



Length, Dimension and Nano Metrology

(Physico-Mechanical Metrology Division)

CSIR - National Physical Laboratory

(National Metrology Institute of India)

(Signatory to CIPM-MRA)



A one stop solution for all dimensional measurement need



Primary Standard
($^{127}\text{I}_2$ Stabilized
He-Ne Laser)



Gauge Block
Interferometer



3-D CMM



Fizeau
Interferometer



LMM



Metrology AFM



Form Tester



Autocollimator

At CSIR- NPL India, Length, Dimension and Nano Metrology section fulfills the mandate to maintain primary standard of length for realization of SI unit “meter”. CSIR-NPL is the signatory of CIPM MRA, and our calibration and measurement capabilities are available on BIPM website. We provide apex level calibration services for various dimensional measurements to leading industries, research organizations, defense sector, government organizations and maintain the unbroken chain of traceability. We provide traceability to various SAARC NMI's. Continuous research and development in the field of precision dimensional metrology for advanced measurement techniques/ standards/ instruments is one of the prime objectives of our section. This group is constantly involved in R & D activity for augmenting and upgrading the standards at par with other leading National Metrology Institutes (NMIs) and participates in international inter-comparisons to establish international equivalence.

https://kcdb.bipm.org/appendixC/L/IN/L_IN.pdf

Calibration services offered

Calibration of He-Ne laser heads, Laser interferometers, Gauge Blocks, Long Gauge block, Line Standards, Optical flats and parallels, Diameter Standards, Angle Standards like Autocollimators, Angle gauges, Electronic levels, Polygons, Roundness artefacts, Coordinate Measuring Machine (CMM) artefacts etc.

Onsite Calibrations for Length & Universal measuring machines, CNC machines, CMMs, Gauge block comparators, Profile projectors, Roundness measuring machines, Tool maker microscope etc. Specific needs of linear and angular measurements of Industries, Institutions, and Public & Private sectors are also catered.

Consultancy services

We also provide consultancy services in various dimensional metrology domains including design, development, fabrication & measurement and establishment of quality system as per ISO 17043 & ISO IEC 17025.

Training programs / technical workshops

We at CSIR-NPL conduct various training programs and technical workshops on dimensional parameters for legal metrology officers, industrial personnel, researchers, government officials and SAARC NMI participants. Training program covering specific needs of industries may also be offered.

Traceability

Traceability is maintained at national level through primary standard of length (Iodine stabilized He-Ne laser, wavelength 632.8nm) for realization of SI unit “meter” as per CIPM recommendations.

International acceptance

CSIR-NPL is an authorized signatory to CIPM MRA. Our calibration and measurement capabilities (CMCs) of Length, Dimension Nano Metrology are available on 'Appendix C' of BIPM website www.bipm.org. CSIR-NPL continuously participates in international inter-comparisons to prove international equivalence and the results are available on 'Appendix B' of BIPM website.

Contact for : Scientific and Technical Activities

Head

Length, Dimension and Nano Metrology

CSIR-National Physical Laboratory

Dr. K. S. Krishnan Marg, New Delhi – 110 012, India

Tel.: +91-11-4560 9490, 4234 2408

e-mail: rina@nplindia.org

<http://www.nplindia.in/physico-mechanical-metrology>

Contact for : Customer services

Head

Centre for Calibration and Testing (CFCT)

CSIR-National Physical Laboratory

Dr. K. S. Krishnan Marg, New Delhi – 110 012, India

Tel.: +91-11-4560 8610/9447/8448/8441/8589

e-mail: cfct@nplindia.org

<http://www.nplindia.in/centre-calibration-testing-cfct>