



ISO/IEC 17025:2017

מעבדות כיול

תעודת הסמכה מס' 14 מ.ב.א הזורע טכנולוגיות כיול אגש"ח בע"מ

כתובת אתר ייחוס: קיבוץ הזורע ד.ג. עמקים, 3658100

עד יום: 12.05.2022

בתוקף מיום: 05.04.2020

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תעודה זו אינה מהווה אישור לפי סעיף 12 לחוק התקנים.

אתי פלר
מנכ"ל
הרשות הלאומית להסמכת מעבדות

תאריך הסמכה ראשון: 13.05.1996



הרשות הלאומית להסמכת מעבדות
Israel Laboratory Accreditation Authority

Calibration Laboratories

ISO/IEC 17025:2017

Accreditation Certificate No. 14
QCC Hazorea Calibration Technologies (A.C.S) Ltd.

Main site address: Kibbutz Hazorea , 3658100 , Israel

Valid from: 05.04.2020

Until: 12.05.2022

The organization was assessed by the Israel Laboratory Accreditation Authority (ISRAC) and found to be worthy of accreditation to the detailed schedule attached.

The schedule is an integral part of this certificate and is numbered with the above certificate number.

Accreditation demonstrates technical competence and operation of an internationally recognized quality management system. The organization accredited by ISRAC complies with the standards/requirements mentioned above, meets the technical competence requirements and management system requirements that are necessary for it to consistently deliver technically competent results. This accreditation is granted in accordance with the requirements of ISO/IEC 17011:2017, and entails periodic surveillance and reassessment by ISRAC to ensure that the organization continues to comply with the accreditation requirements.

The accreditation is valid provided that the organization continues to meet the criteria as laid down by ISRAC.

This certificate does not constitute an approval in accordance with article 12 of the standard law.

Date of first accreditation: 13.05.1996

Etty Feller
General Manager
Israel Laboratory Accreditation Authority

Date of signature 05/04/2020

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Name and Address:

Laboratory name	QCC Hazorea Calibration Technologies (A.C.S) Ltd.
Address	Kibbutz Hazorea 36581, Israel
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ite: P or T or M , P-Permanent, T-Temporary, M-Mobile

A permanent (P) or temporary (T) place, or a stationary or mobile (M) facility, at or from which the organization performs activities forming part of its scope of accreditation, starting from sampling to final issuance of a report or certificate and / or quality system activities. A temporary (T) site is a site established under the responsibility of an accredited permanent site. All activities performed at a temporary site are the responsibility of the permanent site. An outdoors work is also considered to be a temporary site. Temporary site will be a site that involves work for special project and the activity will be defined in time (up to 2 years).

Type of Scopes: A- Fixed, C- Flexible scope in analytical tests : Type of matrix, analytes, experimental systems and/or analytical characteristics may be subject to changes, in accordance with the laboratory's approved and documented procedures. For details, please refer to the list of Accredited Tests, available from the laboratory upon request.



Item	Scope Type	Site	Measurand Instrument, Gauge	Range [Including margins] (Does not include margins)	CMC Expressed as an Expanded Uncertainty (95%)	Reference Documents	Remarks
Calibration – Electrical Quantities - DC and LF					כיוול – גדלים חשמליים - זרם ישר ותדר נמוך		
1	A	P	DC Voltage, Sources	± 1 V	2 μV/V	MetCal Automated Calibration Software Manufacturer instructions WI-C104 WI-C100 WI-C103	Datron 1281 Wavetek 4912 Fluke 8508A
2	A	P		± 1.018 V	2 μV/V		
3	A	P		± 10 V	1 μV/V		
4	A	P;T		0 mV	0.12 μV		
5	A	P		[0.1 μV to 200 mV]	4.2 μV/V		
6	A	P		(200 mV to 2 V)	1.7 μV/V		
7	A	P		(2V to 20 V)	1.2 μV/V		
8	A	P		(20 V to 1050 V)	1.4 μV/V		
9	A	T		[0.1 μV to 200 mV]	14 μV/V		
10	A	T		(200 mV to 1V)	6.7 μV/V		
11	A	T		(1 V to 10 V)	5 μV/V		
12	A	T		(10 V to 100 V)	5 μV/V		
13	A	T		(100 V to 1000 V)	8.3 μV/V		
14	A	P, T	DC Voltage, Measuring Instruments	0 mV	0.14 μV	MetCal Automated Calibration Software Manufacturer instructions WI-C100	Fluke 5520A Fluke 5522A Fluke 5730A
15	A	P		[0.1 μV to 220 mV]	6.1 μV/V		
16	A	P		(0.22 V to 2.2 V)	2 μV/V		
17	A	P		(2.2 V to 22 V)	2 μV/V		
18	A	P		(22 V to 220 V)	1.6 μV/V		
19	A	P		(220 V to 1100 V)	2.2 μV/V		
20	A	T		(0 mV to 329.9999 mV)	8.4 μV/V		
21	A	T		(329.9999 mV to 3.299999 V)	15 μV/V		
22	A	T		(3.299999 V to 32.99999 V)	16 μV/V		



Item	Scope Type	Site	Measurand Instrument, Gauge	Range [Including margins] (Does not include margins)	CMC Expressed as an Expanded Uncertainty (95%)	Reference Documents	Remarks
Calibration – Electrical Quantities - DC and LF					כיוול – גדלים חשמליים - זרם ישר ותדר נמוך		
23	A	T		(32.99999 V to 329.999 V]	26 μ V/V		
24	A	T		(329.9999 V to 1000 V]	26 μ V/V		
25	A	P;T	DC Current.	0 μ A	0.51 nA	MetCal	Datron 1281
26	A	P;T	Sources	[10 nA to 200 μ A]	7.3 μ A/A		Fluke 8508A
27	A	P;T		(200 μ A to 2 mA]	8.1 μ A/A	Automated Calibration Software	
28	A	P;T		(2 mA to 20 mA]	4.5 μ A/A		
29	A	P;T		(20 mA to 200 mA]	11 μ A/A	Manufacturer instructions	
30	A	P;T		(200 mA to 2 A]	14 μ A/A	WI-C100	
31	A	P;T		(2 A to 20 A]	48.7 μ A/A		
32	A	P;T	DC Current, Measuring Instruments	0 μ A	0.52 nA	MetCal	Fluke 5520A
33	A	P;T		[2 nA to 220 μ A]	8 μ A/A	Automated Calibration Software	Fluke 5522A
34	A	P;T		(220 μ A to 2 mA]	10 μ A/A	Manufacturer instructions	Fluke 5730A
35	A	P;T		(2.2 mA to 22 mA]	6 μ A/A	WI-C100	Fluke 5725A
36	A	P;T		(22 mA to 220 mA]	14 μ A/A		Current Coils
37	A	P;T		(220 mA to 2.2 A]	16 μ A/A		
38	A	P;T		(2.2 A to 20 A]	480 μ A/A		
39	A	P;T		(20 A to 105 A]	0.64 mA/A		
40	A	P;T		(105 A to 160 A]	9.64 mA/A		
41	A	P;T		(160 A to 525 A]	32.2 mA/A		
42	A	P;T		(525 A to 1000 A]	74.8 mA/A		
43	A	P;T	AC Voltage, Sources	(0.22 mV to 200 mV] [1 Hz to 10 Hz]	46 μ V/V	1 MHz	Datron 1281 FLUKE 8508A



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Calibration – Electrical Quantities - DC and LF						כיוול – גדלים חשמליים - זרם ישר ותדר נמוך		
44	A	P;T			(10 Hz to 100 Hz]	45 μV/V		
45	A	P;T			(100 Hz to 2 kHz]	57 μV/V		
46	A	P;T			(2 kHz to 10 kHz]	40 μV/V		
47	A	P;T			(10 kHz to 30 kHz]	41 μV/V		
48	A	P;T			(30 kHz to 1 MHz]	60 μV/V		
					(200 mV to 2 V]			
49	A	P;T			[1 Hz to 10 Hz]	26 μV/V		
50	A	P;T			(10 Hz to 40 Hz]	24 μV/V		
51	A	P;T			(40 Hz to 100 Hz]	20 μV/V		
52	A	P;T			(100 Hz to 2 kHz]	18 μV/V		
53	A	P;T			(2 kHz to 30 kHz]	20 μV/V		
54	A	P;T			(30 kHz to 100 kHz]	22 μV/V		
55	A	P;T			(100 kHz to 300 kHz]	140 μV/V		
56	A	P;T			(300 kHz to 1 MHz]	620 μV/V		
					(2 V to 20V]			
57	A	P;T			[1 Hz to 10 Hz]	38 μV/V		
58	A	P;T			(10 Hz to 40 Hz]	28 μV/V		
59	A	P;T			(40 Hz to 100 Hz]	21 μV/V		
60	A	P;T			(100 Hz to 2 kHz]	20 μV/V		
61	A	P;T			(2 kHz to 10 kHz]	22 μV/V		
62	A	P;T			(10 kHz to 30 kHz]	25 μV/V		
63	A	P;T			(30 kHz to 1 MHz]	192 μV/V		
					(20V to 200V]			
64	A	P;T			[1 Hz to 10 Hz]	38 μV/V		



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Calibration – Electrical Quantities - DC and LF						כיוול – גדלים חשמליים - זרם ישר ותדר נמוך			
65	A	P;T			(10 Hz to 40 Hz]	35 μV/V			
66	A	P;T			(40 Hz to 100 Hz]	36 μV/V			
67	A	P;T			(100 Hz to 2 kHz]	27 μV/V			
68	A	P;T			(2 kHz to 100 kHz]	33 μV/V			
69	A	P;T			(100 kHz to 1 MHz]	54 μV/V			
					(200 V to 1050 V]				
70	A	P;T			[1 Hz to 100 Hz]	51 μV/V			
71	A	P;T			(100 Hz to 1 kHz]	50 μV/V			
72	A	P;T			(1 kHz to 100 kHz]	40 μV/V			
			AC Voltage. Measuring Instruments	מתח חילופין מכשירי מדידת מתח	(0.22 mV to 220 mV]		MetCal	Fluke 5520A	
73	A	P;T			[10Hz to 20 Hz]	56 μV/V	Automated Calibration Software Manufacturer instructions WI-C100	Fluke 5522A	
74	A	P;T			(20 Hz to 40 Hz]	55 μV/V		FLUKE 5730A	
75	A	P;T			(40 Hz to 1 kHz]	69 μV/V			
76	A	P;T			(1 kHz to 20 kHz]	50 μV/V			
77	A	P;T			(20 kHz to 50 kHz]	49 μV/V			
78	A	P;T			(50 kHz to 500 kHz]	72 μV/V			
79	A	P;T			(500 kHz to 1 MHz]	73 μV/V			
					(220 mV to 2.2 V]				
80	A	P;T			[10Hz to 20 Hz]	31 μV/V			
81	A	P;T			(20 Hz to 40 Hz]	30 μV/V			
82	A	P;T			(40 Hz to 20 kHz]	24 μV/V			
83	A	P;T			(20 kHz to 100 kHz]	27 μV/V			
84	A	P;T			(100 kHz to 500 kHz]	168 μV/V			
85	A	P;T			(500 kHz to 1 MHz]	745 μV/V			
					(2.2 V to 22 V]				



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Calibration – Electrical Quantities - DC and LF						כיוול – גדלים חשמליים - זרם ישר ותדר נמוך		
86	A	P;T			[10Hz to 20 Hz]	53 μV/V		
87	A	P;T			(20 Hz to 40 Hz]	34 μV/V		
88	A	P;T			(40 Hz to 50 kHz]	31 μV/V		
89	A	P;T			(50 kHz to 500 kHz]	230 μV/V		
90	A	P;T			(500 kHz to 1 MHz]	750 μV/V		
					(22 V to 220 V]			
91	A	P;T			[10Hz to 20 Hz]	46 μV/V		
92	A	P;T			(20 Hz to 40 Hz]	43 μV/V		
93	A	P;T			(40 Hz to 20 kHz]	39 μV/V		
94	A	P;T			(20 kHz to 100 kHz]	40 μV/V		
95	A	P;T			(100 kHz to 1 MHz]	65 μV/V		
					(220 V to 1100 V]			
96	A	P;T			(15 Hz to 50 Hz]	79 μV/V		
97	A	P;T			(50 Hz to 1kHz]	51 μV/V		
98	A	P;T	AC Current Sources	זרם חילופין מחוללי זרם	Up to 200 μA]	MetcAlAutomated Calibration Software Manufacturer Instruction WI-C100	Datron 1281 Fluke 8508A	
					[1 Hz to 100 Hz]			67 μA/A
99	A	P;T			(100 Hz to 500 Hz]			60 μA/A
100	A	P;T			(500 Hz to 1 kHz]			91 μA/A
101	A	P;T			(1 kHz to 5 kHz]			150 μA/A
102	A	P;T			(5 kHz to 10 kHz]			400 μA/A
					(200 μA to 2 mA]			
103	A	P;T			[1 Hz to 100 Hz]			72 μA/A
104	A	P;T			(100 Hz to 1 kHz]			60 μA/A
105	A	P;T			(1 kHz to 5 kHz]			80 μA/A
106	A	P;T	(5 kHz to 100 kHz]	110 μA/A				



