of the SABS and based on the needs of the organisation as they arise. Therefore, any award does not constitute an obligation for all listed equipment to be calibrated by any or all potential service providers appointed to the panel.

#### 6. Mandatory requirements.

- **SANAS Accredited for calibration parameters.**  
**NB: If the laboratory is not accredited, a traceability report must be submitted.**

#### 7. Timelines

MILESTONES	DATE AND E-MAIL ADDRESS
Submission of any Questions	<b>21 June 2023 at 16:00 (pm)</b>
Closing Date and Time <b>No late submissions will be accepted.</b>	<b>23 June 2023 at 11:00 (am)</b>
Method of submission.	Responses should be submitted via email <a href="mailto:Tintswalo.Nyathi@sabs.co.za">Tintswalo.Nyathi@sabs.co.za</a> and <a href="mailto:procurement.request@sabs.co.za">procurement.request@sabs.co.za</a> Maximum size 14 MB, Proposals/ Bids must be submitted on PDF Files (compressed zipped folder if necessary), Proposals/Bids submitted via a link and/or "we transfer" will not be accepted. <i>It is the Bidder's responsibility to ensure that the quotation is received on time by SABS.</i>

#### **8. Preference Points System**

Only Bidders who submitted quotations as per scope of work will be evaluated further on 80/20 preference points system of 2022. (Pricing and Specific Goals)

#### **9. Quotation**

The quotation should include but not limited to the following:

- Delivery to **SABS (VARIOUS REGIONS)**
- Transportation cost
- Fixed price, where foreign currencies are involved, bidders should make provision for forward cover.

#### **10. Contact information**

All enquiries regarding this RFQ must be e-mailed/directed to [Tintswalo.Nyathi@sabs.co.za](mailto:Tintswalo.Nyathi@sabs.co.za) and **012 428 6179**. Bidders must not contact any other SABS' personnel regarding this RFQ, as it may lead to the Bidder's disqualification. Also note that any canvassing by Bidders/Suppliers regarding this RFQ will result in disqualification.

#### **11. Advance payment**

The SABS will not make an upfront or advance payment to a successful Bidder. Payment will only be made in accordance to the delivery of service or goods that will be agreed upon by the SABS and the successful Bidder.

#### **12. Responsibility for costs**

Under no circumstances shall the SABS be responsible for any of the Bidder's costs associated with the preparation and/or submission of its quotation, including any costs incurred by the Bidder prior to the signature, by both parties, of an agreement resulting from a successful bid.

#### **Bidder's contractual terms**

**The SABS will not be bound by any legal or contractual terms as may be included in the Bidder's quotation, in response to this RFQ.**

**BIDDER'S DISCLOSURE****1. PURPOSE OF THE FORM**

Any person (natural or juristic) may make an offer or offers in terms of this invitation to bid. In line with the principles of transparency, accountability, impartiality, and ethics as enshrined in the Constitution of the Republic of South Africa and further expressed in various pieces of legislation, it is required for the bidder to make this declaration in respect of the details required hereunder.

Where a person/s are listed in the Register for Tender Defaulters and / or the List of Restricted Suppliers, that person will automatically be disqualified from the bid process.

**2. Bidder's declaration**

- 2.1 Is the bidder, or any of its directors / trustees / shareholders / members / partners or any person having a controlling interest<sup>1</sup> in the enterprise,  
employed by the state? **YES/NO**

- 2.1.1 If so, furnish particulars of the names, individual identity numbers, and, if applicable, state employee numbers of sole proprietor/ directors / trustees / shareholders / members/ partners or any person having a controlling interest in the enterprise, in table below.

Full Name	Identity Number	Name of State institution

- 2.2 Do you, or any person connected with the bidder, have a relationship with any person who is employed by the procuring institution? **YES/NO**

- 2.2.1 If so, furnish particulars:

.....  
 .....

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<sup>1</sup> the power, by one person or a group of persons holding the majority of the equity of an enterprise, alternatively, the person/s having the deciding vote or power to influence or to direct the course and decisions of the enterprise.

2.3 Does the bidder or any of its directors / trustees / shareholders / members / partners or any person having a controlling interest in the enterprise have any interest in any other related enterprise whether or not they are bidding for this contract? **YES/NO**

2.3.1 If so, furnish particulars:

.....  
.....

### 3 DECLARATION

I, the undersigned, (name)..... in submitting the accompanying bid, do hereby make the following statements that I certify to be true and complete in every respect:

- 3.1 I have read and I understand the contents of this disclosure;
- 3.2 I understand that the accompanying bid will be disqualified if this disclosure is found not to be true and complete in every respect;
- 3.3 The bidder has arrived at the accompanying bid independently from, and without consultation, communication, agreement or arrangement with any competitor. However, communication between partners in a joint venture or consortium<sup>2</sup> will not be construed as collusive bidding.
- 3.4 In addition, there have been no consultations, communications, agreements or arrangements with any competitor regarding the quality, quantity, specifications, prices, including methods, factors or formulas used to calculate prices, market allocation, the intention or decision to submit or not to submit the bid, bidding with the intention not to win the bid and conditions or delivery particulars of the products or services to which this bid invitation relates.
- 3.4 The terms of the accompanying bid have not been, and will not be, disclosed by the bidder, directly or indirectly, to any competitor, prior to the date and time of the official bid opening or of the awarding of the contract.
- 3.5 There have been no consultations, communications, agreements or arrangements made by the bidder with any official of the procuring institution in relation to this procurement process prior to and during the bidding process except to provide clarification on the bid submitted where so required by the institution; and the bidder was not involved in the drafting of the specifications or terms of reference for this bid.
- 3.6 I am aware that, in addition and without prejudice to any other remedy provided to combat any restrictive practices related to bids and contracts, bids that are suspicious will be reported to the Competition Commission for investigation and possible imposition of administrative penalties in terms of section 59 of the Competition Act No 89 of 1998 and or may be reported to the National Prosecuting Authority (NPA) for criminal investigation and or may be restricted from conducting business with the public sector for a period not exceeding ten (10) years in terms of the Prevention and Combating of Corrupt Activities Act No 12 of 2004 or any other applicable legislation.

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<sup>2</sup> Joint venture or Consortium means an association of persons for the purpose of combining their expertise, property, capital, efforts, skill and knowledge in an activity for the execution of a contract.

I CERTIFY THAT THE INFORMATION FURNISHED IN PARAGRAPHS 1, 2 and 3 ABOVE IS CORRECT.  
I ACCEPT THAT THE STATE MAY REJECT THE BID OR ACT AGAINST ME IN TERMS OF PARAGRAPH 6  
OF PFMA SCM INSTRUCTION 03 OF 2021/22 ON PREVENTING AND COMBATING ABUSE IN THE  
SUPPLY CHAIN MANAGEMENT SYSTEM SHOULD THIS DECLARATION PROVE TO BE FALSE.

.....  
Signature

.....  
Date

.....  
Position

.....  
Name of bidder

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**PREFERENCE POINTS CLAIM FORM IN TERMS OF THE PREFERENTIAL PROCUREMENT REGULATIONS 2022**

This preference form must form part of all tenders invited. It contains general information and serves as a claim form for preference points for specific goals.

**NB: BEFORE COMPLETING THIS FORM, TENDERERS MUST STUDY THE GENERAL CONDITIONS, DEFINITIONS AND DIRECTIVES APPLICABLE IN RESPECT OF THE TENDER AND PREFERENTIAL PROCUREMENT REGULATIONS, 2022**

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**1. GENERAL CONDITIONS**

1.1 The following preference point systems are applicable to invitations to tender:

- the 80/20 system for requirements with a Rand value of up to R50 000 000 (all applicable taxes included); and

1.2 **To be completed by the organ of state**

a) The applicable preference point system for this tender is the 80/20 preference point system.

1.3 Points for this tender (even in the case of a tender for income-generating contracts) shall be awarded for:

- (a) Price; and
- (b) Specific Goals.

1.4 **To be completed by the organ of state:**

The maximum points for this tender are allocated as follows:

	POINTS
PRICE	80
SPECIFIC GOALS	20
<b>Total points for Price and SPECIFIC GOALS</b>	<b>100</b>

1.5 Failure on the part of a tenderer to submit proof or documentation required in terms of this tender to claim points for specific goals with the tender, will be interpreted to mean that preference points for specific goals are not claimed.

1.6 The organ of state reserves the right to require of a tenderer, either before a tender is adjudicated or at any time subsequently, to substantiate any claim in regard to preferences, in any manner required by the organ of state.

