


# Schedule of Accreditation

issued by

## United Kingdom Accreditation Service

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

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| <br><b>UKAS</b><br>CALIBRATION<br><br>4568<br><br>Accredited to<br>ISO/IEC 17025:2017 | <b>The Sempre Group Ltd</b>  |  |
|  | Issue No: 018    Issue date: 14 April 2022                                   |  |
|  | <b>The Lodge</b><br>37 Barnett Way<br>Barnwood<br>Gloucestershire<br>GL4 3RT | <b>Contact: Mr T Butler</b><br>Tel: +44 (0)1452 632712<br>Fax: +44 (0)1452 615352<br>E-Mail: tbutler@thesempregroup.com<br>Website: www.thesempregroup.com |
| <b>Calibration performed by the Organisation at the locations specified</b>  |  |  |

### Locations covered by the organisation and their relevant activities

#### Site activities performed away from the locations listed above:

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



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DETAIL OF ACCREDITATION

| Measured Quantity<br>Instrument or Gauge   | Range  | Expanded<br>Measurement<br>Uncertainty ( $k = 2$ )   | Remarks   | Location<br>Code                          |
|--|--|--|---|---|
| DIMENSIONAL<br><br>MEASURING INSTRUMENTS<br>AND MACHINES<br><br>Performance verification of<br>cartesian co-ordinate measuring<br>machines equipped with<br>imaging probing systems using<br>the component approach. | ISO 10360-7:2011 - CMM's<br><br>length measurements over the<br>following test lengths:<br>$E_{UXY}$ 0 mm to 1500 mm<br>$E_{UZ}$ 0 mm to 515 mm<br>$E_{UV}$ 0 mm to 6 mm<br><br>Probing performance:<br>$P_{F2D}$ using a 25 mm<br>diameter artefact<br>$P_{FV2D}$ using a 2 mm diameter<br>artefact<br>Squareness:<br>$E_{SQ}$ 0 mm to 400 mm | <br><br><br><br><br><br><br><br><br><br>$1.5 + (3.2 \times \text{length in m}) \mu\text{m}$<br>$1.6 + (3.1 \times \text{length in m}) \mu\text{m}$<br>$1.2 \mu\text{m}$<br><br>$1.7 \mu\text{m}$<br>$1.3 \mu\text{m}$<br>$3.8 \mu\text{m}$ | <br><br><br><br><br><br><br><br><br><br>All linear calibrations<br>may be given in inch<br>units. | <br><br><br><br><br><br><br><br><br><br>A |
| 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:  $Q[a, b] = [a^2 + b^2]^{1/2}$