

# Rectangular Gage Block with CTE

## Gage Blocks with Thermal Expansion Coefficient Data

### FEATURES

- Mitutoyo offers top-level gage blocks (steel and ceramic) which are superior to K class blocks.
- Comes with a highly accurate thermal expansion coefficient measured with a high-accuracy double-faced interferometer (DFI).
- The high-accuracy gage block interferometer (GBI) guarantees high dimensional accuracy.
- Mitutoyo offers rectangular gage blocks, having nominal values from 100 to 500mm  
Grade: K class in ASME  
Uncertainty of thermal expansion coefficient:  $0.035 \times 10^{-6}/K$  ( $k = 2$ )  
Uncertainty of dimension measurement: 30nm ( $k = 2$ ), for 100mm block



Double-faced interferometer (DFI)

### SPECIFICATIONS

| Metric Block with CTE |                 |                |
|-----------------------|-----------------|----------------|
| Length (mm)           | Order No. Steel | Order No. CERA |
| 100                   | 611681-51B      | 613681-51B     |
| 125                   | 611802-51B      | 613802-51B     |
| 150                   | 611803-51B      | 613803-51B     |
| 175                   | 611804-51B      | 613804-51B     |
| 200                   | 611682-51B      | 613682-51B     |
| 250                   | 611805-51B      | 613805-51B     |
| 300                   | 611683-51B      | 613683-51B     |
| 400                   | 611684-51B      | 613684-51B     |
| 500                   | 611685-51B      | 613685-51B     |

| Inch Block with CTE |                 |                |
|---------------------|-----------------|----------------|
| Length (inch)       | Order No. Steel | Order No. CERA |
| 4                   | 611204-51B      | 613204-51B     |
| 5                   | 611205-51B      | 613205-51B     |
| 6                   | 611206-51B      | 613206-51B     |
| 7                   | 611207-51B      | 613207-51B     |
| 8                   | 611208-51B      | 613208-51B     |
| 10                  | 611222-51B      | 613222-51B     |
| 12                  | 611223-51B      | 613223-51B     |
| 16                  | 611224-51B      | 613224-51B     |
| 20                  | 611225-51B      | 613225-51B     |

### ZERO CERA Blocks

- Thermal expansion in the temperature range  $20 \pm 1^\circ C$  less than 1/500 that of steel ( $0 \pm 0.02 \times 10^{-6}/K(20^\circ C)$ )
- Almost no secular change both in dimension and coefficient of thermal expansion
- Complementary ultra-low thermal expansion and high specific rigidity (Young's Modulus/specific gravity)



### SPECIFICATIONS

| Metric Blocks |            |            |             |
|---------------|------------|------------|-------------|
| Order No.     |            |            | Length (mm) |
| JIS/SO/DIN    | BS         | ASME       |             |
| 617673-016    | 617673-116 | 617673-516 | 30          |
| 617675-016    | 617675-116 | 617675-516 | 50          |
| 617681-016    | 617681-116 | 617681-516 | 100         |
| 617682-016    | 617682-116 | 617682-516 | 200         |
| 617683-016    | 617683-116 | 617683-516 | 300         |
| 617684-016    | 617684-116 | 617684-516 | 400         |
| 617685-016    | 617685-116 | 617685-516 | 500         |
| 617840-016    | 617840-116 | 617840-516 | 600         |
| 617841-016    | 617841-116 | 617841-516 | 700         |
| 617843-016    | 617843-116 | 617843-516 | 800         |
| 617844-016    | 617844-116 | 617844-516 | 900         |
| 617845-016    | 617845-116 | 617845-516 | 1000        |
| 516-771-60    | 516-771-61 | 516-771-66 | Above set   |

### Suffix Number for Selecting Standard and Certificate Provided

| ASME     |             |
|----------|-------------|
| Material | Steel, CERA |
| Grade K  | -51B        |

-51B: provided with JCSS Calibration Certificate and Inspection Certificate



Inspection Certificate