**2. DEFINITIONS**

- (a) **“tender”** means a written offer in the form determined by an organ of state in response to an invitation to provide goods or services through price quotations, competitive tendering process or any other method envisaged in legislation;



- (b) **“price”** means an amount of money tendered for goods or services, and includes all applicable taxes less all unconditional discounts;
- (c) **“rand value”** means the total estimated value of a contract in Rand, calculated at the time of bid invitation, and includes all applicable taxes;
- (d) **“tender for income-generating contracts”** means a written offer in the form determined by an organ of state in response to an invitation for the origination of income-generating contracts through any method envisaged in legislation that will result in a legal agreement between the organ of state and a third party that produces revenue for the organ of state, and includes, but is not limited to, leasing and disposal of assets and concession contracts, excluding direct sales and disposal of assets through public auctions; and
- (e) **“the Act”** means the Preferential Procurement Policy Framework Act, 2000 (Act No. 5 of 2000).

### 3. FORMULAE FOR PROCUREMENT OF GOODS AND SERVICES

#### 3.1. POINTS AWARDED FOR PRICE

##### 3.1.1 THE 80/20 OR 90/10 PREFERENCE POINT SYSTEMS

A maximum of 80 or 90 points is allocated for price on the following basis:

80/20	or	90/10
$Ps = 80 \left( 1 - \frac{Pt - P_{min}}{P_{min}} \right)$	or	$Ps = 90 \left( 1 - \frac{Pt - P_{min}}{P_{min}} \right)$

Where

- Ps = Points scored for price of tender under consideration
- Pt = Price of tender under consideration
- Pmin = Price of lowest acceptable tender

#### 3.2. FORMULAE FOR DISPOSAL OR LEASING OF STATE ASSETS AND INCOME GENERATING PROCUREMENT

##### 3.2.1. POINTS AWARDED FOR PRICE

A maximum of 80 or 90 points is allocated for price on the following basis:

80/20	or	90/10
$Ps = 80 \left( 1 + \frac{Pt - P_{max}}{P_{max}} \right)$	or	$Ps = 90 \left( 1 + \frac{Pt - P_{max}}{P_{max}} \right)$

Where

- Ps = Points scored for price of tender under consideration
- Pt = Price of tender under consideration
- Pmax = Price of highest acceptable tender

#### 4. POINTS AWARDED FOR SPECIFIC GOALS

- 4.1. In terms of Regulation 4(2); 5(2); 6(2) and 7(2) of the Preferential Procurement Regulations, preference points must be awarded for specific goals stated in the tender. For the purposes of this tender the tenderer will be allocated points based on the goals stated in table 1 below as may be supported by proof/ documentation stated in the conditions of this tender:
- 4.2. In cases where organs of state intend to use Regulation 3(2) of the Regulations, which states that, if it is unclear whether the 80/20 or 90/10 preference point system applies, an organ of state must, in the tender documents, stipulate in the case of—
- (a) an invitation for tender for income-generating contracts, that either the 80/20 or 90/10 preference point system will apply and that the highest acceptable tender will be used to determine the applicable preference point system; or
  - (b) any other invitation for tender, that either the 80/20 or 90/10 preference point system will apply and that the lowest acceptable tender will be used to determine the applicable preference point system,
- then the organ of state must indicate the points allocated for specific goals for both the 90/10 and 80/20 preference point system.

**Table 1: Specific goals for the tender and points claimed are indicated per the table below.**

***(Note to organs of state: Where either the 90/10 or 80/20 preference point system is applicable, corresponding points must also be indicated as such.)***

***Note to tenderers: The tenderer must indicate how they claim points for each preference point system.)***

The specific goals allocated points in terms of this tender	Number of points allocated (80/20 system) (To be completed by the organ of state)	Number of points claimed (80/20 system) (To be completed by the tenderer)
100% Black Ownership	20	
At least 51% or more black ownership	10	
Less than 51% not more than 0% black ownership	5	
0% black ownership	0	
<b>VALID BBEE CERTIFICATE/SWORN AFFIDAVIT (SPECIFIC GOAL POINTS)</b>		

## DECLARATION WITH REGARD TO COMPANY/FIRM

4.3. Name of company/firm.....

4.4. Company registration number: .....

4.5. TYPE OF COMPANY/ FIRM

- ☐ Partnership/Joint Venture / Consortium
- ☐ One-person business/sole propriety
- ☐ Close corporation
- ☐ Public Company
- ☐ Personal Liability Company
- ☐ (Pty) Limited
- ☐ Non-Profit Company
- ☐ State Owned Company

[TICK APPLICABLE BOX

4.6. I, the undersigned, who is duly authorised to do so on behalf of the company/firm, certify that the points claimed, based on the specific goals as advised in the tender, qualifies the company/ firm for the preference(s) shown and I acknowledge that:

- i) The information furnished is true and correct;
- ii) The preference points claimed are in accordance with the General Conditions as indicated in paragraph 1 of this form;
- iii) In the event of a contract being awarded as a result of points claimed as shown in paragraphs 1.4 and 4.2, the contractor may be required to furnish documentary proof to the satisfaction of the organ of state that the claims are correct;
- iv) If the specific goals have been claimed or obtained on a fraudulent basis or any of the conditions of contract have not been fulfilled, the organ of state may, in addition to any other remedy it may have –
  - (a) disqualify the person from the tendering process;
  - (b) recover costs, losses or damages it has incurred or suffered as a result of that person's conduct;
  - (c) cancel the contract and claim any damages which it has suffered as a result of having to make less favourable arrangements due to such cancellation;
  - (d) recommend that the tenderer or contractor, its shareholders and directors, or only the shareholders and directors who acted on a fraudulent basis, be restricted from obtaining business from any organ of state for a period not exceeding 10 years, after the *audi alteram partem* (hear the other side) rule has been applied; and
  - (e) forward the matter for criminal prosecution, if deemed necessary

.....  
**SIGNATURE(S) OF TENDERER(S)**

**SURNAME AND NAME:** .....

**DATE:** .....

**ADDRESS:** .....

.....

.....

.....

## Non-Disclosure Agreement

THIS AGREEMENT is made BETWEEN

### **RFQ 20886: CALIBRATION OF LABORATORY EQUIPMENT.**

The South African Bureau of Standards (SABS), a Public Entity that continues to exist in terms of section 3 of the Standards Act 2008, whose principle place of business is at **1 Dr Lategan Road, Groenkloof**, Pretoria, 0001, South Africa.

AND \_\_\_\_\_ (“the Supplier”) whose registered office is at  
\_\_\_\_\_

(Hereinafter referred to as the “parties”)

WHEREAS in the course of discussions and/or negotiations with the South African Bureau of Standards, the Supplier has received or may receive in future information relating to this **RFQ RFQ/20/886** for the South African Bureau of Standards and other related information hereinafter referred to as “Confidential Information”.

In consideration of the Supplier to-which the South African Bureau of Standards or any person affiliated with it, including its subsidiary, agent, representative(s) or such related entity may provide Confidential Information in connection with such discussions and/or negotiations to. Therefore, the parties wish to agree as follows:

1. The Supplier will maintain strictly secret and confidential all information relayed or transmitted to it in any manner or form and will not divulge any part of the Confidential Information directly or indirectly to any person, firm or entity (other than such of its employees who have a need to know the Confidential Information for the purposes of fulfilling the Supplier’s obligation to the South African Bureau of Standards.
2. The Supplier shall not make copies of the Confidential Information or otherwise disseminate any of the Confidential Information (except as may be required to fulfil specific obligations towards South African Bureau of Standards) without South African Bureau of Standards express prior written consent.
3. This agreement applies to information whether such information is marked as or appears to be confidential and whether or not such information is of commercial use to South African Bureau of Standards or any other party.
4. This agreement shall not apply to information which: -
  - (a) the Supplier can show had been lawfully received by it prior to disclosure under this agreement.
  - (b) is in the public domain or becomes so otherwise than through breach of this agreement;
  - (c) was disclosed to the Supplier by a third party who was under no obligation of confidence in respect thereof;

5. The South African Bureau of Standards retains ownership of Intellectual property rights on all material and processes relating to the service provided for and on its behalf by the supplier.
6. The Supplier shall observe its obligations under this agreement until expiry of a period of 12 months from the date of signature.

IN WITNESS WHERE OF the parties hereto have executed this agreement in duplicate.

**For the Bidder**

Signed at..... on this.....day of .....2023

Signed on behalf of the Supplier, duly authorised thereto..... (signature)

..... (name) ..... (title)

Witness 1. ....

Witness 2. ....

**For the SABS**

Signed at..... on this.....day of .....2023

On behalf of the SABS, duly authorised thereto..... (signature)

..... (name) ..... (title)

Witness 1. ....

