


Schedule of Accreditation

issued by

United Kingdom Accreditation Service

2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

 <p>0394</p> <p>Accredited to ISO/IEC 17025:2017</p>	<h3>Trescal Limited (Trescal EMS – Rolls-Royce)</h3> <p>Issue No: 060 Issue date: 13 April 2021</p>	
	<p>Trescal EMS Unit 2, Riverside Road Pride Park Derby DE24 8HY</p>	<p>Contact: Matt Gypps Tel: +44 (0) 1942 761226 Fax: +44 (0) 2476 623626 E-Mail: matt.gypps@trescal.com Website: www.trescal.com</p>
<p>Calibration performed by the Organisations at the locations specified below</p>		

Locations covered by the organisation and their relevant activities

Laboratory locations:

Location details	Activity	Location code
<p>Address (Pride Park) Trescal EMS Unit 2, Riverside Road Pride Park Derby DE24 8HY</p> <p>Local contact Trevor Smith Tel: +44 (0) 1332 238102 Email: Trevor.smith@trescal.com</p>	<p>Dimensional Electrical Humidity Temperature Torque</p>	Pride Park
<p>Address (Ansty) Trescal EMS – Rolls-Royce Standards Room Building 6 Ansty Coventry CV7 9JR</p> <p>Local contact David Williams Tel: +44 (0) 2476 623625 Fax: +44 (0) 2476 623626 Email: David.williams2@rolls-royce.com</p>	<p>Torque Pressure</p>	Ansty
<p>Address (Inchinnan) Trescal EMS – Rolls-Royce Inchinnan Drive Inchinnan Renfrewshire PA4 9AF</p> <p>Local contact Robert Simpson Tel: +44 (0) 141 626 8540 Email: Robert.simpson@trescal.com</p>	<p>Dimensional Torque</p>	Inchinnan
<p>Address (Washington) Trescal EMS – Rolls-Royce Calibration Laboratory Radial Park Road Washington Tyne and Wear NE38 9DA</p> <p>Local contact Robert Simpson Steve Jones Tel: +44 (0) 191 297 3023 Email: Robert.simpson@trescal.com</p>	<p>Dimensional Torque</p>	Washington



0394
Accredited to
ISO/IEC 17025:2017

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Trescal Limited (Trescal EMS - Rolls-Royce)
Issue No: 060 Issue date: 13 April 2021

Calibration performed by the Organisation at the locations specified

Locations covered by the organisation and their relevant activities

Laboratory locations:

Location details		Activity	Location code
Address (Bristol) Trescal EMS – Rolls-Royce Metrology Laboratory (EW6/7) PO Box 3 Filton Bristol BS34 7QE	Local contact Mr M Viney Tel: +44 (0) 117 979 6099 Fax: +44 (0) 117 979 5038 Email: michael.viney@rolls-royce.com	Fuel Flow Torque	Bristol
Address (Solihull) Rolls-Royce Derwent Building 5000 Solihull Parkway Birmingham Business Park Birmingham B37 7YP	Local contact Jim Attwooll Tel +44 (0) 121 2732781 Email: jim.attwooll@rolls-royce.com	Electrical DC&LF Dimensional	Solihull

Site activities performed away from the locations listed above:

All Rolls-Royce sites: The 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.	Local contact Trevor Smith Tel: +44 (0) 1332 238102 Email: Trevor.smith@trescal.com	Form Electrical	Site
--	---	--	------



0394
Accredited to
ISO/IEC 17025:2017

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Trescal Limited (Trescal EMS - Rolls-Royce)
Issue No: 060 Issue date: 13 April 2021

Calibration performed by the Organisation at the locations specified

DETAIL OF ACCREDITATION

Measured Quantity Instrument or Gauge	Range	Calibration and Measurement Capability (CMC) Expressed as an Expanded Uncertainty ($k = 2$)	Remarks	Location Code	
LENGTH				Pride Park	
RANGE IN MILLIMETRES AND UNCERTAINTY IN MICROMETRES UNLESS OTHERWISE STATED					
Thread measuring cylinders	BS3777:1964 and BS 5590:1978 and specials 0.1 to 5.0 diameter	0.50 on diameter	<p>NOTES</p> <p>1 In addition to all items in the first column, other similar items, including parts of measuring instruments and machines, may be calibrated in accordance with the stated CMCs. Where the item or part calibrated is of lower quality due to wear, errors in geometry or form, or poor surface texture, or where any other factor adversely affects the measurement capability, greater uncertainties will be quoted.</p> <p>2 The uncertainty quoted is for the departure from flatness, straightness, or squareness, i.e. the distance separating the two parallel planes which just enclose the surface under consideration.</p> <p>3 All linear calibrations may be given in inch units.</p> <p>4 Single start symmetrical thread forms only.</p> <p>5 Single start symmetrical thread forms only.</p> <p>6 By comparison with end standards using a length measuring machine.</p>		
Plain plug gauges (parallel), cylindrical setting standards, gear measuring cylinders and rollers. See Note 6	1 to 50 diameter 50 to 100 100 to 150 150 to 200 200 to 300	0.50 0.80 1.0 1.2 1.6			on diameter
Plain ring gauges (parallel) and setting standards	CCP 2.3.2, issue 11 1 to 50 diameter 50 to 100 diameter 100 to 150 diameter 150 to 200 diameter	0.80 1.2 1.8 2.5			on diameter
Length gauges, flat and spherical ended See Note 6	0 m to 3 m	1.0 + (5.0 x length in m)			
Length bars Inspection and workshop grades 1 and 2	BS 1790:1961 BS 5317:1976	0.45 + (1.1 x length in m)			
Plain gap gauges (parallel)	BS 969:2008 0.5 to 100 100 to 200 200 to 300	3.0 5.0 8.0			
Screw plug gauges (parallel) including check and setting plugs See Notes 5 and 6	1 to 100 diameter 100 to 300 diameter	2.5 5.0			On pitch diameter
Screw ring gauges (parallel) See Notes 4 and 6	5 to 75 diameter 100 to 150 diameter 150 to 300 diameter	4.0 5.0 8.0			
Screw pitch	0.2 to 8	1.5		Using a length measuring machine.	
Screw flank angle	0° to 50°	5.0 minutes of arc		Using a projector.	
Parallels	BS 906:Parts 1 and 2:1992 5 to (50 x 100 x 400)	1.5 to 5.0			



