

# MOOG

## COMMERCIAL SUPPLIER QUALITY REQUIREMENTS (CSQR-1)

Date: 4 Nov 2010

### 1.0 PURPOSE

This document specifies minimum quality system requirements for suppliers of production goods and services procured to Moog part numbers or Military, Federal or Industry specifications or standards.

### 2.0 SCOPE

When this CSQR-1 document is referenced on a Moog Purchase Order (MPO), this document applies to all suppliers of production materials, components, subassemblies, or assemblies ordered via that MPO. If the supplier takes exception to any requirement in this document, he shall so specify in writing prior to order acknowledgment. If any requirements stated herein conflict with specific requirements incorporated in the MPO, the purchase document(s) shall govern. Additional requirements to those listed here, specific to a given item, may appear on the MPO.

### 3.0 PROCESS RESTRICTIONS

- **Glass Beads:** When item ordered is FOD controlled via FOD flow down, glass beads are prohibited from use in the processing or manufacture of that part, component or assembly.
- **Electrical Discharge Machining (EDM):** Prior to utilizing this processing method, supplier shall obtain permission from the relevant Moog Design Authority.

### 4.0 REQUIREMENTS

#### 4.1 Quality System and Organization

- 4.1.1 The supplier shall establish and document a commercially sound quality system as a means of ensuring that products and services conform to specified requirements. A management representative shall be appointed who shall have responsibility and authority for ensuring that the requirements of this standard are implemented and maintained.
- 4.1.2 At Moog's discretion, quality system surveys or audits of the supplier's facility may be required. In addition, a First Article Inspection (FAI) may be required prior to receiving approval to produce production quantities. The supplier will provide personnel and documentation to support these activities, and right of access to Moog personnel to conduct these activities. This right of access will also extend to the supplier's sources of supply or subcontractors as well as to Moog's customers.
- 4.1.3 Suppliers are expected to take timely corrective action to prevent the recurrence of any and all discrepancies brought to their attention by Moog. A Supplier Corrective Action Request (SCAR) may be initiated by Moog. SCAR's, when and if received, require timely investigation and root-cause corrective action analysis, and must be completed in writing to be closed. Responses more than 90 days past due may result in suspension of new business.

#### 4.2 Purchase Order Review

- 4.2.1 Each Purchase Order, drawing, or change notice shall be reviewed by the supplier to ensure that the requirements are adequately defined and documented, and that the supplier has the capability to meet stated requirements. Suppliers shall communicate requests for changes to drawings or specifications, or clarification of requirements, in a format as specified by the respective Moog buyer. The Supplier Request for Information/Disposition ([SRID](#)) is one such example, and is accessible for use from the Moog web site.
- 4.2.2 For all Military, Federal, and Industry specifications and standards, the supplier shall comply with the revision in effect at the time the Moog purchase order is issued. Moog reserves the right to request a different revision that would be specified on the purchase order.

#### 4.3 Design Control (*Applies to supplier proprietary parts designed to Moog form, fit, and functional specifications*)

The supplier shall verify the design of the product in order to ensure that the specified requirements are met. The design and verification activities employed shall be assigned to qualified personnel equipped with adequate resources. Finished, verified designs shall be base-lined in appropriate specifications and drawings.

#### 4.4 Change and Document Control

The supplier shall maintain a system which ensures that only current issues of documents and data that relate to the requirements of the MPO employed in the manufacture, verification, and acceptance of goods and services supplied to Moog are available at all essential locations, and that obsolete documents are promptly removed.

#### 4.5 Procurement

- 4.5.1 The supplier shall review his purchasing documents for adequacy of specified requirements prior to release. The supplier shall select sources on the basis of their ability to meet specification requirements, including quality requirements. Suppliers, including dealers and distributors, are responsible for insuring that the applicable requirements of the MPO are imposed on lower tier procurements for raw material, components or process services being used in the manufacture of products or services being provided.
- 4.5.2 Verification of incoming material shall be dependent upon the type of material and/or the source's demonstrated capability and performance. The supplier shall ensure that procured material that does not conform to specified requirements is prevented from inadvertent use. Moog suppliers and/or sub-tier suppliers are prohibited from using any source listed on the US government Excluded Parties List System (EPLS) (ref. <https://www.epls.gov/>) in the production of products to be delivered to Moog.