Witness 2. ....

## Scope of service: calibration of Laboratory Equipment.

## CALIBRATION REQUIREMENTS FOR SABS HEAD OFFICE

Name of equipment out of calibration or calibration due till July 2023	Calibration range
Power Analyzer Norma D4000	N/A
Precision Power Analyzer	200-300 V
Tektronix Power Analyzer C010152	N/A
Low ohm meter RS	N/A
Milli ohmmeter- Cropico D07	N/A
EXTECH Humidity/Temp Datalogger	N/A
EXTECH Humidity/Temp Datalogger	N/A
Temperature recorder (Yokogawa)	N/A
Current Transformer 100/5A (Green)	N/A
Current Transformer 100/5A (Green)	N/A
Current Transformer 100/5A (Green)	N/A
5 M Measuring Tape	N/A
Digital Barometer	N/A
2 x Access Probes	2.5 mm
Perfection Scale	0 to 6600 g
LCR Meter	N/A
Data Acquisition - Temperature Recorder	0 to 300
Precision Ball	N/A
Loadcell Indicator	0-500kg
Madincos MPR4200 - 8CH Temperature recorder PP&E 0042952	20 to 200
SCALE ADAM BFW 150 PP&E 0001764	0-100
Digital Vernier (Mitutoyo)	N/A
SANJI, STOPWATCH	N/A
TT20 Trutorque wrench	N/A
Test finger - Jointed	2.5 mm
Densitometer	N/A
Binder Oven	50, 100, 300
Optolab Oven	50, 100, 300
Memmert Oven	50, 100, 300
Carbolite Furnace	300, 500, 1200
Vacuum	0-300kpa
Alpha II IR Spectrophotometer	0-300kpa
Karl Fischer	N/A
Mettler Balances	N/A
Digital Vernier (Mitutoyo)	0-100 MM
Digital Micrometer	0-100 mm

Name of equipment out of calibration or calibration due till July 2023	Calibration range
Temperature logger	N/A
Dosimeter Reader (Internal calibration)	N/A
Landauer System	N/A
Fluke Multimeter	AC =600m V to 1000 V, AC = 600μ A to 6 A DC =600m V to 1000 V, DC = 600μ A to 6 A Frequency = 600 mV , Capacitor = 10n to 100μ Sensitivity = 6 to 60 V, Low pass filter = 1000V Trigger level = 6V, temperature accuracy = 0 to 100 Duty cycle = 6 V, Resistance = 600 Ω to 60 nS Diode test = 3V, Peak min/max = 6 V Function Test = Display, Fuse and push button
Fluke Multimeter	AC =600m V to 1000 V, AC = 600μ A to 6 A DC =600m V to 1000 V, DC = 600μ A to 6 A Frequency = 600 mV , Capacitor = 10n to 100μ Sensitivity = 6 to 60 V, Low pass filter = 1000V Trigger level = 6V, temperature accuracy = 0 to 100 Duty cycle = 6 V, Resistance = 600 Ω to 60 nS Diode test = 3V, Peak min/max = 6 V Function Test = Display, Fuse and push button
Fluke Multimeter	AC =600m V to 1000 V, AC = 600μ A to 6 A DC =600m V to 1000 V, DC = 600μ A to 6 A Frequency = 600 mV , Capacitor = 10n to 100μ Sensitivity = 6 to 60 V, Low pass filter = 1000V Trigger level = 6V, temperature accuracy = 0 to 100 Duty cycle = 6 V, Resistance = 600 Ω to 60 nS Diode test = 3V, Peak min/max = 6 V Function Test = Display, Fuse and push button
Megohmmeter Tettex AG	Output Voltage accuracy = 100V to 999V Insulation accuracy = 100V to 999V
Radio Megohmmeter	Output Voltage accuracy = 10V to 999V Insulation accuracy = 20V to 100V Insulation measurement = 100K to 1 G
Mercury in glass Thermometer A01	Temp = 50 to 250°C
Mercury in glass Thermometer A02	Temp = 50 to 250°C
Mercury in glass Thermometer ATI 1317-9	Temp = -10 to 50°C
Mercury in glass Thermometer ATI 1317-10	Temp = -10 to 50°C
Mercury in glass Thermometer 8210	Temp = -10 to 30°C



Name of equipment out of calibration or calibration due till July 2023	Calibration range
Fluke Megohmmeter	Functional Test = Display, Backlight, Battery Discharge circuit DC voltage = 0 to 540 V AC voltage = 170 to 560V @ 60Hz Voltage source = 250 to 1000V MegaOhm measurement accuracy = 250 to 1000V Ohm measurement accuracy and LO ohm measurement accuracy
Gallenkamp Oven 8574/4A275D	Temperature = 80°C
Gallenkamp Oven 909290A/11018	Temperature = 80°C
Gallenkamp Oven 6486	Temperature = 100°C
Gallenkamp Oven 7396	Temperature = 100°C
Prolab Oven	Temperature = 70 to 200°C
Oven	Temperature = 70 to 200°C
Ethernet Multimeter/Data Acquisition	DC voltage = 100mV to 1000V, DC current = 20mA to 3A AC voltage = 100mV to 1000V, AC current = 1A to 3A RTD temperature accuracy = Pt 100 (385) Frequency at 1 Vpp= 10.00000Hz to 500.0000kHz Thermocouple J & K = temperature -20 to 200°C
HV Tester	2.5kV to 5kV
Torque Screwdriver	Torque value 20,70 and 120
Stopwatch 20193	10 seconds to 20 minutes
Stopwatch 20194	10 seconds to 20 minutes
Stopwatch 53941543	10 seconds to 20 minutes
Vernier Caliper 1022650 Mitutoyo	0mm to 300mm

Name of equipment out of calibration or calibration due till July 2023	Calibration range
Clamp Meter	DC = 0.4 to 1000V, DC = 400A to 1000A AC = 4 to 700V, AC = 400A to 1000A Frequency = 40Hz to 100kHz Temperature = -4 to 750 °C Capacitor = 4n to 4μF Continuous and diode tests
Flexing Machine	Timer = 1/2 to 342 counts Fixed Speed 20 Rotation pm
Gauges Max & Min.	Measurements from 164-1 Standard
Micro-ohmmeter Valhalla	Range from 20mΩ to 20kΩ
Power supply load cabinet	Voltage = 50 to 300V Current = 5 to 40A Power = 1.1k to 8.2kW Power factor = 0.250, 0.5, 0.8 and 0.998
Fridge	Temperature = -15° C
UV Weathering Accelerated Ageing test Chamber/SN882	Temperature = 50, 60 & 70° C and lamp irradiance = 0.34W/m <sup>2</sup>
Switch Plug Socket Endurance Machine	Timer Strokes = 30 to 2000 measured at 1 m to 1 hour
Glow wire machine	Temperature = 650, 750, 850, 950 and 1000°C Timer = 3s to 300s
Load cell Compression Machine	0 to 500 N
Gauges 164-2 with earth and without earth	measurements from SANS 164-2 with and without earth
Adam Scale	Repeatability applied mass = 15000g Corner load applied mass = 9995 g Linearity = 0 to 30000g
Shimandzu scale	Repeatability applied mass = 160g Corner load applied mass = 100 g Linearity = 0 to 320g
Scale 16430	Repeatability applied mass = 2500g Corner load applied mass = 1492 g Linearity = 0 to 5000g
1 meter steel ruler	Position in mm = 0 - 100, 0 - 200, 0 - 400, 0 - 600, 0 - 800, 0 - 1000
Tensile Machine	Displacement = 0 - 100 mm, 0 - 250 mm Force = 0 - 30kN Speed = 0 - 25mm/min, 0 - 175 mm/min, 0 - 250 mm/min Video extensometer = 0 - 100mm