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Calibration – Electrical Quantities - DC and LF						כיוול – גדלים חשמליים - זרם ישר ותדר נמוך		
107	A	P;T			(2 mA to 20 mA)	38 μA/A		
108	A	P;T			[1 Hz to 100 Hz]			
109	A	P;T			(100 Hz to 500 Hz)			
110	A	P;T			(500 Hz to 1 kHz)			
111	A	P;T			(1 kHz to 5 kHz)			
					(5 kHz to 100 kHz)			
112	A	P;T			(20 mA to 200 mA)			
113	A	P;T			[1 Hz to 100 Hz]			
114	A	P;T			(100 Hz to 500 Hz)			
115	A	P;T			(500 Hz to 1 kHz)			
116	A	P;T			(1 kHz to 5 kHz)			
					(5 kHz to 100 kHz)			
117	A	P;T			(200 mA to 2 A)	160 μA/A		
118	A	P;T			[1 Hz to 500 Hz]			
119	A	P;T			(500 Hz to 1 kHz)			
120	A	P;T			(1 kHz to 5 kHz)			
					(5 kHz to 100 kHz)			
					(2 A to 20 A)			
121	A	P;T			(1 Hz to 2 kHz)			
122	A	P;T			(2kHz to 10kHz)			
123	A	P;T	AC Current Measuring Instruments	זרם חילופין מכשירי מדידה	(0.1 μA to 220 μA)	132 μA/A	MetCal	Fluke 5520A Fluke 5522A
					[1 Hz to 100 Hz]			



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Calibration – Electrical Quantities - DC and LF						כיוול – גדלים חשמליים - זרם ישר ותדר נמוך		
124	A	P;T			(100 Hz to 500 Hz]	87 μA/A	Automated Calibration Software Manufacturer instructions WI-C100	Fluke 5725A Fluke 5730A Current Coils
125	A	P;T			(500 Hz to 1 kHz]	110 μA/A		
126	A	P;T			(1 kHz to 5 kHz]	161 μA/A		
127	A	P;T			(5 kHz to 10 kHz]	415 μA/A		
128	A	P;T			(220 μA to 2.2 mA]			
					[1 Hz to 100 Hz]	93 μA/A		
129	A	P;T			(100 Hz to 500 Hz]	85 μA/A		
130	A	P;T			(500 Hz to 1 kHz]	84 μA/A		
131	A	P;T			(1 kHz to 5 kHz]	99 μA/A		
132	A	P;T			(5 kHz to 10 kHz]	610 μA/A		
					(2.2 mA to 22 mA]			
133	A	P;T			[1 Hz to 100 Hz]	110 μA/A		
134	A	P;T			(100 Hz to 500 Hz]	71 μA/A		
135	A	P;T			(500 Hz to 1 kHz]	76 μA/A		
136	A	P;T			(1 kHz to 5 kHz]	150 μA/A		
137	A	P;T			(5 kHz to 10 kHz]	110 μA/A		
					(22 mA to 220 mA]			
138	A	P;T			[1 Hz to 100 Hz]	110 μA/A		
139	A	P;T			(100 Hz to 500 Hz]	65 μA/A		
140	A	P;T			(500 Hz to 1 kHz]	73 μA/A		
141	A	P;T			(1 kHz to 5 kHz]	75 μA/A		
142	A	P;T			(5 kHz to 10 kHz]	135 μA/A		
			(220 mA to 2.2 A]					
143	A	P;T			[1 Hz to 100 Hz]	270 μA/A		



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Calibration – Electrical Quantities - DC and LF						כיוול – גדלים חשמליים - זרם ישר ותדר נמוך		
144	A	P;T			(100 Hz to 500 Hz]	170 μA/A		
145	A	P;T			(500 Hz to 1 kHz]	220 μA/A		
146	A	P;T			(1 kHz to 5 kHz]	150 μA/A		
147	A	P;T			(5 kHz to 10 kHz]	450 μA/A		
148	A	P;T			(2.2 A to 11 A]			
					[1 Hz to 1 kHz]	558 μA/A		
149	A	P;T			(1 kHz to 5 kHz]	1.2 mA/A		
150	A	P;T			(5 kHz to 10 kHz]	4.3 mA/A		
151	A	P;T			(11 A to 20.5 A]			
					[45 Hz to 100 Hz]	7.23 mA/A		
152	A	P;T			(100Hz to 1 kHz]	7.6 mA/A		
153	A	P;T			(1 kHz to 5 kHz]	41 mA/A		
154	A	P;T			(20 A to 32 A]	8.2 mA/A		
					[10 Hz to 440 Hz]			
155	A	P;T			(32 A to 160 A]	39 mA/A		
					[10 Hz to 100 Hz]			
156	A	P;T			(160 A to 200 A]			
					[10 Hz to 440 Hz]	68 mA/A		
157	A	P;T	(200 A to 1000 A]					
			[10 Hz to 50 Hz]	195 mA/A				
158	A	P;T	DC Resistance, Shunts	התנגדות זרם ישר, מיצד זרם	[0.0001Ω÷0.5 Ω] @ [1A÷10A]	0.047%	Manufacturer instructions WI-C100	Low currents Fluke 5730A



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Calibration – Electrical Quantities - DC and LF						כיוול – גדלים חשמליים - זרם ישר ותדר נמוך		
159	A	P;T			[0.0001Ω÷0.5 Ω] @ (10A÷50A)	0.085%	WI-C101	Fluke 5725A Fluke 8508A
160	A	P;T			[0.0001Ω÷0.5 Ω] @ [50A÷141A)	0.021%		High currents
161	A	P;T			[0.0005Ω÷0.5 Ω] @ [141A÷224A)	0.01%		Std. Shunt 7.5 digit DMM
162	A	P;T			[0.0005Ω÷0.5 Ω] @ [224A÷300A)	0.0064%		
163	A	P;T			[0.0005Ω÷0.5 Ω] @ 300A	0.0054%		
164	A	P	DC Resistance, Sources	התנגדות זרם ישר, מחוללים	0 Ω	1.6 μΩ	MetCal Automated Calibration Software Manufacturer instructions WI-C100	Datron 1281 FLUKE 8508A
165	A	P			(0 Ω to 2 Ω]	4 μΩ/Ω		
166	A	P			(2 Ω to 20 Ω]	4.1 μΩ/Ω		
167	A	P			(20 Ω to 200 Ω]	3.9 μΩ/Ω		
168	A	P			(200 Ω to 2 kΩ]	5 μΩ/Ω		
169	A	P			(2 kΩ to 20 kΩ]	4.1 μΩ/Ω		
170	A	P			(20 kΩ to 200 kΩ]	3.4 μΩ/Ω		
171	A	P			(200 kΩ to 2 MΩ]	8.5 μΩ/Ω		
172	A	P			(2 MΩ to 20 MΩ]	19 μΩ/Ω		
173	A	P			(20 MΩ to 200 MΩ]	140 μΩ/Ω		
174	A	P			(200 MΩ to 2 GΩ]	190 μΩ/Ω		
175	A	P			(2 GΩ to 20 GΩ]	120 μΩ/Ω		
176	A	T			0 Ω	4 μΩ		
177	A	T			(0 Ω to 2 Ω]	17 μΩ/Ω		



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Calibration – Electrical Quantities - DC and LF						כיוול – גדלים חשמליים - זרם ישר ותדר נמוך		
178	A	T			(2 Ω to 20 Ω]	9 μΩ/Ω		
179	A	T			(20 Ω to 200 Ω]	8.98 μΩ/Ω		
180	A	T			(200 Ω to 2 kΩ]	9.29 μΩ/Ω		
181	A	T			(2 kΩ to 20 kΩ]	9.22 μΩ/Ω		
182	A	T			(20 kΩ to 200 kΩ]	9.41 μΩ/Ω		
183	A	T			(200 kΩ to 2 MΩ]	11.5 μΩ/Ω		
184	A	T			(2 MΩ to 20 MΩ]	313 μΩ/Ω		
185	A	T			(20 MΩ to 200 MΩ]	6.9 mΩ/Ω		
186	A	T			(200 MΩ to 2 GΩ]	0.18%		
187	A	T			(2 GΩ to 100 GΩ]	0.18%		
188	A	P	DC Resistance, Measuring Instruments	התנגדות זרם ישר, מכשירי מדידה	0 Ω	3.6 μΩ	MetCal Automated Calibration Software Manufacturer instructions WI-C100 WI-C101	FLUKE 5730A
189	A	P			1 Ω	4.3 μΩ/Ω		
190	A	P			1.9 Ω	4.3 μΩ/Ω		
191	A	P			10 Ω	4.4 μΩ/Ω		
192	A	P			19 Ω	4.4 μΩ/Ω		
193	A	P			100 Ω	4.2 μΩ/Ω		
194	A	P			190 Ω	4.2 μΩ/Ω		
195	A	P			1 kΩ	5.4 μΩ/Ω		
196	A	P			1.9 kΩ	5.4 μΩ/Ω		
197	A	P			10 kΩ	4.4 μΩ/Ω		
198	A	P			19 kΩ	4.4 μΩ/Ω		
199	A	P			100 kΩ	3.7 μΩ/Ω		
200	A	P			190 kΩ	3.7 μΩ/Ω		
201	A	P			1 MΩ	9.1 μΩ/Ω		
202	A	P			1.9 MΩ	9.1 μΩ/Ω		



Item	Scope Type	Site	Measurand Instrument, Gauge		Range [Including margins] (Does not include margins)	CMC Expressed as an Expanded Uncertainty (95%)	Reference Documents	Remarks
Calibration – Electrical Quantities - DC and LF						כיוול – גדלים חשמליים - זרם ישר ותדר נמוך		
203	A	P			10 MΩ	20 μΩ/Ω	MetCal Automated Calibration Software Manufacturer instructions WI-C100 WI-C101	Fluke5522A Fluke5520A Fluke5730A
204	A	P			19 MΩ	20 μΩ/Ω		
205	A	P			100 MΩ	150 μΩ/Ω		
206	A	P;T			0 Ω	3.6 μΩ		
207	A	P;T			(1 μΩ to 10 Ω]	21 μΩ/Ω		
208	A	P;T			(10 Ω to 100 Ω]	9 μΩ/Ω		
209	A	P;T			(100 Ω to 10 kΩ]	20 μΩ/Ω		
210	A	P;T			(10 kΩ to 100 kΩ]	8 μΩ/Ω		
211	A	P;T			(100 kΩ to 1 MΩ]	6 μΩ/Ω		
212	A	P;T			(1 MΩ to 10 MΩ]	30 μΩ/Ω		
213	A	P;T			(10 MΩ to 100 MΩ]	199 μΩ/Ω		
214	A	P;T			(100 MΩ to 1 GΩ]	517 μΩ/Ω		
215	A	P;T			(10 GΩ to 100 GΩ]	8.4 mΩ/Ω		
216	A	P;T	Air Standard Resistors	נגדי אוויר סטנדרטיים	1 Ω	4.5 μΩ/Ω	Manufacturer instructions WI-C100 WI-C101	Standard resistors
217	A	P;T			10 Ω	6 μΩ/Ω		
218	A	P;T			100 Ω	6 μΩ/Ω		
219	A	P;T			1 kΩ	6 μΩ/Ω		
220	A	P;T			10 kΩ	1 μΩ/Ω		
221	A	P	Digital Amplifier	מגבר דיגיטלי	[-2.5 mV/V to 2.5 mV/V]	4E-5 mV/V	WI-C100	Test frequency 225 Hz HBM BN100A Calibration of 350 Ω – bridge standards and related indicating devices with inductive bridge standard
			Capacitance,	קיבול	(0.5 nF to 4 nF]			Standard Capacitors



Item	Scope Type	Site	Measurand Instrument, Gauge		Range [Including margins] (Does not include margins)	CMC Expressed as an Expanded Uncertainty (95%)	Reference Documents	Remarks
Calibration – Electrical Quantities - DC and LF						כיוול – גדלים חשמליים - זרם ישר ותדר נמוך		
222	A	P;T	Measuring Instruments	מכשירי מדידה	Up to 350 Hz]	247 µF/F	MetCal Automated Calibration Software Manufacturer instructions WI-C100	Fluke 5520 A
223	A	P;T			(350 Hz to 1.5 kHz]	2.5 mF/F		GR Capacitance Decade
					(4 nF to 40 nF]			FLUKE 5522A
224	A	P;T			Up to 350 Hz]	4.2 mF/F		
225	A	P;T			(350 Hz to 1.5 kHz]	4.2 mF/F		
					(40 nF to 400 nF]			
226	A	P;T			Up to 350 Hz]	15.6 mF/F		
227	A	P;T			(350 Hz to 1.5 kHz]	15.66 mF/F		
					(400 nF to 4 µF]			
228	A	P;T			Up to 350 Hz]	1.2 mF/F		
229	A	P;T			(350 Hz to 1.5 kHz]	1.2 mF/F		
					(4 µF to 40 µF]			
230	A	P;T			Up to 350 Hz]	769 µF/F		
231	A	P;T			(350 Hz to 1.5 kHz]	769 µF/F		
					(40 µF to 400 µF]			
232	A	P;T			Up to 350 Hz]	501 µF/F		
233	A	P;T			(350 Hz to 1.5 kHz]	501 µF/F		
					(400 µF to 4 mF]			
234	A	P;T	Up to 350 Hz]	1.2 mF/F				
235	A	P;T	(350 Hz to 1.5 kHz]	1.2 mF/F				
			(4 mF to 40 mF]					
236	A	P;T	Up to 350 Hz]	1.2 mF/F				
237	A	P;T	(350 Hz to 1.5 kHz]	1.2 mF/F				
238	A	P;T	Capacitance, Capacitors	קיבול, קבלים	0.001 µF 1000 Hz	6 mF/F	MetCal Automated	Standard Capacitors Fluke 5520 A



