



# CERTIFICATE OF ACCREDITATION

## The ANSI National Accreditation Board

Hereby attests that

**S. A. Meier Company of Milwaukee, Inc.**

**230 James Street, A-1**

**Wales, WI 53183**

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](http://www.anab.org).

Jason Stine, Vice President

Expiry Date: 02 December 2026

Certificate Number: AC-2928



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

### S. A. Meier Company of Milwaukee, Inc.

230 James Street, A-1  
Wales, WI 53183  
Jeff Read 262-968-4950

### CALIBRATION

Valid to: **December 2, 2026**

Certificate Number: **AC-2928**

#### Length – Dimensional Metrology

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
Force – Universal Testing Machines <sup>2</sup> Distance	Up to 12 in	(30 + 36L) μin	Comparison to Class AS1 Gauge Blocks
Force – Extensometers Distance	Up to 0.5 in	0.001 3 in	Comparison to Mitutoyo Digital Scale

#### Mass and Mass Related

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
Force – Universal Testing Machines <sup>1</sup> Compression	(0 to 5) N (> 5 to 10) N (> 10 to 50) N	0.005 6 N 0.012 N 0.04 N	Comparison to ASTM E617 Class 7 Weights
	(> 50 to 100) N (> 100 to 500) N	0.062 N 0.3 N	NIST Class F Weights
Tension	(0 to 5) N (> 5 to 10) N (> 10 to 50) N	0.004 8 N 0.006 8 N 0.04 N	ASTM E617 Class 7 Weights
	(> 50 to 100) N (> 100 to 500) N	0.062 N 0.36 N	NIST Class F Weights

**Mass and Mass Related**

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment		
Force – Universal Testing Machines <sup>1</sup>	Compression	(0 to 50) N	0.2 N	Comparison to Dillion Display with Standard Load Cells	
		(> 50 to 100) N	0.32 N		
		(> 100 to 500) N	0.86 N		
		(> 500 to 1 000) N	2.4 N		
		(> 1 to 10) kN	7.1 N		
		(> 10 to 30) kN	22 N		
		(> 30 to 50) kN	30 N		
		(> 50 to 150) kN	94 N		
	Tension	(0 to 50) N	0.22 N		Dillion Display with Standard Load Cells
		(> 50 to 100) N	0.26 N		
		(> 100 to 500) N	0.8 N		
		(> 500 to 1000) N	2 N		
		(> 1 to 10) kN	6.9 N		
		(> 10 to 30) kN	22 N		
Force – Load Cells <sup>1</sup>	Compression	(0 to 0.5) lbf	0.000 34 lbf	Comparison to NIST Class F Weights	
		(> 0.5 to 2) lbf	0.001 lbf		
		(> 2 to 5) lbf	0.002 4 lbf		
		(> 5 to 10) lbf	0.004 8 lbf		
		(> 10 to 25) lbf	0.011 lbf		
		(> 25 to 50) lbf	0.03 lbf		
		(> 50 to 110) lbf	0.042 lbf		
		(> 110 to 200) lbf	0.096 lbf		
	Tension	(> 200 to 550) lbf	0.22 lbf		NIST Class F Weights
		(> 550 to 1 100) lbf	0.36 lbf		
		(0 to 0.5) lbf	0.000 3 lbf		
		(> 0.5 to 2) lbf	0.000 94 lbf		
		(> 2 to 5) lbf	0.002 2 lbf		
		(> 5 to 10) lbf	0.004 8 lbf		
(> 10 to 25) lbf	0.012 lbf				
(> 25 to 50) lbf	0.028 lbf				
(> 50 to 110) lbf	0.044 lbf				
(> 110 to 200) lbf	0.096 lbf				
(> 200 to 550) lbf	0.24 lbf				
(> 550 to 1 100) lbf	0.36 lbf				