0394
Accredited to
ISO/IEC 17025:2017

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Trescal Limited (Trescal EMS - Rolls-Royce)
Issue No: 060 Issue date: 13 April 2021

Calibration performed by the Organisation at the locations specified

Measured Quantity Instrument or Gauge	Range	Calibration and Measurement Capability (CMC) Expressed as an Expanded Uncertainty ($k = 2$)	Remarks	Location Code
LENGTH (continued)				Pride Park
RANGE IN MILLIMETRES AND UNCERTAINTY IN MICROMETRES UNLESS OTHERWISE STATED				
Gauge blocks		Class (see note)	Note	
Inch (Steel)	BS 4311-1:2007 0 in to 0.4 in 0.4 in to 1 in Size 2 in 3 in 4 in	C D 3.0 μ in 4.0 μ in 4.0 μ in 5.0 μ in 5.0 μ in 6.0 μ in 7.0 μ in	Class C uncertainties apply to the measurement of length by comparison with grade K standards of a similar material. Class D uncertainties apply to the measurement of length by comparison with grade K standards of a dissimilar material.	
Millimetre (Steel)	BS EN ISO 3650:1999 0 to 10 10 to 25 Size 30, 40, 50 60, 70, 75 80, 90, 100	C D 0.080 0.10 0.10 0.13 0.12 0.15 0.18	The uncertainties apply to new and used grade 0, 1 and 2 gauges to BS EN ISO 3650:1999 and BS 4311-1:2007.	
Vee blocks	BS 3731:1987 20 to 150 diameter, Vee capacity	2.5 to 5.0		
Receiver, position and profile gauges, jigs, fixtures	1500 x 750 x 750 1500 x 3200 x 1100	From first principles: Dependant on size and features Minimum per co-ordinate: 3.0 + (10 x length in m) Using CMM: Dependant on size and features Minimum per co-ordinate: 5.0 + (10 x length in m)		
ANGLE				
Squares				
Blade type	BS 939:2007, CCP 2.4.17 issue 10 50 to 300 300 to 600	3.0 5.0		
Cylindrical	BS 939:2007, CCP 2.4.17 issue 10 75 to 300 300 to 600	2.0 On squareness 4.0 See Note 2		



0394
Accredited to
ISO/IEC 17025:2017

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Trescal Limited (Trescal EMS - Rolls-Royce)
Issue No: 060 Issue date: 13 April 2021

Calibration performed by the Organisation at the locations specified

Measured Quantity Instrument or Gauge	Range	Calibration and Measurement Capability (CMC) Expressed as an Expanded Uncertainty ($k = 2$)	Remarks	Location Code
ANGLE (continued)				Pride Park
RANGE IN MILLIMETRES AND UNCERTAINTY IN MICROMETRES UNLESS OTHERWISE STATED				
Block	BS 939:2007 50 to 300 300 to 600	3.0 5.0		
Angle gauges	NPL type Other types	2.0 seconds of arc 3.0 seconds of arc	In-house methods based on MOY/SCMI/18	
Sine bars and tables	BS 3064:1978 100 to 500 length	Linear dimensions: 1.0 + (10 x length in m) Overall performance: 3.0 seconds of arc		
Sine centres	100 to 500 length or between centres	Linear dimensions: 1.0+ (10 x length in m) Overall performance 5.0 seconds of arc	In-house methods based on BS 3064:1978	
Compound sine tables	100 to 500 length			
FORM				
Straightedges Cast iron Steel Granite	BS 5204:Part 1:1975 and BS 5204:Part 2:1977 0 m to 2m	1.0 + (2.0 x length in m) See Note 2		
Roundness External Internal	BS 3730:Part 2:1982 0 to 350 diameter 3 to 350 diameter	0.050 on radius 0.050 on radius		
Steel balls	1 to 25 diameter	0.50 on diameter	By comparison with end standards using a length measuring machine.	
MEASURING INSTRUMENTS AND MACHINES				
Micrometers				
External	BS 870:2008, CCP 2.4.1 issue 12 0 to 600	Heads: 2.0 Setting and Extension rods:		
Internal	BS 959:2008 0 to 300	1.0		
Depth	BS 6468:2008 0 to 300	+ (5.0 x length in m)		
Micrometer heads	BS 1734:1951; 0 to 100	1.0		
Bench micrometer	0 to 100	Overall performance 1.0	In-house method based on MOY/SCMI/22	



0394
Accredited to
ISO/IEC 17025:2017

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Trescal Limited (Trescal EMS - Rolls-Royce)
Issue No: 060 Issue date: 13 April 2021