Name of equipment out of calibration or calibration due till July 2023	Calibration range
Wallence Oven SR C76096-9	Temperature = 150 to 200°C
Met Oven tern	Temperature = 150 to 200°C
Set of Gauges 164-6 gauges single pin and two pin	measurements from SANS 164-6 single pin and two pin
Ovens *2 (Ecotherm and Labcon)	100,105,130,180
Aquakem 250	Not Applicable
2x Top Pan Balances	C&M Analytical Lab - 2215
Thermometers (4X)	
2x Top Pan Balances	
4x Analytical Balances	0-100g
3x Floor Balances	0-50kg
2x ISO Ash Furnace	500°C and 815°C
2x Drying Oven	40 oC and 110 oC
1x Moisture Oven	105-110 °C
1x Inherent Moisture Oven	105-110 °C
14x Mass Pieces	0.2 - 20g; 1kg, 5kg, 10kg and 20kg
2x Clock Timers	0:10:36 -20:00:48 mm:ss/100s
1x Thermometer Probe and Digital thermometer	500 – 900 °C
1x LIG Thermometer	15-27 °C;
1x Thermo-hygrometer	15-27 °C;
2x ISO Volatile Furnace	900°C
1x LIG Thermometer	
1x Thermo-hygrometer	100-1000ml
2x ISO Volatile Furnace	100-1000ml
Micropipettes	100-1000ml
Micropipettes	100-1000ml
Micropipettes	100-1000ml
Micropipettes	100-1000ml
Micropipettes	100-1000ml
Micropipettes	100-1000ml
Micropipettes	100-1000ml
Micropipettes	100-1000ml
Thermometer	30°C, 37 °C and 44 °C
Thermometer	30°C, 35 °C and 42 °C
Thermometer	25°C, 37 °C and 55 °C
Thermometer	18°C, 30°C and 37°C
Thermometer	30°C, 37°C and 44°C
Thermometer	30°C, 35°C and 42°C
Thermometer	25°C, 30°C and 44°C

Name of equipment out of calibration or calibration due till July 2023	Calibration range
Thermometer	25°C, 35°C and 37°C
Thermometer	55°C, 80°C and 100°C
LIG Thermometer media lab	20 °C, 30 °C
Mercury in glass thermometer	17 °C, 20 °C, 25°C
Mercury in glass thermometer	37 °C, 60 °C
Mercury in glass thermometer	22.5 °C
Mercury in glass thermometer	32.5 °C
LIG Thermometer	20 °C, 30 °C, 37°C
FLUKE 51 II	-10 °C, 0 °C, 22 °C, 30 °C, 37°C, 60 °C, 85 °C 100 °C
Reference thermometer	17°C, 20°C and 25°C
Thermometer	30°C, 32°C and 35°C
Thermometer	20°C, 25°C and 30°C
Thermometer	30°C, 37°C and 44°C
Thermometer	0°C, 10°C and 25°C
Thermometer	25°C, 30 °C and 37 °C
Thermometer	4°C (fridge)
Thermometer	10°C, 20 °C 30°C and 40 °C
Thermometer	25 °C and 37 °C
Bus Seat Rig Load cell Compression 10 KN (Channel 1 - 6 )	0; 1; 2; 3; 4; 5; 6; 7; 8; 9; 10 kN
Bus Seat Rig - Displ Trans 0- 500 mm (No. 1 - 6)	0; 40; 100; 200; 300; 400; 500 mm
Seat Belt: Extraction Retraction Machine	Compression: 0; 2; 4; 6; 8,10 N
Seat Belt: 3 Mass pieces (Extraction/Retraction machine) 25, 10, 5N	Mass: 5, 10, 25 N
Crash Test dummy	0-78 kg
Buckle Release Testing Machine	10, 20, 30, 40, 50 ,60 N
TTi22 TRU Torque Wrench	4, 12, 20 Nm
CR10 Radiometer with solar eye	Irradiance @ 340 nm and 310 nm
HT206 Brake pad Compressibility Testing Machine: 50kN (5 ton) and Displacement	Compression KN: 0; 5; 10; 15; 20; 25; 30; 35; 40; 45; 50 Displacement (µm): 100; 200; 300; 400; 500; 600; 700; 800; 900; 1000; 1500
HT206 Brake pad Compressibility testing machine: Type-K Thermocouples	Compression: 0; 2; 4; 6; 8,10 N
Shear Testing Machine: 100 kN	Compression (kN): 0; 5; 10; 15; 20; 25; 30; 35; 40; 45; 50
CV Dyno: Loadcell 25 000Nm	0; 3000; 6000; 9000; 12000; 15000; 18000
CV Dyno: Pressure transducer 250 Bar	Pressure: 0, 5,10, 15, 20,25 bar

Name of equipment out of calibration or calibration due till July 2023	Calibration range
CV Dyno: Speed	RPM 50 100 200 300 400 500
CV Dyno: Infrared Temperature Sensor	Temperature (°C):
LID System: Loadcell 2500 Nm	Indicated force Nm: 0; 50; 200; 400; 600; 800; 1000; 1200; 1400; 1600; 1800; 2000
LID System: Pressure Transducer 250 bar	Pressure (bar): 0; 50; 100; 150; 200; 250
LID System: Speed	RPM: 200; 400; 600; 800; 1000, 1300 rpm
LID System: Infrared Temperature Sensor	Temperature (°C):75, 250 & 450
FREST: Load cell 1ton	Compression and Torque (Nm): 0,50, 200, 400, 600, 800, 1000, 1200
FREST: Pressure transducer Frest 100 bar	Pressure (bar): 0, 20, 40, 60, 80, 100 bar
FREST: Speed	RPM: 200; 400; 600; 800; 1000 rpm
FREST; Infrared Temperature Sensor	Temperature (°C):75, 250 & 450
HMW82 Temperature and Humidity Logger Washing Machine (Sn:L3931114)	Temp 25 to 25 °C 50 to 60% RH
DPG-105 Digital Pressure Gauge (Sn:S307994C43AE-014)	100 to 400 kPA
Hyperion 4936-Isotech-Calibration Bath (Sn:37687/1)	Temp -25 to 140 °C
HV Scope Probe	1 to 30kV DC 1kV @ 50 to 10kHz
Climatic Chamber	Temp -50 to 100 °C 50 to 90% RH
Data logger	Temp 0 to 40 °C 30 to 80% RH
clock timer	10 sec to 1 hour
Counter/timer	10 sec to 1 hour
3ph power analyzer	100 to 1000V AC 50 to 1000Hz
Vernier	0 to 30mm
Data Logger	Temp 0 to 40 °C 30 to 80% RH
Electric Clock timer	10 sec to 1 hour

Name of equipment out of calibration or calibration due till July 2023	Calibration range
Fluke 177 Multimeter	6 to 1000V DC 600 to 1000mV DC 600 to 50MΩ 60m to 10A
Absorbing Clamp	Insertion loss dB at 30 MHz- 300 MHz
Power meters	210 to 240V AC @ 50Hz 200 to 700W Energy @230V between 1 to 3A Power Factor - 0.25 to 1 lag Frequency @ 50Hz
LISN (Artificial Mains network)	Loss dB at 10kHz - 20MHz Impedance at 10kHz - 10MHz
IMU3000 EMC TESTER (Impulse Generator)	Voltage 500V to 7kV for IEC 61000 series test methods Voltage -500V to -7kV for IEC 61000 series test methods
Temperature Logger	Temp -20 to 400 °C
LED Light meter	50 to 2000 lux
High Voltage Tester	1 to 5kV 5 to 100mA 10 to 100s
Electronic Clock Timer	10 sec to 1 hour
Scale	0.5g to 500g
Temperature Logger	Temp -20 to 400 °C
Temperature controller	Temp 20 to 100 °C
UD7900M TLD Reader (Internal verification)	N/A
Temperature data logger	18-26 degrees
Spirit level - SPL 01	N/A
Steel rule - 871	0 - 1000mm
Steel rule - DIM	0 - 1000mm
Steel wire - Rod2	0 - 3mm
Steel wire - Rod 3	0 - 3mm

Name of equipment out of calibration or calibration due till July 2023	Calibration range
Steel wire - Rod 3a	0 - 3mm
Straight edge (Steel rule) - 4800-6	0 - 1200mm
Table 02 - T07	2500 mm x 950 mm (Flatness 0.00mm - 1.50mm)
Tape - B1001	0 - 10m
Tape - TMS 01	0 - 5m
Radius gauge - R15,5 - 25mm	0 - 4mm
Scale - SAB5 19920	0 - 6000g
Scale - 611/29848	0-220g
Scale - SAB5 13003	0 - 100kg
Vernier Calliper - 31141120541	0 - 300mm
Vernier Calliper - B4361	0 - 300mm
Vernier Calliper - C1506243926	0 - 300mm
Naber furnce x2 - 61126 - 65371	0-950 degrees
Memmert ovens x2 - 4197 - 3954	0-250 degrees
data logger - SAB5 No. 8835 (9117297)	25 degrees
Sieve - 52870 - 1332	150 microns
Sieve - 138374	150 microns
Sieve - 138375	150 microns
Glass Thermometer - C1	0- 100 degrees
Air content meter - 131450001	0 - 100%
Lechateliar Moulds - 1-62	N/A
Prisms - A,B,C,D,E,F,G,H,I,J	N/A
Thermo Hydrometer	Temperature:10, 20, 30, 40 & 50 degrees. Humidity: 0 -100%/HR. Barometer: 70,80, 88hpa

