Maintenance Kit for Gauge Blocks
SERIES 516

Typical application

Recommendation for Regular Calibration

As is widely known, gauge blocks are end measures based on distance measurements traceable to the wavelength of the iodine stabilized He-Ne laser. Because they serve as the standard based on which measuring instruments are adjusted, even the smallest of errors can be critical. Therefore, we recommend periodical calibration even when use is infrequent. Please calibrate your gauge blocks as described in the table below (best practices may vary according to frequency of use and grade).

Application	Cycle (years)	Grade
Reference standard	1 to 2	K
Calibration	2	K or 0
Inspection	2	0 or 1
Shop floor	0.5 to 1	1 or 2

As an accredited calibration laboratory, Mitutoyo offers a periodical calibration service for gauge blocks.
Our regular calibration service features:

- Gauge blocks manufactured by any maker can be calibrated.
- Cleaning and removal of burrs.
- Central dimension and dimensional deviations of each block are measured.
- Calibration results are provided for immediate use and for building a calibration history of each block.
  For detailed information, contact the nearest Mitutoyo sales office.

- Maintenance kit for gauge blocks includes all the necessary maintenance tools for removing burrs and contamination, and applying anti-corrosion treatment after use.

516-650E

Code No. 516-650E
Tools and accessories included:

(1) Ceraston (**601645**)
(both sides finished by lapping)
(100×25×12 mm)

(2) Optical flat (**158-117**)
(ø45, 12 mm thickness, Flatness 0.2 µm)
Used to check the wringing of thin gauge blocks and for the presence of burrs.

(3) Tweezers (**600004**)
Used for handling thin gauge blocks.

(4) Blower brush (**600005**)
Used for blowing dust from measuring surfaces.

(5) Cleaning paper (**600006**)
(lens paper, 82×304 mm, 500 pcs.)
Used for wiping off rust-preventative oil and contamination. Lint free.

(6) Artificial leather mat (B4 size, Artificial buckskin) (**600007**)
Used as a gauge block mat in order to avoid scratches on the work table.

(7) Reagent bottle (**600008**)
(polyethylene container, 100 ml)
Bottle of wiping solution.
(Mitutoyo employs n-Heptane for solvent.)

(8) Gloves (**600009**)
Used for handling large gauge blocks.
Effective for the prevention of corrosion and thermal expansion.

Ceraston
SERIES 516 — Accessory for Gauge Block Maintenance

- Alumina-ceramic abrasive stone for removing burrs from hard materials such as ceramics that ordinary stones cannot handle.
- The grinding stones can be used on CERA Blocks and other steel gauge blocks. They are useful for removing burrs on any precision-processed surface.
- Excellent in durability and ease of removing burrs compared to Arkansas stones.
- Both sides can be used.

Typical application

601644
150 (W) ×50 (D) ×20 (H) mm

601645
100 (W) ×25 (D) ×12 (H) mm

Removing burrs

Figure 1

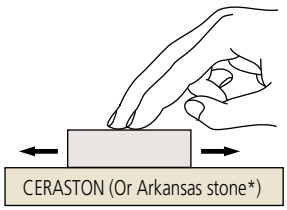
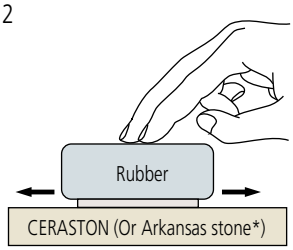


Figure 2



(1) Wipe any dust and oil film from the gauge block and the Ceraston (or Arkansas stone*) using a solvent.
(2) Place the gauge block on the Ceraston (or Arkansas stone*) so that the measuring face that has burrs is on the abrasive surface of the stone. While applying light pressure, move the gauge block back and forth about ten times (Fig. 1). Use a rubber block for thin gauge blocks to apply even pressure (Fig. 2).
(3) Check the measuring face for burrs with an optical flat. If the burrs have not been removed, repeat step (2). If burrs are too large, they may not be removed with an abrasive stone. If so, discard the gauge block.

* Mitutoyo does not offer Arkansas stones.