Calibration performed by the Organisation at the locations specified

Measured Quantity Instrument or Gauge	Range	Calibration and Measurement Capability (CMC) Expressed as an Expanded Uncertainty ($k = 2$)	Remarks	Location Code
MEASURING INSTRUMENTS AND MACHINES (continued)				Pride Park
RANGE IN MILLIMETRES AND UNCERTAINTY IN MICROMETRES UNLESS OTHERWISE STATED				
Height setting micrometer	0 to 300	Heads 1.0 Stepped column 1.6 Overall performance 2.0	By comparison with end standards.	
Riser Blocks	150 300	1.0 2.0	By comparison with end standards.	
Height gauges - (Simple) including vernier, dial and digital types	BS EN ISO 13225:2012 0 to 300	4.0		
Vernier gauges				
Caliper Height	BS 887:2008 BS 1643:2008 0 to 1200	Overall performance: 10 + (30 x length in m)		
Depth	BS 6365:2008 0 to 600			
Dial gauges and dial test indicators	BS 907:2008 and BS 2795:1981 0 to 50	1.0		
Dividing heads and Rotary tables	100 to 750 capacity	Linear dimensions 1.0 + (10 x length in m) Overall angular performance 3.0 seconds of arc	By comparison, using angle standards and autocollimator.	
Spirit levels	BS 958:1968 and BS 3509:1962 Nominal sensitivity 5 seconds of arc to 60 minutes of arc	Mean sensitivity: 10 % of nominal; minimum 0.50 seconds of arc		
Clinometers	0° to 360°	10 seconds of arc	In-house method based on MOY/SCMI/36	
Levels, electronic	0 seconds of arc to 10 minutes of arc	1.0 % of range minimum 0.50 seconds of arc	The quoted uncertainty will be particularly dependent on the sensitivity of the device. Using small angle generator.	
Orifice plates	BS EN ISO 5167-2:2003 (and similar devices) Bore d diameter 1.0 mm to 1 m	4.0 + (6.0 x length in m)		



0394
Accredited to
ISO/IEC 17025:2017

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Trescal Limited (Trescal EMS - Rolls-Royce)
Issue No: 060 Issue date: 13 April 2021

Calibration performed by the Organisation at the locations specified

Measured Quantity Instrument or Gauge	Range	Calibration and Measurement Capability (CMC) Expressed as an Expanded Uncertainty ($k = 2$)	Remarks	Location Code
TORQUE Hand torque tools (excluding torque screwdrivers)	BS EN ISO 6789:2017 And BS EN ISO 6789:2003 (withdrawn and superseded) and CCP 3.6.6 Issue 9.0 1.0 N·m to 1000 N·m	1.0 %	The quoted uncertainty will be particularly dependent on the repeatability of the unit under test.	



0394
Accredited to
ISO/IEC 17025:2017

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Trescal Limited (Trescal EMS - Rolls-Royce)
Issue No: 060 Issue date: 13 April 2021

Calibration performed by the Organisation at the locations specified

Measured Quantity Instrument or Gauge	Range	Calibration and Measurement Capability (CMC) Expressed as an Expanded Uncertainty ($k = 2$)	Remarks	Location Code		
ELECTRICAL MEASUREMENTS						
DC VOLTAGE						
Measurement	Up to 200 mV 200 mV to 2 V 2 V to 20 V 20 V to 200 V 200 V to 1 000 V	6.5 ppm + 1.3 μ V 5.1 ppm 6.1 ppm 9.4 ppm 9.6 ppm	The stated CMCs are for a four-terminal configuration and may be increased if a two-terminal configuration is necessary.	Pride Park		
Generation	0 mV to 2 mV 2 mV to 20 mV 20 mV to 200 mV 200 mV to 2 V 2 V to 20 V 20 V to 200 V 200 V to 1100 V	1.3 μ V 1.3 μ V 1.3 μ V 2.8 ppm + 0.90 μ V 2.2 ppm + 2.5 μ V 3.2 ppm + 39 μ V 5.6ppm + 0.39 mV				
DC RESISTANCE						
Measurement	0 Ω to 20 Ω 20 Ω to 200 Ω 200 Ω to 200 k Ω 200 k Ω to 2 M Ω 2 M Ω to 20 M Ω 20 M Ω to 200 M Ω 200 M Ω to 2 G Ω	30 ppm + 20 μ Ω 13 ppm 14 ppm 24 ppm 55 ppm 450 ppm 0.50%				
Generation						
Four terminal configuration	10 Ω 100 Ω 1 k Ω 10 k Ω 100 k Ω 1 M Ω 10 M Ω 100 M Ω	5.7 ppm 3.9 ppm 3.6 ppm 3.2 ppm 4.5 ppm 10 ppm 19 ppm 65 ppm				
Two terminal configuration	0 Ω , 10 Ω and 100 Ω 1 k Ω 10 k Ω 100 k Ω 1 M Ω 10 M Ω 100 M Ω	10 m Ω 79 ppm 8.3 ppm 4.5 ppm 10 ppm 19 ppm 65 ppm				



0394
Accredited to
ISO/IEC 17025:2017

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Trescal Limited (Trescal EMS - Rolls-Royce)
Issue No: 060 Issue date: 13 April 2021

Calibration performed by the Organisation at the locations specified

Measured Quantity Instrument or Gauge	Range	Calibration and Measurement Capability (CMC) Expressed as an Expanded Uncertainty ($k = 2$)	Remarks	Location Code
DC CURRENT				Pride Park
Measurement	10 μ A to 200 μ A 200 μ A to 200 mA 200 mA to 2 A	100 ppm 100 ppm 170 ppm		
Generation	10 μ A to 200 μ A 200 μ A to 2 mA 2 mA to 20 mA 20 mA to 200 mA 200 mA to 2 A	22 ppm + 1.6 nA 15 ppm + 7.8 nA 15 ppm + 78 nA 15 ppm + 0.78 μ A 26 ppm + 16 μ A		
AC VOLTAGE				
Measurement	10 mV to 200 mV 10 Hz to 10 kHz 10 kHz to 30 kHz 30 kHz to 50 kHz	390 ppm 640 ppm 0.17%		
	200 mV to 2 V 10 Hz to 10 kHz 10 kHz to 30 kHz 30 kHz to 50 kHz	190 ppm 270 ppm 870 ppm		
	2 V to 20 V 10 Hz to 10 kHz 10 kHz to 30 kHz 30 kHz to 50 kHz	180 ppm 270 ppm 870 ppm		
	20 V to 200 V 10 Hz to 10 kHz 10 kHz to 30 kHz 30 kHz to 50 kHz	190 ppm 270 ppm 870 ppm		
	200 V to 300 V 40 Hz to 10 kHz 10 kHz to 30 kHz	250 ppm 390 ppm		
	300 V to 1 kV 40 Hz to 10 kHz 10 kHz to 30 kHz	0.11 % 0.12 %		
	200 V to 1 kV 30 kHz to 50 kHz	0.20 %		