Item	Scope Type	Site	Measurand Instrument, Gauge	Range [Including margins] (Does not include margins)	CMC Expressed as an Expanded Uncertainty (95%)	Reference Documents	Remarks
Calibration – Electrical Quantities - DC and LF					כיוול – גדלים חשמליים - זרם ישר ותדר נמוך		
239	A	P,T		0.005 μ F 1000 Hz	262 μ F/F	Calibration Software Manufacturer instructions WI-C100	GR Capacitance Decade FLUKE 5522A
240	A	P,T		0.01 μ F 1000 Hz	595 μ F/F		
241	A	P,T		0.05 μ F 1000 Hz	137 μ F/F		
242	A	P,T		0.1 μ F 1000 Hz	92 μ F/F		
243	A	P	Phase angle, Measurement Phase angle meters	זווית מופע מכשירי מדידה מדי זווית מופע (0° to 90°) Frequency: [45 Hz to 65 Hz]	0.58°	Manufacturer Instructions WI-C108	FLUKE 5520AFLUKE 5522A Electrical test Equipment CALIBRATOR
244		P		Frequency: [65 Hz to 500 Hz] Parameters: V: 32 mV to 600 V I: 32 mA to 20 A Alternating V: 10 mV to 5 V When current transducer not allowed	0.21°		
245	A	P,T	AC Power, Measurement Power Meters	הספק מתח חילופין מדי הספק [1mW to 20 kW] Power factor: [0– 1] Frequency: [45 Hz to 65Hz]	3.5 %	MetCal Automated Calibration Software	Fluke 5520A Fluke 5522A Electrical Test Equipment calibrator
246	A	P,T	Power factor, Measurement Power Meters	מקדם הספק מדידה מדי הספק [0– 1] Power: [1mW to 20 kW] Frequency: [45 Hz to 65Hz]	0.14	Manufacturer instruction WI-C108	
247	A	P,T	DC Power, Measurement Power Meters	הספק מתח ישר מדי הספק [10 mW to 20 kW]	0.5 %		



Item	Scope Type	Site	Measurand Instrument, Gauge		Range [Including margins] (Does not include margins)	CMC Expressed as an Expanded Uncertainty (95%)	Reference Documents	Remarks
Calibration – Electrical Quantities - DC and LF						כיוול – גדלים חשמליים - זרם ישר ותדר נמוך		
248	A	P,T	Defibrillator and Defibrillator analyzer	דפיברילטור וכייל דפיברילטורים	[2 J to 700 J]	0.2 J	IEC 60601-2-4 Calibration of Defibrillator Analyzers – NCSL 2015 WI-C108	Agilent 34470A Voltage divider
249	A	P,T	Continuity resistance Resistance, measuring instruments	התנגדות רציפות, מכשירי מדידת התנגדות	[0.20 Ω to 20 Ω]	1.5%	MetCal Automated Calibration Software	TRANSMILLE 3200 Electrical Test Equipment Calibrator
250	A	P,T			[20 Ω to 200 Ω]	1.2%	Manufacturer instructions	
251	A	P,T			[200 Ω to 2 kΩ]	1.2%		
252	A	P,T	Continuity current Current measuring instruments	זרם רציפות מכשירי מדידת זרם	(0 mA to 320 mA]	4%	WI-C107	Calibrator HV Probe 80K-40 DMM Electrical safety tester
253	A	P,T	Insulation resistance Resistance, measuring instruments	התנגדות של בידוד מכשירי מדידת התנגדות	0.01MΩ to 5.00 MΩ	3.2%	MetCal Automated Calibration Software	TRANSMILLE 3200 Electrical Test Equipment Calibrator Electrical safety tester HV Probe 80K-40
254	A	P,T			5 MΩ to 2 GΩ	3.6%	Manufacturer instructions WI-C107	
255	A	P,T			2 G Ω to 10 GΩ	5.8%		
256	A	P,T			10 GΩ to 1 TΩ	5.8%		
257	A	P,T	Residual current AC Residual Current, Sensing Devices (RCD)	זרם חילופין שיורי מכשירי חישה (RCD)	(Up to 5 Sec.) 3.00 mA to 10.00 mA	2 mA/A	MetCal Automated Calibration Software	TRANSMILLE 3200 Electrical Test Equipment Calibrator Electrical safety tester HV Probe 80K-40
258	A	P,T			10.1 mA to 100 mA	1.39 mA/A	Manufacturer instructions WI-C107	
259	A	P,T			101 mA to 1 A	7.81 mA/A		



Item	Scope Type	Site	Measurand Instrument, Gauge		Range [Including margins] (Does not include margins)	CMC Expressed as an Expanded Uncertainty (95%)	Reference Documents	Remarks
Calibration – Electrical Quantities - DC and LF						כיוול – גדלים חשמליים - זרם ישר ותדר נמוך		
260	A	P,T			1.01 A to 3 A	34.8 mA/A		
261	A	P,T			(< 190 m Sec.] 3 mA to 10mA	6 mA/A		
262	A	P,T			10.1 mA to 100 mA	6.5 mA/A		
263	A	P,T			101 mA to 1 A	5 mA/A		
264	A	P,T			1.01 A to 3A	5.6 mA/A		
265	A	P,T	Residual current duration AC Loop Resistance Loop Testing Devices.	התנגדות לולאה בזרם חילופין מכשירי בדיקת לולאה	0.05 Ω	0.0075 Ω	MetCal Automated Calibration Software Manufacturer instructions WI-C107	TRANSMILLE 3200 Electrical Test Equipment Calibrator Electrical safety tester
266	A	P,T			0.1 Ω	0.0079 Ω		
267	A	P,T			0.22 Ω	0.0087 Ω		
268	A	P,T			0.33 Ω	0.0097 Ω		
269	A	P,T			0.5 Ω	0.011 Ω		
270	A	P,T			1 Ω	0.017 Ω		
271	A	P,T			5 Ω	0.067 Ω		
272	A	P,T			10 Ω	0.13 Ω		
273	A	P,T			100 Ω	1.3 Ω		
274	A	P,T			1 k Ω	13 Ω		
275	A	P,T	Auto Loop Resistance AC Auto Loop Resistance. Loop Testing devices.	התנגדות לולאה בזרם AC מכשירי בדיקת לולאה.	1 Ω	0.06Ω	MetCal Automated Calibration Software Manufacturer instructions	TRANSMILLE 3200 Electrical Test Equipment Calibrator Electrical safety tester
276	A	P,T	Earth Bond Resistance	התנגדות בדיקת חיבור להארקה מכשירי PAT	0.05 Ω	0.0049 Ω	WI-C107	Electrical safety tester
277			Bond Resistance					



Item	Scope Type	Site	Measurand Instrument, Gauge	Range [Including margins] (Does not include margins)	CMC Expressed as an Expanded Uncertainty (95%)	Reference Documents	Remarks
Calibration – Electrical Quantities - DC and LF					כיוול – גדלים חשמליים - זרם ישר ותדר נמוך		
278	A	P,T	PAT (Portable Appliance Tester)	0.1 Ω	0.0053 Ω		
279	A	P,T		0.22 Ω	0.0059 Ω		
280	A	P,T		0.33 Ω	0.0065 Ω		
281	A	P,T		0.5 Ω	0.0076 Ω		
282	A	P,T		1 Ω	0.010 Ω		
283	A	P,T		5 Ω	0.033 Ω		
284	A	P,T		10 Ω	0.062 Ω		
285	A	P,T		100 Ω	0.582 Ω		
	A	P,T		1 k Ω	5.77 Ω		
286	A	P,T	Earth Bond Current	100.0 mA	9.3 mA		
287	A	P,T	Bond current,	10.00 A	0.24 A		
288	A	P,T	PAT (Portable Appliance Tester)	30.00 A	0.59 A		
289	A	P,T	Insulation Resistance Resistance, PAT (Portable Appliance Tester)	0 M Ω	0.0074 M Ω		
290	A	P,T		0.01 M Ω to 5 M Ω	3 %		
291	A	P,T		5M Ω to 2 G Ω	3.5 %		
292	A	P,T	Leakage Current,	2.000 mA	0.038 mA	MetCal	TRANSMILLE 3200
293	A	P,T	PAT (Portable Appliance Tester)	4.700 mA	0.084 mA	Automated Calibration Software	Electrical Test Equipment
294	A	P,T		7.700 mA	0.136 mA	Manufacturer instructions	Calibrator
295	A	P,T	Flash Voltage	Class 1 (1.5 kV) (1 kV to 1.8 kV]	57 V	WI-C107	Electrical safety tester
296	A	P,T	PAT (Portable Appliance Tester)	1000 V	81 V	WI-C100	



Item	Scope Type	Site	Measurand Instrument, Gauge		Range [Including margins] (Does not include margins)	CMC Expressed as an Expanded Uncertainty (95%)	Reference Documents	Remarks
Calibration – Electrical Quantities - DC and LF						כיוול – גדלים חשמליים - זרם ישר ותדר נמוך		
297	A	P,T			Class 2 (3 kV) (2 kV to 3 kV] 3000 V	151 V		
298	A	P,T	Flash Current PAT (Portable Appliance Tester)	זרם פריצת בידוד מכשירי PAT	(1 mA to 3 mA] 1.00 mA	0.06 mA		
299	A	P,T	Line Voltage Measurement of line voltage	מתח רשת חשמל, מדידת מתח רשת חשמל	(200 V (rms)) to 260 V(rms)]	1.2 %		
300	A	P,T	Breakdown/Hipot Measurement of high voltage	מדידת מתח גבוה	(3 kV AC @ 50 Hz) 1.00 kV	0.05 kV	Manufacturer instructions WI-C107	HV Probe 80K-40 DMM TRANSMILLE 3200
301	A	P,T			2.00 kV	0.06 kV		
302	A	P,T			3.00 kV	0.06 kV		
					(12 kV AC @ 50 Hz) 4.00 kV	0.07 kV		
303	A	P,T			6.00 kV	0.08 kV		
304	A	P,T			8.00 kV	0.10 kV		
305	A	P,T			10.00 kV	0.11 kV		
306	A	P,T			(25 kV AC @ 50 Hz) 12 kV to 25 kV	1.2% O.R.		
307	A	P,T						
308	A	P,T			3 kV DC 1.00 kV	0.05 kV		
309	A	P,T			2.00 kV	0.06 kV		
310	A	P,T			3.00 kV	0.06 kV		
					(12 kV DC)		Manufacturer instructions	HV Probe 80K-40



Item	Scope Type	Site	Measurand Instrument, Gauge		Range [Including margins] (Does not include margins)	CMC Expressed as an Expanded Uncertainty (95%)	Reference Documents	Remarks
Calibration – Electrical Quantities - DC and LF						כיוול – גדלים חשמליים - זרם ישר ותדר נמוך		
311	A	P,T			4.00 kV	0.07 kV	WI-C107	DMM TRANSMILLE 3200
312	A	P,T			6.00 kV	0.08 kV		
313	A	P,T			8.00 kV	0.09 kV		
314	A	P,T			10.00 kV	0.10 kV		
315	A	P,T			12.00 kV	0.12 kV		
316	A	P,T		(40 kV DC)	12 kV to 40 kV	1.0% O.R.		
			Measurement of current at high voltage	מידת זרם במתח גבוה	1 kV AC @ 50 Hz		Manufacturer instructions WI-C107	HV Probe 80K-40 DMM TRANSMILLE 3200
317	A	P,T			200 µA	1.7 µA		
318	A	P,T			2.00 mA	0.04 mA		
319	A	P,T			20.00 mA	0.16 mA		
320	A	P,T			1 kV DC			
321	A	P,T			200 µA	1.7 µA		
322	A	P,T			2.00 mA	0.04 mA		
					20.00 mA	0.16 mA		
323	A	P,T	DC High Voltage, Source	מחוללי מתח גבוה ישר	40 kV DC) 1 kV to 40 kV	2.4% O.R.	Manufacturer instructions WI-C107	SPELLMAN SL40P2000 HV Probe 80K-40 DMM