Name of equipment out of calibration or calibration due till July 2023	Calibration range
PT 100 Thermosensor #1	Temperature:20, 30, 40, 50, 65 degrees
PT 100 Thermosensor #2	Temperature:20, 30, 40, 50, 65 degrees
PT 100 Thermosensor #3	Temperature:20, 30, 40, 50, 65 degrees
PT 100 Thermosensor #4	Temperature:20, 30, 40, 50, 65 degrees
Heat pump room - PP&E0028197	Temperature: 20, 25, 30 degrees
Heat pump TT04 - 131375SS316	Temperature:20, 30, 40, 50, 65 degrees
Heat pump TT05 - 131375SS316	Temperature:20, 30, 40, 50, 65 degrees
Load cell - LT400	Compression: 0, 100, 200, 300, 400, 500 to 2000N. Tensile: 0, 100, 200, 300, 400, 500, 600, 700, 800, to 5000N
Scale - PP&E0040199	0, 100, 200, 300, 400, 500, 600, 700, 750 grams
30 Kg scale - PP&E0001112	0 - 30kg
20 kg scale - 8332226356	0 - 20kg
Sand bag - none	N/A
Torque range	(0,5 1 1,5 2 2,5 3 3,5 4)N.m
Mass piece	2000g
Mass piece	
Mass piece	1000g
Mass piece	4000g
Steel tool - 24561	N/A
Steel hammer - WF 30	N/A
30m tape measure 869206	0 -30m
5m tape measure - FPE	0- 5m
5m tape measure -R516698-08	0 -5m



Name of equipment out of calibration or calibration due till July 2023	Calibration range
Load cell -SDK 39201000920	0, 100, 200, 400, 600, 800, 1000, 1500, 3000, 3500, 4000, 4500, 5000kg
Steel rule - SDK 33200917287	0, 100, 200, 300, 400, 500, 600, 700, 800, 900, 1000mm
wind speed meter - 814/0/006	0,50 1,00 1,50 2,00 2,50 2,80m/sec
Oven - 151128126	0-110 degrees
Glass Thermometer -SABS AMS00020798	0-110 degrees
Glass thermometer - A897	0- 110 degrees
Glass thermometer - 8964-2	0-110 degrees
Type k thermocouple -7250861 (Type K) Furnace	0 - 1200 degrees
Type k thermocouple -7250861 (Type K)	0- 1200 degrees
3x Shunt 50kA / 1.6 V	Up to 50kA / 1.6 V
3x Shunt 3000A / 100mV	Up to 3000A / 100mV
3x Shunt 1000A / 100mV	Up to 1000A / 100mV
Shunt 2000A / 100mV	Up to 2000A / 100mV
Shunt 2000A / 100mV	Up to 2000A / 100mV
4x Current transformers (2000A:5)	UP to 2000A:5
8x Current transformers (50A:5)	UP to 50A:5
10x Current transformers (100A:5)	UP to 100A:5
3x Current transformers (200A:5)	Up to 200A:5
2x Current transformers (400:5)	Up to 400:5

Name of equipment out of calibration or calibration due till July 2023	Calibration range
1x Current transformers (500:5)	UP to 500A:5
2x Current transformers (500:5)	UP to 500A:5
3x Current transformers (800:5)	UP to 800A:5
2x Current transformers (1000:5)	UP to 1000A:5
1x 1000:5 CT	UP to 1000A:5
2x 1000:5 CT	UP to 1000A:5
Micro-ohmmeter Tinsley 5895	10 $\mu\Omega$ - to 100 $\Omega$
Micro-ohmmeter Tinsley 5895	10 $\mu\Omega$ - to 100 $\Omega$
Micro-ohmmeter Tinsley 5895	10 $\mu\Omega$ - to 100 $\Omega$
TLC Data Capture for High Power	TLC
TLC Earth Leakage Plant	TLC
TLC Data Capture for 10kA	TLC
Fluke 45	TBC
Winding Resistance Meter	TBC
6500B Precision Inductance Bridge	TBC
HBM Isobe 56000-Tx-Rx Transformer shunts ,3 off	TBC
Quadtech Guardian 500VA Hipot Tester	TBC

Name of equipment out of calibration or calibration due till July 2023	Calibration range
HBM Isobe 56000-Tx-Rx plant voltages, 3 off	BM - hbmisobe56000txrxplantvoltages
T611 Infrared Thermometer	Up to 300 degrees
PICO Temperature recorder	Temperature, 25, 100 & 200 degrees
PICO Temperature recorder	Temperature, 25, 100 & 200 degrees
ΩMartindale Abrasion	Martindale -
ΩWashing machine	Washing -
*Impact Tester	Impact -
Digital Thermohydrometers - Huato	Digital- digital
Digital Thermohydrometers - Onset Hobo	Digital- digital thermohygrometer
Digital Thermohydrometers - Onset Hobo	Digital- digital thermohygrometer
Digital Thermohydrometers - Onset Hobo	Digital- digital thermohygrometer
Digital Thermohydrometers - Onset Hobo	Digital- digital thermohygrometer
Digital Thermometer - Hanna H19043	Digital- digital thermometer
RS 1327K Infrared Thermometer	S - rs1327k
500 mm Vernier Caliper TA	00 - 500mmvernier
ISIZE 200 mm Vernier Caliper	SIZE - isize200mm
ISIZE 200 mm Vernier Caliper	SIZE - isize200mm
ISIZE 200 mm Vernier Caliper	SIZE - isize200mm
Dimensional Stability rig for floor tiles	Dimensional – Dimensional Stability rig for floor tiles
Dimensional Stability rig for floor tiles	Dimensional – Dimensional Stability rig for floor tiles
Dimensional Stability rig for floor tiles	Dimensional – Dimensional Stability rig for floor tiles
Dimensional Stability rig for floor tiles	Dimensional – Dimensional Stability rig for floor tiles
Dimensional Stability rig for floor tiles	Dimensional - Dimensional Stability rig for floor tiles
Dimensional Stability rig for floor tiles	Dimensional - Dimensional Stability rig for floor tiles
Tool Makers Microscope	Tool - tool
Steel Ruler 150mm	Steel - steel
Steel Ruler 300mm	Steel - steel
Steel Ruler 600mm	Steel - steel
Foam Hardness Factor/ Dial indicator	foam – foam hardness factor
Indenter - Gauge	Indenter -
Curling Resistance Tester	curling - curling

<b>Name of equipment out of calibration or calibration due till July 2023</b>	<b>Calibration range</b>
Thickness Gauge Foam	thickness - thickness
Sylvac Thickness Gauge	Sylvac - sylvac
INSIZE Thickness Gauge	INSIZE - insize
Mitutoy Thickness Gauge	mitutoy - mitutoy
Shore Durometer Type D2	shore – shore durometer
Shore Durometer Type A2	shore – shore durometer
Rubbers Test Blocks	Rubbers - rubbers
Stress Relaxation Tester	stress - stress
Vicat Softening Point	vicat - vicat
Vicat Dial Gauge	vicat - vicat
Vicat Dial Gauge	vicat - vicat
Vicat Dial Gauge	vicat - vicat
Anylitical balance Denver	analytical - analytical
Top Loading Balance	Top - top
Adam Floor Scale GFK300	adam - adamfloor
Stopwatch Volkano	stop - stop
Stopwatch Volkano	stop - stop
Mass Piece Set	mass - mass
Analytical Balance 200g	Analytical - analytical
Top Loading Balance 3600g	top – top loading
Reference Mass Pieces	Reference - reference
Stopwatch Sportline	stop - stop
Thermocouple	he-
Shims	hi-
Mitutoyo thickness gauge	n/a
Burst cabinet 1A, 1B & 1C	0 - 2.50kpa
Burst cabinet 2A, 2B & 2C	0 - 2.50kpa
Burst cabinet 3A, 3B & 3C	0 - 2.50kpa
Burst cabinet 4A, 4B & 4C	0 - 2.50kpa
Burst cabinet 5A, 5B & 5C	0 - 2.50kpa
Burst cabinet 6A, 6B & 6C	0 - 2.50kpa
Wika pressure transmitter display	0 - 2.50kpa
Temperature and humidity logger	Temp 20 degree Celsius – 70 degrees Celsius.
Davis Weather station	Humidity 33% -74%
Multi meter	20.4 - 40.5L/min
Ohaus electronic balance	0.5 -62g
Electric pinhole tester 1B-5H & 1-4	
Electric pinhole tester 1B-5H	
Length measuring rod- Mandril	150mm -220mm
Steel Ruler	100 - 600mm

