財團法人全國認證基金會
Taiwan Accreditation Foundation

Certificate of Accreditation

(Certificate No：L1063-240816)

This is to certify that

Ektron Tek. Co,Ltd.

Calibration Laboratory

No.182, Lane 380, Ton-An Rd, Tien Chung Chen, Chang Hwa Hsien 520, Taiwan (R.O.C)

is accredited in respect of laboratory

Accreditation Criteria	：	ISO/IEC 17025:2017；CNS 17025:2018
Accreditation Number	：	1063
Originally Accredited	：	September 01, 2003
Effective Period	：	September 01, 2024 to August 31, 2027
Accredited Scope	：	Calibration Field, see described in the Appendix

Scan to verify

Yi-Ling Chen

Yi-Ling Chen
President, Taiwan Accreditation Foundation
August 16, 2024

The Appendix forms an integral part of this Certificate, which shall be invalid when use without the Appendix

Accreditation Number ：1063
Laboratory Head ：CHANG, Yin-Hsuan

Length

calibration items	working standard	calibration method	measurand level or range				measurement conditions /independent variable	smallest uncertainty	
	brand /model	document name /no.	minimum value	units	maximum value	units	explanation	value	units
KA2016 Extensometer (Field calibration service)	Laser Interferometer (Renishaw XL-80)	In-house method; " Extensometer/Tensile Tester Calibration Procedure (Document No.: QS-54) "	0	mm	1000	mm		0.09	mm
Approval Signatory: CHANG, Yin-Hsuan; CHANG, Yau-Dong									
KA2016 Extensometer (Field calibration service)	Displacement meter (MQC-E002)	In-house method; "Extensometer/Tensile Tester Calibration Procedure (Document No.: QS-54) "	0	mm	1000	mm		0.29	mm
Approval Signatory: CHANG, Yin-Hsuan; CHANG, Yau-Dong									
KA2016 Extensometer (Field calibration service)	Displacement meter (MQC-E002)	In-house method; "Extensometer/Tensile Tester Calibration Procedure (Document No.: QS-54) "	0	mm	500	mm		0.29	mm
Approval Signatory: CHANG, Yin-Hsuan; CHANG, Yau-Dong									
KA2099 Displacement meter	Laser Interferometer (Renishaw XL-80)	In-house method; "Displacement Meter Calibration Procedure (Document No.: QS-52) "	0	mm	1000	mm		0.081	mm
Approval Signatory: CHANG, Yin-Hsuan; CHANG, Yau-Dong									

Mass/Force

calibration items	working standard	calibration method	measurand level or range				measurement conditions /independent variable	smallest uncertainty	
	brand /model	document name /no.	minimum value	units	maximum value	units	explanation	value	units
KC2002 load cell	Load Cell /HBM/C3H3 /HBM/C3H3 1 t /HBM/C3H3 10 t /HBM/C3H3 50 t	In-house method; "Calibration Procedure For Force Calibration Machine (Document No.: QS-44) "	980.7 (100)	N (kgf)	980.7 (100)	N (kgf)	compression	0.15	%
			>980.7 (100)	N (kgf)	1961.3 (200)	N (kgf)	compression	0.081	%
			>1961.3 (200)	N (kgf)	2942.0 (300)	N (kgf)	compression	0.060	%
			>2942.0 (300)	N (kgf)	3922.7 (400)	N (kgf)	compression	0.050	%
			>3922.7 (400)	N (kgf)	4903.3 (500)	N (kgf)	compression	0.047	%
			>4903.3 (500)	N (kgf)	5884.0 (600)	N (kgf)	compression	0.040	%
			>5884.0 (600)	N (kgf)	6864.7 (700)	N (kgf)	compression	0.037	%
			>6864.7 (700)	N (kgf)	7845.3 (800)	N (kgf)	compression	0.033	%
			>7845.3 (800)	N (kgf)	8826.0 (900)	N (kgf)	compression	0.031	%
			>8826.0 (900)	N (kgf)	9806.7 (1000)	N (kgf)	compression	0.030	%
			9806.7 (1000)	N (kgf)	9806.7 (1000)	N (kgf)	compression	0.41	%
			>9806.7 (1000)	N (kgf)	19613.3 (2000)	N (kgf)	compression	0.22	%
			>19613.3 (2000)	N (kgf)	29420.0 (3000)	N (kgf)	compression	0.15	%
			>29420.0 (3000)	N (kgf)	39226.6 (4000)	N (kgf)	compression	0.12	%

