Schedule of Accreditation

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Accredited to ISO/IEC 17025:2017

Southern Calibration Laboratories Limited

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Calibration performed by the Organisation at the locations specified

Locations covered by the organisation and their relevant activities

Laboratory location:

Location details		Activity	Location code
Address Unit 7 Solent Industrial Estate Hedge End Southampton SO30 2FX	**Local contact** Mr S C Sparks Tel: +44 (0)1489 790296 Fax: +44 (0)1489 790294 E-Mail: info@southcal.co.uk Website: www.southcal.co.uk	Electrical Temperature Dimensional	Lab

Site activities performed away from the locations listed above:

Location details	Activity	Location code
The customers' site or premises must be suitable for the nature of the particular calibrations undertaken and will be the subject of contract review arrangements between the laboratory and the customer.	Temperature Humidity	Site

Calibration and Measurement Capability (CMC)

Measured Quantity Instrument or Gauge	Range	Expanded Measurement Uncertainty (k = 2)	Remarks	Location Code
ELECTRICAL CALIBRATION				
DC VOLTAGE			By comparison with a voltage standard, using voltage ratio techniques.	Lab
Specific Values	1.018 V	1.5 μV	This uncertainty can only be achieved with temperature controlled cells of suitable stability.	
	0.1 V 1 V 10 V 100 V 1 kV	1.9 μV/V 0.80 μV/V 0.80 μV/V 0.80 μV/V 0.95 μV/V		
Other Values	0 mV to 100 mV 100 mV to 1.1 V 1.1 V to 11 V 11 V to 1 kV	0.37 μV 1.0 μV 0.77 μV/V + 2.4 μV 0.95 μV/V		
	1 kV to 2 kV 2 kV to 40 kV	0.20 % + 0.12 V 0.20 % + 12V	Using DC kilovolt meter.	
DC VOLTAGE RATIO	Unity to 10^{-7}	2.6 x 10^{-7} of input	Input voltage range 1 V to 100 V. Using voltage ratio techniques.	Lab
DC RESISTANCE				
Measurement and Generation	0.01 Ω 0.1 Ω 1 Ω 10 Ω 100 Ω 1 kΩ 10 kΩ 100 kΩ 1 MΩ 10 MΩ	28 μΩ/Ω 7.2 μΩ/Ω 3.8 μΩ/Ω 2.9 μΩ/Ω 2.1 μΩ/Ω 2.7 μΩ/Ω 2.6 μΩ/Ω 4.7 μΩ/Ω 10 μΩ/Ω 25 μΩ/Ω	Fixed values for the calibration of measuring instruments. Potentiometric comparison with standard resistors.	Lab
Generation only	100 MΩ 1 GΩ 10 GΩ 100 GΩ 1 TΩ	200 μΩ/Ω 0.45 % 0.45 % 0.75 % 2.75 %	Fixed resistance values for calibration of measuring instruments. The applied voltage will normally be in the range 100 V to 500 V.	Lab

Measured Quantity Instrument or Gauge	Range	Expanded Measurement Uncertainty (k = 2)	Remarks	Location Code
DC RESISTANCE (continued)				
Measurement only	0 Ω to 20 Ω 20 Ω to 20 kΩ 20 kΩ to 200 kΩ 200 kΩ to 2 MΩ 2 MΩ to 20 MΩ 20 MΩ to 100 MΩ	110 μΩ 7.0 μΩ/Ω 10 μΩ/Ω 15 μΩ/Ω 20 μΩ/Ω 300 μΩ/Ω	Using digital multimeter.	Lab
DC CURRENT	0 μA to 100 μA 100 μA to 1 mA 1 mA to 10 mA 10 mA to 100 mA 0.1 A to 1 A 1 A to 10 A 10 A to 100 A	3.5 μA/A + 300 pA 3.5 μA/A + 2.5 nA 3.0 μA/A + 26 nA 13 μA/A + 0.26 μA 18 μA/A + 3.0 μA 25 μA/A + 30 μA 0.12 % + 2.0 mA	Voltage and resistance method.	Lab
	100 A to 1000 A	0.15 % + 250 mA	For the calibration of clamp meters and similar devices, using multi-turn coild technique.	
Specific Value	100 A	0.032 %	Using current shunt.	
AC VOLTAGE	*10 Hz to 200 kHz* 0.9 mV to 3.5 mV 3.5 mV to 10 mV 10 mV to 35 mV 35 mV to 90 mV	 0.20 % 0.10 % 0.055 % 0.035 %	Using alternating voltage measurement standard. Both measurement and generation may be undertaken, however generation will be limited to a minimum of 45 Hz above 100 V.	Lab
	200 kHz to 500 kHz 0.9 mV to 3.5 mV 3.5 mV to 10 mV 10 mV to 35 mV 35 mV to 90 mV	 0.40 % 0.21 % 0.16 % 0.090 %		
	0.5 MHz to 1 MHz 0.9 mV to 3.5 mV 3.5 mV to 10 mV 10 mV to 35 mV 35 mV to 900 mV	 0.75 % 0.52 % 0.40 % 0.25 %		
	10 Hz to 30 kHz 90 mV to 100 V 100 V to 1.1 kV	 60 μV/V 80 μV/V		
	90 mV to 350 mV *30 kHz to 200 kHz* *200 kHz to 500 kHz* *500 kHz to 1 MHz*	 200 μV/V 450 μV/V 0.12 %		