Name of equipment out of calibration or calibration due till July 2023	Calibration range
Steel Ruler	
Vernier	25- 150mm
Vernier	
Vacuum transducer display	-20 - -80kpa
Stopwatch	12:10:50 - 20:00 mm:ss/100s
Analogue Tachometer	40 - 50 000 rpm
Bevel Protractor	0° - 90°
Coating Thickness Gauge - Fischer	0 -2000 µm
Compression Tester - Lorentzen Wettres	100 kN
Desert Cabinet	0-50 °C
Deep freezer Cabinet	0-(-18°C)
Dial Test Indicator (11 mm)	0 - 10 mm
Dial Test Indicator (11 mm)	0 - 10 mm
Dial Test Indicator - Oxford (10 mm)	0 - 10 mm
Digital Vernier caliper - Moore & Wright (300 mm)	0 - 300 mm
Digital Vernier caliper - Moore & Wright (300 mm)	0 - 300 mm
Digital Vernier caliper - Moore & Wright (300 mm)	0 - 300 mm
Digital Vernier caliper - Moore & Wright (300 mm)	0 - 300 mm
Digital Vernier caliper - Moore & Wright (300 mm)	0 - 300 mm
Digital Vernier caliper - Moore & Wright (300 mm)	0 - 300 mm
Digital Vernier caliper (150 mm)	0 - 150 mm
Drop Tester (Load cell - Fall arrest)	200 kN
External micrometer -Mitutoyo (75 - 100 mm)	75 - 100 mm
External micrometer piece (75-100 mm)	75 - 100 mm
Force gauge - Rollers	10 - 250N
Load cell with Reader	0-100 KN
Load cell with Reader	0-5 KN
Scale (Sartorius A 200s)	110 g
Scale (40 000g) - Prisca	40000 g
Hemple Electronic Balance	0 - 60 kg
Suika Mechanical Balance Platform	360 kg
Steel Ruler (150 mm)	0 - 150 mm
Steel Ruler (150 mm)	0 - 150 mm
Steel Ruler (300mm)	0 - 300 mm
Steel Ruler (450 mm)	0 - 450 mm
Steel Ruler (600 mm)	0 - 600 mm

Name of equipment out of calibration or calibration due till July 2023	Calibration range
Steel Ruler (1000 mm)	0 - 1000 mm
Steel Ruler (1000 mm)	0 - 1000 mm
Steel Ruler (1000 mm)	0 - 1000 mm
Stopwatch	N/A
Tape measure (20 m) - Powerlock	0 - 20 m
Tape measure (20 m) - Powerlock	0 - 20 m
Tape measure (20 m) - Powerlock	500 - 815 deg C
Transducer (loadcell)/Tensile Test SABS 19545	10 N - 100 N
Transducer (loadcell)/Tensile Test SABS 19545	0,5 kN - 5 kN
Transducer (loadcell)/Tensile Test SABS 19545	100 N - 1000 N
Tensile Tester 2000 kN	0 - 2000 kN
Tensile & Compression machine - Instron	0 - 100 kN
Torque Wrench - Gedore 4507	N/A
Testo Infrared thermometer	
Steel ruler	0,10,200,400,600,800,1000 mm
straight edge ruler	working face
Steel ruler	0,10,200,400,600,800,1000 mm
Mass Piece	1000
Mass Piece	500
Venier	0-300
Venier	(20; 50; 75; 100; 150; & 200) mm
Digitall Level	0,10,20,30,40,50,60,70,80,90,100,110,120,130,140,150
Venier	(10; 20; 25; 40; 75; 80; 100; 150) mm
Venier	(20; 50; 75; 100; 150; 200 & 300) mm
Vernier	(20; 50; 75; 100; 150; & 200) mm
Torque Wrench	(40; 80; 100; 160; 180; 200) N/m
Torque Wrench	(8; 20; 25; 40; 50 & 60) N/m
Torque Wrench	(20; 40; 50; 60; 80 & 100) N/m
Torque Wrench	(10; 20; 25; 40; 75; 80; 100; 150 & 160n/M
Torque Wrench	(300; 800 & 1400)N.m

Name of equipment out of calibration or calibration due till July 2023	Calibration range
Pressure gauge	(0; 500; 1000; 1500; 2000 & 2500) kPa
Pressure gauge	0,300,400,600,800,1200,1600 kPa
Pressure Gauge	(0; 500; 1000; 1500;2000 & 2500) kPa
Pressure Gauge	(0; 300; 400; 600; 800; 1200 & 1600) kPa
pressure transmitter	0,800,1200,200,2400,3000,3800,5000,6000
Pressure Gauge	0,200,400,600,800,1000 kPa
pressure transmitter	(0; 50; 100; 150; 200; 250; 300; 350 & 400) bar
Pressure Guage	(0; 1000; 2000; 3000 & 4000) kPa
Pressure Guage	(0; 1000; 2000; 3000; 4000; 5000 & 6000) kPa
Pressure Guage	(0; 400; 800; 1200 & 1600) kPa
Pressure Guage	(0; 375; 750; 1125; 1500; 1875; 2250; 2625 & 3000) kPa
Pressure Guage	(0; 1000; 2000; 3000 & 4000) kPa
Differential P transmitter	(0; 10;50; 150; 200; 300 & 500) kPa
Pressure Guage	(0, 400, 600, 800, 1200, 200 & 2500) kPa
Pressure Guage	(0, 400, 600, 800, 1200, 200 & 2500) kPa
Pressure Guage	(0, 400, 600, 800, 1200, 200 & 2500) kPa
Pressure Guage	(0; 300; 400; 600; 800; 1200; 2000 & 2500) kPa
Pressure Guage	(0; 250; 500; 750 & 1000) kPa
Pressure Guage	(0; 5; 6; 10; 15; 20 & 25) kPa
Pressure Guage	(0; 2; 4; 6; 8 & 10) Mpa
Pressure Guage	(0; 50; 100; 200; 400 & 600) kPa
Pressure gauge	(0; 50; 100; 200;400 & 600) kPa

Name of equipment out of calibration or calibration due till July 2023	Calibration range
Pressure Guage	(0; 20; 40; 60; 80 & 100) kPa
Pressure Guage	(0; 20; 40; 60; 80 & 100) kPa
Pressure gauge	(0; 50; 100; 200; 400& 600) kPa
pressure gauge	50-500kPa
Pressure Guage	(0; 300; 400; 600; 800; 1200 & 1600) kPa
Pressure Guage	(0; 300; 400; 600; 800; 1200; 2000 & 2500) kPa
Pressure Gauge	(0, 10, 20, 30, 40) Mpa
Pressure Gauge	(0; 500; 1000; 1500 & 1600) kPa
Pressure Gauge	(0; 300; 400; 600; 800; 1200 & 1600) kPa
Pressure Gauge	(0; 50; 100; 200; 400 & 600) kPa
Pressure Gauge	(0; 50; 100; 200; 400 & 600) kPa
Pressure Gauge	(100; 200;m 300; 400; 500 & 600) kPa
Pressure Gauge	(5; 500; 1000; 1500; 2000 & 2500) kPa
Pressure Gauge	(5; 500; 1000; 1500; 2000 & 2500) kPa
Pressure Gauge	(0; 30; 400; 600; 800; 1200; 2000 & 2500) kPa
Pressure Gauge	(0; 500; 1000; 1500; 2000 & 2500) kPa
Thermometer	0-600
Pressure Gauge	(0; 100; 200; 300; 400; 500 & 600) kPa
Oven No 5	(60; 80; 110 & 150)°C
Oven 6	(60; 80; 110 & 150)°C
Scale (Sartorius)	(500; 1000; 2000; 4000; 10000; 15000; 20000; 25000 & 30000)g
Scale (omega)	0;100;120;240;360;480;600
Scale (Mettler Toledo)	(1; 10; 20; 30; 50; 70; 80; 100; 120 & 150)kg
Stopwatch	(0:10; 0:20; 0:40;1:00; 2:00;5:00;10:00 & 20:00)m/s



