



*National Housing Quality  
Supplier  
Quality Assurance System  
Requirements*

## INTRODUCTION

These Quality System Requirements were developed based on ISO 9000 quality principles and the NHQ Requirements for Quality Assurance Systems for Trade Contractors and adapted for Suppliers. These requirements do not meet all of the ISO 9000 requirements but this system could be augmented to comply with ISO 9000:2000 if a Supplier chooses to do that. These requirements, in some instances, are more prescriptive than ISO 9000.

As with any good quality system, this set of requirements is continually subject to improvements. As experience is gained on the effectiveness of this type of quality assurance system with suppliers, it may be changed and improved. The overall intent is to provide a system that will provide effective quality assurance and continual improvement.

## NOTES

The following notes may be used to clarify these requirements:

- The intent of these requirements is to define the major elements of a practical quality assurance system for Suppliers to residential new construction. A Supplier is generally defined as a wholesaler, distributor, or other business involved with supplying products or materials to a builder or trade contractor. A supplier can also be a fabricator of products. Some of these requirements are applicable only to those suppliers that also fabricate product.
- A supplier which also installs product also needs to comply with the NHQ Certified Trade Contractor Quality Assurance System Requirements.
- Considerable latitude is allowed for the supplier to develop and implement a quality assurance system customized to its organization's needs. The structure/format of the quality manual does not need to follow the structure of these requirements; however, a compliant system shall cover all the clauses of these requirements. If a different structure is used, the company should provide a cross reference matrix to correlate sections of these requirements to sections of their quality manual.
- The terms "effective" or "adequate" should be interpreted to mean that evidence is available to show that the intent of the quality plan is being fulfilled.
- Undocumented procedures are common but personnel in the organization needing to use them should clearly and uniformly understand them. Flow charts and brief process outlines are encouraged wherever practical. These requirements explicitly state when a retrievable document is required by the use of the terms document, defined in, record, or written.
- "Delivery" is generally interpreted as the product being unloaded and properly stored at the construction site. "Delivery" may also include, as appropriate, simple installation such as plugging in appliances to verify that they are working properly. Any simple installation when it is in the contract is included in these requirements where the term "delivery" is used. More complex operations such as delivering and installing windows and/or doors are not to be defined as "delivery."
- The term "customer" when used in these requirements may include builder, trade contractor, or home buyer. The intended understanding for "customer" will typically be the builder or trade contractor except in situations where the home buyer may be making product selections or requiring customer service.

## 1.0 GENERAL

- 1.1 SCOPE - The Supplier shall have a written definition in its quality manual of the scope of the services and/or products supplied by the company (or division of the company) and governed by the quality system defined in the quality manual. The scope shall define the types of services/products offered and the geographic region served by the company. (Note: The scope must cover all builders and trades the supplier works for and all products supplied.)
- 1.2 QUALITY STATEMENT - The Supplier shall have a written statement by senior management that describes the company's commitment to quality and to meeting customer's requirements. The quality statement will commit the company to achieving quality results and shall involve the entire organization. It shall be communicated to all company workers.
- 1.3 QUALITY RESPONSIBILITIES - Quality responsibilities shall be defined for employees, including accountability for adhering to the quality system policies and procedures. Specific quality responsibilities shall be defined and documented for key positions affecting quality of service or the quality system. These positions include company management, the manager with overall responsibility for the quality system, supervisory personnel, design personnel, sales, and warehouse and delivery personnel.
  - 1.3.1 QUALITY REPRESENTATIVE - The Supplier shall appoint a quality representative, who shall be a manager with the overall responsibility for management and operation of the quality system. The quality representative shall be responsible for the overall operation, effectiveness, and continual improvement of the quality system.
  - 1.3.2 SENIOR MANAGEMENT - Management shall demonstrate commitment to quality, provide resources to support the operation of the quality system, and ensure that all employees are aware of the quality system and quality commitment and are effectively following those portions of the system appropriate to their job.
  - 1.3.3 INSPECTORS - Inspectors shall be responsible for conducting complete and accurate inspections according to the quality plan, documenting any non-conformances, and verifying the non-conformances have been corrected
  - 1.3.4 SUPERVISORS - Supervisors, with immediate responsibility for specific employees, shall be responsible for ensuring that those employees are capable of performing the assigned tasks, that work complies with all applicable codes/regulations, and meets the customer requirements and company quality standards.
- 1.4 COMPANY PROCESS FLOW/SEQUENCE - The Supplier shall document the sequence of activities including all major activities from customer inquiry to completed order delivery (e.g., the receipt/processing of customer orders, inventory control, purchasing/receipt of material, fabrication [when applicable] and delivery of product) including any quality assurance activities. The sequence document or flow chart shall also identify the appropriate function, department, or position responsible for each activity.
- 1.5 COMPANY ORGANIZATION - The Supplier shall maintain a documented company organization chart that shows reporting relationships. The senior manager(s) responsible for quality shall be identified on the organizational chart.