Measured Quantity Instrument or Gauge	Range	Expanded Measurement Uncertainty (k = 2)	Remarks	Location Code
AC VOLTAGE (continued)	0.35 V to 35 V *30 kHz to 200 kHz*	110 μV/V		Lab
	0.35 V to 35 V *200 kHz to 500 kHz* *500 kHz to 1 MHz*	0.040 % 0.11 %		
	35 V to 100 V *30 kHz to 100 kHz*	85 μV/V		
	50 Hz 1 kV to 2 kV 2 kV to 20 kV	0.40 % + 0.12 V 0.40 % + 12 V	Using AC kilovolt meter.	
AC RESISTANCE	*50 Hz* 0.06 Ω, 0.1 Ω, 0.2 Ω, 0.5 Ω, 1 Ω, 5 Ω 10 Ω, 100 Ω and 1 kΩ	0.60 % + 30 mΩ	For calibration of loop testers, using dedicated calibrator.	Lab
	50 Hz 0.05 Ω, 0.1 Ω, 0.2 Ω, 0.5 Ω	1.5 %	Earth bond resistance using dedicated calibrator.	
AC CURRENT	*40 Hz to 3 kHz* 1 μA to 2 mA	0.020 % + 50 nA	Voltage and resistance method.	Lab
	40 Hz to 1 kHz 2 mA to 6 mA	0.070 %		
	40 Hz to 10 kHz 6 mA to 10 mA 18 mA to 30 mA 60 mA to 100 mA 180 mA to 300 mA 600 mA to 1A 1.8 A to 3 A 6 A to 10 A	 0.025 % 0.025 % 0.025 % 0.025 % 0.025 % 0.025 % 0.025 %	Using AC/DC transfer technique. Other values within this range may also be calibrated but with an uncertainty of: 0.060 %.	
	50 Hz 10 A to 100 A	0.15 % + 20 mA	Using current shunt.	
	50 Hz 100 A to 1000 A	0.30 % + 250 mA	For the calibration of clamp meters and similar devices, using multi-turn coil technique.	
Specific Value	*50 Hz* 100 A	0.12 %	Using current shunt.	Lab

