

Calibration Guides and Expert Reports - Interdisciplinary

Reference	Title
GPG131	Beginner's guide to measurement in mechanical engineering Guide to measurement in mechanical engineering GPG131 - NPL
GPG145	Characterisation of the structure of graphene Characterisation of the structure of graphene GPG145 - NPL
GPG11	A beginner's guide to uncertainty of measurement GPG11 A beginner's guide to uncertainty of measurement - NPL
UKAS LAB 5	Reporting calibration results https://www.ukas.com/wp-content/uploads/2021/11/LAB-5-Reporting-Calibration-Results.pdf
UKAS M3003	The expression of uncertainty and confidence in measurement https://www.ukas.com/wp-content/uploads/2023/05/M3003-The-expression-of-uncertainty-and-confidence-in-measurement.pdf
UKAS LAB 24	Measurement Traceability and Calibration in the Mechanical Testing of Materials https://www.ukas.com/wp-content/uploads/schedule_uploads/759162/LAB-24-Measurement-Traceability-and-Calibration-in-Mechanical-Testing.pdf
UKAS TPS 57	Guidance and policy on the selection and use of reference materials https://www.ukas.com/wp-content/uploads/schedule_uploads/759162/TPS-57-Guidance-and-Policy-on-the-Selection-and-Use-of-Reference-Materials.pdf

NPL Good Practice Guides (GPG)

NPL's Good Practice Guides are a practical and informative series of documents designed to meet the needs of industry. They are a user-friendly way to find out about what to measure, how to measure it and how to understand the results. Based on NPL's expertise and experience, the guides will enable you, your customers and your suppliers to be in agreement on measurement issues.

UKAS Guides

UKAS is the United Kingdom Accreditation Service. The documents provide guidance, in a form suitable for a wide audience, on meeting the requirements for accreditation. They are not a prescription of what must be done but provide a route to meeting requirements.

Annex – Abstracts

GPG145	<p>This good practice guide has been written by the National Physical Laboratory in collaboration with the National Graphene Institute (NGI)* , at the University of Manchester.</p> <p>The guide will enable you to find out:</p> <ul style="list-style-type: none"> • guidance on characterising the structural properties of graphene, so that the graphene community can adopt a common, metrological approach that allows the comparison of real-world graphene samples • guidelines on how to initially assess the measurements required depending on the type of sample in different forms, that is, either a graphene sheet on a substrate, or graphene flakes present in a powder or liquid dispersion, and includes decision trees and flow diagrams • how to detail the accurate determination of the graphene coverage of a substrate, the number of layers/thickness, the lateral dimensions of flakes, layer alignment and the level of disorder • how to cover sample preparation, measurement issues, sources of uncertainty and how to analyse data
GPG11	<p>A gentle and short introduction to uncertainty of measurement for beginners, including laboratories preparing for UKAS accreditation. 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.</p>
UKAS LAB 5	<p>This publication provides guidance for the format, presentation and wording of calibration certificates and calibration labels covered by the scope of a laboratory's UKAS accreditation to ISO/IEC 17025:2017.</p>
UKAS M3003	<p>The guidance in this document is based on information in the Guide to the Expression of Uncertainty in Measurement, hereinafter referred to as the GUM. M3003 is aimed both at the beginner and at those more experienced in the subject of measurement uncertainty. To address the needs of an audience with a wide spectrum of experience, the subject is introduced in relatively straightforward terms and describes the basic concepts involved.</p>
UKAS LAB 24	<p>This publication provides guidance for laboratories needing to meet the requirements as applied to mechanical testing of materials. By following this guidance, laboratories will be able to demonstrate at assessment that they meet these requirements.</p>
UKAS TPS 57	<p>This document describes the steps that laboratories are expected to take in order to demonstrate that they have selected reference materials that are fit for purpose. In particular the laboratory should consider the matrix, concentration, accuracy, traceability, uncertainty, stability and homogeneity of the reference material as key factors that help to determine fitness for purpose.</p>