

Schedule of Accreditation

issued by

United Kingdom Accreditation Service

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

 UKAS CALIBRATION 4568 Accredited to ISO/IEC 17025:2017	The Sempre Group Ltd	
	Issue No: 021 Issue date: 20 March 2024	
	The Lodge 37 Barnett Way Barnwood Gloucestershire GL4 3RT	Contact: Mr T Butler Tel: +44 (0)1452 632712 Fax: +44 (0)1452 615352 E-Mail: tbutler@thesempregroup.com Website: www.thesempregroup.com

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 The Lodge 37 Barnett Way Barnwood Gloucestershire GL4 3RT Contact: Mr T Butler Tel: +44 (0)1452 632712 Fax: +44 (0)1452 615352 E-Mail: tbutler@thesempregroup.com Website: www.thesempregroup.com	Dimensional Calibration	B

Site activities performed away from the locations listed above:

Location details	Activity	Location code
At Customers premises: The location 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 Contact: Mr T Butler Tel: +44 (0)1452 632712 Fax: +44 (0)1452 615352 E-Mail: tbutler@thesempregroup.com Website: www.thesempregroup.com	Dimensional Calibration	A



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DETAIL OF ACCREDITATION

Measured Quantity Instrument or Gauge	Range	Expanded Measurement Uncertainty ($k = 2$)	Remarks	Location Code
<p>DIMENSIONAL</p> <p>MEASURING INSTRUMENTS AND MACHINES</p> <p>Cartesian co-ordinate measuring machines (CMM) equipped with imaging probing systems using the component approach.</p>	<p>Length measurements over the following ranges of travel or field of view: E_{UXY} 0 mm to 1510 mm E_{UZ} 0 mm to 455 mm E_{UV} 0 mm to 7.6 mm</p> <p>Probing performance: P_{F2D} using a 25 mm diameter artefact P_{FV2D} using a 2 mm diameter artefact Squareness: E_{SQ} 0 mm to 400 mm</p>	<p>1.2 + (3.4 x length in m) μm 1.5 + (1.9 x length in m) μm 1.2 μm</p> <p>1.8 μm 1.2 μm 4.6 μm</p>	<p>All linear calibrations may be given in inch units.</p> <p>ISO 10360-7:2011 using end standards.</p>	A
<p>Articulated arm co-ordinate measuring machines (CMM)</p>	<p>Length measurement over the following ranges of travel: E_{Bi} 0 mm to 1174 mm diameter 1174 to 2045 mm diameter</p> <p>Probing measurement - $P_{Size.SPH.1x25}$ $P_{Form.SPH.1x25}$ using a 10 mm to 51 mm diameter test sphere.</p> <p>Articulated location measurement - $L_{Dia.5x5:Art}$ using a 10 mm to 51 mm diameter test sphere.</p>	<p>5.1 + (1.8 x length in m) μm 7.2 + (2.5 x length in m) μm</p> <p>0.72 + (1.0 x length in m) μm 0.33 μm</p> <p>0.33 μm</p>	<p>ISO 10360-12:2016 using end standards. Test value uncertainties based on ISO/TS 23165:2006</p> <p>Test value uncertainties based on ISO/TS 17865:2016</p> <p>Test value uncertainties based on ISO/TS 17865:2016</p>	A & B
END				



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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 measurement uncertainty 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 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 measurement uncertainty is stated as a percentage, this is to be interpreted as meaning percentage of the measurand. Thus, for example, a measurement uncertainty of 1.5 % means $1.5 \times 0.01 \times q$, where q is the quantity value.

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