

Visualize residual stress inside the glass

OPTICAL STRAIN TESTER

TS-13N

The glass changes its shapes by heated and molded during manufacturing process. Regardless of how excellent shape and color is, the distortions can occur within the glass invisibly if proper annealing* is not carried out.

(*annealing: the process of heating up to an appropriate temperature, then holding at that temperature then followed by slowly cooling. By this process, it removes residual stresses, reducing hardness, improving machinability, enhancing cold working, and adjusting crystal structure, etc.)

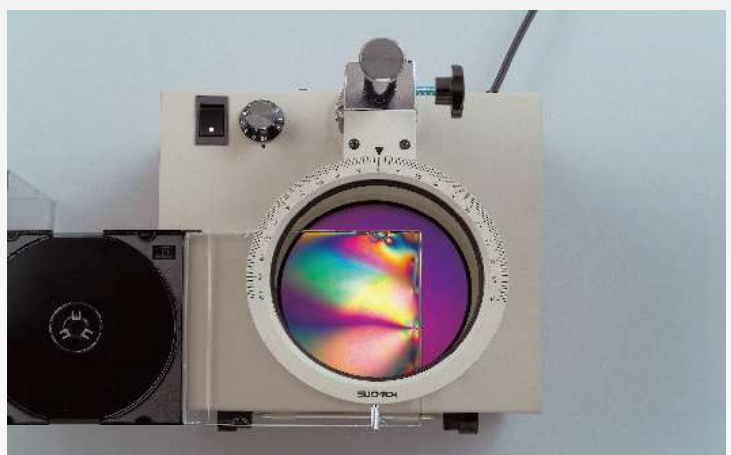
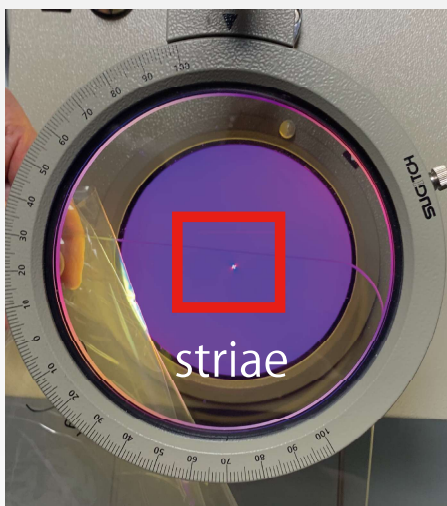
Products with distortions are fragile and can easily break with even a slight impact. In extreme cases, the unevenness can naturally cause curvature or cracks. Distortion tester can easily identify these imperfections in inadequately annealed products. Another distinctive feature of this product is the ability to observe the striae caused by refractive index imbalances.

The rotating frame has markings distributed from 0° to 100°. With 0° representing the normal state and the most intense colors of distortion appearing at the 90° position.

For the inspection, the acceptable quality limit is set by the number appears on the rotating frame. Based on that, it can be judged that the annealing is insufficient if the color of distortion can be observed at a lower value on the scale than where the acceptable quality limit begins to show color. (If the annealing process is sufficient, distortions will not be visible. If the annealing is insufficient, the more intense the colors will appear. Additionally, the appearance of distortions can vary slightly depending on the sample.)



TS-13N Optical Strain Tester



Ideal for quality inspection of scientific glassware



Use Case

- **Quality inspection after annealing at major vial and ampoule manufacturers**
- **Distortion inspection of light source glass at X-ray equipment manufacturers**
- **Strain inspection of polarizing plates by laser processing machine manufacturers**

P/N	TS-13N
Product Name	Optical strain tester
Size(mm)	200x235x371
Power	AC100V-220V
Light Source	White LED light with Light controller
Magnification	None