## 2.0 QUALITY ASSURANCE PLAN

- 2.1 REGULATIONS & INDUSTRY STANDARDS - The Supplier shall ensure compliance with pertinent governmental regulations and industry standards. The quality manual will reference the appropriate sections of the regulations, industry standards, and the company shall have access to those documents.
- 2.2 CUSTOMER REQUIREMENTS - The Supplier shall implement a review process to ensure that the customer requirements and contract are clearly understood and communicated. The review will verify that the current inventory control, or manufacturing/fabrication production schedule, is able to supply the product or service to meet customer requirements. The Supplier shall ensure that all changes to the customer requirements are appropriately negotiated, reviewed, and approved. The Supplier shall establish, in agreement with the customer, the circumstances and process under which product substitutions can be made. The supplier shall implement a process for ensuring that only the most current documents, drawings, specifications, and selection sheets are used for processing customer orders.
- 2.3 SPECIFICATIONS - The supplier shall have a process that integrates with the builder's or trade contractor's purchasing (or design center) functions to ensure that the appropriate specifications/selections/option sheets are current and consistent with the particular home design and specifications. This process will have appropriate steps to handle long lead-time items as well as any backorder situations.
- 2.4 PURCHASING - When the quality of the supplied product can be affected by selection of the manufacturer or material source, the Supplier shall implement a procedure for selecting its product sources based on their ability to meet their customers established requirements, the capability to supply sufficient quantities of required products efficiently, within schedule, as well as any support service required. When the customer explicitly specifies products that the supplier knows may negatively impact quality, the supplier shall have a process to provide feedback and alternate recommendations to the customer. The Supplier shall implement procedures to ensure that only products or services meeting customer specifications are purchased and delivered.
- 2.5 EQUIPMENT - The Supplier shall ensure that sufficient equipment (appropriate and maintained in good working condition) and/or transportation is available to support the receipt, storage, fabrication (if applicable), and delivery of product or service. Fabrication operations shall have appropriate tooling, fixtures, and equipment to produce products meeting customer requirements. The Supplier shall be responsible for providing personnel that are properly trained in the use of the equipment and ensuring that the equipment is used properly.
- 2.6 FABRICATION (when applicable)
- 2.6.1 - The supplier shall have appropriate fabricating processes and supporting logistics to produce the required product to customer requirements for on time delivery.
- 2.6.2 - The supplier shall establish fabricating standards that details the specific materials, tolerances, features, and workmanship of the products they fabricate.
- 2.7 HANDLING, STORAGE, PACKAGING, PRESERVATION, AND DELIVERY - The supplier shall provide appropriate facilities and procedures for handling, storage, packaging, preservation, and delivery of product to prevent damage or deterioration. These procedures shall also ensure proper authorization for receipt and dispatch to/from storage areas, and control of packaging and marking as necessary to ensure conformance to specified requirements.

The supplier shall document the protection necessary for and take appropriate action for protecting products from damage during and after delivery. Packaging/protection of product during shipment should in accordance with best commercial or industry practices unless otherwise specified on the

purchase order or manufacturer's instructions. When necessary, the supplier in partnership with the customer (builder or trade contractor) should plan to mitigate the effects of product loss or damage after delivery.

- 2.8 DELIVERY REQUIREMENTS AND SCHEDULE - The Supplier will notify customers of their respective policy related to lead-times, jobsite delivery requirements (e.g., safe access, secure storage, etc), on-time delivery of product, and verification of delivery.