**Mass and Mass Related**

<b>Parameter/Equipment</b>	<b>Range</b>	<b>Expanded Uncertainty of Measurement (+/-)</b>	<b>Reference Standard, Method, and/or Equipment</b>
Force – Load Cells <sup>1</sup>	Compression	(0 to 100) lbf      0.15 lbf (> 100 to 200) lbf      0.32 lbf (> 200 to 500) lbf      0.74 lbf (> 500 to 1 000) lbf      1.5 lbf (> 1 000 to 2 000) lbf      1.9 lbf (> 2 000 to 5 000) lbf      2.8 lbf (> 5 000 to 50 000) lbf      36 lbf	Comparison to Dillion Display with Standard Load Cells
	Tension	(0 to 100) lbf      0.15 lbf (> 100 to 200) lbf      0.32 lbf (> 200 to 500) lbf      0.74 lbf (> 500 to 1 100) lbf      1.5 lbf (> 1 100 to 2 000) lbf      1.9 lbf (> 2 000 to 5 000) lbf      3 lbf (> 5 000 to 50 000) lbf      28 lbf	
Force – Digital Force Gauges <sup>1</sup>	Compression	(0 to 250) gf      0.14 gf  (0 to 2) lbf      0.001 1 lbf (> 2 to 5) lbf      0.003 2 lbf (> 5 to 10) lbf      0.005 4 lbf (> 10 to 25) lbf      0.011 lbf (> 25 to 50) lbf      0.026 lbf (> 50 to 100) lbf      0.04 lbf (> 100 to 200) lbf      0.14 lbf	Comparison to NIST Class F Weights
	Tension	(0 to 250) gf      0.15 gf  (0 to 2) lbf      0.001 1 lbf (> 2 to 5) lbf      0.003 6 lbf (> 5 to 10) lbf      0.005 2 lbf (> 10 to 25) lbf      0.013 lbf (> 25 to 50) lbf      0.026 lbf (> 50 to 100) lbf      0.042 lbf (> 100 to 200) lbf      0.16 lbf	



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**Mass and Mass Related**

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
Force – Digital Force Gauges <sup>1</sup> Compression	(0 to 25) lbf (> 25 to 50) lbf (> 50 to 100) lbf (> 100 to 200) lbf (> 200 to 500) lbf (> 500 to 1 000) lbf	0.052 lbf 0.082 lbf 0.15 lbf 0.48 lbf 0.81 lbf 1.6 lbf	Comparison to Dillion Display with Standard Load Cells
Tension	(0 to 25) lbf (> 25 to 50) lbf (> 50 to 100) lbf (> 100 to 200) lbf (> 200 to 500) lbf (> 500 to 1 000) lbf	0.052 lbf 0.082 lbf 0.15 lbf 0.48 lbf 0.82 lbf 1.5 lbf	Dillion Display with Standard Load Cells
Force – Dial Gauges <sup>1</sup> Compression and Tension	(0 to 222) kN	5.8 kN	Comparison to Dillion Display with Standard Load Cells
Force – Force Gauges <sup>1</sup> Compression and Tension	(0 to 150) lbf	1.2 lbf	Comparison to NIST Class F Weights
Crane Scales/Dynamometers Tension Only	(0 to 10 000) lbf (> 10 000 to 25 000) lbf	10 lbf 28 lbf	Comparison to Dillion Display with Standard Load Cells
Digital Torque Analyzers/Transducers Clockwise	(0 to 3) lbf·in (> 3 to 200) lbf·in (> 200 to 1 000) lbf·in	0.004 1 lbf·in 0.15 lbf·in 1.3 lbf·in	Comparison to NIST Class F Weights, Torque Arms
Counter-Clockwise	(0 to 3) lbf·in (> 3 to 200) lbf·in (> 200 to 1 000) lbf·in	0.002 6 lbf·in 0.15 lbf·in 1.5 lbf·in	

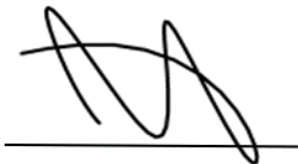
**Time and Frequency**

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
Force and Universal Testing Machines <sup>1</sup> Linear Speed	(0 to 0.5) in/min (> 0.5 to 5) in/min (> 5 to 10) in/min (> 10 to 20) in/min (> 20 to 40) in/min (> 40 to 80) in/min	0.002 2 in/min 0.009 8 in/min 0.026 in/min 0.054 in/min 0.26 in/min 0.64 in/min	Comparison to Stopwatch, Internal Encoder

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.  $L$  = length in inches.
3. Unless otherwise specified in the far-right column, the calibration procedure/method was internally written.
4. This scope is formatted as part of a single document including Certificate of Accreditation No. AC-2928.



Jason Stine, Vice President

