

Inspection and Testing

Inspection Planning

- Simple quality characteristics:
 - Planning performed by the inspector
- Complex products & services
 - Planning performed by engineers and managers

Inspection Types

- Detail Inspection (100%)
- Acceptance Sampling
- Incoming Inspection
- Process Inspection
- Final Inspection

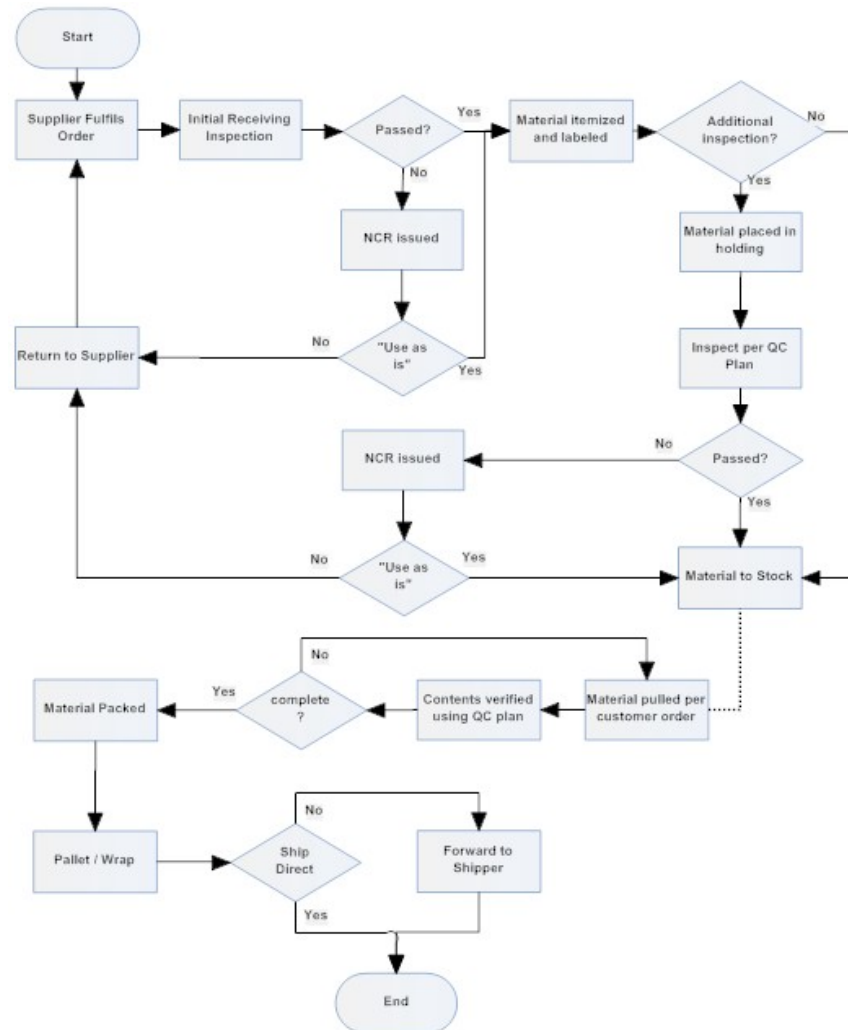
Inspection Types (cont')

- Pre-Control
- Control Sampling
- Repeatability Checks
- Accuracy Inspection
- Product Auditing
- Discovery Sampling

Inspection Activities/Locations

- Source Inspection
 - Inspection at vendor's location
- Receiving Inspection
 - Inspection of purchased product at or near receiving area
- Set-up inspection
 - Set-up approval or first piece inspection
- In-Process Inspection
 - Naturally occurring or critical production locations
- Patrol Inspection
 - Taken at random or fixed intervals
- Final Inspection
 - Prior to shipment or to finished-goods inventory

Inspection Lay-Out Example



Inspection Considerations

- What characteristics will be inspected?
- What sampling plan will be used?
- What tools are necessary?
- How much will the inspection cost?
- What work station design is necessary?
- What records must be retained or reported?

Inspection Instructions

- What is to be inspected
- The tools and methods to use
- The sampling plan
- The applicable standard
- What records must be kept
- What must be done with acceptable parts
- What must be done with non-acceptable parts

Inspector Selection

- Knowledge, Skills and Abilities:
 - The ability to read and interpret blueprints/drawings, specifications, routing slips, production orders, etc.
 - The ability to interface with other departments
 - The ability to operate test equipment proficiently
 - The ability to properly record and analyze data
 - Basic knowledge of equipment, materials, products and processes
 - Adherence to company policies and procedures
 - The ability to prepare reports and communicate findings to others

Inspection Errors

- Known Errors
 - Rounding
 - Pencil Whipping
 - Pressure
 - Flinching
- Unknown Errors
 - Inadvertent Errors
 - Technique Errors

Inspection Decisions

- Compliant/Conforming
 - Meets appropriate print or specification
- Noncompliant/Nonconforming
 - Product does not meet requirements
 - Subsequent review should consider problem identification and root cause
 - Where an immediate scrap decision is not made, consideration should be given to the disposition of product

Non-compliance Decisions

- The disposition of nonconforming product should be based on the following considerations, as applicable:
 - Impact to human safety or design integrity
 - Customer end-use
 - Customer urgency
 - Economics of salvage internally or by customer
 - Alternative applications for product
 - Customers specification (process vs. product)
 - Economics of repair/replacement

Control of Nonconformances

- Procedure required by ISO 9001:2008
- The organization shall deal with nonconforming product by one or more of the following ways:
 - by taking action to eliminate the detected nonconformance
 - by authorizing its use, release or acceptance under concession by a relevant authority and, where applicable, by the customer;
 - by taking action to preclude its original intended use or application

Control of Nonconformances (cont')

- Records of the nature of nonconformities and any subsequent actions taken, including concessions obtained, are maintained (see 4.2.4).
- When nonconformance is corrected it is subject to re-verification to demonstrate conformity to the requirements.
- When nonconformance is detected after delivery or use has started, the organization takes action appropriate to the effects, or potential effects, of the nonconformance.

Corrective Action

- Procedure required by ISO 9001:2008
- The organization shall take action to eliminate the causes of nonconformances in order to prevent recurrence.
- Corrective Actions shall be appropriate to the effects of the nonconformances encountered.

Corrective Action (cont')

- A documented procedure shall be established to define requirements for:
 - Reviewing nonconformities (including customer complaints),
 - Determining the causes nonconformities,
 - Evaluating the need for action to ensure that nonconformities do not recur,
 - Determining and implementing action needed,
 - Records of the results of action taken (see 4.2.4), and
 - Reviewing of corrective action taken.

Contact Us

MAS Solutions LLC.

17117 Westheimer Rd. #1

Houston, TX 77082

Tel: (281) 494-4874

Fax: (413) 294-4874

Email: information@masquality.com

Website: <http://www.masquality.com>