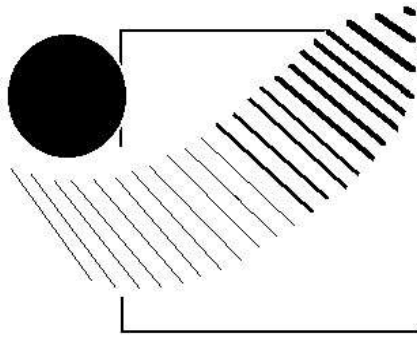


EXCELSIOR, INC.



PROCUREMENT QUALITY ASSURANCE

SUPPLIER QUALITY REQUIREMENTS

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1.0 SCOPE

This document defines the quality system requirements to be met by suppliers intending to provide goods or services to Excelsior, Inc.

Excelsior, Inc. and its customers, including government/regulatory agencies, shall have the right of entry into a supplier's facility or that of their subcontractors, access to quality records, quality system documentation, and the right to verify product and conduct audits.

2.0 APPLICABILITY

The requirements specified herein shall apply when referenced on the Excelsior, Inc. purchase order. Additional requirements per ASQR-01 are invoked, including any specific requirements listed in the note section on the associated engineering drawing, when the Excelsior, Inc. purchase order contains the statement "*UTC member end use*".

3.0 GENERAL REQUIREMENTS

3.1 QUALITY MANAGEMENT SYSTEM

Each Excelsior, Inc. supplier is required to maintain an effective quality management system, preferably one that conforms to ISO 9001:2008 Quality Management System - Requirements. In addition, the supplier must meet all other requirements of this manual.

3.2 CONTROL OF SUB-TIER SUPPLIERS

Suppliers are responsible for the quality of materials and components provided by their sub-tier suppliers and sub-contractors. Excelsior, Inc. suppliers must impose controls on their sub-tier suppliers that provide quality results and documentation comparable to the controls applied to suppliers by Excelsior, Inc. The extent of the controls may vary, depending on the nature and complexity of the product and processes, but should normally include:

- Evaluation and qualification of sub-tier supplier facilities.
- Control to ensure that raw materials used meet Excelsior, Inc.'s requirements.
- Controls to ensure that the sub-tier suppliers of components used are those approved by Excelsior, Inc., where applicable.
- Ensure that sub-tier suppliers have an ESD control program that meets or exceeds the needs of Excelsior, Inc. if the parts or materials are ESD sensitive.
- Part qualification, including first article inspection and process capability studies, as applicable.
- Control of drawings/revisions.
- Control of nonconforming material.
- Corrective action and preventive action programs.
- A continuous quality improvement program.

Where appropriate, Excelsior, Inc. may specify the sub-tier suppliers that may be used, evaluate and qualify the sub-tier supplier's facilities, and assist the supplier in controlling the sub-tier supplier. Typically, this occurs when the sub-tier supplier is an essential component of the supply-chain process. *Excelsior, Inc. reserves the prerogative to evaluate the quality system and records of such sub-tier suppliers as necessary. In the event of Excelsior, Inc.'s involvement, it does not absolve suppliers of the ultimate responsibility for the quality performance of their sub-tier suppliers.*

3.3 SUPPLIER QUALIFICATION PROCESS

All suppliers of production materials and components to Excelsior, Inc. must be qualified suppliers. The extent of the qualification process is dependent upon the criticality of product purchased and other factors determined by Excelsior, Inc. The qualification process in its most complete form consists of two parts:

- A questionnaire completed by the supplier, using the Excelsior, Inc. supplier survey form.

- The ability to meet the requirements of the Excelsior, Inc. purchase order, as well as, this document.

3.4 DRAWING AND CHANGE CONTROL

The supplier must have a documented system for assuring that the latest Excelsior, Inc. drawings are in effect at their facility. The supplier's quality management system must contain a documented procedure that describes the method used for the receipt, review, distribution, and implementation of all changes to drawings and specifications. In addition, the procedure must address control of obsolete drawings and specifications. A documented procedure should also detail the method used to contain new or modified parts until approved by the customer. Systems should be capable of handling changes being requested by the customer, and also changes requested by the supplier.

