NPL offers a UKAS accredited service for the calibration by interferometry of the highest accuracy grades of gauge blocks. Gauge block sets in both metric (up to 100 mm) and inch (up to 4 inch) sizes can be measured. The gauge blocks are measured in environmentally controlled laboratories using special equipment designed by NPL.

### Nominal length | Uncertainty $k=2$
--- | ---
Up to 10 mm | 0.026 µm
Above 10 mm up to 25 mm | 0.026 to 0.027 µm
Above 25 mm up to 50 mm | 0.027 to 0.033 µm
Above 50 mm up to 75 mm | 0.033 to 0.041 µm
Above 75 mm up to 100 mm | 0.041 to 0.049 µm
Service details

- Measurement of gauges to the following specification standards

| Grades K, 0 of BS EN ISO 3650, ISO 3650 | Metric gauges |
| Grades K, 0 of BS 4311 (2007) | Inch gauges |
| Grades Calibration, Reference, 00, 0 of BS 4311 (1968) or BS 888 | Old gauges (inch & metric) |

Note: other types of gauge blocks can be calibrated on request.

- Measurements traceable to the national standard of length.
- Measurement based on two wrings.
- Phase correction of steel, tungsten carbide and ceramic gauge block sets.
- Best measurement uncertainty at a confidence level of 95% of \( \sqrt{25^2 + (0.42L)^2} \) nm, where \( L \) is the gauge length in millimeters.
- NPL calibration certificate states the deviations from nominal length.
- Gauges exceeding the tolerances on variation in length and flatness are highlighted on the certificate.
- This service is UKAS-accredited and internationally recognised under the CIPM Mutual Recognition Arrangement.

Related services

NPL offers a two-day course on the calibration of gauge blocks by interferometry.

Further information

Please contact NPL to discuss your requirements and book in your order. Before quoting we will need to know the number of gauges, material and grade requiring calibration. Measurements at NPL are offered on a pre-booked basis as service capacity on the specialist equipment is limited. Prompt acceptance of our quotation will help minimise any lead time.

For further information on this service or to discuss your particular measurement or calibration requirement, please contact:

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