SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

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CALIBRATION

Valid to: **February 4, 2026** Certificate Number: **L1157-1**

Electrical – DC/Low Frequency

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
Magnetic Inspection Unit	(100 to 10 000) A	12 A + 1.5 % of reading	Current Shunts Nadcap AC7114/2
Magnetic Inspection Unit Gauss Meter	(0 to 75) G	5 G + 7 % of reading	Gauss meter Nadcap AC7114/2
Electromagnetic (Eddy Current) Conductivity Meters[3]	8 %IACS 9 %IACS 49 %IACS 88 %IACS 101 %IACS	0.18 %IACS + 0.95 % of reading	Eddy Current Conductivity Standards
Electromagnetic (Eddy Current) Flaw Detector Horizontal Linearity	X Gain – 40 dB Freq – 200 kHz Spot X – 88	0.065 Divisions	Aluminum and 4340 Carbon Steel reference materials
Electromagnetic (Eddy Current) Flaw Detector Vertical Linearity	Y Gain – 40 dB Freq – 200 kHz Spot Y – 88 11	0.62 Divisions	Aluminum and 4340 Carbon Steel reference materials

Length - Dimensional Metrology

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
Ultrasonic Corrosion Thickness Gauge	(0.03 to 2) in (0.06 to 8) in	0.001 2 in	ASTM E797
Ultrasonic Precision Thickness Gauge	(0.007 to 0.5) in (0.1 to 4) in	0.11 in	ASTM E797

Length - Dimensional Metrology

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
XY Stage (X Value)	(0 to 5) mm	5.9 µm	Stage Micrometer
XY Stage (Y Value)	(0 to 5) mm	5.9 µm	Stage Micrometer
Brinell Scope	(0 to 7) mm	0.058 mm	
Optical Measuring Scope	(0 to 7) mm	0.058 mm	
Optical Measuring Scales	(0 to 10) mm 100X 500X	 1.3 µm 1.5 µm	
Profilometer (Ra)[3]	16.1 µin 119.5 µin	3.3 µin 12 µin	Roughness Standard ASME-B46.1
Ultrasonic Velocity Gauge	(0.18 to 0.24) in / µs	0.11 in / µs	ASTM E494
Ultrasonic Flaw Detector (Vertical Linearity)	(0.1 to 100) dB	1 % of reading	ASTM E317
Ultrasonic Flaw Detector (Horizontal Linearity)	(0.04 to 1 100) in	0.59 % of reading	

Mass and Mass Related

Parameter / Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method and/or Equipment
Rockwell Hardness Testers[1]	HRA		ASTM E18 and ISO 6508-2 Indirect Verification using test blocks
	Low	0.43 HRA	
	Middle	0.22 HRA	
	High	0.21 HRA	
	HRBW		
	Low	0.98 HRBW	
	Middle	0.96 HRBW	
	High	0.58 HRBW	
	HRC		
	Low	0.43 HRC	
	Middle	0.38 HRC	
	High	0.33 HRC	
	HRD		
	Low	0.18 HRD	
	Middle	0.31 HRD	
	High	0.13 HRD	

Mass and Mass Related

Parameter / Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method and/or Equipment
Rockwell Hardness Testers[1]	HREW		ASTM E18 and ISO 6508-2 Indirect Verification using test blocks
	Low	0.34 HREW	
	Middle	0.22 HREW	
	High	0.52 HREW	
	HRF		
	Low	0.64 HRF	
	Middle	0.51 HRF	
	High	0.48 HRF	
	HR15N		
	Low	0.44 HR15N	
	Middle	0.54 HR15N	
	High	0.27 HR15N	
	HR15TW		
	Low	0.64 HR15TW	
	Middle	0.41 HR15TW	
	High	0.34 HR15TW	
	HR30TW		
	Low	0.61 HR30TW	
	Middle	0.47 HR30TW	
	High	0.36 HR30TW	
	HR45TW		
	Low	0.36 HR45TW	
	Middle	0.36 HR45TW	
	High	0.43 HR45TW	
	HR30N		
	Low	0.45 HR30N	
	Middle	0.36 HR30N	
	High	0.31 HR30N	
	HR45N		
	Low	0.57 HR45N	
	Middle	0.27 HR45N	
	High	0.26 HR45N	

Mass and Mass Related

Parameter / Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method and/or Equipment
Rockwell Hardness Testers[1]			Direct Verification per ASTM E18
Test Forces	(3 to 150) kg	0.015 kg	Load Cell
Depth Measuring Device	(0 to 0.2) mm	0.4 µm	Height Gage
Depth Measuring Device	(0 to 0.2) mm	0.42 µm	Gage Blocks
Testing Cycle (Time)	Up to 30 s	0.035 s	Stopwatch
Portable Rockwell Hardness Tester	HRC Low Middle High	 0.43 HRC 0.39 HRC 0.34 HRC	ASTM E110 Indirect Verification using test blocks
Brinell Hardness Tester	(500 to 3 000) kg	4.3 BHN	ASTM E10 Indirect Verification using test blocks
Brinell Optical Scanning System	(140 to 700) BHN	0.009 mm	
Brinell Hardness Tester	(1 to 3 000) kgf	6.7 kgf	ASTM E10 Direct Verification
Leeb Hardness Tester	(200 to 765) LD (300 to 750) LG	19 LD 19 LG	ASTM A956 Indirect Method using test blocks
Leeb Hardness Test Block	(500 to 800) LD (500 to 800) LG	19 LD 19 LG	
Portable Hardness Gauge UCI Method	(20 to 66) HRC	0.58 HRC	ASTM A1038 Indirect Method using test blocks
Vickers Hardness Testers	(200 to 772) HV	12 HV	ASTM E384/E92 Indirect Method using test blocks
Knoop Hardness Testers	(200 to 734) HK	14 HK	

Photometry and Radiometry

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
Spectral Irradiance (UV-A) (315 to 400) nm Black Light	(10 to 10 000) µW / cm²	0.52 µw/cm² + 5.7 % of reading	UVA Detector and display unit using laboratory developed method Nadcap AC7114/2
Illuminance responsivity (Illuminant A – CIE) White Light (380 to 760) nm	(0.5 to 400) fc	0.027 fc + 4.2 % of reading	White light Detector and display unit using laboratory developed method Nadcap AC7114/2
Luminance responsivity White Light (380 to 760) nm	(100 to 130 000) fL	5.3% of reading	Illuminance probe and display unit using laboratory developed method Nadcap AC7114/2

Time and Frequency

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
Magnetic Inspection Unit Shot Duration	(0 to 3) s	670 ms	ASTM E1444 Nadcap AC7114/2

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. This scope is formatted as part of a single document including Certificate of Accreditation No. L1157-1

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