Item	Scope Type	Site	Measurand Instrument, Gauge		Range [Including margins] (Does not include margins)	CMC Expressed as an Expanded Uncertainty (95%)	Reference Documents	Remarks
Calibration – Electrical Quantities - RF Frequency, Time						כיוול – גדלים חשמליים - תדר גבוה, זמן		
324	A	P	Frequency, Sources	תדר, מחוללי תדר	[0.037 Hz to 10 MHz]	10 ⁻¹¹ (24 h)	MetCal WI-C102 WI-C105 WI-C106	FLUKE 910R Wavetek 9500 H.P.5248 M H.P. 53132 A Via GPS System With Ref. Locked to 910R
325	A	P			(10 MHz to 3.2 GHz]	5×10 ⁻⁹ (0.3 h)	MetCal WI-C102 WI-C105 WI-C106	FLUKE 910R Wavetek 9500 H.P.5248 M H.P. 53132 A Via GPS System With Ref. Locked to 910R (with 9500 + 9530)
326	A	T			[10 MHz to 3.2 GHz]	4.8×10 ⁻⁵ (0.3 h)	MetCal WI-C102 WI-C105 WI-C106	Wavetek 9500 H.P.5248 M H.P. 53132 A With Internal Reference
327	A	P	Frequency. Counters	תדר, מוני תדר	[0.1 Hz to 100 MHz]	4.8×10 ⁻⁹ (0.3 h)	WI-C102 WI-C105 WI-C106	With Ref. Locked to 910R
328	A	P			[100 MHz to 3 GHz]	4.8×10 ⁻¹⁰ (0.3 h)		With Ref. Locked to 910R (with 9500 + 9530)
329	A	T			[0.1 Hz to 3 GHz]	1.4×10 ⁻⁵ (0.3 h)		With Internal Reference
330	A	P;T	Timers, stopwatches	שעוני עצר, מוני זמן	[1 sec to 24 hr]	0.06 sec	Manufacturer instructions WI-C070	מיתוג ידני Casio HS-70W
331	A	T			[1 sec to 24 hr]	0.04 sec		שיטת צילום Casio HS-70W



Item	Scope Type	Site	Measurand Instrument, Gauge		Range [Including margins] (Does not include margins)	CMC Expressed as an Expanded Uncertainty (95%)	Reference Documents	Remarks
Calibration – Electrical Quantities - RF Frequency, Time						כיוול – גדלים חשמליים - תדר גבוה, זמן		
332	A	P;T			[1 sec to 24 hr]	0.001 sec		שיטת צילום H.P.5248 M H.P.52132 A
333	A	P;T	Oscilloscope Time markers function: Square wave, Pulse, Narrow Triangle	ציר אופקי במשקף תנודות	[0.45 ns to 55 sec]	0.038 μs/s	Software MetCal Software WI-C102	Wavetek 9500 Fluke 910R External reference input in the range 1 MHz to 20 MHz
334	A	P;T	Oscilloscope Amplitude Square Wave	ציר אנכי במשקף תנודות	Input impedance 1 MΩ Peak to peak amplitude (40 μV to 1 mV]	10 mV/V + 10 μV	MetCal Software WI-C102 WI-C105 WI-C106	Wavetek 9500 Fluke 910R External reference input in the range 1 MHz to 20 MHz
335	A	P;T			(1 mV to 200 V]			
336	A	P;T	Oscilloscope Amplitude Square Wave	ציר אנכי במשקף תנודות	Input impedance 50 Ω Peak to peak amplitude (40 μV to 1 mV pk-pk]	10 mV/V + 10 μV	MetCal Software WI-C102 WI-C105 WI-C106	Wavetek 9500
337	A	P;T			(1 mV to 5 V pk-pk]			
338	A	P;T	Oscilloscope Rise Time	זמן עליית האות של משקף תנודות	Rise time, From 150 ps]	14 ps	MetCal Software WI-C102 WI-C105 WI-C106	Wavetek 9500
339	A	P;T	Oscilloscope Bandwidth:	רוחב סרט של משקף תנודות	[0.1 Hz to 300 MHz]	0.23 db	MetCal Software	Wavetek 9500
340	A	P;T			[300 MHz to 550 MHz]	0.23 db	WI-C102 WI-C105	
341	A	P;T			[550 MHz to 1.1GHz]	0.29 db	WI-C106	
342	A	P;T			[1.1 GHz to 3.2 GHz]	0.36 db		



Item	Scope Type	Site	Measurand Instrument, Gauge		Range [Including margins] (Does not include margins)	CMC Expressed as an Expanded Uncertainty (95%)	Reference Documents	Remarks
Calibration – Electrical Quantities - RF Frequency, Time						כיוול – גדלים חשמליים - תדר גבוה, זמן		
343	A	P;T	Oscilloscope	מישוריות האות בתדר ביחס לתדר הייחוס	[0.1 Hz to 300 MHz]	2.3 %	MetCal Software	Wavetek 9500 Leveled Sine Wave Amplitude 50 kHz Ref
344	A	P;T	Flatness		(300 MHz to 550 MHz]	3.8 %	WI-C102	
345	A	P;T			(550 MHz to 1.1 GHz]	4.9 %	WI-C105	
346	A	P;T			(1.1 GHz to 3.2 GHz]	6.0 %	WI-C106	
347	A	P;T	Oscilloscope Input Capacitance	קיבול כניסה של משקף תנודות	[1 pF to 65 pF]	7 mF/F	MetCal Software WI-C102 WI-C100	Wavetek 9500 Input impedance 50 Ω



Item	Scope Type	Site	Measurand Instrument, Gauge		Range [Including margins] (Does not include margins)	CMC Expressed as an Expanded Uncertainty (95%)	Reference Documents	Remarks
Calibration – Mechanical Quantities - Form, Angle						כיוול – גדלים מכניים - צורה, זווית		
348	A	P	Flank Angle Screw Plug Gauges (parallel) including check and setting Plug	זווית השן מדיד הברגה זכר מקביל	Plug Diameter [1 mm to 305 mm]	0.3°	WI-C020	M is projector magnification and P is pitch in mm
349	A	P	Flank angle Screw Plug Gauges (taper)	זווית השן מדיד הברגה זכר קוני	Plug Diameter [1 mm to 305 mm]	0.3°	WI-C020	M is projector magnification and P is pitch in mm
350	A	P	Flatness of Optical Flats in diameter of 10 mm – 50 mm	מישוריות של משטחים אופטיים בעלי קוטר 10 – 50 mm	Above 0.05 μm	0.1 μm	FED-GG-0-635 JIS B 7430 JIS B 7431 WI-C009	Optical flat/parallel מערכת כיוול מקבילונים ועדשה מישורית The uncertainty quoted is for the departure from flatness of parallelism, i.e. the distance separating the two parallel planes, which just enclose by
351	A	P	Parallelism of Optical Parallels in diameter of 10 mm – 50 mm	מקבילות של משטחים אופטיים בעלי קוטר 10 – 50 mm	Above 0.01 μm	0.1 μm		The uncertainty quoted is for the departure from flatness of parallelism, i.e. the distance separating the two parallel planes, which just enclose by



Item	Scope Type	Site	Measurand Instrument, Gauge	Range [Including margins] (Does not include margins)	CMC Expressed as an Expanded Uncertainty (95%)	Reference Documents	Remarks
Calibration – Mechanical Quantities - Form, Angle					כיוול – גדלים מכניים - צורה, זווית		
352	A	P;T	Flatness of Granites or Cast iron surfaces in Grade 00 מישוריות של לוחות משטח גרניט וברזל יציקה ברמה 00	Above 0.1 μm	[1.5+0.8* length] μm	DIN 876 P1,2 ISO 8152 P1,2 GGG-P-463-C WI-C038	עד 0.09 m^2 נבדק באמצעות גשש אורך. מעל 0.09 m^2 נבדק במערכת פלסים אלקטרוניים. The uncertainty quoted is for the departure from flatness, straightness, parallelism, or squareness i.e. the distance separating the two parallel planes which, just enclose the surface under consideration (Length in m)
353	A	P	Straightness, flatness and parallelism of Granite, Cast iron and Steel straightedges in Grade 00 ישרות, מישוריות, מקבילות של סרגל ישרות מתכת או גרניט ברמה 00	Above 1 μm	4.3 μm	DIN 874 P.1 WI-C066	גששי אורך
354	A	P	Straightness Knife edge, straight edge סרגל שיערה	Up to 500 mm]	1.5 μm	DIN 874 P.2 WI-C015	מקור אור מונוכרומטי, גששי אורך
355	A	P	Flatness, Parallels מקבילים	Up to 50*100*400 mm]	2 μm	DIN 6346 DIN 7151 DIN 7168	גששי אורך
356	A	P	Parallelism, Parallels מקבילים	Up to 50*100*400 mm]	2 μm	WI-C048	
357	A	P	Perpendicularity, Square, blade type ניצבות, זוויתנים	Up to 300 mm]	3.0 μm	DIN-875 JIS B 7526	גששי אורך מד ניצבות
358	A	P		(300 mm to 500 mm]	5 μm	WI-C016	
359	A	P	Parallelism Square, blade type מקבילות זוויתנים	Up to 300 mm]	3 μm		גששי אורך
360	A	P		(300 mm to 500 mm]	5 μm		



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Calibration – Mechanical Quantities - Form, Angle						כיוול – גדלים מכניים - צורה, זווית		
361	A	P	Flatness,	מישוריות	Up to 300 mm]	3 µm		
362	A	p	Square, blade type	זוויתנים	(300 mm to 500 mm]	5 µm		
363	A	P	Perpendicularity, Cylinder	גליל ניצבות	Up to 600 mm]	2 µm	JIS B 7539	
364	A	P	Perpendicularity,	ניצבות	Up to 100 mm]	3 µm	DIN 875	
365	A	p	Universal Box Angles	אבזור דפינה אוניברסאלי	(100 mm to 300 mm]	5 µm	DIN 876	
366	A	P			(300 mm to 600 mm]	8 µm		
367	A	P	Flatness,	מישוריות	Up to 100 mm]	3 µm	DIN 875	
368	A	p	Universal Box Angles	אבזור דפינה אוניברסאלי	(100 mm to 300 mm]	5 µm	DIN 876	
369	A	P			(300 mm to 600 mm]	8 µm		
370	A	P	Parallelism	מקבילות	Up to 100 mm]	3 µm	DIN 875	
371	A	p	Universal Box Angles	אבזור דפינה אוניברסאלי	(100 mm to 300 mm]	5 µm	DIN 876	
372	A	P			(300 mm to 600 mm]	8 µm		
373	A	P	Squareness Right angle and box angle plate	ברך, קוביה	Up to 600 mm]	[3 + 1 per 100 mm] µm	WI-C050	מד ניצבות
374	A	P	Parallelism Right angle and box angle plate	ברך, קוביה	Up to 600 mm]	[1 + (1 per 100 mm)] µm	WI-C050	מד ניצבות
375	A	P	Perpendicularity Square master	מד ניצבות	600 mm	2.1 µm	נתוני יצרן WI-C018	השוואה למדיד אב לניצבות
376	A	P	Perpendicularity Vee blocks	פריזמות	Up to 150 mm]	2.1 µm	BS 3731 JIS B 7540	Grade 00 גששי אורך גליליים



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Calibration – Mechanical Quantities - Form, Angle					כיוול – גדלים מכניים - צורה, זווית		
377	A	P	Flatness, Vee blocks	פריזמות Up to 150 mm]	2.1 µm	WI-C021	
378	A	P	Parallelism Vee blocks	פריזמות Up to 150 mm]	2.1 µm		
379	A	P	Angle Sines bars and tables	זווית סרגלים ושולחנות סינוס Up to 500 mm]	2 "	BS 3064 GGG-B 121b DIN 2273 WI-C025	Angle is estimated by measuring distance מקבילונים בלוק זוויתי
380	A	P	Angle Level	פלס ± 5 °	0.5 "	DIN 887 BS 958 WI-C022	מייצר זוויות קטנות
381	A	P	Angle Clinometer	קלינומטר Up to 90 °]	10 "	DIN 887 BS 958 WI-C022	מייצר זוויות קטנות
382	A	P	Angle Bevel protractor	מד זווית מתכוונן up to 360 °)	3 ´	BS 1685 WI-C017	בלוק זוויתי גששי אורך מד ניצבות
383	A	P;T	Rotational Speed Mechanical tachometer	מהירות סיבוב (סל"ד) מד סל"ד מכני [1 to 5000] RPM	0.1 % OR or 0.2 RPM Whichever is greater	Manufacturer instructions WI-C069	Counter מונה
384	A	P;T	Rotational Speed Optical tachometer	מהירות סיבוב (סל"ד) מד סל"ד אופטי [1 to 2500] RPM	0.02 % OR or 1 resolution Whichever is greater		Function generator מחולל אותות
385	A	P;T	Rotational Speed Optical tachometer	מהירות סיבוב (סל"ד) מד סל"ד אופטי [2500 to 99999] RPM	0.005 % OR		Function generator מחולל אותות
386	A	P	Angle block	בלוק זוויתי [0 ° to 90 °]	6 sec	WI-C084	בלוקים זוויתיים, גשש וצג
387	A	P;T	Angle measurement	מידת זווית [0 ° to 90 °]	0.12 °	Customer requirements WI-C081	
388	A	P;T		(90 ° to 180 °]	0.15 °		



Department: Calibration Laboratory

ISO/IEC 17025: 2017

Accreditation No. 14

Item	Scope Type	Site	Measurand Instrument, Gauge		Range [Including margins] (Does not include margins)	CMC Expressed as an Expanded Uncertainty (95%)	Reference Documents	Remarks
Calibration – Mechanical Quantities - Form, Angle						כיוול – גדלים מכניים - צורה, זווית		
389	A	P;T			(180 ° to 270 °]	0.19 °		
390	A	P;T			(270 ° to 360 °]	0.23 °		