0394
Accredited to
ISO/IEC 17025:2017

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Trescal Limited (Trescal EMS - Rolls-Royce)
Issue No: 060 Issue date: 13 April 2021

Calibration performed by the Organisation at the locations specified

Measured Quantity Instrument or Gauge	Range	Calibration and Measurement Capability (CMC) Expressed as an Expanded Uncertainty ($k = 2$)	Remarks	Location Code
AC VOLTAGE (continued)				Pride Park
Generation	1 mV to 2 mV 20 Hz to 100 kHz	0.74% + 4.2 μ V		
	2 mV to 20 mV 20 Hz to 100 kHz	0.032% + 4.2 μ V		
	20 mV to 200 mV 20 Hz to 50 kHz 50 kHz to 100 kHz 100 kHz to 300 kHz 300 kHz to 1 MHz	130 ppm + 7.0 μ V 0.044% 0.17% 0.83%		
	200 mV to 2 V 10 Hz to 20 Hz 20 Hz to 50 kHz 50 kHz to 100 kHz 100 kHz to 300 kHz 300 kHz to 1 MHz	310 ppm 89 ppm 180 ppm 0.13 % 0.52%		
	2 V to 20 V 10 Hz to 20 Hz 20 Hz to 50 kHz 50 kHz to 100 kHz 100 kHz to 300 kHz 300 kHz to 1 MHz	290 ppm 73 ppm 240 ppm 0.12% 0.52%		
	20 V to 200 V 10 Hz to 20 Hz 20 Hz to 50 kHz 50 kHz to 100 kHz	220 ppm 100 ppm 200 ppm		
	200 V to 1 kV 45 Hz to 33 kHz	130 ppm		
AC CURRENT				
Measurement	40 Hz to 1 kHz: 10 μ A to 200 μ A 200 μ A to 200 mA 200 mA to 2 A	370 ppm + 16 nA 840 ppm 660 ppm + 310 μ A		
Generation	40 Hz to 1 kHz: 10 μ A to 200 μ A 200 μ A to 2 mA 2 mA to 20 mA 20 mA to 200 mA 200 mA to 2 A	90 ppm + 7.8 nA 85 ppm + 78 nA 85 ppm + 0.78 μ A 110 ppm + 7.8 μ A 370 ppm + 78 μ A		



0394
Accredited to
ISO/IEC 17025:2017

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Trescal Limited (Trescal EMS - Rolls-Royce)
Issue No: 060 Issue date: 13 April 2021

Calibration performed by the Organisation at the locations specified

Measured Quantity Instrument or Gauge	Range	Calibration and Measurement Capability (CMC) Expressed as an Expanded Uncertainty ($k = 2$)	Remarks	Location Code
FREQUENCY				Pride Park
Specific Values	1 MHz and 10 MHz	1.2 parts in 10^9	For calibrating oscillators	
Other Values	0.1 Hz to 1 Hz 1 Hz to 10 Hz 10 Hz to 100 Hz 100 Hz to 1 kHz 1 kHz to 10 kHz 10 kHz to 100 kHz 100 kHz to 1 MHz 1 MHz to 60 MHz 60 MHz to 100 MHz 100 MHz to 150 MHz 150 MHz to 500 MHz	1.5 parts in 10^3 1.5 parts in 10^4 1.5 parts in 10^5 1.5 parts in 10^6 1.5 parts in 10^7 1.7 parts in 10^8 3.9 parts in 10^9 2.5 parts in 10^9 1.2 parts in 10^9 2.4 parts in 10^9 1.4 parts in 10^9	Measurement capability only above 60 MHz	
ELAPSED TIME				
Stop watches (mechanical and electronic)	± 0.5 s error / 24 hours ± 2.0 s error / 24 hours 10 s to 24 hours	0.062 s 0.090 s 0.41 s	Time reference measurement per 24 hour period per 24 hour period Real time measurement	
TEMPERATURE SIMULATION				
Temperature indicators and simulators (thermocouple type), calibration by electrical simulation				
Base metal thermocouples	Type J, -210 °C to 0 °C Type J, 0 °C to 1200 °C Type K, -270 °C to -200 °C Type K, -200 °C to 0 °C Type K, 0 °C to 1370 °C Type N, -270 °C to -200 °C Type N, -200 °C to 0 °C Type N, 0 °C to 1300 °C Type T, -270 °C to -200 °C Type T, -200 °C to 0 °C Type T, 0 °C to 400 °C	0.064 °C 0.018 °C 0.23 °C 0.070 °C 0.022 °C 0.62 °C 0.084 °C 0.027 °C 0.19 °C 0.070 °C 0.020 °C	excluding cold junction compensation excluding cold junction compensation excluding cold junction compensation excluding cold junction compensation	



0394
Accredited to
ISO/IEC 17025:2017

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Trescal Limited (Trescal EMS - Rolls-Royce)
Issue No: 060 Issue date: 13 April 2021