The Supplier shall implement a process to establish a specific date/time for each delivery of the product(s) and to effectively monitor status to ensure on-time delivery to the correct jobsite, first time to meet customer expectations. The Supplier shall implement procedures for dealing with incorrect, incomplete or late shipments or services, including appropriate communications with the customer.

- 2.9 CUSTOMER SERVICE/WARRANTY - The supplier shall have a process for responding to customer service or warranty requests or complaints that occur after delivery of product. Satisfactory resolution of each request shall be verified and recorded. The cause and frequency of customer service requests and complaints shall be considered in the identification of opportunities for improvement.

When the supplier is also the product fabricator, the supplier shall establish warranty terms and conditions for their products.

- 2.10 MANUFACTURER'S/FABRICATOR'S INSTRUCTIONS - The supplier shall develop and implement a process for ensuring the customer has the current product information and/or the manufacturer's/fabricator's instructions. The supplier shall have a process to notify the current customers when there is a change in the manufacturer's/fabricator's instructions.

The Supplier shall facilitate and/or provide appropriate training to their builder or trade contractor customers when new products are introduced.

- 2.11 CALIBRATION & MAINTENANCE - When equipment, instruments and/or measuring devices requiring regular maintenance or calibration are used in conjunction with the Supplier's services and/or Supplier's fabricating, the supplier shall ensure the devices are properly maintained or calibrated and appropriate records are kept.
- 2.12 TRAINING AND PERSONNEL QUALIFICATIONS - The Supplier shall document the appropriate training and qualifications required for key positions. This may include supervisory personnel, design personnel, sales, warehouse personnel, machine operators, assemblers, inspectors, and transportation delivery positions. The Supplier shall ensure that only competent personnel perform each activity. Records of qualified personnel shall be kept for key positions.

- 2.13 SAFETY - The company shall have an active safety program.

## 3.0 INSPECTIONS

- 3.1 GENERAL - The quality manual shall define the inspection procedures, criteria, documentation, and timing necessary to insure customer expectations are met. When applicable, each inspection shall document the verification of compliance regarding any current training on recurring issues (see Section 4.2). The Supplier shall ensure that key personnel are trained and experienced to the extent necessary to effectively undertake their assigned activities and responsibilities related to inspections.

When inspections are done by individuals directly involved with the fabrication or delivery processes, the Supplier shall have a process for verifying that inspections are accurate and timely.

- 3.2 INCOMING INSPECTIONS - The supplier shall determine and implement appropriate product/material inspection or other quality control measures to ensure incoming products/materials conform to specified requirements in accordance with quality plan or procedures.

- 3.3 PRODUCTION INSPECTIONS (applicable to fabrication operations)

3.3.1 IN-PROCESS INSPECTIONS - The supplier shall implement in-process inspections of component parts and partially completed assemblies to verify that the fabricating process is operating within acceptable tolerances to meet customer requirements. Any item requiring inspection that will be covered up during a subsequent fabricating step shall be inspected prior to cover up.

3.3.2 FINAL INSPECTION - The supplier shall implement a final inspection of the finished product to verify it complies with all customer specifications and requirements.

3.3.3 INSPECTION DATA - The fabricating inspection process shall gather data and information that can be used to identify trends in the production process quality and provide information leading to process and product improvements. (Note: Inspection of every part or assembly is only required when it is dictated by the customer, code, or industry standard but any inspection process that does not inspect 100 percent shall be based on a statistically valid approach to verify that the customer requirements are consistently met.)

3.3.4 CORRECTIVE ACTION - When the inspection process identifies product that does not meet specifications, corrective action must be taken and recorded.

- 3.4 CONTROL OF NONCONFORMING PRODUCT - Defective or damaged product shall be marked or identified to prevent inadvertent delivery, use or re-stocking. Responsibility for review and disposition of nonconforming products shall be defined.

- 3.5 DELIVERY READY - The Supplier shall implement procedures to ensure that area or jobsite conditions are satisfactory for product delivery, and meet delivery requirements including complying with any builder safety program at the jobsite.

- 3.6 PRODUCT DELIVERY VERIFICATION - The supplier shall provide documented assurance that the product delivery is complete, correct, undamaged, on time, at correct location, properly stored and protected, and meets contractual customer requirements. This may be done as a final inspection and signoff on a delivery ticket. The Supplier shall ensure any nonconformance identified is addressed, communicated to the customer (as appropriate), and resolved to customer satisfaction.