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Calibration – Mechanical Quantities - Hardness Meters						כיוול – גדלים מכניים - מדי קושיות		
391	A	P;T	Rockwell hardness testing machine	מכשירים למדידת קשיות בשיטת רוקוול	HRA [20 to 95]	0.45 HRA	ASTM E18 ISO 6508-2	Indirect verification השוואה לחומר יחוס סטנדרטי
392	A	P;T			HRBW [10 to 100]	1.0 HRBW		
393	A	P;T			HRC [10 to 70]	0.45 HRC		
394	A	P;T			HREW [70 to 100]	0.7 HREW		
395	A	P;T			HR15N [70 to 94]	0.5 HR15N		
396	A	P;T			HR30N [42 to 86]	0.6 HR30N		
397	A	P;T			HR45N [20 to 77]	0.5 HR45N		
398	A	P;T			HR15TW [67 to 93]	0.7 HR15TW		
399	A	P;T			HR30TW [29 to 82]	0.7 HR30TW		
400	A	P;T			HR45TW [10 to 72]	1.0 HR45TW		
401	A	P;T	Brinell hardness testing machine	מכשירים למדידת קשיות בשיטת ברינל	HBW 2.5 / 187.5	2% HBW	ASTM E10	Indirect verification השוואה לחומר יחוס סטנדרטי
402	A	P;T	Vickers hardness testing machine	מכשירים למדידת קשיות בשיטת וויקס	(0.1 to 0.5) HV	1.5% HV	ASTM E384 ISO 6507-2	Indirect verification השוואה לחומר יחוס סטנדרטי
403	A	P;T			(1 to 100) HV	1.2% HV		



Item	Scope Type	Site	Measurand Instrument, Gauge	Range [Including margins] (Does not include margins)	CMC Expressed as an Expanded Uncertainty (95%)	Reference Documents	Remarks
Calibration – Mechanical Quantities - Hardness Meters					כיוול – גדלים מכניים - מדי קושיות		
			Shore hardness testing equipment (durometer)	מכשירים למדידת קשיות בשיטת שור Type A Instruments		ASTM D2240 ISO 21509 ISO 18898 WI-C057	Direct verification כיוול כח קפיץ ביחידות Shore Durocalibrator
404	A	P	SHORE A	שור A [0 to 100] Shore	0.4 SHORE A		
405	A	P	Indenter extension	אורך החודרן [0.1 to 2.54] mm	0.010 mm		
406	A	P	Indenter diameter	קוטר חוד החודרן [0.76 to 0.82] mm	0.008 mm		בדיקת פרמטרים של החודרן Profile projector Microscope
407	A	P	Indenter angle	זווית החודרן [34.75° to 35.25°]	0.05°		
408	A	P	Intender diameter	קוטר החודרן [1.1 to 1.4] mm	0.03 mm		
409	A	P	Presser foot hole diameter	קוטר קדח הבסיס [2.5 to 3.5] mm	0.03 mm		Indenter with parameters out of the nominal range may be calibrated at stated uncertainties as well
410	A	P	Presser foot diameter	קוטר בסיס לחיצה [10 to 50] mm	0.05 mm		
				Type D Instruments			
411	A	P	SHORE D	שור D [10 to 100] Shore	0.4 SHORE D		
412	A	P	Indenter extension	אורך החודרן [0.1 to 2.54] mm	0.010 mm		
413	A	P	Indenter radius	רדיוס חוד החודרן [0.088 to 0.112] mm	0.008 mm		
414	A	P	Indenter angle	זווית החודרן [29° to 31°]	0.05°		
415	A	P	Intender diameter	קוטר החודרן [1.1 to 1.4] mm	0.03 mm		
416	A	P	Presser foot hole diameter	קוטר קדח הבסיס [2.5 to 3.5] mm	0.03 mm		
417	A	P	Presser foot diameter	קוטר בסיס לחיצה [10 to 50] mm	0.05 mm		



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Calibration – Mechanical Quantities - Length						כיול – גדלים מכניים - אורך			
418	A	P	Gauge Blocks Comparator	מערכת כיול מקבילונים	Up to 100 mm	0.05µm		Euramet cg-2 WI-C042	Gauge blocks
419	A	P	Length, Gauge Blocks (by Comparison)	אורך, מקבילונים	Up to 10 mm} (10 mm to 25 mm] Sizes: 30, 40, 50 Sizes : 60, 70, 75 Sizes : 80, 90, 100 Up to 0.4 in} (0.4 to 1 in] 2 in 3 in 4 in	Class (see note)		DIN 861 ISO 3650 BS 4311 NF E11-010 OIML No. 30 BS 888 WI-C019	קומפרטור מקבילונים Class C uncertainties apply to the measurement of length of steel gauges by comparison with grade K standards of length of a similar material. Class C uncertainties apply to new grade 0, 1 and 2 gauges to the aforementioned standard and represent the best capability for all grades of used gauges to the aforementioned standard. Class D Class D uncertainties represent the best capability for the measurement of length of tungsten carbide and ceramic gauges by comparison with grade K standards of length of a dissimilar material
420	A	P				C	D		
421	A	P				0.08 µm	0.10 µm		
422	A	P				0.10 µm	0.13 µm		
423	A	P				0.12 µm	0.17 µm		
424	A	P				0.15 µm	0.21 µm		
425	A	P				0.18 µm	0.25 µm		
426	A	P				3 µin	4 µin		
427	A	P				4 µin	5 µin		
428	A	P				5 µin	7 µin		
429	A	P	6 µin	8 µin					
430	A	P	7 µin	10 µin					
430	A	P	Length Gauge Block accessories	אורך, אביזרים מקבילונים	160 mm	2 µm		DIN 861 P-2 WI-C029	מכונת מדידה SIP / TRIMOS 305M
431	A	P	Length, Length Bars	אורך, מוטות אורך מדיד	Up to 1000 mm]	[0.1 + 2×length in m] µm		BS 5317 ISO 3650 DIN 861 WI-C008 WI-C019	Length bar Length in m



Item	Scope Type	Site	Measurand Instrument, Gauge		Range [Including margins] (Does not include margins)	CMC Expressed as an Expanded Uncertainty (95%)	Reference Documents	Remarks
Calibration – Mechanical Quantities - Length						כיול – גדלים מכניים - אורך		
432	A	P	Length, Length Gauges	אורך, מדידי אורך	Up to 1000 mm]	[0.1 + 2.5×length in m] µm	ISO 3650 DIN 861 ASME B89.1.13	Length bar Length in m
433	A	P	Length, Step Gauge	אורך, מקבילונים מדורגים	Up to 600 mm]	[0.1 + 2.5×length in m] µm	נתוני יצרן WI-C019	Length bar Length in m
434	A	P,T	Length Measuring Machine	מכונת מדידת אורך	Up to 500 mm	[0.1 + 2.5×length in m] µm	Manufacturer Instructions WI-C002 WI-C076	Length bar Length in m
435	A	P,T	Length, Plain Plug Gauges	אורך, מדידי תקע חלק	Up to 25.4] mm	1 µm	ISO R/286 DIN 7162 DIN 7163 DIN 7164 H28/SEC.6 DIN 2269 WI-C013	מכונת מדידה SIP / TRIMOS 305M מיקרומטר שולחני
436	A	P			(25.4 mm to 100] mm	1.5 µm		
437	A	P	Diameter	טבעות חלקות	[1.75 mm to 100 mm]	0.4 µm	DIN 2250 WI-C023	מכונת מדידה SIP / TRIMOS 305M by comparison to gauge block in clamp calibration by comparison to standard plain ring provides lower uncertainties
438	A	P	Plain Rings		(100 mm to 150 mm]	1.5 µm		
439	A	P			(150 mm to 220 mm]	2 µm		
440	A	P	Diameter Thread Measuring Cylinders	תיילים לבדיקת מדיד הברגה	[0.1 mm to 6 mm]	0.7 µm	H28/SEC.22A ANSI/ASME B1.22 M WI-C055	מכונת מדידה SIP / TRIMOS 305M



Item	Scope Type	Site	Measurand Instrument, Gauge		Range [Including margins] (Does not include margins)	CMC Expressed as an Expanded Uncertainty (95%)	Reference Documents	Remarks	
Calibration – Mechanical Quantities - Length						כיוול – גדלים מכניים - אורך			
441	A	P	Pitch Diameter Screw Plug Gauges (parallel) including check and setting Plug	מדיד הברגה זכר – מקביל	Plug Diameter Up to 100 mm]	3 μm	F-STD-H-28 ISO 228/1-2 ISO 1502 ISO 2903/4 ISO 7/1,29 BS 919/1,2,3 BS 849 BS 3409/1,2 BS 4377/2 BS 21 DIN 103/9	כיוול זווית השן מדיד הברגה זכר מקביל – ראה בטכנולוגיה כיוול – גדלים מכניים – צורה, זווית	
442	A	P			(100 mm to 305 mm]	5 μm			
443	A	P	Pitch Screw Plug Gauges (parallel) including check and setting Plug	פסיעת התברג מדיד הברגה זכר מקביל	Plug Diameter Up to 305 mm]	1.5 μm			
444	A	P	Pitch Diameter Screw Plug Gauges (taper)	מדיד הברגה זכר - קוני	Plug Diameter Up to 100 mm]	3 μm	DIN 405 DIN 2999/4 B.N.A.e HELI-COIL WI-C020 WI-C023 WI-C024	כיוול זווית השן מדיד הברגה זכר קוני – ראה בטכנולוגיה כיוול – גדלים מכניים – צורה, זווית	
445	A	P				(100 mm to 305 mm]			5 μm
446	A	P	Pitch Screw Plug Gauges (taper)	פסיעת התברג מדיד הברגה זכר קוני	Plug Diameter Up to 305 mm]	1.5 μm			
447	A	P	Pitch Diameter Thread rings (parallel)	טבעות הברגה – מקבילה	Ring diameter [1.2 mm to 3 mm]	Not relevant	F-STD-H 28 ISO 228/1-2 ISO 1502 ISO 2903/2904 BS 919/1,23 BS 84 DIN 103/9 DIN 405 DIN 2999/2 B.N.A.e WI-C024	Go no go test by means of check plug מכונת מדידה SIP / TRIMOS 305M	
448	A	P				(3 mm to 100 mm]			4 μm
449	A	P				(100 mm to 305 mm]			5 μm



Item	Scope Type	Site	Measurand Instrument, Gauge		Range [Including margins] (Does not include margins)	CMC Expressed as an Expanded Uncertainty (95%)	Reference Documents	Remarks
Calibration – Mechanical Quantities - Length						כיוול – גדלים מכניים - אורך		
450	A	P	Micrometer External	מיקרומטר חיצוני	Up to 2000 mm]	Heads 2.0 μm Setting and extension rods: [1 + 5×length in m] μm	ISO 3611 DIN 863 ASME B89.1.13 JIS B 7502 WI-C006	מקבילונים מוטות אורך
451	A	T			Up to 600 mm]	Minimum 1.5 μm		
452	A	P,T	Micrometer Internal	מיקרומטר פנים	Up to 300 mm] extension rod to 1000 mm]	Heads 2.0 μm Setting and extension rods [1 + 5×length in m] μm Minimum 1.5 μm	DIN 863 ASME B89.1.13 WI-C026 WI-C027	טבעות חלקות מכונת מדידה
453	A	P;T	Micrometer Depth	מיקרומטר עומק	Up to 350 mm]	2.0 μm	DIN 863 ASME B89.1.13 WI-C007	מקבילונים
454	A	P	Micrometers (indicating digital and electronic)	מיקרומטר (כולל דיגיטלי)	Up to 2000 mm]	[1 + 5×length in m] μm Minimum 1.5 μm	ISO 3611 DIN 863 ASME B89.1.13 JIS B 7502 WI-C006	מקבילונים מוטות אורך
455	A	T			Up to 600 mm]	[1 + 5×length in m] μm Minimum 3.0 μm		
456	A	P	Three point Internal and bore micrometer	מיקרומטר פנים תלת נקודתי	[2 mm to 50 mm]	2 μm	DIN 863 Manufacturer Instructions WI-C012	טבעות חלקות
457	A	P			(50 mm to 250 mm]	5 μm		
458	A	P	Micrometer head	ראש מיקרומטר	Up to 50 mm]	2 μm	Manufacturer;s instructions WI-C006	
459	A	P	Height setting micrometer	מד גובה מיקרומטרי	Up to 300 mm]	Heads 1.0 μm between any two points. Stepped column 2.5 μm Overall performance 3.0 μm	ISO 7863 WI-C014	מקבילונים, מוטות אורך
460	A	P	Riser Block	בסיס הגבהה למד גובה מיקרומטרי	Up to 150 mm]	2.5 μm	WI-C005	
461	A	P			(150 to 300 mm]	5 μm		



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Calibration – Mechanical Quantities - Length						כיוול – גדלים מכניים - אורך		
462	A	P;T	Vernier Caliper, depth Gauges	זחון ורנייר	Up to 2000 mm]	Overall performance [10 + 30× length in m] μm	DIN EN ISO 13385-1 DIN EN ISO 13385-2 DIN 862 -1988 JIS B 7507 WI-C001	מקבילונים, מוטות אורך, בודק זחונים
463	A	P;T	Caliper (digital and electronic)	זחון אלקטרוני ודיגיטלי	Up to 2000 mm]	Overall performance [10 + 30× length in m] μm	DIN EN ISO 13385-1 DIN EN ISO 13385-2 DIN 862 -1988 JIS B 7507 WI-C001	מקבילונים, מוטות אורך, בודק זחונים
464	A	P	Micrometer Heads Dial testers	מערכת כיוול חוגנים	Up to 100 mm	0.2 μm	WI-C028	Gauge blocks
465	A	P;T	Height Gauge Electronic microprocessor Controlled height Gauge	מד גובה	Up to 1000 mm]	[1 + 5× length in m] μm	BS 1643 JIS B 7517 WI-C005	
466	A	P;T	Dial Indicator	חוגן גשש אורך	Up to 3 mm]	0.3 μm	DIN 878 DIN 879	בודק חוגנים מכונת מדידה
467	A	P;T	Length gauge		(3-60] mm	1 μm	JIS B 7509 ANSI B89.1.10M	
468	A	P;T			(60-100] mm	1.5 μm	NF E 11-056 ISO 13102 WI-C003 WI-C033	