Calibration performed by the Organisation at the locations specified

Measured Quantity Instrument or Gauge	Range	Calibration and Measurement Capability (CMC) Expressed as an Expanded Uncertainty ($k = 2$)	Remarks	Location Code
Temperature indicators and simulators (thermocouple type), calibration by electrical simulation (continued)				Pride Park
Cold junction compensation	At ambient temperature of 20 °C ± 2.0 °C	0.13 °C		
Base metal thermocouples	Type J, -210 °C to 0 °C	0.14 °C	including cold junction compensation	
	Type J, 0 °C to 1200 °C	0.13 °C		
	Type K, -270 °C to -200 °C	0.24 °C	including cold junction compensation	
	Type K, -200 °C to 0 °C	0.15 °C		
	Type K, 0 °C to 1370 °C	0.13 °C		
Type N, -270 °C to -200 °C	Type N, -200 °C to 0 °C	0.53 °C	including cold junction compensation	
	Type N, -200 °C to 0 °C	0.15 °C		
	Type N, 0 °C to 1300 °C	0.13 °C		
Type T, -270 °C to -200 °C	Type T, -200 °C to 0 °C	0.21 °C	including cold junction compensation	
	Type T, -200 °C to 0 °C	0.15 °C		
	Type T, 0 °C to 400 °C	0.13 °C		
Noble metal thermocouples	-50 °C to 0 °C	0.19 °C	excluding cold junction compensation	
	0 °C to 250 °C 250 °C to 1760 °C	0.17 °C 0.089 °C		
Cold junction compensation	At ambient temperature of 20 °C ± 2 °C	0.17 °C		
Temperature indicators and simulators (thermocouple type), calibration by electrical simulation				
Noble metal thermocouples	-50 °C to 0 °C	0.24 °C	including cold junction compensation	
	0 °C to 250 °C	0.22 °C		
	250 °C to 1760 °C	0.18 °C		
PRT simulation (Pt 100)	-200 °C to 0 °C	0.017 °C		
	0 °C to 100 °C	0.018 °C		
	100 °C to 400 °C	0.020 °C		
	400 °C to 630 °C	0.023 °C		
	630 °C to 850 °C	0.026 °C		



0394
Accredited to
ISO/IEC 17025:2017

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Trescal Limited (Trescal EMS - Rolls-Royce)
Issue No: 060 Issue date: 13 April 2021

Calibration performed by the Organisation at the locations specified

Measured Quantity Instrument or Gauge	Range	Calibration and Measurement Capability (CMC) Expressed as an Expanded Uncertainty ($k = 2$)	Remarks	Location Code
TEMPERATURE				Pride Park
Thermocouples				
Base metal	-20 °C to +200 °C	0.45 °C	Calibration within both liquid and metal medium	
Noble metal	-20 °C to 200 °C	0.92 °C	Calibration within both liquid and metal medium	
Resistance thermometers	-20 °C to +200 °C	0.070 °C	Calibration within both liquid and metal medium	
Electronic thermometers with sensors; analogue or digital	Ranges as per sensor	As per sensor type	Calibration within both liquid and metal medium	
HUMIDITY			By comparison with dew-point hygrometer and Platinum Resistance Thermometers	
Dew point	-10 °C to 0 °C 0 °C to 20 °C	0.12 °C dp 0.10 °C dp		
Relative Humidity	5 %rh to 95 %rh	2.0 %rh	At air temperature 5 °C to 60 °C	
Air Temperature	5 °C to 60 °C	0.4 °C		
PRESSURE			Methods consistent with EURAMET CG3	Ansty
Hydraulic pressure (Gauge)				
Pressure indicating instruments and gauges	600 kPa to 120 MPa	0.010 %	Calibration of pressure measuring devices with an electrical output may be undertaken.	
Pneumatic pressure (Gauge)				
Pressure indicating instruments and gauges	3.70 kPa to 3.5 MPa	0.010 %		
Pneumatic pressure (Absolute)				
Pressure indicating instruments and gauges	3.70 kPa to 3.5 MPa 75 kPa to 120 kPa	0.010 % + 5.0 Pa 17 Pa		



0394
Accredited to
ISO/IEC 17025:2017

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Trescal Limited (Trescal EMS - Rolls-Royce)
Issue No: 060 Issue date: 13 April 2021

Calibration performed by the Organisation at the locations specified

Measured Quantity Instrument or Gauge	Range	Calibration and Measurement Capability (CMC) Expressed as an Expanded Uncertainty ($k = 2$)	Remarks	Location Code
TORQUE Hand torque tools LENGTH	CCP 3.6.6 issue 9.0 0.113 N-m to 1356 N-m	1.0 %	The quoted uncertainty will be particularly dependent on the repeatability of the unit under test.	Ansy
RANGE IN MILLIMETRES AND UNCERTAINTY IN MICROMETRES UNLESS OTHERWISE STATED				Inchinman
Thread measuring cylinders	BS3777:1964 and BS 5590:1978 and specials 0.1 to 5.0 diameter	0.50 on diameter	By comparison with end standards using a length measuring machine.	
Plain plug gauges (parallel), cylindrical setting standards, gear measuring cylinders and rollers	1 to 50 diameter 50 to 100 diameter 100 to 150 diameter	0.50 0.80 1.0 on diameter		
Plain ring gauges (parallel) and setting standards	CCP 2.3.2 1 to 50 diameter 50 to 100 diameter 100 to 150 diameter	0.80 1.2 1.8 on diameter	By comparison with end standards using a length measuring machine	
Length gauges, flat and spherical ended	0 m to 1 m	1.0 + (5.0 x length in m)		
Plain gap gauges (parallel)	BS 969:2008 0.5 to 100 100 to 200	3.0 5.0		
Screw plug gauges (parallel) excluding check and setting plugs	1 to 100 diameter	2.5 on pitch diameter	Single start symmetrical thread forms only. By comparison with end standards using a length measuring machine.	



0394
Accredited to
ISO/IEC 17025:2017

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Trescal Limited (Trescal EMS - Rolls-Royce)
Issue No: 060 Issue date: 13 April 2021

Calibration performed by the Organisation at the locations specified

Measured Quantity Instrument or Gauge	Range	Calibration and Measurement Capability (CMC) Expressed as an Expanded Uncertainty ($k = 2$)	Remarks	Location Code
RANGE IN MILLIMETRES AND UNCERTAINTY IN MICROMETRES UNLESS OTHERWISE STATED				
MEASURING INSTRUMENTS AND MACHINES				
LENGTH				
Micrometers				
External	BS 870:2008, CCP 2.4.1 issue12 0 to 300	Heads: 2.0 Setting and Extension rods: 1.0 + (5.0 x length in m)		
Internal	BS 959:2008 0 to 300			
Depth	BS 6468:2008 0 to 300			
Vernier gauges				
Caliper	BS 887:2008 0 to 300	Overall performance: 10 + (30 x length in m)		
Height	BS 1643:2008 0 to 300			
Depth	BS 6365:2008 0 to 300			