Name of equipment out of calibration or calibration due till July 2023	Calibration range
Stopwatch	(0:10; 0:20; 0:40; 1:00; 2:00; 5:00; 10:00 & 20.00)m/s
Stopwatch	(0:10; 0:20; 0:40; 1:00; 2:00; 5:00; 10:00 & 20.00)m/s
Angle Meter	
INGCO Digital Caliper	0-150mm
Absolute Digital caliper	0-200mm
Mermmet (Oven 2)	
Salter Force Gauge	5kg
Airflow Meter (Micromanometer)	
Explorer Scale	0-110kg
Fluke thermometer	0 - 1000°C
Fluke probe	0 - 1000°C
Mass piece 10kg	
Mass piece 10kg	
Mass piece 10kg	
Mass piece 10kg	
Mass piece 20kg	
Mass piece 20kg	
Mass piece 5kg	
Mass piece 10kg	
WIKA Digital Pressure gauge	0-16kPa
Sartorius Scale	0-30000g
Thermo - Hygrometer	0-25°C
	0-3000kPa
Hand Torque	60N.m-340N.m
Water Bath	0-80°C
HPLC 1	N/A
Analytical Balance- Mettler	0-200 g
Analytical Balance - Sartorius	0-200 g
Sartorius - Top Balance (salts)	0-4100g
Balance	0-4100g
Balance	0-4100g
Balance	0-4100g
Balance	0-4100g
Balance	0-4100g
Balance	0-4100g
Balance	0-4100g
ELGA VEOLIA water purification system PP & E 0051366	0-10 mg/kg
vacuum pump -GCMS#3	0-10 mg/kg
vacuum pump-GCMS #4	0-10 mg/kg
vacuum pump -GCMS#5	0-10 mg/kg

Name of equipment out of calibration or calibration due till July 2023	Calibration range
Vaccum pump -LCMSMS#1	0-10 mg/kg
vacuum pump -LCMSMS#2	0-10 mg/kg
vacuum pump-LCMSMS#3	0-10 mg/kg
LCMSMS #1	0-10 mg/kg
LCMSMS #2	0-10 mg/kg
LCMSMS #3	0-10 mg/kg
GCMS #3	0-10 mg/kg
GCMS #4	0-10 mg/kg
GCMS #5	0-10 mg/kg
PEAK SCIENTIFIC -Nitrogen Generator-1	0-10 mg/kg
PEAK SCIENTIFIC - Nitrogen Generator - 2	0-10 mg/kg
PEAK SCIENTIFIC - Nitrogen Generator - 3	0-10 mg/kg
10 liter Volumetric Flask no 3	9995 - 10005
10 liter Volumetric Flask no 3	9995 - 10005
Thermometer	18-28 °C
Thermometer	18-28 °C
Thermometer	18-28 °C
Thermometer	18-28 °C
Thermometer	18-28 °C
Thermometer	18-28 °C
Thermometer	18-28 °C
Thermometer	18-28 °C
Thermometer	18-28 °C
Thermometer	18-28 °C
Thermometer	18-28 °C
10L Volumetric Flask5	9995 - 10005
10L Volumetric Flask6	9995 - 10005

Name of equipment out of calibration or calibration due till July 2023	Calibration range
Tempod-Temperature Loggers	
Data-Temperature Loggers	
Tempod - Temperature Logger	
Flow transmitter DN 50	
Flow transmitter DN 80	
Flow transmitter DN 250	(180; 445; 720; 850;1100; & 1415, 1800)m3/h
Flow transmitter DN 250	(180; 280; 400; 500;; 530;640; 760 & 850)m3/h
Flow transmitter DN 400	(500; 1000; 1500; 2000 & 2200) m3/h
Flow transmitter DN 700	(1000; 2000; 4000; 6000; 7000 & 8500
Pressure Transmitter	(2000; 4000; 6000; 8000 & 10000)kPa
Pressure Transmitter	12.500; 25.000; 37.500; 50.000; 62.500; 75.000;87.500 & 100.000
Pressure Transmitter	(-80; -50; 20; 40; 50; 100; 200; 300 & 400)kPa
temperature gun 62mini	(32; 52; 101 & 150)°C
temperature gun 62max	(32; 52; 101 & 150)°C
5 kN Torque transducer	(0; 500; 100; 1500; 2000; 2500; 3000; 4000 & 5000) N/m
10 kN Torque transducer	(0; 1; 2; 3; 4; 5; 6; 7; 8; 9 & 10) KN/m
Power Analyzer	
Power Analyzer	(110; 140 & 380)KW
infrared thermometer	(0; 50 & 100)°C
infrared thermometer	(0; 50 & 100)°C
Tachometer	500,815.1200.1500.
pressure transmitter	10,20,30,40,50,60, 70,80,90,100
pressure transmitter	10,20,30,40,50,60, 70,80,90,100
pressure transmitter	-80 -60 -30 -5 25,50 80 120 150
Digital Electronic verification thermometer	18,23,26,30 °C
Digital Electronic verification thermometer	40,60,70°C
Digital Electronic verification thermometer	40,50,60,80 °C
Digital Electronic verification thermometer	18,23,26,30 °C
Digital Electronic verification thermometer	18,23,26,30 °C
Digital Electronic verification thermometer	18,23,26,30 °C
Digital Electronic verification thermometer	23,30 °C
Digital Electronic verification thermometer	18,23,26,30 °C

Name of equipment out of calibration or calibration due till July 2023	Calibration range
Digital Electronic verification thermometer	18,23,26,30 °C
Digital Electronic verification thermometer	18,23,26,30 °C
Digital Electronic verification thermometer	18,23,26,30 °C
Digital Electronic verification thermometer	18,23 °C
Digital Electronic verification thermometer	18,23,26,30 °C
80 TK Type K Thermocouple Wires	DC voltage; 6,60,600,1000V
Fluk 77 Digital Multimeter	DC voltage; 6,60,600,1000V
Chatillon/Slipping resistance/ Hanging Balance	2,5 Kg
Digital Barometer	Pressure: 600- 1100 mbar      Realtive Humidity: 20,33,75,90 (%rh)
Ebro Temperatue Logger 4°C	2, 4, 6 °C
Ebro Temperatue Logger 50°C	50°C
Ebro Temperatue Logger 105°C	105°C
7XMasspieces of various denominations	1,5,20,50,100 g
Oven      Scientific	35,40,50,60,80°C
Oven      Prolab	50°C
Oven      Prolab	105 °C
Oven      Prolab/Labex	40,50,60,80,105 &120 °C
RADWAG 220g Electronic balance	0,1, 5,10,20,50,100,150,200,220 g
RADWAG 220g Electronic balance	0,1, 5,10,20,50,100,150,200,220 g
RADWAG 4500g Electronic balance	0,1,5,10,20,100,500,1000g ,2000,45000 g
RADWAG 750g Electronic balance	0,1,5,10,20,50,100,200 g
Fluidity meter for Analog 4channel timer	30, 60,90,120,150,180,200,260,320,380,440,500 ms
Fluidity meter for Analog 4channel timer	30, 60,90,120,150,180,200,260,320,380,440,500 ms

Name of equipment out of calibration or calibration due till July 2023	Calibration range
Revolving wheel /Rotator	4 rrpm
TERG-O-TOMETER	Temp: 40 °C Timer: 5,10 and 30 min speed: 100rpm
Vulcan Dishwasher	Temp: 55°C, Timer: 180s
Durability- weights	680g
N-G60 Rhopoint Novo Gloss 60	93.5 GU
Rhopoint instruments (Novo shades)	100.4 GU
Clock - Timer	(0:00:10 - 1:00:00) hr:min:sec
Clock - Timer	(0:00:10 - 1:00:00) hr:min:sec
Clock - Timer	(0:00:10 - 1:00:00) hr:min:sec
Clock - Timer	(0:00:10 - 1:00:00) hr:min:sec
Clock - Timer	(0:10:05 - 20:00:14) mm:ss:1/100s
Clock - Timer	(0:10:05 - 20:00:14) mm:ss:1/100s
Clock - Timer	(0:10:05 - 20:00:14) mm:ss:1/100s
Mitutoyo 150 mm Digital Vernier	External Jaw: (0,10, 20,41.2,51.2,81..5,101.2,121.80.5 ,150) mm Internal Jaw: 20mm
INSIZE 150mm (Digital Vernier)	External Jaw: (0,10, 20,41.2,51.2,81..5,101.2,121.80.5 ,150) mm Internal Jaw: 20mm
INSIZE 150mm (Digital Vernier)	External Jaw: (0,10, 20,41.2,51.2,81..5,101.2,121.80.5 ,150) mm Internal Jaw: (20mm
INSIZE 150mm (Digital Vernier)	External Jaw: (0,10, 20,41.2,51.2,81..5,101.2,121.80.5 ,150) mm Internal Jaw: 20mm
INSIZE 150mm (Digital Vernier)	External Jaw: (0,10, 20,41.2,51.2,81..5,101.2,121.80.5 ,150) mm Internal Jaw: ( 20mm)
Liquid in Glass Thermometer	10 , 20, 25, 30,40,45,50,,60,70,80,100,109 °
Liquid in Glass Thermometer	18,25,35,45,55,65,75,85,90,105,120,140,160,180 ,200 °C
SDL Atlas Water Bath (Launder Ometer)	Temp: 30,40,60,90, 100, Timer:10,30 and 60 min
Labcool Double Door Fridge	2,4,6 degrees Celsius
Brookfield Viscometer	
Flash Point Analyser	
Density Meter DMA 1001	
40°C Visco bath circulator for water	
90°C Visco bath circulator for oil	
Inc-O-Mat	145 degrees Celsius
Mass balancer (Analytical)	