Item	Scope Type	Site	Measurand Instrument, Gauge	Range [Including margins] (Does not include margins)	CMC Expressed as an Expanded Uncertainty (95%)	Reference Documents	Remarks
Calibration – Mechanical Quantities - Length					כיוול – גדלים מכניים - אורך		
469	A	P;T	Lever type dial indicator Lever type gauge	חוגן מנופי גשש מנופי Up to 3 mm]	0.3 μ m	BS 2795 PT.1 DIN 2270 MIL-I-18422D JIS B 7533 ISO 13102 WI-C004	בודק חוגנים
470	A	P;T	Thickness gauge	מד עובי Up to 50 mm	2 μ m	Manufacturer Instructions WI-C037	מקבילוני אורך Gauge blocks
471	A	P;T	Dial caliper gage (external type)	מד עובי זרועות Up to 150 mm	10 μ m	Manufacturer Instructions WI-C037	מקבילוני אורך Gauge blocks
472	A	P;T	Dial caliper gage (internal type)	מד חריצים Up to 125 mm	10 μ m	Manufacturer Instructions WI-C035	מיקרומטר, מקבילוני אורך Micrometer, Gauge blocks
473	A	P;T	Elcometer	מד עובי ציפוי [22 μ m to 2000 μ m]	2 μ m	Manufacturer Instructions WI-C049	
474	A	P	Feeler Gauge	מד מרווח עלים Up to 1 mm]	4 μ m	DIN 2275 WI-C032	מיקרומטר
475	A	P;T	Measuring microscope	מיקרוסקופ מדידה Up to 500 mm	[2 + (25/M)] μ m	נתוני יצרן JIS B 7153 WI-C034	סרגל אופטי M is total magnification
476	A	P;T	Profile projectors	מטול פרופילים Up to 500 mm	[2 + (25/M)] μ m	נתוני יצרן JIS B 7184 WI-C034	סרגל אופטי M is total magnification



Item	Scope Type	Site	Measurand Instrument, Gauge		Range [Including margins] (Does not include margins)	CMC Expressed as an Expanded Uncertainty (95%)	Reference Documents	Remarks
Calibration – Mechanical Quantities - Length						כיוול – גדלים מכניים - אורך		
477	A	P	Bore comparators (bore gauge)	מד קדח גשר	[6 mm to 150 mm]	2 μm	JIS B 7515 MIL-G-26762A MIL-G-26762A WI-C010	בודק חוגנים טבעות חלקות מיקרומטר
478	A	P	Bore comparators Cylinder gauge	פין מפציל	[1 mm to 50 mm]	2 μm	נתוני יצרן WI-C011	
479	A	P	Optical scale	סרגל אופטי	Up to 1 mm]	0.5 μm	JIS B 7541 Manufacturer Instructions WI-C039	מכונת מדידה TRIMOS/ SIP 305M
480					(1 mm – 300 mm)	1 μm		
481	A	P	Tape and ruler measuring system	כיוול סרגלי וסרטי מדידה	Up to 1000 mm]	8 μm	Manufacturer	סרגל אופטי מוטות אורך
482	A	P			(1000 mm – 2000 mm]	15 μm	Instructions WI-C085	
483	A	P	Measuring rule	סרגל מדידה	Up to 2000] mm	42 μm	DIN 866, JIS-B 7516 Manufacturer Instructions WI-C078	מיקרוסקופ מדידה כיוול סרגלי וסרטי מדידה Measuring microscope Scale and Tape Calibration Unit.
484	A	P	Measuring tape	סרט מדידה	Up to 50] m	42·√(n/2) μm	OIML-R-35 Manufacturer Instructions WI-C064 WI-C078	כיוול סרגלי וסרטי מדידה Scale and Tape Calibration Unit. (n/2) rounded up to integer n in meters
485	A	P;T	Length Length meter	אורך מד אורך	[1 to 1000] m	0.01 m or 0.2 % OR Whichever is greater	WI-C069	Mechanical tachometer (Mode “m”) מונה מטרים
486	A	P;T	Surface Speed Surface Speed meter	מהירות פני השטח מד מהירות פני השטח	[2 to 500] m/min	0.1 m/min or 0.2 % or Whichever is greater	WI-C069	Mechanical tachometer (Mode “m/min”) מד מהירות



Item	Scope Type	Site	Measurand Instrument, Gauge	Range [Including margins] (Does not include margins)	CMC Expressed as an Expanded Uncertainty (95%)	Reference Documents	Remarks
Calibration – Mechanical Quantities - Length					כיוול – גדלים מכניים - אורך		
487	A	P	Test sieves	Nominal aperture size : Up to 0.2 mm]	0.003 mm	ASTM E11 ISO 3310 BS 410 WI-C071	מטול פרופילר, זחון Profile projector, caliper.
488	A	P		(0.2 mm to 1 mm]	0.005 mm		
489	A	P		(1 mm to 5 mm]	0.010 mm		
490	A	P		(5 mm to 15 mm]	0.020 mm		
491	A	P		(15 mm to 30 mm]	0.050 mm		
492	A	P		(Above 30 mm	0.10 mm		
493	A	P:T	Extensometer	[0.01 mm to 50 mm]	0.004 mm	ASTM E83 ISO 9513 ISO 5893 WI-C075	Extensometer calibrator
494	A	P:T	Extensometer (displacement)	[0.01 mm to 1000 mm]	0.006 mm	Manufacturer Instructions WI-C075	High precision dial gauge, Length gauge
495	A	P:T	Length measurements	Up to 125 mm]	0.003 mm	Customer requirements WI-C081	
496	A	P:T		(125 mm to 200 mm]	0.005 mm		
497	A	P:T		(200 mm to 600 mm]	0.007 mm		
498	A	P:T		(600 mm to 2000 mm]	0.05 mm		
499	A	P:T		(2 m to 10 m]	4.6 mm		
500	A	P:T		(10 m to 30 m]	6.8 mm		
501	A	P	Laser distance meter	Up to 2 m	0.74 mm	ISO 16331-1	
502	A	P		(2 m to 10 m]	2 mm	Manufacturer Instructions	
503	A	P		(10 m to 30 m]	2.5 mm	WI-C083	



Item	Scope Type	Site	Measurand Instrument, Gauge	Range [Including margins] (Does not include margins)	CMC Expressed as an Expanded Uncertainty (95%)	Reference Documents	Remarks
Calibration – Physical Quantities - Optics					כיוול – גדלים פיזיקליים - אופטיקה		
504	A	P,T	Optical emitting devices and Meters מכשיר פולט קרינה אופטית ומד קרינה אופטית	Power הספק 3 nW to 3 mW at 270 to 950 nm and 15 μ W to 150 W at 193 nm to 10600 nm	3.5% of Reading	NADCAP AC7114/2 In house procedure Based on: IEC 60825 ISO 13694 WI-C203	
505	A	P,T	Display/controller by optical simulation צג/בקר בסימולציה אופטית	Power הספק [3 nW to 150 W] at [193 nm to 10600 nm]	0.3% of Reading	In house procedure Based on: IEC 60825 ISO 13694 WI-C203	
506	A	P,T	Light emitting devices and Meters מכשיר פולט אור ומד קרינה אופטית	Energy אנרגיה 20 μ J to 4 KJ at 193 to 10600 nm	5% of Reading	In house procedure Based on: IEC 60825 ISO 13694 WI-C203	
507	A	P,T	Optical emitting devices and Meters מכשיר פולט קרינה אופטית ומד קרינה אופטית	Frequency & Time תדר וזמן Up to 0.7 MHz Min. Rise/Fall Time 2 nsec	1 nsec	In house procedure Based on: IEC 60825 ISO 13694 WI-C202	
508	A	P,T	Optical Meters, Spectrometer מד קרינה אופטית, ספקטרומטר	Wavelength אורך גל 25 nm to 3507 nm	2x10 ⁻⁴ nm	In house procedure Based on: IEC 60825 ISO 13694 WI-C200	NIST Atomic Spectra Database
509	A	P,T	Beam profiler מנתח קרן אחידות	3 nW to 150 W at 193 nm to 10600 nm	0.1 %O.R.	In house procedure Based on: IEC 60825 ISO 13694 WI-C205	
510	A	P,T	Linearity לינאריות	3 nW to 150 W at 193 nm to 10600 nm	0.8 %O.R.		
511	A	P,T	Spot size גודל כתם	Up to 300 mm	0.35 %O.R.		



Item	Scope Type	Site	Measurand Instrument, Gauge		Range [Including margins] (Does not include margins)	CMC Expressed as an Expanded Uncertainty (95%)	Reference Documents	Remarks
Calibration – Physical Quantities - Optics						כיוול – גדלים פיזיקליים - אופטיקה		
512	A	P,T	Gloss Meter	מד ברק	[0 GU to 500 GU]	0.72 GU + 1 %O.R.	ISO 2813 ASTM D523 WI-C204	20°, 60°, 85°
513	A	P,T			(500 GU to 2200 GU)	20 GU + 0.5 %O.R.		
514	A	P,T	Gloss Tile	אריח ברק	[0 GU to 500 GU]	0.72 GU + 1 %O.R.	ISO 2813 ASTM D523 WI-C204	20°, 60°, 85°
515	A	P,T			(500 GU to 2200 GU)	20 GU + 0.5 %O.R.		
516	A	P,T	Optical emitting devices and Meters	מכשיר פולט קרינה אופטית ומד קרינה	Wavelength אורך גל 180 nm to 1100 nm	1 nm	In house procedure Based on: IEC 60825 ISO 13694 WI-C200	
517	A	P,T	Light emitting devices and Meters Illuminance	מכשיר פולט אור ומד אור	Visible Light אור נראה 0 lux to 30000 lux	0.5 res or 2.6 % Whichever is greater	NADCAP AC7114/2 In house procedure The CIE 1924 photopic V(λ) luminosity function WI-C201	Calibration can be given in other units as required.
518	A	P,T	Light emitting devices and Meters Luminance	מכשיר פולט אור ומד אור	Visible Light אור נראה 6.85*10-3 cd/m2 to 6000 cd/m2	2.7 % of Reading		



Item	Scope Type	Site	Measurand Instrument, Gauge	Range [Including margins] (Does not include margins)	CMC Expressed as an Expanded Uncertainty (95%)	Reference Documents	Remarks
Calibration – Physical Quantities - Force, Torque					כיוול – גדלים פיזיקליים - כח, מומנט		
519	A	P,T	Force calibration in tension, force measurement machine כיוול כח במתיחה, מכונות למדידת כח	[0.1 kN to 100 kN]	1.5 N/kN of verification force	ISO 7500-1 ASTM E4 Manufacturer instructions WI-C056	מתמר כח Force load cell Calibration can be given in other units as required. 1 N/kN = 0.1%
520	A	T	Force calibration in tension, material testing machine כיוול כח במתיחה, מכונות למדידת כח	[0.1 kN to 500 kN]	2.0 N/kN of verification force		
521	A	P;T	Force calibration in compression, material testing machine כיוול כח בלחיצה, מכונות למדידת כח	[0.1 kN to 1 MN]	2.0 N/kN of verification force		כולל כיוול מכונות בדיקה לפי דרישות תקן ישראלי 26 חלק 4.1
522	A	P;T	Force calibration in compression, material testing machine כיוול כח בלחיצה, מכונות למדידת כח	[1 MN to 2.3 MN]	2.4 N/kN of verification force		
523	A	P;T	Force calibration in tension and compression, push pull force measurement machine כיוול כח בלחיצה ומתיחה, מכונות למדידת כוח	(0.005 N to 1.2 kN)	1.0 N/kN of verification force		משקולות
524	A	P,T	Force calibration in tension, Force gauge Force system כיוול כח במתיחה, מד כוח מערכת כוח	[0.1 kN to 100 kN]	1.5 N/kN of verification force	Manufacturer instructions WI-C056	מתמר כח Force load cell Calibration can be given in other units as required. 1 N/kN = 0.1%
525	A	P;T	Force calibration in compression, מד כוח מערכת כוח	[0.1 kN to 1 MN]	2.0 N/kN of verification force		
526	A	P;T	Force gauge Force system כיוול כח בלחיצה, מד כוח מערכת כוח	[1 MN to 2.3 MN]	2.4 N/kN of verification force		
527	A	P;T	Force calibration in tension and compression using weights, Force gauge Force system כיוול כח במתיחה ולחיצה באמצעות משקולות, מד כוח מערכת כוח	(0.005 N to 1.2 kN)	1.0 N/kN of verification force		משקולות
528	A	P	Force calibration in tension and compression, Proving devices כיוול כח בלחיצה ומתיחה	[0.005 N to 1.2 kN]	0.5 N/kN of verification force	ISO 376 Euramet cg-4	משקולות, מתמר כח
529	A	P	Proving devices תאי (טבעות) כוח	[1 kN to 20 kN]	0.7 N/kN of verification force		