0394
Accredited to
ISO/IEC 17025:2017

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Trescal Limited (Trescal EMS - Rolls-Royce)
Issue No: 060 Issue date: 13 April 2021

Calibration performed by the Organisation at the locations specified

Measured Quantity Instrument or Gauge	Range	Calibration and Measurement Capability (CMC) Expressed as an Expanded Uncertainty ($k = 2$)	Remarks	Location Code
MEASURING INSTRUMENTS AND MACHINES (continued)				Inchman
LENGTH (continued)				
RANGE IN MILLIMETRES AND UNCERTAINTY IN MICROMETRES UNLESS OTHERWISE STATED				
Dial gauges and dial test indicators	BS 907:2008 and BS 2795:1981 0 to 50	1.0 	The quoted uncertainty will be particularly dependent on the repeatability of the unit under test	Inchman
TORQUE Hand torque tools	CCP 3.6.6 issue 9.0 0.136 N·m to 677.91 N·m	1.0 %		
LENGTH				
RANGE IN MILLIMETRES AND UNCERTAINTY IN MICROMETRES UNLESS OTHERWISE STATED				
Micrometers External	BS 870:2008, CCP 2.4.1 issue12 0 to 600	Heads: 2.0 Setting and Extension rods: 1.0 + (5.0 x length in m)		Washington
Internal Depth	BS 959:2008; 0 to 150 BS 6468:2008; 0 to 150			
Vernier gauges Caliper Depth	BS 887:2008; 0 to 600 BS 6365:2008; 0 to 150	Overall performance: 10 + (30 x length in m)		
Dial gauges and dial test indicators	BS 907:2008 and BS 2795:1981 0 to 50	1.5		



0394
Accredited to
ISO/IEC 17025:2017

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Trescal Limited (Trescal EMS - Rolls-Royce)
Issue No: 060 Issue date: 13 April 2021

Calibration performed by the Organisation at the locations specified

Measured Quantity Instrument or Gauge	Range	Calibration and Measurement Capability (CMC) Expressed as an Expanded Uncertainty ($k = 2$)	Remarks	Location Code
TORQUE Hand torque tools	CCP 3.6.6 issue 9.0 0.1 N-m to 1000 N-m	1.0 %	The quoted uncertainty will be particularly dependent on the repeatability of the unit under test	Washington
FUEL FLOW Flow rate - volume Flow rate - mass	5 l/hr to 27000 l/hr 4 kg/hr to 21330 kg/hr	0.10 % 0.20 %	Piston prover method Calibration fluid AVTUR (Aviation fuel)	Bristol
TORQUE Hand torque tools	CCP 3.6.6 issue 9.0 0.1 N-m to 1000 N-m	1.0 %	The quoted uncertainty will be particularly dependent on the repeatability of the unit under test	Bristol
ELECTRICAL MEASUREMENTS DC RESISTANCE Measurement	0 Ω to 20 Ω 20 Ω to 200 Ω 200 Ω to 2 k Ω 2 k Ω to 20 k Ω 20 k Ω to 200 k Ω 200 k Ω to 2 M Ω 2 M Ω to 20 M Ω 20 M Ω to 200 M Ω 200 M Ω to 1 G Ω	28 ppm + 25 $\mu\Omega$ 16 ppm + 100 $\mu\Omega$ 13 ppm + 1.0 m Ω 13 ppm + 10 m Ω 16 ppm + 100 m Ω 27 ppm + 2.0 Ω 75 ppm + 100 Ω 500 ppm + 12 k Ω 1.0 % + 1.1 M Ω		Southall
DC VOLTAGE Measurement	0 mV to 200 mV 200 mV to 2 V 2 V to 20 V 20 V to 200 V 200 V to 1 kV	11 ppm + 1.2 μ V 8.5 ppm + 0.9 μ V 8.5 ppm + 4.0 μ V 13 ppm + 60 μ V 13 ppm + 600 μ V		Southall
DC CURRENT Measurement	0 μ A to 200 μ A 200 μ A to 2 mA 2 mA to 20 mA 20 mA to 200 mA 200 mA to 2 A	140 ppm + 0.60 nA 130 ppm + 6.0 nA 130 ppm + 60 nA 130 ppm + 1.3 μ A 240 ppm + 25 μ A		Southall



0394
Accredited to
ISO/IEC 17025:2017

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Trescal Limited (Trescal EMS - Rolls-Royce)
Issue No: 060 Issue date: 13 April 2021

Calibration performed by the Organisation at the locations specified

Measured Quantity Instrument or Gauge	Range	Calibration and Measurement Capability (CMC) Expressed as an Expanded Uncertainty ($k = 2$)	Remarks	Location Code
AC VOLTAGE Measurement	10 mV to 200 mV 40 Hz to 10 kHz	320 ppm + 5.0 μ V		Solihull
	200 mV to 2 V 40 Hz to 10 kHz	210 ppm + 25 μ V		
	2 V to 20 V 40 Hz to 10 kHz	210 ppm + 250 μ V		
	20 V to 200 V 40 Hz to 10 kHz	210 ppm + 2.5 mV		
	200 V to 1 kV 55 Hz to 1 kHz 1 kHz to 10 kHz	360 ppm + 50 mV 450 ppm + 50 mV		
AC CURRENT Measurement	10 μ A to 200 μ A 55 Hz to 1 kHz	600 ppm + 25 nA		
	200 μ A to 2 mA 55 Hz to 1 kHz	400 ppm + 250 nA		
	2 mA to 20 mA 55 Hz to 1 kHz	400 ppm + 2.5 μ A		
	20 mA to 200 mA 55 Hz to 1 kHz	400 ppm + 25 μ A		
	200 mA to 2 A 55 Hz to 1 kHz	900 ppm + 500 μ A		