Name of equipment out of calibration or calibration due till July 2023	Calibration range
Liquid in Glass Thermometer Brannan	10,20,30,50,60,80&100°C
Liquid in Glass Thermometer Brannan	10,20,30,50,60,80&100°C
Liquid in Glass Thermometer Brannan	10,20,30,50,60,80&100°C
Liquid in Glass Thermometer Brannan	10,20,30,50,60,80&100°C
Liquid in Glass Thermometer Brannan	10,20,30,50,60,80&100°C
Liquid in Glass Thermometer Brannan	15,25,40,,70,90,105,120,200,250,250,300°C
Liquid in Glass Thermometer Brannan	15,25,40,,70,90,105,120,200,250,250,300°C
Liquid in Glass Thermometer Brannan	15,25,40,,70,90,105,120,200,250,250,300°C
Liquid in Glass Thermometer Brannan	15,25,40,,70,90,105,120,200,250,250,300°C
Liquid in Glass Thermometer Brannan	15,25,40,,70,90,105,120,200,250,250,300°C
Liquid in Glass Thermometer Brannan	15,25,40,,70,90,105,120,200,250,250,300°C
Stuart Flocculator SW6 (SANS 825 cleaning efficiency) Chillar for temperature	Temp: 21, Speed: 40,50,55,60,65,70,100 RPM
Berna Stopwatch	TBC
Oscilloscope Tektronix	TBC
LDC - 5 Calibrator	TBC
Calibration Impulse Generator	TBC
Step Generator RIG 1000H	TBC
Conductivity Meter Hanna HI 9033	TBC

#### CALIBRATION FOR NEW CASTLE AND UITKOMST

Name of equipment out of calibration or calibration due till July 2023	Calibration range
Ash Furnaces	N/A
Volatile furnaces	N/A
Analytical balances	N/A
Floor balances	N/A
Total moisture oven	N/A
Inherent moisture oven	N/A
Ash Furnaces	N/A
Volatile furnaces	N/A
Analytical balances	N/A
Floor balances	N/A
Total moisture oven	N/A
Inherent moisture oven	N/A

### CALIBRATION FOR EAST LONDON

Name of equipment out of calibration or calibration due till July 2023	Calibration range
APPA Thermometer	20-30 Deg C
APPA Thermometer	20-30DegC
Constant Volume Sampler (CVS)	30-40DegC & 800-1200Kpa
Viasala Weather Station	20-30DegC & 35-55RH%
Viasala Pressure transmitter	800-1200Kpa
Tyre pressure gauge	2.0-4.0Bar
Weigh bridge	0-3 000kg
Sartorius balance	0-100mg
Kestrel pocket weather station	20-30DegC,35-55%RH, 800-1200Kpa
Kestrel pocket weather station-wind speed	0-20m/s
Weather station Noise-wind Speed	0-10m/s
Weather station Noise-Temp/RH	15-30DegC, 30-50%RH
Weather Station Noise - Ambient Pressure	800-1200kPa
Microphone MM210 (Left)	94-114dB (IEC61672:2013)
Microphone MM210 (Right))	94-114dB (IEC61672:2013)
IR Thermometer	30-50DegC
Mass Pieces	5 & 10kg
Mass Pieces	5,10,20 & 50kg
Vane Anemometer	0-20m/s

### CALIBRATION FOR RICHARD BAY

Name of equipment out of calibration or calibration due till July 2023	Calibration range
Mettler MS 8001 Top pan balance - calibration due 31 June 2023	10, 100, 1000, 2000, 4000, 6000 & 8000g
Mettler MS 204 Analytical balance - calibration due 31 June 2023	0.2, 1.0, 20, 50, 100,150, 200g
Mettler MS 204 Analytical balance - calibration due 31 June 2023	0.2, 1.0, 20, 50, 100,150, 200g
Mettler MS 204 Analytical balance - calibration due 31 June 2023	0.2, 1.0, 20, 50, 100,150, 200g
Mettler BBA 221 - 3B 150C Floor scale - calibration due 31 June 2023	1.0, 10, 100, 150, 200, 250, 300kg
Mettler MS 204 S Analytical balance - calibration due 31 June 2023	0.2, 1.0, 20, 50, 100,150, 200g
Satorius Secure Analytical balance - calibration due 31 June 2023	0.2, 1.0, 20, 50, 100,150, 200g
Eltra 84 Analytical balance - calibration due 31 June 2023	0.2, 1.0, 20, 40, 50, 80g

Satorius Secure CP64 Analytical balance - calibration due 31 June 2023	0.2, 1.0, 20, 50, 100,150, 200g
Satorius Secure 124 - 1S Analytical balance - calibration due 31 June 2023	0.2, 1.0, 20, 50, 100,150, 200g
Enotherm Ash ISO - calibration due 31 June 2023	cal@500 and 815
Enotherm Ash ISO - calibration due 31 June 2023	cal@500 and 815
Enotherm Ash ISO - calibration due 31 June 2023	cal@500 and 815
Enotherm Ash ISO - calibration due 31 June 2023	cal@500 and 815
Enotherm Ash ISO - calibration due 31 June 2023	cal@500 and 815
Enotherm VMF ISO Vol - calibration due 31 June 2023	cal@900
Enotherm VMF ISO Vol - calibration due 31 June 2023	cal@900
Carbolite VMF NN ISO - calibration due 31 June 2023	cal@900
Labcon L1200 Oven - calibration due 31 June 2023	cal@1000
MFS Oven NN - calibration due 31 June 2023	cal@105
MFS Oven NN - calibration due 31 June 2023	cal@105
MFS Oven NN - calibration due 31 June 2023	cal@105
MFS Oven NN - calibration due 31 June 2023	cal@105
Scientific oven series 2000 - calibration due 31 June 2023	cal@105
Labcon FSOM 72HD drying oven - calibration due 31 June 2023	cal@105
Labcon FSOM 72HD drying oven - calibration due 31 June 2023	cal@40 and 105
Scientific oven NN drying oven - calibration due 31 June 2023	cal@105
ROSTRONIC HL-1D/TL-1D TEMP/HUMIDITY - calibration due 31 June 2023	Humidity - 30, 50, 75 and Temperature points - 15, 23, 30
HUMIDITY POINTS 30,50,75°C - calibration due 31 June 2023	30,50, 75
TEMP POINTS 15,23,30°C - calibration due 31 June 2023	15, 23, 30



SINOMETER - calibration due 31 June 2023	500 to 1000
CALIBRATION PROBES SOLID 500,815,900,1000°C - calibration due 31 June 2023	500,815,900,1000 degrees
CALIBRATION PROBES FLEXI 38,108°C - calibration due 31 June 2023	38 to 108
VERNIER CALIPER - calibration due 31 June 2023	Movable parts
STOPWATCH 1 CHANNEL ONLY - calibration due 31 June 2023	1 x Channel
MT694 INFRARED THERMOMETER 3 TEMP POINTS @23,250,500°C - calibration due 31 June 2023	23, 250, 600

#### CALIBRATION REQUIREMENT FOR SECUNDA

8 x Iso Ash Furnace	500 - 815 deg
3 x Double Chamber Ash Furnace	500 - 815 deg C
1 x Ash @1 point	920 deg C
6 x Volatile furnace	900 deg C
11 x Analytical Balances	60g
5 x Top Pan Balances	8000g
2 x Platform Scale / Floor Balances	100kg
6 x Moisture Oven	107 deg C
2 x Probes	500, 815 & 900 deg C
3 x Flexi Cables	500, 815 & 900 deg C
2 x Stopwatch	0:10:36 -20:00:48 mm:ss/100s
2 x Clock Timer	0:10:36 -20:00:48 mm:ss/100s
2 x Hygro Thermometer	19, 22 & 25 deg C
27 x Mass Pieces	0.2g, 1g, 2g, 5g, 10g, 20g, 50g, 100g & 5kg, 10kg & 20kg
4 x Fisher Furnace	620 deg C
2 x Abrasive Index Machine	193.20 + 0.05