Item	Scope Type	Site	Measurand Instrument, Gauge		Range [Including margins] (Does not include margins)	CMC Expressed as an Expanded Uncertainty (95%)	Reference Documents	Remarks
Calibration – Physical Quantities - Force, Torque						כיוול – גדלים פיזיקליים - כח, מומנט		
530	A	P	Force calibration in compression,	כיוול כח בלחיצה תאי (טבעות) כוח	[20 kN to 1 MN]	1.0 N/kN of verification force		
531	A	P	Proving devices		[1 MN to 2.3 MN]	2.0 N/kN of verification force		
532	A	P	Force calibration in tension, Proving devices	כיוול כח במתיחה תאי (טבעות) כוח	[20 kN to 100 kN]	1.0 N/kN of verification force		
533	A	P,T	Torque Torque wrenches and drivers	מומנט ידית מומנט, מברגת מומנט	[0.01 Nm to 1000 Nm]	0.5 % OR	ISO 6789 BS 7882	מתמרי מומנט קורות כיוול ומשקולות Calibration can be given in other units as required OR – Of Reading Indicated torque Evaluation of the type B uncertainty of the torque tool is based on data acquired from the tool manufacturer or estimated by QCC based on experience of similar equipment.
534	A	P	Torque	מומנט	[0.001 Nm to 0.01 Nm)	0.25 % OR	Euramet cg-14	
535	A	P	Mechanical and Electronic torque calibration equipment	מכשירים למדידת מומנט (מכאניים ואלקטרוניים)	[0.01 Nm to 1000 Nm]	0.1 % OR	Manufacturer's instructions WI-C061	
536	A	T	Torque	מומנט	[0.001 Nm to 0.01 Nm)	0.4 % OR	WI-C041	
537	A	T	Mechanical and Electronic torque calibration equipment	מכשירים למדידת מומנט (מכאניים ואלקטרוניים)	[0.01 Nm to 500 Nm]	0.15 % OR		



Item	Scope Type	Site	Measurand Instrument, Gauge	Range [Including margins] (Does not include margins)	CMC Expressed as an Expanded Uncertainty (95%)	Reference Documents	Remarks
Calibration – Physical Quantities - Humidity					כיוול – גדלים פיזיקליים - לחות		
538	A	P	Relative humidity RH meters	0 °C to 10 °C (5% rh to 50%) rh	1.0 % rh	ASTM-E-104-85 NIS 19 OIML R121 Manufacturer instructions WI-C046	Chilled mirror hygrometer. היגרומטר מד נקודת טל. Humidity and temperature controlled chamber. תא מבוקר לחות וטמפרטורה.
539	A	P	RH data loggers	(50% rh to 80%) rh	1.4 % rh		
540	A	P	RH probes	10 °C to 45 °C (5% rh to 50%) rh	0.8 % rh		
541	A	P	RH transducers	(50% rh to 80%) rh	1.1 % rh		
542	A	P		(80% rh to 95%) rh	1.3 % rh		
543	A	P		45 °C to 60 °C (5% rh to 50%) rh	0.8 % rh		
544	A	P		(50% rh to 80%) rh	1.0 % rh		
545	A	T	Relative humidity RH probes	0 °C to 10 °C [5% rh to 80%) rh	2.0 % rh		Humidity sensors, Humidity and temperature controlled Calibrator
546	A	T	RH chambers RH meters	10 °C to 45 °C [5% rh to 95%) rh	2.0 % rh		
547	A	T		45 °C to 60 °C [5% rh to 80%) rh	2.0 % rh		
548	A	P;T	Relative humidity RH probes	23°C ± 2 °C 5% rh	0.3 % rh		Salt solutions in ampoules as humidity standards.
549	A	P;T		10% rh	0.4 % rh		
550	A	P;T		11.3% rh	0.4 % rh		
551	A	P;T		35% rh	0.45 % rh		
552	A	P;T		50% rh	0.65 % rh		
553	A	P;T		75% rh	0.75 % rh		
554	A	P;T		80% rh	0.75 % rh		



Item	Scope Type	Site	Measurand Instrument, Gauge		Range [Including margins] (Does not include margins)	CMC Expressed as an Expanded Uncertainty (95%)	Reference Documents	Remarks
Calibration – Physical Quantities - Humidity						כיוול – גדלים פיזיקליים - לחות		
555	A	P;T			95% rh	0.85 % rh		
556	A	P;T	Dew point	נקודת טל	[- 40 °C to - 30] °C	0.35 °C		Chilled mirror hygrometer
557	A	P;T	RH meters	לחות יחסית	(- 30 °C to + 50] °C	0.2 °C		היגרומטר מד נקודת טל.
558	A	P;T	RH transducers	מדי לחות מתמרי לחות	(50 °C to 60] °C	0.25 °C		



Item	Scope Type	Site	Measurand Instrument, Gauge		Range [Including margins] (Does not include margins)	CMC Expressed as an Expanded Uncertainty (95%)	Reference Documents	Remarks
Calibration – Physical Quantities - Liquid and Air Flow						כיול – גדלים פיזיקליים – זרימה, נוזל ואוויר		
559	A	P, T	Flowrate	ספיקה	[0.01 L/min to 0.1 L/min]	0.4 % O.R. + 0.0004 L/min	NIST Special publication 250-49	Reference and UUT connected in series
560	A	P, T	Gas flowmeters	מדי ספיקה גזיים	(0.1 L/min to 1 L/min]	0.4 % O.R. + 0.004 L/min	National measurement system - GOOD PRACTICE GUIDE THE CALIBRATION OF FLOW METERS WI-C079	Flow rates values may be converted to other units by taking into account relevant reference conditions. STP conditions: 25°C 1 atm (14.696 psi)
561	A	P, T			(1 L/min to 50 L/min]	0.4 % O.R. + 0.2 L/min		
562	A	P, T			(50 L/min to 500 L/min]	0.4 % O.R. + 2 L/min		



Item	Scope Type	Site	Measurand Instrument, Gauge		Range [Including margins] (Does not include margins)	CMC Expressed as an Expanded Uncertainty (95%)	Reference Documents	Remarks
Calibration – Physical Quantities - Mass						כיוול – גדלים פיזיקליים - מסה		
563	A	P	Mass	מסה	0.001 g	0.0008 mg	OIML R 111-1	מאזני השוואה
564	A	P	Weights	משקולות	0.002 g	0.0009 mg	OIML R 52	Calibration can be given in other units as required. Intermediate value can be calibrated with an uncertainty interpolated from the next higher and lower values in the table.
565	A	P			0.005 g	0.001 mg	ASTM-E-617	
566	A	P			0.01 g	0.0012 mg	WI-C045	
567	A	P			0.02 g	0.0014 mg		
568	A	P			0.05 g	0.0016 mg		
569	A	P			0.1 g	0.0023 mg		
570	A	P			0.2 g	0.003 mg		
571	A	P			0.5 g	0.0036 mg		
572	A	P			1 g	0.0046 mg		
573	A	P			2 g	0.0053 mg		
574	A	P			5 g	0.0068 mg		
575	A	P			10 g	0.017 mg		
576	A	P			20 g	0.018 mg		
577	A	P			50 g	0.021 mg		
578	A	P			100 g	0.033 mg		
579	A	P			200 g	0.049 mg		
580	A	P			500 g	0.23 mg		
581	A	P			1000 g	0.31 mg		
582	A	P			2000 g	0.47 mg		
583	A	P			5000 g	1.9 mg		
584	A	P			10000 g	3 mg		
585	A	P			20000 g	29 mg		
586	A	P					(20 kg to 60 kg]	
587	A	P			(60 kg to 500 kg]	21 g		

Item	Scope Type	Site	Measurand Instrument, Gauge	Range [Including margins] (Does not include margins)	CMC Expressed as an Expanded Uncertainty (95%)	Reference Documents	Remarks
Calibration – Physical Quantities - Mass					כיוול – גדלים פיזיקליים - מסה		
588	A	P;T	Non automatic weighing instruments	מאזניים לא אוטומטיים (Up to 10 mg]	2.5 µg	OIML R76 Manufacturer instructions WI-C044	1. Uncertainties depend on the performance of the weighing machine under calibration. 2. Available weights are: OIML Class E2 from 1 mg to 2 kg, OIML Class F1 from 1 mg to 5 kg, OIML Class F2 from 1 mg to 5 kg, OIML Class M1 from 1 mg to 20 kg, OIML Class M2 from 5 kg to 20 kg, test weights 2 × 500 kg. OIML Class E1 weights can be provided on demand.
589	A	P;T	Resolution 0.001 mg and less	כוסר הפרדה 0.001 mg או נמוך. (10 mg to 500 mg]	5 µg		
590	A	P;T		(500 mg to 2 g]	7 µg		
591	A	P;T		(2 g to 5 g]	10 µg		
592	A	P;T		(5 g to 20 g]	25 µg		
593	A	P;T		(20 g to 50 g]	30 µg		
594	A	P;T	Non automatic weighing instruments	מאזניים לא אוטומטיים (Up to 5 g]	15 µg		
595	A	P;T	Resolution 0.01 mg	כוסר הפרדה 0.01 mg (5 g to 50 g]	40 µg		
596	A	P;T		(50 g to 250 g]	80 µg		
597	A	P;T	Non automatic weighing instruments	מאזניים לא אוטומטיים (Up to 50 g]	0.1 mg		
598	A	P;T	Resolution 0.1 mg	כוסר הפרדה 0.1 mg (50 g to 250 g]	0.2 mg		
599	A	P;T		(250 g to 520 g]	0.4 mg		
600	A	P;T	Non automatic weighing instruments	מאזניים לא אוטומטיים (Up to 620 g]	2 mg		
601	A	P;T	Resolution 0.001 g	כוסר הפרדה 0.001 g (620 g – 2 kg]	3 mg		
602	A	P;T	Non automatic weighing instruments	מאזניים לא אוטומטיים (Up – 5.1 kg]	0.01 g		
603	A	P;T	Resolution 0.01 g	כוסר הפרדה 0.01 g (5.1 kg – 12.1 kg]	0.02 g		
604	A	P;T	Non automatic weighing instruments	מאזניים לא אוטומטיים (0 to 8.1 kg]	0.1 g		
605	A	P;T	Resolution 0.1 g	כוסר הפרדה 0.1 g (8.1 kg to 32 kg]	0.2 g		
606	A	P;T		(32 kg to 64 kg]	0.4 g		



Item	Scope Type	Site	Measurand Instrument, Gauge		Range [Including margins] (Does not include margins)	CMC Expressed as an Expanded Uncertainty (95%)	Reference Documents	Remarks
Calibration – Physical Quantities - Mass						כיוול – גדלים פיזיקליים - מסה		
607	A	P;T	Non automatic weighing instruments	מאזניים לא אוטומטיים	(Up to 50 kg]	1 g		
608	A	P;T	Resolution 0.001 kg	כושר הפרדה 0.001 kg	(50 kg to 150 kg]	2 g		
609	A	P;T	Non automatic weighing instruments	מאזניים לא אוטומטיים	(Up to 200 kg]	10 g		
610	A	P;T	Resolution 0.01 kg	כושר הפרדה 0.01 kg	(200 kg to 500 kg]	20 g		
611	A	P;T	Non automatic weighing instruments	מאזניים לא אוטומטיים	(Up 0 to 1000 kg]	0.1 kg		
612	A	P;T	Resolution 0.1 kg	כושר הפרדה 0.1 kg	(1000 kg to 2000 kg]	0.2 kg		
613	A	P;T	Non automatic weighing instruments Resolution 0.5 kg or more	מאזניים לא אוטומטיים כושר הפרדה 0.5 kg ומעלה	(Up to 10000 kg]	0.5 kg		



Item	Scope Type	Site	Measurand Instrument, Gauge		Range [Including margins] (Does not include margins)	CMC Expressed as an Expanded Uncertainty (95%)	Reference Documents	Remarks
Calibration – Physical Quantities - Pressure						כיוול - גדלים פיזיקליים – לחץ		
614	A	P;T	Pneumatic pressure, Gauge. Pressure indicating instruments and gauges Differential pressure	לחץ פניאומאטי, יחסי מדידי לחץ פניאומאטיים לחץ הפרשי	[-1.25 kPa to 1.25 kPa]	0.7 Pa/kPa OR + 0.05 Pa	OIML-R 101 Euramet cg 17 Manufacturer instructions WI-C047 WI-C068	Druck 610LP 1 Pa/kPa = 0.1%
615	A	P	Pneumatic pressure Absolute. Pressure indicating instruments and gauges	לחץ פניאומאטי, אבסולוטי מדידי לחץ פניאומאטיים	[1.6 kPa to 7 MPa]	0.10 Pa/kPa OR + 1 Pa		Ruska 2465-754
616	A	P	Pneumatic pressure, Gauge. Pressure indicating instruments and gauges	לחץ פניאומאטי, יחסי מדידי לחץ פניאומאטיים	[1.6 kPa to 7 MPa]	0.10 Pa/kPa OR + 0.35 Pa		Ruska 2465-754
617	A	P	Pneumatic pressure, Gauge Dead weight tester. Effective area of pneumatic dead weight tester piston	לחץ פניאומאטי, יחסי כיוול שטח אפקטיבי של בוכנת מאזני לחץ פניאומאטיים	[1.6 kPa to 7 MPa]	0.10 Pa/kPa OR + 0.35 Pa	Euramet cg 3 Manufacturer instructions WI-C068	Ruska 2465-754 Dead weight tester to be supplied with its mass set Calibration by means of cross float method
618	A	P	Hydraulic pressure, (gauge) Pressure indicating instruments and gauges	לחץ הידראולי מדידי לחץ	[0.6 MPa to 121 MPa]	0.20 Pa/kPa	OIML-R 101 Euramet cg 17 Manufacturer instructions WI-C068 WI-C047	DH-Budenberg 580HX
619	A	P	Hydraulic pressure, Dead weight tester. Effective area of hydraulic dead weight tester piston	לחץ הידראולי כיוול שטח אפקטיבי של בוכנת מאזני לחץ הידראוליים	[0.6 MPa to 121 MPa]	0.20 Pa/kPa	Euramet cg 3 Manufacturer instructions WI-C068	DH-Budenberg 580HX Dead weight tester to be supplied with its mass set Calibration by means of cross float method



