

CEng

Chartered Engineer

WHY BECOME PROFESSIONALLY REGISTERED ?

- Having the status of being professionally registered will show employers that you have and are committed to maintaining and enhancing the knowledge, skills and competence required to meet the engineering and technological needs of today

- CEng registration, is well respected across the world and shows employers, peers and the public that you have spent a number of years developing your skills, knowledge and understanding within your field and have clearly demonstrated your competence and commitment
- With CEng you will have higher earning potential as well as a qualification that's recognised by international engineering organisations, and the prestige of your title will improve your CV, lead to wider employment options, career progression and promotion
- The post-nominals CEng demonstrates your commitment to professional standards, and to developing and enhancing your competence. Your title proves that you have a positive attitude and the drive to succeed within your engineering profession. These are attributes that are highly valued by employers and customers. It shows that you will work safely and that you have committed to complying with codes of conduct.



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For further details and application forms please visit our website or contact the Director of Membership & Registration on +44 (0) 20 73878 4949 Ext 3 or email: membership@instmc.org

ACCREDITATION CORNER

Our resident expert, Trevor Thompson from bestmeasurement.com, is here to answer your questions on measurement, traceability and laboratory accreditation. If you have a question for Trevor, please email him at questions@bestmeasurement.com and we will publish the answer in a future issue.

In this issue, Trevor defines the meaning of words and terms used within the accreditation process to clear up any confusion.

Accreditation and Certification

These terms are often confused and used wrongly. Basically, Certification is about conformity of a process, product or person with a specification or requirement. Accreditation is about competence; in our case, competence to perform

certification. Calibration and Testing are taken to be a form of conformity assessment, so laboratories may be accredited as competent to make the necessary measurements, such that they may issue certification by certificates or reports.

In the UK, UKAS (The United Kingdom Accreditation Service) is the authoritative body appointed by Government to accredit conformity assessment bodies. These include laboratories making measurements, certification bodies and registrars certifying management systems of manufacturers and service providers.

Calibration and Testing

We can consider that calibration is a subset of testing; some will disagree, but this is an easy way to appreciate the situation. Testing is the act of establishing that a product, service or material meets a specification or requirement. Calibration is a type of test conducted on a measuring instrument or on equipment that is going to be used to make a further measurement or comparison. A calibration compares the performance of the measuring equipment with a known physical standard or a "better" piece of measuring equipment. The result of that comparison is the calibration.

Examples

We test a chair, car, engineering component or almost anything with a specification expressed in objective terms.

We calibrate a measuring meter, gauge block, ruler or anything that is going to be used to make a further measurement.

To recognise the difference, consider the use of the item:

- A calibration is made if the item is one that is used to make a further measurement. It is a measuring instrument or transfer standard that itself makes a measurement or assigns a value to another item.
- Calibrate a ruler, Test the height of a chair

Sometimes the items are similar but the use is different:

- Test a piece of metal for hardness: Calibrate a Hardness Reference Block
- Test tea for polyphenols: Calibrate a polyphenol in tea reference solution
- Test a 12v power supply (to be used to power something): Calibrate a 12v reference voltage source

So, it depends on the intended use of the item.

Testing and calibration always has some uncertainty of measurement, which we can examine more in a future issue of Accreditation Corner.

Trevor Thompson recently left UKAS having been assessing and accrediting measurement laboratories for over 40 years. He was also the British representative and one of the authors in the writing of ISO/IEC 17025:2017 and served on several EA and ILAC committees and working groups over many years. You can contact Trevor at www.bestmeasurement.com where he offers help with metrology and accreditation issues.