Measured Quantity Instrument or Gauge	Range	Expanded Measurement Uncertainty (k = 2)	Remarks	Location Code
FREQUENCY	1 mHz to 10 kHz	1.0 in 10^7	Using off air receiver and counter timer	Lab
	10 kHz to 100 MHz	1.2 in 10^8		
Tachometer calibration	10 RPM to 90000 RPM	0.010 % + 0.010 RPM	Calibration of optical tachometers.	Lab
TIME INTERVAL	1 ns to 100 ms 100 ms to 1 s 1 s to 100 s	4.0 ns 4.0 in 10^8 1.4 in 10^8	Additional uncertainties may be necessary depending on the specific characteristics of the input waveform.	Lab
Timer and stopwatch calibrations	10 s to 9 999.99 s 10 s to 999.99 s 999.99 s to 9 999.99 s	0.15 s 0.050 s 0.075 s	 Automatic triggering Manual triggering	 Lab
CALIBRATIONS IN SUPPORT OF 17TH AND 18TH EDITION TEST EQUIPMENT			Using dedicated calibrator.	Lab
RESISTANCE				
Continuity				
	100 mΩ to 4.99 Ω 5 Ω to 29.9 Ω 30 Ω to 199.9 Ω 200 Ω to 499 Ω 500 Ω to 1.999 kΩ 2 kΩ to 4.99 kΩ 5 kΩ to 10 kΩ	0.30 % + 25 mΩ 0.20 % + 25 mΩ 0.20 % + 25 mΩ 0.20 % 0.20 % 0.20 % 0.20 %	2 wire	
	100 mΩ to 4.99 Ω 5 Ω to 29.9 Ω 30 Ω to 199.9 Ω 200 Ω to 499 Ω 500 Ω to 1.999 kΩ 2 kΩ to 4.99 kΩ 5 kΩ to 10 kΩ	0.30 % + 10 mΩ 0.20 % + 10 mΩ 0.20 % + 10 mΩ 0.20 % 0.20 % 0.20 % 0.20 %	4 wire	
Insulation				
	10 kΩ to 999.9 kΩ 1 MΩ to 9.999 MΩ 10 MΩ to 200 MΩ 200 MΩ to 999.9 MΩ 1 GΩ to 10 GΩ 100 GΩ	0.20 % 0.30 % 0.50 % 0.80 % + 6.0 kΩ 1.3 % 4.5 %		
Terminal Voltage loaded				
	0 V to 2 kV, >1 MΩ 0 V to 2 kV, <1 MΩ	1.0 % + 5.0 V 1.0 % + 2.0 V		
Test Current	1 µA to 9.9 mA	1.5 %		

Measured Quantity Instrument or Gauge	Range	Expanded Measurement Uncertainty (k = 2)	Remarks	Location Code
CALIBRATIONS IN SUPPORT OF 17TH AND 18TH EDITION TEST EQUIPMENT (continued)				
Earth Bond Resistance				Lab
Nominal values	25 mΩ, 50 mΩ and 100 mΩ 330 mΩ 500 mΩ 1 Ω 1.8 Ω 5 Ω 10 Ω 18 Ω 50 Ω 100 Ω 180 Ω 500 Ω 1 kΩ 500 Ω	5.0 mΩ 7.0 mΩ 8.0 mΩ 10 mΩ 18 mΩ 30 mΩ 60 mΩ 100 mΩ 300 mΩ 500 mΩ 1.0 Ω 2.5 Ω 5.0 Ω 10 Ω		
Earth bond current	25 mA to 30 A DC 20 Hz to 400 Hz AC	1.6% + 2.0 mA	Offset may be increased to 0.70 A depending on the load	
Line/Loop Impedance	25 mΩ, 50 mΩ and 100 mΩ 330 mΩ 500 mΩ 1 Ω 1.8 Ω 5 Ω 10 Ω 18 Ω 50 Ω 100 Ω 180 Ω 500 Ω 1 kΩ 500 Ω	5.0 mΩ 7.0 mΩ 8.0 mΩ 10 mΩ 18 mΩ 30 mΩ 60 mΩ 100 mΩ 300 mΩ 500 mΩ 1.0 Ω 2.5 Ω 5.0 Ω 10 Ω		
Leakage Current	30 mA to 100 mA	0.40 % + 2.5 µA		
RCD Current	3 mA to 3000 mA 3 mA to 1500 mA 3 mA to 600 mA	1.2 % 2.3 % 5.8 %		
RCD Trip time	10 ms to 5 s	0.020 % + 0.25 ms		
Line/Touch Voltage	Nominal 250 V	5.0 % + 3.0 V		