calibration items	working standard	calibration method	measurand level or range				measurement conditions /independent variable	smallest uncertainty	
	brand /model	document name /no.	minimum value	units	maximum value	units	explanation	value	units
KC2002 load cell	Load Cell /HBM/C3H3 /HBM/C3H3 1 t /HBM/C3H3 10 t /HBM/C3H3 50 t	In-house method; "Calibration Procedure For Force Calibration Machine (Document No.: QS-44) "	>39226.6 (4000)	N (kgf)	49033.3 (5000)	N (kgf)	compression	0.099	%
			>49033.3 (5000)	N (kgf)	58839.9 (6000)	N (kgf)	compression	0.084	%
			>58839.9 (6000)	N (kgf)	68646.6 (7000)	N (kgf)	compression	0.077	%
			>68646.6 (7000)	N (kgf)	78453.2 (8000)	N (kgf)	compression	0.076	%
			>78453.2 (8000)	N (kgf)	88259.9 (9000)	N (kgf)	compression	0.072	%
			>88259.9 (9000)	N (kgf)	98066.5 (10000)	N (kgf)	compression	0.068	%
			49033 (5000)	N (kgf)	49033 (5000)	N (kgf)	compression	0.54	%
			>49033 (5000)	N (kgf)	98067 (10000)	N (kgf)	compression	0.30	%
			>98067 (10000)	N (kgf)	147100 (15000)	N (kgf)	compression	0.21	%
			>147100 (15000)	N (kgf)	196133 (20000)	N (kgf)	compression	0.17	%
			>196133 (20000)	N (kgf)	245166 (25000)	N (kgf)	compression	0.15	%
			>245166 (25000)	N (kgf)	294200 (30000)	N (kgf)	compression	0.13	%
			>294200 (30000)	N (kgf)	343233 (35000)	N (kgf)	compression	0.12	%
			>343233 (35000)	N (kgf)	392266 (40000)	N (kgf)	compression	0.10	%

calibration items	working standard	calibration method	measurand level or range				measurement conditions /independent variable	smallest uncertainty	
	brand /model	document name /no.	minimum value	units	maximum value	units	explanation	value	units
KC2002 load cell	Load Cell /HBM/C3H3 /HBM/C3H3 1 t /HBM/C3H3 10 t /HBM/C3H3 50 t	In-house method; "Calibration Procedure For Force Calibration Machine (Document No.: QS-44) "	>392266 (40000)	N (kgf)	441299 (45000)	N (kgf)	compression	0.097	%
			>441299 (45000)	N (kgf)	490333 (50000)	N (kgf)	compression	0.094	%
			980.7 (100)	N (kgf)	980.7 (100)	N (kgf)	tension	0.17	%
			>980.7 (100)	N (kgf)	1961.3 (200)	N (kgf)	tension	0.12	%
			>1961.3 (200)	N (kgf)	2942.0 (300)	N (kgf)	tension	0.081	%
			>2942.0 (300)	N (kgf)	3922.7 (400)	N (kgf)	tension	0.072	%
			>3922.7 (400)	N (kgf)	4903.3 (500)	N (kgf)	tension	0.060	%
			>4903.3 (500)	N (kgf)	5884.0 (600)	N (kgf)	tension	0.055	%
			>5884.0 (600)	N (kgf)	6864.7 (700)	N (kgf)	tension	0.058	%
			>6864.7 (700)	N (kgf)	7845.3 (800)	N (kgf)	tension	0.054	%
			>7845.3 (800)	N (kgf)	8826.0 (900)	N (kgf)	tension	0.054	%
			>8826.0 (900)	N (kgf)	9806.7 (1000)	N (kgf)	tension	0.048	%
			9806.7 (1000)	N (kgf)	9806.7 (1000)	N (kgf)	tension	0.41	%
			>9806.7 (1000)	N (kgf)	19613.3 (2000)	N (kgf)	tension	0.22	%

calibration items	working standard	calibration method	measurand level or range				measurement conditions /independent variable	smallest uncertainty	
	brand /model	document name /no.	minimum value	units	maximum value	units	explanation	value	units
KC2002 load cell	Load Cell /HBM/C3H3 /HBM/C3H3 1 t /HBM/C3H3 10 t /HBM/C3H3 50 t	In-house method; "Calibration Procedure For Force Calibration Machine (Document No.: QS-44) "	>19613.3 (2000)	N (kgf)	29420.0 (3000)	N (kgf)	tension	0.15	%
			>29420.0 (3000)	N (kgf)	39226.6 (4000)	N (kgf)	tension	0.12	%
			>39226.6 (4000)	N (kgf)	49033.3 (5000)	N (kgf)	tension	0.098	%
			>49033.3 (5000)	N (kgf)	58839.9 (6000)	N (kgf)	tension	0.084	%
			>58839.9 (6000)	N (kgf)	68646.6 (7000)	N (kgf)	tension	0.078	%
			>68646.6 (7000)	N (kgf)	78453.2 (8000)	N (kgf)	tension	0.076	%
			>78453.2 (8000)	N (kgf)	88259.9 (9000)	N (kgf)	tension	0.072	%
			>88259.9 (9000)	N (kgf)	98066.5 (10000)	N (kgf)	tension	0.068	%
Approval Signatory: CHANG, Yin-Hsuan; CHANG, Yau-Dong									

