



CONTROL AND CALIBRATION OF INSPECTION, MEASURING AND TEST EQUIPMENT

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1. PURPOSE

This procedure is to establish a uniform and controlled method for the calibration of measuring and test equipment and assigns responsibility for its implementation.

2. SCOPE

All company and personal measuring and checking equipment used in the production of moulds, press tools, gauges and scientific equipment shall be calibrated in accordance with this procedure.

3. DEFINITIONS

None

4. REFERENCES

- 4.1 Thomas Keating Equipment list. TK-QF-024.
- 4.2 Calibration Register. TK-QF-025
- 4.3 Calibration Record Cards. TK-QF-026
- 4.4 Calibration Standards List Doc

5. ASSOCIATED DOCUMENTS

None

6. PROCEDURE

- 6.1 The Quality Assurance Manager, or responsible person designated by him shall be responsible for the calibration of all measuring and test equipment, including Toolmakers own personal equipment used in production.
- 6.2 The Quality Assurance Manager shall be responsible for ensuring that all measuring and test equipment is maintained in calibration by conducting periodic audits of the calibration system.
- 6.3 Equipment shall be calibrated at periodic intervals established on a basis of
 - a) Stability
 - b) Purpose
 - c) Usage

Intervals shall be set so the calibration occurs prior to any probable change in accuracy, depending on the previous calibration result.

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6.4 Items of test equipment which:

- a) Are outside their designated calibration period
- b) Have failed in operation
- c) Are suspect or known to be outside designated limits
- d) Show evidence of physical damage which may affect their use,

shall be immediately removed from use or be conspicuously identified to prevent their use by attaching a red reject label.

6.4.1 When inspection, measuring and test equipment is found to be out of calibration any previous inspection and test reports since the last acceptable calibration, will be assessed for their validity and recorded in the calibration register TK-QF-025.

6.5 All measuring and test equipment, both company and personal, used in production or inspection shall be kept in calibration and records of all calibrations shall be kept and shall be traceable to each individual piece of equipment through the use of a unique serial number or mark.

6.6 Records of calibration and re-calibration of all measuring equipment shall be fully documented on the Calibration Record Card TK-QF-026 and the Calibration Register TK-QF-025. The Quality Manager shall maintain the records up to date and retained on file.

6.7 Certificates, Reports, shall support all measurement standards used for calibration or Data Sheets attesting to the date, accuracy and conditions under which the results were obtained. All Certificates, etc. shall be retained for the life of the equipment. A Thomas Keating standard method of calibration is defined and is contained with the Manual and Procedures.

All calibrations are referenced back to a Master Set of checking slips, which are used solely for reference purposes and hold a calibration certificate issued by T.I. Coventry Gauge and are traceable to National Standards.

6.8 The calibration status, where possible, shall be clearly displayed on each piece of equipment or its storage box using a calibration label. Where this is not possible the user shall refer to the relevant calibration record. No piece of equipment shall be used after the expiry of its calibration date

6.8.1 No equipment used for final sizing or checking is to be used unless it display's, either on the equipment or the storage box a valid calibration label.

6.8.2 Dial indicators are not used as measuring devices, only as comparators, and do not come within the Thomas Keating requirement for calibration

6.9 All new measuring equipment purchased or manufactured in house shall be passed to the Quality Manager for calibration, identification and production of a record card. Equipment shall not be used until this procedure has been completed.

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6.10 The Quality Assurance Manager shall ensure that all personnel using equipment, or performing calibrations, are adequately trained and understand the relevant instructions and procedures. See Procedure TK-QP-009 Training.

6.11 All equipment shall be handled and stored in a manner that shall prevent damage or adverse effects on the equipments measuring capability.

7. REVIEW PROCEDURE

7.1 Any equipment that fails to stay in calibration for what is considered a practical period of time for that piece of equipment shall be withdrawn from use and a request for repair or replacement shall be put before the Managing Director.

7.2 Any improved method of inspection involving the purchase of new inspection equipment or any new equipment identified for a new contract shall be discussed at the next Quality Review Committee meeting.

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