Measured Quantity Instrument or Gauge	Range	Expanded Measurement Uncertainty (k = 2)	Remarks	Location Code
VOLTAGE			Using dedicated calibrator	Lab
AC Voltage	*40 Hz to 400 Hz*		Output values for calibration of measuring instruments	
	3 V to 30 V	0.10 % + 9.0 mV		
	30 V to 100 V	0.10 % + 30 mV		
	100 V to 300 V	0.10 % + 90 mV		
	300 V to 600 V	0.10 % + 180 mV		
DC Voltage	3 V to 30 V	0.10 % + 9.0 mV		
	30 V to 150 V	0.10 % + 45 mV		
	150 V to 600 V	0.10 % + 180 mV		
FREQUENCY	40 Hz to 400 Hz	0.020 %		
DC Voltage	0 V to 10 V	0.16 % + 5.0 mV	For the measurement of electrical outputs.	
	10 V to 100 V	0.20 % + 50 mV		
	100 V to 1100 V	0.20 % + 640 mV		
AC Voltage	*20 Hz to 400 Hz*			
	0 V to 10 V (rms)	0.18 % + 6.0 mV		
	10 V to 100 V (rms)	0.20 % + 55 mV		
	100 V to 1 100 V (rms)	0.20 % + 640 mV		
CURRENT				
DC Current	0.1 mA to 300 mA	0.16 % + 0.15 mA		
	300 mA to 3 A	0.20 % + 1.5 mA		
	3 A to 30 A	0.40 % + 15 mA		
AC Current	*20 Hz to 400 Hz*			
	0.1 mA to 300 mA	0.20 % + 0.17 mA		
	300 mA to 3 A	0.20 % + 1.7mA		
	3 A to 30 A	0.40 % + 18 mA		
APPARENT POWER				
DC and 20 Hz to 400 Hz	0 kVA to 33 kVA	The sum of the corresponding Voltage and Current uncertainties.		
HiPoT LEAKAGE CURRENT				
DC				
	0 µA to 300 µA	0.40 % + 2.5 µA		
	300 µA to 3 mA	0.40 % + 2.5 µA		
	3 mA to 30 mA	0.40 % + 2.5 µA		
	30 mA to 300 mA	0.20 % + 170 uA		

Measured Quantity Instrument or Gauge	Range	Expanded Measurement Uncertainty (k = 2)	Remarks	Location Code
HiPoT LEAKAGE CURRENT				Lab
AC	*20 Hz to 400 Hz* 2.5 µA to 300 µA 300 µA to 3 mA 3 mA to 30 mA 30 mA to 300 mA	 0.40 % + 2.5 µA 0.40 % + 2.5 µA 0.40 % + 2.5 µA 0.20 % + 170 uA		
TEMPERATURE SIMULATION				
Temperature indicators and simulators: Calibration by electrical simulation			The temperature range of each thermocouple type is limited to values listed in the prevailing ITS 90 tables	
Base metal thermocouples				
K, J, T and E N	-200 °C to -100 °C -200 °C to -100 °C	0.13 °C 0.15 °C	Excluding UUT internal reference junction.	Lab
K, J, T, E and N	-100 °C to +1300 °C	0.060 °C		
Noble Metal Thermocouples	0 °C to 1760 °C	0.25 °C		
K, J, T and E N	-200 °C to -100 °C -200 °C to -100 °C	0.15 °C 0.20 °C	Including UUT internal reference junction.	Lab
K ,J ,T, E and N	-100 °C to +1300 °C	0.15 °C		Lab
Noble Metal Thermocouples	0 °C to 1760 °C	0.70 °C		Lab
Resistance thermometer (Pt 100)	-200 °C to 420 °C 420 °C to 850 °C	0.015 °C 0.018 °C	Resistance method.	Lab
Calibration of internal reference junctions	15 °C to 25 °C	0.11 °C	The UUT will be stabilised to the prevailing ambient temperature.	Lab
Base metal thermocouple Depending on type	-200 °C to +1372 °C	0.35 °C	Including cold junction compensation	Site
Noble metal thermocouple R and S type	-50 °C to +1786 °C	0.50 °C	Including cold junction compensation	Site
Resistance thermometer (Pt 100)	-200 °C to +850 °C	0.15 °C	Resistance method.	Site

Measured Quantity Instrument or Gauge	Range	Expanded Measurement Uncertainty (k = 2)	Remarks	Location Code
DIMENSIONAL CALIBRATION by comparison with a reference instrument				
RANGE IN MILLIMETRES AND UNCERTAINTY IN MICROMETERS, UNLESS OTHERWISE STATED				
In addition to the items listed other similar items, including parts of measuring instruments and machines, may be calibrated in accordance with the stated uncertainties. Where the item or part calibrated is of lower quality due to wear, errors in geometry or form, poor surface texture, or where any other factor that adversely affects the measurement capability, greater uncertainties may be assigned. All linear calibrations can be also be provided in inch units.				
LENGTH				
	Diameter:			
Plain plug gauges (parallel) cylindrical setting standards, and rollers	0.1 to 10 10 to 150 150 to 200 200 to 250 250 to 300	0.50 1.0 1.3 1.6 1.9		Lab
	Diameter:			
Plain ring gauge (parallel) and setting standards	2 to 50 50 to 150 150 to 250 250 to 300	1.5 2.0 3.0 4.0		Lab
Length gauges, flat and spherical setting standards	0 to 575	1.0 + (8.0 x length in m)		Lab
Plain gap gauges (parallel)	As BS 969:2008 0.5 to 100 100 to 200 200 to 300	 3.0 5.0 8.0		Lab
	Diameter:	Pitch diameter		
Screw plug gauges (parallel) including check and setting plugs	1 to 100	3.0	Single start, symmetrical thread forms only.	Lab
Screw ring gauges (parallel)	2.5 to 100 100 to 150	5.0 7.0	Single start, symmetrical thread forms only.	Lab
Screw thread pitch	0.2 to 8	1.5		Lab
Screw thread flank angle	0° to 5°	5.0 minutes of arc		Lab
Graduated rules	As BS 4372:1968 and above 0 to 2000	5.0 + (10 x length in m)		Lab