## 4.0 QUALITY IMPROVEMENT

- 4.1 **RECURRING ISSUES** - The Supplier shall implement procedures for identifying recurring issues, including product warranty claims and fabrication repair/re-work/scrap (when appropriate), assessing the significance of the problems, prioritizing and initiating training to prevent recurrence. This identification, assessment, and prioritization shall be done at least once per quarter. The prioritized recurring issues shall be documented.
- 4.2 **TRAINING** - Training shall be conducted at least once per month to address recurring problems prioritized in Section 4.1. Records of this training shall be kept. When the supplier is also the fabricator, this training will include issues in both fabrication and supply/delivery each month. The Supplier shall implement procedures for verifying the effectiveness of this training. The effectiveness of this training shall be evaluated and documented. When this training has not substantially eliminated the problem, adjustments shall be made to the training frequency and/or approach to the problem.
- Training shall also be initiated when appropriate to address new products, equipment, technologies, etc.
- 4.3 **CUSTOMER FEEDBACK** - The Supplier shall implement procedures to evaluate customer satisfaction with their services and products. This feedback shall consider the customer to be the builder, the trade contractor, and/or the home owner as appropriate. This assessment shall be conducted at least annually. This assessment shall identify overall satisfaction as well as specific issues. The results of this assessment shall be considered in analyzing the effectiveness of the quality system and initiating changes to the system. Significant issues identified from the feedback shall be addressed and documented.
- 4.4 **QUALITY PERFORMANCE** - The Supplier shall define and track key quality performance statistics and goals that are indicative of the overall effectiveness of the quality system and the quality of products and services. These statistics and progress toward goals shall be calculated, documented, and distributed to management at least once per quarter.

## 5.0 QUALITY ASSURANCE SYSTEM MANAGEMENT

- 5.1 INDEPENDENT INTERNAL PROCESS AUDIT - The Supplier shall, at least once a month, conduct a random independent audit of a key "process" that affects customer satisfaction and meeting customer requirements (e.g., process customer orders, inspections, shipping/receiving/warehouse, inventory management, product delivery, etc.) to verify the effectiveness of the quality system in that process. These audits shall be documented and appropriate corrective actions initiated. During the course of one year, these audits shall be sufficient in number to assure the effective operation of the quality system and to cover each key process, and generally represent the Supplier's scope of operation. Individuals who do not have immediate supervisory responsibility for the function being reviewed should conduct these audits.
- 5.2 ANNUAL MANAGEMENT REVIEW - At least annually the senior management shall review the operation and effectiveness of the quality system. This review shall include the issues noted in the internal process audits, customer feedback, and complaints/call backs. The annual review shall also include assuring compliance with these requirements, reviewing quality performance statistics and setting goals, and addressing needed changes to the quality system and the company's processes. Quality system improvement opportunities will be identified and appropriate action initiated. Records shall be maintained for each review. The records shall be in sufficient detail to disclose the participants, significant issues, conclusions, improvement opportunities, and planned changes.
- 5.3 QUALITY MANUAL - The quality manual shall describe or reference the Supplier's top-level policies, processes, instructions and procedures, and documents that assure that customer's requirements and Supplier's company standards are met. The Supplier shall provide ready access to the most current versions of the pertinent quality system documents to those personnel needing them.
- 5.4 DOCUMENT CONTROL - The Supplier shall implement procedures for periodically updating the documents (including codes, regulations, industry standards, and manufacturer's instructions) of the quality system to ensure they are current. The Supplier shall implement procedures for ensuring that obsolete documents cannot be inadvertently used.
- 5.5 RECORD RETENTION - The Supplier shall maintain appropriate records to provide evidence that the processes and procedures of the quality system are being followed. The Supplier shall document and adopt a policy for record retention. This policy shall specify which records shall be kept and for how long. Records reflecting customer requirements, quality assurance, training records, and reviews shall be kept for at least three years.

All quality records will be legible. Records will be stored and retained so they are readily available. They will be stored to prevent damage, deterioration and/or loss. Records may be in the form of any type of media, such as hard copy or electronic media.