0394
Accredited to
ISO/IEC 17025:2017

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Trescal Limited (Trescal EMS - Rolls-Royce)
Issue No: 060 Issue date: 13 April 2021

Calibration performed by the Organisation at the locations specified

Measured Quantity Instrument or Gauge	Range	Calibration and Measurement Capability (CMC) Expressed as an Expanded Uncertainty ($k = 2$)	Remarks	Location Code
DC RESISTANCE Generation				Solihull
Specific Values	10 Ω 100 Ω 1 k Ω 10 k Ω 100 k Ω 1 M Ω 10 M Ω 100 M Ω	35 ppm 15 ppm 15 ppm 15 ppm 15 ppm 18 ppm 80 ppm 180 ppm		
Other Values	0 Ω to 11 Ω 11 Ω to 33 Ω 33 Ω to 110 Ω 110 Ω to 330 Ω 330 Ω to 1.1 k Ω 1.1 k Ω to 3.3 k Ω 3.3 k Ω to 11 k Ω 11 k Ω to 33 k Ω 33 k Ω to 110 k Ω 110 k Ω to 330 k Ω 330 k Ω to 1.1 M Ω 1.1 M Ω to 3.3 M Ω 3.3 M Ω to 11 M Ω 11 M Ω to 33 M Ω 33 M Ω to 110 M Ω 110 M Ω to 330 M Ω	180 ppm + 11 m Ω 150 ppm + 19 m Ω 110 ppm + 19 m Ω 110 ppm + 19 m Ω 110 ppm + 90 m Ω 110 ppm + 90 m Ω 110 ppm + 900 m Ω 110 ppm + 900 m Ω 140 ppm + 9.0 Ω 150 ppm + 9.0 Ω 180 ppm + 80 Ω 200 ppm + 80 Ω 710 ppm + 800 Ω 0.14 % + 800 Ω 0.60 % + 8.0 k Ω 0.60 % + 21 k Ω		
DC VOLTAGE Generation	0 mV to 200 mV 200 mV to 2 V 2 V to 20 V 20 V to 200 V 200 V to 1 kV	12 ppm + 1.0 μ V 7.5 ppm + 1.5 μ V 6.0 ppm + 5.0 μ V 8.0 ppm + 70 μ V 10 ppm + 700 μ V		
DC CURRENT Generation	0 μ A to 220 μ A 220 μ A to 2.2 mA 2.2 mA to 22 mA 22 mA to 220 mA 220 mA to 2.2 A 2.2 A to 11 A	70 ppm + 10 nA 60 ppm + 12 nA 60 ppm + 120 nA 70 ppm + 1.2 μ A 100 ppm + 35 μ A 710 ppm + 510 μ A		



0394
Accredited to
ISO/IEC 17025:2017

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Trescal Limited (Trescal EMS - Rolls-Royce)
Issue No: 060 Issue date: 13 April 2021

Calibration performed by the Organisation at the locations specified

Measured Quantity Instrument or Gauge	Range	Calibration and Measurement Capability (CMC) Expressed as an Expanded Uncertainty ($k = 2$)	Remarks	Location Code
AC VOLTAGE Generation	40 Hz to 10 kHz 0.22 mV to 2.2 mV 2.2 mV to 22 mV 22 mV to 220 mV 220 mV to 2.2 V 2.2 V to 22 V 22 V to 220 V	700 ppm + 6.0 μ V 230 ppm + 7.0 μ V 140 ppm + 10 μ V 100 ppm + 14 μ V 100 ppm + 130 μ V 110 ppm + 1.5 mV		Sofihull
AC CURRENT Generation	55 Hz to 1 kHz 220 V to 1 kV	120 ppm + 8.0 mV		
MEASURING INSTRUMENTS AND MACHINES				
Micrometers				
External Depth	As BS 870:2008 and above As BS 6468:2008	Heads: 2.0 between any two points Setting and extension rods: 1.0 + 5.0 x length in m		
Vernier gauges Caliper Height Depth	As BS 887:2008 As BS 1643:2008 As BS 6365:2008	Overall performance: 10 + (30 x length in m)		
Dial gauges and dial test indicators	As BS 907:2008 and BS 2795:1981	1.0		



0394
Accredited to
ISO/IEC 17025:2017

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Trescal Limited (Trescal EMS - Rolls-Royce)
Issue No: 060 Issue date: 13 April 2021

Calibration performed by the Organisation at the locations specified

Measured Quantity Instrument or Gauge	Range	Calibration and Measurement Capability (CMC) Expressed as an Expanded Uncertainty ($k = 2$)	Remarks	Location Code	
FORM				Site	
RANGE IN MILLIMETRES AND UNCERTAINTY IN MICROMETRES UNLESS OTHERWISE STATED					
Surface plates Granite Cast iron ELECTRICAL Temperature indicators and simulators (thermocouple type), calibration by electrical simulation:	As BS 817:2008 160 x 100 to 4 m x 4 m	1.5 + (0.80 x diagonal in m) See Note 2	Internal Reference junction enabled. Ambient temperature range 18 °C to 22°C (controlled customer environment).	Site	
Base metal thermocouple types	Type J, -210 °C to 0 °C Type J, 0 °C to 1200 °C Type K, -270 °C to -200 °C Type K, -200 °C to 0 °C Type K, 0 °C to 1000 °C Type K, 1000 °C to 1370 °C Type N, -270 °C to -200 °C Type N, -200 °C to -100 °C Type N, -100 °C to 0 °C Type N, 0 °C to 800 °C Type N, 800 °C to 1300 °C Type T, -270 °C to -200 °C Type T, -200 °C to 0 °C Type T, 0 °C to 400 °C	0.36 °C 0.28 °C 4.6 °C 0.37 °C 0.29 °C 0.27 °C 1.9 °C 0.49 °C 0.34 °C 0.26 °C 0.24 °C 0.81 °C 0.36 °C 0.26 °C			
Noble metal thermocouple types	Type R, -50 °C to 0 °C Type R, 0 °C to 150 °C Type R, 150 °C to 400 °C Type R, 400 °C to 1768 °C Type S, -50 °C to 0 °C Type S, 0 °C to 100 °C Type S, 100 °C to 300 °C Type S, 300 °C to 1768 °C	0.91 °C 0.71 °C 0.51 °C 0.62 °C 0.80 °C 0.66 °C 0.55 °C 0.48 °C			
RTD Pt100	Up to 0 °C Up to 0 °C 0°C to 850 °C 0°C to 850 °C	0.072 °C 0.042 % + 0.072 °C 0.029 % + 0.075 °C 0.051 % + 0.075 °C			Ambient temperature range 18 °C to 28 °C -10 °C to +50 °C 18 °C to 28 °C -10 °C to +50 °C



