



CERTIFICATE OF ACCREDITATION

The ANSI National Accreditation Board

Hereby attests that

H.Rohloff (Pty) Limited

**Unit 20 & 21, Falcon Lane, Lanseria Business Park, Erf 805 Lanseria
Corporate Estate, Pelindaba Rd., Lanseria Ext. 26
Gauteng, South Africa**

Fulfills the requirements of

ISO/IEC 17025:2017

In the fields of

CALIBRATION and TESTING

This certificate is valid only when accompanied by a current scope of accreditation document.
The current scope of accreditation can be verified at www.anab.org.

Jason Stine, Vice President

Expiry Date: 13 November 2025

Certificate Number: AC-2519



This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017.
This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory
quality management system (refer to joint ISO-ILAC-IAF Communiqué dated April 2017).

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

H.Rohloff (Pty) Limited

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 Corporate Estate, Pelindaba Rd., Lanseria Ext. 26
 Gauteng, South Africa
 Natasha van der Walt+27 (0) 11 704 2233

CALIBRATION AND TESTING

Valid to: **November 13, 2025**

Certificate Number: **AC-2519**

CALIBRATION

Electrical – DC/Low Frequency

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
Magnetic Particle Unit ¹ Power Packs, Benches DC Current	(100 to 500) A (501 to 3 000) A (3 001 to 7 000) A	0.024 A/A 0.008 A/A 0.004 A/A	Current Timer Meter
Magnetic Particle Unit ¹ Power Packs, Benches AC Current	50 Hz: (100 to 500) A (501 to 3 000) A (3 001 to 7 000) A	0.037 A/A 0.007 A/A 0.005 A/A	Current Timer Meter
Magnetometer / Gauss meter & Hall Effects Probes	+/- 5 G +/- 10 G +/- 20 G +/- 25 G +/- 50 G +/- 65 G +/- 75 G +/- 100 G	0.025 G 0.025 G 0.025 G 0.026 G 0.033 G 0.033 G 0.1 G 0.035 G	Helmholtz Coil, Current Source
Eddy Current Flaw Detector ¹	100 Hz 500 Hz 1 kHz 5 kHz 10 kHz 50 kHz 100 kHz 500 kHz 1 MHz 2 MHz	1 Hz 6.6 Hz 0.07 kHz 0.7 kHz 0.01 kHz 0.7 kHz 1.1 kHz 7 kHz 0.014 MHz 0.28 MHz	Oscilloscope Gain test Box

Electrical – DC/Low Frequency

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
Ultrasonic Flaw Detectors ²			Electrical verification of Ultrasonic Flaw Detectors per ISO 22232-2:2020 Group 2 – Periodic and Repair Tests, Ranges and methods are as defined in the associated standard
Transmitter Voltage	Up to 110 V PRF: Up to 1000 Hz	5.5 % of reading	
Transmitter Rise time	Up to 20 ns	5 % of reading	
Pulse Duration	Up to 100 ns	0.3 % of reading	
Amplifier Frequency Response	Up to 20 MHz	1.7 % of reading	
Centre Frequency	Up to 20 MHz	4 % of reading	
Equivalent Input Noise ³	(10 to 100) V/ $\sqrt{\text{Hz}}$	0.52 V/ $\sqrt{\text{Hz}}$	
Accuracy of Calibrated Attenuator (Attenuation)	Up to 20 dB Up to 60 dB	0.6 dB 0.3 dB	
Vertical Linearity	Up to 100 % FSH	0.3 % of FSH	
PAUT Flaw Detectors ²			Electrical verification of ultrasonic phased array equipment per ISO 18563-1:2015 Group 2 – Periodic and Repair Tests, ranges and methods are as defined in the associated standard
Transmitter:			
Voltage	40 V	5.5 % of reading	
Rise Time	Up to 2.5 ns	5 % of reading	
Pulse Duration	Up to 250 ns	0.8 % of reading	
Linearity of Time Delays	Up to 10 μs	0.8 % of reading	
Receiver:			
Frequency Response	Up to 20 MHz	2 % of reading	
Channel Gain Variation	80 % FSH	2 % of FSH	
Equivalent Input Noise	0.4 V (p-p) and 22.4 dB	1 % of FSH	
Gain Linearity	Up to 40 dB	0.6 dB	
Linearity of Vertical Display	Up to 100 % FSH	0.7 % of FSH	
Linearity of Time Delays	Up to 100 % FSW	0.5 % of FSW	

Ionizing Radiation

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
Ambient Dose Equivalent Rate	(20 to 800) $\mu\text{Sv/h}$	13 % of reading	^{137}Cs Source and Ambient Dose Equivalent Rate meter
Dose Equivalent	(20 to 200) μSv (201 to 800) μSv	13 % of reading 12 % of reading	^{137}Cs Source, Ambient Dose Equivalent Rate meter, and time measuring device