# MOOG

## COMMERCIAL SUPPLIER QUALITY REQUIREMENTS (CSQR-1)

Date: 4 Nov 2010

### 4.6 Moog-supplied Items

The supplier shall verify, maintain, and control Moog material supplied for incorporation into the purchased goods. Any such product that is lost, damaged, or is otherwise unsuitable for use shall be recorded and reported to Moog's purchasing agent.

### 4.7 Product Identification and Traceability

Where appropriate, the supplier shall identify product during all stages of production and delivery. When traceability is a specified requirement, individual product or batches shall have a unique identification. Raw material certifications shall be maintained as supplier quality records. Copies of material certifications related to supplied products will be provided if requested.

### 4.8 Process Control

4.8.1 The supplier shall control the production processes that directly affect quality. The supplier shall be responsible for all special processes including any such special process that he may choose to sub-contract. Personnel performing special processes shall be trained in those processes. Their qualification records shall be maintained and be available for review by Moog. Copies of qualification records related to supplied products will be provided if requested.

4.8.2 Where appropriate, the supplier shall institute suitable measures, including in-process and final inspections, tests, and other verification activities to ensure finished product meets specified requirements. Suppliers shall maintain a traveler or equivalent control mechanism that directs procedures appropriate for the control of quality and configuration through all stages of production. Acceptance of product by Moog shall not be used as evidence of effective control of quality by the supplier, and shall not absolve the supplier of responsibility for acceptable products or preclude subsequent rejection by Moog customers.

4.8.3 The supplier shall control all material found to be non-conforming at any stage during the production process. All disposition decisions that would result in non-conforming material being supplied to Moog must be forwarded to the respective Moog Buyer for approval prior to shipment of material.

4.8.4 It is the responsibility of the Supplier to assure that no counterfeit goods are contained in the material delivered to Moog.

4.8.5 For **Special** (aka: Critical, Key, Safety, Significant) **Characteristics** the supplier shall provide statistical evidence of preliminary (short term) process capability (Cpk) of > 1.67 and production (long term) process capability (Ppk) of >1.33.

### 4.9 Inspection, Measuring and Test Equipment

Equipment, instruments, gages and fixtures employed in the manufacture, test, inspection and verification of goods and services shall be capable of the accuracy and precision necessary to ensure item compliance with the purchase requirements, and shall be traceable to established international or national measurement standards (e.g., BSI, NIST). Procedures for periodic calibration, certification and maintenance of tools and equipment shall be established and followed.

### 4.10 Material Handling, Storage, Packaging and Delivery

4.10.1 The supplier shall establish handling practices and employ packaging methods that prevent damage or deterioration of the product during internal processing and subsequent delivery to Moog, or to another location as directed by the MPO. Devices designated by the drawing as static sensitive, or otherwise applying static sensitive technology, must be properly handled, packaged, and labeled in conformance with BS EN 100015-1 or MIL-STD-1686.

4.10.2 A Certificate of Compliance is required, and shall include Moog part number and drawing revision, Military, Federal, or Industry specification number, purchase order number, quantity, date shipped, and manufacturer's name and authorized representative signature. The supplier shall be able to furnish information on their source of supply that could include items such as serial numbers, lot numbers, heat numbers, batch, date code and cure date. When electronic components (i.e. transistors, integrated circuits, connectors, etc.) are ordered to military specifications, the component manufacturer and lot / date code for each component must be identified on the packing list.

### 4.11 Quality Records

The supplier shall store and maintain all records that evidence conformance to requirements. These records shall indicate the nature and number of observations made, any discrepancies found, the quantities approved and rejected, and the nature of corrective action taken, as appropriate. These records shall be available for Moog review and shall be retained for a minimum of seven (7) years.