

Calibration System for Testing Equipment

1. Calibration Management Responsibilities:

The Quality Department's metrology specialist is responsible for the unified management of all testing instruments and equipment in the factory, establishing a "Testing Equipment Ledger" to record equipment name, brand, model, serial number, measuring range, calibration cycle, and last/next calibration date.

2. Calibration Classification and Cycle:

1) Precision Testing Equipment (Mandatory External Calibration, Annually):

Calipers, height gauges, micrometers, 2D and 3D video measuring instruments, coating thickness gauges, salt spray test chambers, roughness testers, gloss meters, hardness testers, and other precision dimensional equipment are calibrated annually by a CNAS-certified third-party metrology institution.

Calibration certificates are retained and are valid for 12 months.

2) General-Purpose Simple Measuring Instruments (Internal Calibration + Annual External Calibration):

Right-angle rulers, feeler gauges, steel tape measures, angle gauges, cross-cut testers, etc., are calibrated monthly within the workshop; annually, they are sent to an external calibration center for verification.

3) Consumable Tools (Regular Replacement and Calibration)

Thread gauges, testing tape, hardness pencils, and material testing reagents should be replaced regularly, with comparative verification performed for each batch.

3. Calibration Execution Process

The metrologist should compile a list of equipment due for calibration 15 days in advance based on the logbook and collect them for unified testing.

After external calibration personnel retrieve the equipment, they should verify the certificate, confirm its compliance, and affix a three-color calibration label:

Green: Qualified, Normal Use

Yellow: Restricted Use, Limited Testing Range

Red: Unqualified, Discontinued and Isolated, Prohibited from Online Testing

Internal calibration uses externally calibrated standard gauge blocks and standard test pieces as references, and completes the "Internal Calibration Record Form" for archiving.

Unqualified equipment should be immediately isolated and discontinued, repaired, and recalibrated; equipment that cannot be repaired should be scrapped.

4. Usage Control and Traceability

All measuring instruments are for inspection and production quality control personnel only. Impact, dropping, and contact with acids, alkalis, and oils are strictly prohibited.

Clean the instruments after use and place them in the designated measuring instrument box. Equipment exceeding its calibration period must be taken out of service.

Any unauthorized use will render the corresponding test data invalid.

All calibration certificates and internal calibration records are classified, archived, and retained for at least 3 years. Customers can retrieve and trace these records at any time during factory audits.

5. Compatibility with Sheet Metal Inspection Standards

The calibrated measuring instruments meet all measurement requirements for ISO2768-mK dimensional tolerance inspection, paint reliability testing, and incoming material inspection.