

# **CERTIFICATE OF ACCREDITATION**

*In terms of section 22(2) (b) of the Accreditation for Conformity Assessment, Calibration and Good Laboratory Practice Act, 2006 (Act 19 of 2006), read with sections 23(1), (2) and (3) of the said Act, I hereby certify that:-*

**PJB CONTRACTING CC**  
**Co. Reg. No.: 1993/011192/23**  
**TRADING AS**  
**CALIBRATE @ PJB**

Accreditation Number: **318**

is a South African National Accreditation System accredited Calibration laboratory provided that all SANAS conditions and requirements are complied with

This certificate is valid as per the scope as stated in the accompanying scope of accreditation Annexure "A", bearing the above accreditation number for

## **TEMPERATURE METROLOGY**

The facility is accredited in accordance with the recognised International Standard

**ISO/IEC 17025:2017**

The accreditation demonstrates technical competency for a defined scope and the operation of a laboratory quality management system

While this certificate remains valid, the Accredited Facility named above is authorised to use the relevant SANAS accreditation symbol to issue facility reports and/or certificates

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**Mr R Josias**  
**Chief Executive Officer**

**Effective Date: 24 October 2019**  
**Certificate Expires: 23 October 2024**

## ANNEXURE A

## SCOPE OF ACCREDITATION TEMPERATURE METROLOGY

Facility Number: 318

<b>Permanent Address of Laboratory:</b> PJB Contracting CC 5 Platberg Avenue Van Riebeeck Park Kempton Park 1619  <b>Postal Address:</b> P O Box 9314 Edleen 1625  Tel: (011) 972-3798 Fax: 086 674 9980 E-mail: <a href="mailto:info@calibratepjb.co.za">info@calibratepjb.co.za</a>		<b>Technical Signatories:</b> Mr DJ van Rooyen Mr MK Smuts (All items) Mr C van Niekerk (All items)  <b>Nominated Representative:</b> Mr PH Burmeister  Issue No.: 14 Date of Issue: 24 October 2019 Expiry Date: 23 October 2024		
ITEM	MEASURED QUANTITY OR TYPE OF GAUGE OR INSTRUMENT	RANGE OF MEASURED QUANTITY	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY ( $\pm$ )	METHOD/PROCEDURE
1	<b>THERMOMETRY</b>			
1.1	<b>Thermocouples</b>			
1.1.1	Noble Metal	-21°C to 50°C 50°C to 420°C 420°C to 1 000°C	0,7 K 2,0 K 4,0 K	Calibration by comparison with a reference thermometer in a bath, dry well or furnace
1.1.2	Base Metal	-21°C to 50°C 50°C to 420°C 420°C to 1 000°C	0,7 K 2,0 K 4,0 K	
1.1.3	Compensation and Extension Lead	0°C to 70°C	2,0 K	
1.2	<b>Resistance Thermometers</b>			
1.2.1	Platinum Resistance Thermometers (PT100)	-21°C to 420°C	0,4 K	Calibration by comparison with a reference thermometer in a bath, dry well or furnace

Original Date of Accreditation: 01 May 2005

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The CMC, expressed as an expanded uncertainty of measurement, is stated as the standard uncertainty of measurement multiplied by a coverage factor  $k = 2$ , corresponding to a confidence level of approximately 95%

**Accreditation Manager**

# ANNEXURE A

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Date of Issue: 24 October 2019  
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1.3	<b>Thermometers</b>			
1.3.1	Liquid-in-glass	0°C to 250°C	0,6 K	Calibration by comparison with a reference thermometer in a bath, dry well or furnace
1.3.2	Digital Thermometers	-21°C to 420°C 420°C to 1 000°C	0,6 K 4,0 K	
1.3.3	Mechanical (Dial) Thermometers	-21°C to 200°C	2,5 K	
1.3.5	Radiation Thermometers	35°C to 200°C 200°C to 500°C	1,1 K 2,5 K	Calibration using a radiation source and reference thermometer
1.4	<b>Reference Temperature Sources</b>			
1.4.1	Ice Point Reference	0,0°C	0,1 K	Prepared in a thermally insulated flask using distilled water and ice
1.5	<b>Temperature measuring and recording</b>			
1.5.2	Data logger	21°C to 420°C 420°C to 1 000°C	0,6 K 4,0 K	Calibration in a chamber against a reference thermometer
2	<b>ELECTRICAL SIMULATION</b>			
2.1	<b>Thermocouple simulation</b>			
2.1.1	Digital Thermometer/Indicators	-200°C to 1 750°C	1,0 K	Calibration by the sourcing or measurement of voltages equivalent to the thermocouple type
2.1.2	Temperature Transmitters	-200°C to 1 750°C	1,0 K	
2.1.3	Temperature Calibrators	-50°C to 550°C 550°C to 1 350°C	0,2 K 0,5 K	
2.1.4	Cold Junction Compensation	0°C to 30°C	0,2 K	Calibration with a reference thermometer
2.2	<b>Resistance Simulation</b>			
2.2.1	Digital Thermometer/Indicators	-200°C to 1 750°C	1,0 K	Calibration by the application or measurements of electrical resistance equivalent to the resistance thermometer type
2.2.2	Temperature Transmitters	-200°C to 1 750°C	1,0 K	
2.2.3	Temperature Calibrators	-50°C to 550°C 550°C to 1 350°C	0,2 K 0,5 K	

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3	<b>TEMPERATURE SOURCES</b>			
3.1	<b>Calibration Sources</b>			
3.1.1	Dry Block Temperature Calibrators	0°C to 400°C 400°C to 650°C 650°C to 1 000°C	0,7 K 3,2 K 5,0 K	By comparison with a reference thermometer placed into the boring of the calibrator
4.2	<b>Temperature Installations (Single location)</b>			
4.2.1 4.2.3 4.2.4	Furnaces, ovens Incubators Baths, liquid	0°C to 450°C 450°C to 900°C	1,2 K 4,4 K	By comparison to a reference thermometer located in an appropriate position within the device or installation
16	On-site calibration for items all items above excl,1.3.5 and 1.5.2			

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ISSUED BY THE SOUTH AFRICAN NATIONAL ACCREDITATION SYSTEM

**Accreditation Manager**