



CERTIFICATE OF ACCREDITATION

The ANSI National Accreditation Board

Hereby attests that

United Service Company, Inc.
43 Cody Street
West Hartford, CT 06110

Fulfills the requirements of

ISO/IEC 17025:2017

In the field of

CALIBRATION

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.

A handwritten signature in black ink, appearing to read 'R.D.L.', is positioned above a horizontal line.

R. Douglas Leonard Jr., VP, PILR SBU

Expiry Date: 16 February 2024
Certificate Number: L1047-1



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

United Service Company Inc.

43 Cody Street
West Hartford, CT 06110
Grant H. Gatzen 860-667-4403

CALIBRATION

Valid to: **February 16, 2024**

Certificate Number: **L1047-1**

Length – Dimensional Metrology

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
Brinell Microscopes	(0 to 7) mm	20 μ m	Stage Micrometer

Mass and Mass Related

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment	
Rockwell Hardness Testers	HRA		Indirect verification per ASTM E18.	
		Low		0.41 HRA
		Middle		0.16 HRA
		High		0.16 HRA
	HRBW			
		Low		0.3 HRBW
		Middle		0.66 HRBW
		High		0.38 HRBW
	HRC			
		Low		0.37 HRC
		Middle		0.32 HRC
		High		0.31 HRC
	HREW			
		Low		0.38 HREW
	Middle	0.46 HREW		
	High	0.47 HREW		
HRFW				
	Low	0.44 HRFW		
	Middle	0.44 HRFW		
	High	0.44 HRFW		

Mass and Mass Related

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
Rockwell Hardness Testers	HRGW		Indirect verification per ASTM E18.
	Low	0.74 HRGW	
	Middle	0.72 HRGW	
	High	0.25 HRGW	
	HRH		
	Low	0.38 HRH	
	High	0.39 HRH	
	HRK		
	Low	0.63 HRK	
	Middle	0.63 HRK	
	High	0.62 HRK	
	HRLW		
High	0.29 HRLW		
HRMW			
Middle	0.51 HRMW		
High	0.44 HRMW		
HRRW			
Middle	0.31 HRRW		
High	0.34 HRRW		
Rockwell Superficial Hardness Testers	HR15N		Indirect verification per ASTM E18.
	Low	0.39 HR15N	
	Middle	0.19 HR15N	
	High	0.18 HR15N	
	HR15TW		
	Low	0.25 HR15TW	
	Middle	0.21 HR15TW	
	High	0.21 HR15TW	
	HR30N		
	Low	0.4 HR30N	
	Middle	0.27 HR30N	
	High	0.27 HR30N	
	HR30TW		
	Low	0.5 HR30TW	
	Middle	0.3 HR30TW	
	High	0.3 HR30TW	
	HR45N		
	Low	0.44 HR45N	
Middle	0.19 HR45N		
High	0.16 HR45N		

Mass and Mass Related

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
Rockwell Superficial Hardness Testers	HR45TW		Indirect verification per ASTM E18.
	Low	0.64 HR45TW	
	Middle	0.62 HR45TW	
	High	0.39 HR45TW	
	HR15WW		
	High	0.44 HR15WW	
	HR15XW		
Low	0.57 HR15XW		
High	0.25 HR15XW		
HR15Y			
High	0.45 HR15Y		
Knoop Hardness Testers	HK 2 000		Indirect verification per ASTM E92
	Middle	17 HK	
	High	17 HK	
	HK 1 000		
	Middle	17 HK	
	High	17 HK	
	HK 500		
	Middle	15 HK	
	High	18 HK	
	HK 300		
	Middle	16 HK	
	High	23 HK	
	HK 200		
	Middle	13 HK	
	High	24 HK	
	HK 100		
Middle	15 HK		
High	21 HK		
HK 50			
Middle	13 HK		
High	25 HK		
HK 25			
Middle	16 HK		
High	40 HK		

Mass and Mass Related

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
Vickers Hardness Testers	HV 30 000		Indirect verification per ASTM E92
	Middle	10 HV	
	High	8.8 HV	
	HV 10 000		
	Middle	6 HV	
	High	9.9 HV	
	HV 5 000		
	Middle	6.4 HV	
	High	9.8 HV	
	HV 2 000		
	Middle	14 HV	
	High	10 HV	
	HV 1 000		
	Middle	14 HV	
	High	12 HV	
	HV 500		
	Middle	9 HV	
	High	21 HV	
	HV 300		
	Middle	11 HV	
High	23 HV		
HV 200			
Middle	9 HV		
High	24 HV		
HV 100			
Middle	15 HV		
High	32 HV		
HV 50			
Middle	15 HV		
High	29 HV		
HV 25			
Middle	15 HV		
High	39 HV		

Mass and Mass Related

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
Brinell Hardness Testers	HBW 500		Indirect verification per ASTM E10.
	Low	1.5 HBW	
	High	1.4 HBW	
	HBW 1 000		
	Low	1.3 HBW	
	High	1.5 HBW	
	HBW 1 500		
	Low	1.4 HBW	
	High	1.3 HBW	
	HBW 3 000		
	Low	1.4 HBW	
	Middle	1.5 HBW	
High	1.3 HBW		

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 all parameters, 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. L1047-1.



R. Douglas Leonard Jr., VP, PILR SBU