3.5 RECORD RETENTION

The Supplier shall maintain adequate records of all Inspection and Tests. Inspection records shall indicate the nature and number of observations made the number and type of deficiencies found, the quantities approved and rejected, and the nature of corrective action taken, as appropriate. The Inspection record shall include drawing dimensions and tolerance range along with actual measurement results.

This information and all supporting documentation such as raw material certifications, special processing records and certifications, manufacturing records, i.e., route sheets and/or work orders, shall be retained by the Supplier in accordance with the terms of the purchase order. When the Purchase Order is complete, such records shall be maintained and available to the buyer on request for a period of not less than ten (10) years from the closing of the purchase order, unless stated otherwise on the purchase order. Documents that contain proprietary information shall be safeguarded by those efforts used, by the supplier, in the protection of its own proprietary information to prevent its disclosure to or use by third parties.

3.6 LOT CONTROL

A lot consists of product of one part number and revision that are made at the same time, under the same processing conditions, from the same lot of raw materials. The primary purpose for identifying lots is to determine the scope of actions that must be taken when problems arise during further manufacturing or with customers. Each container of product shipped to Excelsior, Inc. must be identified with the Supplier's lot number. Inspection records and/or test reports must be traceable to lot numbers.

The following are typical conditions that result in a change of lot numbers:

- Change of part number or revision
- Change of part number or revision of components
- Interruption of continuous production (typically for more than a few hours)
- Repairs or modification to the tooling or equipment
- Tooling changes (other than minor adjustment or replacement of consumable tooling)
- Change to a different lot of raw materials
- Process changes

3.7 MATERIAL CONTROL

When a supplier furnishes the material for Excelsior, Inc. purchase orders, the inspection system must control the following:

- Review material physical and/or chemical properties as applicable to assure compliance with specified requirements
- Maintain material certifications that define manufacturing source, batch/lot numbers, chemical and physical properties
- Identify material during receipt
- Maintain a material storage area so that certified and uncertified material cannot be mixed
- Ensure that material is issued only by authorized personnel

Final verification of the product to Excelsior, Inc. purchase order, including revision level; when part revision is not specified the current revision must be used.

3.8 MATERIAL TEST REPORTS

When requested, the supplier must provide a material test report. This report must include the specification number, specified material and/or physical requirements, and the inspection/test results. A simple statement that the material meets the requirements is not acceptable. Each report must be traceable to the supplier's material, and must be signed by the organization that performed the testing.

3.9 TRACEABILITY

Traceability ties finished product back to the components used in the product. When traceability is specified, the traceability marking should be effective down to the individual component, i.e., lot code, batch or serial should be identifiable throughout the processes.

3.10 WORKMANSHIP

When workmanship standards are not referenced on Excelsior, Inc. drawings or specifications, the supplier is expected to follow industry-accepted standards (e.g. ANSI, IPC). When in doubt, consult with Excelsior, Inc. for clarification.

3.11 SAFETY

At no time should any customer, or person at Excelsior, Inc., be exposed to hazardous material or situations that are not inherent in a component's structure. Residues, films, out-gassing products and packaging materials should comply with OSHA (Occupational Safety & Health Association) standards. For items with inherent hazards, safety notices must be clearly observable. As applicable, MSDS sheets must be provided with the 1st shipment of product.

3.12 MAINTENANCE

The supplier must maintain all facilities, manufacturing machines, tools, measuring devices, and other equipment in such a manner that the supplier can support Excelsior, Inc.'s production requirements, and the quality of parts manufactured for Excelsior, Inc. is not degraded in any way.

3.13 INSPECTION AND TESTING

The supplier shall establish and maintain documented procedures for inspection and testing activities in order to verify that the specified requirements for the product are met. The required inspection and testing, and the records to be established, shall be detailed in the quality plan or documented procedures.

