



## National Measurement System Guidance Documents

### Environmental Sustainability & Underpinning Metrology

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Document Title and Hyperlink	Document Description
<a href="#">A beginner's guide to uncertainty in measurement.</a>	The guide explains the concept and importance of measurement uncertainty, using examples from everyday life. It illustrates how to estimate uncertainty in real measurement situations, showing a detailed uncertainty calculation step by step.
<a href="#">Best Practice Guide for Generating Mass Spectra</a>	The guide takes the user, step-by-step, through the process of generating mass spectra that are fit for purpose.
<a href="#">Callipers and micrometers.</a>	This guide covers the use of callipers and micrometers for internal, external and depth measurements.
<a href="#">Contaminated Land Study – An Opportunity to Deliver Key Skills</a>	This resource is designed to provide opportunities for the development and assessment of the following Key Skills up to Level 3: Communication; Application of Number; Information Technology.
<a href="#">Determination of residual stresses by magnetic methods.</a>  <a href="#">Determination of residual stresses by X-ray diffraction.</a>	<p>This guidance document describes determination of residual stresses by magnetic methods.</p> <p>This guide is applicable to X-ray stress measurements on crystalline materials.</p>
<a href="#">Estimating uncertainties in testing</a>	This guide presents principles and guidance for the estimation of measurement uncertainty.
<a href="#">Eurachem Guide: The Fitness for Purpose of Analytical Methods. A Laboratory Guide to Method Validation and Related Topics</a>	A guide for laboratory managers responsible for setting up and evaluating validation studies, as well as for analysts carrying out validation work.

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<a href="#">EURACHEM Guide: The selection and use of reference materials</a>	This guide gives detailed guidance for the establishment of measurement traceability in quantitative chemical analysis and will assist laboratories in meeting the traceability requirements of ISO 17025.
<a href="#">Eurachem/CITAC Guide: Measurement uncertainty arising from sampling: A guide to methods and approaches</a>	This Guide aims to describe various methods that can be used to estimate the uncertainties arising from the processes of sampling and the physical preparation of samples.
<a href="#">Eurachem/Citac Guide: Quality Assurance for Research and Development and Non-routine Analysis</a>	This guide provides those working in the non-routine environment with advice on good practice to facilitate the implementation of quality systems.
<a href="#">Eurachem/Citac Guide: Quantifying Uncertainty in Analytical Measurement, 2nd Edition</a>	This guide gives detailed guidance on the evaluation of uncertainty in quantitative chemical analysis, based on the approach taken in the ISO 'Guide to the Expression of Uncertainty in Measurement'.
<a href="#">EURACHEM/CITAC guide: Traceability in chemical measurement</a>	This guide gives detailed guidance for the establishment of measurement traceability in quantitative chemical analysis and will assist laboratories in meeting the traceability requirements of ISO 17025.
<a href="#">Eurachem/CITAC Guide: Use of uncertainty information in compliance assessment</a>	The guide is applicable to decisions on compliance with regulatory or manufacturing limits where a decision is made on the basis of a measurement result accompanied by information on the uncertainty associated with the result.
<a href="#">Force.</a>	The guide aims to help anyone wishing to measure force in any industrial or laboratory environment. (not available to download, must be requested)
<a href="#">Fundamental good practice guide in the design and interpretation of engineering drawings for measurement processes</a>	This good practice guide is written for engineers, designers and metrology technicians who wish to understand the basics of the interpretation of engineering drawings in relation to the measurement process.
<a href="#">Fundamental good practice in dimensional metrology.</a>	This good practice guide is written for those who need to make dimensional measurements but are not necessarily trained metrologists.

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<a href="#">Good practice guide to phase noise measurement.</a>	This guidance document describes good practice in phase noise measurement.
<a href="#">Good practice guide to reduce copper dissolution in lead-free assembly.</a>	This guidance document describes good practice to reduce copper dissolution in lead-free assembly.
<a href="#">Good Practice Guide: Introduction to Flow Meter Installation</a>	This good practice guide describes Good Practice Guide: Introduction to Flow Meter Installation Effects
<a href="#">Guide to the Measurement of Humidity</a>	A detailed guide to many aspects of humidity measurement. It covers humidity concepts and definitions, methods of measurement, instrument performance and calibration, and good measurement practices for humidity. (not available to download, must be requested)
<a href="#">Human factors in measurement and calibrations.</a>	This guide takes as its central theme the impact of human strengths and weaknesses on the accuracy and efficiency of measurement calibration services.
<a href="#">Hydraulic Structures for Open-channel Flow Measurement</a>	This guidance document describes Use of Hydraulic Structures for Open-channel Flow Measurement
<a href="#">Leak Detection Based Pipeline Integrity Systems</a>	This guidance document describes Leak Detection Based Pipeline Integrity Systems
<a href="#">Mass &amp; Weight -</a>	This Guide offers valuable information about a wide range of issues affecting weighing from traceability to practical aspects of weighing. (not available to download, must be requested)
<a href="#">Measurement of CO2 Throughout the CCS Chain</a>	This guidance document describes Measurement of CO2 Throughout the CCS Chain

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<a href="#">Monitoring of Flare Emissions under the EU ETS II (UK Offshore Oil &amp; Gas)</a>	This guidance document describes Monitoring of Flare Emissions under the EU ETS II (UK Offshore Oil & Gas)
<a href="#">Preparation of Calibration Curves: A Guide to Best Practice</a>	The aim of this guide is to highlight good practice in setting up calibration experiments, and to explain how the results should be evaluated.
<a href="#">Pressure &amp; Vacuum.</a>	This guide provides advice for those wishing to select and use instruments for measuring pressure or vacuum.. (not available to download, must be requested)
<a href="#">Selecting a Flow Meter</a>	This guidance document describes Selecting a Flow Meter
<a href="#">The measurement of mass and weight.</a>	This Good Practice Guide is intended as a useful reference for those involved in the practical measurement of mass and weight.
<a href="#">Uncertainty and statistical modelling.</a>	This guide provides best practice on the evaluation of uncertainties within metrology, and on the support to this topic given by statistical modelling.
<a href="#">Uncertainty in Open-channel Hydraulic Structures using Ultrasonic Level Gauges</a>	This guidance document describes Uncertainty in Open-channel Hydraulic Structures using Ultrasonic Level Gauges

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