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The following table sets out the normal periods between successive calibrations for a number of reference standards and measuring instruments. It must be stressed that each period is generally considered to be the maximum appropriate in each case providing that the other criteria specified below are met:

- the equipment is of good quality and of proven stability, and
- the laboratory has both the equipment capability and staff expertise to perform adequate internal checks, and
- if any suspicion or indication of overloading or mishandling arises the equipment will be checked immediately and thereafter at frequent intervals until it can be shown that stability has not been impaired.

Where the above criteria cannot be met appropriately shorter intervals may be necessary.

PAB is however prepared to consider submissions for extension of calibration intervals based on factors such as history of stability, frequency of use, accuracy required, ability of staff to perform regular checks and successful


participation in measurement audits. It is the responsibility of the laboratory to provide evidence that its calibration system would ensure that confidence in the equipment could be maintained.

Items marked * in the table are those which can be calibrated by the staff of a laboratory if it is suitably equipped and the staff is competent to perform such re-calibrations. Inter-comparisons are usually performed by laboratory staff.


Where calibration have been performed by the staff of a laboratory adequate records of these measurements must be maintained.

The first column shows the maximum recommended period between the initial calibration and the first re-calibration. The second shows the maximum period between the subsequent re-calibrations provided that the three earlier calibrations indicate that the item is stable. These re-calibration intervals apply only to equipment of good quality and stability that is used, handled and stored with care. Excessive usage of equipment would lead to a reduction in these periods.


Equipment	Maximum period (years) between successive calibrations	
	Initial Calibration	Subsequent Calibration
Accelerometers	One	One
Acoustic calibrators	one Inter-compare every six months	One
Anemometers	One	One
Angle gauges - reference - working	three two	five four
Attenuators	Three (Frequency response). Resistance and Return loss check annually where appropriate.	three
Balances	One	three
Bandpass filter sets	two	Two
Barometer - (Fortin and Kew types)* - aneroid	five three	five* three
Bridges	three (Full calibration). Range check annually.	three
Calibration baths and furnaces	three Complete temperature survey initially	five

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Equipment	Maximum period (years) between successive calibrations	
	Initial Calibration	Subsequent Calibration
Caliper Checker	two	three
Check Master	three	Five
Capacitors	three Inter-compare annually.	three
Dead weight testers	five	five
Density bottles	two	five
Digital multimeters*	one	two
Digital calibrators with self checking	two	two
Dividing heads	three	five
Environmental chambers	three Time and spatial (temperature variations, recovery time, rate of ventilation).	five
Filters (optical for calibrating spectrophotometers for λ and absorbance)	five	ten
Frequency analysers	five	five
Frequency Counters*	one	two
Frequency standards	See "Time" below	
Force testing machines	Two to five years depending on type. (Where required by a standard method this period will be less)	
Gauge blocks - reference	three	five
- working	two	four
Height setting micrometers and riser blocks	two	four
High Voltage Meter	one	two
High Voltage Tester	one	one
Hydrometers	three	five
Hygrometers* (i) assman and sling type psychrometers (ii) recorded accurate to $\pm 1\%$	Six months (compare thermometers at room temperature with wick dry). Five years (complete calibration)	Two

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Equipment	Maximum period (years) between successive calibrations	
	Initial Calibration	Subsequent Calibration
(iii) other records including hair types	one Three months (with Assman Psychrometer)	
Inductors	three Inter-compare annually	three
Instruments, electrical* (analogue)	three Inter-compare every six months or more frequently as required	three
Instrument and ratio transformers	five	five
Instrument transformers tests sets	three (Full calibration). Annual inter-comparison of transformers to detect major problems.	five
Laser Interferometer	three (Intercompare every year w/ another laser interferometer system)	five
Length bars		
- reference	three	five
- working	two	four
Levels		
- precision	three	five
Linear scales		
- precision	three	five
Manometers		
- reference	five	five
- working*	three	three
Masses (integral, stainless steel or nickel chrome alloys)		
- reference (Class E ₁ , E ₂)	three	five
- working* (Class E ₂)	three	five
Masses (all other types)		
- working* Class (F ₁ F ₂) (M ₁ M ₂ M ₃)	one	three
Micrometers, dial gauges, calipers etc.	one	one
Microphones	one three monthly check of frequency response and sensitivity. Calibrate annually or when ±one dB change is detected whichever is sooner.	one
Optical flats	three	five
Optical parallels	three	five
Orifice plates and nozzles	Initial dimensional calibration. Six monthly visual inspection.	
Pistonphones	one Inter-compare every six months	

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Equipment	Maximum period (years) between successive calibrations	
	Initial Calibration	Subsequent Calibration
Potentiometers	five	five
Precision polygons	three	five
Pressure and vacuum gauges - reference or test gauge - working* or industrial gauge	one three months	one six months
RF noise sources	two	two
RF power measuring equipment	one Power references. Three years for thermistor sensors. Annual check of VSWR.	three
Reference glass filters	five	ten
Resistors	one After initial drift rate has been established. Inter-compare annually.	three
Rollers and balls	three	five
Roundness standards	three	five
Roughness standards	three	five
Screw check plugs for ring gauges	three	five
Screw pitch reference standards	three	five
Setting cylinders	three	five
Setting rings	three	five
Signal generators	one	two
Sound level meters	two Check every three months	two
Sound power sources	five	five
Spectrophotometers		
Squares - try-squares - block squares	two three	five five
Standard cells, electronic	one Intercompare at least three monthly to establish drift rate of a group. One cell in a group needs to be calibrated annually. Then intercompare within group as required.	one

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Equipment	Maximum period (years) between successive calibrations	
	Initial Calibration	Subsequent Calibration
Wathour meters (electromechanical)	one Inter-compare every three months	two
Wattmeters and wathour meters (electronic)	two With regular intercomparisons-intervals to be based on history of performance.	two

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ISSUE AND AMENDMENT RECORD

Title	Issue	Date	Amendments
Appendix A Equipment Calibration Intervals	01	January 2015	Initial Issue