0394
Accredited to
ISO/IEC 17025:2017

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Trescal Limited (Trescal EMS - Rolls-Royce)
Issue No: 060 Issue date: 13 April 2021

Calibration performed by the Organisation at the locations specified

Measured Quantity Instrument or Gauge	Range	Calibration and Measurement Capability (CMC) Expressed as an Expanded Uncertainty ($k = 2$)	Remarks	Location Code
DC Voltage	0 V to 150 mV 0 V to 150 mV	0.023 % + 5.0 μ V 0.048 % + 5.0 μ V	Ambient temperature range 18 °C to 28 °C -10 °C to +50 °C	Site
	0.15 V to 0.25 V 0.15 V to 0.25 V	0.023 % + 8.4 μ V 0.048 % + 8.4 μ V	18 °C to 28 °C -10 °C to +50 °C	
	0.25 V to 1 V 0.25 V to 1 V	0.023 % + 12 μ V 0.048 % + 12 μ V	18 °C to 28 °C -10 °C to +50 °C	
	1 V to 25 V 1 V to 25 V	0.023 % + 0.65 mV 0.048 % + 0.65 mV	18 °C to 28 °C -10 °C to +50 °C	
	25 V to 60 V 25 V to 60 V	0.023 % + 1.2 mV 0.048 % + 1.2 mV	18 °C to 28 °C -10 °C to +50 °C	
DC Current	0 to 25 mA 0 to 25 mA	0.025 % + 1.7 μ A 0.049 % + 1.7 μ A	18 °C to 28 °C -10 °C to +50 °C	
	25 mA to 100 mA 25 mA to 100 mA	0.025 % + 2.0 μ A 0.049 % + 2.0 μ A	18 °C to 28 °C -10 °C to +50 °C	
DC Resistance	0 Ω to 250 Ω 0 Ω to 250 Ω	0.023 % + 4.3 m Ω 0.048 % + 4.3 m Ω	18 °C to 28 °C -10 °C to +50 °C	
	250 Ω to 2650 Ω 250 Ω to 2650 Ω	0.023 % + 11 m Ω 0.048 % + 11 m Ω	18 °C to 28 °C -10 °C to +50 °C	
	2650 Ω to 4000 Ω 2650 Ω to 4000 Ω	0.023 % + 100 m Ω 0.048 % + 100 m Ω	18 °C to 28 °C -10 °C to +50 °C	

END



0394
Accredited to
ISO/IEC 17025:2017

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Trescal Limited (Trescal EMS - Rolls-Royce)
Issue No: 060 Issue date: 13 April 2021

Calibration performed by the Organisation at the locations specified

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:

A CMC is a calibration and measurement capability available to customers under normal conditions:

- (a) as published in the BIPM key comparison database (KCDB) of the CIPM MRA; or
- (b) as described in the laboratory's scope of accreditation granted by a signatory to the ILAC Arrangement.

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 CMC is calculated according to the procedures given in M3003 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 CMC in certificates issued under its accreditation.

The CMC may be described using various methods in the Schedule of Accreditation:

- As a single value that is valid throughout the range.
 - As an explicit function of the measurand or of a parameter (see below).
 - As a range of values. The range is stated such that the customer can make a reasonable estimate of the likely uncertainty at any point within the range.
 - As a matrix or table where the CMCs depend on the values of the measurand and a further quantity.
- In graphical form, providing there is sufficient resolution on each axis to obtain at least two significant figures for the CMC.

Expression of CMCs - symbols and units

In general, only units of the SI and those units recognised for use with the SI are used to express the values of quantities and of the associated CMCs. Nevertheless, other commonly used units may be used where considered appropriate for the intended audience. For example, the term "ppm" (part per million) is frequently used by manufacturers of test and measurement equipment to specify the performance of their products. Terms like this may be used in Schedules of Accreditation where they are in common use and understood by the users of such equipment, providing their use does not introduce any ambiguity in the capability that is being described.

When the CMC is expressed as an explicit function of the measurand or of a parameter, this often comprises a relative term (e.g., percentage) and an absolute term, i.e. one expressed in the same units as those of the measurand. This form of expression is used to describe the capability that can be achieved over a range of values. Some examples are shown below. It should be noted that these expressions are *not* mathematical formulae but are instead written in a commonly used shorthand for expressing uncertainties - therefore, for purposes of clarity, an indication of how they are to be interpreted is also provided below.

DC voltage, 100 mV to 1 V: 0.0025 % + 5.0 μ V

Over the range 100 mV to 1 V, the CMC is 0.0025 %-V + 5.0 μ V, where V is the measured voltage.

Hydraulic pressure, 0.5 MPa to 140 MPa: 0.0036 % + 0.12 ppm/MPa + 4.0 Pa

Over the range 0.5 MPa to 140 MPa, the CMC is 0.0036 % · p + (0.12 · 10⁻⁶ · p · 10⁻⁶) + 4.0 Pa, where p is the measured pressure in Pa.

It should be noted that the percentage symbol (%) simply 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 measured value or indication.

Thus, for example, a CMC of 1.5 % means 1.5 · 0.01 · i, where i is the instrument indication.