

**THIS IS TO CERTIFY THAT AFFRI INC. HAS CALIBRATED THE FOLLOWING
EXTENSOMETER IN ACCORDANCE WITH ASTM-E83-23.**

CUSTOMER

COMPANY: CIF Metal
ADDRESS: [REDACTED]
CITY/PROVINCE: [REDACTED]

CALIBRATION INFORMATION

PURCHASE ORDER NUMBER: NG-37011-1
CERTIFICATE NUMBER: [REDACTED]
CERTIFICATE ISSUED: May 23, 2024
CALIBRATION DATE: May 23, 2024
REQUESTED DUE DATE: May 23, 2025
SYSTEM LOCATION: QC Lab
MANUFACTURER: Epsilon
MODEL: 3542-050M-050-ST
SERIAL NUMBER: E114113
ASSET NUMBER: E114113
LOAD CELL/TRANSDUCER: Extensometer
INDICATOR RESOLUTION: 0.0001 mm
TEMPERATURE / RELATIVE HUMIDITY: 21.8°C/58.27%
CALIBRATION TECHNICIAN: [REDACTED]

CALIBRATION IS VALID FOR THE SCALE(S), ITEMS AND RESULTS SHOWN AND HAS BEEN FOUND TO BE WITHIN TOLERANCE UNLESS OTHERWISE NOTED.

STANDARDS USED

FILE	SERIAL #	MFG	CAL DATE	DUE DATE	CERT BY	CERT #	CAPACITY	UNC
TH 003	S2450843/S2310657	Vaisala	02/02/24	02/02/26	Transcat	33-Q3F0N-20-1	Deg/%RH	0.5/0.14 Deg/%RH
DIM 006	0008872	Mitutoyo	10/03/24	10/03/25	Affri Inc.	AffriUS_0008872-DIM006_ASMEB89_031024	12 in	0.0014 in
DIM 009	A5418	Epsilon	30/01/24	30/01/26	Epsilon	5418.013024.1327	2 in	16.9 micro in

TRACEABILITY, UNCERTAINTY AND DECISION RULE STATEMENTS

The expanded uncertainties shown above use a confidence level of 95% and a coverage factor of $k = 2$. As per ASTM-E83 all results conform to a minimum uncertainty ratio of 3:1. Expanded uncertainties are valid from 18°C to 28°C. ALL REFERENCE STANDARDS USED FOR VERIFICATION ARE TRACEABLE TO NIST OR ACCREDIA. Services comply with PO requirements. Affri uses a binary decision rule of pass or fail where tolerance limit equals acceptance limits without considering uncertainty. Uncertainty and measured results are provided for the user to consider their own risk.

COMMENTS

Preventative maintenance was performed.

CALIBRATED BY

CUSTOMER

COMPANY: [REDACTED]

CALIBRATION INFORMATION

CERTIFICATE NUMBER: [REDACTED]
 CERTIFICATE ISSUED: May 23, 2024
 CALIBRATION DATE: May 23, 2024
 REQUESTED DUE DATE: May 23, 2025
 MODEL: 35 [REDACTED] ST
 SERIAL NUMBER: E114 [REDACTED]
 LOAD CELL/TRANSDUCER: Extensometer

GAUGE LENGTH MEASUREMENTS

NOMINAL inch	DUT#1 inch	DUT#2 inch	ERROR #1 inch	ERROR #2 inch	ERROR #1 %	ERROR #2 %	ASTM CLASS
50	50.0900	50.0800	0.0900	0.0800	0.18%	0.16%	B-1

RESOLUTION mm	LOWER LIMIT mm	REF UNITS	DUT UNITS
0.0001	0.0	in	mm

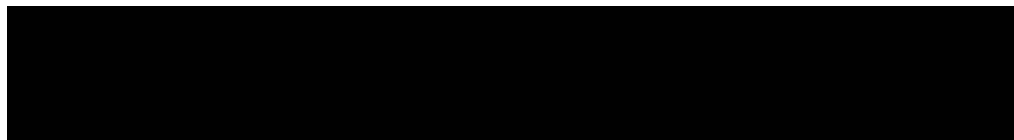
AS FOUND

APPLIED REF. #1 in	APPLIED STRAIN #1 (in/in, m/m)	DUT #1 READING mm	DUT #1 ERROR (in/in, m/m)	%ERROR #1 (% of Rd)	ASTM CLASS
0.0000	0.00000	0.0000	0.00000		B-1
1.0000	0.02000	0.9991	-0.00002	-0.09%	B-1
2.0000	0.04000	1.9994	-0.00001	-0.03%	B-1
4.0000	0.08000	3.9987	-0.00003	-0.03%	B-1
8.0000	0.16000	7.9981	-0.00004	-0.02%	B-1
10.0000	0.20000	9.9984	-0.00003	-0.02%	B-1
12.0000	0.24000	11.9976	-0.00005	-0.02%	B-1
16.0000	0.32000	15.9962	-0.00008	-0.02%	B-1
18.0000	0.36000	17.9954	-0.00009	-0.03%	B-1
20.0000	0.40000	19.9948	-0.00010	-0.03%	B-1

