



GLOBAL SUPPLIER QUALITY MANUAL

RELEASED 7/14/08

QS 4 7.4 Rev F

1. **INTRODUCTION**

Consistent high quality purchased products and services are essential to ensure the success of our companies. Working together as a team is necessary to form an open two-way communication channel to achieve mutually satisfactory goals. This standard provides the basis for such a channel.

EMP Corp. Supplier quality expectations are based on the following principles.

- The supplier must assume full responsibility for the quality of their products and services. EMP can only assist the supplier in meeting this responsibility, including sub-contractors.
- EMP should not have to verify that the supplier has provided acceptable product. Suppliers will have effective quality systems certified to ISO-9001:2000 or TS-16949:2002 standards. A supplier may be conditionally approved based on new certification progress or customer waivers.
- Suppliers must continually strive to improve product quality and manufacturing productivity to meet increasing competitive pressures in our global economies.

Each supplier must build on these principles to develop effective quality systems for our mutual success.

This standard is a supplement to the other terms and conditions covered by the EMP purchasing documents. This does not replace or alter any of the terms, conditions, and engineering drawings or specification requirements stated in those documents.

2. **QUALITY SYSTEM REQUIREMENTS**

Use of ISO-9001, or TS16949 standards in creating and following Quality Management System procedures is required. The APQP process as defined in the AIAG APQP Manual, latest edition, or an equivalent process is a requirement for all suppliers.

Suppliers shall notify EMP of any planned changes to the design, process or site of product provided to EMP. Examples of changes requiring customer notification and PPAP may be found in the AIAG PPAP manual. If there is any question whether notification is required EMP should be contacted for clarification.

PPAP submissions shall be submitted as defined and required by the AIAG PPAP Manual, latest edition and any customer specific requirements provided by EMP. A level 3 PPAP is the default submission requirement. The measurement system shall be monitored as defined in the AIAG MSA Manual, latest edition. The supplier will also have a process to ensure compliance with all applicable government regulatory safety, health and environmental regulations including recycling, and hazardous waste handling and disposing. The supplier will also maintain a documented system of Material Safety Data Sheets (MSDS) for product used on EMP material and will notify EMP prior to that material being transported to EMP.

Note: The latest edition of the AIAG manuals should be confirmed on the AIAG website at www.aiag.org.

Manufacturing Process Control

During the manufacturing process, the supplier should apply procedures and controls sufficient to maintain the identity of materials, required specifications, and test results.

Elements requiring establishing and maintaining process control includes, but is not limited to:

- Instructions
Written processing and inspection or test instructions readily available to and understood by appropriate personnel.
- Special Characteristics / Key Critical Characteristics
As designated by the customer
- Determination of Process Capability
The potentials for a process to consistently produce parts to specifications are ascertained by determination of process capability. A minimum acceptable process capability requires that 1.67 CPK of the process output for Key Critical Characteristics, KCCs, fall within specifications. A Cpk of 1.33 is required for other characteristics. These criteria should be regarded as a starting point for process improvement. In many instances, EMP may require process capabilities that are tighter than the minimum criteria. Run at Rates will also be a validation process for supplier capability.
- Ongoing Process Control
Routine in-process inspection or tests adequate to maintain continuous control may be required. The use of statistical control measures by the supplier may be required and should be used for characteristics identified by EMP. When EMP has not identified characteristics to be subjected to Statistical Process Control, the supplier, through knowledge of the production process and end use of the product, shall identify significant characteristics and maintain statistical controls of these characteristics. When required, inspection or test results indicating ongoing process control should be documented for review by EMP's Supplier Development Engineering Department.
- Lot Control
Suppliers are expected to have lot identification control procedures in effect when materials and/or process require lot segregation.

3. NONCONFORMANCE TO SPECIFICATIONS

Detected at Supplier

Special salvage operations required to correct nonconforming materials are to be approved in advance by the EMP Quality Assurance Department and Purchasing Department. Samples must be submitted when required.

Notifications to EMP by the supplier of a nonconforming condition and corrective action, or request for rework or deviation approval, should be directed to the Supplier Development Engineer. Contacts by telephone are to be confirmed to the Supplier Development Engineer promptly by letter, FAX or e-mail. The supplier shall place on hold the nonconforming product until release from EMP.

Detected at EMP

When nonconformance is detected by EMP's Supplier Development Engineering Department or Quality Assurance Department, EMP's Purchasing Department will promptly notify the supplier and arrange disposition.