3.14 PACKAGING AND LABELING

The supplier must adequately plan for packaging of material shipped to Excelsior, Inc. Packaging will be designed to provide protection from any damage that may occur. For static sensitive components, ESD packaging shall be provided. Packaging, labeling, and shipping materials must comply with the requirements of common carriers to secure the least transportation costs.

3.15 CERTIFICATION OF COMPLIANCE

A legible and reproducible copy of a Certificate of Compliance must accompany each shipment, unless otherwise noted on the Excelsior, Inc. purchase order.

The certificate must include the following, as a minimum:

- Supplier Name and Address
- Part Number and Revision
- Material description
- Serial Number, if applicable

- Lot number, if not serialized
- Signature and title of authorized representative
- Date signed

The certificate of conformance must contain a statement that all inspection and tests have been performed as required by drawing, specification and/or purchase order or equivalent. Blanket statements of conformance are unacceptable, as are statements of belief rather than fact.

3.16 CONTROL OF NONCONFORMING PRODUCT

The supplier shall establish and maintain documented procedures to ensure that product that does not conform to specified requirements is prevented from unintended use or installation. This control shall provide for identification, documentation, evaluation, segregation (when practical), disposition of nonconforming product, and for notification to the functions concerned.

3.17 CORRECTIVE ACTION

Excelsior, Inc. requires suppliers to utilize a closed-loop corrective action system when problems are encountered in their manufacturing facility, or after nonconforming product has been shipped to Excelsior, Inc.

The corrective action system utilized should be similar to the process outlined below. The focus should be on identifying the root cause(s) of the problem and taking action to prevent its recurrence.

- Use a team approach
- Describe the problem
- Contain the problem
- Identify and verify root causes(s)
- Implement permanent corrective actions
- Verify corrective action effectiveness
- Close the corrective action

3.18 SUPPLIER CORRECTIVE ACTION

Excelsior, Inc. issues a Corrective Action Request (CAR) to a supplier when non-conforming parts are found at incoming inspection, in production, in test, or by an Excelsior, Inc. customer. They can also be issued as a result of supplier performance. The supplier is required to respond by returning the CAR back to Excelsior, Inc. within the due date. The following provides a brief outline of the CAR procedure that suppliers to Excelsior, Inc. should comply with:

- Excelsior, Inc. requires that the supplier take immediate containment action upon notification of the nonconformance. The supplier must submit a written response to Excelsior, Inc., reporting the Supplier's interim containment plan within 24 hours of notification. The Supplier's response is an acknowledgement that the Supplier has been informed of the problem, and has begun to gather information about the problem.
- The containment plan must clearly define the containment actions at the supplier's facility to assure that no nonconforming product is shipped to Excelsior, Inc. If suspect product has already been shipped, the supplier must address all suspect stock in transit. The supplier will assist Excelsior, Inc. in identifying customer risk by identifying all suspect lot numbers and associated quantities involved.
- Within 30 days after the original notification, the supplier must report the results of the Supplier's investigation into the cause of the problem, the corrective action to be taken to prevent recurrence of the problem, and the effectivity date (the date the corrective action will be implemented). Actions such as "train the operator," "discipline the operator," or "increase inspection," are typically not acceptable corrective actions.

- The supplier is required to keep Excelsior, Inc. informed of progress towards implementing the corrective action. When corrective action implementation is complete, the supplier and Excelsior, Inc. verify that the corrective action is effective in preventing the problem's recurrence.

If Excelsior, Inc. receives no response by the due date of the corrective action, the supplier will be put on probationary status and will receive no new purchase orders until the corrective action has been received and accepted.

3.19 SUPPLIER MONITORING

Excelsior, Inc. continually monitors its suppliers to ensure they continue to meet Excelsior, Inc.'s requirements, and to ensure that the supplier continues to ship acceptable parts. This may consist of:

- A random incoming inspection audit of a batch of product
- Review of supplier-furnished data packages
- A supplier progress review conducted periodically at Excelsior, Inc. to review supplier performance and progress