


# Schedule of Accreditation

issued by

## United Kingdom Accreditation Service

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

 <b>0167</b>  Accredited to <b>ISO/IEC 17025:2017</b>	<b>ZwickRoell Limited</b>	
	<b>Issue No: 051</b>	<b>Issue date: 09 December 2021</b>
	<b>Southern Avenue Leominster Herefordshire HR6 0QH</b>	<b>Contact: Dr N Wrigley Tel: +44 (0)1568 615201/2 Fax: +44 (0)1568 612626 E-Mail: <a href="mailto:laboratory@zwickroell.com">laboratory@zwickroell.com</a> Website: <a href="http://www.zwickroell.com">www.zwickroell.com</a></b>
<b>Calibration performed by the Organisations at the locations specified below</b>		

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

#### Laboratory locations:

Location details	Activity	Location code
<b>Address</b> Southern Avenue Leominster Herefordshire HR6 0QH	<b>Contact:</b> Dr N Wrigley	Force  P

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

Location details	Activity	Location code
Any customer's sites or premises must be suitable for the nature of the particular calibrations undertaken and will be the subject of contract review arrangements between laboratory and the customer.	<b>Contact:</b> Dr N Wrigley	Force  S



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Calibration and Measurement Capability (CMC)

Measured Quantity Instrument or Gauge	Range	Expanded Measurement Uncertainty ( $k = 2$ )	Remarks	Location Code
FORCE				
UNIVERSAL TESTING MACHINES				S
Verification and calibration of the force measuring system by force proving instruments in tension	2 N to 1200 kN For Class 0.5, 1, 2 and 3 machines to BS EN ISO 7500- 1:2018	0.20 %		
	2 N to 3000 kN For Class 1, 2 and 3 machines to BS EN ISO 7500-1:2018 and ASTM E4-21	0.29 %		
Verification and calibration of the force measuring system by force proving instruments in compression	2 N to 500 kN For Class 0.5, 1, 2 and 3 machines to BS EN ISO 7500- 1:2018	0.20 %		
	2 N to 3000 kN For Class 1, 2 and 3 machines to BS EN ISO 7500-1:2018 and ASTM E4-21	0.29 %		
Verification and calibration of the force measuring system by calibrated masses in tension	0.01 N to 500 N for Class 0.5, 1, 2 and 3 machine to BS EN ISO 7500-1:2018 and ASTM E4-21	0.10 %		
Verification and calibration of the force measuring system by calibrated masses in compression	0.01 N to 500 N for Class 0.5, 1, 2 and 3 machines to BS EN ISO 7500-1:2018 and ASTM E4-21	0.10 %		
CREEP TESTING MACHINES				S
Verification of the applied load using force proving instruments	2 N to 100 kN For Class 0.5, 1 and 2 machines to BS EN ISO 7500-2:2006	0.20 %		
Verification of the applied load using masses	0.01 N to 500 N For Class 0.5, 1 and 2 machines to BS EN ISO 7500-2:2006	0.10 %		





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Measured Quantity Instrument or Gauge	Range	Expanded Measurement Uncertainty ( $k = 2$ )	Remarks	Location Code
IMPACT TESTING MACHINES				S
Charpy	Absorbed Energy (joules) 1 J to 600 J BS EN ISO 148-2:2016 ASTM E23-18	0.70 J		
Izod	BS 131:Part 4:1972			
Plastics	BS ISO 13082:2015	0.11J		
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:  $Q[a, b] = [a^2 + b^2]^{1/2}$