It is the responsibility of the supplier to incur the costs in returning shipments to suppliers, sorting, and/or reworking nonconforming material received at EMP. These costs can include material, shipping, handling, EMP labor, and contracted services. If conforming material cannot be provided to support production needs, EMP will notify the supplier to rework material at the supplier's expense, before commencing rework.

Detected Through Warranty Claims

If a supplier has furnished a nonconforming product that has resulted in warranty claims, the supplier may be asked to reimburse EMP for the associated cost incurred. Reimbursement could include costs of the product plus handling allowance, shipping, labor and administrative costs incurred by EMP. This is not meant to define the respective rights and obligations of either EMP or the supplier with respect to such matters as recall and campaign programs, epidemic failures, consequential damage claims, product liability and the like.

4. SAMPLE REQUIREMENTS

EMP may require suppliers to furnish representative production samples with inspection and test reports before first production shipments. Sample identification tags are to be used by the supplier to identify each box of these samples.

Conditions Where Initial Samples may be Required

Samples produced from production tooling shall be submitted under the following conditions:

- Upon initial formal sampling "prototype" manufacturing.
- Upon initial production of a part. (PPAP)
- Whenever an engineering, process, or tooling change occurs that may affect the form, fit, function, durability, appearance, or interchangeability of the parts or its component parts.
- If tooling involves duplicate fixtures or multiple cavity molds, dies, etc., one dimensionally inspected part for each will be required.

Sample Identification and Shipping Instructions

Sample parts and reports are to be packaged and shipped to EMP Corp. in a separate container addressed to the "Supplier Development Engineer." The container (shipment) should be clearly marked as sample parts and labeled with supplier's name, part number, drawing revision letter, and purchase order number.

Payment for Tooling

Tooling invoices will be paid only after EMP Purchasing Department approves the supplier's PPAP or as specified on purchase orders.

5. **EVALUATION OF SUPPLIERS**

EMP bases supplier selection on whether the following factors are judged adequate to manufacture product conforming to specifications and the potential exists for continual quality improvement. Note: This activity will occur for new suppliers and/or a new commodity at an existing supplier for significant components.

- Management commitment to provide quality product with continuing emphasis on improvements in product quality.
- Quality systems and the extent to which they conform to EMP Quality System Requirements, and to TS16949 or ISO-9001.
- Capability, capacity, and condition of the supplier's physical manufacturing facilities and equipment. Deficiencies noted during a capability evaluation will be discussed with the supplier at the time of the survey and could have an effect on future purchase negotiations and order placement.

Potential Suppliers

EMP may survey potential suppliers prior to placement of orders for product or related tooling.

New Supplier Approval System

New production suppliers must be approved by the Buyer, Purchasing, Supplier Development, Finance, and Manufacturing prior to order placement. The New Supplier Approval form (QS5-228) must be completed.

Supplier Performance Rating System

The Supplier Performance Rating is based on five (5) factors: quality of products delivered, delivery performance, general purchasing assessment, quality assessment, and quality system certification. Each of these areas will receive a rating. A combination of these ratings will produce the supplier performance rating.

- Quality of Products Delivered
All parts and materials are expected to arrive with zero (0) defects. The quality of products delivered rating is based on the receiving inspection results and discrepant materials reports.
- Supplier Quality Certification Results
If the supplier has a third party certified quality system, then a perfect score will be given. If not, the rating will be based upon their performance to an action plan to complete this.
- Quality Assessment
This rating is based on how well a vendor resolves a quality problem if one should arise. Each time a discrepant part is found, the vendor will be rated on his ability to quickly resolve the problem and prevent its recurrence. If no quality problems occur, the vendor receives a perfect rating in this category.
- General Purchasing Assessment
This rating is based on response time, content and effectiveness of general purchasing requests such as quotes, reduced lead times, improved quality, ... etc.

- On-Time Delivery

This rating is based on delivering parts on the day they are due with an on-time window of up to three (3) working days early, zero (0) days late to an agreed upon schedule. Anything less than 100% on time will deduct from the rating.

The overall rating is done on a scale of zero (0) to five (5). The five (5) represents outstanding quality and a preferred vendor status. The zero (0) represents a situation where alternate sources will be considered unless **immediate** and **effective** corrective action is taken.

Change Control

<u>Date</u>	<u>Sym</u>	<u>Description of Change</u>
4/21/09	F	Section2: Added statement that suppliers shall notify EMP of any planned changes ... to product supplied to EMP