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Inspection Equipment Control, Maintenance and Calibration

Purpose

This procedure defines the maintenance of inspection, measuring, and test equipment in a known state of accuracy as verified by calibration records.

Scope

This procedure applies to inspection, measuring, and test equipment used to control production processes and accept or reject product.

Definitions

"Reference Only" - A label that indicates that the gage or equipment is not intended for measurement of product or process conformance but is useful in set up or other application.

Calibration - Adjustments to measuring devices using standards so that they measure accurately.

Inspection, Measuring and Test Equipment - All devices used to inspect, examine, test or gage conformance of a product or process with regard to one or more characteristics or attributes.

Nonconforming Product - Product which does not conform to customer requirements or specifications.

Standard A reference material of a known or fixed value used to calibrate an instrument such as a calibration standard that can be traced to a national standard such as those provided by the National Institute of Standards and Technology (NIST)

Verification (ISO 9000:2000) - Confirmation, through the provision of objective evidence, that specified requirements have been fulfilled.

Responsibilities

QUAL MGR Quality Manager

QUAL INSP Quality Inspector

Procedures

QUAL MGR Maintains Testing Equipment, Facilities, and Materials

A system is established including procedures and instructions necessary to maintain calibration of equipment, facilities, and materials, including hardware and software (7.6[7]), to a national standard (7.6[3]a[2]). This system provides for the prevention of adjustments that would invalidate measurements (7.6[3]d[1]) and prevent potential damage or deterioration to instruments (7.6[3]e[1]).

QUAL INSP Inspect and Log Gages and Fixtures

Inspects and logs all fixtures, gages, and other measuring devices as received to record their type, location, and frequency of calibration, and assign each a unique identification number (7.6[3]c[1]). This includes all employee-owned instruments and measuring equipment used to maintain production tools. Ensures all new equipment is similarly processed, logged into the system, and initially checked before release.

4.3 QUAL MGR Establish Calibration Procedures

Establishes calibration procedures and frequency based on manufacturing instructions and recommendations. Takes necessary steps to ensure suitable environmental conditions exist during calibrations. Tags the gage with its identification number and next calibration date. Note: Some gages, such as temperature gages on hot stamping equipment, are not included in this calibration procedure. This is because many materials behave differently depending on a variety of factors - humidity, ambient temperature, condition and type of foils, etc. - and it becomes impractical and is of little value to track every variable for each job we make. We use general settings and fine-tune at time of setup and measure results at time of first article. Gages and/or equipment that fall under this category will be tagged as "REFERENCE ONLY".

4.4 QUAL INSP Check Calibration as Scheduled

Verifies calibration, performs calibration, and arranges for corrective action (recalibration, repair, or replacement), if needed, on or before the due date (7.6[3]b[1], 7.6[8]).

4.5 QUAL INSP Record Calibration

Records completion of verification and/or calibration on the Calibration Record (7.6[6]) and places a new Calibration Due sticker on the device with its device number, current calibration date, and next calibration due date (7.6[3]c[1]). Installs calibration safeguards (seals or equivalent) if directed by the Quality Manager.

4.6 QUAL INSP Keep Calibration Current

Verifies that the calibration of all devices used are current as per the date shown on the Calibration Due sticker. Reports any concerns, including suspected defects or damage, to the Quality Technician for inspection and calibration if required.

4.7 QUAL MGR Control Risk of Nonconformance

When a significant variation in calibration occurs, reviews past use of the device to determine the potential for nonconforming products to be approved (7.6[4]). Directs that suspect material be quarantined and re-inspected, or takes other necessary actions to ensure compliance with all specified requirements (7.6[5]).

4.8 QUAL INSP Suspect Material

Notifies the ISR who notifies the customer if suspect material has been shipped.

4.9 QUAL INSP Damaged Instruments

Ensures that all damaged instruments are removed and prevented from inadvertent use until repair and calibration occurs.

Related Procedures

Inspection and Testing (20 Element) QSP-8.2.102
 Nonconforming Material Control QSP-8.3.101

Records

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| Calibration Records Traceable To N.I.S.T. NIST | Retain for Indefinite |
| Certificate of Calibration QF-70 | Retain for life of tool or gage, plus one year |

Revision Notes

- Added definition for "standard".
- Changed references to other procedures to reflect their current numbering.
- Deleted reference section as all references are listed in QPM-301.