Length – Dimensional Metrology

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
Coating Thickness Meters	24 μm 51 μm 254 μm 466 μm	2 μm 2.2 μm 2.1 μm 2 μm	Coating Thickness Foil
Ultrasonic Thickness Gauges	(1 to 5) mm (5.1 to 10) mm (10.1 to 25) mm (25.1 to 100) mm	0.04 mm 0.02 mm 0.08 mm 0.48 mm	Step Wedge Gauge V Test Block
Surface Roughness Testers	0.8 $\mu\text{m Ra}$ 1.6 $\mu\text{m Ra}$ 3.2 $\mu\text{m Ra}$	0.16 μm 0.15 μm 0.21 μm	Surface Roughness Standards

Mass and Mass Related

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
UCI Hardness Testers	(50 to 312) HV (313 to 534) HV (535 to 767) HV	3.7 HV 8.3 HV 9.1 HV	Indirect verification using Vickers Hardness Test Block
Rebound Hardness Tester	Low: up to 240 HV Mid: (240 to 600) HV High: > 600 HV	3.2 HV 6.4 HV 13 HV	Indirect verification using Vickers Hardness Test Block
AC and DC Hand Yoke	4.5 kgf 13.5 kgf 18 kgf	0.13 kgf 0.38 kgf 0.51 kgf	Weight Lift Test Bar

Photometry and Radiometry

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
Visible Light Lux Meters	(50 to 100) lux	10 lux	Reference Lux Meter
	(101 to 150) lux	14 lux	
	(151 to 200) lux	18 lux	
	(201 to 300) lux	25 lux	
	(301 to 400) lux	33 lux	
	(401 to 500) lux	40 lux	
	(501 to 600) lux	48 lux	
	(601 to 700) lux	55 lux	
	(701 to 800) lux	63 lux	
	(801 to 900) lux	70 lux	
UV-A UV-A Meters	(901 to 1 000) lux	78 lux	Reference UVA-Meter
	(1001 to 2 000) lux	150 lux	
	(150 to 200) $\mu\text{W}/\text{cm}^2$	18 % of reading	
	(201 to 500) $\mu\text{W}/\text{cm}^2$	18 % of reading	
	(501 to 900) $\mu\text{W}/\text{cm}^2$	16 % of reading	
	(901 to 1 100) $\mu\text{W}/\text{cm}^2$	16 % of reading	
	(1 100 to 2 000) $\mu\text{W}/\text{cm}^2$	20 % of reading	

Thermodynamic

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
Temperature IR Cameras IR Thermometers	32 °C	3.8 °C	Black Body $\lambda = 8 \text{ to } 14 \mu\text{m}, \epsilon = 0.95$
	50 °C	3.8 °C	
	100 °C	3.8 °C	
	150 °C	3.9 °C	
	200 °C	4.1 °C	
	214 °C	4.1 °C	
		550 °C	
	980 °C	15 °C	
Temperature ¹ Industrial Ovens	(40 to 80) °C	1.8 °C	Type K thermocouple and readout

TESTING

Mechanical Testing

Specific Tests and/or Properties Measured	Specification, Standard, Method, or Test Technique	Items, Materials or Product Tested	Key Equipment or Technology
Evaluating Performance Characteristics: Horizontal Linearity, Vertical Linearity, Resolution, Sensitivity and Noise	ASTM E317 – 16, Except 6.6 and 6.7	Ultrasonic Pulse-Echo Testing Instruments and Systems, including Ultrasonic Flaw Detectors ¹	Vertical and Horizontal Linearity Test Blocks and Resolution Test Block
Crack Detection Performance Evaluation.	Internal Procedure: HRSC-001	Eddy Current Crack Detectors	Eddy Current Crack Detection Blocks

Calibration and Measurement Capability (CMC) is expressed in terms of the measurement parameter, measurement range, expanded uncertainty of measurement and reference standard, method, and/or equipment. The expanded uncertainty of measurement is expressed as the standard uncertainty of the measurement multiplied by a coverage factor of 2 ($k=2$), corresponding to a confidence level of approximately 95%.

Notes:

1. On-site calibration service is available for this parameter, since on-site conditions are typically more variable than those in the laboratory, larger measurement uncertainties are expected on-site than what is reported on the accredited scope.
2. FSH = full screen size height, FSW = full screen width.
3. For instruments designed to comply with ISO 22232-2:2020, the centre frequency (f_0) is calculated using $f_0 = \sqrt{(f_u \times f_l)}$, otherwise the expression $f_0 = (f_u + f_l)/2$ is used.
4. This scope is formatted as part of a single document including Certificate of Accreditation No. AC-2519.



Jason Stine, Vice President

