

# Shear-plate Collimation Testers

## Applications Versatility

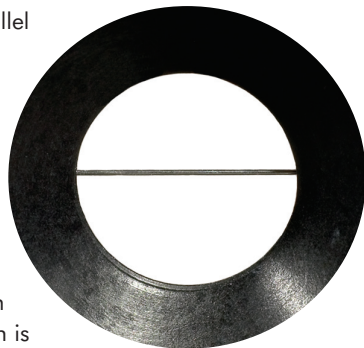
Use Shear-plate Collimation Testers to examine and adjust the collimation of laser light, or to measure the wavefront curvature and divergence/convergence magnitude of large-radius optical components.

## Various Aperture Sizes from 350-2500 nm

Each tester is useable from 350-2500 nm, and is available in apertures ranging from 10-200 mm. Each tester consists of a wedged, high-quality optical flat housed in a heavy-duty anodized aluminum frame.

## Basic Operation with Interferometric Design

The testers are remarkably easy to use: When a planar wavefront is incident at an angle of 45°, two reflected wavefronts result. The lateral separation of these wavefronts is referred to as shear. Fringes -- parallel patterns of light and dark areas -- will be seen in the overlapping region of the two images. Collimating the laser beam is a matter of adjusting the collimating system until the fringe pattern is parallel to the shadow of the collimation tester's reference wire.



Collimation Testers

| Item Code | Aperture Size |  |
|-----------|---------------|--|
| CT-10     | 10 mm         |  |
| CT-20     | 20 mm         |  |
| CT-50     | 50 mm         |  |
| CT-75     | 75 mm         |  |
| CT-100    | 100 mm        |  |
| CT-125    | 125 mm        |  |
| CT-150    | 150 mm        |  |
| CT-200    | 200 mm        |  |

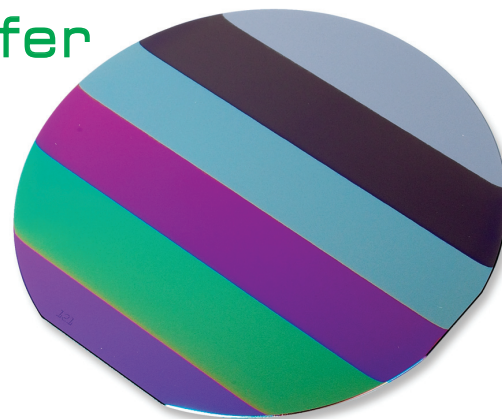
# Thin Film Reference Wafer

## 5-step Wafer

When measuring the thickness of substrates such as silicon wafers or optical layers, consider our Silicon-Silicon Dioxide (Si-SiO<sub>2</sub>) Reference Wafer. This 9.8-cm (4") diameter, 5-step wafer has a calibrated thickness range of 0-500 nm, and is ideal for use as a reference standard when measuring the thickness of thin, transparent layers on various substrates.

## Calibrated

The Reference Wafer consists of a thin wafer of silicon dioxide on silicon, with each transparent step numbered and etched on the wafer surface. A calibration data sheet -- the wafer is calibrated using an ellipsometer -- includes information for each step such as the X and Y positions,  $\delta$  (Psi),  $\psi$  (Delta), period (in nm) and thickness (in nm).



## Step Sizes 0-500 nm with 100 nm steps:

- 0 nm (uncoated)
- 100 nm ( $\pm 20$  nm)
- 200 nm ( $\pm 20$  nm)
- 300 nm ( $\pm 20$  nm)
- 400 nm ( $\pm 20$  nm)
- 500 nm ( $\pm 20$  nm)



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