calibration items	working standard	calibration method	measurand level or range				measurement conditions /independent variable	smallest uncertainty	
	brand /model	document name /no.	minimum value	units	maximum value	units	explanation	value	units
KC2005 material testing machine (Field calibration service)	Load Cell /interface/SM-250 /interface/1210AJ-2K /interface/1220AJ-25K /interface/1232AJ-500KN-B	In-house method; "Calibration Procedure For Material Testing Machine (Document No.: QS-46) "	98.1 (10)	N (kgf)	980.7 (100)	N (kgf)	compression	1.1 (0.11)	N (kgf)
			980.7 (100)	N (kgf)	9806.7 (1000)	N (kgf)	compression	5.9 (0.6)	N (kgf)
			9806.7 (1000)	N (kgf)	98067 (10000)	N (kgf)	compression	79 (8)	N (kgf)
			49033 (5000)	N (kgf)	490333 (50000)	N (kgf)	compression	0.39 (39)	kN (kgf)
			98.1 (10)	N (kgf)	980.7 (100)	N (kgf)	tension	0.4 (0.04)	N (kgf)
			980.7 (100)	N (kgf)	9806.7 (1000)	N (kgf)	tension	5.9 (0.6)	N (kgf)
			9806.7 (1000)	N (kgf)	98067 (10000)	N (kgf)	tension	69 (7)	N (kgf)
Approval Signatory: CHANG, Yin-Hsuan; CHANG, Yau-Dong									
KC4003 Torque sensor	INTERFACE/TQ10-23NM-594	In-house method; "Torque Transducer Calibration Procedure (Document No.: QS-50) "	5	N•m	9	N•m	CW	0.04	N•m
			>9	N•m	14	N•m	CW	0.04	N•m
			>14	N•m	18	N•m	CW	0.05	N•m
			>18	N•m	23	N•m	CW	0.06	N•m
			5	N•m	9	N•m	CCW	0.04	N•m
			>9	N•m	14	N•m	CCW	0.04	N•m
			>14	N•m	18	N•m	CCW	0.05	N•m
			>18	N•m	23	N•m	CCW	0.06	N•m
Approval Signatory: CHANG, Yin-Hsuan; CHANG, Yau-Dong									

Temperature/Humidity

calibration items	working standard	calibration method	measurand level or range				measurement conditions /independent variable	smallest uncertainty	
	brand /model	document name /no.	minimum value	units	maximum value	units	explanation	value	units
KE1002 Platinum Resistance Thermometer	Platinum Resistance Thermometer Sensor FLUKE/5608 Indicator FLUKE/1524 (T1)	In-house method "Platinum Resistance Thermometer and Thermocouple Calibration Procedure (QS-56) "	-70	℃	0	℃		0.12	℃
			>0	℃	50	℃		0.12	℃
			>50	℃	200	℃		0.12	℃
			>200	℃	300	℃		0.12	℃
Approval Signatory: CHANG, Yin-Hsuan; CHANG, Yau-Dong									
KE1005 Thermocouple	Platinum Resistance Thermometer Sensor FLUKE/5608 Indicator FLUKE/1524 (T1)	In-house method "Platinum Resistance Thermometer and Thermocouple Calibration Procedure (QS-56) "	-70	℃	0	℃	K Type	0.12	℃
			>0	℃	50	℃	K Type	0.12	℃
			>50	℃	200	℃	K Type	0.12	℃
			>200	℃	300	℃	K Type	0.12	℃
			-70	℃	0	℃	T Type	0.13	℃
			>0	℃	50	℃	T Type	0.12	℃
			>50	℃	200	℃	T Type	0.12	℃
			>200	℃	300	℃	T Type	0.12	℃
Approval Signatory: CHANG, Yin-Hsuan; CHANG, Yau-Dong									
KE1006 Temperature Indicator	Multifunctional signal calibration AOIP / CALYS 50	In-house method "Temperature Transmitter Calibration Procedure (QS-60) "	-70	℃	300	℃	RTD-385	0.50	℃
			-70	℃	300	℃	K Type	0.60	℃
			-70	℃	300	℃	K Type	0.60	℃
Approval Signatory: CHANG, Yin-Hsuan; CHANG, Yau-Dong									

calibration items	working standard	calibration method	measurand level or range				measurement conditions /independent variable	smallest uncertainty	
	brand /model	document name /no.	minimum value	units	maximum value	units	explanation	value	units
KE1010 Temperature Controlled Chamber (Field calibration service)	Multi-channel platinum resistance thermometer EKTRON / EKT-CUS2000	In-house method "Temperature Climate Chamber (Field calibration service) Calibration Procedure (QS-58) "	-70	℃	0	℃		2.1	℃
			>0	℃	50	℃		1.2	℃
			>50	℃	200	℃		3	℃
			>200	℃	300	℃		5	℃
Approval Signatory: CHANG, Yin-Hsuan; CHANG, Yau-Dong									

Note: Smallest uncertainty represents an expanded uncertainty using a coverage factor approximately 95 % level of confidence.
(Null Below)