Measured Quantity Instrument or Gauge	Range	Expanded Measurement Uncertainty (k = 2)	Remarks	Location Code
LENGTH (continued)				
Parallels	As BS 906:1972 5 to 50 x 100 x 400	Dependent on size and grade 1.5 to 5.0		Lab
Receiver and position gauges, jigs, fixtures	Maximum dimensions 0 to 400 x 200 x 75	Dependent on size and features Minimum per coordinate 3.0 + (20 x length in m)		Lab
ANGLE				
Sine bars and tables	As BS 3064:1978 100 to 300	Linear dimensions 1.0 + (10 x length in m) Overall performance 3.0 seconds of arc.		Lab
Angle plates and box angle plates	As BS 5535:1978 50 to 600	Squareness: 3.0 + (1.0 per 100 mm) Parallelism: 1.0 + (1.0 per 100 mm)	The quoted CMCs are 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.	Lab
MEASURING INSTRUMENTS AND MACHINES				
Micrometers External	As BS 870:2008 0 to 600	Heads: 2.0 between any two points. Setting and extension rods: 1.0 + (8.0 x length in m)		Lab
Internal	As BS 959:2008 0 to 1000			Lab
Depth	As BS 6468:2008 0 to 300			Lab
Height setting micrometer	0 to 300	Heads 1.5 Stepped column 2.5 Overall performance 3.0		Lab
Riser blocks for above	150 300	2.5 5.0		Lab
Vernier gauges Caliper	As BS 887:2008 0 to 1000	Overall performance: 10 + (30 x length in m)		Lab

Measured Quantity Instrument or Gauge	Range	Expanded Measurement Uncertainty (k = 2)	Remarks	Location Code
MEASURING INSTRUMENTS AND MACHINES (continued)				
Calliper gauges including vernier, dial and digital types	ISO 13385-1 2019 Partial surface contact error (E) 0 to 1000 mm Shift error (S) internal jaws 3 to 50 mm Shift error (S) depth and step 3 to 50 mm	 2 + (10 x length in m) 4 4	Calibration by comparison to length standards The stated uncertainty has been calculated in accordance With ISO 14253-5 and relates to the test value uncertainty. The uncertainty quoted Excludes contributions relating the instrument under test.	Lab
Height	As ISO13225:2012 BS 1643:2008 (withdrawn) 0 to 1000	Overall performance: 15 + (8.0 x length in m)		Lab
Depth	As BS 6365:2008 0 to 600	Overall performance: 10 + (30 x length in m)		Lab
Dial gauges and dial test indicators	As BS 907:2008 and BS 2795:1981 0 to 50	 1.0		Lab
Bench micrometers	As NPL MOY/SCMI 22 0 to 100	Overall performance 2.0		Lab
Comparators (external)	As BS 1054:1975 250 to 10 000 magnifications	1.0 % of range; minimum 0.20		Lab
Feeler gauges	As BS 957:2008 0.02 to 1	3.0		Lab
Bore Indicators	0 to 150 diameter	Overall performance 5.0		Lab
ANCILLARY MEASUREMENTS				Lab
Flatness		0.7	Ancillary measurements made for completeness of calibration. Best CMC's are dependent on methodology and range.	
Parallelism		1.8		
Squareness		1.8		