Item	Scope Type	Site	Measurand Instrument, Gauge		Range [Including margins] (Does not include margins)	CMC Expressed as an Expanded Uncertainty (95%)	Reference Documents	Remarks
Calibration – Physical Quantities - Pressure						כיוול - גדלים פיזיקליים – לחץ		
620	A	T	Pneumatic pressure Absolute Pressure indicating instruments and gauges	לחץ פניאומאטי, אבסולוטי מדידי לחץ פניאומאטיים	[1.6 kPa to 0.7 MPa]	1.5 Pa/kPa	OIML-R 101 Euramet cg 17 BHS-IP2 ISO 81060-2 Manufacturer instructions WI-C047	Druck 610 Druck 603 Druck 104 CONTEC MS200
621	A	T	Pneumatic pressure Gauge Pressure indicating instruments and gauges	לחץ פניאומאטי, יחסי מדידי לחץ פניאומאטיים	[1.6 kPa to 7 MPa]	1.0 Pa/kPa		
622	A	T	Hydraulic pressure (gauge) Pressure indicating instruments and gauges	לחץ הידראולי מדידי לחץ	[0.6 MPa to 70 MPa]	1.0 Pa/kPa		



Item	Scope Type	Site	Measurand Instrument, Gauge	Range [Including margins] (Does not include margins)	CMC Expressed as an Expanded Uncertainty (95%)	Reference Documents	Remarks
Calibration – Physical Quantities - Temperature					כיוול – גדלים פיזיקליים - טמפרטורה		
623	A	P	Liquid in glass thermometers	[- 80 °C to – 30 °C]	0.15 °C	ISO 1770	אמבטיות כיוול
624	A	P		(- 30 °C to 0 °C]	0.1 °C	ISO 1771	תרמומטר אב PRT
625	A	P		0 °C	0.01 °C	ISO 386	
626	A	P		(0 °C to 250 °C]	0.08 °C	JIS 7411	
627	A	P		(250 °C to 550 °C]	0.5 °C	JIS 7412	
628	A	T		[-40 °C to 150 °C]	1.0 °C	JIS 7542	
629	A	T		0 °C	0.05 °C	ASTM E563	
630	A	T		(150 °C to 250 °C]	2.0 °C	ASTM E77	
631	A	P	Resistance thermometers	-196 °C	0.02 °C	BS 593	Liquid nitrogen/ air or other gas/ Ethanol/Water/Salt/ Dry block
632	A	P	PRT	[- 90 °C to -80 °C)	0.2 °C	BS 1704	PRT may calibrated with its indicator. The uncertainty will be dependent on the indicator performance.
633	A	P	Measurement by comparison	[- 80 °C to 250 °C]	0.02 °C	Manufacturer instructions	כולל סעיף 10.3 מתוך נוהל משרד הבריאות מס' 126
634	A	P		(250 °C to 550 °C]	0.05 °C	WI-C063	Calibration of SPRT/PRT/Thermistors etc. מערכות למדידת טמפרטורה
635	A	P		(550 °C to 661 °C]	0.3 °C		By WTP
636	A	P		0.01 °C	0.006 °C		
637	A	T	PRT	-196 °C	0.1 °C		Liquid nitrogen/ air or other gas/ Ethanol/Water/Salt/ Dry block
638	A	T	Measurement by comparison	(- 196 °C to – 90 °C)	0.5 °C		PRT may calibrated with its indicator. The uncertainty
639	A	T		[- 90 °C to – 40 °C]	0.3 °C		



Item	Scope Type	Site	Measurand Instrument, Gauge		Range [Including margins] (Does not include margins)	CMC Expressed as an Expanded Uncertainty (95%)	Reference Documents	Remarks
Calibration – Physical Quantities - Temperature						כיוול – גדלים פיזיקליים - טמפרטורה		
640	A	T			[- 40 °C to 140 °C]	0.1 °C		will be dependent on the indicator performance.
641	A	T			(140 °C to 250 °C]	0.3 °C		
642	A	T			(250 °C to 661 °C]	0.5 °C		כולל סעיף 10.3 מתוך נוהל משרד הבריאות מס' 126
								Calibration of SPRT/PRT/Thermistors etc. מערכות למדידת טמפרטורה
643	A	P	TC base metal	צמידים תרמיים מתכות בסיסיות	-196 °C	0.14 °C	ASTM-E-230	Liquid nitrogen/ air or other gas/ Ethanol/ Dry block TC may calibrated with its indicator. The uncertainty will be dependent on the indicator performance.
644	A	P	Measurement by comparison		[- 90 °C to -80 °C)	0.2 °C	ASTM-E-220	
645	A	P			[- 80 °C to 250 °C]	0.14 °C	ITS-90	
646	A	P			(250 °C to 550 °C]	0.4 °C	Manufacturer instructions	
647	A	P			(550 °C to 1100 °C]	1 °C	WI-C065	
648	A	P			(1100°C to 1300 °C]	2.2 °C		
649	A	T			-196 °C	0.3 °C		
650	A	T			(- 196 °C to – 90 °C)	0.5 °C		
651	A	T			[- 90 °C to -40 °C]	0.5 °C		
652	A	T			[- 40 °C to 250 °C]	0.3 °C		
653	A	T			(250 °C to 550 °C]	0.5 °C		כולל סעיף 10.3 מתוך נוהל משרד הבריאות מס' 126
654	A	T			(550 °C to 1100 °C]	1.5 °C		כולל סעיפים, 3.3.2, 3.3.1, 3.3 מתוך תקן ישראלי 1291
655	A	T			(1100 °C to 1300 °C]	2.3 °C		

Item	Scope Type	Site	Measurand Instrument, Gauge		Range [Including margins] (Does not include margins)	CMC Expressed as an Expanded Uncertainty (95%)	Reference Documents	Remarks
Calibration – Physical Quantities - Temperature						כיוול – גדלים פיזיקליים - טמפרטורה		
656	A	P	TC noble metal	צמידים תרמיים מתכות אצילות	[0 °C to 250 °C]	0.14 °C	ASTM-E-230	TC may calibrated with its indicator. The uncertainty will be dependent on the indicator performance. Liquid nitrogen/ air or other gas/ Ethanol/ Dry block TC may calibrated with its indicator. The uncertainty will be dependent on the indicator performance.
657	A	P	Measurement by comparison		(250 °C to 550 °C)	0.4 °C	ASTM-E-220	
658	A	P			(550 °C to 1100 °C)	1 °C	ITS-90	
659	A	P			(1100°C to 1300 °C)	1.6 °C	Manufacturer instructions	
660	A	T			[0 °C to 250 °C]	0.3 °C	WI-C065	
661	A	T			(250 °C to 550 °C)	0.5 °C		
662	A	T			(550 °C to 1100 °C)	1.5 °C		
663	A	T			(1100 °C to 1300 °C)	1.8 °C		
664	A	P;T	Temperature controlled chambers	תאים מבוקרי טמפרטורה מקפיאים, אינקובטורים אוטוקלבים, תנורים כולל בדיקת אחידות	[-196 °C to -90 °C)	0.8 °C	DKD-R-5-7	TC, PRT, Data logger
665	A	P;T	Furnaces, Freezers,		[-90°C to -45 °C)	0.5 °C	DIN 12880	
666	A	P;T	Incubators, Autoclaves		[-45 °C to 70 °C)	0.25 °C	Manufacturer instructions	
667	A	P;T	Including uniformity		[70 °C to 151 °C)	0.5 °C	WI-C062	
668	A	P;T			[151 °C to 300 °C)	0.7 °C		
669	A	P;T			(300 °C to 550 °C)	1 °C		
670	A	P;T			(550 °C to 1100 °C)	2.5 °C		
671	A	P;T			[1100 °C to 1300 °C]	3.5 °C		
672	A	P;T	Bathes	אמבט כולל בדיקת אחידות	[-196 °C to 251 °C]	0.03 °C	Manufacturer instructions	SPRT, PRT
673	A	P;T	Including uniformity		(251 °C to 550 °C)	0.09 °C	WI-C062	
674	A	P;T	Dry block calibrator	תנור בלוק יבש	[–110 °C to 300 °C]	0.05 °C	EURAMET cg-13	PRT
675	A	P;T			(300 °C to 550 °C)	0.2 °C	Manufacturer instructions	
676	A	P,T			(550°C to 661°C]	0.3 °C	WI-C062	

Item	Scope Type	Site	Measurand Instrument, Gauge		Range [Including margins] (Does not include margins)	CMC Expressed as an Expanded Uncertainty (95%)	Reference Documents	Remarks
Calibration – Physical Quantities - Temperature						כיוול – גדלים פיזיקליים - טמפרטורה		
677	A	P;T			(661 °C to 1000 °C]	0.7 °C		
678	A	P;T			(1000 °C to 1300 °C]	2 °C		
679	A	P;T	Tube furnace	תנור כיוול צינורי	[300 °C to 661 °C]	0.2 °C	Manufacturer instructions	PRT,TC
680	A	P;T	Including uniformity	כולל בדיקת אחידות	(661 °C to 1100 °C]	1.2 °C	WI-C062	
681	A	P;T			(1100 °C to 1300 °C]	2.5 °C		
682	A	P;T	Temperature indicators, controllers, recorders and simulators for the resistance sensors	מדִי, רשמי ומדמי טמפרטורה עבור מדי התנגדות	-200 °C to 800 °C	0.01 °C	EURAMET cg-11 Manufacturer instructions WI-C067 WI-C100	Calibration by means of electrical calibration,
683	A	P;T	Temperature indicators, controllers, recorders and simulators for the base metal thermocouples	מדִי, רשמי ומדמי טמפרטורה עבור צמדִים תרמיִים מתכות בסיסיות	-200 °C to 1380 °C	0.2 °C	EURAMET cg-11 Manufacturer instructions WI-C067 WI-C100	Calibration by means of electrical calibration, including cold junction compensation
684	A	P;T	Temperature indicators, controllers, recorders and simulators for the noble metal thermocouples	מדִי, רשמי ומדמי טמפרטורה עבור צמדִים תרמיִים מתכות אצילות	0 °C to 500 °C	0.5 °C	EURAMET cg-11 Manufacturer instructions	Calibration by means of electrical calibration,
685	A	P;T			500 °C to 1800 °C	0.3 °C	WI-C067 WI-C100	including cold junction compensation
686	A	P	Temperature, Infrared Thermometers,	טמפרטורה מדי טמפרטורת קרינה	[30 °C to 100 °C]	0.6 °C	ASTM E2847 Manufacturer instructions	IR Calibrator
687	A	P			(100 °C to 200 °C]	1.0 °C	WI-C080	
688	A	P			(200 °C to 350 °C]	1.7 °C		
689	A	P			(350 °C to 500 °C]	2.5 °C		



Item	Scope Type	Site	Measurand Instrument, Gauge	Range [Including margins] (Does not include margins)	CMC Expressed as an Expanded Uncertainty (95%)	Reference Documents	Remarks
Calibration – Small (up to 2L) Volume Volumetric Instruments					כיוול – כיוול מכשירים וולומטריים – נפחים קטנים עד 2 ליטר		
690	A	P	Liquid volume, Piston-operated volumetric apparatus	Nominal value		ISO 8655- Part 1,2,3,4,5,6 ISO/TR 20461 Manufacturer instructions WI-C074	מתקן נפח מופעל בוכנה POVA Intermediate volumes may be calibrated with uncertainty as for the higher volume value
691	A	P		1 µl	0.030 µl		
692	A	P		2 µl	0.040 µl		
693	A	P		5 µl	0.050 µl		
694	A	P		10 µl	0.060 µl		
695	A	P		20 µl	0.080 µl		
696	A	P		50 µl	0.21 µl		
697	A	P		100 µl	0.27 µl		
698	A	P		200 µl	0.72 µl		
699	A	P		500 µl	1.3 µl		
700	A	P		1000 µl	1.8 µl		
701	A	P		2000 µl	5.4 µl		
702	A	P		5000 µl	9.6 µl		
703	A	P		10000 µl	15 µl		
704	A	P		20000 µl	20 µl		
705	A	P		25000 µl	25 µl		
				50000 µl	35 µl		