LEFT AS

APPLIED REF #1 in	APPLIED REF. #2 in	APPLIED STRAIN #1 (in/in, m/m)	APPLIED STRAIN #2 (in/in, m/m)	DUT #1 READING mm	DUT #2 READING mm	ERROR #1 (in/in)	ERROR #2 (in/in)	%ERROR #1 (%)	%ERROR #2 (%)	REPEAT. (%)	ASTM CLASS
0.0000	0.0000	0.00000	0.00000	0.0000	0.0000	0.00000	0.00000				B-1
1.0000	1.0000	0.02000	0.02000	0.9991	0.9994	-0.00002	-0.00001	-0.09%	-0.06%	0.03%	B-1
2.0000	2.0000	0.04000	0.04000	1.9994	1.9995	-0.00001	-0.00001	-0.03%	-0.03%	0.00%	B-1
4.0000	4.0000	0.08000	0.08000	3.9987	3.9991	-0.00003	-0.00002	-0.03%	-0.02%	0.01%	B-1
8.0000	8.0000	0.16000	0.16000	7.9981	7.9985	-0.00004	-0.00003	-0.02%	-0.02%	0.01%	B-1
10.0000	10.0000	0.20000	0.20000	9.9984	9.9987	-0.00003	-0.00003	-0.02%	-0.01%	0.00%	B-1
12.0000	12.0000	0.24000	0.24000	11.9976	11.9979	-0.00005	-0.00004	-0.02%	-0.02%	0.00%	B-1
16.0000	16.0000	0.32000	0.32000	15.9962	15.9968	-0.00008	-0.00006	-0.02%	-0.02%	0.00%	B-1
18.0000	18.0000	0.36000	0.36000	17.9954	17.9962	-0.00009	-0.00008	-0.03%	-0.02%	0.00%	B-1
20.0000	20.0000	0.40000	0.40000	19.9948	19.9951	-0.00010	-0.00010	-0.03%	-0.02%	0.00%	B-1

COMMENTS: Preventative maintenance was performed.



CUSTOMER

COMPANY: [REDACTED]

CALIBRATION INFORMATION

CERTIFICATE NUMBER: [REDACTED]
CERTIFICATE ISSUED: May 23, 2024
CALIBRATION DATE: May 23, 2024
REQUESTED DUE DATE: May 23, 2025
MODEL: 39 [REDACTED]
SERIAL NUMBER: E114113
LOAD CELL/TRANSDUCER: Extensometer

UNCERTAINTY CALCULATIONS

APPLIED STRAIN (%)	DUT RESOLUTION (in/in, m/m)	DUT ERROR #1 (in/in, m/m)	DUT ERROR #2 (in/in, m/m)	DUT AVG. ERROR (in/in, m/m)	STD. UNC. OF REPETABILITY (in/in, m/m)	STD. UNC. OF GAGE LENGTH (in)	SENSITIVITY OF GAGE LENGTH (1/in)	STD. UNC. OF APPL. DISP. (in)	SENSITIVITY OF APPL. DISP. (1/in)	MEASUR. UNC. (in/in, m/m)	MEASURE. UNC. (%)
0.0%	0.00000										
2.0%	0.00000	-0.00002	-0.00001	-0.00002	0.00000	0.0010	0.000	0.00016	0.0200	0.00002	0.08%
4.0%	0.00000	-0.00001	-0.00001	-0.00001	0.00000	0.0010	0.001	0.00016	0.0200	0.00001	0.03%
8.0%	0.00000	-0.00003	-0.00002	-0.00002	0.00000	0.0010	0.002	0.00016	0.0200	0.00002	0.02%
16.0%	0.00000	-0.00004	-0.00003	-0.00003	0.00000	0.0010	0.003	0.00016	0.0200	0.00003	0.02%
20.0%	0.00000	-0.00003	-0.00003	-0.00003	0.00001	0.0010	0.004	0.00016	0.0200	0.00002	0.01%
24.0%	0.00000	-0.00005	-0.00004	-0.00004	0.00001	0.0010	0.005	0.00016	0.0200	0.00003	0.01%
32.0%	0.00000	-0.00008	-0.00006	-0.00007	0.00001	0.0010	0.006	0.00016	0.0200	0.00005	0.02%
36.0%	0.00000	-0.00009	-0.00008	-0.00008	0.00001	0.0010	0.007	0.00016	0.0200	0.00006	0.02%
40.0%	0.00000	-0.00010	-0.00010	-0.00010	0.00001	0.0010	0.008	0.00016	0.0200	0.00006	0.02%