Measured Quantity Instrument or Gauge	Range	Expanded Measurement Uncertainty (k = 2)	Remarks	Location Code
TEMPERATURE calibration by comparison with a reference instrument				
Resistance Thermometers	-95 °C to +140 °C 140 °C to 425 °C 425 °C to 660 °C	0.067 °C 0.14 °C 0.19 °C	Calibrating by comparison in a Dry Block	Lab
	0 °C	0.020 °C	Ice point	Lab
Platinum Thermocouples	0 °C to 140 °C 140 °C to 660 °C	1.4 °C 1.1 °C	Calibrating by comparison in a Dry Block	Lab
	300 °C to 1100 °C 1100 °C to 1200 °C	3.3 °C + 0.020 % of value 4.0 °C + 0.020 % of value	Calibrating by comparison in a furnace.	
Base Metal Thermocouples	-95 °C to -50 °C -50 °C to 0 °C 0 °C to 425 °C 425 °C to 660 °C	0.75 °C 0.55 °C 0.40 °C 0.45 °C	Calibrating by comparison in a Dry Block.	Lab
	300 °C to 1100 °C 1100 °C to 1200 °C	3.3 °C + 0.050 % of value 4.0 °C + 0.050 % of value	Calibrated by comparison in a furnace	
Electronic thermometers with sensors	Ranges as for above sensors	as for sensor		Lab
Temperature controlled, incubators, ovens, environmental chambers, fridges/refrigerators, freezers and liquid baths.	-90 °C to -50 °C -50 °C to 0 °C 0 °C to 250 °C	0.90 °C 0.75 °C 0.70 °C	Single and multipoint time dependent temperature profiling, also referred to as spatial temperature surveying or mapping.	Site
Temperature indicators and recorders, load probes and monitoring thermometers. Autoclaves oven, liquid baths, freezers fridges etc	0°C -50 °C to +140 °C 140 °C to 400 °C 400 °C to 650 °C 650 °C to 1050 °C	0.020 °C 0.10 °C 0.15 °C 2.3 °C 3.6 °C	Calibrated within various dry block calibrators, ice point equipment or in a chamber. For a customer supplied environment the uncertainty will depend on the stability of the environment.	Site
Time Interval calibration by comparison	0 s to 5400 s	2.0 s	Relating to the timer functions of chambers and autoclaves.	Site

Measured Quantity Instrument or Gauge	Range	Expanded Measurement Uncertainty (k = 2)	Remarks	Location Code
RELATIVE HUMIDITY				
Relative humidity, calibration by comparison	20 °C to 25 °C 26 %rh to 98 %rh	3.4% of reading +0.50 %rh		Site
	25 °C to 35 °C 20 %rh to 98 %rh	3.3% of reading		
	35 °C to 40 °C 11 %rh to 98 %rh	3.3% of reading		
	40 °C to 85 °C 8 %rh to 88 %rh	3.1% of reading		
Dew Point	0 °C to 82 °C	0.40 °C		Site
Temperature measurement Associated with dew point meter	0 °C to 82 °C	0.40 °C		Site
END				

Appendix - Calibration and Measurement Capabilities

Introduction

The definitive statement of the accreditation status of a calibration laboratory is the Accreditation Certificate and the associated Schedule of Accreditation. This Schedule of Accreditation is a critical document, as it defines the measurement capabilities, ranges and boundaries of the calibration activities for which the organisation holds accreditation.

Calibration and Measurement Capabilities (CMCs)

The capabilities provided by accredited calibration laboratories are described by the Calibration and Measurement Capability (CMC), which expresses the lowest uncertainty of measurement that can be achieved during a calibration. If a particular device under calibration itself contributes significantly to the uncertainty (for example, if it has limited resolution or exhibits significant non-repeatability) then the uncertainty quoted on a calibration certificate will be increased to account for such factors. The CIPM-ILAC definition of the CMC is as follows:

The CMC is normally used to describe the uncertainty that appears in an accredited calibration laboratory's schedule of accreditation and is the uncertainty for which the laboratory has been accredited using the procedure that was the subject of assessment. The measurement uncertainty is calculated according to the procedures given in the GUM and is normally stated as an expanded uncertainty at a coverage probability of 95 %, which usually requires the use of a coverage factor of $k = 2$. An accredited laboratory is not permitted to quote an uncertainty that is smaller than the published measurement uncertainty in certificates issued under its accreditation.

Expression of CMCs - symbols and units

It should be noted that the percentage symbol (%) represents the number 0.01. In cases where the CMC is stated only as a percentage, this is to be interpreted as meaning percentage of the measurand.

Thus, for example, a measurement uncertainty of 1.5 % means $1.5 \cdot 0.01 \cdot q$, where q is the quantity value.

The notation Q[a, b] stands for the root-sum-square of the terms between brackets: $Q[a, b] = [a^2 + b^2]^{1/2}$